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FLUID CONTROL SYSTEMS

SOLENOID VALVES

PROCESS ACTUATION

PROCESS VALVES

SENSORS

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Bürkert Fluid Control Systems

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Bürkert Select

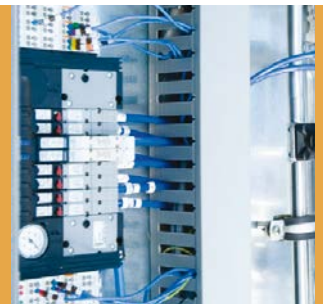
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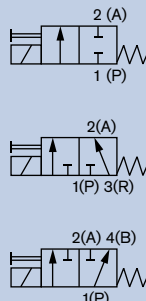


2/2 or 3/2-way Solenoid Valve for aggressive medium

0121

G 3/8"

- Pivoted armature valve with manual override
- Direct-acting with separating diaphragm
- Different circuit functions
- Suitable for aggressive medium
- Body material plastic
- Threaded connection

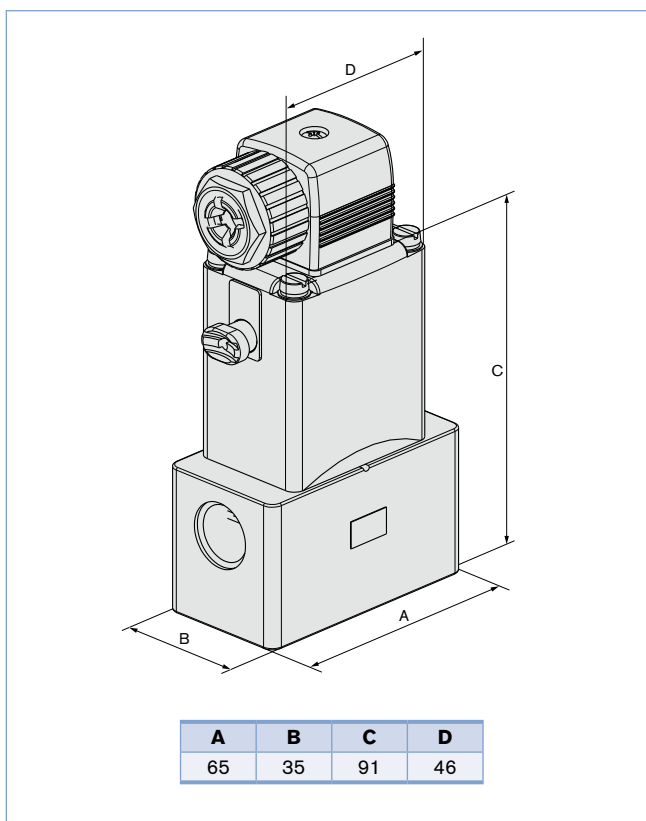


Type 0121 is a high quality, direct-acting 2/2 or 3/2 pivoted armature solenoid valve that can be used in a wide range of applications for opening, closing, dosing, mixing and distribution. The separation between the magnetic system and the medium chamber consists of an intermediate separating diaphragm system.

Technical Data

Orifice	DN4.0-8.0 mm
Body material	PTFE, (PP, PVDF, Stainless steel 1.4401 on request) PVC (resistant acc. DIN 8062, 8061)
Coil material	Epoxy
Coil insulation class	H
Seal material, medium	FKM, FFKM, (EPDM on request)
FKM	Oxidizing acids and substances, oils, salt solutions, exhaust gas, vacuum
FFKM	Resistant to neutral and aggressive liquids and gases, see Bürkert chemical resistance chart
Medium temperature	
Body + seal (Material combination)	
PVC + FKM	-10 °C to +50 °C
PTFE+ FKM	-10 °C to +90 °C
PTFE + FFKM	-10 °C to +90 °C
Ambient temperature	Max. +50 °C
Viscosity	Max. 37 mm ² /s
Voltage tolerance	±10%
Duty cycle	
Continuous operation	100% stainless steel body and for universal current (UC)
Intermittent operation	with PVC body 10% (10 min) with PP-, PTFE- and PVDF body 40% (10 min)
Electrical connection	Cable plug (included) Tag connector acc. to DIN EN 175301-803 Form A Exceptions see Index under Ordering chart
Protection class	IP 65 with cable or cable plug
Installation	as required, preferably with actuator upright

Envelope Dimensions [mm] (see datasheet for details)



Options

- ATEX version
- Optical or electrical position feedback

Inrush		Power consumption				Response times	
AC [VA]	UC [W]	AC [VA/W]	UC [W]	Hold	DC [W]	Opening [ms]	Closing [ms]
30	40	15/8	3	DC cold [W]	8	15-20	15-20
				11-12			

Response times [ms]: Measured at valve outlet at 6 bar and +20 °C
Opening: Pressure build-up 0 to 90%, *Closing:* pressure relief 100 to 10%

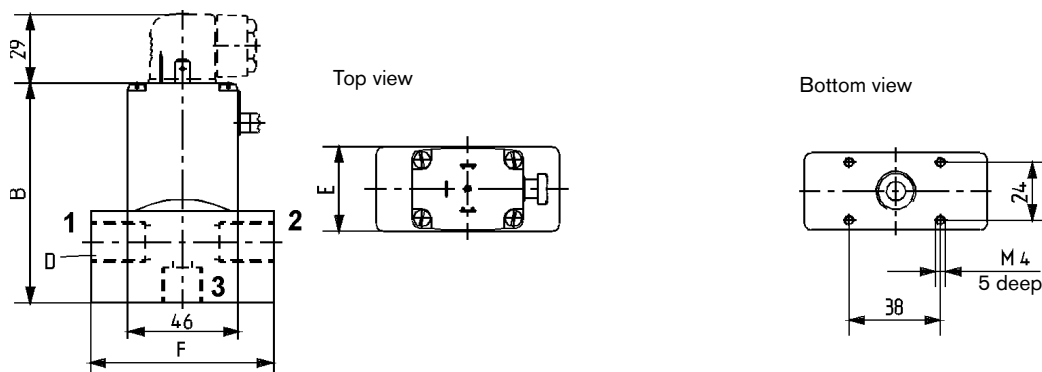
Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Body material	Seal material	Voltage/frequency [V/Hz]	Item no.			
Valve with plastic body, manual override and cable plug (UC with silicon cable, please see footnote)											
A 2/2-way valve normally closed	G 3/8	4	0.3	0 - 2	PVC	FKM	024/DC	049 654			
				0 - 4	PVC	FKM	024/50	048 940			
							230/50	047 859			
				0 - 2	PTFE	FFKM	024/DC	151 733			
							024/UC	130 502			
				G 3/8	6	0.6	0 - 1	PVC	FKM	024/DC	048 749
	0 - 2	PVC	FKM				024/50	049 348			
							230/50	047 810			
	G 3/8	8	1				0 - 1	PVC	FKM	024/UC	048 697
										024/50	052 800
										230/50	052 302
E 3/2-way mixer valve	G 3/8	4	0.3	0 - 2	PTFE	FFKM	024/UC	130 933			
							230/50	130 934			
F 3/2-way distributor valve	G 3/8	6	0.6	0 - 1	PVC	FKM	024/DC	049 533			
				0 - 2	PVC	FKM	024/50	052 181			
							230/50	047 916			

* With 1 m silicone cable

0121

Envelope Dimensions [mm] (see datasheet for details)



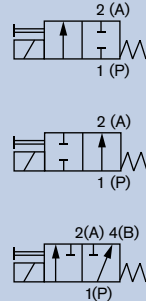
Body material	D	B	E	F
PTFE and PVC	G 3/8"	91	35	65
Possible port configurations				
Circuit function	1	2	3	
A	P	-	A	
E	P1	P2	A	
F	A	B	P	

2/2- or 3/2-way PVC Solenoid Valve for aggressive Mediums

0131

True union or G 3/8" - G 1/2"

- With hermetic isolation of fluid
- Insensitive to aggressive fluids
- Universal functions
- Lockable manual override as standard
- Simple installation and removal



Type 0131 is a direct-acting 2/2- or 3/2-way solenoid valve with different circuit functions. The actuator is isolated from the fluid by a double seal made of PTFE. No fluid contact with metallic components.

Technical Data

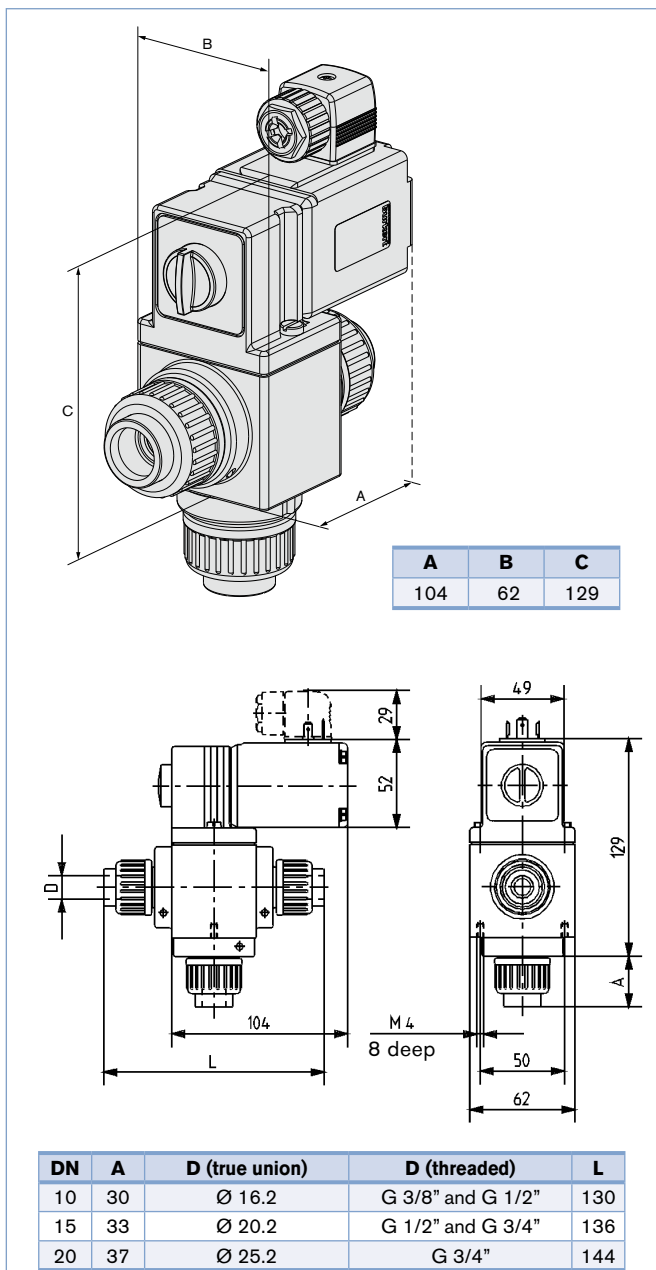
Orifice	DN10-20 mm
Body material	PVC PVDF on request
Coil material	Epoxy
Coil isolation class	H
Seal material	EPDM, FKM
Medium	
EPDM	Alkalis, alkaline washing and bleaching lyes
FKM	Oxydizing acids and substances, salt solutions
Medium temperature	
Body + Seal (material combination)	
PVC/EPDM	-30 °C to +50 °C
PVC/FKM	-10 °C to +50 °C
Ambient temperature	Max. +50 °C
Viscosity	Max. 37 mm ² /s
Voltage tolerance	±10%
Cycling rate	ca. 100-150/min for AC Max. 6/min for UC
Duty cycle	100% continuous rating
Electrical connection	Cable plug for Ø 7 mm cable, acc. to DIN EN 175301-803 Form A (supplied as standard)
Protection class	IP 65 with cable or cable plug
Installation	as required, preferably with actuator upright

Power consumption			
Inrush		Hold (hot coil)	
AC [VA]	UC [W]	AC [VA/W]	UC [W]
100-120	100	32/16	9

Options

- UR/CSA approvals

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

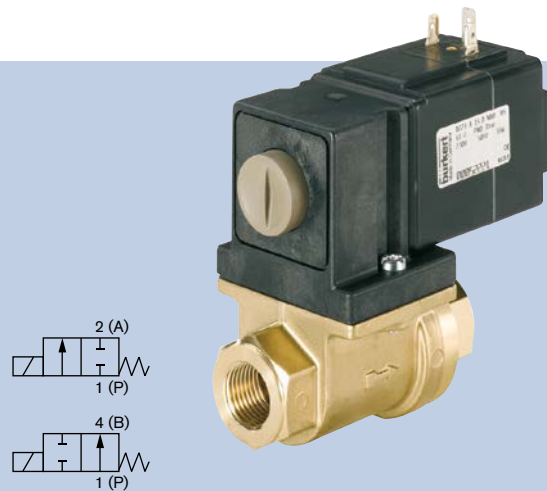
Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Item no. per voltage/frequency [V/Hz]			
					230/UC	230/50	024/50	024/UC
Seal material EPDM								
A 2/2-way valve normally closed	G 1/2"	10	2	0 - 3	–	056 795	–	023 759
	True union Ø 16 mm			0 - 3	–	050 549	–	046 949
	True union Ø 20 mm			0 - 3	–	056 791	–	–
	G 1/2"	15	4.5	0 - 1	–	054 831	–	067 832
	True union Ø 20 mm			0 - 1	168 193	055 423	051 028	050 809
	True union Ø 25 mm			0 - 0.5	–	051 257	053 992	045 225
B 2/2-way valve normally open	True union Ø 16 mm	10	2	0 - 2	–	017 113	–	–
	True union Ø 25 mm	20	6	0 - 0.5	051 748	–	–	–
F 3/2-way distributor valve	True union Ø 16 mm	10	2	0 - 1	–	052 546	064 266	055 770
	True union Ø 20 mm	15	4	0 - 0.5	–	052 071	058 279	049 883
	True union Ø 25 mm	20	5	0 - 0.25	–	054 564	040 921	067 076
Seal material FKM								
A 2/2-way valve normally closed	True union Ø 16 mm	10	2	0 - 3	–	050 443	052 953	047 915
	True union Ø 20 mm			0 - 3	–	056 789	055 817	056 060
	G 1/2"	15	4.5	0 - 1	–	056 663	–	047 398
	True union Ø 20 mm			0 - 1	–	050 787	051 641	053 882
	True union Ø 25 mm			0 - 0.5	–	051 351	050 551	056 495
B 2/2-way valve normally open	True union Ø 16 mm	10	2	0 - 2	–	053 221	–	058 361
F 3/2-way distributor valve	G 3/8"	10	2	0 - 1	–	–	–	065 194
	True union Ø 16 mm			0 - 1	–	052 619	–	058 362
	True union Ø 20 mm	15	4	0 - 0.5	–	050 904	–	–
	True union Ø 25 mm			0 - 0.5	020 687	–	–	–
	True union Ø 25 mm			0 - 0.25	–	066 280	–	058 363

2/2-way Solenoid Valve for neutral media

0131

G 3/8"–G 3/4"

- Direct acting
- With hermetic isolation of fluid
- Lockable manual override as standard
- NC and NO circuit function
- Optional with electrical position feedback



The direct-acting valve, Type 0131, is delivered with circuit function, normally closed or normally open. The solenoid actuator is separated from the medium by a double PTFE seal with a small ventilated space. The valve is used for shut-off, dosing, filling and ventilating medium where low pressures are applicable; also suitable for use in technical vacuum.

Technical Data

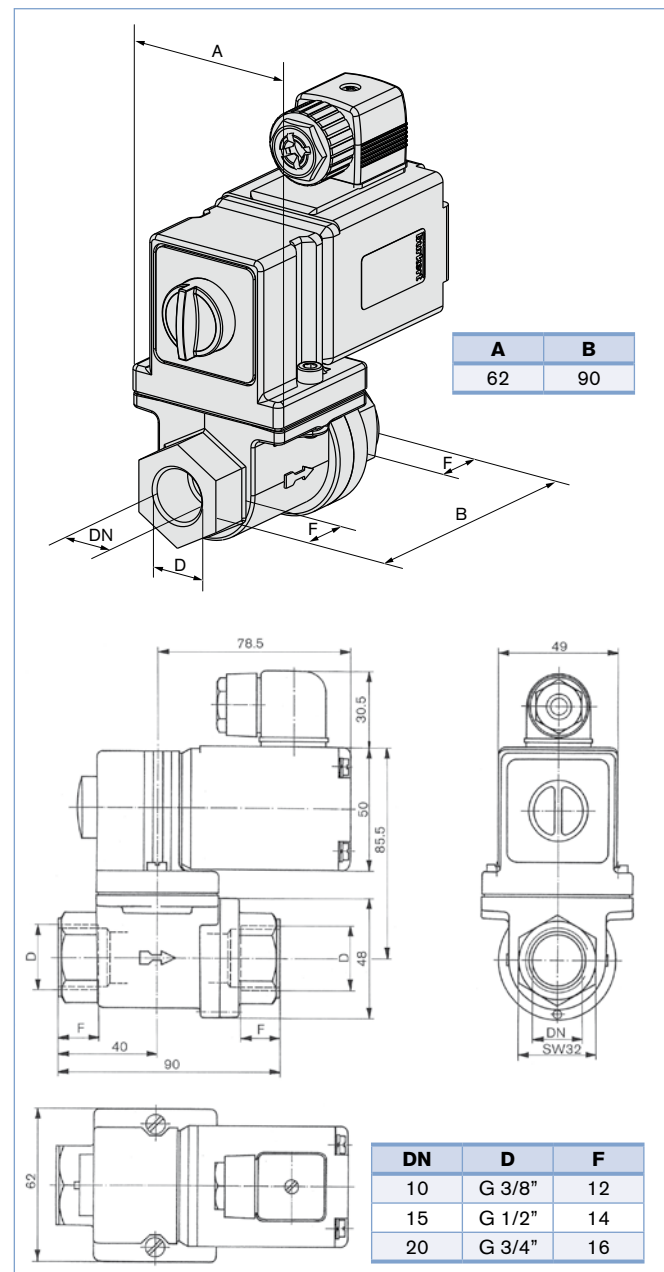
Body material	Brass
Seal materials	NBR, FKM
Medium	
with NBR	Neutral liquids e.g. compressed air, water, hydraulic oil, oils and fats without additives, technical vacuum
with FKM	Hot air, per-solution, hot oil, oils with additives, technical Vacuum
Medium temperature	
with NBR	-10 up to +90 °C
with FKM	-10 up to +130 °C
Ambient temperature	Max. +50 °C
Viscosity	100 to 21 mm ² /s
Operating voltages	24 V/UC 230 V/50 Hz Other Voltages on request
Voltage tolerance	±10%
Cycling rate	Max. 6/min with UC
Duty cycle	ED 100%
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Protection class	IP65 with cable plug
Coil insulation class	H
Installation	As required, preferably with actuator upright
Response times [ms]:	Measured at valve outlet at 6 bar and +20 °C.
Opening	Pressure relief 0 90%
Closing	Pressure relief 100 to 10%

Electrical power consumption		
	Inrush	Hold
AC	100 VA	48 VA (16 W)
UC	100 W	9 W

Options

- Electrical position feedback

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

Circuit function	Orifice [mm]	Port connection [inch]	Kv Value water [m³/h]	Pressure range [bar]	Seal material	Voltage/Frequency [V/Hz]	Item no.
A Normally closed	10	G 3/8	2	0 - 3	NBR	24/UC	057 475
						230/50	053 059
					FKM	24/UC	054 053
						230/50	044 502
	15	G 1/2	4.5	0 - 1	NBR	24/UC	054 102
						230/50	052 221
					FKM	24/UC	025 537
						230/50	040 549
	20 *	G 3/4	6	0 - 0.5	NBR	24/UC	049 751
						230/50	048 490
					FKM	24/UC	069 752
						230/50	048 622
B Normally open	10	G 3/8	2	0 - 2	NBR	24/UC	059 208
						230/50	051 685
	15	G 1/2	4.5	0 - 1	NBR	24/UC	058 371
						230/50	046 466
	FKM	230/50	046 643				
		20 *	G 3/4	6	0 - 0.5	NBR	24/UC
	230/50						053 807

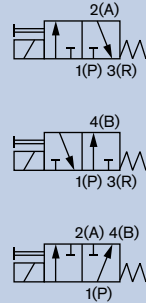
* Versions with 20 mm nominal diameter are not suitable for vacuum

3/2-way Solenoid Valve for neutral medium

0131

G 3/8" - G 1/2"

- Direct acting
- With hermetic isolation of fluid
- With lockable manual override
- Universal functions
- Electrical feedback optional



The direct acting 3/2-way valve, Type 0131, is available in different circuit functions.

The solenoid actuator is separated by a double seal of PTFE with a ventilated clearance from Medium.

The valve is used for shut-off, dosing, filling, ventilating and distributing Medium with low pressures; also with technical Vacuum for DN10 mm.

Technical Data

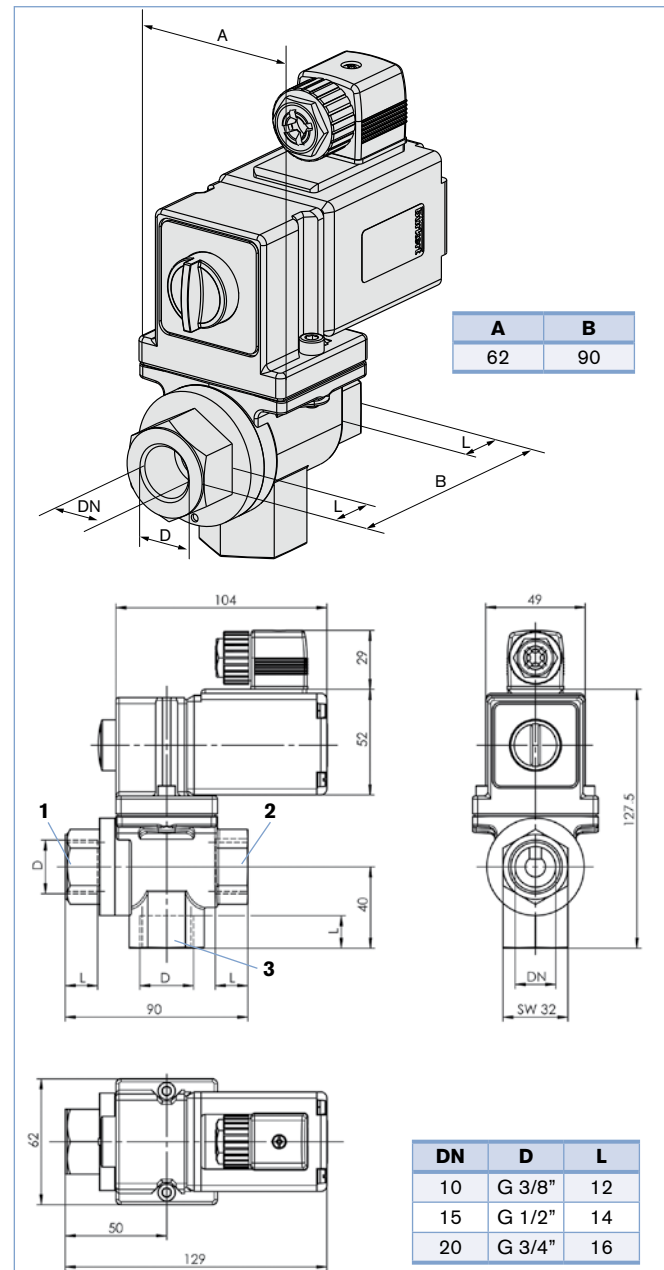
Body material	Brass
Seal material	NBR (EPDM or FKM on request)
Medium	Neutral fluids such as e.g. compressed air, water, hydraulic oil, oils and fats without additives, technical vacuum
Medium temperature	-10 °C to +80 °C
Ambient temperature	Max +50 °C
Viscosity	100 to 15 mm ² /s
Operating voltage	24/230 V UC other voltages on request
Voltage tolerance	± 10 %
Cycling rate	Max. 6/min with UC
Duty cycle	100%
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Protection class	IP65 with Cable Plug
Installation	As required, preferably with actuator upright
Response times [ms]	Measured at valve outlet with air at 6 bar and +20 °C
Opening	Pressure build-up 0 to 90%
Closing	Pressure relief 100 to 10%

	Electr. power consumption		Response times	
	Inrush	Hold	Opening	Closed
AC	100 VA	48 VA (16 W)	10 to 20	40 to 60
UC	100 W	9 W		

Options

- Circuit function E on request
- Electrical position feedback

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

Circuit function	Orifice [mm]	Port connection [inch]	Kv Value water [m³/h]	Pressure range [bar]	Voltage/frequency [V/Hz]	Item no.
All valves with manual override, brass body, NBR seal and cable plug						
C Normally closed 3 way configuration	10	G 3/8	2	0 - 1	24/UC	048 997
					230/UC	059 302
	15	G 1/2	4	0 - 0.5	24/UC	062 737
					230/UC	062 481
D Normally open 3 way configuration	15	G 1/2	4	0 - 0.5	24/UC	021 964
F Distribution valve	10	G 3/8	2	0 - 1	24/UC	064 025
					230/UC	062 960
	15	G 1/2	4	0 - 0.5	24/UC	058 843
					230/UC	062 124

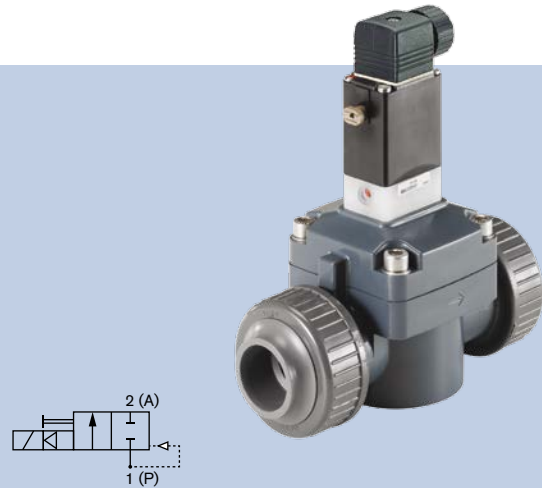
Note: Versions with orifice 15 mm are not suitable for vacuum

2/2-way Solenoid Valve for aggressive media

0142

Ø 20 - Ø 63 mm, true union

- Unique isolated technology for slightly contaminated fluids
- Rugged moulded diaphragm
- No metallic internal parts
- Pilot control with pivoted armature and lockable manual override



This valve is specifically designed for aggressive fluids where a chemically compatible solution is required. The pilot operated solenoid valve needs to open and close a minimum differential pressure of 0.5 bar.

Technical Data

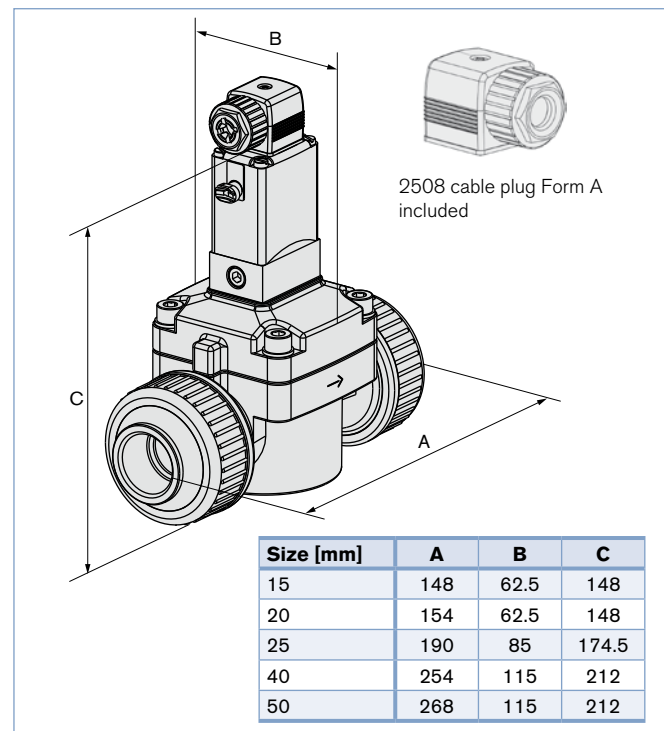
Pressure range	0.5-6 bar
Temperature media	0 °C to +50 °C
Max. Ambient temperature	0 °C to +40 °C (PVC), (0 °C to +55 °C, PVDF on request)
Valve internal parts	PVDF
Body material	PVC (PVDF on request)
Seal material	EPDM or FKM
Coil material	Epoxy (Class H)
Power consumption	DC: 5 W, AC: 20 VA (inrush), 11 VA (hold)
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Response times ¹⁾	
Opening [ms]	100 - 800
Closing [ms]	1000 - 4000

¹⁾ Measured at valve outlet at 6 bar and +20 °C acc. to ISO 12238.
Opening: Pressure rise 0 to 90%, Closing: Pressure drop 100 to 10%

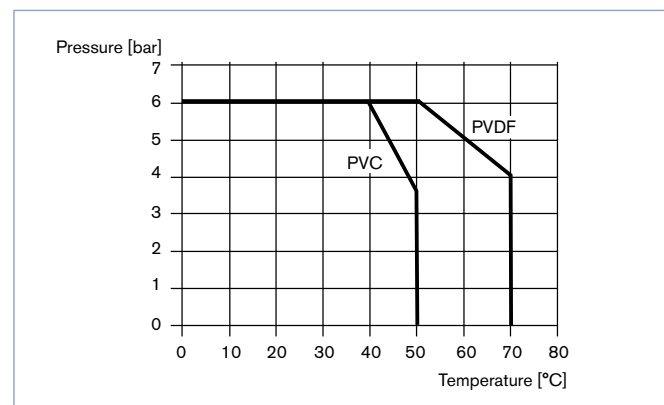
Options

- Normally open
- Electrical position feedback
- Impulse coil
- Threaded port connection
- Range of diaphragm seals to suit aggressive media
- Cable plug with LED and varistor
- CSA certification

Envelope Dimensions [mm] (see datasheet for details)



Pressure Temperature chart for PVC and PVDF



Ordering Chart

Port connection Ø [mm]	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Seal material	Item no. voltage/frequency [V/Hz]		
					024V DC	024V AC	230V AC
normally closed (other versions on request)							
PVC Body, true union							
20	15	5	0.5 - 6	EPDM	041 980	050 898	041 911
20	15	5	0.5 - 6	FKM	041 938	050 953	041 934
25	20	6	0.5 - 6	EPDM	042 045	050 908	041 986
25	20	6	0.5 - 6	FKM	042 008	050 954	042 005
32	25	14	0.5 - 6	EPDM	042 047	050 916	042 126
32	25	14	0.5 - 6	FKM	042 079	050 974	042 113
50	40	30	0.5 - 6	EPDM	042 195	067 693	042 247
50	40	30	0.5 - 6	FKM	042 198	067 699	042 245
63	50	36	0.5 - 6	EPDM	042 266	067 705	042 261
63	50	36	0.5 - 6	FKM	042 264	054 887	042 262

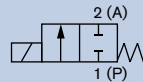
0142

Plunger Operated 2/2-way Solenoid Valve for neutral media and high temperatures

0255

G 1/4" - G 1/2"

- Fluid temperature to 180 °C
- Integrated metallic body seal
- Wear resistant stainless steel seat



High performance plunger operated, direct-acting solenoid valve with integrated metallic body seal and wear resistant stainless steel seat. Three way (Type 0355), high pressure (100 bar), and high temperature (250 °C) versions are also available.

Technical Data

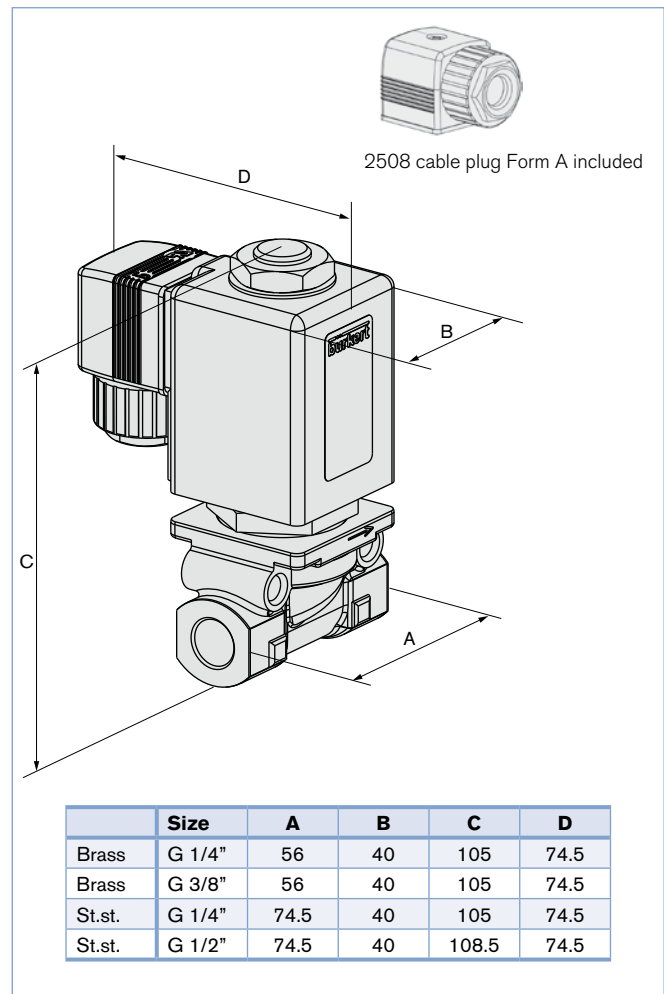
Temperature media	-40 °C to +180 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 21 mm ² /s
Voltage tolerance	± 10%
Duty cycle	100% continuous rating
Body material	Brass with moulded stainless steel seat 1.4305 or stainless steel 1.4581
Seal material	PTFE
Coil material	Epoxy (Class H)
Power consumption	DC: 16 W, AC: 35-40 VA (inrush), 16/10 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Response times ¹⁾	
Opening [ms]	AC 10-20, DC 20-80
Closing [ms]	AC 20-30, DC 20-30

¹⁾ Measured at valve outlet at 6 bar and +20 °C acc. to ISO 12238.
Opening: Pressure rise 0 to 90%, Closing: Pressure drop 100 to 10%

Options

- CSA/UR approval
- Cable plug with LED and/or varistor
- FM Class 1 Div 2 approval
- UL listed version
- ATEX approval
- Other sealing materials on request
- Silicone, oil and grease-free for oxygen

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

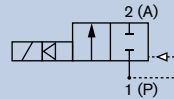
Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			DC	AC	024V DC	024V AC	230V AC
Brass body							
G 1/4	3	0.25	0 - 10	0 - 16	052 872	058 421	046 865
G 3/8	4	0.5	0 - 4	0 - 10	065 438	059 100	051 143
G 3/8	6	0.8	0 - 1	0 - 4	053 764	050 389	051 324
Stainless steel body							
G 1/4	3	0.25	0 - 10	0 - 16	021 554	018 593	061 010
G 1/4	4	0.5	0 - 4	0 - 10	021 251	020 468	023 279
G 1/2	6	0.8	0 - 1	0 - 4	022 504	052 859	054 811

2/2-way hard-coupled Solenoid Valve

0290

G 1/2" - G 2"

- Switches without differential pressure
- Operates on vacuum
- Process proven rugged and reliable design



One of the ever reliable workhorses of the Bürkert solenoid range this hard-coupled solenoid valve with plunger piloted rugged diaphragm seal is perfect for vacuum, neutral gases and liquids. The high-performance design is available in brass and stainless steel with a range of diaphragm and seal materials.

Technical Data

Medium temperature ¹⁾	NBR	-10 °C to +80 °C
	FKM	0 °C to +120 °C
	EPDM	-30 °C to +120 °C
Ambient temperature	+55 °C, max.	
Voltage tolerance	±10%	
Duty cycle	100% continuous rating	
Body material	Brass, stainless steel 1.4581	
Seal material	NBR, EPDM or FKM	
Coil material	Epoxy (Class H)	
Protection class	IP65 (with cable plug)	
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)	

¹⁾ Max. medium temperature for versions with high power electronics (with coding... /UC) withstands 90 °C

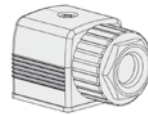
Orifice [mm]	Power consumption				Response times ²⁾	
	Inrush AC [VA]	UC [W]	Hold AC [VA/W]	UC [W]	Opening [ms]	Closing [ms]
12	100	80	25/10	6	100	700
20	120	100	32/16	9	to	to
25	120	100	32/16	9	250	2000
32	120	100	32/16	9	300	700
40	120	100	32/16	9	to	to
50	-	30	-	30	1000	4000

²⁾ Measured at valve outlet at 6 bar and +20 °C, pressure rise 0 to 90%, pressure drop 100 to 10%

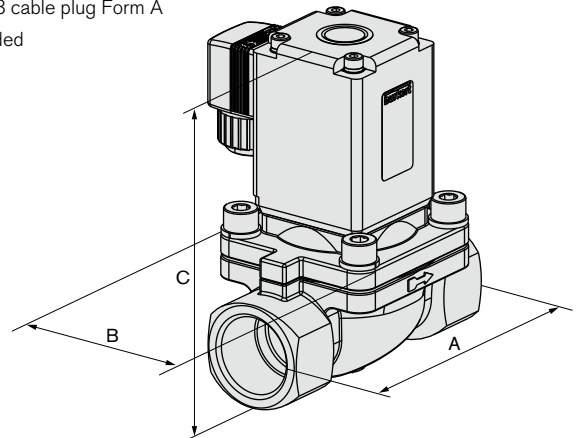
Options

- EPDM seals
- Cable plug with LED and varistor
- Oxygen version
- UR/CSA approval
- KTW approval
- Flange connection acc. to DIN 2501 (DN25-50 mm)

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A included



Size	A	B	C
G 1/2"	74.5	70	95.5
G 3/4"	100	70	122
G 1"	115	70	131
G 1 1/4"	126	70	145
G 1 1/2"	126	70	154
G 2"	164	70	211

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Seal material	Item no. voltage/frequency [V/Hz]		
					024/50	024/UC/DC ¹⁾	230/50
A 2/2-way valve normally closed							
Brass body							
G 1/2	12	1.8	0 - 16	EPDM	045 931	049 050	044 816
G 3/4	20	5			065 033	058 427	045 290
G 1	25	10			054 245	057 155	045 291
G 1 1/4	32	16	0 - 12		-	-	085 259
G 1 1/2	40	16			-	-	087 732
G 2	50	38			-	-	077 494 ²⁾
G 1/2	12	1.8	0 - 16	NBR	043 816	050 294	044 373
G 3/4	20	5			058 766	049 518	045 292
G 1	25	10			048 171	053 675	045 293
G 1 1/4	32	16	0 - 12		085 290	085 291	052 513
G 1 1/2	40	16			085 294	085 295	085 297
G 2	50	38			-	-	085 301
Stainless steel body							
G 1/2	12	1.8	0 - 16	EPDM	045 765	048 606	043 553
G 3/4	20	5			066 460	059 910	065 025
G 1	25	10			-	018 348	059 901
G 1/2	12	1.8	0 - 16	FKM	048 708	049 987	042 888
G 3/4	20	5			065 362	066 381	064 701
G 1	25	10			018 121	065 542	066 125

¹⁾ The coil for UC power supply is provided with an integrated high power electronic. Please check sufficient power supply

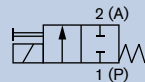
²⁾ The valve is provided with a cable plug with integrated rectifier

Pivot Operated 2/2-way Solenoid Valve in plastic

0330

G 1/4"

- With separating diaphragm
- For aggressive media
- Also available for mounting on manifolds (Type O331)
- Standard with lockable manual override

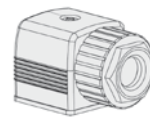


Direct-acting solenoid valve employing Bürkert's unique pivoted armature. A hermetic isolation is guaranteed against aggressive substances by the flexible diaphragm. Shown is the threaded version in precision moulded engineered polymer. The valve is also available in manifold mount as the Type O331.

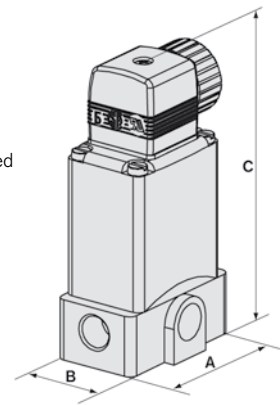
Technical Data

Temperature media	-30 °C to +80 °C (EPDM) 0 °C to +80 °C (FKM)
Ambient temperature	+55 °C, max.
Voltage tolerance	± 10%
Duty cycle	
Intermittent operation	40% ED (30 min) with 8 W version
Continuous operation	100% ED with 5 W version (on request)
Body material	PP or PVDF
Seal material	FKM or EPDM NBR and FFKM on request
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A included



Size	A	B	C
G 1/4"	56	36	104

Orifice [mm]	Response times				
	AC		DC		Closing [ms]
	Opening [ms]	Closing [ms]	Opening [ms]	Closing [ms]	
2-4	8-15	8-15	10-20	10-20	

Response times [ms]: Measured at valve outlet at 6 bar and +20 °C
Opening: pressure build-up 0 to 90%, *closing:* pressure drop 100 to 10%

Options

- 2/2-way normally open, 3/2-way version
- Electrical position feedback
- Impulse coil
- Flange version
- Vacuum version
- CSA, ATEX and UR accreditation
- Alternative cable plug
- 5 W coil

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m3/h]	Pressure range [bar]		Seal material	Item No. voltage/frequency [V/Hz]		
			DC	AC		024V DC	024V AC	230V AC
Normally closed (other versions on request)								
Polypropylene G 1/4	3	0.25	0 - 8	0 - 10	EPDM	067 214	022 105	062 398
					FKM	018 410	088 496	045 653
	4	0.3	0 - 4	0 - 5	EPDM	021 660	067 731	063 118
					FKM	062 695	043 005	063 116
	5	0.4	0 - 3	0 - 4.5	EPDM	061 321	054 261	049 969
					FKM	062 624	067 007	022 619
PVDF G 1/4	3	0.25	0 - 8	0 - 10	EPDM	019 224	122 385	086 873
					FKM	018 188	020 286	069 006
	4	0.3	0 - 4	0 - 5	EPDM	057 573	–	125 507
					FKM	023 472	069 079	087 837
	5	0.4	0 - 3	0 - 4.5	EPDM	120 184	059 802	130 117
					FKM	064 512	–	063 786

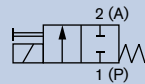
0330

Pivot Operated 2/2-way Solenoid Valve in brass or stainless steel

0330

G 1/4"

- Isolating separating diaphragm design
- Handles slightly contaminated fluids with ease
- With lockable manual override
- Long life even when running dry



Direct-acting solenoid valve employing Bürkert's unique pivoted armature. A hermetic isolation is guaranteed by this ground-breaking design. Shown is the threaded version. The valve is also available in manifold mount as the Type 0331.

Technical Data

Temperature media	0 °C to +90 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 37 mm ² /s
Body material	Brass or Stainless steel 1.4401
Seal material	FKM (FFKM, NBR and EPDM on request)
Coil material	Epoxy (Class H)
Voltage tolerance	±10%
Duty cycle	Continuous operation 100% ED
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)

Orifice [mm]	Response times			
	AC		DC	
	Opening [mm]	Closing [ms]	Opening [ms]	Closing [ms]
2-4	8-15	8-15	10-20	10-20

Response times [ms]:

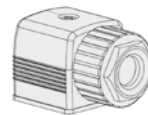
Measured at valve outlet at 6 bar and +20 °C

Opening: pressure build-up 0 to 90%, Closing: pressure relief 100 to 10%

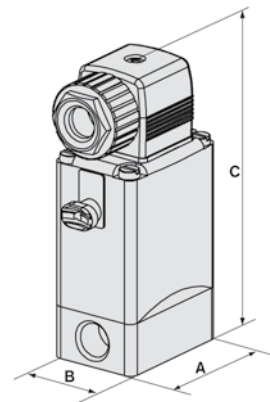
Options

- Three way versions
- Electrical position feedback
- Impulse coil
- Vacuum version
- Additional seal materials
- Cable plug
- CSA Class 1 Div 2
- FM Class 1 Div 1
- UL Listed version
- ATEX, Type 0780
- 2-way, normally open
- Analysis version
- Version with higher purity and tightness (analysis version)

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A included



Size	A	B	C
G 1/4"	46	34	100

Ordering Chart

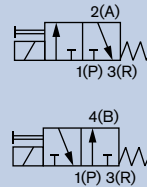
Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]		Pressure range [bar] DC and 50 Hz	Item no. voltage/frequency [V/Hz]		
		DC	50 Hz		24/DC	24/50 Hz	230/50Hz
Normally closed 2 way configuration							
Brass valve body							
G 1/4	3	0.14	0.18	0 - 10	020 293	022 883	124 909
	4	0.17	0.23	0 - 5	024 019	025 246	124 912
Stainless steel valve body							
G 1/4	3	0.14	0.18	0 - 10	020 292	023 984	024 563
	4	0.17	0.23	0 - 5	018 276	018 857	020 873

Pivot Operated 3/2-way Solenoid Valve in brass or stainless steel

0330

G 1/4"

- Isolating separating diaphragm design
- Long service life
- Handles slightly contaminated fluids with ease
- Manual override as standard

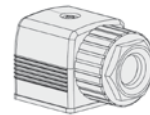


Direct-acting 3/2-way normally closed and normally open solenoid valves with pivoted armature and isolating diaphragm. This flexible valve series includes many options, various body materials, diaphragm and sealing materials and a range of electrical connections to suit many applications.

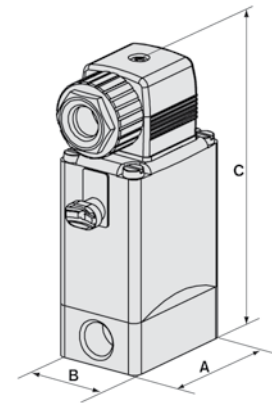
Technical Data

Temperature media	0 °C to +80 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 37 mm ² /s
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass (stainless steel on request)
Seal material	NBR (FFKM, KM and EPDM on request)
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65, NEMA 4 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug
Form A included



Size	A	B	C
G 1/4"	46	34	100

Orifice [mm]	Response times			
	AC		DC	
	Opening [ms]	Closing [ms]	Opening [ms]	Closing [ms]
2-4	8-15	8-15	10-20	10-20

Response times [ms]: Measured at valve outlet at 6 bar and +20 °C
Opening: pressure relief 0 to 90%, closing: pressure relief 100 to 10%

Options

- Electrical position feedback
- Impulse coil
- Vacuum version
- Cable plug with LED and varistor
- Flange version Type 0331 with manifold mounting
- ATEX approval
- Version with higher purity and tightness (analysis model)

Ordering Chart

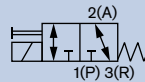
Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]		Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
		DC	50 Hz		24/DC	24/50 Hz	230/50Hz
Normally closed 3 way configuration							
Brass valve body							
G 1/4	2	0.08	0.11	0 - 16	041 103	042 129	041 105
	3	0.14	0.18	0 - 10	041 107	041 108	041 116
Normally open 3 way configuration							
Brass valve body							
G 1/4	2	0.08	0.11	0 - 16	056 984	041 858	041 137
	3	0.14	0.18	0 - 10	041 139	041 141	041 147

Pivot Operated 3/2-way Universal Solenoid Valve in brass or stainless steel

0330

G 1/4", 0-12 bar max.

- Universal flow function
- Isolating separating diaphragm design
- Handles slightly contaminated fluids with ease
- Manual override as standard
- Long lifetime

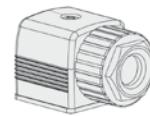


Direct-acting 3/2-way universal function (E) solenoid valves with pivoted armature and isolating diaphragm. This flexible valve series includes many options, various body materials, diaphragm and sealing materials and a range of electrical connections to suit many applications.

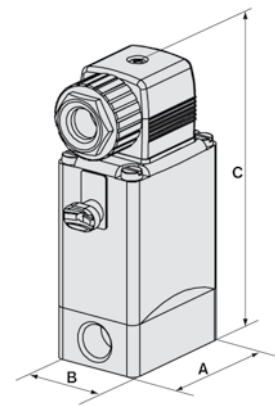
Technical Data

Temperature media	0 °C to +90 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 37 mm ² /s
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass or Stainless steel 1.4401
Seal material	FKM (FFKM, NBR and EPDM on request)
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65, NEMA 4 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A included



Size	A	B	C
G 1/4"	46	34	100

Orifice [mm]	Response times			
	AC		DC	
	Opening [ms]	Closing [ms]	Opening [ms]	Closing [ms]
2-4	8-15	8-15	10-20	10-20

Response times [ms]: Measured at valve outlet at 6 bar and +20 °C
Opening: pressure relief 0 to 90%, *closing:* pressure relief 100 to 10%

Options

- Electrical position feedback
- Impulse coil
- Range of diaphragm seals to suit aggressive media
- Vacuum ring version
- Cable plug with LED and varistor
- Class 1, Div 2 FM & CSA
- Flange version Type 0331 with manifold mounting
- ATEX approval
- Version with higher purity and tightness (analysis model)

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]		Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
		DC	50 Hz		24/DC	24/50 Hz	230/50Hz
Universal version 3 way configuration							
Brass valve body							
G 1/4	2	0.08	0.11	0 - 12	124 922	138 316	124 925
	3	0.14	0.18	0 - 8	124 927	124 928	124 930
Stainless steel body							
G 1/4	2	0.08	0.11	0 - 12	124 932	124 933	124 935
	3	0.14	0.18	0 - 8	124 937	124 938	124 940

2/2 or 3/2-way Pivoted Armature Solenoid Valve with Ex approval

- Direct-acting with isolating diaphragm
- With lockable manual override
- For liquid, gaseous and aggressive media
- For slightly contaminated fluids
- Long service life, even in non-lube conditions

Type 0330 Ex is a direct-acting 2/2 or 3/2-way pivoted armature solenoid valve with Ex approval and high service life, even when run dry. It is suitable for neutral, abrasive and lightly contaminating media, with a stainless steel body for aggressive media.

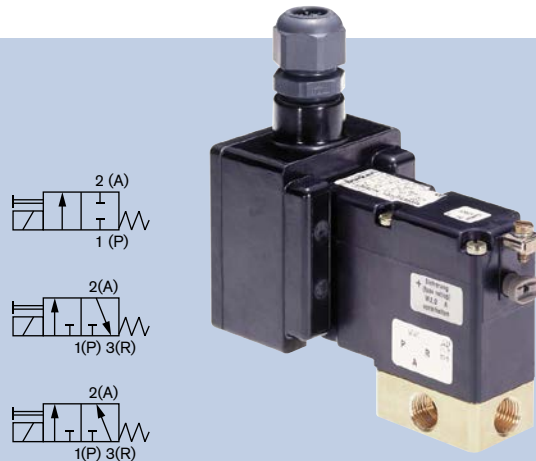
Technical Data

Orifice	DN3.0 mm
Body and seat materials	Brass and stainless steel 1.4401
Seal materials	NBR, FKM
Media	
with NBR	Neutral media such as compressed air, water, oil
with FKM	hot air, oxygen, hot oils, per-solutions
Media temperature	
with NBR	0 °C to +80 °C
with FKM	0 °C to +90 °C
Ambient temperature	Max. +55 °C
Viscosity	Max. 37 mm ² /s
Operating voltage	24/230 V UC
Voltage tolerance	±10%
Cycle rate 1	Max. 20/min
at medium temp. and at ambient temp.	to +70 °C to +40 °C
Cycle rate 2	Max. 5/min
at medium temp. and at ambient temp.	to +90 °C to +40 °C
Duty cycle	100% continuous rating
Electrical connection	Terminal box without safety fuse moulded-in cable, 3 m HO5RN-F3G, 3 x 0.75 mm ² on request
Fuse	Semi-delay fuse (corresponding to nominal current)
Power consumption	UC: 40 VA (inrush), 3 W (hold)
Protection class	IP65
Type of protection	II 2 D Ex tD A21 IP65 T135 °C resp. 100 °C II 2 G Ex d e IIC T4 resp. T5
Installation	As reqd., preferably with actuator in upright position

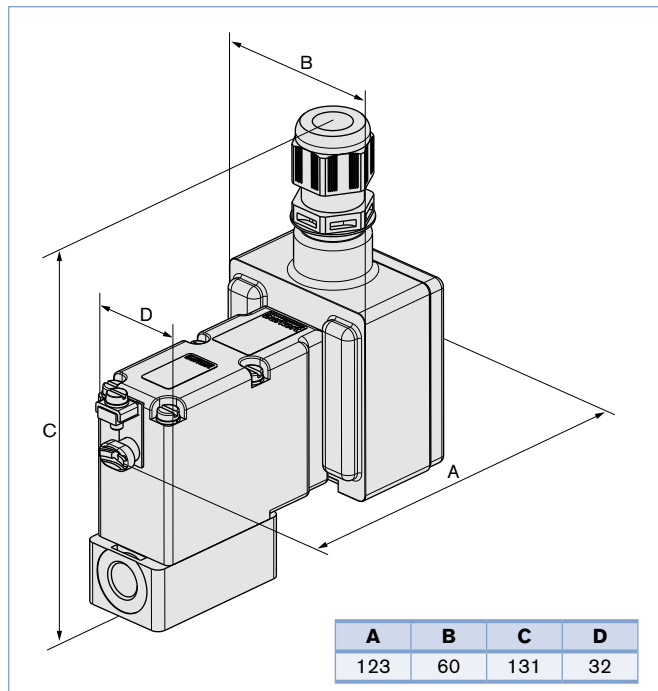
Response times ¹⁾	
Opening [ms]	Closing [ms]
30	40

¹⁾ Measured at valve outlet at 6 bar and +20 °C

Opening: pressure relief 0 to 90%, closing: pressure relief 100 to 10%



Envelope Dimensions [mm] (see datasheet for details)



Other circuit functions

The valves are fitted with different springs. When used in other circuit functions, the permissible operating pressure changes according to the following table.

Circuit function	Max. operating pressure [bar] when using the valve in a new circuit function					
	Orifice 3					
WW	A	B	C	D	E	F
C	10	1	10	1	1	10
E	6	6	6	6	6	6
F	6	1	6	1	1	10

Options

- Seal material EPDM and FFKM
- Other circuit functions

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv-value water [m³/h]	Pressure range [bar]	Seal material	Body material ¹⁾	Electrical connection ²⁾	Item no. per Voltage/Frequency [V/Hz]	
								024/UC	230/UC
All valves with manual override, protection type Ex ed II C T5									
A 2/2-way, normally closed (NC)	G 1/4	3	0.23	0 - 10	NBR	Brass	Terminal box	137 077	137 079
						Stainless steel	Terminal box	137 081	137 083
C 3/2-way, normally closed (NC)	G 1/4	3	0.23	0 - 10	NBR	Brass	Terminal box	124 619	125 567
						Stainless steel	Terminal box	135 080	137 075
E 3/2-way mixer	G 1/4	3	0.23	0 - 6	FKM	Stainless steel	Terminal box	137 085	135 624

¹⁾ For circuit functions A and B, valve bodies with straight flow

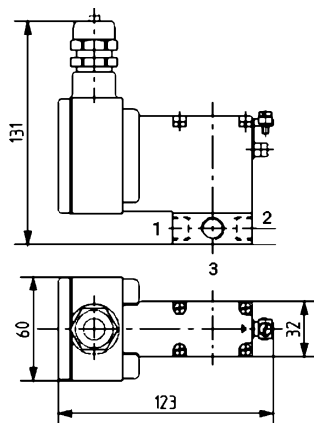
²⁾ Terminal box = with Terminal box without safety fuse

Moulded-in cable with cable fitting and strain relief (HO5RN-F3G, 3 x 0.75 mm², 3 m long) on request

Accessories

Voltage [V]	Max. current [A]	Item no.
Fuse Type 1058		
24	2	153 740
230	0.315	153 733

Envelope Dimensions [mm] (see datasheet for details)



Version with terminal box

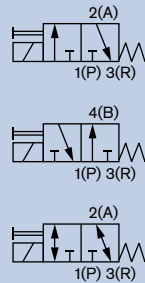
Possible connections			
Circuit function	1	2	3
A	P	A	-
C	P	A	R
E	P1	A	P2

3/2-way Solenoid Valve, Flange

0331

DN2 and 3 mm

- 3-way valve with pivoted armature
- For liquid and gaseous medium
- Direct-acting and media separated
- Standard with lockable manual override



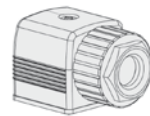
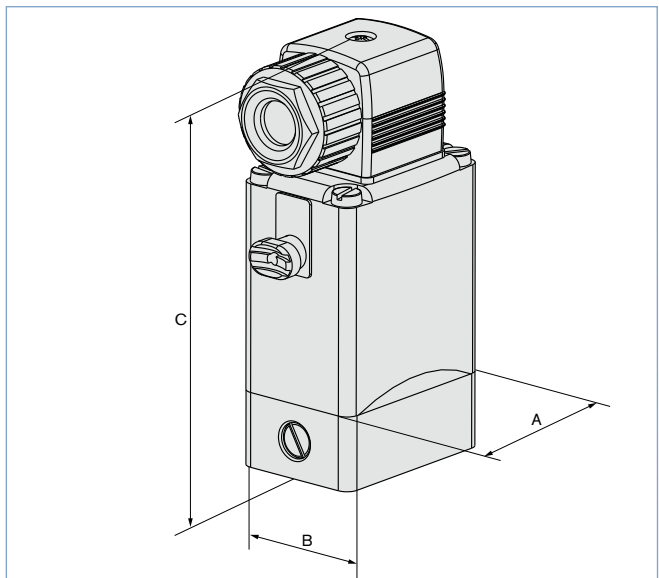
Type 0331 is a direct-acting 3/2-way pivoted armature solenoid valve for flange mounting. The magnetic system and the media chamber are separated from one another by a separating diaphragm system. The valve is fast-acting and has a long service life, even in non-lube conditions.

Technical data

Medium temperature	
NBR	0 °C to 80 °C
FKM	0 °C to 90 °C
EPDM (on request)	-30 °C to 90 °C
Ambient temperature	
	Max. 55 °C
Viscosity	
	Max. 37 mm ² /s
Voltage tolerance	
	±10%
Duty cycle	
	Continuous operation 100% ED
Manifold mounting	
	use reduced ED or 5 W coil
Body and seat materials	
	Brass (stainless steel 1.4401 on request)
Seal material	
	NBR, FKM (EPDM on request)
Coil material	
	Epoxy (class H)
Power consumption	
	AC: 30 VA, DC: 8 W (inrush)
	AC: 15/8 VA/W, DC: 8 W (hold)
Protection class	
	IP 65 (with Cable Plug)
Electrical connection	
	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (included)
Response times	
AC Opening/Closing [ms]	8-15
AC Opening/Closing [ms]	10-20

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: Pressure build-up 0 to 90%,
Closing: Pressure drop 100 to 10%

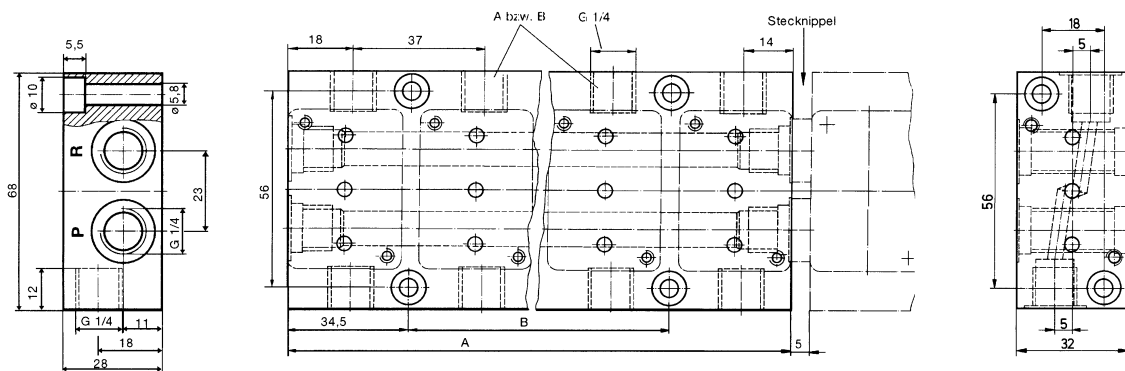
Dimensions [mm] (see datasheet for further Details)



2508 Cable Plug
Form A included

Size	A	B	C
G 1/4"	46	34	100

Manifolds



Multiple manifold

Single manifold

Ordering Chart

Port connection	Orifice [mm]	Kv value [m ³ /h] ¹⁾	Pressure range [bar] ¹⁾	Item No. voltage/frequency [V/Hz]		
				024/DC	024/50	230/50
3/2-way valve, seal material NBR, port P normally closed						
Flange	2	0.10	0 - 16	041 183	041 184	041 188
	3	0.15	0 - 10	041 195	041 198	041 209
3/2-way valve, seal material NBR, port P normally open						
Flange	2	0.10	0 - 16	041 234	041 235	041 242
	3	0.15	0 - 10	041 247	041 248	041 254
3/2--way valve, seal material FKM, any flow direction						
Flange	2	0.10	0 - 16	124 953	124 954	124 956
	3	0.15	0 - 10	124 958	124 959	124 961

¹⁾ For DC versions the nominal diameter is reduced to 0.5 mm.

²⁾ Please be aware that the above valves cannot be used for vacuum.

The valves are manufactured with different springs. The valves can be applied also in other circuit functions with respect to different pressure rates.

Flange valve manifolds made of anodised aluminium	
Manifold	Item No.
1 valve	005 043
2 valves	005 045
3 valves	005 366
4 valves	005 294
5 valves	005 295
6 valves	005 296
7 valves	005 403
8 valves	006 074

Accessories

Manifold	Item no.
Covering plate for unused valve positions	005 625

Options

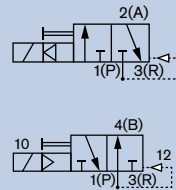
- Approvals UL, UR, GL, CGA / AGA
- UL Hazardous Locations
- Vacuum version
- Electrical feedback positioner
- Version without manual override

3/2-way Solenoid Valve with pivoted armature pilot drive

0340

G 1/4" - G 1 1/2"

- Servo-Piston for large flow rates
- Pivoted armature isolated pilot
- Manual override as standard
- Fast ventilation function



Servo-assisted 3/2-way normally closed and normally open solenoid valve with a pivoted armature and isolating diaphragm. This series encompasses a range of diaphragms, sealing materials and electrical connections. Perfect for pneumatic actuation of very large process valves. For the complete opening and closing a differential pressure of 0.5 bar is required.

Technical Data

Temperature media	0 °C to +90 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 21 mm ² /s
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass
Seal material	NBR
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65, NEMA 4 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Response times [ms]	Measured at valve outlet at 6 bar and +20 °C
Opening	Pressure build-up 0 to 90%
Closing	Pressure decay 100 to 10%
	(see Ordering Chart)

Orifice [mm]	Response times ¹⁾	
	Opening [ms]	Closing [ms]
8	25	25
12	30	30
20	40	40
25	70	70
40	120	120

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: Pressure rise 0 to 90%
Closing: Pressure drop 100 to 10%

Options

- Electrical position feedback
- Impulse coil
- Range of diaphragm seals to suit difficult media
- Cable plug with LED and varistor

Envelope Dimensions [mm] (see datasheet for details)

Size	A	B	C
G 1/4"	65	33	154.5
G 1/2"	76	33	179.5
G 3/4"	90	52	215.5
G 1"	110	60	237.5
G 1 1/2"	153	88	274

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
				024/DC	024/AC	230/AC
Normally closed						
G 1/4	8	0.95	0.5 - 16	041 317	041 318	041 329
G 1/2	12	2.6	0.5 - 16	041 333	041 334	041 346
G 3/4	20	6.6	0.5 - 16	041 354	041 665	041 361
G 1	25	10	0.5 - 16	041 537	041 362	041 364
G 1 1/2	40	24	0.5 - 16	042 319	041 365	041 366
Normally open						
G 1/4	8	0.95	0.5 - 16	041 367	041 368	041 371
G 1/2	12	2.6	0.5 - 16	041 374	041 375	041 380

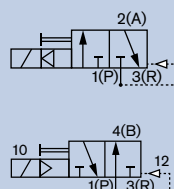
Quick exhaust function: Connection R is a orifice size larger than the ports A / B and P. This increases the flow A-R by a factor of 1.5 to 2 to the value in the table.

3/2-way Solenoid Valve with pivoted armature pilot drive for low pressures and vacuum

0344

G 1/4" - G 1"

- Pivoted armature pilot drive, media isolated
- Smoothly operating servo-piston
- For neutral gases with low pressures
- For technical vacuum
- Manual override as standard



The pilot-controlled 3/2-way valve, Type 0344, with a smoothly operating servo-piston requires a differential pressure of 0.25 bar for complete opening and closing. In the circuit functions NC and NO, it is particularly suited for use with neutral gases with low pressures and for vacuum, even with dry running.

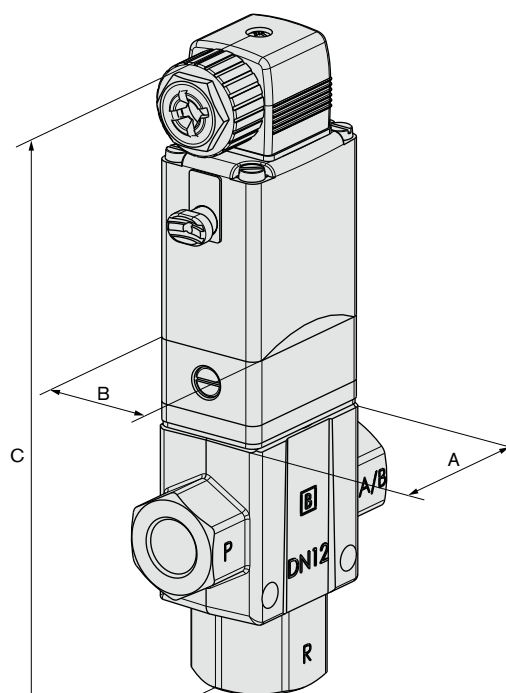
Technical Data

Orifice	DN8.0-40 mm
Body material	Brass
Coil material	Epoxy
Coil insulation class	H
Seal material	NBR
Medium	Neutral gases, compressed air, vacuum
Medium temperature	0 °C to +90 °C
Ambient temperature	Max. +55 °C
Voltage tolerance	± 10%
Duty cycle	100% continuous rating
Electrical connection	Cable plug for Ø 7 mm cable, acc. to DIN EN 175301-803 Form A (supplied as standard)
Electr. power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP 65 with cable plug
Installation	as required, preferably with actuator upright

Orifice [mm]	Response times ¹⁾	
	Opening [ms]	Closing [ms]
8	25	25
12	30	30
20	40	40
25	70	70
40	120	120

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

Envelope Dimensions [mm]



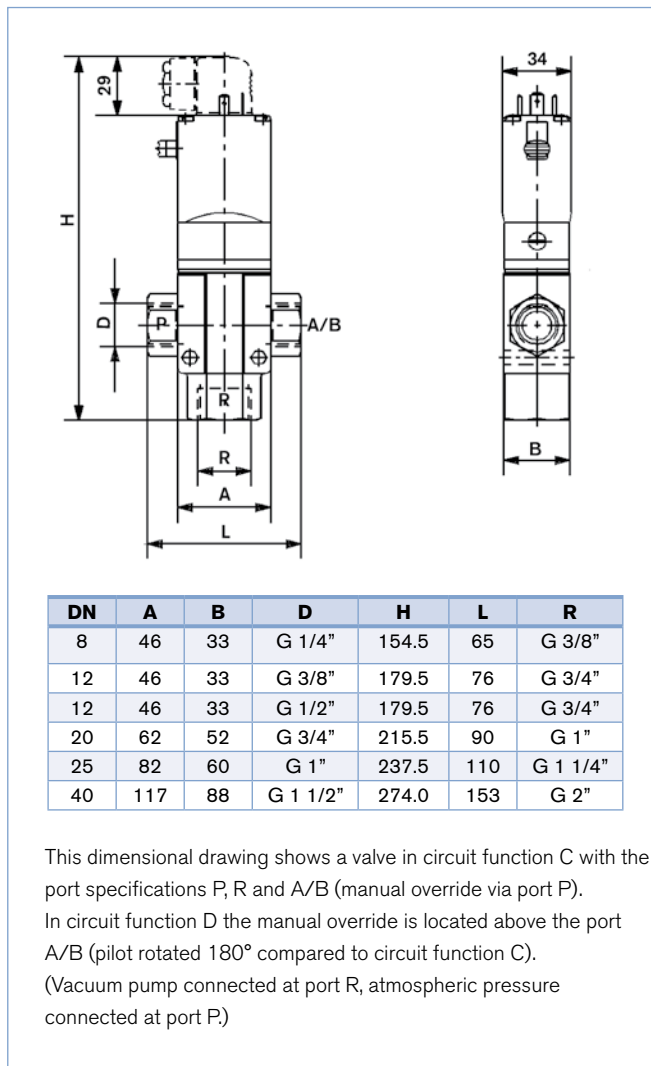
DN	A	B	C
8	46	33	154.5
12	46	33	179.5
20	62	52	215.5
25	82	60	237.5
40	117	88	274.0

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Qn-value air P → A [l/min]	Pressure range [bar]	Item no. per voltage/frequency [V/Hz]		
					024/DC	024/50	230/50
All valves with manual override, brass body, NBR seal and cable plug							
C 3/2-way valve normally closed	G 1/4	8	1030	Vacuum to 3	047 383	047 787	045 134
	G 1/2	12	2800	Vacuum to 3	046 580	047 897	046 180
	G 3/4	20	7200	Vacuum to 3	046 833	053 492	046 461
	G 1	25	11000	Vacuum to 3	043 691	050 367	055 445
	G 1 1/2	40	26000	Vacuum to 3	057 829	–	047 853
D 3/2-way valve normally open	G 1/4	8	1030	Vacuum to 3	046 986	049 336	046 408
	G 1/2	12	2800	Vacuum to 3	046 246	051 354	046 373
	G 3/4	20	7200	Vacuum to 3	046 087	057 636	047 616
	G 1	25	11000	Vacuum to 3	047 873	043 479	041 681

Quick exhaust function: Connection R is a orifice size larger than the ports A / B and P. This increases the flow A-R by a factor of 1.5 to 2 to the value in the table.

Envelope Dimensions [mm]

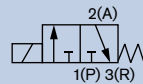


Plunger Operated 3/2-way Solenoid Valve for high temperatures

0355

G 1/4"

- Seat valve direct acting
- Medium temperature up to +180 °C
- Push-over solenoid system
- For gases and fluids

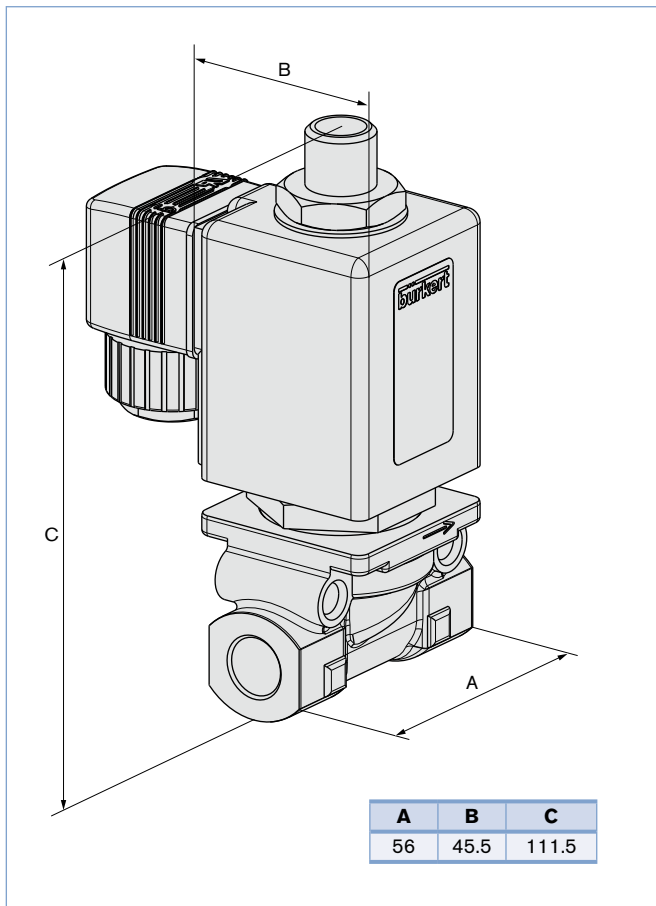


Direct-acting plunger solenoid, Type 355, for neutral gases and liquids. Also suitable for high temperatures, such as hot water, hot air, steam.

Technical Data

Orifice	DN2-4 mm
Body material	Brass with stainless steel seat 1.4305, Stainless steel 1.4581
Coil material	Epoxy
Coil isolation class	H
Inner part valve	Stainless steel
Seal material	NBR, FKM, PTFE, EPDM
Medium	
NBR	Neutral fluids, hydraulic oil, oil without additives
EPDM	Oil and fat-free fluids
FKM	Per-solutions, hot oils with additives
PTFE	Steam, organic solvents
Medium temperature	
NBR	-10 °C to +90 °C
EPDM	-40 °C to +130 °C
FKM	0 °C to +130 °C
PTFE	-40 °C to +180 °C
Ambient temperature	Max. +55 °C
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (supplied as standard)
Power consumption	v
Inrush	
Hold (hot coil)	AC: 35-40cv VA AC: 16 VA, 10 W DC: ca. 12 W
Protection class	IP 65 with cable plug
Installation	as required, preferably with actuator upright

Envelope Dimensions [mm]



Options

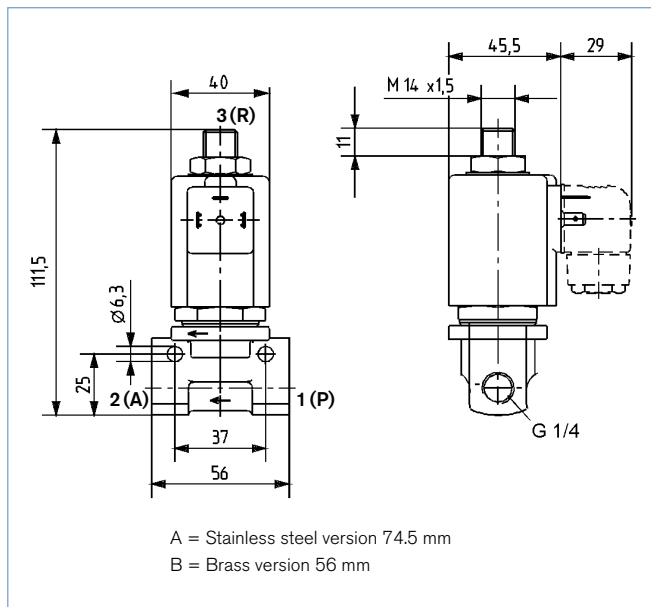
- Circuit function D and E on request
- UL, UR and CSA approval

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv-value water [m³/h]	Pressure range [bar]	Seal material	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
C 3/2-way valve normally closed	Brass body							
	G 1/4	2	0.11	0 - 16	EPDM	-	150 300	066 007
					NBR	043 089	026 069	068 078
					PTFE	062 188	049 998	049 025
		3	0.2	0 - 10	FKM	064 392	157 603	126 056
					NBR	068 557	017 668	061 174
					PTFE	052 665	067 817	054 885
		4	0.4	0 - 6	FKM	069 637	066 454	046 655
					NBR	061 104	019 095	061 019
					PTFE	052 078	065 552	058 403
	Stainless steel body							
	G 1/4	4	0.4	0 - 5	PTFE	018 478	136 558	021 253
					FKM	020 978	062 713	066 759

0355

Envelope Dimensions [mm]



2/2-way Piston Solenoid Valves for Steam (up to +180 °C)

0406 / 0407

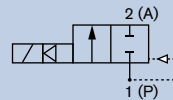
G 1/2" - G 2"

- Type 0406 pilot controlled, 1-12 bar max.
- Type 0407 forced coupled, 0-10 bar max.
- Fluid temperature to 180 °C
- Wear resistant stainless steel seat
- Most reliable valves for hot neutral fluids

Type 0406



Type 0407



The normally closed solenoid valves is suitable for steam and hot gaseous mediums.

Type 0406 is a pilot operated solenoid valve with servo piston. To fully open a minimum pressure difference of 1 bar is required.

Type 0407 is a force lifting solenoid valve with servo piston. The valve opens without differential pressure from zero bar.

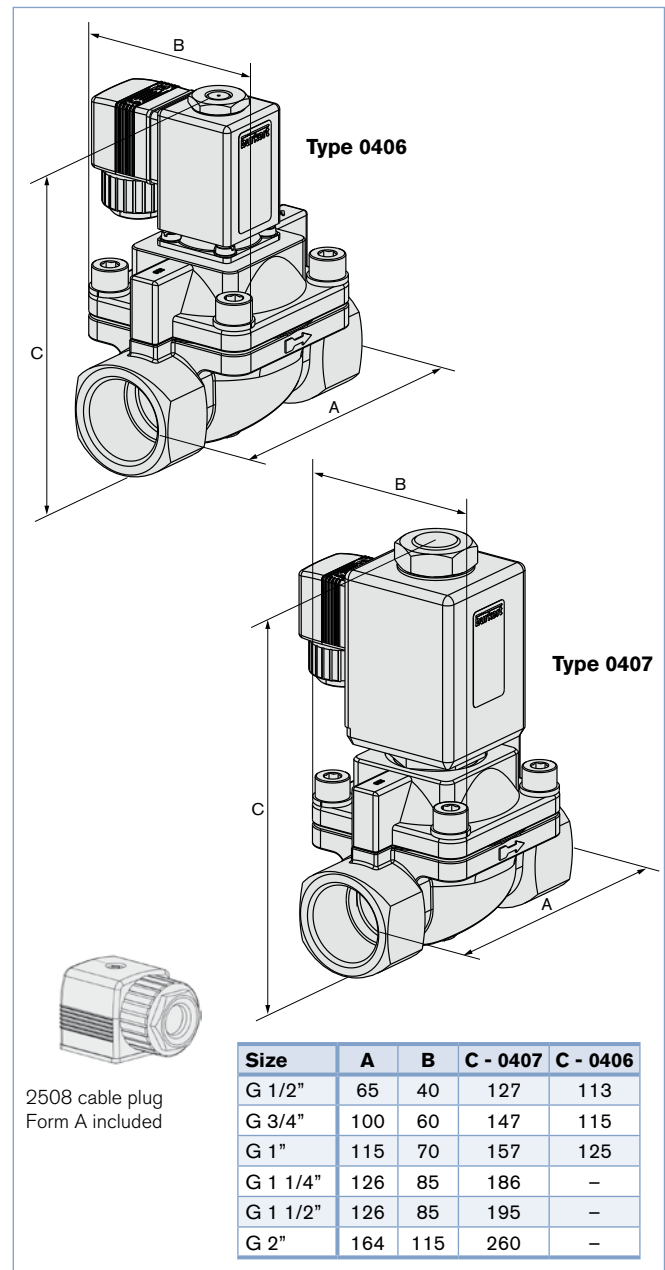
Technical Data

Pressure range	1-12 bar (Type 0406) 0-10 bar (Type 0407)
Temperature media	Type 0406: -10 °C to +180 °C Type 0407: -20 °C to +180 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 21 mm ² /s
Voltage tolerance	± 10%
Duty cycle	100% continuous rating
Body material	Brass with anti-wear stainless valve seat
Seal material	PTFE piston seal, graphite body seal
Coil material	Epoxy (Class H)
Power consumption	Type 0406: AC: 21 VA (inrush), 12 VA (hold) DC: 8 W Type 0407: AC: DN13-40 mm, 100 VA (inrush), 35 VA/14 W (hold) DC: DN13 mm 12 W, DN20-40 mm 14 W, DN50 mm 30 W
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)

Options

- Cable plug with LED and varistor
- UL Listed version with 2509 cable plug
- UR and CSA approval
- Flange version in cast iron

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			DC	50 Hz	024/DC	024/50	230/50
Normally closed (other versions on request)							
Type 0406							
G 1/2	13	3-Jul	1 - 4	1 - 12	019 310	020 541	061 305
G 3/4	20	5	1 - 4	1 - 12	021 004	019 818	061 303
G 1	25	10	1 - 4	1 - 12	019 983	021 440	061 304

Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			DC	50 Hz	024/DC	024/50	230/50
Normally closed (other versions on request)							
Type 0407							
G 1/2	13	3-Jul	0 - 10	0 - 10	125 542	021 598	615 637
G 3/4	20	5	0 - 10	0 - 10	150 311	022 032	615 157
G 1	25	10	0 - 10	0 - 10	174 745	021 620	615 638
G 1 1/4	32	16	0 - 8	0 - 10	258 322	085 385	064 919
G 1 1/2	40	16	0 - 10	0 - 10	226 757	085 392	085 394
G 2	50	36	0 - 10	0 - 10	085 400	-	-

Solenoid Valve Timer Units

1078-1 / 1078-2

Time interval from 0.5sec to 10hr

- Programmable alone or using separate operating unit
- Various switching functions
- Safety function with Type 1078-2



Type 1078-2 and 1077-2

Type 1078-1

(Figure Types 1078-2 and 1077-2 mounted on solenoid valve - assembly example)

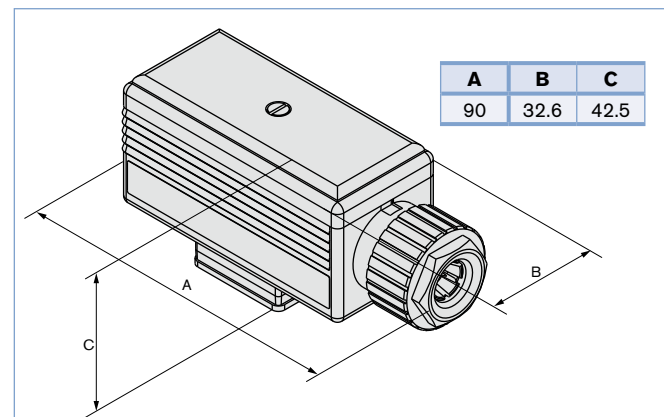
Type 1078-1 is simply programmed by DIP switches and potentiometers and incorporates four different switching functions. It mounts directly onto Bürkert solenoid valves using the same three prong connection. This unit is perfect for simple tasks like compressor blowdown where reliability is required.

Type 1078-2, which has eight different switching functions, is operated by a two button programmer (Type 1077-2) with a small digital display. As changes are only possible via the programmer the unit is safely locked when it is removed. Multiple timers can simply be programmed as the last settings always remain in Type 1077-2.

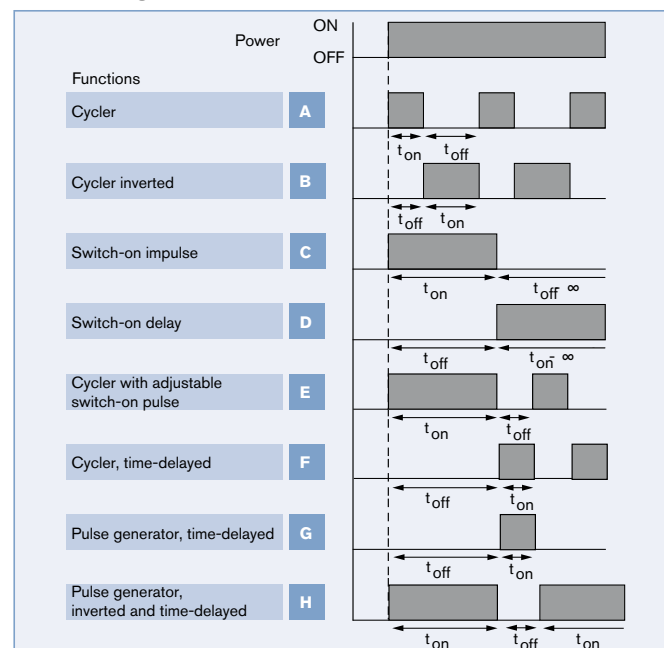
Technical Data

Time range	0.5 s-10 s up to 0.5 h-10 h
Display	LED for power supply voltage and switching status
Adjustment 1078-1	DIP-switches, precision adjustment of response times via potentiometers
Adjustment 1078-2	Two buttons via 1077-2 programmer (not included)
Switching functions	Type 1078-1 A-D Type 1078-2 A-H
Body material	Polyamide
Operating voltages	See ordering chart
Voltage tolerance	±10%
Power consumption	Max. 1.5 W
Ingress protection	IP65 (NEMA4)
Plug connection	Integrated cable plug acc. to DIN EN 175301-803, Form A
Switching load (Imax)	2 A at supply voltage 12 DC. 1.5 A at supply voltage 24-48 V/50-60 Hz and DC
Electrical connection	5-pin terminal strip in housing, cable gland, up to 1.5 mm ² wire, cable Ø 6-7 mm, rotatable by 90°
Cable outlet	4 x 90° positioning
Working temperature range	-10 °C to +60 °C
Influence of temperature	±5 % of full scale time range
Influence of voltage	±1 % of full scale time range
Resolution (Type 1078-2)	Range up to 199 s - 10 ms Range up to 199 min - 1 s Range up to 99 h - 1 min
Additional functions (Type 1078-2)	Binary inputs for external triggering
1077-2 Display	4.5 digit 7 segment LCD
1077-2 Adjustment	Two buttons
1077-2 Body material	Polyamide
1077-2 Ingress protection	IP65 (with valve)

Envelope Dimensions [mm] (see datasheet for details)



Switching functions



Options

- Unit for max. time 100 h (option NA15)
- 110-230 V/50-60 Hz

Ordering Chart

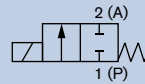
Description	Operating voltage	Item no.
Type 1078-1		
Timer unit Type 1078-1 with standard time range	012 - 024 V DC	060 647
	024 - 048 V / 50 - 60 Hz and DC	060 621
Type 1078-2		
Timer unit Type 1078-2	012 - 024 V DC	060 648
Timer unit Type 1078-2	024 - 048 V / 50 - 60 Hz and DC	060 629
Operating unit Type 1077-2		060 638

2/2-way Solenoid valve for high pressure

2400

G 1/2" - G 1/2"

- For high pressures
- Servo-assisted
- Normally closed (normally open on request)



The servo-assisted 2400 valve has a servo-piston with a 2-way servo-control. It is designed for high pressures.

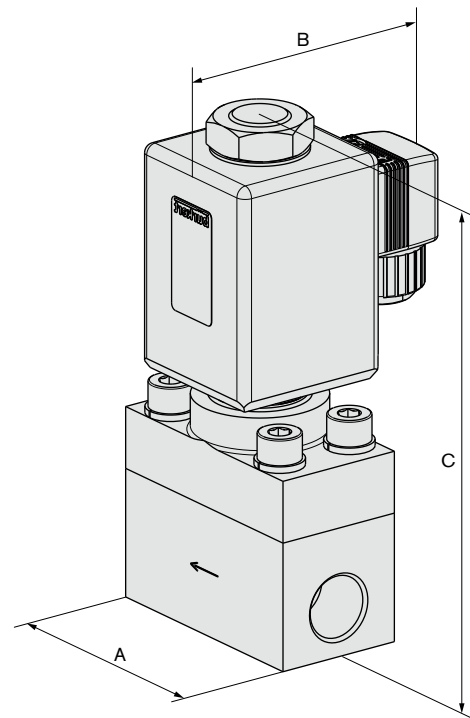
The speciality of this valve design lies in the layout of the seat and sealing element. An additional radial seal make very good sealing possible.

The tapered sealing element of the servo-control permits the switching of high pressure at relatively low coil power.

Technical Data

Body material	stainless steel, brass
Valve internals	stainless steel
Sealing material	PEEK/FKM; PCTFE/FKM; PTFE/FKM
Media	neutral gases and fluids
Medium temperature	
PEEK/FKM	-10 to +80 °C
PCTFE/FKM	-10 to +80 °C
PTFE/FKM	-10 to +80 °C
Ambient temperature	max. +55 °C
Viscosity	ca. 21 mm/s
Operating voltage	24/DC 24/220-230 V / 50 Hz other voltages on request
Voltage tolerance	±10%
Cycling rate	ca. 80/min
Duty cycle	100 % continuous rating
Electrical connection	Cable plug Type 2508 acc. to DIN EN 175301-803, Form A (included)
Protection class	IP65 with cable plug
Installation	as required, preferably with actuator upright

Envelope Dimensions [mm]



DN	A	B	C
5.0	50	81	126
8.0	65	81	126
12.0	75	81	153

Orifice [mm]	Electrical power consumption		Response times ¹⁾		
		Inrush	Hold	Opening [ms]	Closing [ms]
5.0	AC	85 VA	48 VA/20 W	100	300
8.0				to	to
12.0	DC	20 W	20 W	200	500

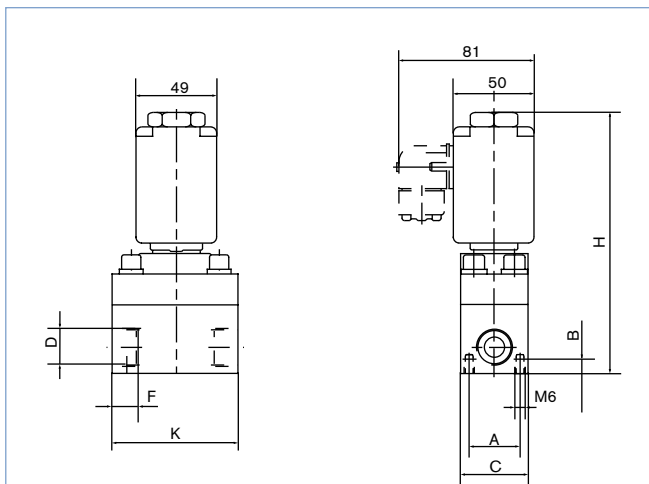
¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

Ordering Chart

Circuit function	Orifice [mm]	Port connection [inch]	Kv value [m³/h]	Pressure range [bar]	Body material	Seal material	Voltage/frequency [V/Hz]	Item no.
A Normally closed	5	G 1/4	0.6	1 – 200	Brass	PEEK / FKM	024/DC	002 366
				1 – 250	Brass	PEEK / FKM	230/50	002 367
	8	G 3/8	1	1 – 210	Brass	PEEK / FKM	024/DC	002 369
				1 – 250	Brass	PEEK / FKM	024/50	132 436
	PEEK / FKM	230/50	002 370					
	12	G 1/2	2.6	1 – 250	Stainless steel	PCTFE / FKM	024/DC	000 520
							024/50	134 690
							230/50	000 422
				1 – 160	Brass	PTFE / FKM	024/DC	006 725
							024/50	000 284
230/50							000 455	

2400

Envelope Dimensions [mm]



DN	D	A	B	C	F	H	K
5.0	G 1/4"	30	12	50	8	126	50
8.0	G 3/8"	29	8	40	8	126	65
12.0	G 1/2"	29	8	40	14	153	75

Cable plug acc. to DIN EN 175301 Form A Type 2508, Form B Type 2507 and Rectangular plug Type 2505

2505 / 2507 / 2508

0 to 250 V AC

- Compact and simple to wire
- IP65 / NEMA 4X
- Also available with LED indicator
- Global Approvals



Type 2505 – Rectangular plug

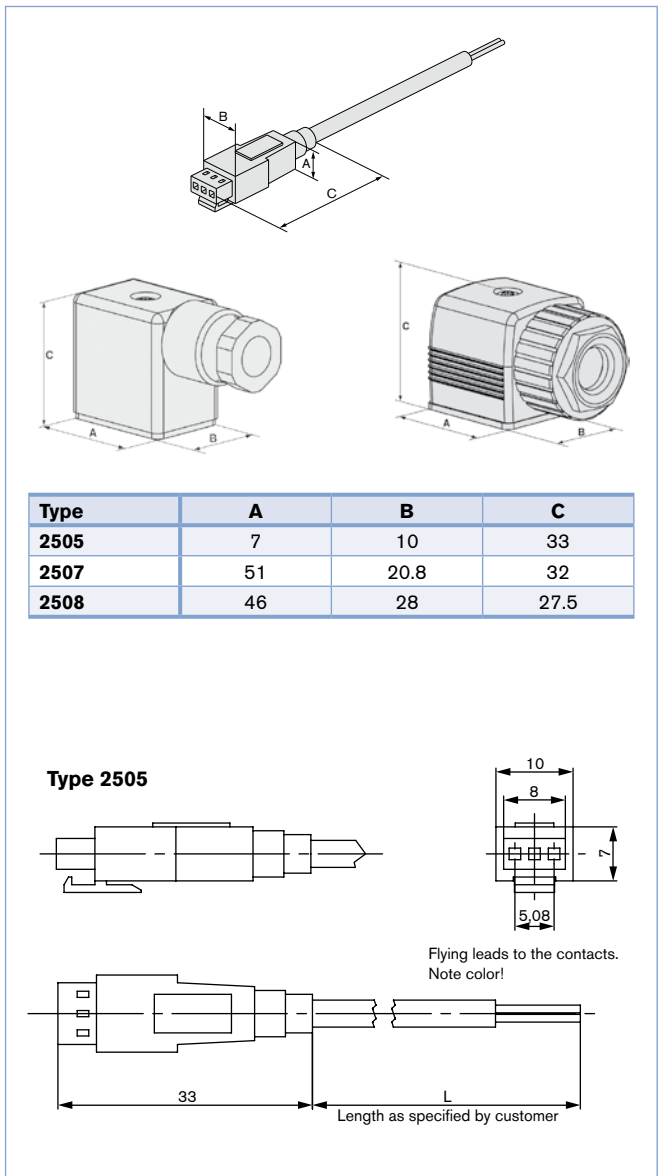
Type 2507 - Plug on connector for small valves and sensors. Options include LED, rectifier, suppression diode, and varistor. Modular flexible design allows flexibility in restricted space; watertight connection.

Type 2508 - Plug on connector for solenoid valves and sensors. Options include LED, rectifier, varistor and AS-i versions (2510 / 2511). The flexible design allows 90° installation flexibility.

Technical Data

Type	2505	2507	2508
Body material	POM	Polyamide	Polyamide, Polycarbonate (versions with LED)
Contacts	Brass galvanised silver plated	Brass galvanised silver plated	Brass galvanised silver plated
Flat seal		NBR	
Cable outlet	straight	2 x 180°	4 x 90°
Cable diameter	see ordering chart	4.5-7 mm	6-7 mm
Temperature range	-40 °C to +90 °C	-40 °C to +90 °C	+90 °C
Max. ambient temperature	+90 °C	+90 °C	+90 °C
Rating	see ordering chart	6 A	6 A
Nominal voltage	12-24 V	0-250 V	0-250 V
Contact resistance		≤ 4 mΩ	5 mΩ (typ.)
Operating display		Option LED red	Option LED red
Electrical connection		Screw terminal max. 0.75 mm ² with circuitry (max. 1.5 mm ² without circuitry)	Screw terminal max. 1.5 mm ²
Protection class	IP20	NEMA 4, IP65	NEMA 4, IP65
Number of terminals	2-wire	2-pins + protective earth conductor	Standard: 2-pins + protective earth conductor. Option: 3-pins + protective earth conductor

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

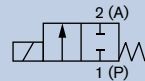
Circuitry	Voltage/frequency	Item no. 2507	Item no. 2508
Standard	0 - 250/AC/DC	423 845	008 376
With LED	024/DC	423 849	008 360
	110/AC	-	008 361
	230/AC	423 850	008 362
With LED and varistor	024/DC	423 851	008 367
	110/AC	-	008 368
	230/AC	-	008 369

Type 2505	Feature	Item no.
Rectangular cable plug	with 3 m PVC oil-resistant cable, cable diameter 4-5 mm, operating temperature -20 to +80 °C, current intensity max. 1.5 A	133 486
	with 300 mm single flying leads, outside diameter 1.4 mm, operating temperature 0 to 55 °C, power max. 3 W	644 068
	with 2 crimp contacts, operating temperature 0 to 55 °C, current intensity max. 2 A	644 067

2/2-way Solenoid Valve for low and high temperatures

2610

- Medium separation
- Metal bellow system in stainless steel
- High quality PTFE seat seal
- Medium temperature -200 °C to +180 °C
- Energy saving „Kick and Drop” electronic



The direct-acting valve, Type 2610, is delivered with a normally closed circuit function. The thermal isolation of the coil and housing by means of stainless steel bellows allows the extreme medium temperature. In this way condensation or an unacceptable heating up of the coil is avoided. The supplied cable head contains a „kick and drop” electronic that supports the opening phase and afterwards reduction of the opening holding power.

Technical Data

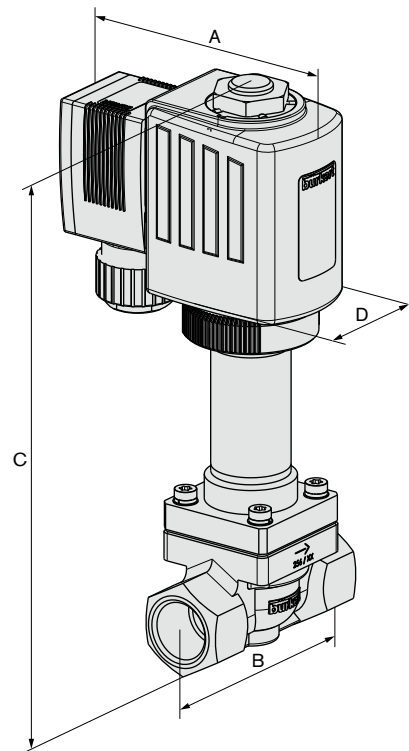
Body material	Brass with stainless steel seat 1.4581 Stainless steel body and stainless steel seat 1.4581
Metal bellows	Stainless steel 1.4541
Seal material	PTFE
Medium	Neutral gases and liquids
Medium temperature	-200 °C to +180 °C
Ambient temperature	Max. +50 °C
Viscosity	Approx. 21 mm ² /s
Operating voltages	24/110 V UC 220-230 V UC
Voltage tolerance	Max. ±10%
Cycling rate	10/min
Power consumption	Kick and Drop electronic 72/4 W
Duty cycle	Continuous operation 100% ED
Electrical connection	Cable plug acc. to DIN EN 175301-803, Type 2508, for Ø 7 mm cable (included in delivery)
Protection class	IP65 with cable plug
Installation position	As required, preferably with actuator upright
Weight	1.1 kg
Response times ¹⁾	
Opening	100 to 200 ms
Closing	300 to 500 ms

¹⁾ Measured at valve outlet at 6 bar and +20 °C

Opening: pressure relief 0 to 90%

Closing: pressure relief 100 to 10%

Envelope Dimensions [mm]



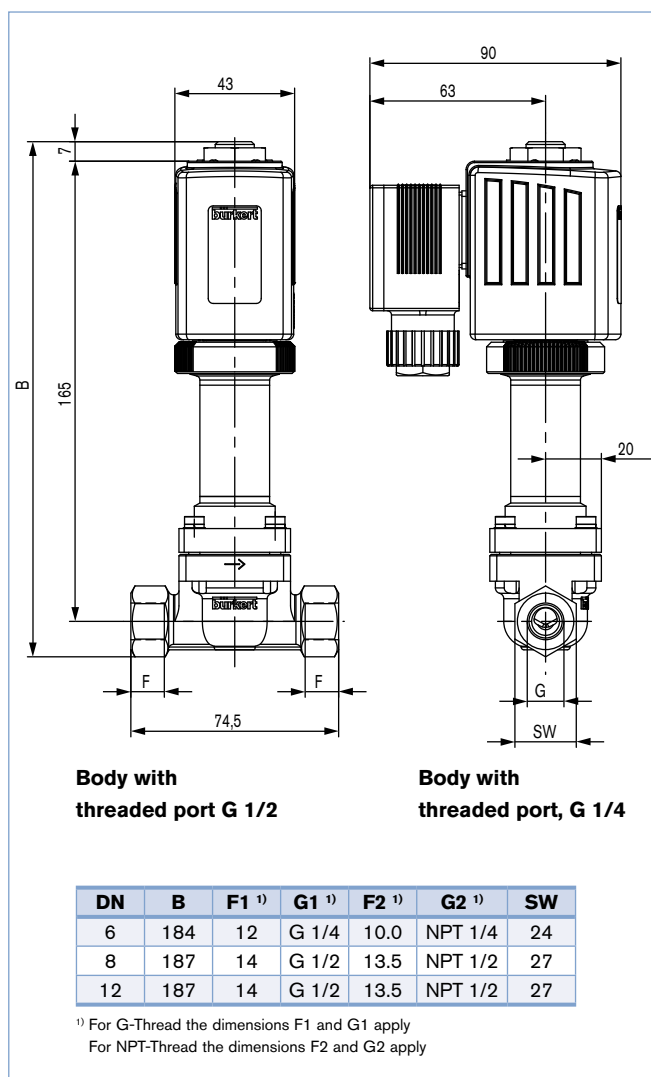
DN	A	B	C	D
6	90	74.5	184	43
8	90	74.5	187	43
12	90	74.5	187	43

Ordering Chart

Circuit function	Orifice [mm]	Port connection [inch]	Kv value [m ³ /h]	Pressure range [bar]	Voltage/frequency V/Hz	Item no.
2/2-way normally closed	6	G 1/4	0.8	0 - 10	024/UC	167 737
	6	G 1/4	0.8	0 - 10	230/UC	167 739
	8	G 1/2	0.9	0 - 10	024/UC	167 740
	8	G 1/2	0.9	0 - 10	230/UC	167 742
	12	G 1/2	1.8	0 - 3.5	024/UC	167 743
	12	G 1/2	1.8	0 - 3.5	230/UC	167 745

2610

Envelope Dimensions [mm]

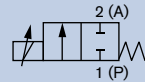


2/2-way Proportional Valve

2871

G 1/8", DN0.3-2.0 mm

- Excellent range
- Very good repeatability
- Compact Design



The direct-acting solenoid control valve, Type 2871 (20 mm installation width), is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight, up to the DN specific nominal pressure.

The operation lever of the valve is suspended frictionless, which leads to an extraordinary adjustment characteristic. Valve control takes place through a PWM signal (see control electronics, Type 8605).

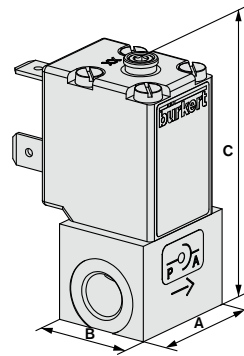
Technical data

Body material	Brass, stainless steel
Medium	Neutral gases, liquids on request
Span	1 : 200 Responsivity 0.25% of full scale
Response sensitivity	0.25% of full scale
PWM frequency	1500 Hz
Max. coil current	220 mA (Maximum value, value depends on the operating pressure)
Medium temperature	-10 °C to 90 °C
Duty cycle	100% continuously rated
Ambient temperature	Max. 55 °C
Seal material	FKM
Operating voltages	24V DC
Power consumption	2 W (to DN0.6), 5 W (from DN0.8)
Electrical connection	Cable Plug Type 2507 acc. to Form B Industrial standard (not included)
Typical control data¹⁾ at PWM control	
Hysteresis	
Repeatability	< 5%
Sensitivity	< 0.25% F.S. ²⁾
Span	< 0.25% F.S. – < 0.1% F.S. with DN < 0.8 mm ²⁾
Response time (10-90%)	1:200 (DN0.8-2), 1:500 (DN0.05-0.6) < 15 ms
Protection class	IP65 (with cable plug)

¹⁾ Characteristic data of control behaviour depends on process conditions

²⁾ by flow measurement

Dimensions [mm] (see datasheet for further Details)

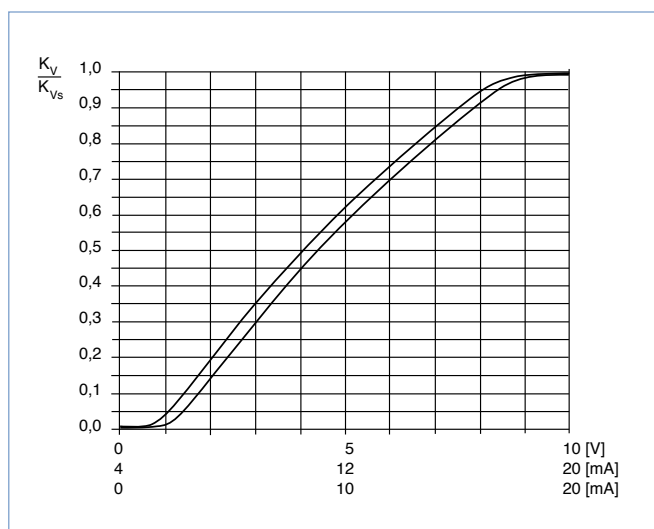


Size	A	B	C
G 1/8"	25	20	49.5

Options/Accessories

- Seal material EPDM
- 12V coil
- Coil with 30 cm flying leads
- Oxygen versions
- Parts oil-, fat- and silicon free
- Flange

Characteristics of a proportional valve



Advice for valve sizing

In continuous flow applications, the choice of an appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed. If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure, the characteristics may change.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m³/h]	Nominal pressure [bar(ü)]	Max. differential pressure [bar]	Max. coil current [mA]	Item no.	
						Brass	Stainless steel
G 1/8	0.3	0.002	10	10	90	254 451	254 452
G 1/8	0.4	0.004	8	8	90	254 453	254 454
G 1/8	0.6	0.01	6	6	90	254 455	254 457
G 1/8	0.8	0.018	12	6	220	235 994	235 995
G 1/8	1.0	0.027	10	5	220	236 000	236 001
G 1/8	1.2	0.038	8	4	220	236 261	236 262
G 1/8	1.6	0.055	6	3	220	236 267	236 268
G 1/8	2.0	0.09	3	1.5	220	236 273	236 274

Accessories

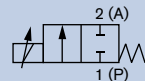
Description	Item no.
Type 2871	
Control electronics Type 8605, DIN-Rail version	178 362
Type 2507	
Cable plug	423 845

2/2-way Proportional Valve

2873

G 1/8" and G 1/4", DN0.8-4.0 mm

- Excellent range
- Very good repeatability
- Compact Design



The direct-acting solenoid control valve, Type 2873 (32 mm installation width) is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight, up to the DN specific nominal pressure.

The operation lever of the valve is suspended frictionless, which leads to an extraordinary adjustment characteristic. Valve control takes place through a PWM signal (see control electronics, Type 8605).

Technical data

Body material	Brass, stainless steel
Medium	Neutral gases, liquids on request
Span	1 : 200
Response sensitivity	0.25% of full scale
Rotation time	<20 ms
PWM frequency	1200 Hz
Medium temperature	-10 °C to 90 °C
Ambient temperature	Max. 55 °C
Seal material	FKM
Operating voltages	24 V DC
Power consumption	9 W
Max. coil current¹⁾	420 mA
Duty cycle	100 % continuously rated
Electrical connection	Cable Plug Type 2508 acc. to DIN EN 175301-803 Form A (previously DIN 43650) (not included)
Typical control data²⁾	
at PWM control	
Hysteresis	<5 %
Repeatability	< 0.5 % F.S. ³⁾
Protection class	IP65 (with cable plug)

¹⁾ Maximum value, value depends on operating pressure

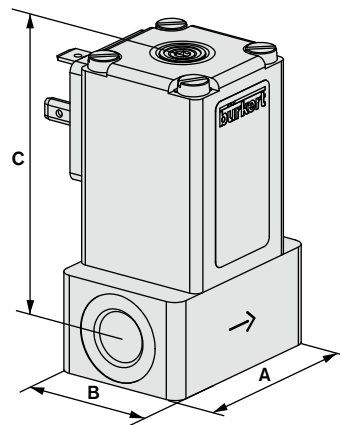
²⁾ Characteristic data of control behaviour depends on process conditions

³⁾ by flow measurement

Options/Accessories

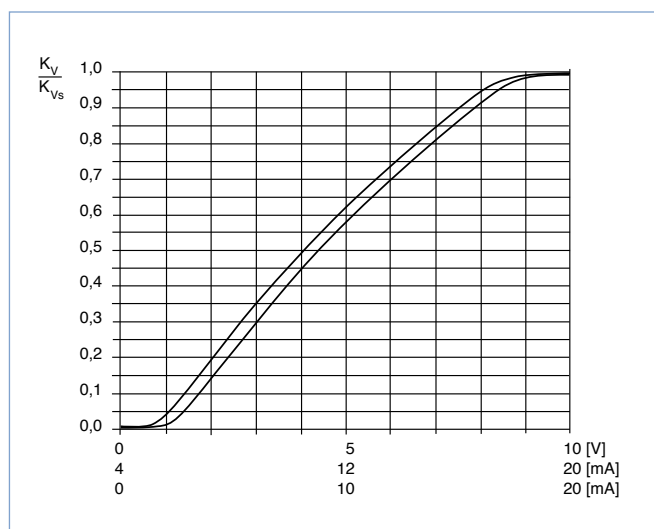
- Seal material EPDM
- 12V coil
- Oxygen versions
- Parts oil-, fat- and silicon free
- Flange

Dimensions [mm] (see datasheet for further Details)



Size	A	B	C
G 1/8"	32	32	57
G 1/4"	32	46	69.5

Characteristics of a proportional valve



Advice for valve sizing

In continuous flow applications, the choice of an appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed. If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure, the characteristics may change.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]	Nominal pressure [bar(ü)]	Max. differential pressure [bar]	Max. coil current [mA]	Item no.	
						Brass	Stainless steel
Type 2873							
G 1/8	0.8	0.018	16	8	420	234 289	234 305
G 1/8	1.2	0.04	12	6	420	234 292	234 307
G 1/8	1.5	0.06	10	5	420	234 294	234 309
G 1/4	2	0.1	8	4	420	234 297	234 312
G 1/4	2.5	0.15	5	2.5	420	234 299	234 314
G 1/4	3	0.22	3.5	1.8	420	234 301	234 316
G 1/4	4	0.32	2	1	420	234 303	234 318

Accessories

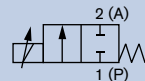
Description	Item no.
Control electronics Type 8605, DIN-Rail version	178 363
Control electronics Type 8605, cable plug with PG-connection	178 354
Control electronics Type 8605, cable plug with M12-connection	178 355
Cable 5 m for Type 8605, M12-connection	918 038
Cable plug Type 2508	008 376
Cable plug Type 2508 with 3 m cable	783 573

2/2-way Proportional Valve

2875

G 3/8" and G 1/2", DN2.0-8.0 mm

- Excellent range
- Very good repeatability
- Compact Design



The direct-acting solenoid control valve, Type 2875, (49 mm installation width) is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight, up to the DN specific nominal pressure.

The operation lever of the valve is suspended frictionless, which leads to an extraordinary adjustment characteristic. Valve control takes place through a PWM signal (see control electronics, Type 8605).

Technical data

Body material	Brass, stainless steel
Medium	Neutral gases, liquids on request
Span	1 : 200
Response sensitivity	0.25% of full scale
Rotation time	< 25 ms
PWM frequency	900 Hz
Medium temperature	-10 °C to 90 °C
Ambient temperature	Max. 55 °C
Seal material	FKM
Operating voltages	24 V DC
Power consumption	16 W
Max. coil current¹⁾	420 mA
Duty cycle	100 % continuously rated
Electrical connection	Cable Plug Type 2508 acc. to DIN EN 175301-803 Form A (previously DIN 43650) (not included)
Typical control data²⁾	
at PWM control	
Hysteresis	< 5 %
Repeatability	< 0.5 % F.S. ³⁾
Protection class	IP65 (with Cable Plug)

¹⁾ Maximum value, value depends on operating pressure

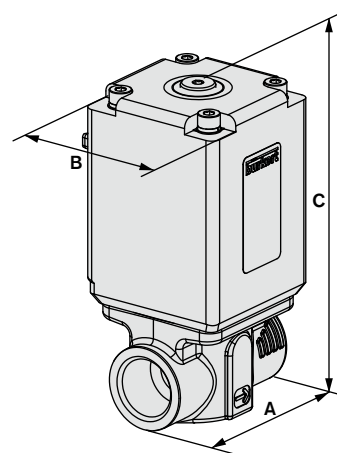
²⁾ Characteristic data of control behaviour depends on process conditions

³⁾ by flow measurement

Options/Accessories

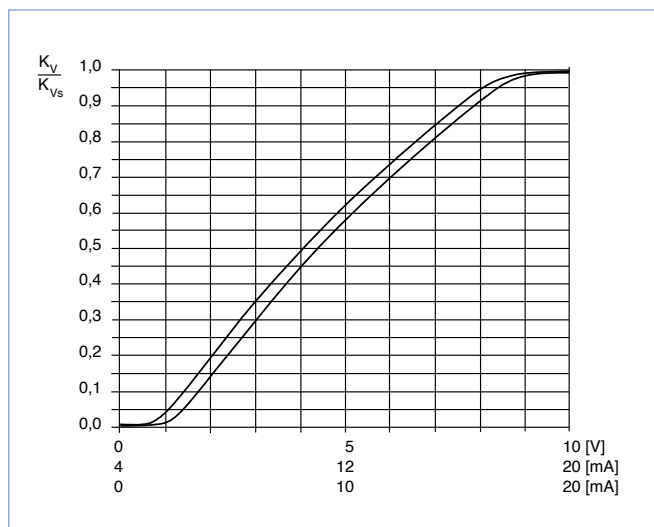
- Seal material EPDM
- 12 V coil
- Oxygen versions
- Parts oil-, fat- and silicon free
- Flange

Dimensions [mm] (see datasheet for further Details)



Size	A	B	C
G 3/8"	55	49	106
G 1/2"	55	49	106

Characteristics of a proportional valve



Advice for valve sizing

In continuous flow applications, the choice of an appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed. If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure, the characteristics may change.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]	Nominal pressure [bar(ü)]	Max. differential pressure [bar]	Max. coil current [mA]	Item no.	
						Brass	Stainless steel
Type 2875							
G 3/8	2	0.12	25	13	750	236 897	236 899
G 3/8	3	0.25	10	5	750	236 901	236 903
G 3/8	4	0.45	8	4	750	236 905	236 910
G 1/2	6	0.8	4	2	750	236 915	236 919
G 1/2	8	1-Jan	2	1	750	236 922	236 924

Accessories

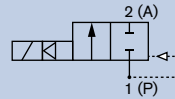
Description	Item no.
Control electronics Type 8605, DIN-Rail version	178 363
Control electronics Type 8605, cable plug with PG-connection	178 354
Control electronics Type 8605, cable plug with M12-connection	178 355
Cable 5 m for Type 8605, M12-connection	918 038
Cable plug Type 2508	008 376
Cable plug Type 2508 with 3 m cable	783 573

2/2-way Servo-Assisted Solenoid Valve with Isolated Pilot

5282

G 1/2" - G 2"

- Unique isolated technology for slightly contaminated fluids
- Independently adjustable open / close rate
- Easily configurable for normally open
- Manual override



Completely unique servo-assisted solenoid valve with isolated pivoted armature pilot. This valve design is much less sensitive to fluid contamination than plunger operated valves and therefore offers many advantages in the process environment. The pilot section can be rotated in the field to make the valve normally open.

Technical Data

Pressure range	0.2-10 bar
Temperature media	0 °C to +90 °C
Ambient temperature	+55 °C, max.
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass acc. to DIN EN 50930-6 or Stainless steel 1.4581
Seal material	NBR, FKM (EPDM on request)
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 24 VA (inrush), 14 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Type 2508, Form A (not included)

To open the full cross-section a pressure difference of 0.5 bar is required.
The switching times can be changed by turning the flow control screw (on the cover).

Response times ¹⁾	
Opening [s]	Closing [s]
0.1-0.8	1.0-4.0

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

Options

- Normally open
- Electrical position feedback
- Impulse coil
- Class 1, Div 2 FM & CSA
- Ex-version available

Envelope Dimensions [mm] (see datasheet for details)

DN	Size	A	B	C
13	G 1/2"	65	40	123
20	G 3/4"	100	60	131
25	G 1"	115	70	141
32	G 1 1/4"	126	85	147
40	G 1 1/2"	126	85	156
50	2"	164	115	177.5

Ordering Chart

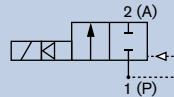
Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Seal material	Item no. voltage/frequency [V/Hz]		
					024/DC	024/50-60	230/50-60
Normally closed (other versions on request)							
Brass							
G 1/2	13	4	0.2 - 10	NBR	134 430	134 431	134 433
G 3/4	20	5	0.2 - 10	NBR	134 434	134 435	134 437
G 1	25	10	0.2 - 10	NBR	134 438	134 439	134 441
G 1 1/4	32	20	0.2 - 10	NBR	134 442	134 443	134 445
G 1 1/2	40	20	0.2 - 10	NBR	134 446	134 447	134 449
G 2	50	40	0.2 - 10	NBR	134 450	134 451	134 453
Stainless steel							
G 1/2	20	4	0.2 - 10	FKM	134 514	134 515	134 517
G 3/4	20	5	0.2 - 10	FKM	134 518	134 519	134 521
G 1	25	10	0.2 - 10	FKM	134 522	134 523	134 525
G 1 1/4	32	20	0.2 - 10	FKM	134 526	134 527	134 529
G 1 1/2	40	20	0.2 - 10	FKM	134 530	134 531	134 533
G 2	50	40	0.2 - 10	FKM	134 534	134 535	134 537

2/2-way Solenoid Valve with servo piston for high pressures

5404

G 1/2" - G 1"

- Unaffected by pressure surges
- Piston design for high reliability
- Perfect for compressed gases



Servo-assisted solenoid valve with a plunger piloted piston seal. Employ where reliable, stable control of neutral gases at pressure is required. To switch a minimum pressure difference of 1 bar is required.

Technical Data

Temperature media	-10 °C to +90 °C
Ambient temperature	+55 °C, max.
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass
Seal material	PTFE, PTFE seat seal + NBR (FKM on request)
Coil material	Polyamide
Power consumption	DC: 8 W, AC: 24 VA (inrush), 14 VA (hold)
Insulation class	Coil B (H on request)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803 Type 2508 Form A (not included)

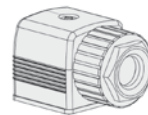
Opening [ms]	Response times ¹⁾	
	Closing [ms]	
20-400	100-1500 (depending on orifice and differential pressure)	

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

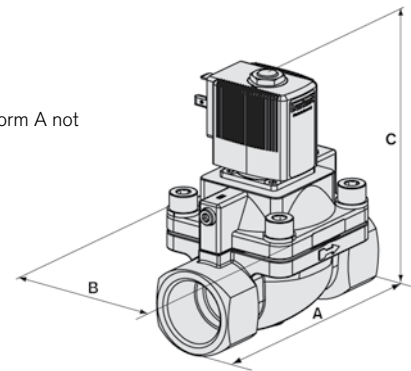
Options

- Normally open
- Cable plug with LED and varistor
- UL, UR and CSA approvals
- ATEX approvals

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A not included



Size	A	B	C
G 1/2"	65	32	96.5
G 3/4"	100	60	109
G 1"	115	70	119

Ordering Chart

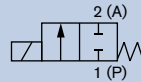
Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			for liquids	for gases	024/DC	024/50	230/50
Normally closed (other versions on request)							
G 1/2	12	2	1 - 50	1 - 50	134 590	134 591	134 593
G 3/4	20	5	1 - 25	1 - 32	134 594	-	-
			1 - 25	1 - 40	-	134 595	134 597
G 1	25	10	1 - 25	1 - 32	134 598	-	-
			1 - 25	1 - 40	-	134 599	134 601

Plunger Operated 2/2-way Solenoid Valve

6011

G 1/8" or manifold mounting

- Brass or Stainless steel
- FKM seal as standard
- Slip over coil can be rotated in 4 x 90 degrees



Direct-acting miniature solenoid valve which is plunger operated for neutral gases, liquids and technical vacuum. Available in standalone or manifold mount versions, there is also an "analysis" version which is manufactured under cleanroom conditions.

Technical Data

Temperature media	-10 °C to +100 °C
Ambient temperature	+55 °C, max.
Body material	Brass or stainless steel 1.4305
Seal material	FKM
Coil material	Epoxy (Class H)
Viscosity	max. 21 mm ² /s
Voltage tolerance	±10%
Duty cycle	
Single valve	100% continuous rating
for block mounting on sub-base	Intermittent 60% (30 min)
Power consumption	DC: 4 W, AC: 9 VA (inrush), 6 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug Type 2507 Form B Industry standard (not included)

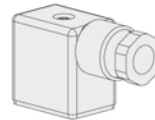
Orifice [mm]	Response times ¹⁾	
	Opening [ms]	Closing [ms]
1.2	7-10	10-15
1.6		
2.0	7-12	7-12
2.4		

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

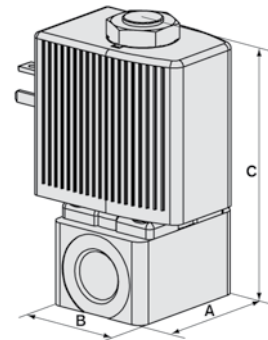
Options

- Analysis version
- 2-way version

Envelope Dimensions [mm] (see datasheet for details)



2507 cable plug Form B not include



Size	A	B	C
G 1/8"	25	20	50.5

Ordering Charts

Port connection [inch]	Orifice [mm]	Kv Value [m³/h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			DC	AC	024/DC	024/50	230/50
Brass							
sub-base	1.2	0.045	0 - 12	0 - 21	163 521	–	163 524
G 1/8	1.6	0.06	0 - 6	0 - 12	163 499	163 500	163 502
sub-base					163 525	163 526	163 528
G 1/8	2	0.11	0 - 4.5	0 - 8	163 503	163 504	163 506
sub-base					163 529	163 530	163 532
G 1/8	2.4	0.13	0 - 3	0 - 6	161 193	163 507	161 194
sub-base					163 533	163 534	163 536
Stainless steel							
G 1/8	1.6	0.06	0 - 6	0 - 12	163 509	163 510	163 512
sub-base					163 537	–	–
G 1/8	2	0.11	0 - 4.5	0 - 8	163 513	163 514	163 516
sub-base					163 541	–	–
G 1/8	2.4	0.13	0 - 3	0 - 6	163 517	163 518	163 520

6011

Accessories

Material	No. of valve connections	Item no.
Manifolds		
Aluminium anodised	1	005 312
	2	005 355
	3	005 313
	4	005 314
	5	005 315
	6	005 316
	7	005 893
	8	005 166
	9	005 241
	10	005 819
	11	005 242
	12	005 222

Accessories for manifold

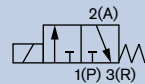
Description	Feature	Item no.
Blanking plug	with seal ring, G 1/8"	005 041
Covering plate	for unused valves	005 100

Miniature Plunger Operated 3/2 Valve

6012

G 1/8" or Flange

- Reliable double seated, plunger operation
- High quality FKM seal as standard
- Slip over coil can be rotated in 4 x 90 degrees



Direct-acting 3/2-way solenoid valve, normally closed (normally open on request). Threaded valve or Flange for neutral gases and liquids; also suitable for technical vacuum.

Technical Data

Temperature media	-10 °C to +100 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 21 mm ² /s
Voltage tolerance	±10%
Duty cycle	Single valve for block mounting on sub-base
	100% continuous rating Intermittent 60% (30 min)
Body material	Brass, polyamide (PA), stainless steel 1.4305
Seal material	FKM
Coil material	Epoxy (Class H)
Power consumption	DC: 4 W, AC: 9 VA (inrush), 6 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug Type 2507 Form B industry standard (not included)

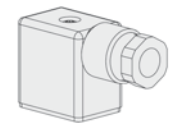
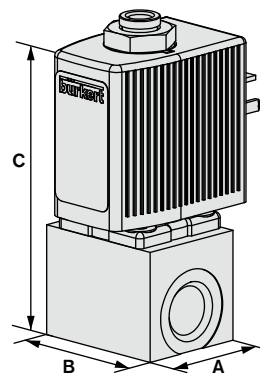
Orifice [mm]	Power consumption		Response times ¹⁾	
	Inrush	Hold	Opening [ms]	Closing [ms]
1.2	9 VA	6 VA (4 W)	7-10	9-12
1.6	4 W	4 W	7-12	7-12

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

Options

- Stainless steel body
- P-connection, normally open
- 3/2-way user defined flow direction
- 2 W version

Envelope Dimensions [mm] (see datasheet for details)



2507 cable plug
Form B not included.

Size	A	B	C
G 1/8"	20	25	57.1

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
					024/DC	024/50	230/50
Threaded version, brass body without manual override							
C normally closed	G 1/8	1.2	0.045	0 - 10	161 904	163 577	163 579
		1.6	0.06	0 - 6	163 580	163 581	163 583
Threaded version, brass body with manual override							
C normally closed	G 1/8	1.2	0.045	0 - 10	163 584	163 585	163 587
		1.6	0.06	0 - 6	163 588	163 589	163 591

Circuit function	Port connection	Orifice [mm]	Kv Value water [m ³ /h]	Pressure range [bar] ¹⁾	Voltage/frequency [V/Hz]	Item no. Brass body without manual override	Item no. Stainless steel body without manual override	Item no. PA body with manual override
Flange version								
C normally closed	Flange	1.2	0.045	0 - 10	024/DC	163 600	-	161 063
					024/50	163 601	-	163 616
					230/50	163 603	-	163 618
		1.6	0.06	0 - 6	024/DC	163 604	163 612	163 619
					024/50	163 605	163 613	163 620
					230/50	217 634	163 615	163 622

¹⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure

Material	No. of valve places	Item no.
Manifolds		
Aluminium, anodized	1	005 312
	2	005 355
	3	005 313
	4	005 314
	5	005 315
	6	005 316
	7	005 893
	8	005 166
	9	005 241
	10	005 819
	11	005 242
	12	005 222

Accessories for manifold

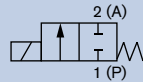
Description	Feature	Item no.
Blanking plug	with seal ring, G 1/8"	005 041
Covering plate	for unused valves	005 100

Plunger Operated 2/2 Way Solenoid Valve

6013

G 1/8" - G 1/4"

- Normally close
- With threaded body in brass or stainless steel
- Slip over coil can be rotated in 4 x 90 degrees
- FKM seal material with high quality standard



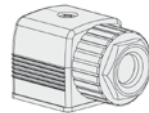
Direct-acting small solenoid valve which is plunger operated for neutral gases, liquids and technical vacuum. Special versions are also available for use with steam.

Technical Data

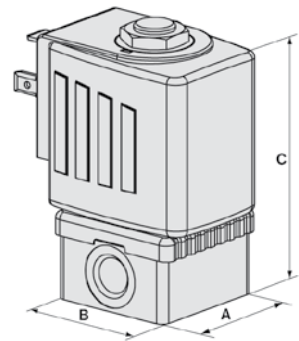
Temperature media	-10 °C to +100 °C
Ambient temperature	+55 °C, max.
Viscosity	Max. 21 mm ² /s
Voltage tolerance	±10%
Duty cycle	Single valve 100% ED
Body material	Brass or Stainless steel 1.4305
Seal material	FKM
Coil insulation class	Polyamide Class B (epoxy class H on request)
Power consumption	AC: 24 VA (inrush), 17 VA (hold) DC: 8 W
Protection class	IP65, NEMA4 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803 Type 2508 Form A (not included)
Response times¹⁾	
Opening	20 ms
Closing	30 ms

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A not included (see page 32)



Size	A	B	C
G 1/8"	32.6	35	65.8
G 1/4"	49	35	71.8

Options

- Normally open
- Impulse version
- Cable plug with LED and varistor
- PTFE/graphite seal to 180 °C
- ATEX version
- SIL certificate
- UL / UR / CSA / FM / CSA-EX Div 1/2,
Gas Appliance Directive Class A, Group 2 approvals

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv Value [m ³ /h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			DC	AC	024/DC	024/50	230/50
Brass							
G 1/8	2	0.12	0 - 12	0 - 25	134 237	132 865	134 239
G 1/8	2.5	0.16	0 - 10	0 - 16	134 240	134 241	134 243
G 1/8	3	0.23	0 - 6	0 - 10	126 091	126 092	126 094
G 1/4	3	0.23	0 - 6	0 - 10	125 301	125 302	125 304
G 1/4	4	0.3	0 - 1.5	0 - 4	125 306	125 307	125 309
Stainless steel							
G 1/8	2	0.12	0 - 12	0 - 25	134 233	134 234	134 236
G 1/8	3	0.23	0 - 6	0 - 10	126 078	126 079	126 081
G 1/4	3	0.23	0 - 6	0 - 10	125 317	126 082	126 084
G 1/4	4	0.3	0 - 1.5	0 - 4	125 318	125 319	125 320

Ordering Chart

Circuit function	Port connection	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Power consumption [W]	Item no. voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
Brass body								
Without manual override								
C 3/2-way valve normally closed	sub-base	1.5	0.07	0 - 16	8	126 154	126 155	125 366
		2.0	0.11	0 - 10	8	125 367	125 368	125 370
	G 1/8"	2.0	0.11	0 - 10	8	125 333	125 334	125 336
		2.5	0.19	0 - 6	8	125 341	125 340	125 342
D 3/2-way valve normally open	sub-base	2.0	0.11	0 - 10	8	126 161	126 162	125 383
With manual override								
C 3/2-way valve normally closed	sub-base	1.5	0.07	0 - 10	5	126 403	126 404	126 406
		1.5	0.07	0 - 16	8	126 157	126 158	126 160
		2.0	0.11	0 - 6	5	126 407	126 408	126 410
		2.0	0.11	0 - 10	8	125 371	125 372	125 374
	G 1/8"	2.0	0.11	0 - 10	8	125 349	126 147	126 149

Circuit function	Port connection	Orifice [mm]	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Power consumption [W]	Item no. voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
Polyamide body material								
Without manual override								
C 3/2-way valve normally closed	sub-base	1.5	0.07	0 - 10	5	126 390	126 391	126 393
With manual override								
C 3/2-way valve normally closed	sub-base	1.5	0.07	0 - 10	5	126 396	126 397	126 399

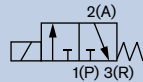
¹⁾ Measured at +20 °C, 1 bar²⁾ pressure difference

²⁾ Measured as overpressure to the atmospheric pressure

Features				Item no.
Single manifold				
From aluminium black anodized				005 020
Multiple manifold				
from aluminium	Hole spacing A [mm]	Total length B [mm]	Hole spacing C [mm]	
2 valves	57	65	-	005 023
3 valves	90	98	-	005 286
4 valves	123	131	-	005 287
5 valves	156	164	57	005 035
6 valves	189	197	57	005 038
8 valves	255	263	57	005 386
10 valves	321	329	90	005 764
Covering plate with plugs and O-ring, for closing off unused valve positions				005 630

3/2-way Solenoid Valve with Ex approval

- 3-way direct-acting valve
- High cycling rate
- Type of protection: II 2G Ex m II T4 / II 2D
- Compact design
- Push-over coil



The 6014 Ex valve corresponds to the 6014 standard unit, but with an Ex coil and a moulded-on cable (available on request with a moulded-on terminal box).

The valve is available as a sub-base or as a threaded port model.

Technical Data

Orifice	DN1.5 - 2.0 mm
Body material	Brass, stainless steel 1.4305
Seal material	FKM
Media temperature	-10 °C to +100 °C
Ambient temperature	
Single mounting	-10 °C to +55 °C
Manifold assembly	-10 °C to +40 °C
Voltage tolerance	±10%
Duty cycle	100 % continuous rating
Electrical connection	3 m cable, moulded-in Terminal box on request
Protection class	IP65
Type of protection	II 2 G Ex m II T4 PTB00 ATEX 2129 X II 2 D IP65 T135°C

Response times ¹⁾	
Opening [ms]	Closing [ms]
10	15
to	to
15	20

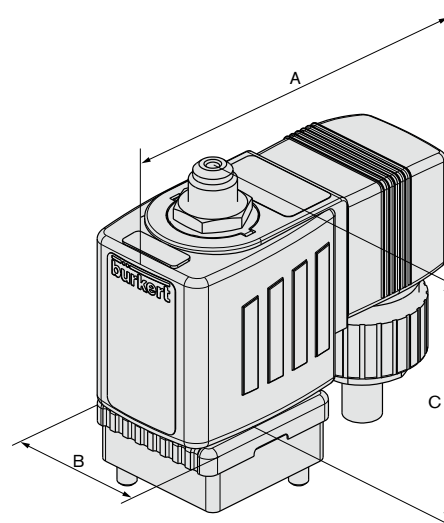
¹⁾ Measured at valve outlet 6 bar and +20 °C

Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

Options

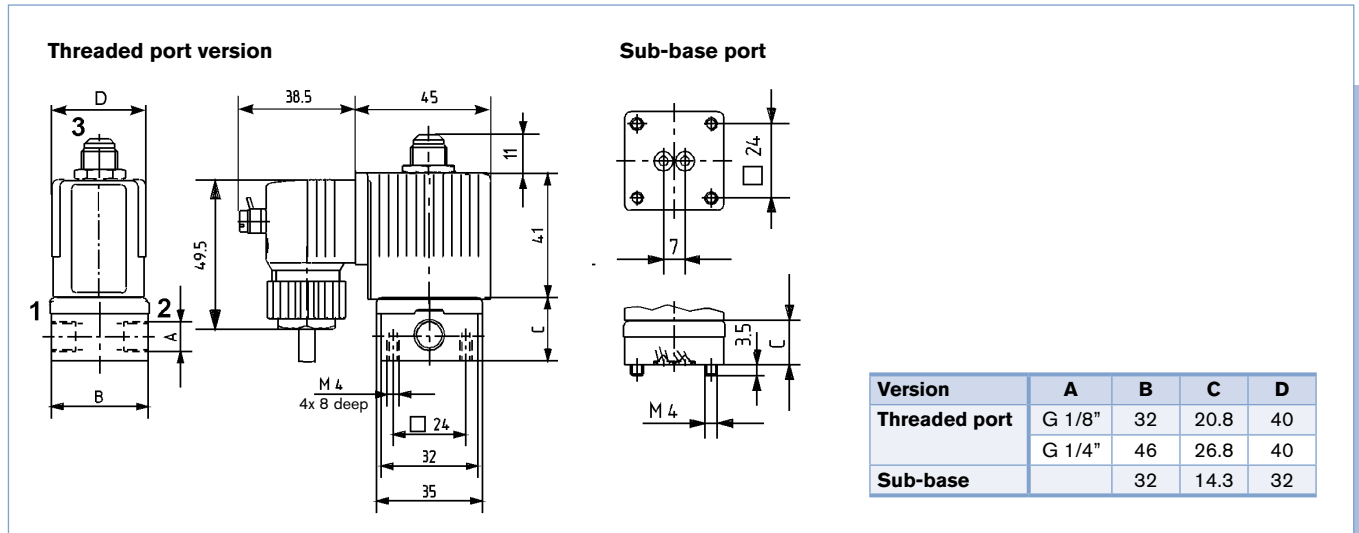
- SIL certificate

Envelope Dimensions [mm]



Version		A	B	C
Threaded port	G 1/8"	83.5	32	20.8
	G 1/4"	83.5	46	26.8
Flange		83.5	32	14.3

Envelope Dimensions [mm]



6014 Ex

Ordering Chart

Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Body material	Nominal power consumption [W]	Voltage/frequency [V/Hz]	Item no. without manual override	Item no. with manual override
Version according to EEx m II T4, valves with sub-base connection, cable outlet downwards, approved for manifold mounting									
C 3/2-way, normally closed	Sub-base	1.5	0.07	0 - 10	Brass	7	024/UC	-	136 106
							230/UC	-	136 108
	Sub-base	2	0.11	0 - 6	Brass	7	024/UC	-	136 109
							230/UC	-	136 111
Version acc. to EEx m II T4, valves with threaded ports, cable outlet downwards, for single mounting only									
C 3/2-way, normally closed	G 1/8"	2	0.11	0 - 10	Brass	9	024/UC	278 637	278 645
							230/UC	136 078	136 090
					Stainless steel	9	024/UC	278 660	-
							230/UC	136 114	-
	G 1/4"	2	0.11	0 - 10	Brass	9	024/UC	278 639	278 647
							230/UC	136 081	136 093
					Stainless steel	9	024/UC	278 662	-
							230/UC	136 117	-

Note to Flange version: Manifolds see type 6014

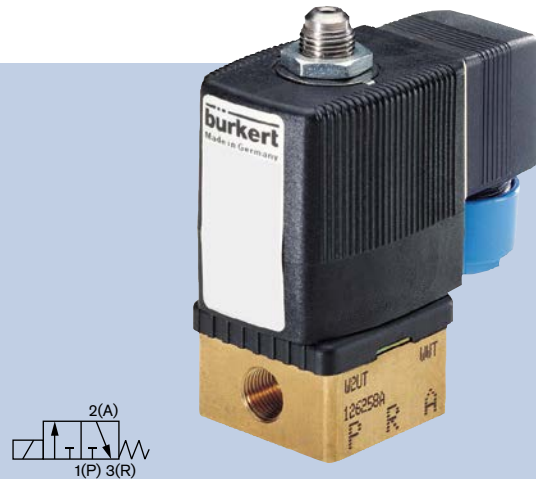
Accessories

Voltage [V]	Power consumption [W]	Nominal value of safety fuse [mA]	Item no.
Semi-delay fuses for Type 6014 Ex			
24	7	800	153 737
230	7	80	153 745
24	9	1000	153 738
230	9	100	153 718

3/2-way Ex i Solenoid Valve for pneumatic applications

6014 Ex i

- Direct-acting
- Intrinsically-safe operation
- Compact design
- Push-over coil system
- Threaded port and sub-base port in brass or stainless steel



The direct-acting, intrinsically safe 6014 Ex i valve consists of a metal body and a push-over coil with tag connectors on the side. Type 6014 Ex i can be used in a wide variety of ways, as a single valve, as a pilot valve or grouped together in blocks. The valve is also suitable for technical vacuum.

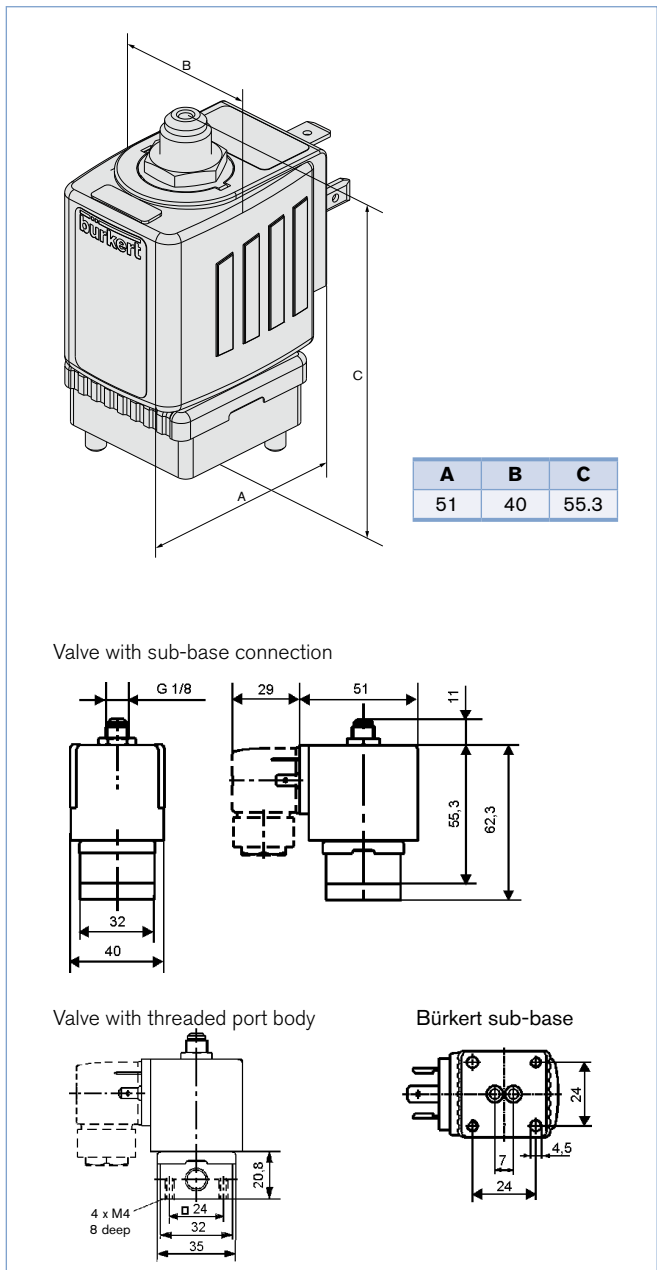
Technical Data

Orifice	DN0.9 mm
Port connection	Sub-base/Threaded port
Body material	Stainless steel or brass
Metal parts	Stainless steel 1.4305
Seal material	FKM
Media	Lubricated and non-lubricated compressed air, instrument air, nitrogen
Medium temperature	-10 °C to +100 °C
Ambient temperature	-10 °C to +55 °C
Electrical connection	Tag connectors acc. to DIN EN 175301-803 (previously DIN 43650), Form A for connector Type 2508 (not included). Ensure correct polarity!
Protection class	IP65 with connector

Orifice [mm]	Response times ¹⁾	
	Opening [ms]	Closing [ms]
0.9	20	22

¹⁾ Measured at a valve outlet 6 bar and +20 °C
 Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

Envelope Dimensions [mm] (see datasheet for details)

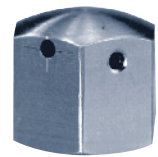


Ordering Chart

Circuit function	Orifice [mm]	Qn-value air [l/min]	Seal material	Pressure range [bar]	Body material	Port connection	Item no. without manual override
C 3/2-way valve normally closed	0.9	30	FKM	Vacuum to 10	Stainless steel	Bürkert sub-base	144 540
						Threaded port G 1/8"	147 226
					Brass	Bürkert sub-base	147 227
						Threaded port G 1/8"	146 214

Accessories

Description	Item no.
Stainless steel cap nut, for additional protection of the exhaust air channel from damp penetration	649 554
Cable plug Type 2508 acc. to DIN EN 175301-803 (previously DIN 43650) with blue compression gland nut	438 574



Stainless steel cap nut

2/2-way Proportional Valve for low differential pressures

6024

- Direct-acting, normally closed
- DN8 - 12 mm
- 1/2" or 3/4"



The direct-acting proportional valve, Type 6024, works as an electro-magnetically actuated control valve with relatively high flow rates at low operating pressures. The valve is normally closed.

Technical Data

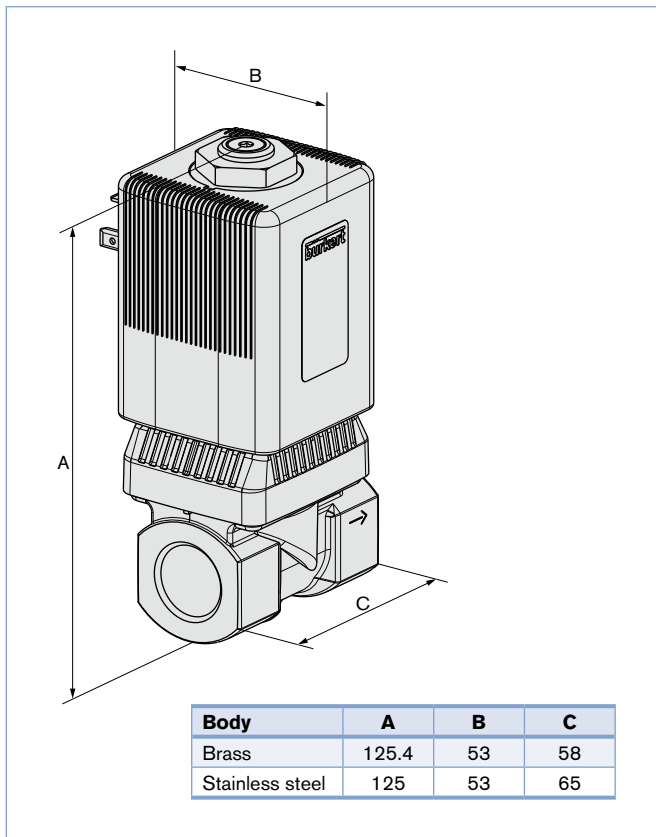
Body material	Brass, stainless steel
Sealing material	FKM, others on request
Media technical vacuum	Neutral gasses, liquids
Medium temperature	-10 to +90 °C
Ambient temperature	Max. +55 °C
Viscosity	Max. 21 mm ² /s
Operating voltage	24 V DC
Power consumption	Max. 18 W
Duty cycle	100% continuously rated
Port connection	G 1/2", G 3/4" (NPT 1/2" and NPT 3/4" on request)
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A, (cable plug Type 2508 or Type 8605 pluggable control electronics not included)
Mounting position	Any, preferably with drive at top
Typical control data³⁾	
Hysteresis	< 7 %
Repeatability	< 0.5 % of F.S.
Sensitivity	< 0.5 % of F.S.
Turn-down ratio	1:25
Kvs value ²⁾	1.4 to 2.8 m ³ /h
Max. operating pressure ¹⁾	0.1 to 0.7 bar (depending on DN)
Protection class - valve	IP65 with plug-in module or cable plug on valve

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

²⁾ K_v value [m³/h]: max. flow capacity for water

³⁾ Characteristic data of control behaviour depends on process conditions

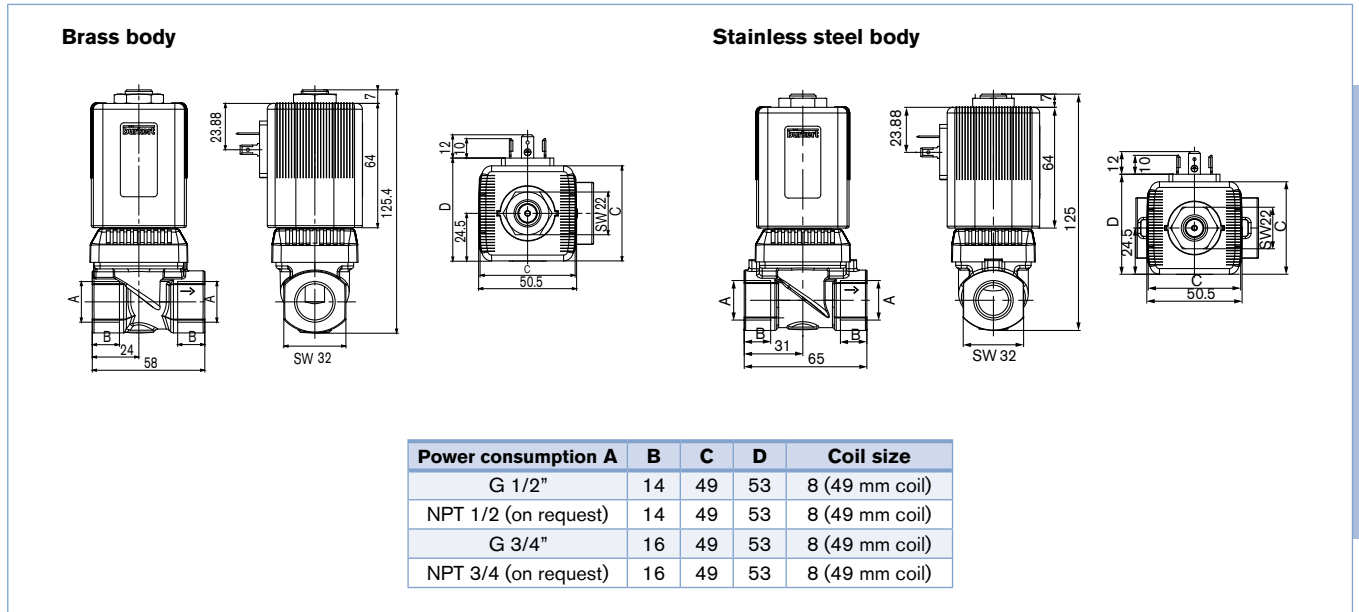
Envelope Dimensions [mm]



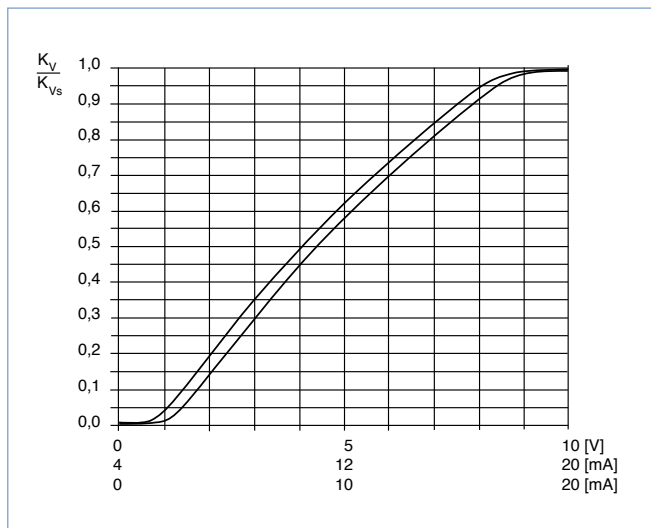
Options

- Oxygen version

Envelope Dimensions [mm]



Characteristics of a proportional valve



Advice for valve sizing

In continuous flow applications, the choice of an appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 30\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed. If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure, the characteristics may change.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv value water [m/h] ¹⁾	QNn value [l/min] ²⁾	Max. operating pressure [bar] ³⁾	Power consumption [W]	Max. Coil current [mA]	Item no. brass body	Item no. stainless steel body
FKM Seal									
A 2/2-way normally closed	G 1/2	8	1.4	1500	0.7	18	580	150 401	–
	G 3/4	8	1.4	1500	0.7	18	580	150 427	–
	G 1/2	10	2	2150	0.4	18	580	150 402	150 404
	G 3/4	10	2	2150	0.4	18	580	150 428	150 429
	G 1/2	12	2.8	3020	0.2	18	580	150 425	150 426
	G 3/4	12	2.8	3020	0.2	18	580	150 406	150 408

¹⁾ Kvs value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

²⁾ QNn value: Flow rate value for air with inlet pressure of 6 bar, 1 bar pressure differential and +20 °C.

³⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Accessories

	Voltage/frequency	Item no.
Cable Plug Type 2508 acc. to DIN EN 175301-803 Form A		
Cable Plug	0 - 250 V AC/DC	008 376
Cable Plug with 3 m cable	0 - 250 V AC/DC	783 573

Note: The delivery of a cable plug includes the flat seal and fixing screw

Electronic Control - see Type 8605.

“How many measurement systems are needed to simply and safely analyse drinking water?”

One. Type 8905 packs up to six sensors in one compact casing. This saves space, time and money – during installation, operation and maintenance. The online analysis system can be modularly fitted with miniaturized analysis cubes – during operations with hot swap functionality. Each cube registers itself in the system and transmits reliable measurement data even with minimal sample water flow.

Six parameters, one screen, one great overview. It doesn't get any better.



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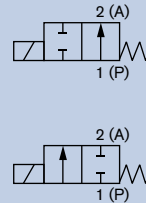
bürkert
FLUID CONTROL SYSTEMS

2/2-way Compact Solenoid Valve

6027

G 1/4" - G 1/2"

- Direct-acting
- Brass and stainless steel body
- FKM seal material with high quality standard



Type 6027 is a direct-acting solenoid valve used for shut-off, dosing, filling, and ventilation. The push-over solenoid system is of modular design and the coil can be rotated 360°.

Technical Data

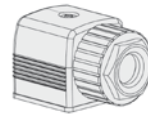
Medium temperature	
normally closed	-10 °C to +140 °C
normally open	-10 °C to +100 °C
Ambient temperature	-10 °C to +55 °C
Viscosity	Max. 21 mm ² /s
Voltage tolerance	± 10%
Duty cycle	Single valve 100% ED
Body material	Brass or stainless steel 1.4404 (316L)
Coil material	Epoxy (Class H)
Seal material	FKM, (PTFE/FKM and PTFE/graphite for high temperature versions, EPDM on request)
Electrical connection	According to DIN EN 175301-803 Form A for cable plug Type 2508 (not included)
Protection class	IP65 with Cable Plug

Power consumption					
Orifice [mm]	Inrush AC		Hold AC (hot coil)		DC (hot/cold coil) [W]
	[VA]	[VA]	[W]	[W]	
2.0-12.0	105	37	16		16 / 21

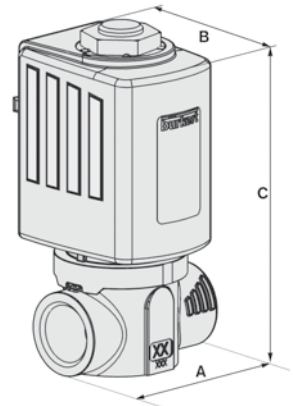
Response times				
Orifice [mm]	Response times AC		Response times DC	
	Opening [ms]	Closing [ms]	Opening [ms]	Closing [ms]
2.0-12.0	10-20	20-30	20-80	20-30

Response times [ms]: Measured at valve outlet at 6 bar and +20 °C.
Opening: pressure build-up 0 to 90%
Closing: Pressure relief 100 to 10%

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A
not included



Size	A	B	C
G 1/4"	55	55.5	98.2
G 3/8"	55	55.5	101.2
G 1/2"	59	55.5	103.2

Options

- ATEX approval
- Higher pressures for gaseous medium to 100 bar
- Oxygen versions
- High temperature version up to +180 °C

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			DC	AC	024/DC	024/50	230/50
Normally closed (other versions on request)							
Brass body							
G 1/4	3	0.28	0 - 30	0 - 25	178 295	178 296	178 297
	4	0.54	0 - 12	0 - 16	178 299	178 300	178 301
	5	0.73	0 - 6	0 - 10	178 303	178 304	178 305
G 3/8	6	0.95	0 - 3	0 - 6	178 323	178 324	178 325
	8	1.60	0 - 1	0 - 3	178 327	178 328	178 329
G 1/2	8	1.60	0 - 1	0 - 3	178 335	178 336	178 337
	10	1.80	0 - 0.4	0 - 2	178 339	178 340	178 341
Stainless steel 1.4404 (316L)							
G 1/4	3	0.28	0 - 30	0 - 25	178 239	178 240	178 241
	4	0.54	0 - 12	0 - 16	178 243	178 244	178 245
	5	0.73	0 - 6	0 - 10	178 247	178 248	178 249
G 3/8	6	0.95	0 - 3	0 - 6	178 267	178 268	178 269
	8	1.60	0 - 1	0 - 3	178 271	178 272	178 273
G 1/2	8	1.60	0 - 1	0 - 3	178 279	178 280	178 281
	10	1.80	0 - 0.4	0 - 2	178 283	178 284	178 285
	12	2.00	0 - 1.2	0 - 0.2	178 287	178 288	178 289
Normally open (other versions on request)							
Brass body							
G 1/4	3	0.28	0 - 16	0 - 16	211 914	228 487	228 488
	4	0.54	0 - 10	0 - 10	208 623	228 489	228 490
	5	0.73	0 - 8	0 - 8	228 491	228 492	228 493
G 3/8	5	0.73	0 - 8	0 - 8	228 494	228 495	228 496
	6	0.95	0 - 6	0 - 6	228 497	228 498	228 499
	8	1.60	0 - 3	0 - 3	228 500	228 501	228 502
G 1/2	8	1.60	0 - 3	0 - 3	211 916	228 503	228 504
	10	1.80	0 - 2	0 - 2	210 436	219 530	210 438

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value [m ³ /h]	Pressure range [bar]		Item no. voltage/frequency [V/Hz]		
			DC	AC	024/DC	024/50	230/50
Stainless steel 1.4404 (316L)							
G 1/4	3	0.28	0 - 16	0 - 16	230 243	230 244	230 245
	4	0.54	0 - 10	0 - 10	230 246	230 247	230 248
	5	0.73	0 - 8	0 - 8	230 249	230 250	230 251
G 3/8	5	0.73	0 - 8	0 - 8	230 252	230 253	230 254
	6	0.95	0 - 6	0 - 6	230 255	230 256	230 257
	8	1.60	0 - 3	0 - 3	230 258	230 259	230 260
G 1/2	8	1.60	0 - 3	0 - 3	230 261	230 262	230 263
	10	1.80	0 - 2	0 - 2	225 248	230 264	230 265
	12	2.00	0 - 1	0 - 1	210 441	230 266	210 321

6027

“Why must medical equipment drown out the breathing of patients?”

It doesn't have to! The WhisperValve by Bürkert can finally silence loud clicking noises. The tiny micro valve operates almost silently and with high precision. This makes it ideal for use in the immediate vicinity of the patient – for example in dialysis machines. This little powerhouse is absolutely reliable – and is a quiet achiever. This way doctor and patient can focus on therapy in peace.

**Quiet, lightweight and powerful.
For medical technology, which is close to people.**



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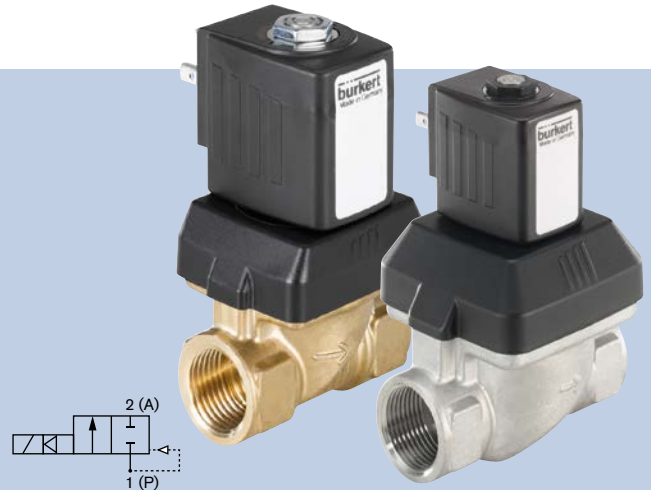
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bürkert
FLUID CONTROL SYSTEMS

2/2-way Solenoid Valve for liquids and gases

6213 EV

- Coupled spring diaphragm system opened
- Waterhammer free and low noise
- Flow-optimized housing and diaphragm geometry for high flow



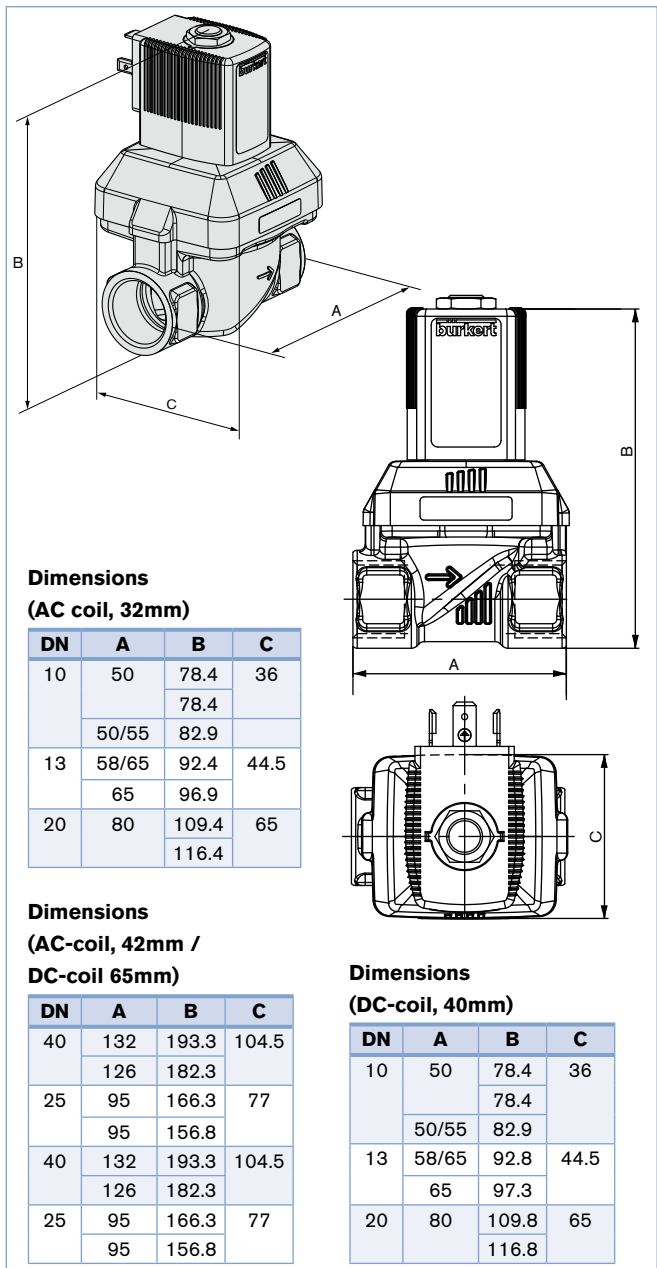
Type 6213 EV is a 2/2-way normally closed solenoid valve with a spring coupled diaphragm system. It is universally used for liquids. A minimum differential pressure of 0.5 bar is required for full opening.

Technical Data

Orifice	Standard DN10-40 mm
Body material	Brass acc. to DIN EN 50930-6, stainless steel 1.4408 (316)
Inner part of valve	
Brass body	Brass, stainless steel and PPS
Stainless steel body	Stainless steel and PPS
Seal material	NBR, FKM, EPDM
Medium	
NBR	Neutral fluids, water, hydraulic oil, oil without additives
FKM	Per-solutions, hot oils with additives
EPDM	Oil and fat-free fluids and gases
Ambient temperature	Max. +55 °C
Medium temperature	
NBR	-10 °C to +80 °C
FKM	0 °C to +90 °C with polyamide coil 0 °C to +120 °C with epoxy coil
EPDM	-30 °C to +90 °C with polyamide coil -30 °C to +100 °C with epoxy coil
Voltages	Standard 024/DC, 024/50, 230/50
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (not included)
Protection class	IP65 with cable plug
Installation	As required, preferably with actuator upright
Response times¹⁾	0.1-4 seconds (depending on orifice and differential pressure)

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure build-up 0 to 90%
Closing: Pressure drop 100 to 10%

Envelope Dimensions [mm] (see datasheet for details)



Orifice DN	Power consumption ¹⁾			Insulation class coil ²⁾	
	Inrush AC [VA]	Hold (hot coil)		Seal material FKM	Seal material NBR and EPDM
		AC [VA/W]	DC [W]		
10	34	14/8	10 (11)	H	B
10	34	14/8	10 (11)	H	B
13	36	14/8	10 (11)	H	B
13	36	14/8	10 (11)	H	B
20	38	14/8	10 (11)	H	B
20	38	14/8	10 (11)	H	B
25	150	37/16	28 (29)	H	H
25	150	37/16	28 (29)	H	H
40	190	37/16	28 (29)	H	H
40	190	37/16	28 (29)	H	H

¹⁾ Values in brackets applies at coil temperature 20 °C

²⁾ H Epoxy coil, B Polyamide coil

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
					024/DC	024/50	230/50
Brass body, FKM diaphragm, Epoxy coil, medium temperature 0 to +120 °C							
A 2/2-way valve normally closed	G 1/4	10	1.9	0 - 10	221 678	221 679	221 681
	G 3/8	10	1.9	0 - 10	221 610	221 611	221 613
	G 1/2	10	1.9	0 - 10	221 614	221 615	221 616
	G 1/2	13	3.6	0 - 10	221 622	221 623	221 625
	G 3/4	13	3.6	0 - 10	221 626	221 627	221 629
	G 3/4	20	8.3	0 - 10	221 638	221 639	221 641
	G 1	20	8.3	0 - 10	221 642	221 643	221 645
	G 1	25	11.0	0 - 10	227 537	221 733	221 736
	G 1 1/4	25	11.0	0 - 10	227 538	221 737	221 740
	G 1 1/2	40	30	0 - 10	227 544	227 724	227 726
G 2	40	30	0 - 10	227 545	227 728	227 730	
Brass body, EPDM diaphragm, Polyamide coil, medium temperature -30 to +90 °C							
A 2/2-way valve normally closed	G 1/4	10	1.9	0 - 10	221 670	221 671	221 673
	G 3/8	10	1.9	0 - 10	221 646	221 647	221 649
	G 1/2	10	1.9	0 - 10	221 650	221 651	221 653
	G 1/2	13	3.6	0 - 10	221 654	221 655	221 657
	G 3/4	13	3.6	0 - 10	221 658	221 659	221 661
	G 3/4	20	8.3	0 - 10	221 662	221 663	221 665
	G 1	20	8.3	0 - 10	221 666	221 667	221 669
Brass body, EPDM diaphragm, Epoxy coil, medium temperature -30 to +100 °C							
A 2/2-way valve normally closed	G 1	25	11	0 - 10	227 535	221 717	221 720
	G 1 1/4	25	11	0 - 10	227 536	221 721	221 724
	G 1 1/2	40	30	0 - 10	227 542	221 741	221 745
	G 2	40	30	0 - 10	227 543	221 746	221 749

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
					024/DC	024/50	230/50
Brass body, NBR Diaphragm, polyamide coil, medium temperature -10 to +80 °C							
A 2/2-way valve normally closed	G 1/4	10	1.9	0 - 10	221 674	221 675	221 677
	G 3/8	10	1.9	0 - 10	221 598	221 599	221 601
	G 1/2	10	1.9	0 - 10	221 606	221 607	221 609
	G 1/2	13	3.6	0 - 10	221 602	221 603	221 605
	G 3/4	13	3.6	0 - 10	221 618	221 619	221 621
	G 3/4	20	8.3	0 - 10	221 630	221 631	221 633
	G 1	20	8.3	0 - 10	221 634	221 635	221 637
Brass body, NBR Diaphragm, epoxy coil, medium temperature -10 to +80 °C							
A 2/2-way valve normally closed	G 1	25	11	0 - 10	227 533	221 725	221 728
	G 1 1/4	25	11	0 - 10	227 534	221 729	221 732
	G 1 1/2	40	30	0 - 10	227 539	221 750	221 753
	G 2	40	30	0 - 10	227 541	221 754	221 757

Ordering Chart

Circuit function	Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
					024/DC	024/50	230/50
Stainless steel body, FKM diaphragm, epoxy coil, medium temperature 0 to +120 °C							
A 2/2-way valve normally closed	G 3/8	10	1.9	0 - 10	221 758	221 759	221 761
	G 1/2	13	3.6	0 - 10	221 762	221 763	221 765
	G 3/4	20	8.3	0 - 10	222 122	222 123	222 125
	G 1	25	11	0 - 10	227 550	228 430	222 143
	G 1 1/4	25	11	0 - 10	227 551	228 433	222 145
	G 1 1/2	40	30	0 - 10	227 557	228 436	222 147
	G 2	40	30	0 - 10	227 558	228 439	222 149
Stainless steel body, NBR diaphragm, Polyamide coil, medium temperature -10 to +80 °C							
A 2/2-way valve normally closed	G 3/8	10	1.9	0 - 10	222 150	222 151	222 152
	G 1/2	13	3.6	0 - 10	222 156	222 157	222 158
	G 3/4	20	8.3	0 - 10	222 168	222 169	222 170
	G 1	20	8.3	0 - 10	222 171	222 172	222 173
Stainless steel body, NBR diaphragm, Epoxy coil, medium temperature -10 to +80 °C							
A 2/2-way valve normally closed	G 1	25	11	0 - 10	222 193	228 429	227 546
	G 1 1/4	25	11	0 - 10	222 197	228 432	227 547
	G 1 1/2	40	30	0 - 10	222 201	228 435	227 552
	G 2	40	30	0 - 10	222 205	228 438	227 554
Stainless steel body, EPDM diaphragm, Polyamide coil, medium temperature -30 to +90 °C							
A 2/2-way valve normally closed	G 3/8	10	1.9	0 - 10	222 153	222 154	222 155
	G 1/2	13	3.6	0 - 10	222 159	222 160	222 161
	G 3/4	20	8.3	0 - 10	222 174	222 175	222 176
	G 1	20	8.3	0 - 10	222 177	222 178	222 179
Stainless steel body, EPDM diaphragm, Epoxy coil, medium temperature -30 to +100 °C							
A 2/2-way valve normally closed	G 1	25	11	0 - 10	227 548	228 431	222 195
	G 1 1/4	25	11	0 - 10	227 549	228 434	222 199
	G 1 1/2	40	30	0 - 10	227 555	228 437	222 203
	G 2	40	30	0 - 10	227 556	228 440	222 207

2/2-way Solenoid Valve in three versions

6240

G 1/4", G 3/8", G 1/2"

- High performance – small size
- High pressure version up to 40 bar
- High temperature version up to 180 °C
- Fast-acting
- ATEX version optional
- Without differential pressure switching

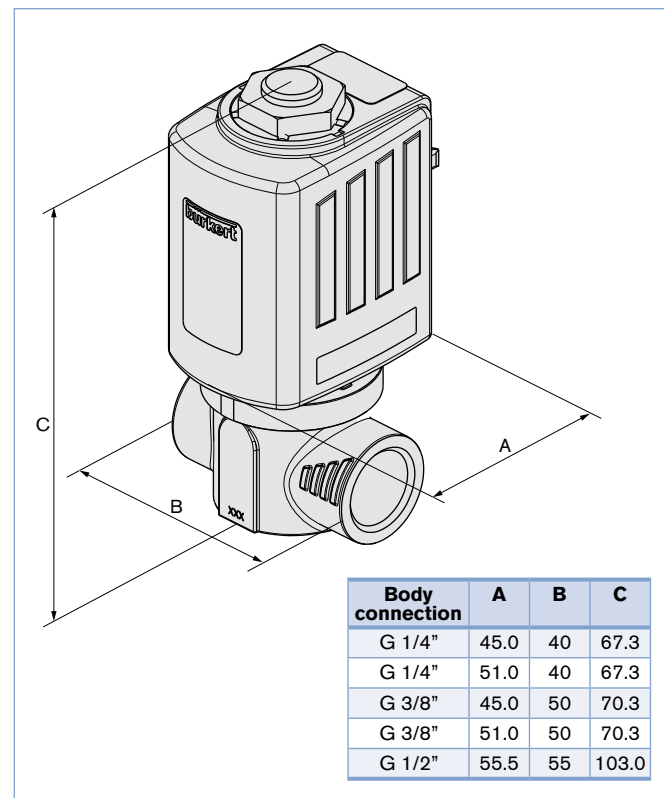


Type 6240 is a pilot-controlled solenoid valve with servo-piston and forced valve lifting. The valve opens without differential pressure from zero bar. The special construction makes it possible to use it with dry gaseous mediums with high pressure and steam up to 180 °C.

Technical Data

Port connections	G 1/4", G 3/8", G 1/2"
Orifice	DN6.0 mm, DN12.0 mm
Body material	Brass, Stainless steel
Coil material	Epoxy
Coil insulation class	Class H
Internal parts of valve	Brass/Stainless steel, PEEK, PTFE carbon filled, FKM (EPDM on request) 1.4113, 1.4303
Seal material	FKM, PTFE/FKM and PTFE/PEEK for high temperature and high pressure versions (EPDM on request)
Medium	Neutral gases and liquids, such as e.g. compressed air, water, hydraulic oil Steam and hot medium
High temperature version	
Viscosity	Max. 21 mm ² /sec
Medium temperature	
FKM	-10°C to +140 °C
PTFE/PEEK	DN6 -40 °C to +180 °C, DN12 -40 °C to +140 °C
EPDM	-30°C to +120 °C (on request)
Ambient temperature	max. 55 °C
Operating voltage	24V DC, 24V/50Hz, 230/50Hz (others on request)
Voltage tolerance	± 10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector acc. DIN EN 175 301-803 Form A for cable plug Type 2508 (not included)
Protection class	IP65 with cable plug
Weight	AC 8W, DC 10W (300g); AC 18W, DC 16W (800g)
Installation	As required, preferably with actuator upright

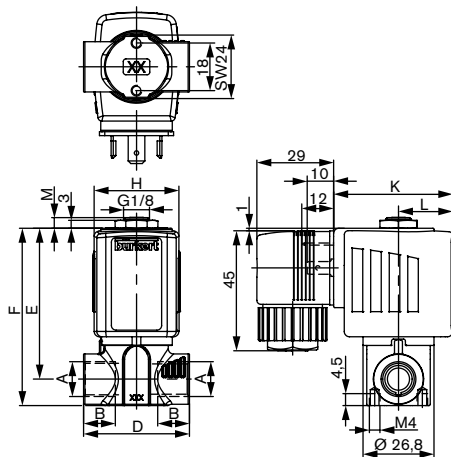
Envelope Dimensions [mm] (see datasheet for details)



Orifice [mm]	Coil size [mm]	Inrush AC [VA]	Power consumption			Response times	
			Hold AC [VA/W]	[W]	DC (hot/cold coil) [W]	Opening [ms]	Closing [ms]
6	32	32	18	8	10/12	10-20	40-50
6	40	40	23	10	12/14	10-20	40-50
12	42	105	37	18	16/21	20-40	80-100

Response times [ms]: Measured at the outlet with 6 bar inlet pressure at +20 °C
Opening: Pressure build-up 0 to 90% Closing: Pressure decrease 100 to 10%

Envelope Dimensions [mm] (see datasheet for details)



A Body connection	B [mm]	D [mm]	E [mm]	F [mm]	M [mm]	H [mm]	K [mm]	L [mm]
G 1/4"	12	40	57.3	67.3	3.7	32	45.0	20.5
G 1/4"	12	40	57.3	67.3	3.7	40	51.0	23.5
G 3/8"	12	50	58.3	70.3	3.7	32	45.0	20.5
G 3/8"	12	50	58.3	70.3	3.7	40	51.0	23.5
G 1/2"	12	55	89.0	103.0	7.5	42	55.5	27.0

Ordering Chart

Standard version, all valves with FKM seal, without cable plug								
Circuit function	Port connection [inch]	Orifice [mm]	Kv Value water [m³/h]	Pressure range [bar] ¹⁾	Coil size [mm]	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
A 2/2-way valve normally closed	Medium temperature -10 to +120°C, FKM seal							
	Brass body							
	G 1/4	6	0.6	0 - 16	32	177 800	177 801	177 802
	G 3/8	6	0.6	0 - 16	32	177 803	177 804	177 805
	Stainless steel body							
	G 1/4	6	0.6	0 - 16	32	177 806	177 807	177 808
	G 1/2	12	2.2	0 - 16	42	238 632	238 633	238 634

High temperature version, all valves with PTFE/PEEK seal, without cable plug								
Circuit function	Port connection [inch]	Orifice [mm]	Kv Value water [m³/h]	Pressure range [bar] ¹⁾	Coil size [mm]	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
A 2/2-way valve normally closed	Medium temperature -40° to +180°C, PTFE/Graphite seal							
	Stainless steel body							
	G 1/4	6	0.6	0 - 16	32	184 739	184 740	184 741
	G 1/2	12	2.2	0 - 16	42	238 638	238 639	238 640

High pressure version, all valves with PTFE/FKM seal, without cable plug									
Circuit function	Port connection [inch]	Orifice [mm]	Kv Value water [m³/h]	Pressure range [bar] ¹⁾		Coil size [mm]	Item no. per voltage/frequency [V/Hz]		
				liquid medium	gaseous medium		024/DC	024/50	230/50
A 2/2-way valve normally closed	Medium temperature -10° to +120°C, PTFE/FKM seal								
	Brass body								
	G 1/4	6	0.6	0 - 25	0 - 40	40	184 742	184 743	184 744
	G 3/8	6	0.6	0 - 25	0 - 40	40	184 745	184 746	184 747

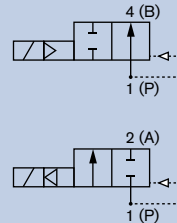
¹⁾ Overpressure to the atmospheric pressure

2/2-way Solenoid Valve with Servo Diaphragm

6281 EV

G 1/2" - G 2"

- Waterhammer absorbing and low noise
- Rugged moulded diaphragm
- Short installation length



Servo-assisted solenoid valve with servo-diaphragm for the control of liquid or gaseous Medium. A pressure difference of 0.5 bar is required for a complete switchover.

Technical Data

Pressure range	0.2-16 bar max.
Temperature media	
NBR	-10 °C to +80 °C
FKM	0 °C to +120 °C (with polyamide coil +90 °C)
Ambient temperature	+55 °C, max.
Voltage tolerance	± 10 %
Duty cycle	100% continuous rating
Body material	Brass acc. to DIN EN 50930-6 Stainless steel
Seal material	NBR, FKM, (EPDM on request)
Coil material	Polyamide or Epoxy (Class H)
Power consumption	DC: 8 W, AC: 24 VA (inrush), Circuit function A - 14/8 VA (hold) Circuit function B - 16/7 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (supplied as standard)
Response times²⁾	0.1-4 seconds (depending on orifice and differential pressure)

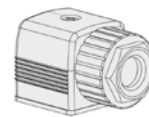
²⁾ Measured at valve outlet at 6 bar and +20 °C.

Opening: pressure build-up 0 to 90%, Closing: Pressure relief 100 to 10%

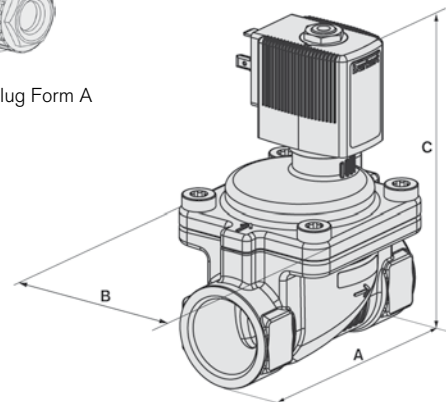
Options

- EPDM version up to +100 °C with epoxy coil
- European gas approval, EPDM with KW W270
- Brass dezincification
- Ex-version available

Envelope Dimensions [mm] (see datasheet for details)



2508 cable plug Form A
not included



DN	Size	A	B	C
13	G 1/2"	65	42	100.7
20	G 3/4"	80	60	111.7
20	G 1"	80	60	118.7
25	G 1"	95	70	123.2
25	G 1 1/4"	95	70	132.7
40	G 1 1/2"	126	99	151.7
40	G 2"	132	99	162.7

Ordering Chart

Port connection [inch]	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
				024/DC	024/50-60	230/50-60
Normally closed (other versions on request)						
Brass body, Seal material NBR, Polyamide coil, Medium temperature -10 to +80 °C						
G 1/2	13	3.8	0.2 - 16	221 844	221 845	221 846
G 3/4	20	8.5	0.2 - 16	221 850	221 851	221 852
G 1	25	12	0.2 - 16	221 856	221 857	221 858
G 1 1/4	25	12	0.2 - 16	221 859	221 860	221 861
G 1 1/2	40	30	0.2 - 16	221 862	221 863	221 864
G 2	40	30	0.2 - 16	221 865	221 866	221 867
Stainless steel body, Seal material FKM, Epoxy coil, Medium temperature 0 to +120 °C						
G 1/2	13	3.8	0.2 - 16	221 989	221 990	221 991
G 3/4	20	8.5	0.2 - 16	221 992	221 993	221 994
G 1	20	8.5	0.2 - 16	221 995	221 996	221 997
G 1	25	12	0.2 - 16	221 998	221 999	222 000
G 1 1/4	25	12	0.2 - 16	222 001	222 002	222 003
G 1 1/2	40	30	0.2 - 16	222 004	222 005	222 006
G 2	40	30	0.2 - 16	222 007	222 008	222 009

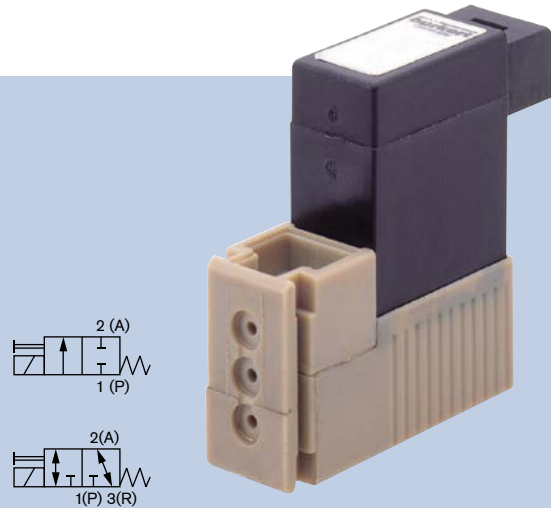
Port connection [inch]	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
				024/DC	024/50	230/50
Normally open (other versions on request)						
Brass body, Seal material NBR, Epoxy coil, Medium temperature -10 to +80 °C						
G 1/2	13	3.8	0.2 - 16	221 926	221 928	221 929
G 3/4	20	8.5	0.2 - 16	221 934	221 935	221 936
G 1	25	12	0.2 - 16	221 940	221 941	221 942
G 1 1/4	25	12	0.2 - 16	221 943	221 944	221 945
G 1 1/2	40	30	0.2 - 16	221 946	221 947	221 948
G 2	40	30	0.2 - 16	221 949	221 950	221 951
Stainless steel body, Seal material FKM, Epoxy coil, Medium temperature 0 to +120 °C						
G 1/2	13	3.8	0.2 - 16	228 387	228 388	228 389
G 3/4	20	8.5	0.2 - 16	228 390	228 391	228 392
G 1	25	12	0.2 - 16	228 393	228 394	228 395
G 1 1/4	25	12	0.2 - 16	228 396	228 397	228 398
G 1 1/2	40	30	0.2 - 16	228 399	228 400	228 401
G 2	40	30	0.2 - 16	228 402	228 403	228 404

2/2 and 3/2-way Flipper Solenoid Valve, with hermetic isolation of fluid

6604

DN0.6 mm

- Low internal volume
- High chemical resistance
- Low power consumption
- Impulse version
- High back pressure tightness



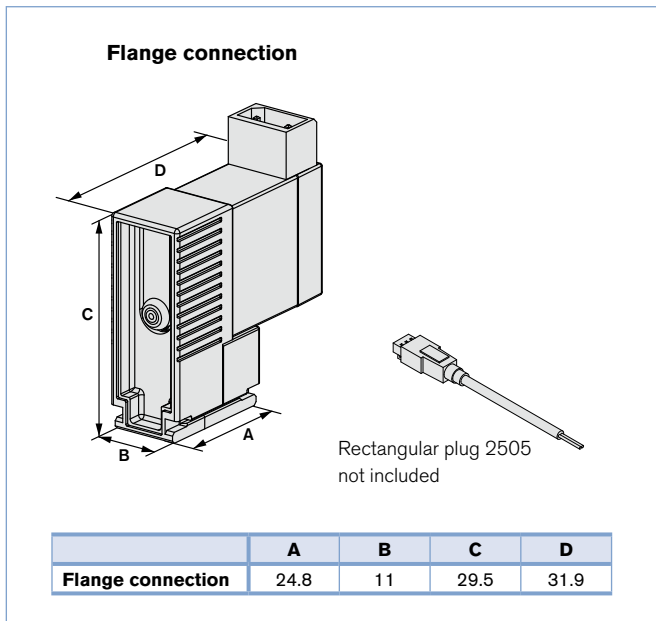
Thanks to the patented Bürkert flipper technology, the direct-acting 6604 solenoid valve is unique. It combines fast, precise switching behaviour with reliable media separation, and the design eliminates heat transfer between fluid and coil. The use of high quality materials makes it possible to also use it where high chemical resistance is required. The optional impulse model works with the smallest energy requirement, and is therefore especially suitable for battery operation; the heat transfer to the medium is negligible for this model. A minimal dead volume and gap-free internal design make it possible to use it in medical, analytical and laboratory technology.

Technical Data

Orifice	DN0.6 mm
Body material	PEEK
Seal material	FFKM (Perfluorelastomer)
Medium	Resistant to neutral and aggressive liquids and gases, see Bürkert chemical resistance chart; technical vacuum
Medium temperature	0 °C to +50 °C
Ambient temperature	Max. +55 °C
Viscosity	Max. 21 mm ² /s
Internal volume	
Fluid chamber	ca. 15µl
3/2-way versions	ca. 45µl
2/2-way versions	ca. 35µl
Port connection	Flange
Manual override	Push-button
Operating voltage	6, 12, 24 V/DC *
Voltage tolerance	±10%
Power consumption	1.5 W
Duty cycle	100% continuous rating
with manifold mounting	40% intermittent rating (within 10 min)
(in case Medium or ambient temperature higher +40 °C)	
Cycling function	Monostable or bistable (option)
Electrical connections	Rectangular plug or 2 single flying leads, 300 mm
Protection class	IP40 with rectangular plug
Mounting (sub-base valve)	with holders and mounting screw
Installation	As required, preferably with flange downwards

* 10% residual ripple allowed

Envelope Dimensions [mm] (see datasheet for details)



Options

- Further port connections

Ordering Chart

Circuit function	Orifice [mm]	Kv value water [m³/h]	Kv value II water [l/min]	QnN-value air [l/min]	Pressure range [bar]	Electrical connection	Item no. per Voltage/frequency [V/Hz] Cycling function			
							monostable		bistable (impulse)	
							012/DC*	024/DC*	06/DC*	012/DC*
Valves with flange										
A 2/2-way valve, normally closed	0.6	0.006	0.1	6.4	Vac. - 3	Rectangular plug 5.08 mm	145 467	140 464	140 467	143 170
						Flying leads 300 mm	140 465	140 466	140 468	145 467
T 3/2-way valve, universal function	0.6	0.006	0.1	6.4	Vac. - 3	Rectangular plug. 5.08 mm	140 469	140 470	140 473	141 388
						Flying leads 300 mm	140 471	140 472	140 474	145 470

6604

Accessories

Description	Feature	Item no.
Rectangular cable plug	with 3 m cable	133 486
	with 300 mm flying lead	644 068
	with 2 single contacts	644 067

Quantity of valves places	Dimensions A [mm]	Item no.
Manifolds for Type 6604		
Single manifold in stainless steel	10	644 684
2 valves	33	659 285
3 valves	44	659 286
4 valves	55	659 287
5 valves	66	653 131
6 valves	77	659 288
7 valves	88	659 289
8 valves	99	659 290
9 valves	110	659 291
10 valves	121	651 379

Manifold dimensions [mm]

Single manifold M3, stainless steel

Multi-station manifold, PEEK

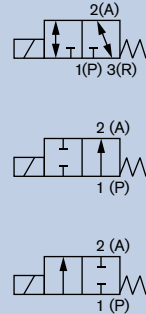
No. of valve positions	2	3	4	5	6	7	8	9	10
Dimensions A [mm]	33	44	55	66	77	88	99	110	121

2/2 and 3/2-way Rocker Solenoid Valve for analytical applications

6606

DN1.5 mm or DN1.6 mm

- With isolating diaphragm
- For aggressive media
- Zero dead volume
- Also suitable for vacuum
- 16 mm width
- High back pressure tightness

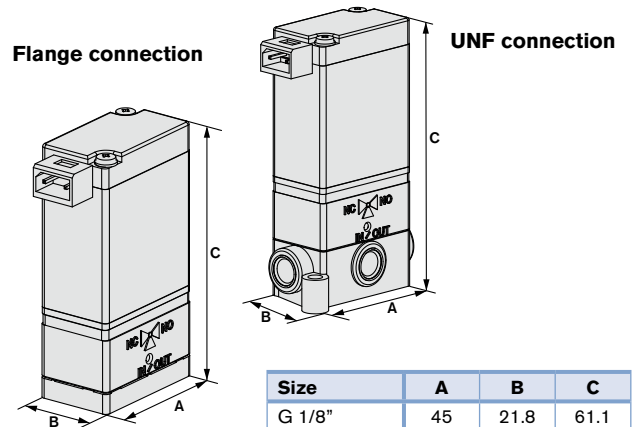


The direct-acting rocker solenoid valve, Type 6606 (2/2- and 3/2-way), has minimal dead volume and low-gap, plus an easy to wash inside contour. The medium is exposed only to the housing material and the seal. The heat transfer into the medium is minimal, since the housing is also separated from the coil by a stainless steel plate. The valve is particularly suitable for dosing, filling, mixing and dispensing small quantities of corrosive medium optimal.

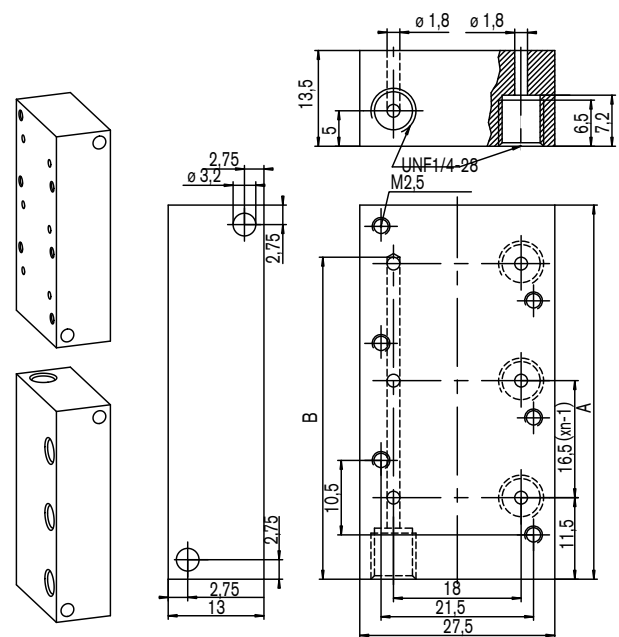
Technical Data

Pressure range	Vac – 2 bar
Medium temperature	0 °C to +50 °C
Ambient temperature	Max. +55 °C
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	PEEK, PVDF, ETFE
Seal material	FFKM
Power consumption	3.4 W
Protection class	IP65 with flying leads or with cable plug IP40 with rectangular plug
Electrical connection	- Rectangular plug, Type 2505 - Tag connection acc. to DIN EN 175301-803 (previously DIN 43650) for cable plug, Form C - 2 FEP flying leads, AWG24, 500 mm long - Circular connector and spade connection at side on request
Response times	acc. to ISO 12238:2001; measured at valve outlet at 2 bar and +20 °C Opening ca. 25 ms (pressure rise from 0 to 10%) Closing ca. 25 ms (pressure drop 100 to 90%)
Internal volume	depending on body at G/NPT 1/8 85 µl with Flange 68 µl at UNF body 30 µl (2/2), 55 µl (3/2) on request < 10 µl

Envelope Dimensions [mm] (see datasheet for details)

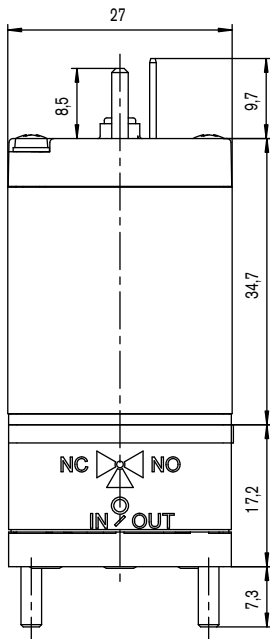


Size	A	B	C
G 1/8"	45	21.8	61.1
UNF 1/4-28	37.8	23.8	60.1
Tube	39	16	54.8
Flange	27	16	51.9

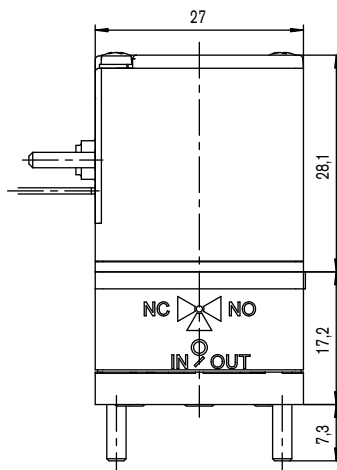


Envelope Dimensions [mm] (see datasheet for details)

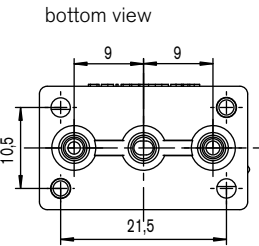
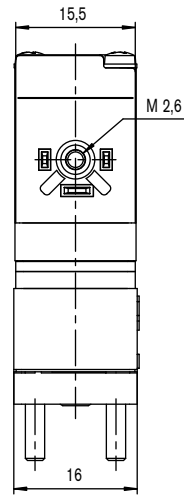
Bürkert Manifold connection



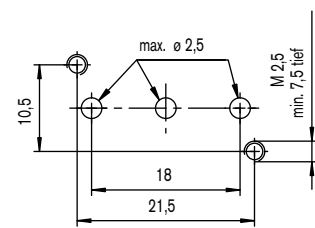
Spade connection on top



Spade connection on side

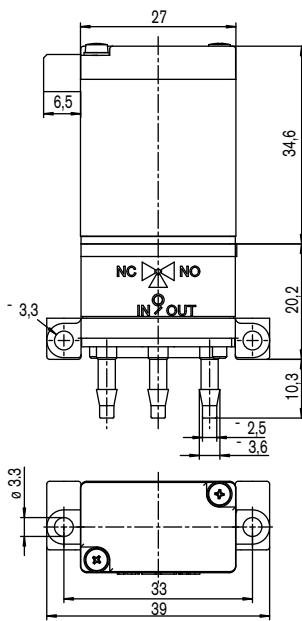


flange interface for manifold



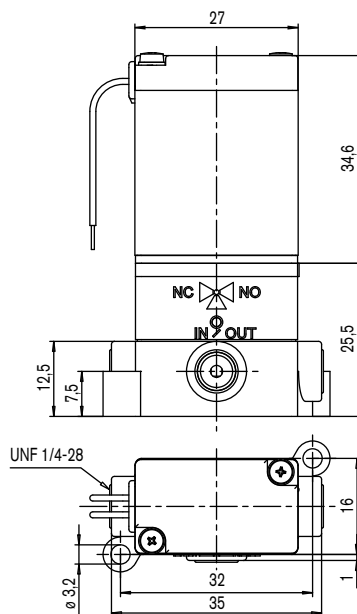
The middle port does not apply for the 2/2-way function

Valve with barb tube fittings and rectangular plug



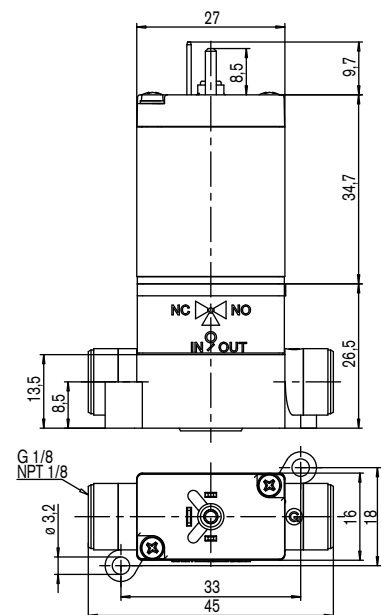
For the 2/2-way version the NO port does not apply

Valve with UNF 1/4-28 and flying lead



For the 2/2-way version the NO port does not apply

Valve with G 1/8 or NPT 1/8 and spade connection on top



For the 2/2-way version the middle port does not apply

Ordering Chart

6606

Circuit function	Port connection	Orifice [mm]	Kv value water [m ³ /h] ¹⁾	Kv value water [l/min]	Qn-value air [l/min]	Pressure range [bar] ²⁾	Body material	Electrical connection	Voltage/frequency [V/Hz]	Item no.
A 2/2-way valve normally closed	UNF 1/4-28	1.5	0.039	0.66	42	Vac. - 2	ETFE	Flying leads, 500 mm	024/DC	137 759
	G 1/8"	1.6	0.060	1.02	65	Vac. - 2	PVDF	Rectangular plug	024/DC	139 146
								Tag connector sideways	024/DC	137 746
	Tube spigot	1.6	0.039	0.66	42	Vac. - 2	PVDF	Flying leads, 500 mm	024/DC	137 764
								Rectangular plug	024/DC	139 147
	Bürkert Flange connection	1.6	0.039	0.66	42	Vac. - 2	PEEK	Flying leads, 500 mm	012/DC	137 744
									024/DC	137 745
Tag connector sideways								024/DC	137 741	
B 2/2-way valve normally open	G 1/8"	1.6	0.060	1.02	65	Vac. - 2	PVDF	Tag connector sideways	024/DC	137 747
T 3/2-way valve universal function	UNF 1/4-28	1.5	0.025	0.43	27	Vac. - 2	ETFE	Flying leads, 500 mm	024/DC	137 779
								G 1/8"	1.6	0.047
	Rectangular plug	024/DC	139 149							
	Tag connector sideways	024/DC	137 769							
	Tube spigot	1.6	0.025	0.43	27	Vac. - 2	PVDF	Flying leads, 500 mm	012/DC	137 782
									024/DC	137 783
								Rectangular plug	024/DC	139 150
	Bürkert Flange connection	1.6	0.032	0.54	35	Vac. - 2	PEEK	Flying leads, 500 mm	024/DC	137 768
Rectangular plug								024/DC	139 148	
Tag connector sideways								012/DC	137 766	
								024/DC	137 765	

¹⁾ Measured at +20 °C, 2 bar pressure at valve inlet and 1 bar at outlet

²⁾ Gauge pressure with respect to the prevailing atmosphere pressure

Number of valve stations	Dimensions A [mm]	Item no.
Manifolds		
2	37.50	651 506
3	53.75	651 510
4	70.25	651 507
5	86.75	651 508
6	103.30	651 509
7	119.80	651 521
8	163.30	651 522

Standard distributor/collector: a common In/Output, individual Out/Input (all UNF1/4-28) supplied without valves; PEEK material

“Who says that producing pharmaceutical glass cannot be more efficient?”

Efficiency is critical to success – both in energy and resource consumption as well as in production processes. Bürkert has now opened up new possibilities with the MFCs of our Type 874x family for up-to-date mass flow control of gases. Easy to use and with a state of the art communication concept: A well-coordinated, flexible system that redefines precision, achieves the highest repeatability and manages up to 16 devices through a single Ethernet interface. This results in more transparent processes and utilizes resources efficiently.

Thus, processes can be simplified and managed in an intelligent way: a perfect combination of centralized and decentralized control.

**Slim, precise, future-proof –
mass flow controllers that meet the needs of tomorrow.**



INSPIRING ANSWERS

Bürkert Fluid Control Systems

Christian-Bürkert-Straße 13-17

74653 Ingelfingen

Tel.: +49 (0) 7940 10-111

info@burkert.com · www.burkert.com

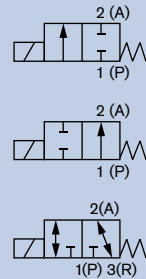
bürkert
FLUID CONTROL SYSTEMS

2/2- and 3/2-way Solenoid Valve for analytical applications

6624

TwinPower

- 10 mm Installation width
- Orifice DN0.8-1.6 mm
- Media separated, for aggressive fluids
- Direct-acting
- Suitable vacuum



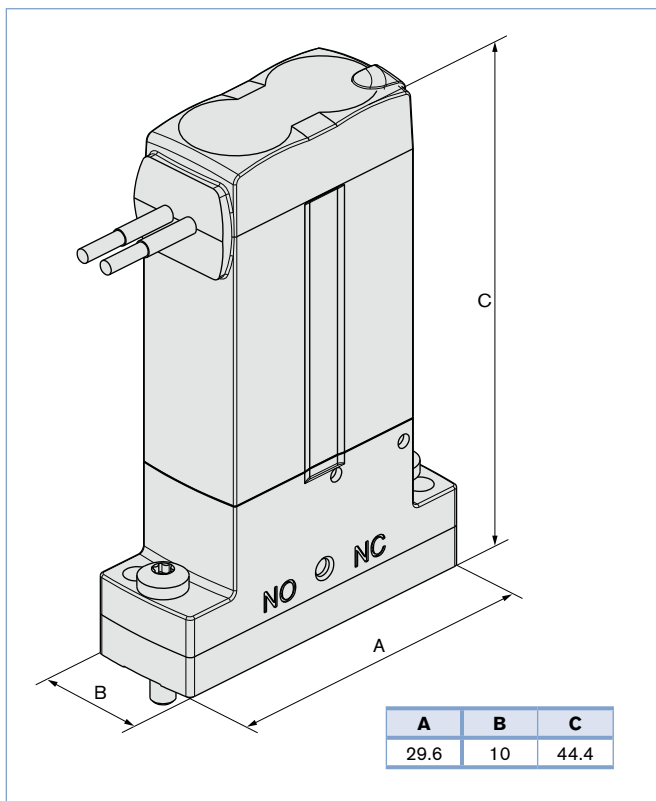
Our revolutionary Twin-power technology uses two coils. The innovative drive concept is combined with the proven rocker principle. The integrated power reduction decreases the energy consumption by 75% and has the same features as a traditional 16 mm unit. In combination with other design features the heat transfer into the medium can be reduced to a minimum.

In the design of the 6624, the main benefits lie in its excellent cleanability and a high reliability. By using high performance materials the 6624 suits the handling of aggressive medium perfectly. The valve is available in a 2/2-way and 3/2-way version.

Dimensions [mm] (see datasheet for further Details)

Technical data

Orifice	DN0.8 mm (Vac-5 bar), DN1.6 mm (Vac-2 bar)
Body material	PEEK / PPS
Seal material	FFKM / FKM / EPDM
Medium	Resistant to neutral and aggressive fluids and gases; see Bürkert resistance table
Medium temperature	
FFKM	+15 °C to +50 °C
FKM	-5 °C to +50 °C
EPDM	-5 °C to +50 °C
Ambient temperature	
FFKM	+15 °C to +55 °C
FKM	-10 °C to +55 °C
EPDM	-10 °C to +55 °C
Internal volume	< 100 µl
Port connection	Flange / UNF / tube spigot
Electrical connection	Flying leads, Rectangular plug Type 2505 (not included)
Operating voltages	24V ¹⁾
Voltage tolerance	
24V	±10% ²⁾
12V	+10% / -5% ²⁾
Nominal power	4 W inrush power 1 W nominal holding current (internal reducing of power)
Duty cycle	Continuous operation 100% ED
Installation	As required
Protection class	IP40
Switching frequency	Max. 5 Hz ³⁾
Response times	Acc. to ISO 12238
Opening	approx. 10 ms (Pressure rise 0-10%)
Closing	approx. 13 ms (Pressure drop 100-90%)

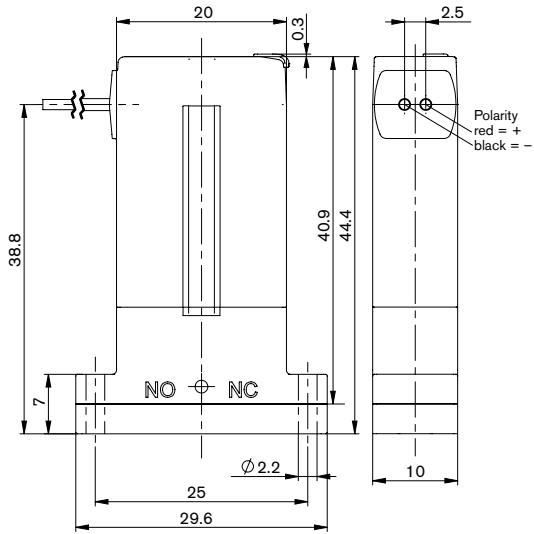


¹⁾ Battery voltage, check polarity (red= +, black= -)

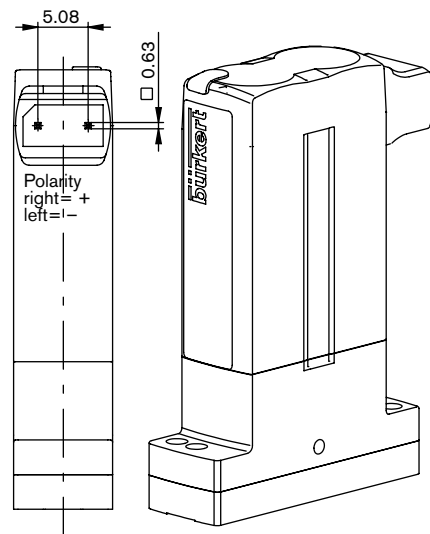
²⁾ Max. allowed ripple

³⁾ at ambient temperature of 20 °C

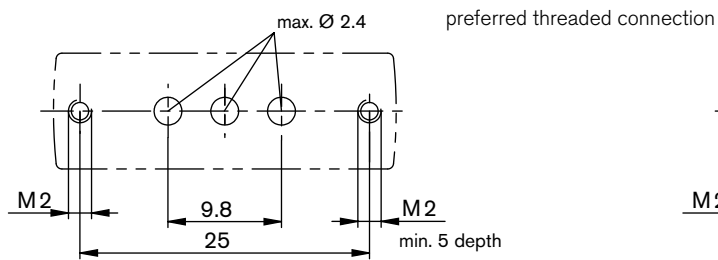
Electrical connections: flying leads



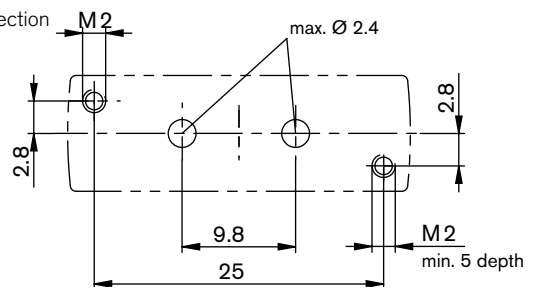
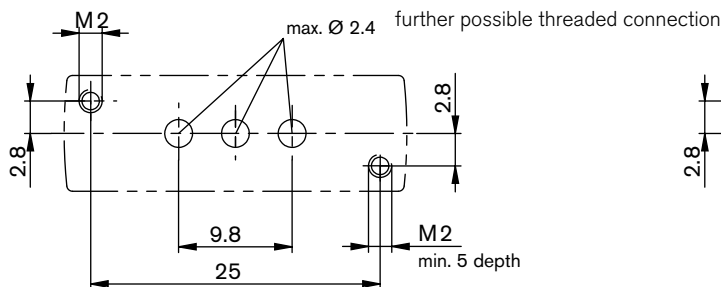
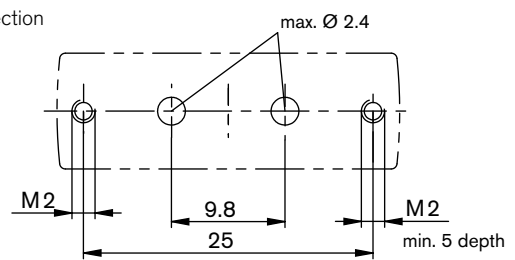
Electrical connections: rectangular plug



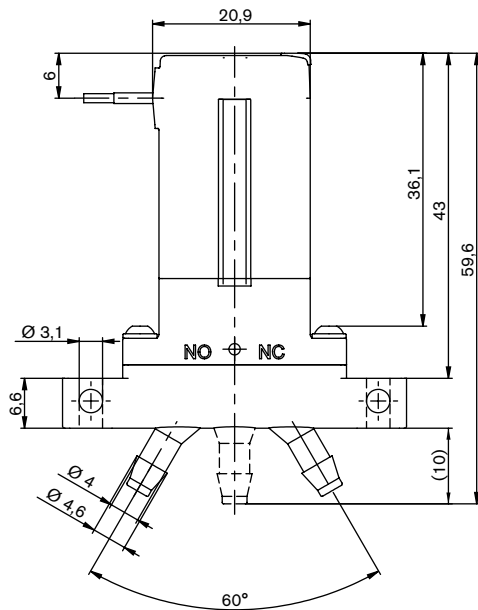
Sub-base body for 3/2-way connection



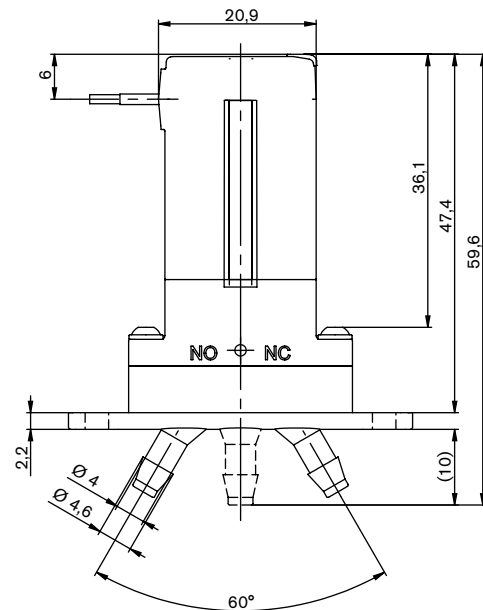
Sub-base body for 2/2-way connection



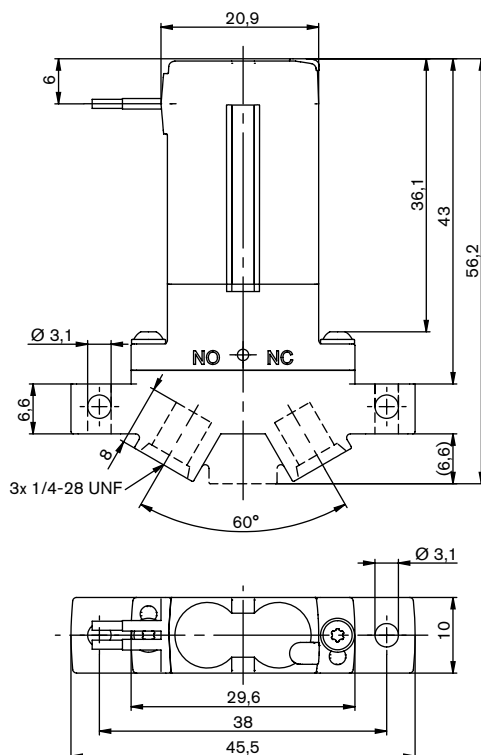
Tube connector housing



Tube connector housing with shield



Body UNF 1/4"-28 Flat-Bottom



Ordering Chart




Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Max. pressure difference [bar]	Seal material	Body material	Electrical connection	Voltage	Item no.
Circuit function A, 2/2-way valve, normally closed									
0.8	Sub-base	0.01	Vac.-5	5	EPDM	PPS	Rectangular plug ³⁾	24	241 399
0.8	UNF	0.01	Vac.-5	5	FFKM	PEEK	Flying leads	24	241 346
1.6	Sub-base	0.04	Vac.-2	2	FFKM	PEEK	Flying leads	24	227 814
1.6	Sub-base	0.04	Vac.-2	2	FKM	PEEK	Rectangular plug ³⁾	24	247 043
1.6	UNF	0.04	Vac.-2	2	FFKM	PEEK	Flying leads	24	241 361
1.6	UNF	0.04	Vac.-2	2	FFKM	PEEK	Rectangular plug ³⁾	24	241 418
1.6	Tube	0.04	Vac.-2	2	FFKM	PEEK	Flying leads	24	237 705
1.6	Sub-base	0.04	Vac.-2	2	FFKM	PEEK	Flying leads	24	242 530
Circuit function T, 3/2-way valve, Universal functions									
0.8	Sub-base	0.01	Vac.-5	5	EPDM	PPS	Rectangular plug ³⁾	24	241 429
0.8	UNF	0.01	Vac.-5	5	FFKM	PEEK	Flying leads	24	241 375
1.6	Sub-base	0.04	Vac.-2	2	FFKM	PEEK	Flying leads	24	227 815
1.6	UNF	0.04	Vac.-2	2	FFKM	PEEK	Rectangular plug ³⁾	24	241 448
1.6	UNF	0.04	Vac.-2	2	FFKM	PEEK	Flying leads	24	241 389
1.6	Tube	0.04	Vac.-2	2	FFKM	PEEK	Flying leads	24	241 387

¹⁾ Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.

²⁾ Measured as overpressure with respect to atmospheric pressure.

³⁾ Rectangular cable, Type 2505 please order separately, for selection options, see accessories

Ordering chart for accessories

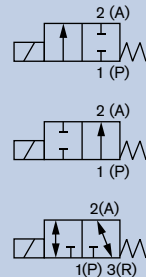
Accessories	Features	Item no.
	Rectangular plug Type 2505 with 3 m cable	133 486
	Rectangular plug Type 2505 with 300 mm flying leads	644 068
	Rectangular plug Type 2505, single contact for individual mounting	644 067
Gasket for tube connector housing with shield	EPDM, foamed	685 294

2/2- and 3/2-way Solenoid Valve for analytical applications

6626

TwinPower

- 16 mm Installation width
- Orifice DN2.0-3.0 mm
- Media separated, for aggressive fluids
- High back pressure tightness
- Direct-acting
- Suitable vacuum



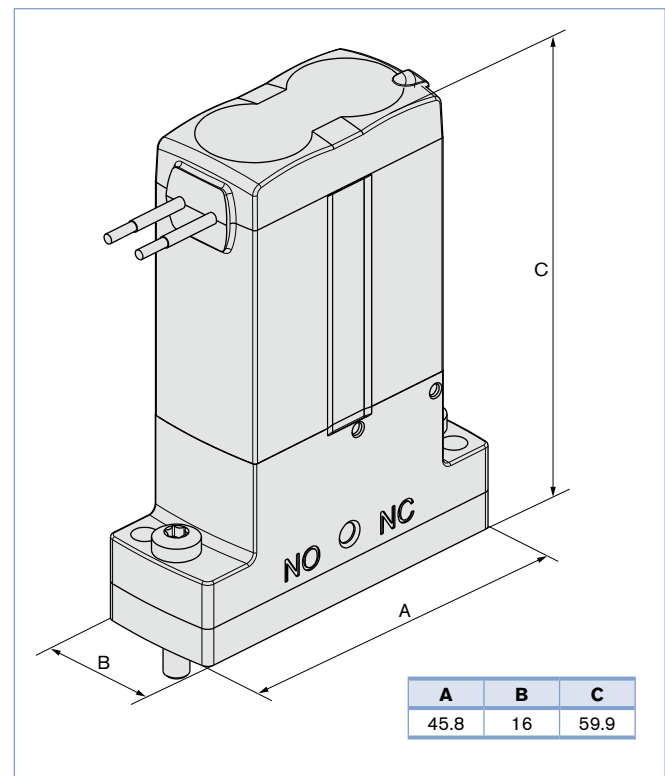
Our revolutionary Twin-power technology operates with two coils. The innovative drive concept is combined with the proven rocker principle. The integrated power reduction decreases the energy consumption by 75% and has the same features as a traditional 22 mm unit. In combination with other design features the heat transfer into the medium can be reduced to a minimum.

In the design of the 6626, the main benefits lie in its excellent cleanability and a high reliability. By using high performance materials the 6626 suits the handling of aggressive medium perfectly. The valve is available in a 2/2-way and 3/2-way version.

Technical data

Orifice	DN2.0-3.0 mm
Body material	PEEK, PPS
Seal material	FFKM, FKM, EPDM
Medium	Resistant to neutral and aggressive fluids and gases; see Bürkert resistance table
Medium temperature	
FFKM	+15 °C to +50 °C
FKM	-10 °C to +50 °C
EPDM DN2.0	-10 °C to +50 °C
EPDM DN3.0	+5 °C to +50 °C
Ambient temperature	
FFKM	+15 °C to +55 °C
FKM	-10 °C to +55 °C
EPDM DN2.0	-10 °C to +55 °C
EPDM DN3.0	+5 °C to +55 °C
Internal volume	<470 µl
Port connection	Flange, UNF, G 1/8", tube
Electrical connection	Flying leads, Rectangular plug Type 2505 (not included)
Operating voltages	24 V ¹⁾ , 12 V ¹⁾
Voltage tolerance	24 V ±10% ²⁾ 12 V +10% / -5% ²⁾
Nominal power	13.6 W inrush power 3.4 W nominal holding current (internal power reduction)
Duty cycle	Continuous operation 100% ED
Installation	As required
Protection class	IP40
Switching frequency	Max. 2 Hz ³⁾
Response times	Acc. ISO 12238
Opening	ca. 10 ms (Pressure rise 0-10%)
Closing	ca. 15 ms (Pressure drop 100-90%)

Dimensions [mm] (see datasheet for further Details)

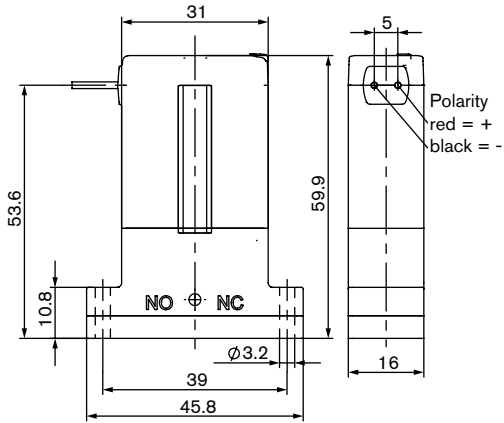


¹⁾ Battery voltage, check polarity (red= +, black= -)

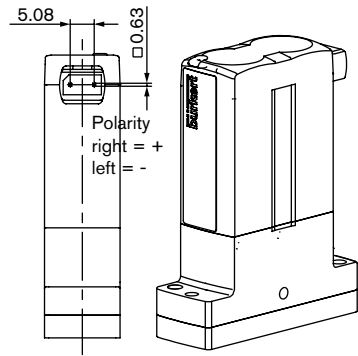
²⁾ Max. allowed ripple

³⁾ at ambient temperature of 20 °C

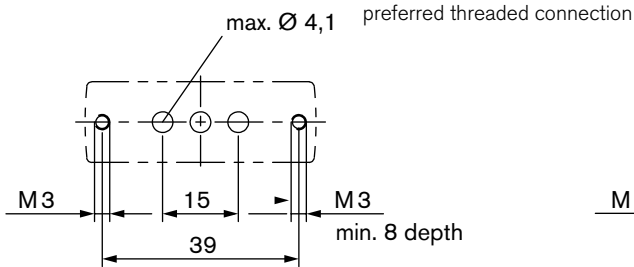
Electrical connections: flying leads



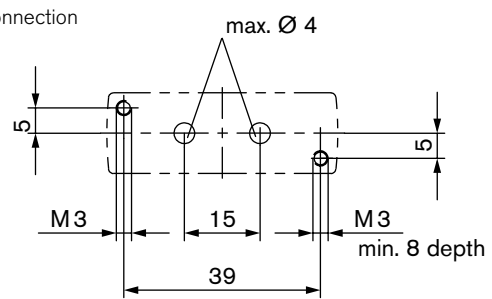
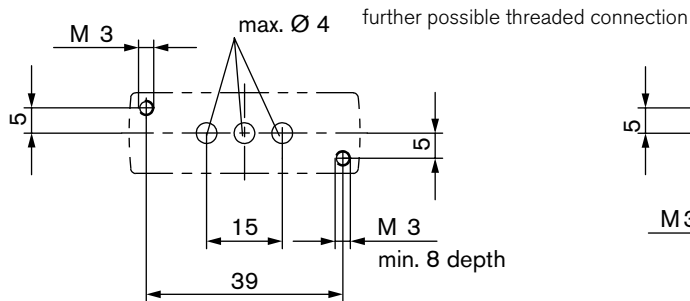
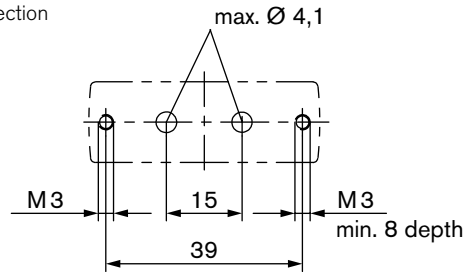
Electrical connections: rectangular plug



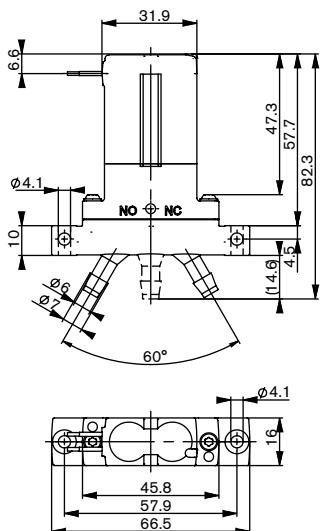
Sub-base body for 3/2-way connection



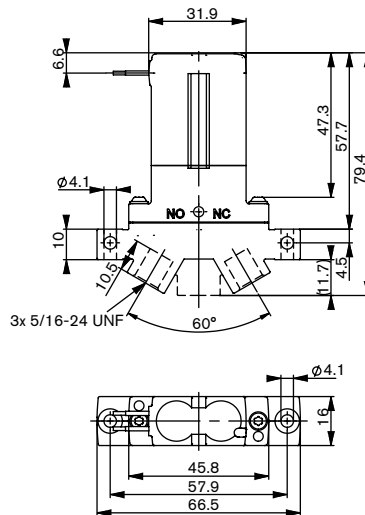
Sub-base body for 2/2-way connection



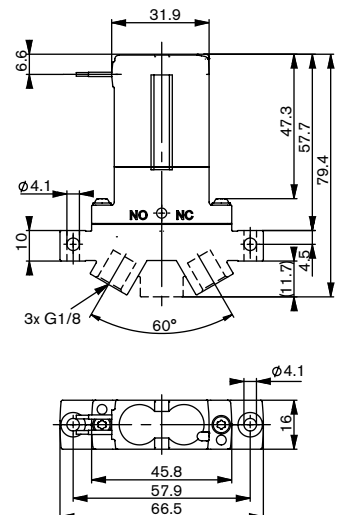
Body, tube connector



Body, UNF 5/16" -24



Body, G1/8



Ordering chart

6626

Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Max. pressure difference [bar]	Seal material	Body material	Electrical connection	Voltage [V]	Item no.
A 2/2-way valve normally closed	2.0	Sub-base	0.10	Vac. - 3 (Vac. - 5)	3 (5)	EPDM	PPS	Rectangular plug ³⁾	12	247 769
									24	247 771
								UNF	Vac. - 3 (Vac. - 4)	3 (4)
		24	247 786							
		G 1/8"	Vac. - 3	3	FFKM	PEEK	Flying leads		251 709	
								252 770		
	3.0	Sub-base	0.19	Vac. - 2	2	EPDM	PPS	Rectangular plug ³⁾	24	247 797
									238 530	
								UNF	FFKM	PEEK
		24	247 819							
		Tube	FFKM	PEEK	Flying leads	251 711				
						252 771				
EPDM	Rectangular plug ³⁾		252 772							
		247 789								
	FFKM	Flying leads	228 642							
247 810										
B 2/2-way valve normally open	2.0	Sub-base	0.10	Vac. - 3	3	FFKM	PEEK	Flying leads	24	252 773
									242 597	
	3.0	0.19	Vac. - 2	2	FFKM	PEEK	Rectangular plug ³⁾	245 910		

¹⁾ Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.

²⁾ Measured as overpressure with respect to atmospheric pressure.

³⁾ Rectangular cable to be ordered separately, selection option see accessories.

Info: () Values in brackets apply only for gaseous media.

Ordering chart

Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Max. pressure difference [bar]	Seal material	Body material	Electrical connection	Voltage [V]	Item no.					
T 3/2-way valve Universal function	2.0	Sub-base	0.10	Vac. - 3 (Vac. - 5)	3 (5)	EPDM	PPS	Rectangular plug ³⁾	24	247 826					
								Flying leads	12	247 829					
									24	247 841					
								Rectangular plug ³⁾	12	247 838					
									UNF	Vac. - 3 (Vac. - 4)	3 (4)	FFKM	PEEK	Flying leads	24
								252 774							
	Rectangular plug ³⁾	252 775													
		3.0	Sub-base	0.19	Vac. - 2	2	EPDM	PPS	Rectangular plug ³⁾	12	247 851				
	Flying leads								24	247 853					
									234 371						
	Rectangular plug ³⁾								238 531						
									FKM	PPS	Flying leads	12	247 874		
	247 877														
	UNF								0.15	EPDM	PEEK	Rectangular plug ³⁾	252 776		
													251 715		
	FFKM								Flying leads	247 872					
G 1/8"											0.19	FKM	Rectangular plug ³⁾	247 844	
	Tube	EPDM	Flying leads	247 859											
FFKM				Rectangular plug ³⁾	247 858										
	FKM	Flying leads	247 869												




1) Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.

2) Measured as overpressure with respect to atmospheric pressure.

3) Rectangular cable to be ordered separately, selection option see accessories.

Info: () Values in brackets apply only for gaseous media.

Ordering chart for accessories

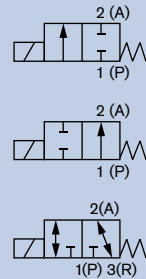
Accessories	Features	Item no.
	Rectangular plug Type 2505 with 3 m cable	133 486
	Rectangular plug Type 2505 with 300 mm flying leads	644 068
	Rectangular plug Type 2505, single contact for individual mounting	644 067

2/2- and 3/2-way Solenoid Valve for analytical applications

6628

TwinPower

- 22 mm Installation width
- Isolating diaphragm for aggressive fluids
- High back-pressure tightness
- Minimal internal volume with good cleanability



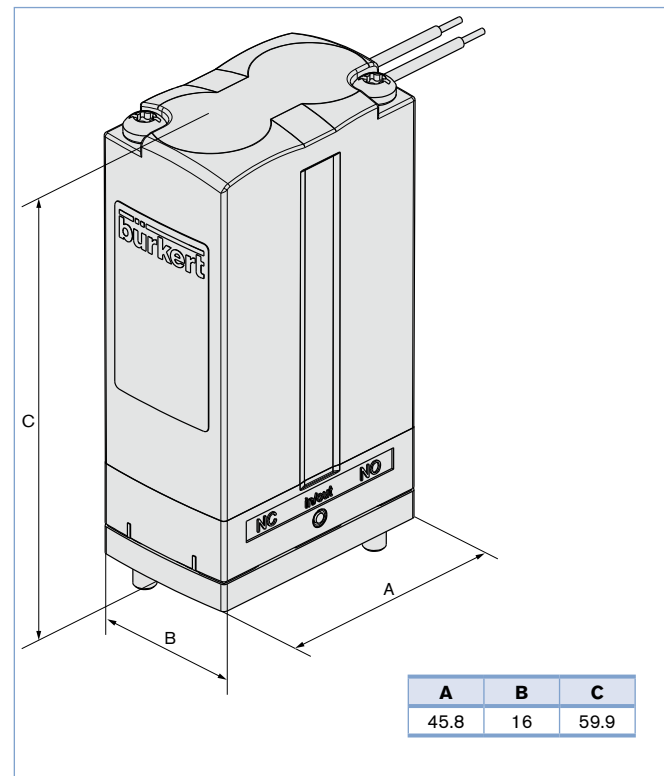
Direct acting medium separated 2/2- and 3/2-way Rocker Solenoid Valve for control of aggressive fluids and gases in analytical medical applications, the food industry, and also the chemical industry for dosing, filling, mixing and distribution.

The medium is in contact with fluid housing and seal material solely through the isolating diaphragm. This valve with the new TwinPower actuator, robust screw-in connection and 22 mm installation width, will fulfil the highest requirements. The established rocker solenoid technology is characterized through full back pressure tightness, good rinsing capability and low internal volume. Type 6628 is available in different technical versions and by virtue of several body options, it offers a perfect adaption in fluid applications.

Technical data

Orifice	DN2.0 or 3.0 mm
Body material	PEEK or PPS (PVDF, PP on request)
Seal material	FFKM, FKM or EPDM
Medium	Resistant to neutral and aggressive gases and liquids acc. to our chemical resistance chart
Medium temperature	0 °C to +55 °C
FKM, EPDM, FFKM	+10 °C to +55 °C
	-10 °C to +55 °C
Ambient temperature	0 °C to +55 °C
FKM, EPDM, FFKM	+10 °C to +55 °C
	-10 °C to +55 °C
Internal volume	ca. 200 µl
Viscosity	max. ca. 21 mm ² /s
Electrical connection	<ul style="list-style-type: none"> ▪ PFA single flying leads, 0.5 mm², 500 mm ▪ Rectangular plug for cable plug Type 2505 (not included) ▪ Industry plug acc. to DIN 43650 Form B for cable plug Type 2507 (not included) ▪ Circular connector M8 on request
Operating voltages	24V DC, other voltages on request
Voltage tolerance	±10%
Nominal power	5 W
Duty cycle	100 % continuous operation
Installation	As required, preferably with actuator upright

Dimensions [mm] (see datasheet for further Details)

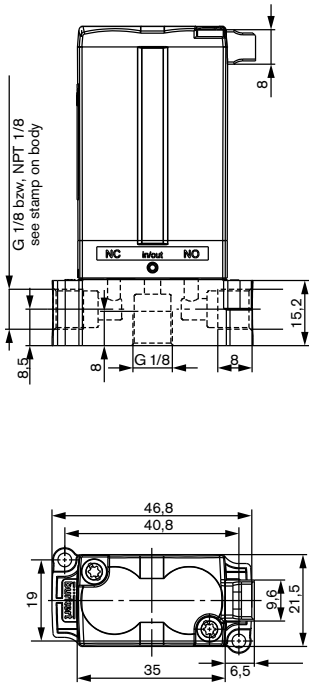


Technical data (continued)

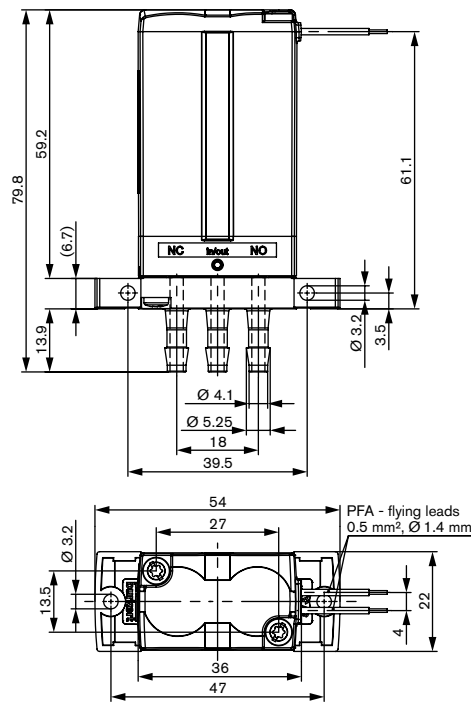
Protection class	IP54 (IP40 with rectangular plug Type 2505)
Response times	Measurement at valve output with 2 bar and 20 °C acc. to DIN ISO 12238:2001
Opening	25 ms (Pressure rise 0-10%)
Closing	25 ms (Pressure drop 100-90%)
Manual override	on request

Dimensions [mm] (see datasheet for further Details)

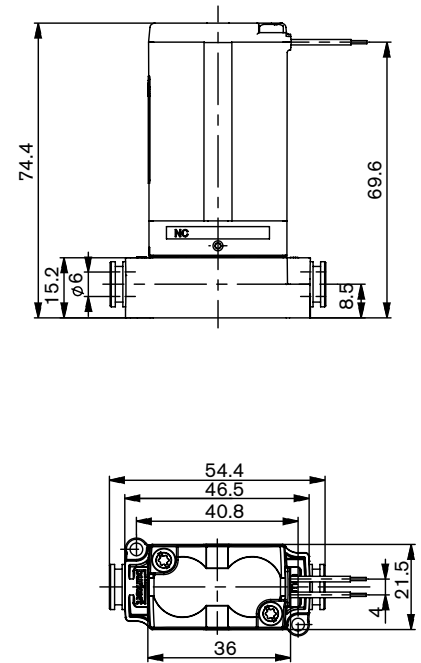
**Threaded version
with rectangular plug**



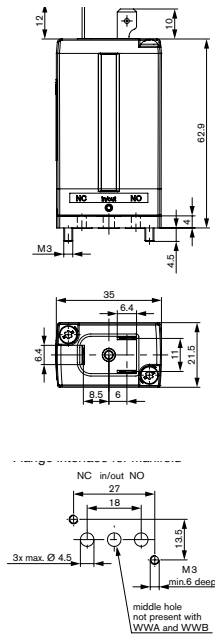
**Barbed hose connector
with Flying leads**



Push-in connector



**Flange version
for Cable Plug**



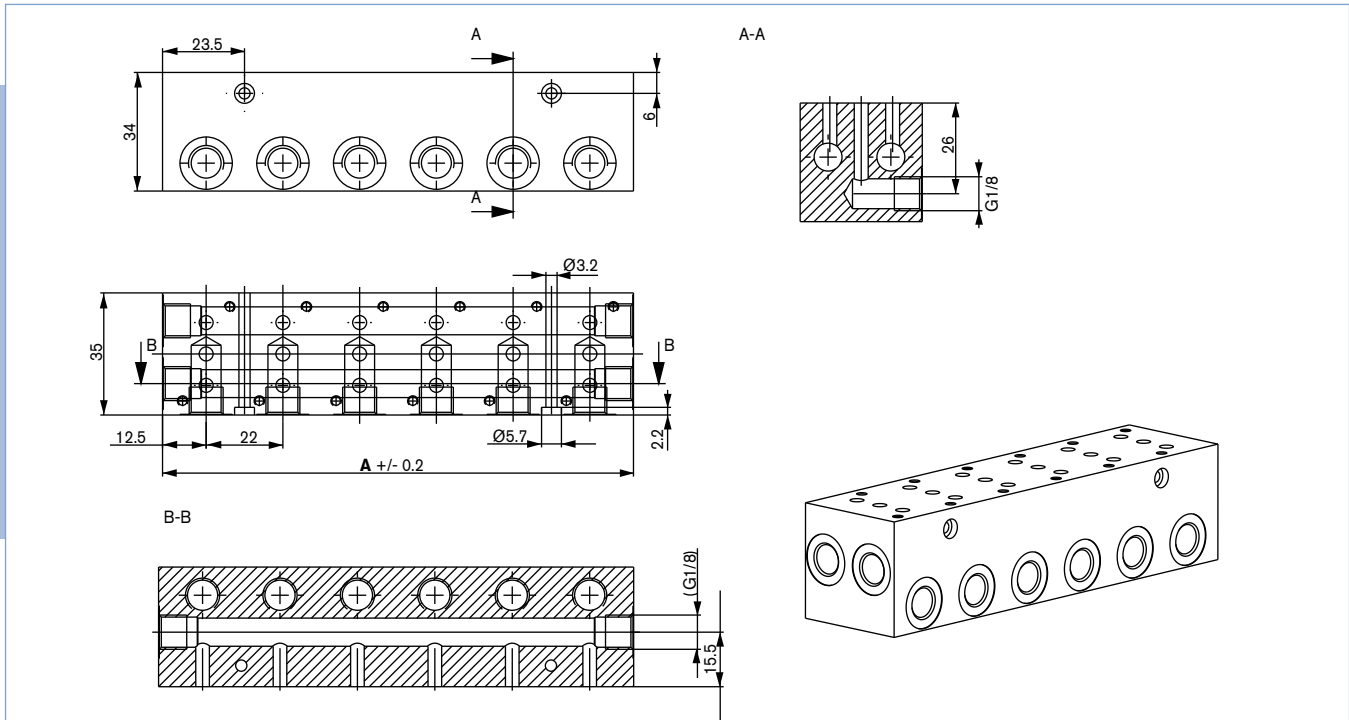
Classification of fluid connections

2/2-way valve, normally closed (Circuit function A)
inflow at "NC"-connector

2/2-way valve, normally open (Circuit function B)
inflow at "NO"-connector

3/2-way valve, universal (Circuit function T)
flow as required

Dimensions for manifold [mm]



Ordering chart

Orifice [mm]	Port connection	Kv value water [m ³ /h]	Qn-value air [l/min]	Pressure range [bar]	Max. pressure difference [bar]	Seal material	Body material	Electrical connection	Voltage/frequency [V/Hz]	Item no.
Circuit function A, 2/2-way valve normally closed										
2	Bürkert-Flange	0.10	110	Vac. - 5	5	EPDM	PPS	Rectangular plug	024/DC	250 857
2	Bürkert-Flange	0.10	110	Vac. - 5	5	FFKM	PEEK	Flying leads 500mm	024/DC	234 350
2	G 1/8"	0.10	110	Vac. - 5	5	FKM	PEEK	Rectangular plug	024/DC	242 713
3	Bürkert-Flange	0.17	180	Vac. - 3	3	FFKM	PEEK	Rectangular plug	024/DC	235 317
3	Bürkert-Flange	0.17	180	Vac. - 3	3	FFKM	PEEK	Plug interface Form B	024/DC	242 721
3	Bürkert-Flange	0.17	180	Vac. - 3	3	FFKM	PEEK	Flying leads 500mm	024/DC	231 013
3	Bürkert-Flange	0.17	180	Vac. - 3	3	FFKM	PEEK	Flying leads 500mm	024/DC	251 686
3	Hose connector	0.17	180	Vac. - 3	3	FFKM	PEEK	Flying leads 500mm	024/DC	235 318
3	G 1/8"	0.17	180	Vac. - 3	3	FFKM	PEEK	Rectangular plug	024/DC	241 807
3	Push-in connection	0.17	180	Vac. - 3	3	FKM	PPS	Flying leads 500mm	024/DC	251 650
Circuit function T, 3/2-way valve, Universal function										
2	Bürkert-Flange	0.10	110	Vac. - 5	5	EPDM	PPS	Rectangular plug	024/DC	250 859
3	Bürkert-Flange	0.17	180	Vac. - 2	2	FKM	PPS	Flying leads 500mm	024/DC	251 635
3	Push-in connection	0.17	180	Vac. - 2	2	FKM	PPS	Flying leads 500mm	024/DC	251 685
3	Bürkert-Flange	0.17	180	Vac. - 2	2	FFKM	PEEK	Flying leads 500mm	024/DC	230 305
3	Hose connector	0.17	180	Vac. - 2	2	FFKM	PEEK	Flying leads 500mm	024/DC	235 323
3	G 1/8"	0.17	180	Vac. - 2	2	FFKM	PEEK	Rectangular plug	024/DC	241 806

Kv value [m³/h]: Flow value for water.

Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.

Rectangular cable, Type 2505 please order separately, for selection options, see accessories.



Ordering chart for manifold

Multiple Manifolds with individual service port (G 1/8) and diverter function on 2 common channels (G 1/8); Delivery without valves; Material: anodized aluminium


Manifold	A [mm]	Item no.
2-fold	47	669 571
3-fold	69	672 633
4-fold	91	669 572
5-fold	113	672 661
6-fold	135	669 570
10-fold	223	672 660

Other versions on request.

Ordering chart for manifold

Accessories	Features	Item no.
	Rectangular plug Type 2505 with 3 m cable	133 486
	Rectangular plug Type 2505 with 300 mm flying leads	644 068

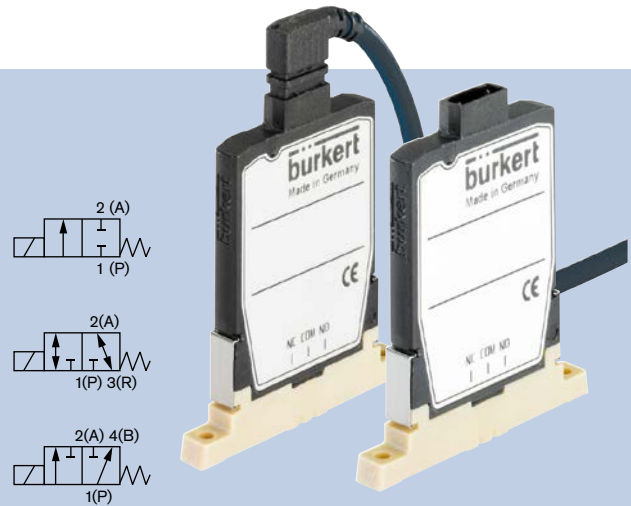
Cable Plug Type 2507 according to Industrial standard Form B

	Accessories	Version	Voltage	Item no.
	Cable Plug	without Circuitry	0 ... 250 V AC/DC	423 845
		with LED	24 V AC/DC	423 849

2/2 and 3/2-way flipper solenoid valve for analytical applications

6650

- Only 4.5 mm wide
- Medium isolation, for aggressive fluids
- Direct-acting
- Short response times

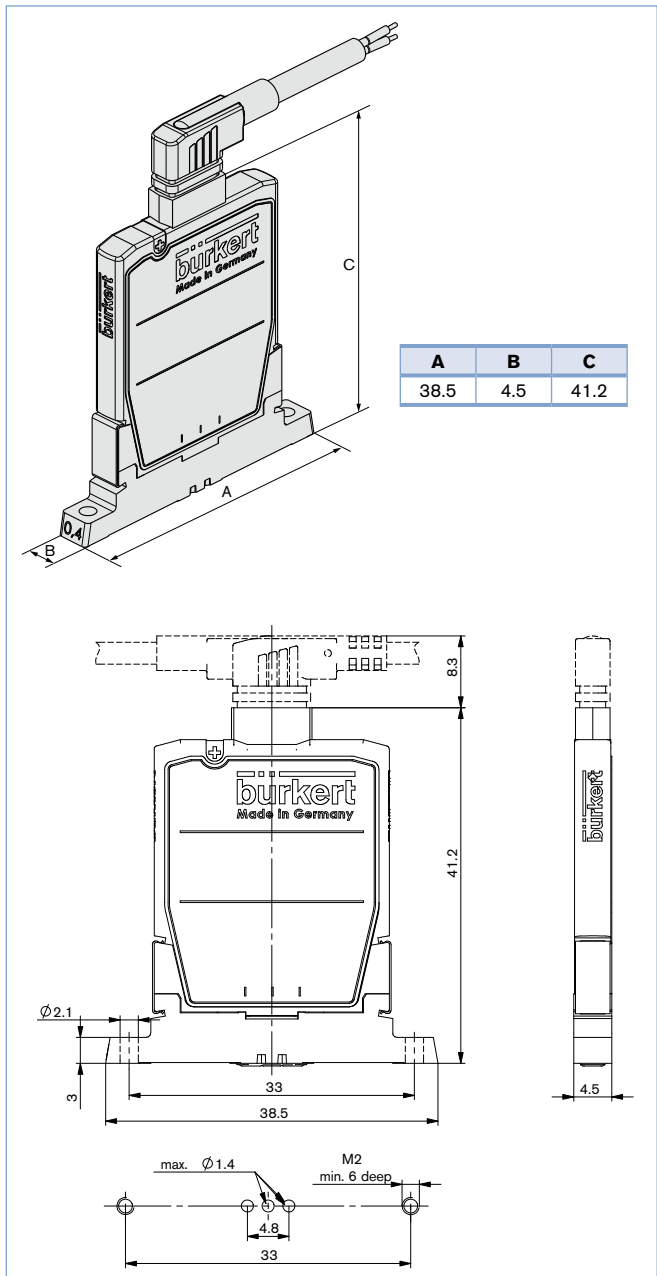


With a width of only 4.5 mm, Type 6650 sets a new standard in medium isolation miniature solenoid valves. The optimized design enables reproducible and precise dosing, good rinsing capability and is suitable for the application of aggressive chemicals owing to the high quality of the materials used. With the two nominal sizes of 0.4 and 0.8 mm, as well as the selection between 2/2-way and 3/2-way function, it is ideal for applications where the highest fluid performances are required in the smallest space. Type 6650 opens up new possibilities, owing to the 4.5 mm station width, in particular in connection with dosing in 384-well microtiter plates.

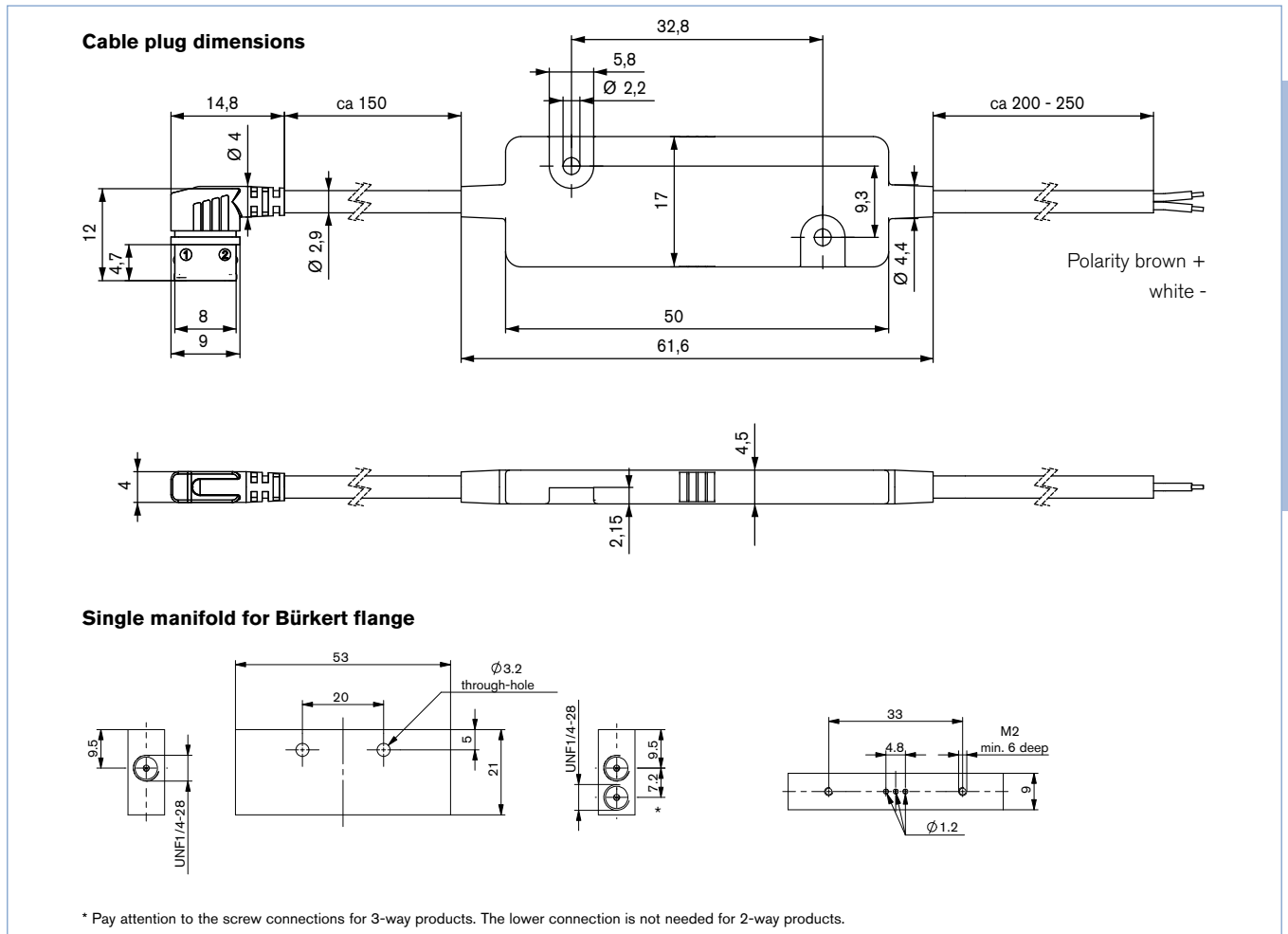
Technical Data

Orifice	DN0.4 and 0.8 mm
Body material	PEEK
Seal material	FFKM (Simriz)
Medium	Resistant to neutral and aggressive fluids and gases; see Bürkert resistance table
Medium temperature	+15 °C to +50 °C
Ambient temperature	+10 °C to +50 °C
Internal volume	approx. 30 µl
Port connection	Flange
Electrical connection	Plug Bürkert Type 2504 (not included)
Operating voltages	24V (12V on request)
Voltage tolerance	±10%
Nominal power	5.7 W For 100% duty cycle power has to be reduced externally.
Duty cycle	100% continuous operation only with external power reduction
Installation	As required; with side by side connection standard polarity is adhered to
Protection class	IP65
Switching frequency	80Hz (for mechanical limit observe maximum temperature) 15Hz (continuous with external power reduction, for more information see manual)
Response times	<5 ms (acc. to ISO 12238)

Envelope Dimensions [mm] (see datasheet for details)



Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

Circuit function	Orifice [mm]	Kv value water [m/h] ¹⁾	Pressure range [bar] ²⁾	Max. pressure difference [bar]	Voltage [V]	Nominal power [W] (Inrush-/nominal holding power)	Item no.
A 2/2-way valve normally closed	0.4 ³⁾	0.004	Vac.-7	7	24	5.7 / 0.7	182 284
	0.8 ⁴⁾	0.01	Vac.-3	3	24	5.7 / 0.7	226 664
T 3/2-way valve universal version	0.8	0.01	Vac.-1	1	24	5.7 / 0.7	189 292
F 3/2-way valve distributor valve	0.8	0.01	Vac.-3	3	24	5.7 / 0.7	227 020

¹⁾ Measured at +20 °C, 1 bar pressure at valve inlet and free outlet
²⁾ Measured as overpressure to the atmospheric pressure
³⁾ With orifice 0.4 mm flow permitted in both directions
⁴⁾ With orifice 0.8 mm flow direction according to label

Accessories

Description	Item no.
Cable plug type 2504 with integrated hit and hold electronic, 024V/DC, 500 mm long, Power reduction to 0.7 W after 5 ms	670 178
Cable plug type 2504, single cable, 500 mm long ¹⁾	670 164
Cable plug type 2504, single cable, 5000 mm long ¹⁾	680 840
Single manifold material Peek	670 181

¹⁾ The valve must be operated with external power reduction. Please refer to the manual for further details.

Control Electronics for Solenoid Control Valves

8605

- Microprocessor-controlled electronics
- Selectable input signal
- Adjustable PWM frequency
- Optional RS232 or RS485 interface

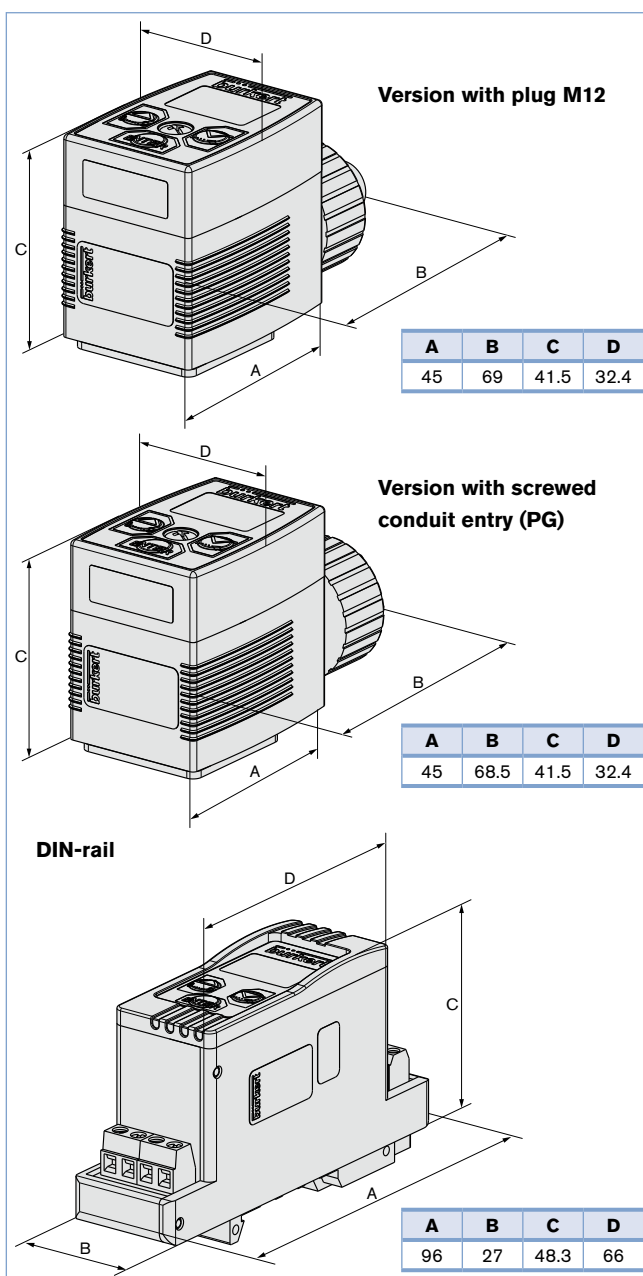


The digital control electronics, Type 8605, serves to operate valves in the power range from 40 - 2000 mA. The electronics converts an external standard signal into a pulse-width modulated (PWM) signal with which the opening of the valve and hence a fluidic output parameter (e.g. flow rate) can be infinitely varied. An internal current control with the duty cycle factor of the PWM signal as control variable ensures that every value of the input signal, irrespective of the thermal condition of the coil, is unambiguously assigned a given value of the effective coil current. Compared to DC operation of solenoid control valves the PWM operation improves, among others, their sensitivity and hysteresis. A display and operating keys allow the electronics to be easily adapted to a particular solenoid control valve and to the concrete conditions of an application.

Technical Data

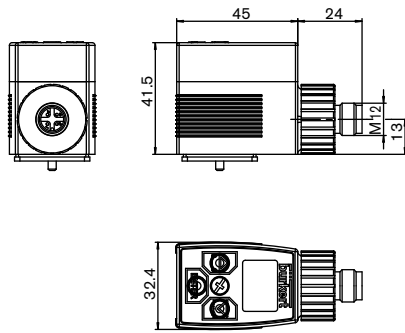
Operating voltage	12V DC or 24 V DC
Voltage tolerance	±10%
Residual ripple	<5%
Power consumption	approx. 1 W (without valve)
Output current (valve)	Max. 2 A
Ambient temperature	-10 °C to 60 °C
Input signal	0-20 mA, 4-20 mA or 0-5 V, 0-10 V (configurable)
Input impedance	<200 Ω (with current input) >20 kΩ (with voltage input)
Output signal for valve control	PWM signal – frequency adjustable from 80 Hz to 6 kHz
Ramp function	Time variable from 0 to 10 s
Version	Cable plug for direct installation (with PG or M12 connection) DIN-rail version (DIN EN 50022)
Protection class	Cable plug – IP65 DIN-rail – IP40
Housing material	Cable plug – Polyamide / PC DIN-rail – Polyamide / PBT

Envelope Dimensions [mm] (see datasheet for details)

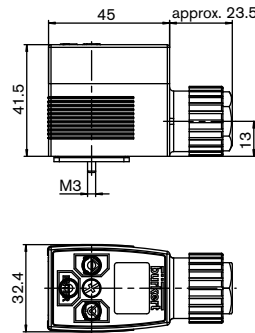


Cable plug with operating unit

Version with plug M12

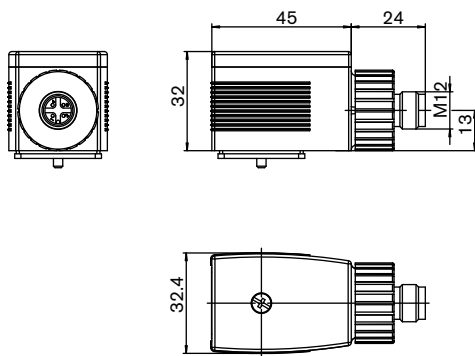


Version with screwed conduit entry (PG)

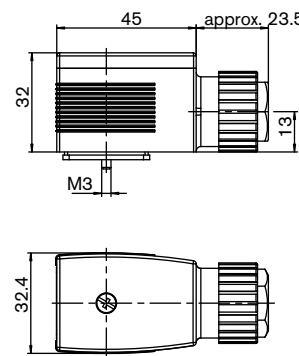


Cable plug without operating unit

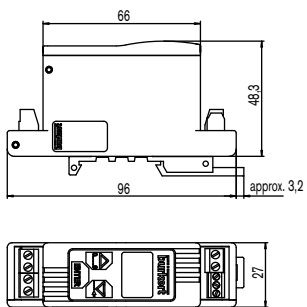
Version plug M12



Version with screwed conduit entry (PG)



DIN-rail



Ordering Chart

8605

Version	Max. coil current [mA]	Item no.	2861, 2871 24 V DC	2861, 2871 12 V DC	2863, 2873 24 V DC	2863, 2873 12 V DC	2865, 2875 24 V DC	2865, 2875 12 V DC	2836 24 V DC	6024 24 V DC	6024 12 V DC	6223 24 V DC	6223 12 V DC
Cable plug with PG-connection	200 - 1000	178 354			x	x	x			x		x	
Cable plug with M12-connection	200 - 1000	178 355			x	x	x			x		x	
Cable plug with PG-connection	500 - 2000	178 356				x	x	x	x	x	x		x
Cable plug with M12-connection	500 - 2000	178 357				x	x	x	x	x	x		x
Cable plug with PG-connection without control unit	200 - 1000	178 358			x	x	x			x		x	
Cable plug with M12-connection without control unit	200 - 1000	178 359			x	x	x			x		x	
Cable plug with PG-connection without control unit	500 - 2000	178 360				x	x	x	x	x	x		x
Cable plug with M12-connection without control unit	500 - 2000	178 361				x	x	x	x	x	x		x
DIN-rail	40 - 220	178 362	x										
DIN-rail	200 - 1000	178 363	x	x	x	x	x			x		x	
DIN-rail	500 - 2000	178 364				x	x	x	x	x	x		x

Notes:

- With two current ranges possible please choose the lower one
 - Successor types:
 - 2861, 2871 with 2822, 2824
 - 2863, 2873 with 2833
 - 2865, 2875 with 2835
- When using the older type please choose the control electronics indicated for the adequate new type.

Accessories

Version	Item no.
M12 connector, 4 pins, 5 m cable	918 038
Right-angle plug M12, 4 pins	784 301
Control unit for plug on module	667 839
RS232 module for plug on module	667 840
RS485 module for plug on module	667 841
RS232 module for DIN-rail	667 842
RS485 module for DIN-rail	667 843
Cable for RS232/ 485 interface M8 for plug on module	918 718
Cap with screw and seal	670 549



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ATEX Solenoid Valves for Hazardous Locations

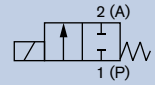
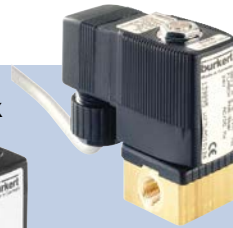
G 1/8" to G 2"

- Valves for use in Zone 1
- Type 6013 ATEX: Direct acting through-way valve
- Type 6281 EV ATEX: Pilot operated through-way valve
- Type 5282 ATEX: Medium separated through-way valve

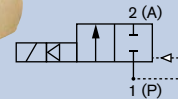
Type 6281 EV ATEX



Type 6013 ATEX



Type 5282 ATEX



Technical Data

	5282 ATEX	6013 ATEX	6281 EV ATEX
Size range	1/2" to 2"	1/8" and 1/4"	1/2" to 2"
Temperature media	0 °C to +70 °C	-10 °C to +100 °C	FKM 0 °C to +90 °C, NBR -10 °C to +80 °C
Surface temperature	T5 = +100 °C	T4 = 135 °C	T4 = 135 °C
Body material	Brass or Stainless steel 1.4581	Brass or Stainless steel 1.4305	Brass or Stainless steel
Seal material	NBR or FKM	FKM	NBR or FKM
Power consumption	DC: 40 W (inrush) 3 W (hold)	DC: 9 W	DC: 9 W
Protection class	IP65	IP65, NEMA4	IP65
Electrical connection	With molded-in cable, 3 m long or with terminal box (without fuse)	With molded-in cable, 3 m long	With molded-in cable, 3 m long
Accreditations	PTB 03 ATEX 1030X II 2G, II 2D, IEC Ex PTB 05.0026X, Ex ed IIC T5 or Ex es mb IIC T5 or Ex ed ia IIC T5 or Ex ed mb ia IIC T5, Ex tD A21 IP65 T +100 °C	PTB 00 ATEX 2129X Ex m II T4, II 2G, II 2D IP65, Tu -30 °C to +60 °C	PTB 00 ATEX 2129X Ex m II T4, II 2G, II 2D IP65, Tu -30 °C to +60 °C
Override	Manual override as standard	Optional	Optional

Options

- **Type 6013 ATEX** – normally open
- **Type 6281 EV ATEX** – normally open
- **Type 5282 ATEX** – normally open

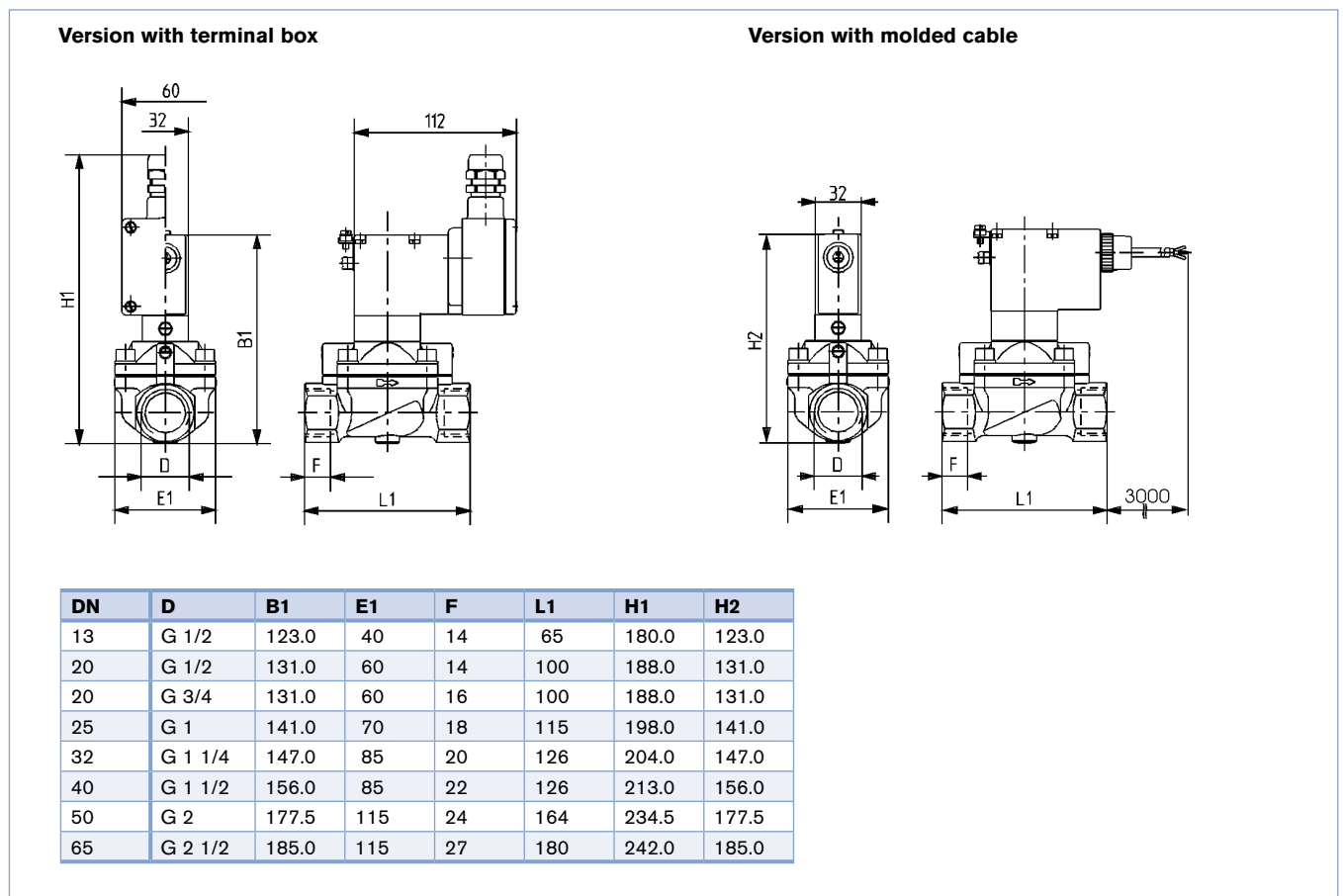
This page shows only a small example of the complete range.

Ordering Chart

5282 ATEX, Pressure range: 0.5 - 10 bar					
Port [inch]	Orifice [mm]	Kv Value [m ³ /h]	Seal material	Item no.	
				24V AC&DC	230V AC&DC
Brass					
G 1/2	13	4	NBR	138 171	138 173
G 3/4	20	5	NBR	138 174	138 176
G 1	25	10	NBR	138 177	138 179
G 1 1/2	40	20	NBR	138 183	138 185
G 2	50	40	NBR	138 186	138 188
Stainless steel					
G 1/2	20	5	FKM	138 228	138 230
G 3/4	20	5	FKM	138 231	138 233
G 1	25	10	FKM	138 234	138 236
G 1 1/2	40	20	FKM	138 240	138 242
G 2	50	40	FKM	138 243	138 245

ATEX Select

Envelope Dimensions [mm] (see datasheet for details)

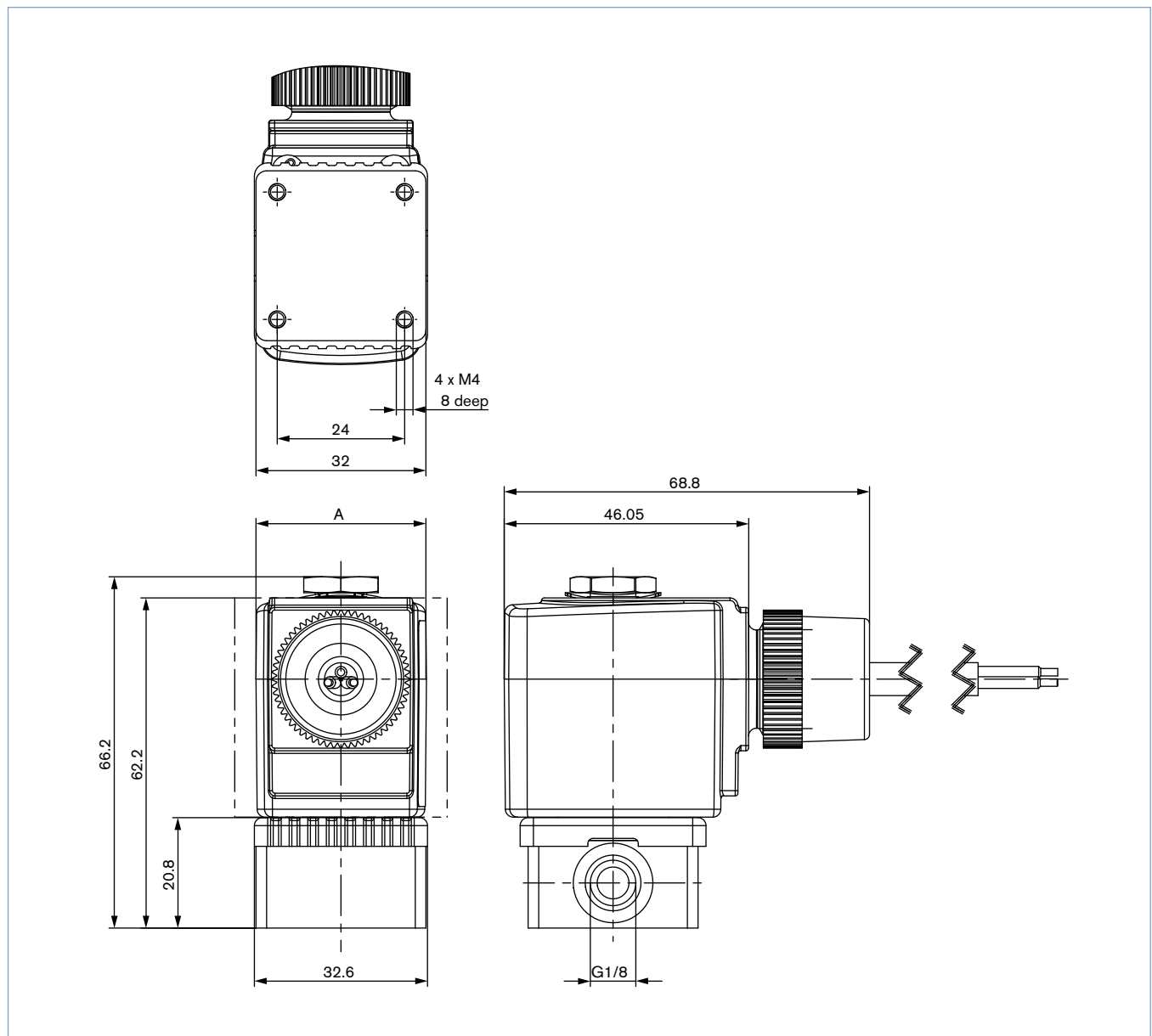


Ordering Chart

ATEX Select

6013 ATEX					
Port [inch]	Orifice [mm]	Kv Value [m ³ /h]	Pressure range [bar]	Item no.	
				024V AC&DC	230V AC&DC
Brass					
G 1/8	2	0.12	0 - 10	278 592	136 041
	3	0.23	0 - 5	136 045	136 047
G 1/4	2	0.12	0 - 10	278 605	139 894
	3	0.23	0 - 5	278 594	136 050
Stainless steel					
G 1/8	2	0.12	0 - 10	278 584	136 029
	3	0.23	0 - 5	278 586	136 032
G 1/4	2	0.12	0 - 10	278 601	139 889
	3	0.23	0 - 5	278 87	136 035

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

6281 EV ATEX, Pressure range: 0.2 - 16 bar				
Port connection [inch]	Orifice [mm]	Kv value water [m ³ /h]	Item no. voltage/frequency [V/Hz]	
			024/UC ATEX	230/UC ATEX
Brass body, Seal material NBR				
G 1/2	13	3.8	228 405	228 406
G 3/4	20	8.5	228 407	228 408
G 1	25	12	228 409	228 410
G 1 1/4	25	12	228 411	228 412
G 1 1/2	40	30	228 413	228 414
G 2	40	30	228 415	228 416
Stainless steel body, Seal material FKM				
G 1/2	13	3.8	228 417	228 418
G 3/4	20	8.5	228 419	228 420
G 1	25	12	228 421	228 422
G 1 1/4	25	12	228 423	228 424
G 1 1/2	40	30	228 425	228 426
G 2	40	30	228 427	228 428

ATEX Select

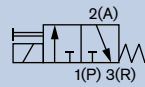
Envelope Dimensions [mm] (see datasheet for details)

Coil size	DN	A	B	C	D	E	F1	G		H	J	K	L	SW	N
								G1	H						
5	13	87.2	100.7	42	54.5	27.25	12	G 3/8	32	20.5	45	58	27	-	
		87.2	100.7			32.5	14	G 1/2				65	27		
		89.2	105.2			32.5	16	G 3/4				65	32		
	20	95.7	111.7	60	74	37	16	G 3/4	32	20.5	45	80	32	10	
		98.2	118.7			37.5	18	G 1				80	41		
		102.7	123.2			46	18	G 1				95	41		15
	107.7	132.7	46	20	G 1 1/4	95	50								
	40	121.7	151.7	99	114	61	22	G 1 1/2	32	20.5	45	126	60	23	
		127.7	162.7			64	24	G 2				132	70		
		127.7	162.7			64	24	G 2				132	70		
	50	116.1	151.1	115	132	82	24	G 2	32	20.5	45	164	70	37	
		115.8	158.3			89.5	27	G 2 1/2				179	85		
115.8		158.3	89.5			27	G 2 1/2	179				85			
6	13	87.2	100.7	42	54.5	27.25	12	G 3/8	40	23.5	51	58	27	-	
		87.2	100.7			32.5	14	G 1/2				65	27		
		89.2	105.2			32.5	16	G 3/4				65	32		
	20	95.7	111.7	60	74	37	16	G 3/4	40	23.5	51	80	32	10	
		98.2	118.7			37.5	18	G 1				80	41		
		102.7	123.2			46	18	G 1				95	41		15
	107.7	132.7	46	20	G 1 1/4	95	50								
	40	121.7	151.7	99	114	61	22	G 1 1/2	40	23.5	51	126	60	23	
		127.7	162.7			64	24	G 2				132	70		
		127.7	162.7			64	24	G 2				132	70		
	50	116.1	151.1	115	132	82	24	G 2	40	23.5	51	164	70	37	
		115.8	158.3			89.5	27	G 2 1/2				179	85		
115.8		158.3	89.5			27	G 2 1/2	179				85			

3/2-way Solenoid Valve with banjo coupler and bolt for direct mounting to pneumatic actuators

G 1/4"

- Robust pivot operated solenoid valve with manual override
- Direct and quick mounting on process valves
- Fast-acting
- For neutral gases and compressed air
- Long service life, even in non-lube conditions



In Type 0331 P the magnetic system and the Medium chamber are separated from one another by a separating diaphragm system. The valve is fast acting and has a long service life, even when run dry.

Technical Data

Orifice	DN2.0–3.0 mm
Body and seat materials	Brass
Coil material	Epoxy
Coil insulation class	H
Seal material	NBR, FKM, EPDM
Medium	
NBR	Neutral Medium such as compressed air, water, hydraulic oil
FKM	Hot air
EPDM (on request)	Oil and fat-free Medium
Medium temperature	
NBR	0 °C to +80 °C
FKM	0 °C to +90 °C
EPDM	– 30 °C to +90 °C
Ambient temperature	Max. +55 °C (min. temperature see Medium temperature)
Viscosity	Max. 37 mm ² /s
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (supplied as standard)
Protection class	IP65 with cable plug
Installation	as required, preferably with actuator upright
Response times	
AC opening/closing [ms]	8-15
DC opening/closing [ms]	10-20

Measured at valve outlet at 6 bar and +20 °C

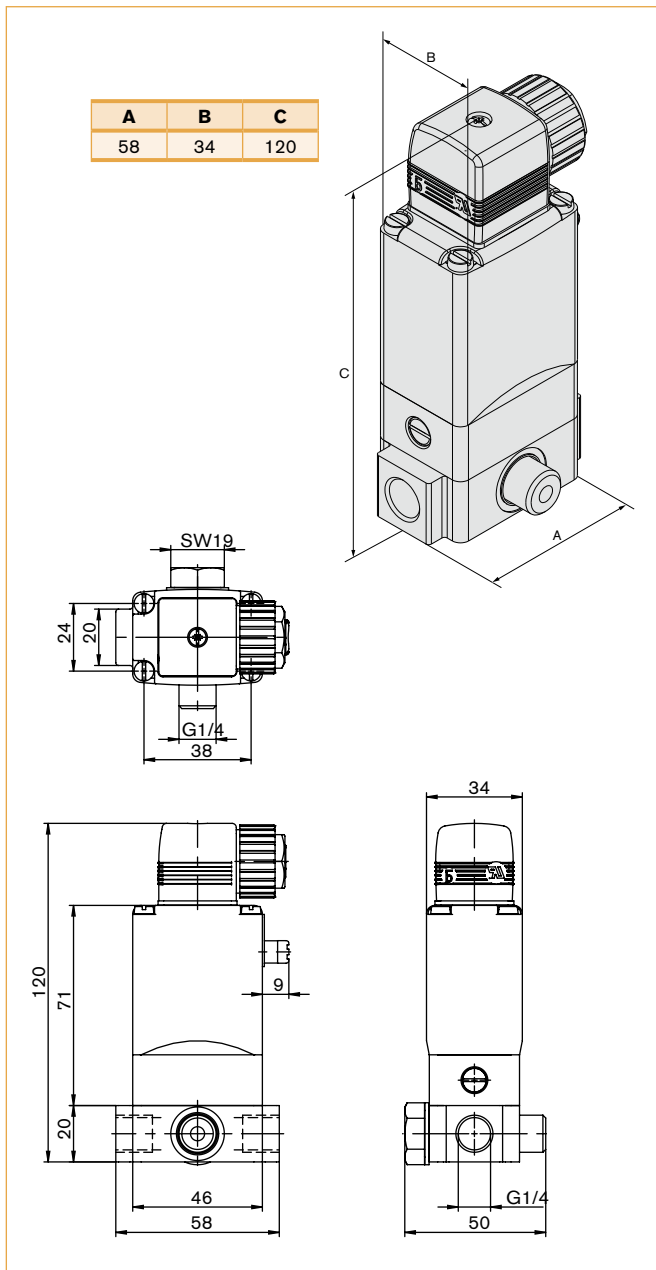
Opening: pressure build-up 0 to 90%, closing: pressure relief 100 to 10%

Power consumption			
Inrush		Hold (hot coil)	
AC [VA]	DC [W]	AC [VA/W]	DC [W]
30	8	15/8	8

Options

- Electrical position feedback
- Version without manual override

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

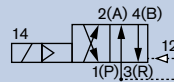
Circuit function	Port connection [Inch]	Orifice [mm]	Kv-value water [m ³ /h]	Pressure range [bar] ¹⁾	Seal material	Body material	Voltage/frequency [V/Hz]	Item no.
C 3/2-way valve NC	G 1/4	2.0	0.08	0 – 16	NBR	Brass	024/DC	041 191
			0.11				230/50	041 192
	G 1/4	3.0	0.14	0 – 10	EPDM	Brass	024/DC	042 462
			0.18		FKM	Brass	230/50	041 233
			0.14		NBR	Brass	024/DC	041 217
			0.18		024/50	041 219		
					230/50	041 228		

¹⁾ Please be aware that the above valves cannot be used for vacuum

4/2-way Solenoid Valve for pneumatic systems

G 1/4", DN6 mm

- Robust servo piston valve
- Manual override as standard
- Suitable for single valve or manifold mounting



Type 5413 is a pilot-operated 4/2-way solenoid valve with servo piston. A minimum differential pressure of 1 bar is needed for switch-over. The valve can be combined on one or two-channel connection plates with a common compressed air supply and exhaust air collected at valve batteries. Manual override as standard

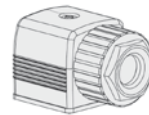
Technical data

Body material	Polyamide with pressed metal threaded inserts
Operating voltage	24V DC, 24/110/230 V/50-60 Hz
Electrical power consumption	AC inrush 11 VA, AC hold 6/2 VA/W, DC 2 W
Valve internals	Stainless steel
Voltage tolerance	±10%
Seal material	NBR
Duty cycle	ED 100%
Medium	neutral media, e.g. lubricated or non-lubricated compressed air
Electrical Connection	Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) Form A for cable plug, Type 2508 (not included)
Media temperature	-10 °C to 60 °C
Ambient temperature	Max. 55 °C
Type of protection	IP65 (with Cable Plug)
Installation	As required, preferably with actuator upright
Response times [ms]	
Opening	50 ms (Pressure rise 0 to 90%)
Closing	30 ms (Pressure drop 100 to 10%)
	Measurement at the valve outlet, at 6 bar and +20 °C

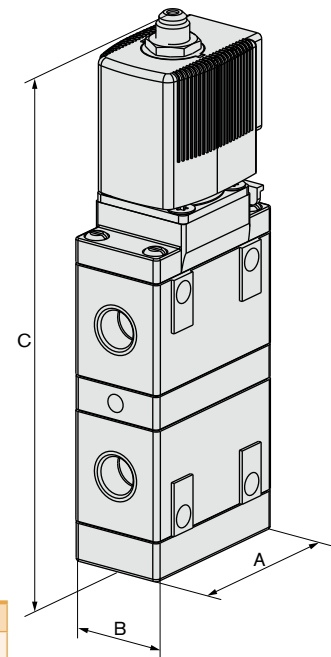
Options/Accessories

- Cable Plug Type 2508
- ATEX versions

Dimensions [mm] (see datasheet for further Details)

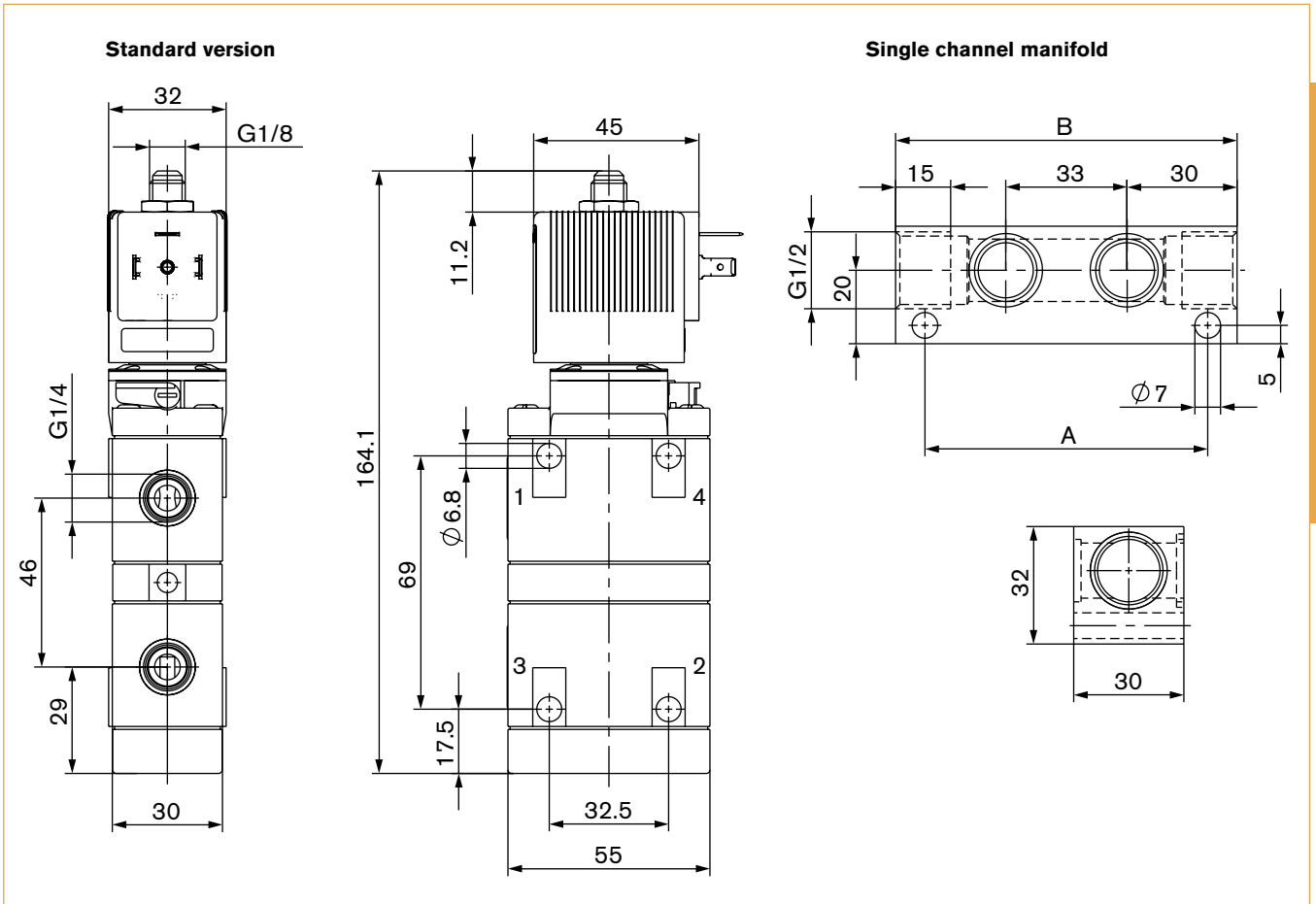


2508 Cable Plug
Form A not included



A	B	C
55	30	164.1

Dimensions [mm] (see datasheet for further Details)



5413

Ordering chart

Circuit function	Orifice DN [mm]	Port connection [inch]	Qn Value air [l/min]	Pressure range [bar]	Voltage / Frequency [V/Hz]	Item no.
Polyamide body with manual override						
G 4/2-way valve	6	G 1/4	900	1 – 10	024/DC	134 615
					024/50 - 60	134 616
					110/50 - 60	134 617
					230/50 - 60	134 618

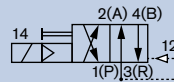
Accessories

No. of valves	Item no.
Single-channel connection plates (for common pressure connection) made of light metal (Al) with banjo bolt and seals	
2	005 811
3	005 717
4	005 843
5	005 776
6	005 718

4/2-way Solenoid Valve for pneumatic systems

G 1/8", DN3.0 mm

- Compact with integrated flow regulation
- Manual override as standard
- Tube, thread or flange connection
- Seat valve version
- Suitable as a single valve or manifold mounting



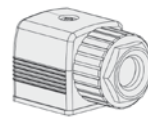
Type 5420 is a pilot-controlled 4-way seat valve with servo-diaphragms. A minimum differential pressure of 2.5 bar is needed for switch-over. The valve can be mounted on two-channel manifolds with a common pressure supply.

Technical data

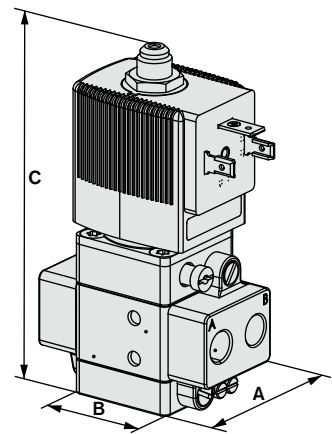
Orifice	DN3.0 mm
Body material	Polyamide
Valve internals	Stainless steel, plastic
Seal material	NBR
Medium	Neutral gases
Media temperature	-10 °C to +60 °C
Ambient temperature	Max. +55 °C
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical Connection	Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) Form A for Cable Plug Type 2508 (not included)
Electrical Power consumption	Inrush AC 11 VA Hold AC 6/2 VA/W, DC 2 W
Type of protection	IP65 (with Cable Plug)
Installation	As required, preferably with actuator upright
Response times 1)	Opening 30 ms Closing 20 ms

¹⁾ Measurement at the valve outlet, at 6 bar and +20 °C
Opening: Pressure rise 0 to 90%,
Closing: Pressure drop 100 to 10%

Dimensions [mm] (see datasheet for further Details)

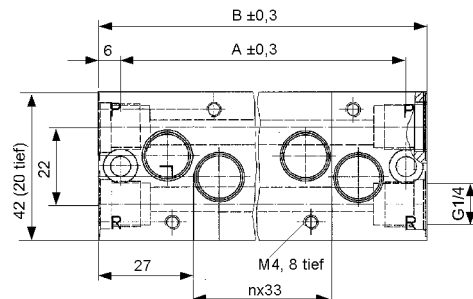


2508 Cable Plug Form A
not included



Size	A	B	C
G 1/8"	32	32	101

Side by side manifold



Ordering chart

Port connection 1 and 3	Port connection 2 and 4	Orifice [mm]	Qn Value air [l/min]	Pressure range [bar]	Item no. Voltage/Frequency [V/Hz]		
					024/DC	024/50-60	230/50-60
Corrosion-resistant body in polyamide, with 2 W coil, seal material NBR, without cable plug							
Circuit function G - 4/2-way valve							
G 1/8"	G 1/8"	3	200	2.5 - 10	134 622	134 623	134 625
Hose fitting 6/4 mm	Hose fitting 6/4 mm	3	200	2.5 - 10	134 630	134 631	134 633
Flange for manifold	G 1/8"	3	200	2.5 - 10	134 634	134 635	134 637
Flange for manifold	Hose fitting 6/4 mm	3	200	2.5 - 10	134 638	134 639	134 641

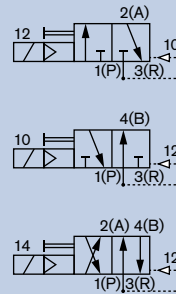
Accessories

No. of valve places	Item no.
Expandable manifolds from light metal (aluminium)	
2 valves	005 356
3 valves	005 357
4 valves	005 372
5 valves	005 373
6 valves	005 374
8 valves	006 553

Accessories for manifold	Item no.
Blanking plug for unused ports 1 or 4	005 390
Covering plate, complete, for unused valve positions on the manifolds	005 432
Connector nipple with O-ring for connecting manifold	005 049

3/2 and 4/2-way Solenoid Valve for pneumatic systems, single valve design

- Compact design
- Reduced power consumption
- Various pneumatic connections available
- With manual override
- Extreme switching reliability



Type 5470 E is available as a 3/2 and 4/2-way valve. The valves can be used as single valves in various application cases. Numerous pipe connection variants exist. The valves are generally equipped with a DC coil. When using an AC power source, use an appliance with a rectifier.

Power consumption

Corresponds to the effective coil power in the Ordering Table.

Technical Data

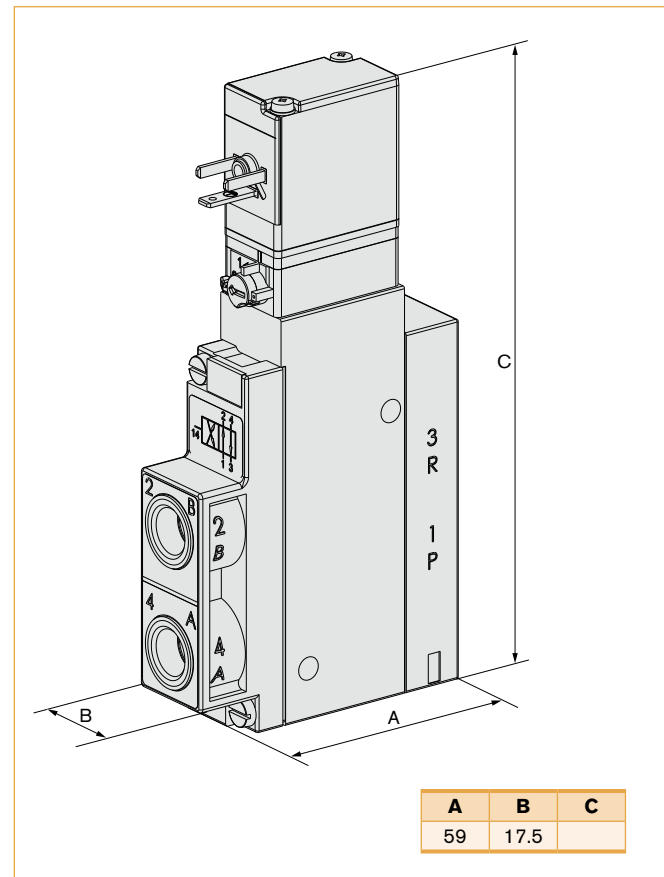
Orifice	DN4.0 mm
Body material	Polyamide (PA)
Valve internals	Ultramide
Seal material	NBR
Media	Compressed air, neutral gases
Media temperature	-10 °C to + 50 °C
Ambient temperature	-10 °C to + 55 °C
Port connection	G 1/8"
1 to 4 (versions)	Tube connection SL 6/4 mm (on request) Push-in connection Ø 6 mm NPT 1/8" (on request)
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) for cable plug, Form C (not included)
Protection class	IP65 with cable plug
Installation	As required, preferably with actuator upright
Response times ¹⁾	
DC Opening	15 ms
DC Closing	12 ms
AC Opening	15 ms (with cable plug rectifier)
AC Closing	20 ms (with cable plug rectifier)

¹⁾ Measured at valve outlet with air at 6 bar and +20 °C
Opening: Pressure rise 0 to 90%, Closing: pressure fall 100 to 10%

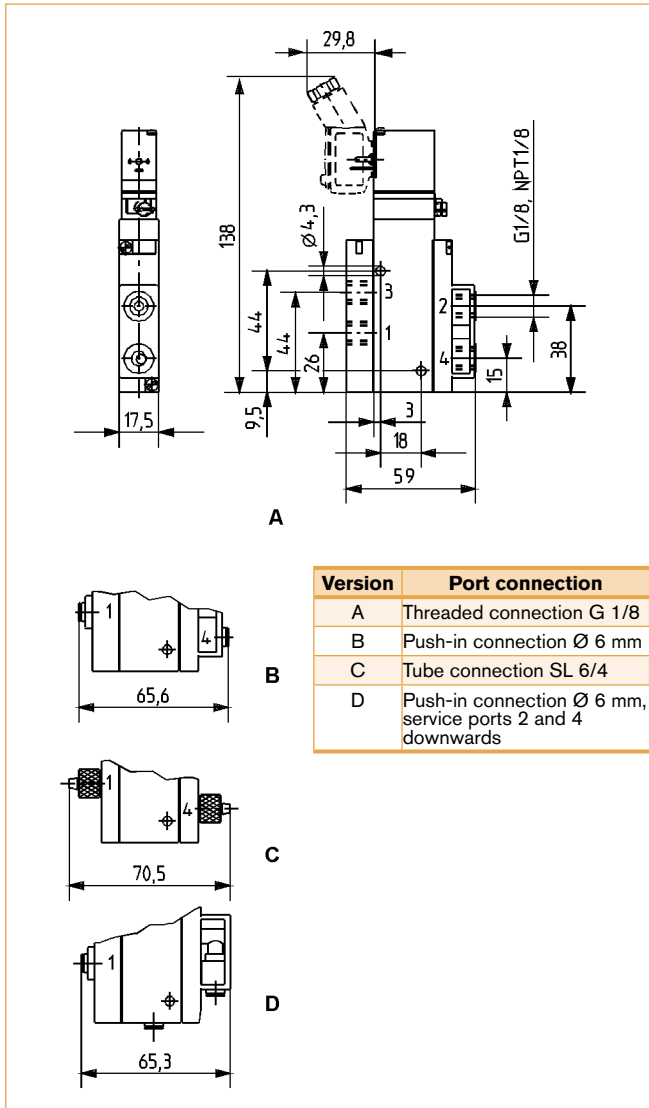
Options

- Type of protection: Explosion protection Ex i
- Without manual override

Envelope Dimensions [mm]



Envelope Dimensions [mm]



5470 E

Ordering Chart

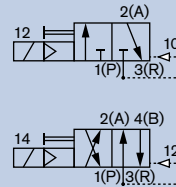
Circuit function	Port connection 1 and 3 as well as service ports 2 and 4 (see drawing for the versions)	Orifice [mm]	Q _{Nn} -value air [l/min]	Pressure range [bar]	Voltage/ frequency [V/Hz]	Power consumption [W]	Item no.
Single valves with different port connections, tag connector on the side, seal material NBR, without cable plug							
C 3/2-way valve normally closed	Push-in connection Ø 6 mm (Option B)	4.0	300	2 – 10	024/DC ¹⁾	2	136 755
	Service port 2 and 4 underneath (Option D)				220 – 240/DC ¹⁾	3	136 757
D 3/2-way valve normally open	Push-in connection Ø 6 mm (Option B)	4.0	300	2 – 10	024/DC ¹⁾	2	136 758
	Service port 2 and 4 below (Option D)				220 – 240/DC ¹⁾	3	136 760
G 4/2-way valve	G 1/8" (Option A)	4.0	300	2 – 10	024/DC ¹⁾	2	136 749
					220 – 240/DC ¹⁾	3	136 751
	Push-in connection Ø 6 mm (Option B)	024/DC ¹⁾	2	136 752			
		220 – 240/DC ¹⁾	3	136 754			

¹⁾ When using an AC power source, use an appliance with a rectifier.

Note - Cable plug must be ordered separately.

3/2 and 4/2-way Solenoid Valve for pneumatic systems, modular for block mounting

- With manual override
- Extreme switching reliability
- Flexible block compilation
- Reduced power consumption
- Different pneumatic connections available



mounting example

Type 5470 M is available as a 3/2 and 4/2-way valve. Different modes of action are used within a block. The valves are generally equipped with a DC coil. When using an AC power source, use an appliance with a rectifier.

Power consumption

Corresponds to the effective coil power in the ordering chart.

Technical Data

Orifice	DN4.0 mm
Body material	Polyamide (PA)
Valve internal	Ultramide
Seal material	NBR
Media	Compressed air, neutral gases
Media temperature	-10 °C to +50 °C
Ambient temperature	-10 °C to +55 °C
Port connection	G 1/8"
1 to 4 (Versions)	Tube connection SL 6/4 mm (on request) Push-in connection Ø 6 mm NPT 1/8" (on request)
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) for cable plug, Form C (not included)
Protection class	IP65 (with cable plug)
Installation	As required, preferably with actuator upright
Response times ¹⁾	
DC opening	15 ms
DC closing	12 ms
AC opening	15 ms (with rectifier plug)
AC closing	20 ms (with rectifier plug)

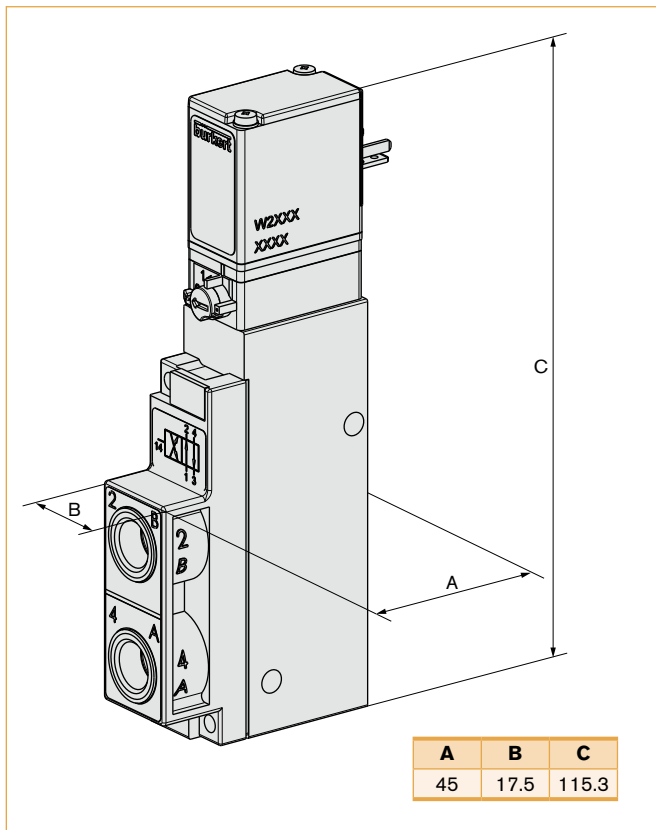
¹⁾ Measured at valve outlet at 6 bar and +20 °C

Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

Options

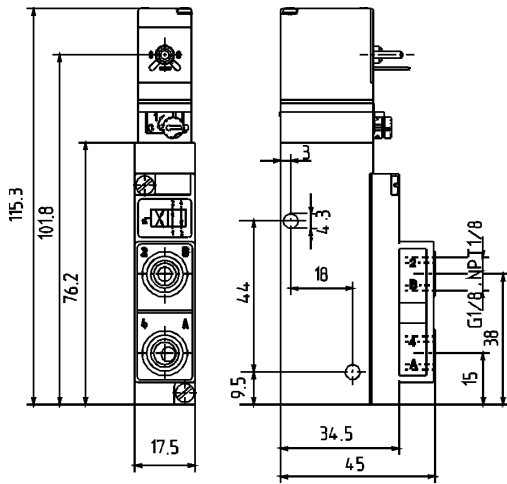
- Type of protection: Explosion protection Ex i
- Without manual override
- Normally open circuit function

Envelope Dimensions [mm] (see datasheet for details)

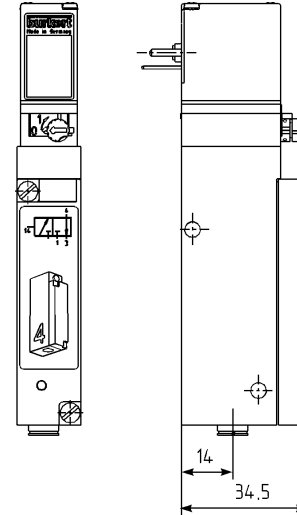


Envelope Dimensions [mm] (see datasheet for details)

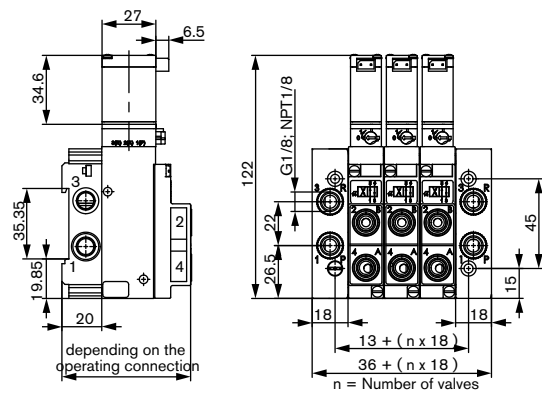
4/2-way (WWG), tag connector in the front



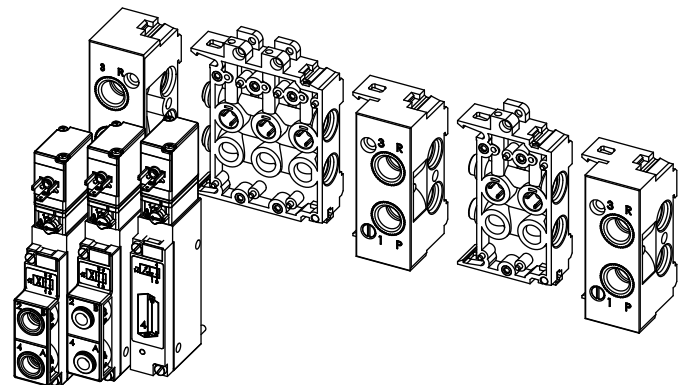
3/2-way (WWC), tag connector in the back



Block (valve assembly on pneumatic module, Type MP05)



Block assembly on pneumatic module, Type MP05



Ordering Chart

5470 M

Circuit function	Orifice [mm]	Q _{Nn} value air [l/min]	Pressure range [bar]	Service ports 4 and 2	Voltage/frequency [V/Hz]	Power consumption [W]	Item no. Tag connector in the rear for valve blocks Type 8640	Item no. Tag connector in the front for valve blocks
C 3/2-way valve normally closed	4.0	300	2 - 8	Push-in connection Ø 6 mm, underneath	024/DC 1)	1	132 479	135 203
			2 - 10		024/DC 1)	2	133 148	135 204
					220 - 240/DC 1)	3	–	132 953
G 4/2-way valve	4.0	300	2 - 8	Push-in connection Ø 6 mm, in front	024/DC 1)	1	–	135 205
			2 - 10		024/DC 1)	2	132 487	135 206
					220 - 240/DC 1)	3	–	132 955
			2 - 8	Push-in connection Ø 6 mm, underneath	024/DC 1)	1	132 489	135 207
			2 - 10		024/DC 1)	2	133 150	135 208
					220 - 240/DC 1)	3	–	132 957
			2 - 8	Threaded port G 1/8", in the front	024/DC 1)	1	–	135 211
			2 - 10		024/DC 1)	2	–	135 212
					220 - 240/DC 1)	3	–	132 959

1) When using an AC power source, use an appliance with a rectifier.

Tag connector at the rear: over the supply ports 1 and 3.

No.	Unit	Item no.
Example for Type 5470 with Type MP05		
1	Connection module right, G 1/8"	133 177
1	Pneumatic basic module, 2 valves	132 516
1	Pneumatic basic module, 3 valves	132 517
1	Connection module left, G 1/8"	133 175
5	Valves	135 203

Ordering Chart

Version	Item no.
Type MP05 pneumatic modules	
Connection module right, G 1/8"	133 177
Connection module right, NPT 1/8"	133 178
Connection module right, G 1/4"	132 514
Connection module right, NPT 1/4"	132 515
Pneumatic basic module, 2 valves	132 516
Pneumatic basic module, 3 valves	132 517
Pneumatic basic module, 2 valves with check valve	132 518
Pneumatic basic module, 3 valves with check valve	132 519
Connection module left, G 1/8"	133 175
Connection module left, NPT 1/8"	133 176
Connection module left, G 1/4"	132 512
Connection module left, NPT 1/4"	132 513

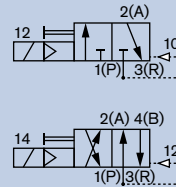
5470 M

Accessories

Description	Features	Item no.
Type MP05 pneumatic modules		
Connection module G 1/8"	intermediate supply	643 019
Blanking plug	G 1/8"	631 019
Blanking plug	G 1/4"	631 020
Blanking plug for push-in connection	Ø 6 mm	015 397
Pressure rings for push-in connection	Ø 6 mm	015 401
Covering plate (black)	for unused valve positions	643 223
Indicating tags	64 pieces	623 816

3/2 and 4/2-way Solenoid Valve for pneumatic systems, for self-connecting block mounting

- Valve discs individually self-connecting
- With manual override
- 3-way version with check valve
- Extreme switching reliability
- Flexible block compilation



Type 5470 R is available as a 3/2 and 4/2-way valve. The valves can be mounted together individually using the module flange. They can be snapped together with the connection modules to form valve blocks.

Power consumption

Corresponds to the effective coil power in the ordering chart.

Technical Data

Orifice	DN4.0 mm
Body material	Polyamide (PA)
Valve internal	Ultramide
Seal material	NBR
Media	Compressed air, neutral gases (5 µm filtering)
Media temperature	-10 °C to +50 °C
Ambient temperature	-10 °C to +55 °C
Supply port 1 and 3	Module flange
Service port 2 and 4 (Versions)	Threaded port G 1/8" Tube connection SL 6/4 mm (on request) Push-in connection Ø 6 mm Threaded port NPT 1/8" (on request)
Voltage tolerance	± 10%
Duty cycle	100% continuous operation
Electrical connection	Tag connector above acc. to DIN EN 175301-803 (previously DIN 43650) for cable plug, Form C and side by side cable plug Type 1057-SA and rectangular plug (5.08 mm) Type 2505 (not included)
Protection class	IP65 with cable plug IP20 with Type 1057-SA or IP40 with rectangular plug (5.08 mm)
Installation	As required, preferably with actuator upright
Response times ¹⁾	
DC opening	15 ms
DC closing	12 ms
AC opening	15 ms
AC closing	20 ms

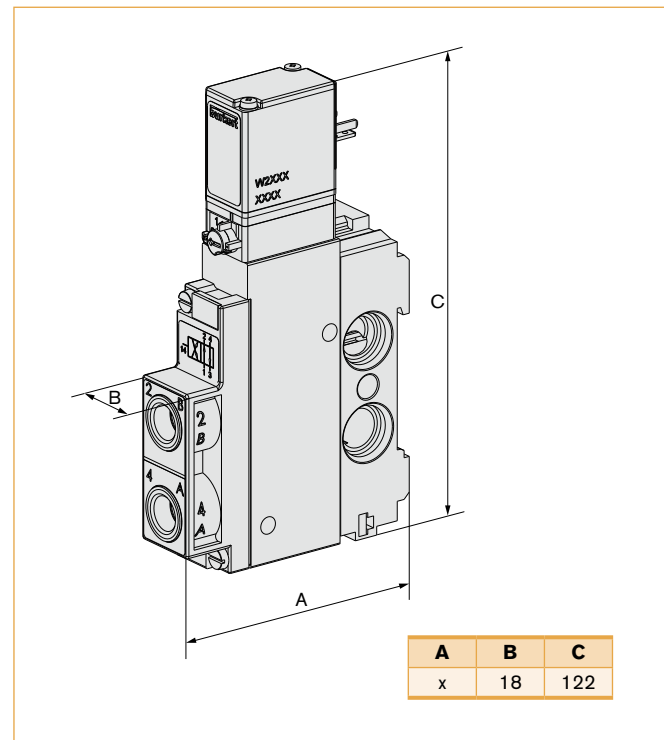
¹⁾ Measured at valve outlet at 6 bar and +20 °C

Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

Options

- Type of protection: Explosion protection Ex i
- Without manual override
- Normally open circuit function

Envelope Dimensions [mm]



Ordering Chart

5470 R

Circuit function	Orifice [mm]	Q _{Nn} value air [l/min]	Pressure range [bar]	Service port 2 and 4	Voltage/frequency [V/Hz]	Power consumption [W]	Item no. DC coil ■■	Item no. UC coil ■■■
Extendable single valve with module flange for supply ports 1 and 3, tag connector above, supplied without cable plug								
C 3/2-way valve, normally closed ■	4.0	300	2-10	Push-in connection Ø 6 mm below with check valve (Option A)	024/DC/UC	2	136 872	–
					220-240/DC/UC	3	136 874	145 971
G 4/2-way valve	4.0	300	2-10	G 1/8" at side (Option E)	024/DC/UC	2	136 881	–
					220-240/DC/UC	3	136 883	145 980
				G 1/8" at side with one-way flow restrictor (Option B)	024/DC/UC	2	136 884	–
					220-240/DC/UC	3	136 886	145 983
				Push-in connection Ø 6 mm at side (Option F)	024/DC/UC	2	136 887	–
					220-240/DC/UC	3	136 889	145 986
Push-in connection Ø 6 mm underneath (Option C)	024/DC/UC	2	136 890	–				
	220-240/DC/UC	3	136 892	145 989				

■ 3/2-way models with non-return valve in the module flange

■■ Only for direct current operation (DC), for alternating current (AC), place a cable plug with a rectifier upstream

■■■ For universal current operation (UC = DC or AC); rectifier, varistor and LED integrated into the coil

Circuit function	Orifice [mm]	Q _{Nn} value air [l/min]	Pressure range [bar]	Service port 2 and 4	Voltage/frequency [V/Hz]	Power consumption [W]	Item no. DC coil
Extendable single valves with module flange for supply ports 1 and 3, with rectangular plug							
C 3/2-way valve, normally closed	4.0	300	2-10	Push-in connection Ø 6 mm under with RSV (Option A) ■	024/DC	2	145 993
G 4/2-way valve	4.0	300	2-10	G 1/8" with 1-way restrictor valve (Option B)	024/DC	2	145 997
				Push-in connection Ø 6 mm on side (Option F)	024/DC	2	145 998
				Push-in connection Ø 6 mm underneath (Option C)	024/DC	2	145 999

■ RSV = non-return valve

Accessories

Version	Port connection	Item no. DC coil
Connector modules and accessories for valve blocks		
Connector module, left	G 1/8"	133 175
	G 1/4"	132 512
	Push-in connection Ø 8 mm	623 755
	Push-in connection Ø 10 mm	623 762
Connector module, right	G 1/8"	133 177
	G 1/4"	132 514
	Push-in connection Ø 8 mm	623 770
	Push-in connection Ø 10 mm	623 784
Intermediate supply	G 1/8"	627 742
	G 1/4"	631 288
	Push-in connection Ø 8 mm	631 287
	Push-in connection Ø 10 mm	631 290
Blanking plug	G 1/8"	631 019
	G 1/4"	631 020
Blanking plug	Ø 6 mm	015 397
	Ø 8 mm	900 065
Covering plate	for unused valve positions	643 223

5470 R

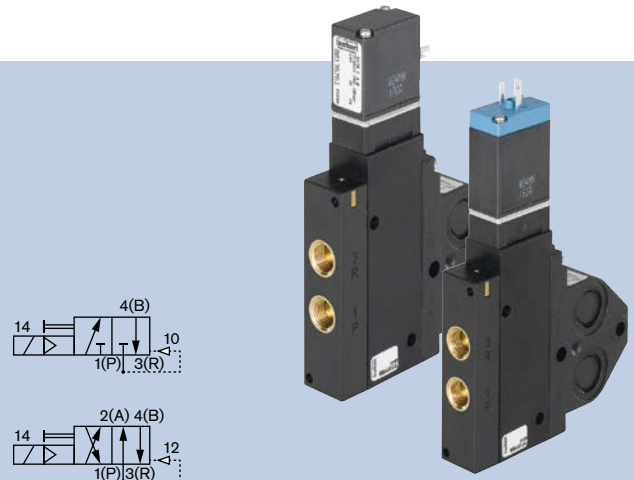
Version	Item no. DC coil
Additional accessories	
Extendable cable plug Type 1057-SA, IP20, with looped-through neutral and protective conductor (only for 24 V)	647 357
Protective conductor and neutral cable kit	629 262
Control line with AMP plug, 540 mm wires	629 181
Rectangular connector, matrix 5.08 mm, with 3 m cable	133 486
Rectangular connector, matrix 5.08 mm, with 300 mm wires	644 068
Rectangular connector, matrix 5.08 mm, with 2 single contacts	644 067
Standard 300 mm rail for 8-12-way block with intermediate supply (IS) or for 8-14-way block without IS	640 789
Standard 498 mm rail for 17-22 block with 2 intermediate supply (IS) or for 18-23 block with 1 IS	630 579

3/2- and 4/2-way NAMUR Solenoid Valve for pneumatic

5470 NAMUR
5470 NAMUR Ex i

DN4 mm

- Extreme switching reliability
- Plastic version
- Reduced power consumption
- With manual override



The NAMUR solenoid valves, Type 5470 NAMUR and Type 5470 NAMUR Ex i, are equipped with a NAMUR standard flange for easy direct mounting on process actuator. The devices of this series are made from high quality plastics.

Technical data

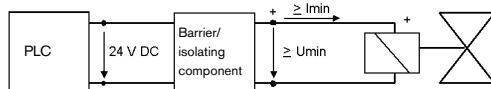
Pressure range	2-10 bar Standard, 2-8 bar Ex i
Media temperature	-10 °C to +50 °C
Ambient temperature	+55 °C max.
Body material	Polyamide
Connections	G 1/4" (Brass nickel-plated for Connection 1 and 3)
Orifice	4 mm
Seal material	NBR
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector according to DIN EN 175301 (previously DIN 43650) for cable plug Form C (not included)
Type of protection	IP65 (NEMA 4) with Cable Plug
Response times ¹⁾	
Standard	Opening 50 ms, Closing 12 ms
Ex i	Opening 60 ms, Closing 50 ms

¹⁾ Measured at valve outlet at 6 bar and +20°C acc. to ISO 12238.

Opening: Pressure rise 0 to 90%,
Closing: Pressure drop 100 to 10%

Note

The units may only be used in explosive atmospheres in the manner approved by the Federal Institute of Physics and Technology (PTB), i.e., the permissible maximum electrical values must be complied with. Suitable barriers and isolating modules are available for this.

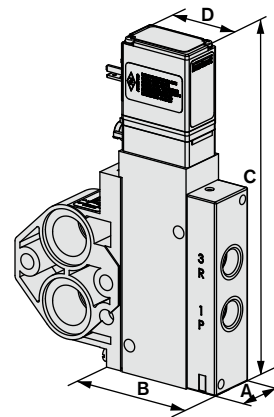


The valve is intended for operation on 24V DC outputs via the intermediate switching of a corresponding intrinsically-safe operating resource (isolating module or barrier). If required, request the "Recommended Barrier and Isolating Module" data sheet.

Options

- Without manual override
- SIL certificate

Dimensions [mm] (see datasheet for further Details)



Size	A	B	C	D
G 1/4"	18	55	115.3	37

Electrical data - coil AC10 Ex i

Type of protection	II 2G Ex ia IIC T6 PTB 01 ATEX 2175	
Functional values for valve switching function	at +20 °C	at +55 °C
Minimum switching current	29 mA	29 mA
Nominal resistance of the coil	320 Ω	360 Ω
Minimum terminal voltage	9.3 V	10.4 V
Permissible maximum values acc. to certificate of conformity		
U _i	35 V	
I _i	0.9 A	
P _i /T _{umg. max.}	0.9 W/+55 °C	

Ordering chart

Orifice [mm]	QNn Value air [l/min]	Pressure [bar]	Port connection	Item no.			Ex i
				024/DC [2 W]	110-120/DC [3 W]	220-240/DC [3 W]	
3/2-way with NAMUR flange, WWC (pilot operated, output 4 normally vented, output 2 recirculated)							
4.0	300	2 - 10 (at Ex i 2 - 8)	G 1/8" (Connections 1 and 3)	136 761	136 762	136 763	139 224
			Push-in connection Ø 6 mm (Connections 1 and 3)	136 764	–	136 766	139 402
4/2-way with NAMUR flange, WWG (pilot operated, output 4 normally pressurized, output 2 vented)							
4.0	300	2 - 10 (at Ex i 2 - 8)	G 1/8" (Connections 1 and 3)	136 767	136 768	136 769	139 407
			Push-in connection Ø 6 mm (Connections 1 and 3)	136 770	136 771	136 772	139 408
			G 1/8" (Connections 1 and 3), NAMUR flange with one-way flow restrictor (Connections 2 and 4)	136 773	136 774	136 775	–

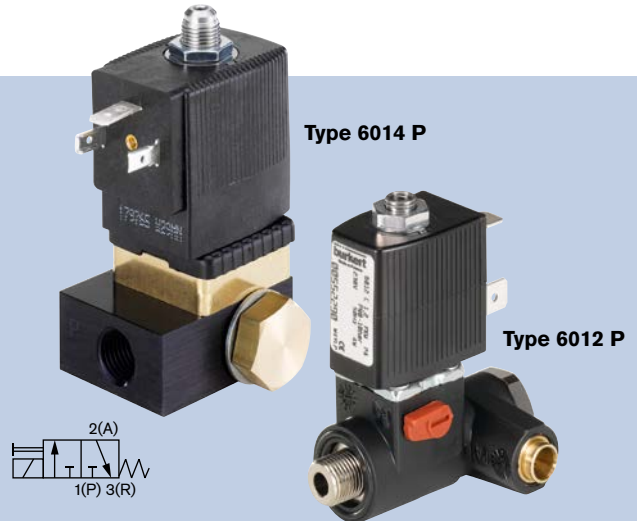
5470 NAMUR
5470 NAMUR Ex i

Direct mounting pilot valve for pneumatic actuators

6012 / 6014 Pilot

G 1/8" or G 1/4"

- Simple to connect to valve and air supply
- Low power
- Tough and reliable
- Manual override as standard



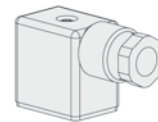
Direct-acting, 3/2-way, normally closed solenoid valve is plunger operated and designed to fit simply and securely to process valves. Type 6012 P has a compact design and a 1.2 mm orifice. Type 6014 P with a higher air capacity because of the 2 mm orifice.

Technical Data

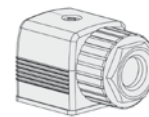
	6012 P	6014 P
Pressure range	0-10 bar max.	0-10 bar max.
Temperature media	-10 °C to +60 °C	-10 °C to +60 °C
Ambient temperature	-10 °C to +40 °C	-10 °C to +40 °C
Body material	Polyamide	Brass and aluminium
Banjo bolt material	Brass, nickel plated	Brass, nickel plated
Seal material	Banjo screw: NBR Valve: FKM	FKM
Coil material	Epoxy (Class H)	Polyamide
Voltage tolerance	± 10%	± 10%
Power consumption	DC: 4 W, AC: 9 VA (inrush), 6 VA (hold)	DC: 8 W, AC: 24 VA (inrush), 17 VA (hold)
Protection class	IP65 (with cable plug)	IP65, NEMA 4 (with cable plug)
Electrical connection	Cable plug, Type 2507, Form B acc. to industry standard (not included)	Cable plug, Type 2508, Form A acc. to DIN EN 175301-803 (not included)
Response times ¹⁾		
DC opening	7-12 ms	ca. 18 ms
DC closing	7-12 ms	ca. 22 ms
AC opening	7-10 ms	ca. 18 ms
AC closing	9-12 ms	ca. 22 ms

¹⁾ Measured at valve outlet at 6 bar and +20 °C
Opening: pressure rise 0 to 90%, closing: pressure drop 100 to 10%

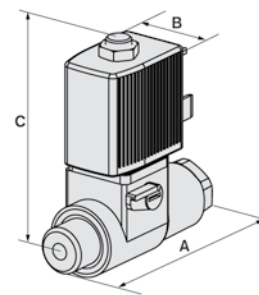
Envelope Dimensions [mm] (see datasheet for details)



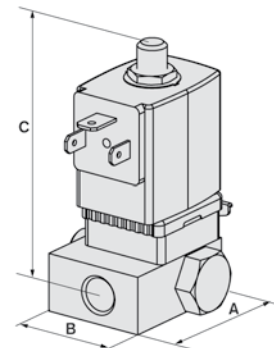
2507 cable plug
Form B
(not included)



2508 cable plug
Form A
(not included)



Type 6012 P



Type 6014 P

Type	A	B	C
6012 P	47	20	52
6014 P	45	36	79

Options

6012 P

- Normally open
- Cable plug with LED and varistor
- Other voltages on request

6014 P

- Normally open
- Cable plug with LED and varistor
- Hazardous area approvals

Ordering Charts

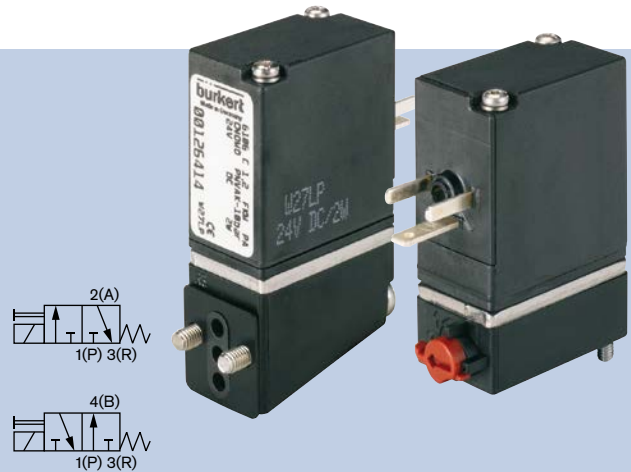
Circuit function	Port (P)	Port (A) [inch]	Orifice [mm]	QNn [l/min]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
Type 6012 P								
C Normally closed 3 way configuration	6 mm tube	G 1/8	1.2	48	0 - 10	552 287	552 288	552 290
	6 mm tube	G 1/4	1.2	48	0 - 10	552 283	552 284	552 286
	G 1/8"	G 1/8	1.2	48	0 - 10	552 299	552 300	552 302
	G 1/4"	G 1/8	1.2	48	0 - 10	552 295	552 296	552 298
	G 1/4"	G 1/4	1.2	48	0 - 10	552 291	552 292	552 294

Circuit function	Port (P) [inch]	Port (A) [inch]	Orifice [mm]	QNn [l/min]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
Type 6014 P								
C Normally closed, 3 way configuration	G 1/4	G 1/4	2	120	0 - 10	424 103	424 104	424 107

3/2-way Solenoid Valve for pneumatic systems

6106

- Direct-acting
- High cycling rate
- Reduced power consumption
- With manual override
- CNOMO and Bürkert flange interface



The direct-acting rocker solenoid valve, Type 6106, is especially designed for neutral gaseous mediums.

The valves are generally equipped with a DC coil. When using an AC power source, use an appliance with A rectifier.

The heat input in the medium is minimal, because the housing is separated from the coil by a stainless steel plate.

The valves can be mounted directly or also single or manifold mounted. They are used for dosing, filling, mixing and distributing small quantities of medium.

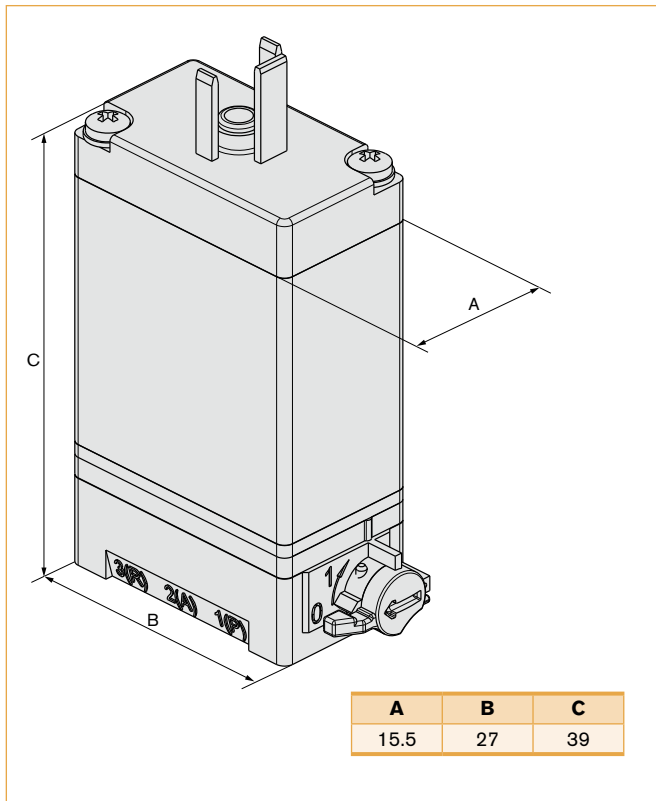
Technical Data

Orifice	DN0.9 and DN1.2 mm, other on request
Body material	PA (polyamide)
Seal material	FKM
Media	Compressed air, neutral gases (5 µm filtering) technical vacuum
Media temperature	-10 °C to +55 °C
Ambient temperature	-10 °C to +55 °C
Port connection	Bürkert flange below, CNOMO flange sideways
Operating voltages	220-240 V DC, 24 V DC, other voltages on request
Voltage tolerance	±10%
Power consumption	see ordering chart
Cycling rate	Approx. 1000/min
Duty cycle	100% continuous rating
Electrical connection	Tag connector sideways acc. to DIN EN 175301-803 (previously DIN 43650) for cable plug, Form C, other options on request (not included)
Protection class	IP20 with tag connector, IP65 with cable plug
Installation	As required, preferably with actuator upwards
Response times	acc. ISO 12238:2001; Measured at valve outlet at 6.3 bar and + 20 °C
Opening	Approx. 25 ms (pressure rise 0 to 10%)
Closing	Approx. 25 ms (pressure drop 100% to 10%)

¹⁾ Measured at valve outlet at 6.3 bar and + 20 °C

Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

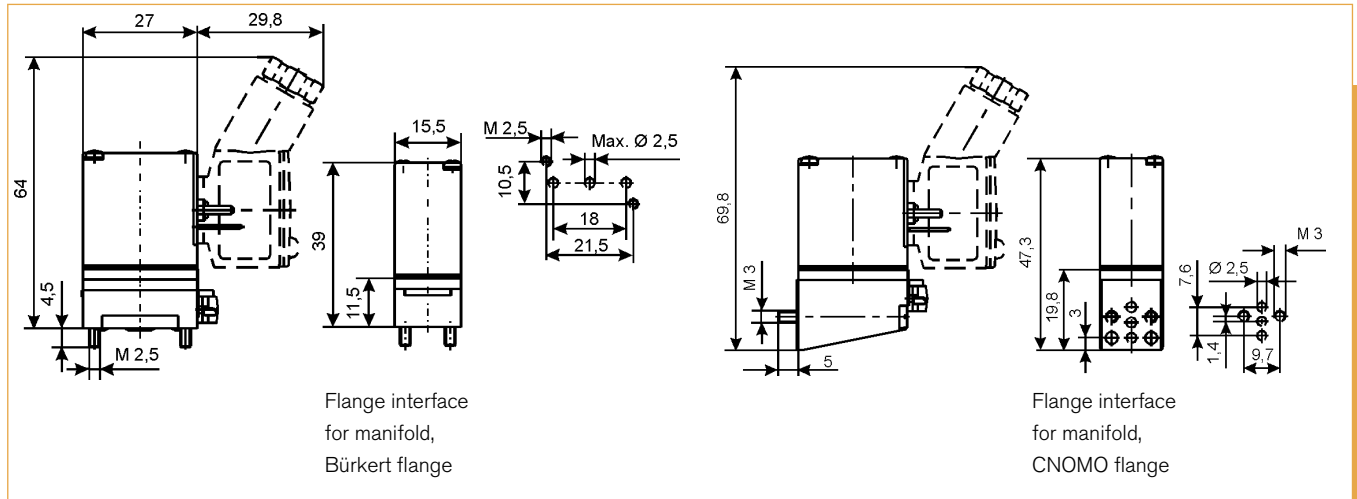
Envelope Dimensions [mm]



Options

- ATEX, UL/CSA approvals
- Available without manual override

Envelope Dimensions [mm]



Ordering Chart

Circuit function	Port connection	Orifice [mm]	Qn value air 1 → 2 [l/min]	Qn value air 2 → 3 [l/min]	Pressure range [bar]	Circuit function	Power consumption [W]	Item no. per voltage/frequency [V/Hz]	
								024/DC ¹⁾	220-240/DC ¹⁾
All valves with manual override, tag connector sideways, mounting screws and flange seal, without cable plug									
C 3/2-way valve normally closed	Bürkert	0.9	22	25	Vac.- 8	monostable	1	126 417	-
	Bürkert	1.2	40	47	Vac.-10		2	126 411	-
							3	-	126 413
D 3/2-way valve normally open	Bürkert	0.9	22	25	Vac.- 8	1	126 421	-	
	Bürkert	1.2	40	47	Vac.-10	2	126 419	-	
C 3/2-way valve normally closed	CNOMO	0.9	22	25	Vac.- 8	1	126 418	-	
		1.2	33	38	Vac.-10	2	126 414	-	
						3	-	126 416	
D 3/2-way valve normally open	CNOMO	0.9	22	25	Vac.- 8	1	126 422	-	
		1.2	33	38	Vac.-10	2	126 420	-	

¹⁾ When using an AC power source, use an appliance with a rectifier.

Unit	Features	Item no.
Single manifolds from aluminium, black anodised		
Single manifold	for Bürkert flange, 16 mm width, M5	623 873
	for Bürkert flange, 16 mm width, G 1/8"	634 917
	for Cnomo flange, 16 mm width, M5	639 885
Single module with plug-in coupling	for single or series connection of valves with Bürkert flange	643 566
Complete mounting kit	for standard rail TS 35 x 7.5 mm	629 254
Blanking plate kit	for unused valve positions on Bürkert plates	629 327
	for unused valve positions on Cnomo plates	639 695
Banjo coupler with banjo bolts	G 1/8, with tube hose connector Ø 6 mm, for pilot valve	781 126
	G 1/4, with tube hose connector Ø 6 mm, for pilot valve	781 735

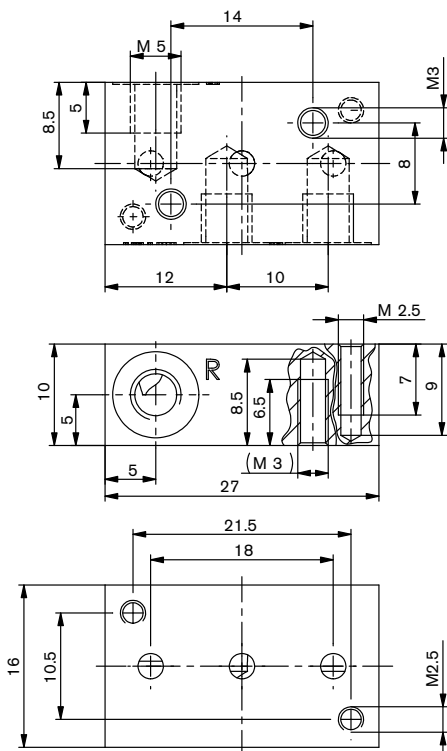
Accessories

No. of valve modules	Dimensions A [mm]	Dimensions B [mm]	Item no. G 1/8" and M5	Length L [mm]	Item no. G 1/8" and M5
Multiple manifolds made from aluminium					
	Bürkert flange, width/station 18 mm			CNOMO flange, width/station 16.5 mm	
2	60	18	658 695	33	639 887
3	78	36	658 696	49.5	639 862
4	96	54	658 697	66	639 863
5	114	72	658 698	82.5	639 864
6	132	90	658 699	99	639 865
8	168	126	658 700	132	639 866
10	204	162	658 701	165	639 867
12	240	198	658 703	198	639 868

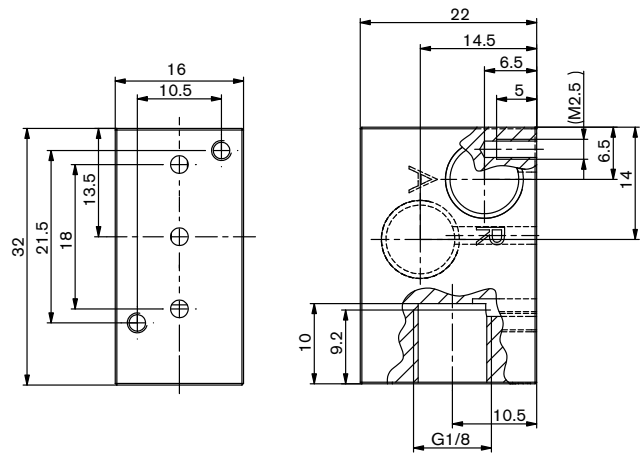
6106

Dimensions single manifolds for Bürkert flange [mm]

Manifold in aluminium,
black anodised, port connection M5

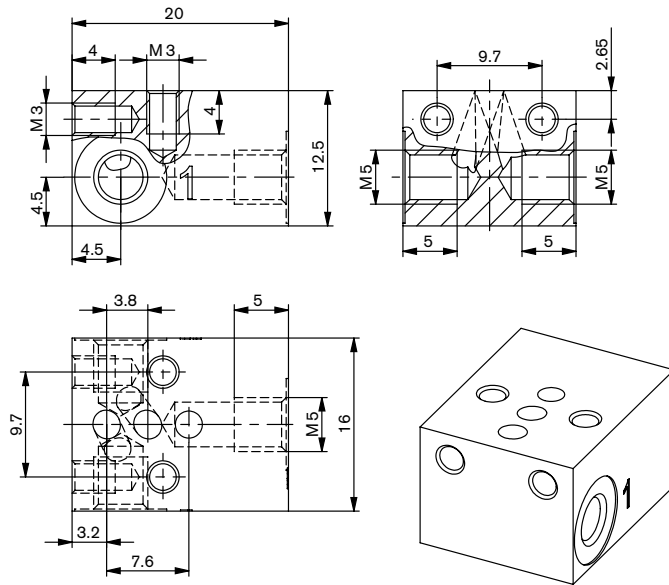


Manifold in aluminium,
black anodised, port connection G 1/8

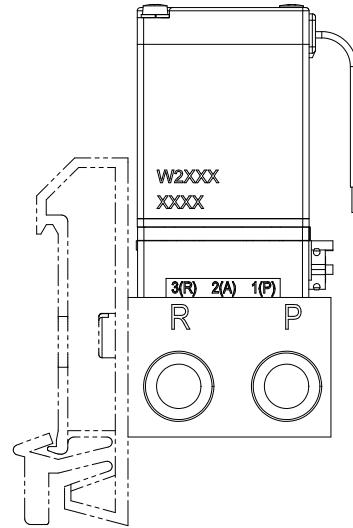


Dimensions single manifolds for CNOMO flange [mm]

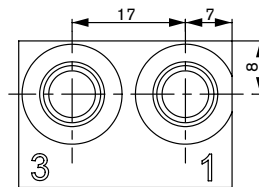
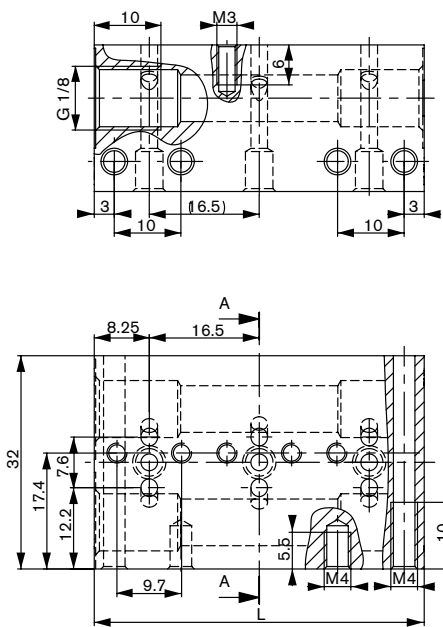
Manifold for CNOMO flange,
black anodised, port connection M5



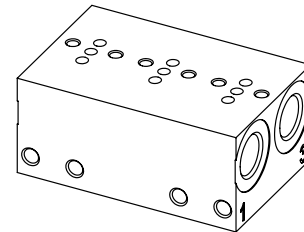
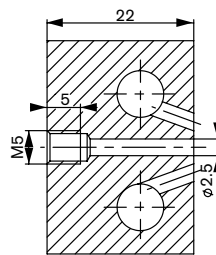
Mounting kit, complete for standard rail
TS35 x 7.5 mm



Dimensions multiple manifolds CNOMO flange 3-way [mm]



Manifold in aluminium, black anodised,
port connection G 1/8 and M5

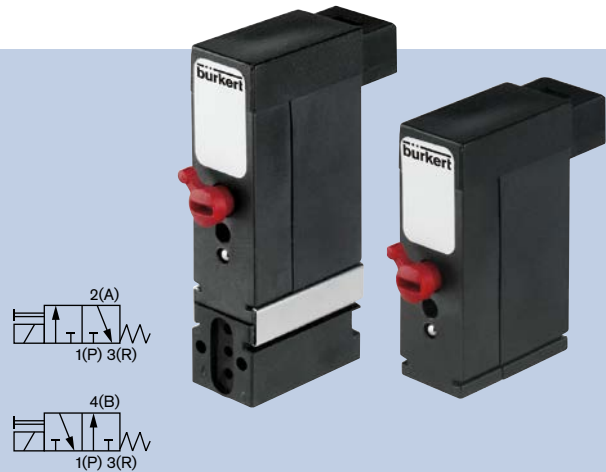


Manifold	L
2-way	33
3-way	49.5
4-way	66
5-way	82.5
6-way	99
8-way	132
10-way	165
12-way	198
Blanking plate kit	for non-configured valve positions

3/2-way Flipper Solenoid Valve for gases and liquids

6144

- Separated medium
- 10 mm width per station
- Direct-acting
- Low power consumption
- Sub-base connection
- With manual override



In addition to its exceptional performance characteristics, the flipper principle of Type 6144 is especially marked by its very low switching noise and its low wear level. Furthermore, integrated medium separation enables use above and beyond pneumatic applications. Depending on the case of operation, various flange connections are available that are suitable for both individual and block mounting.

Installation advice: The valve must have a minimum distance of 5 mm from other ferromagnetic materials in order to avoid malfunctioning during operating conditions.

Technical Data

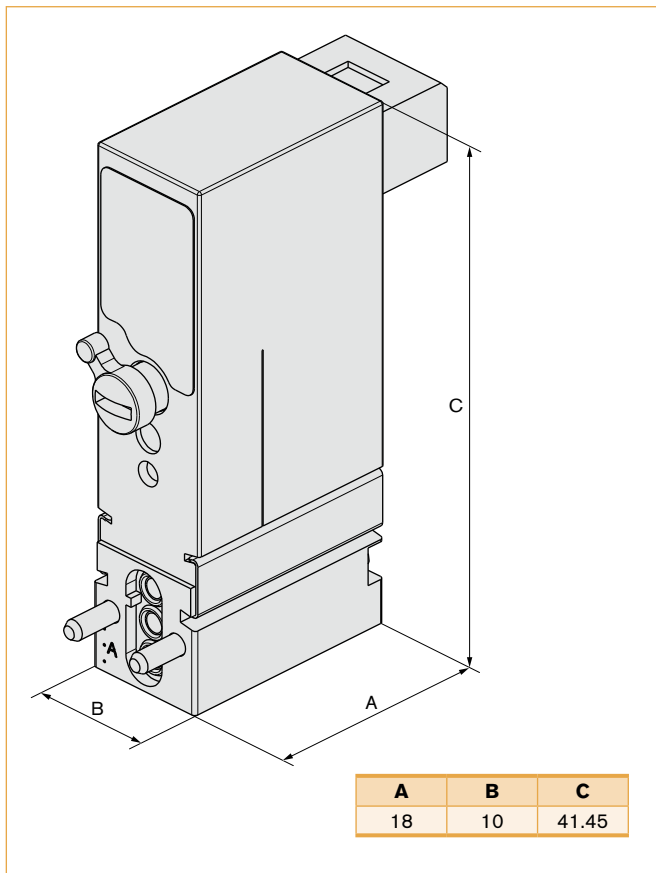
Body material	PPS (Polyphenylensulfide)
Seal material	FKM
Media	Compressed air lubricated, oil-free or dry; neutral gases and liquids (5 µm filtering); technical vacuum
Media temperature	0 °C to +55 °C
Ambient temperature	0 °C to +55 °C
Port connection	<ul style="list-style-type: none"> • Bürkert flange • Lateral flange
Electrical connection	Rectangular plug as standard on request: <ul style="list-style-type: none"> • Circular plug M8x1 • Flying lead 0.2 mm², 300 mm • Blank connector (5.08 mm)
Operating voltage	24 V DC ¹⁾ Further voltages on request
Voltage tolerance	±10% ²⁾
Nominal power	0.8 W
Switching function	Monostable Bistable (impulse) on request
Duty cycle	100% continuous rating
Installation	As required, preferably with actuator upright; 5 mm minimum distance to ferromagnetic materials
Insulation class	3 acc. VDE 0580
Protection class	IP40
Cycling rate	ca. 1000/min
Electrical control	with SPS possible
Response times ³⁾	
Open	ca. 8 ms (Standard)
Close	ca. 10 ms (Standard)

¹⁾ Battery voltage; observe polarity as shown on top of the valve

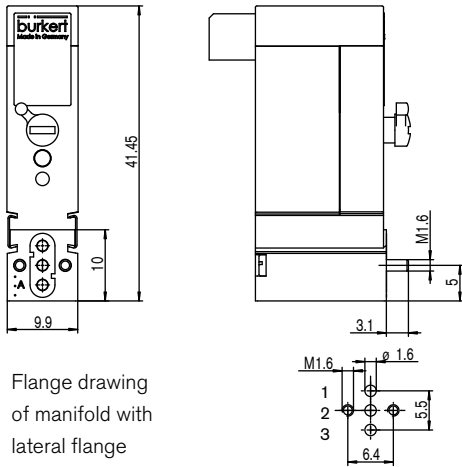
²⁾ Max. residual ripple allowed

³⁾ Measured at valve outlet at 6 bar and +20 °C acc. to DIN ISO 12238
Opening: pressure rise 0 to 10%, closing: pressure drop 100 to 10%

Envelope Dimensions [mm]

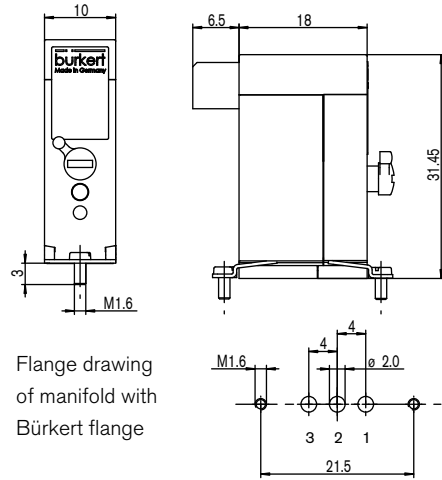


Type 6144 with lateral flange



Flange drawing of manifold with lateral flange

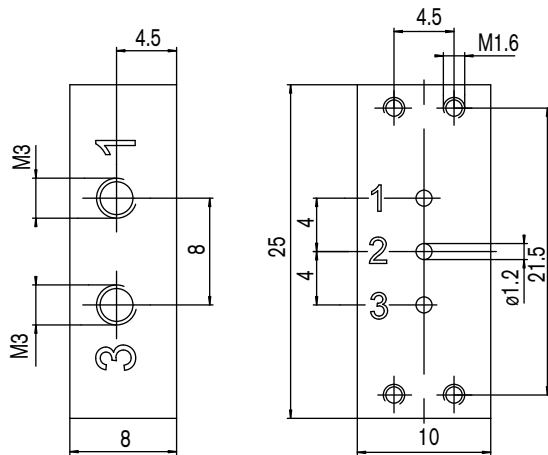
Type 6144 with Bürkert flange



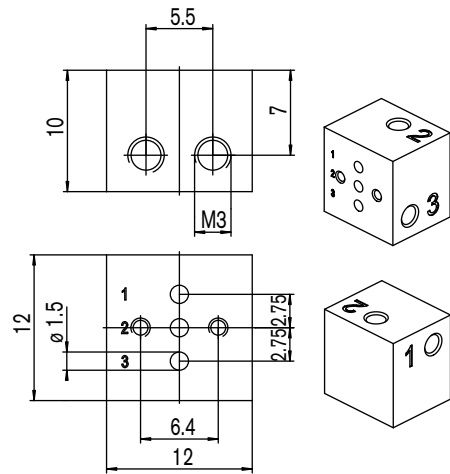
Flange drawing of manifold with Bürkert flange

The valve can optionally be delivered with manual override on the left or right hand side (standard: opposite the electrical connection).

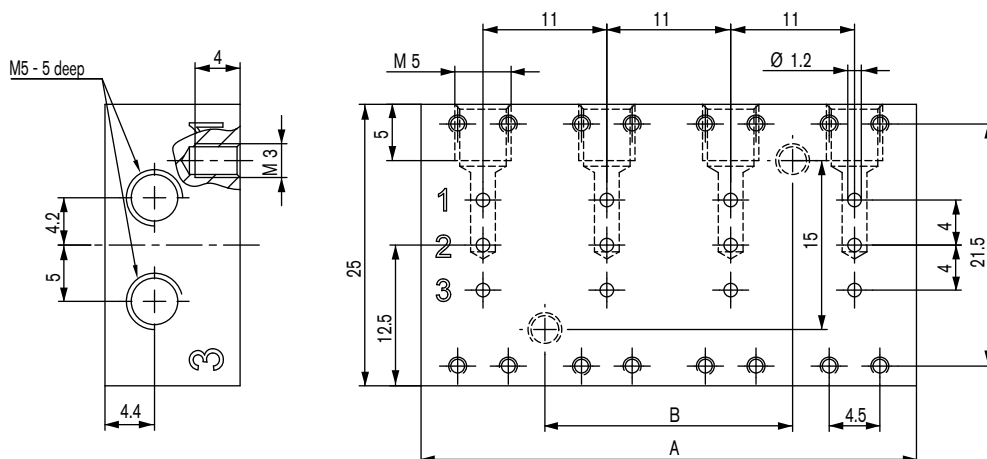
Single manifold for Bürkert flange
Material: Aluminium, M3 threaded



Single manifold for lateral flange
Material: Aluminium, M3 threaded

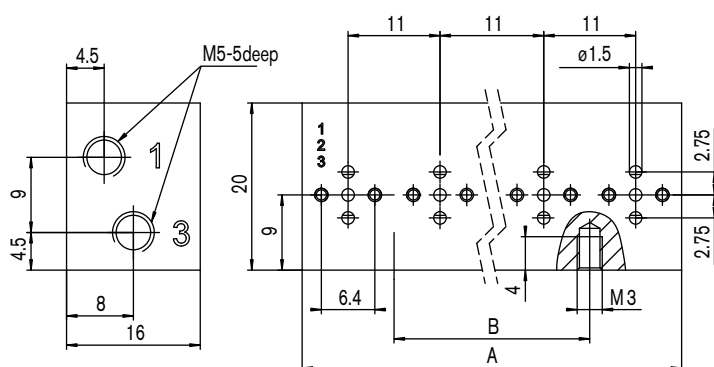


Multiple manifolds for Bürkert flange, Material: Aluminium, M5 threaded

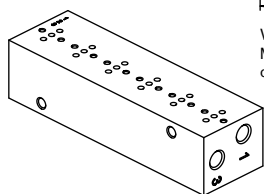


	A	B
2 valves	22	-
4 valves	44	22
6 valves	66	44

Multiple manifolds for lateral flange, Material: Aluminium, M5 threaded



	A	B
2 valves	22	-
4 valves	44	22
6 valves	66	44
8 valves	88	66



Working ports
M5-5 deep
on plate bottom

Ordering Chart

Circuit function	Port connection	Orifice [mm]	Qn value 1-2 air [l/min] ¹⁾	Qn value 2-3 air [l/min] ¹⁾	Pressure range [bar] ²⁾	Manual override	Voltage [V]	Nominal power [W]	Item no.
All valves with rectangular plug, mounting screws and flange seal; without plug connection									
C 3/2-way valve normally closed	Bürkert flange	0.6	7.0	8.5	0 - 10 ³⁾	with	24	0.8	181 367
	lateral flange		6.0	7.5					175 682
D 3/2-way valve normally open	Bürkert flange	0.6	7.0	8.5	0 - 10	with	24	0.8	175 653
	lateral flange		6.0	7.5					179 098

¹⁾ Qn- value air [l/min]: Measurement with +20°C, 6 bar pressure on the valve input and 1 bar pressure differential

²⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure

³⁾ Vacuum up to 10 bar on request

Fixing screws for Bürkert flange: M1.6x5, for lateral flange: M1.6x20

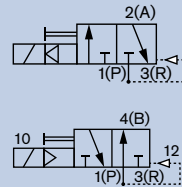
Accessories

Unit	Characteristics	Item no.
Manifolds		
Single manifold	for Bürkert flange, M3	639 873
Single manifold	for lateral flange, M3	639 234
Manifold 2-fold	for Bürkert flange, M5	641 911
Manifold 4-fold	for Bürkert flange, M5	641 912
Manifold 6-fold	for Bürkert flange, M5	639 874
Blanking plate kit	for multiple manifolds, Bürkert flange	645 512
Manifold 2 valves	for lateral flange, M5	641 915
Manifold 4 valves	for lateral flange, M5	641 916
Manifold 6 valves	for lateral flange, M5	639 235
Manifold 8 valves	for lateral flange, M5	672 676
Blanking plate set	for multiple manifolds angle flange	645 513
Push-in fitting	Brass, straight, M3, for 4/2 mm tube	782 534
Push-in fitting	Brass, straight, M5, for 4/2 mm tube	787 810
Rectangular cable plug	with 3 m cable	133 486
Rectangular cable plug	with 300 mm flying leads	644 068
Rectangular cable plug	with 2 single contacts	644 067

3/2-way Solenoid Valve for pneumatics

6518

- High flow-rate capacity
- Single or manifold mounting
- Circuit function NC and NO
- Push-over solenoid coil
- Reduced power consumption
- With manual override



Type 6518 is a pilot operated 3/2-way valve. The use of high quality materials allows the valves to be used even in outdoor and chemical environments. The valve can be used individually or in blocks.

Technical Data

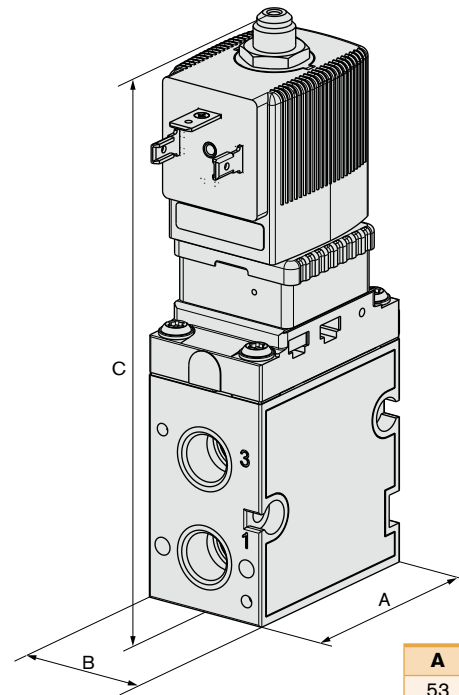
Orifice	DN8.0 mm
Body material	Polyamide, reinforced
Thread insert material	Brass (stainless steel on request)
Seal material	NBR and PUR
Medium	Compressed air, neutral gases
Mediums temperature	-10 °C to +50 °C
Ambient temperature	-25 °C to +55 °C
Supply ports	1 and 3 Threaded port G 1/4", can also be flanged
Service port	2 Threaded port G 1/4"
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) Form A for cable plug, Type 2508 (not included)
Power consumption	AC 11 VA (inrush), 6 VA (hold), DC 2 W
Protection class	IP65 with cable plug
Installation	As required, preferably with actuator upright
Response times ¹⁾	
Opening	20 ms
Closing	40 ms

¹⁾ Measured at valve outlet at 6 bar and +20 °C acc. to ISO 12238
Opening: pressure rise 0 to 90%, *Closing*: pressure drop 100 to 10%

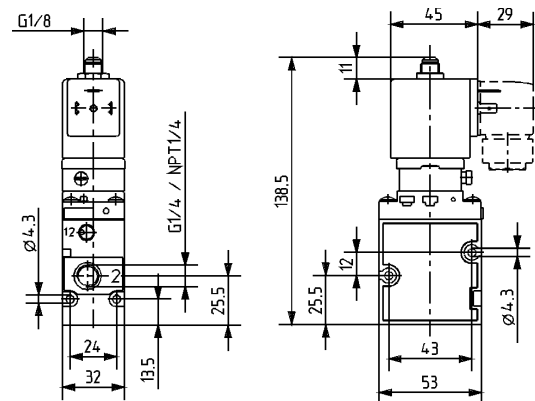
Options

- ATEX approvals
- Without manual override

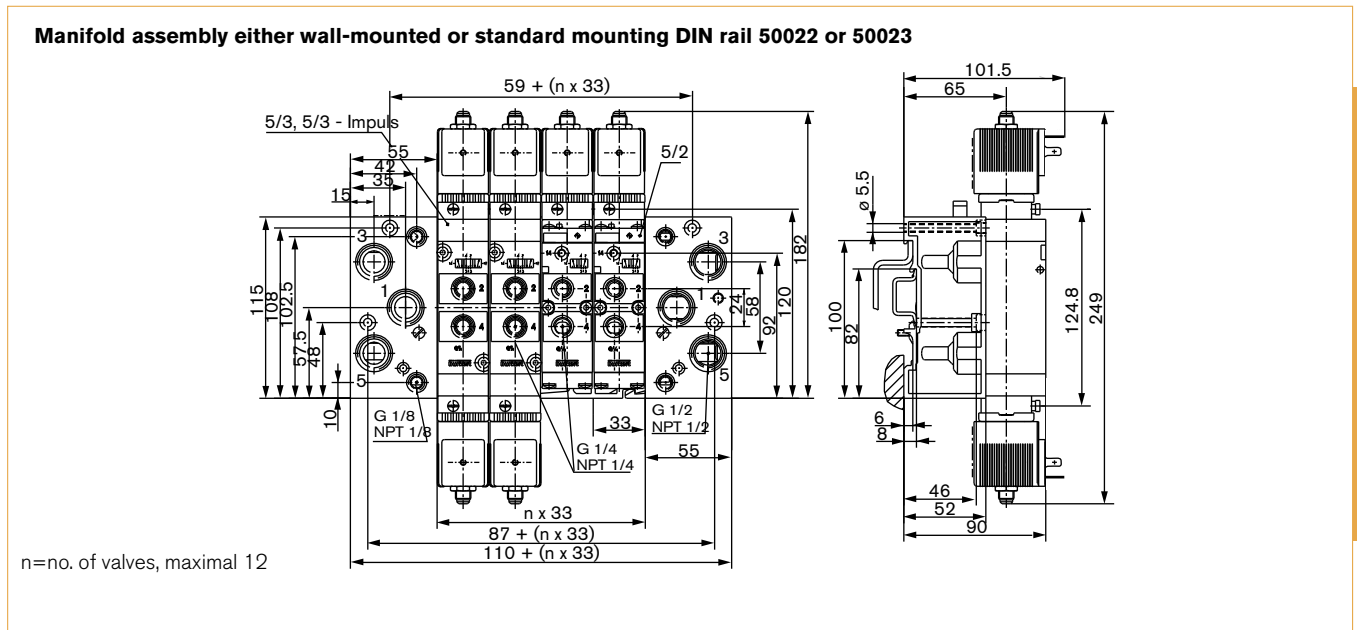
Envelope Dimensions [mm] (see datasheet for details)



A	B	C
53	32	138.5



Dimensions Type MP07 pneumatic modules [mm]



Valve assembly on pneumatic modules Type MP07 using the supplied M4 screws

Ordering Chart

Circuit function	Port connection threaded port [inch]	Orifice [mm]	Q _{Nn} value air [l/min]	Pressure range [bar]	Nominal power [W]	Item no. per Voltage/frequency [V/Hz]		
						024/DC	024/50-60	230/50-60
NBR and PUR (polyamide)								
C 3/2-way valve normally closed	G 1/4	8.0	1300	2 - 8	2	132 457	132 458	132 460
D 3/2-way valve normally open	G 1/4	8.0	1300	2 - 8	2	132 461	132 462	132 464

Accessories

Description	Item no.
Connector module right G 1/2"	635 331
Intermediate supply module	637 505
Pneumatic basic module, 2 valves universal (for 3/2-, 5/2- and 5/3-way)	635 319
Pneumatic basic module, 3 valves universal (for 3/2-, 5/2- and 5/3-way)	635 343
Connector module left G 1/2"	635 324
Covering plate for 5/2- and 5/3-way (to cover unused valve positions)	635 335
Covering plate for 3/2-way (to cover unused connections)	635 337
Blanking plug G 1/8"	780 141
Blanking plug G 1/4"	780 142
Blanking plug G 1/2"	780 144
Silencer G 1/8" *	780 779
Silencer G 1/4" *	780 780
Silencer G 1/2"	780 782
Labelling plate (64 pieces)	635 411

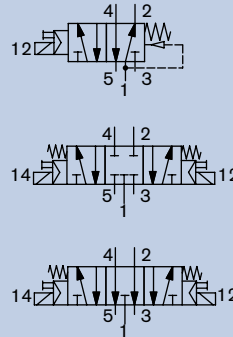
* Packaging unit; 10 pieces

5/2 and 5/3-way Solenoid Valve for pneumatics

6519

G 1/4"

- High flow rate
- Low power consumption
- Single and manifold assembly
- High switching reliability
- Manual override as standard
- Corrosion-resistant construction



Type 6519 is a pilot operated 5/2 or 5/3-way valve. The valve width of 32 mm allows high flow rates. The use of high quality materials allows the use of the valves even under outdoor and chemical atmosphere. The valves can be used individually or in blocks.

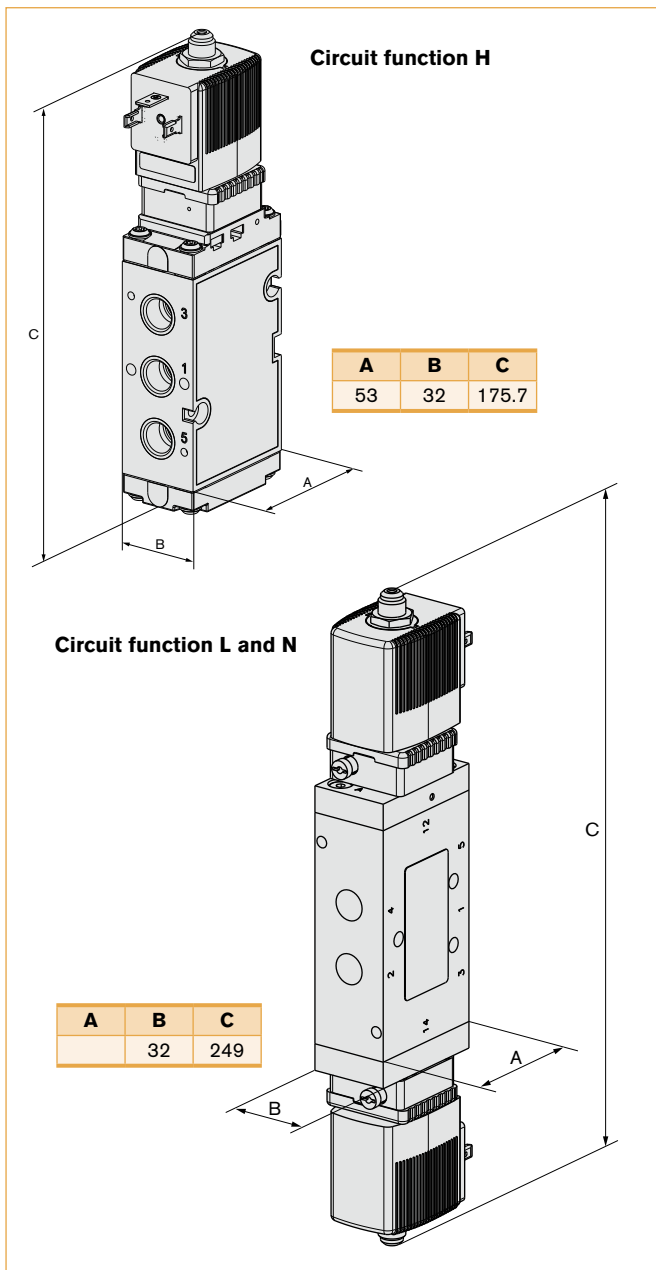
Technical Data

Orifice	DN8.0 and 9.0 mm
Body materials	
Pilot valve	Polyamide
Main valve	5/2-way; polyamide, 5/3-way; aluminium
Thread insert material	Brass (stainless steel on request)
Seal material	NBR, NBR and PUR
Pneumatic connections	
Supply ports 1,3,5	Threaded port G 1/4", can also be flanged
Service ports 2 and 4	Threaded port G 1/4" (on request NPT 1/4")
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A, Type 2508 (not delivered)
Protection class	IP65 with cable plug
Operating voltage	24 V DC, 24/110/230 V, 50-60 Hz
Voltage tolerance	±10%
Power consumption	AC 11 VA (inrush), 6 VA (hold), DC 2 W
Power consumption coil	2 W (100% continuous rating)
Ambient temperature	-25 °C to +55 °C
Mediums	Lubricated or non-lubricated compressed air, neutral gases Technical vacuum on request
Environmental conditions	Open air, chemical atmosphere
Response times ¹⁾	
Opening	20 ms
Closing	40 ms

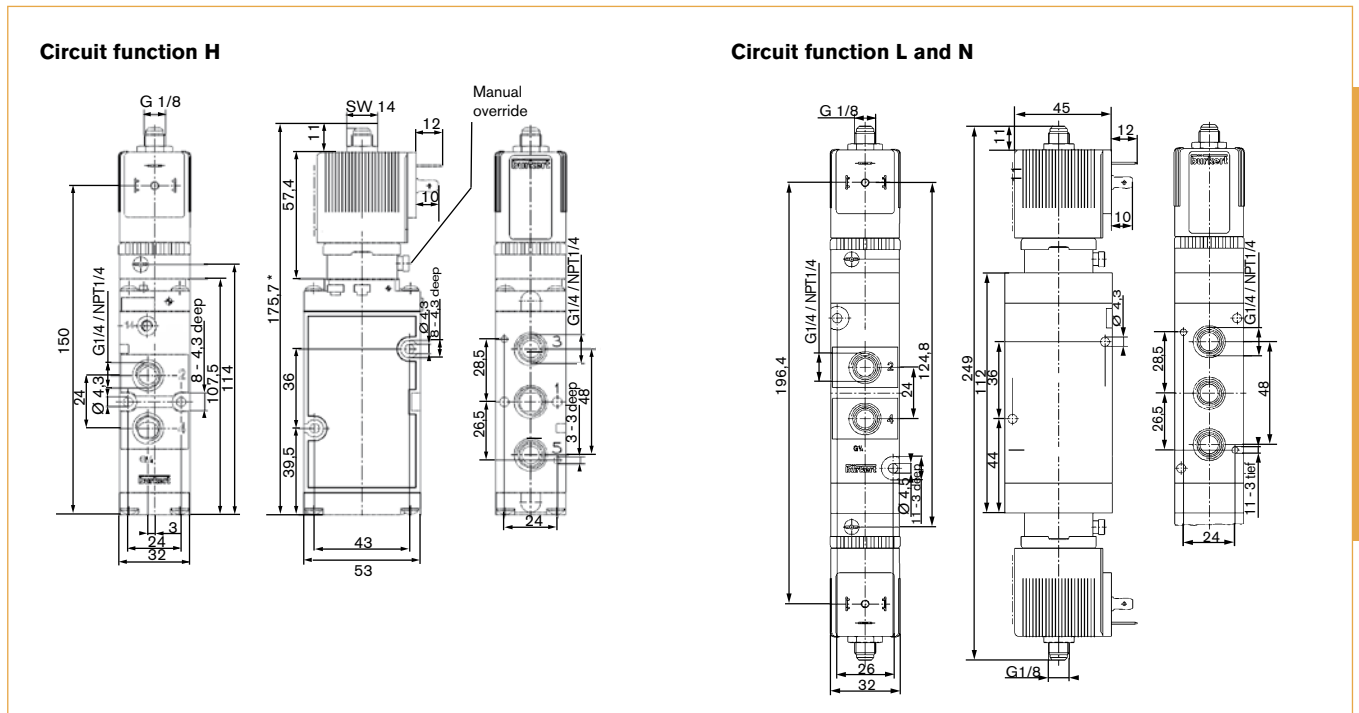
¹⁾ Measured at valve outlet at 6 bar and +20 °C acc. to ISO 12238.
Opening: Pressure rise 0 to 90%,
Closing: Pressure drop 100 to 10%

Note: Pneumatic module see Type 6518

Envelope Dimensions [mm] (see datasheet for details)



Envelope Dimensions [mm] (see datasheet for details)



6519

Ordering Chart

Circuit function	Orifice [mm]	Seal material (Body material)	Port connection threaded port [inch]	QnN-value air ¹⁾ [l/min]	Pressure range ²⁾ [bar]	Mass [g]	Nominal power [W]	Voltage/frequency [V/Hz]	Item no.
Type 6519 threaded version – thread insert material brass, threaded port 1, 3 and 5 can also be flanged									
H 5/2-way valve, servo-assisted, in de-energized position port 2 pressurized, port 4 exhausted	8.0	NBR and PUR (Polyamide)	G 1/4	1300	2 - 8	450	2	024/DC	132 465
								024/50-60	132 466
								110/50-60	132 467
								230/50-60	132 468
L 5/3-way valve, servo-assisted, in middle position all ports locked	9.0	NBR (Aluminium)	G 1/4	1300	3 - 10	720	2	024/DC	132 469
								024/50-60	132 470
								110/50-60	132 471
								230/50-60	132 472
N 5/3-way valve, servo-assisted, in middle position ports 2 and 4 exhausted	9.0	NBR (Aluminium)	G 1/4	1300	3 - 10	720	2	024/DC	132 473
								024/50-60	132 474
								110/50-60	132 475
								230/50-60	132 476

¹⁾ Flow rate: QnN value air [l/min]: Measured at +20 °C, 6 bar pressure at valve inlet, 1 bar pressure difference

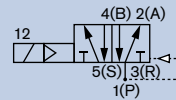
²⁾ Pressure values [bar]: Gauge pressures with respect to the prevailing atmospheric pressure

5/2-way Solenoid Valve for pneumatics, Ex i-Version

6519 Ex i

G 1/4"

- Intrinsically safe version
- High flow rate
- High switching reliability
- Corrosion-resistant construction



The 6519 Ex i valve consists of an intrinsically-safe pilot control and a pneumatic amplifier. The diaphragm-controlled valve seats work with very low friction, ensuring reliable switching of the valve, even after long shutdown periods.

Technical Data

Orifice	DN8.0 mm
Body materials	
Pilot valve	Stainless steel 1.4305 or brass
Main valve	Polyamide, glass-fibre reinforced
Thread insert material	Stainless steel or brass, nickel-plated
Seal material	NBR and PUR
Pneumatic connection	
Supply ports 1,3,5	Threaded port G 1/4"
Service ports 2 and 4	Threaded port G 1/4"
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (not included). Ensure correct polarity!
Protection class	IP65 with cable plug
Ambient temperature	-25 °C to +55 °C
Medium	Lubricated or non-lubricated compressed air, instrument air, nitrogen
Environmental conditions	Open air, chemical atmosphere
For use in zone	1, 2, 21 and 22
Response times ¹⁾	
Opening	75 ms
Closing	115 ms

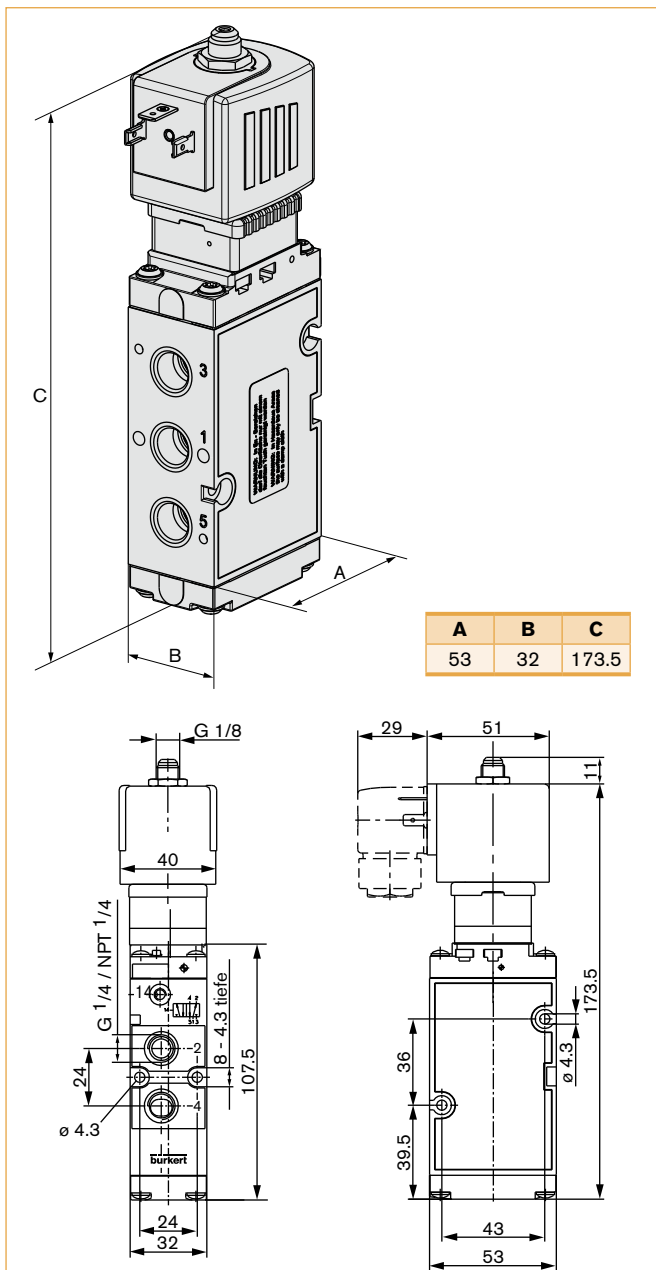
¹⁾ Measured at valve outlet at 6 bar and +20°C acc. to ISO 12238.
 Opening: Pressure rise 0 to 90%
 Closing: Pressure drop 100 to 10%

Note: Valves with Ex i coil are not suitable for block construction.

Options

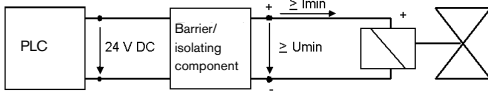
- With manual override
- High impedance coil

Envelope Dimensions [mm] (see datasheet for details)



Note

The units may only be used in explosive atmospheres in the manner approved by the Federal Institute of Physics and Technology (PTB), i.e., the permissible maximum electrical values must be complied with. Suitable barriers and isolating modules are available for this.



The valve is intended for operation on 24 VDC outputs via the intermediate switching of a corresponding intrinsically-safe operating resource (isolating module or barrier). If required, request the "Recommended Barrier and Isolating Module" data sheet.

Electrical data - coil AC10 Ex i

Approval	II 2G Ex ia IIC T6 PTB 01 ATEX 2101 II 2D Ex ia D21 T 80°C		
Functional values for valve switching function¹⁾	at +20°C	at +55°C	
	Minimum switching current	29 mA	29 mA
	Nominal resistance of the coil	310 Ω	360 Ω
Minimum terminal voltage	9.0 V	10.4 V	
Permissible maximum values acc. to certificate of conformity			
U _i	35 V		
I _i	0.9 A		
P _i	1.1 W		

¹⁾ With high impedance coil on request

Ordering Chart

Circuit function	Orifice [mm]	Seal material (Body material)	Port connection threaded port [inch]	QNm-value air ¹⁾ [l/min]	Pressure range ²⁾ [bar]	Mass [g]	Body material pilot valve	Pilot air thread insert material	Item no.
Type 6519 threaded version Ex i									
H 5/2-way valve, servo-assisted, in de-energized position port 2 pressurized, port 4 exhausted	8.0	NBR and PUR (Polyamide)	G 1/4	1300	2 - 8	670	St. St. 1.4305	St. St.	144 484
								brass, nickel plated	144 485
							Brass	brass, nickel plated	147 252

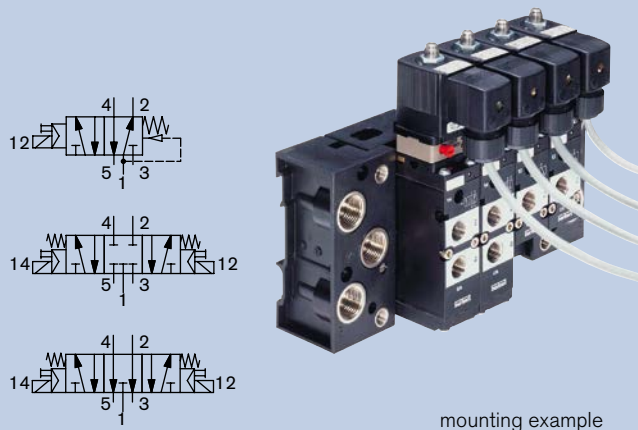
¹⁾ Flow rate: QNm value air [l/min]: Measured at +20 °C, 6 bar pressure at valve inlet, 1 bar pressure difference

²⁾ Pressure values [bar]: Gauge pressures with respect to the prevailing atmospheric pressure

5/2 and 5/3-way Solenoid Valve for pneumatics, Ex m Version

G 1/4"

- Ex m model with 3 m moulded cable
- High flow rate
- Single and manifold assembly
- High switching reliability
- Manual override as standard



mounting example

The Ex m approval is achieved by the mounting of an approved push-over coil. The cable connection and the cable are non-detachable and sealed together with the valve. The valves can be used individually or in blocks.

Technical Data

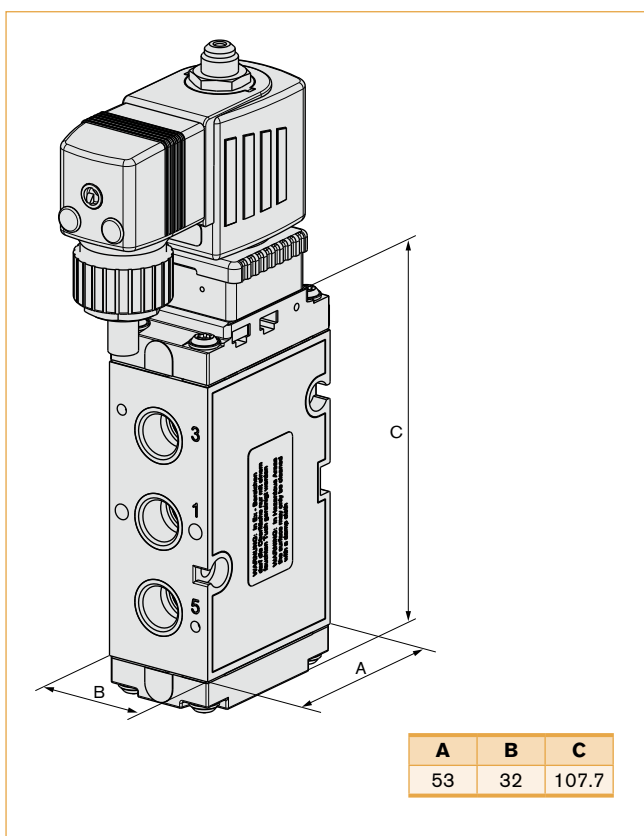
Orifice	DN8.0 and 9.0 mm
Body materials	
Pilot valve	Polyamide
Main valve	5/2-way; Polyamide, 5/3-way; Aluminium
Thread insert material	Brass (stainless steel on request)
Seal materials	NBR, NBR and PUR
Pneumatic connection	
Supply ports 1,3,5	Threaded port G 1/4", can also be flanged
Service ports 2 and 4	Threaded port G 1/4" (on request NPT 1/4")
Electrical connection	Moulded cable, 3 m (non-detachable), Terminal box on request
Protection class	IP65
Approval	Ex m II T5, II 2G, II 2D, IP65, max. surface temperature 100 °C
Operating voltage	24/110/230 V UC (all currents)
Voltage tolerance	±10%
Power consumption coil	3 W (100% continuous rating)
Ambient temperature	-25 °C to +50 °C
Medium	Lubricated or non-lubricated compressed air, on request neutral gases technical vacuum
Environmental conditions	Open air, chemical atmosphere
For use in zone	1, 2, 21 and 22
Response times ¹⁾	
Opening	20 ms
Closing	50 ms

¹⁾ Measured at valve outlet at 6 bar and +20°C acc. to ISO 12238.

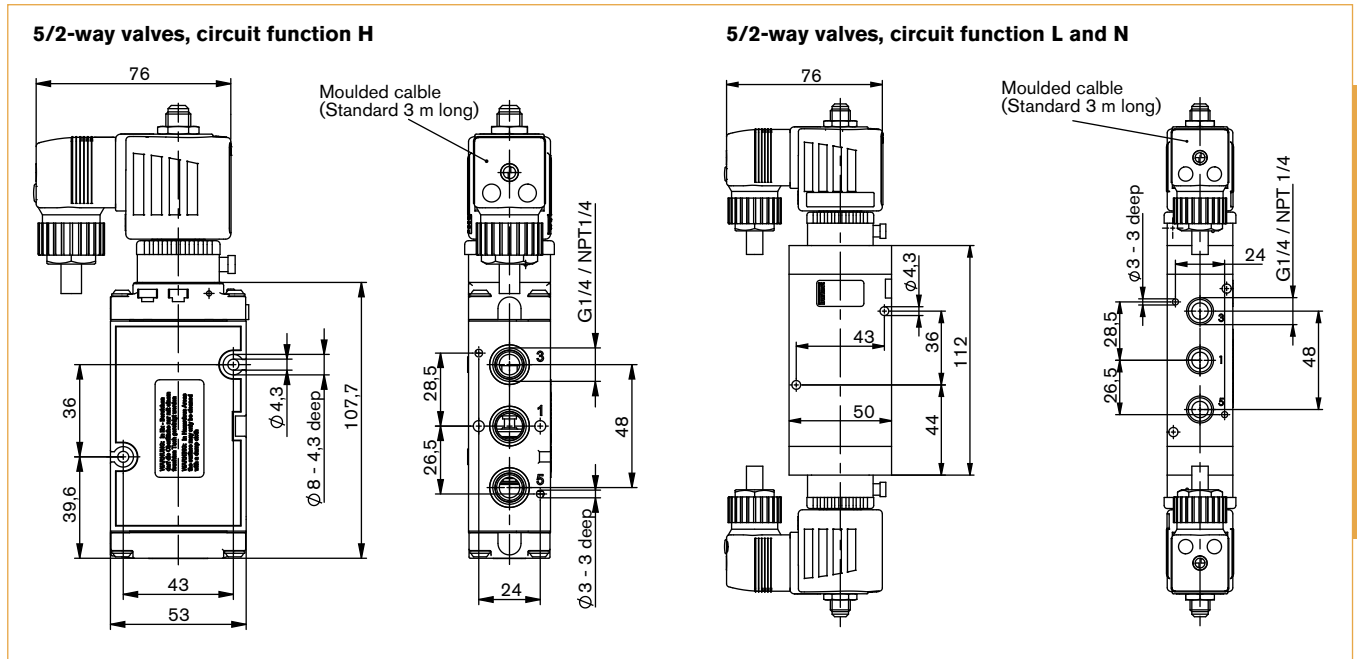
Opening: Pressure rise 0 to 90%
Closing: Pressure drop 100 to 10%

Note: pneumatic modules see Type 6518

Envelope Dimensions [mm] (see datasheet for details)



Envelope Dimensions [mm] (see datasheet for details)



6519 Ex m

Ordering table

Circuit function	Orifice [mm]	Seal material (Body material)	Port connection threaded port [inch]	QNm-value air ¹⁾ [l/min]	Pressure range ²⁾ [bar]	Mass [g]	Nominal power [W]	Voltage/frequency [V/Hz]	Item no.
Type 6519 threaded version Ex m – thread insert material brass, threaded port 1, 3 and 5 can also be flanged; with moulded cable, 3 m long ^{3) 4)}									
H 5/2-way valve, servo-assisted, in de-energized position port 2 pressurized, port 4 exhausted	8.0	NBR and PUR (Polyamide)	G 1/4	1300	2 - 8	700	3	024/UC	134 722
								110/UC	134 723
								230/UC	134 724
L 5/3-way valve, servo-assisted, in middle position all ports locked	9.0	NBR (Aluminium)	G 1/4	1300	3 - 10	1.100	3	024/UC	278 221
								110/UC	134 726
								230/UC	134 727
N 5/3-way valve, servo-assisted, in middle position ports 2 and 4 exhausted	9.0	NBR (Aluminium)	G 1/4	1300	3 - 10	1.100	3	024/UC	278 222
								110/UC	134 729
								230/UC	134 730

¹⁾ Flow rate: QNm value air [l/min]: Measured at +20 °C, 6 bar pressure at valve inlet, 1 bar pressure difference

²⁾ Pressure values [bar]: Gauge pressures with respect to the prevailing atmospheric pressure

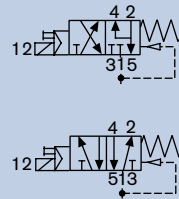
³⁾ Versions with terminal box on request

⁴⁾ Circuit function H (5/2 way) as impulse version on request

5/2 on 3/2-way Convertible Solenoid Valve for pneumatics, NAMUR version

G 1/4", NAMUR

- High flow rate
- Low power consumption
- High switching reliability
- Manual override as standard
- Corrosion-resistant construction



The solenoid valve, Type 6519 NAMUR, is provided with a NAMUR standard flange for easy, direct mounting to pneumatic actuators. It is manufactured from high-quality manmade materials.

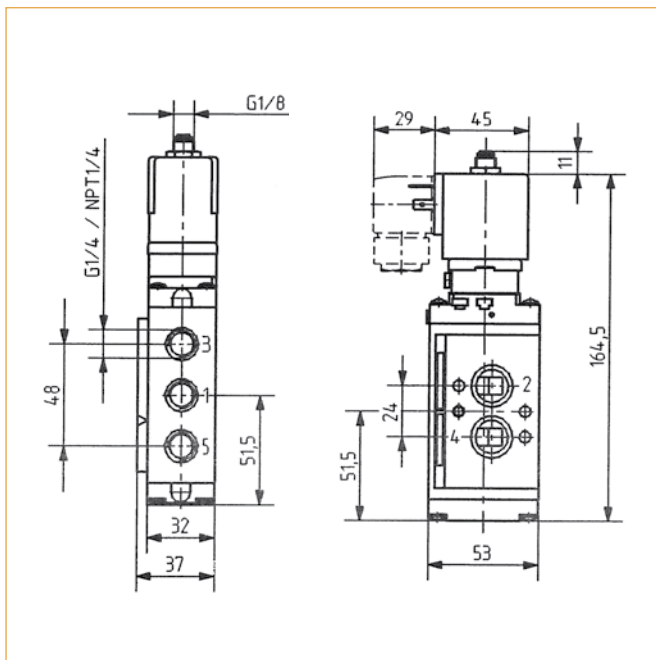
Technical Data

Orifice	DN6.0 mm
Body Materials	
Pilot valve and main valve	Polyamide (PA)
Thread insert material	Brass, nickel-plated or stainless steel
Seal material	NBR and PUR
Pneumatic connection	
Supply ports 1,3,5	Threaded port G 1/4"
Service ports 2 and 4	NAMUR flange
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A, Type 2508 (not included)
Power consumption	AC 11 VA (inrush), 6 VA (hold), DC 2 W
Protection	IP65 with cable plug
Operating voltage	024/DC, 024/230 V, 50-60 Hz
Voltage tolerance	± 10%
Duty cycle	100 % continuous rating
Ambient temperature	-25 °C to +55 °C
Mediums	Compressed air, nitrogen, instrument air
Environmental conditions	Slightly aggressive, also open air
Response times ¹⁾	
Opening	20 ms
Closing	40 ms

¹⁾ Measured at valve outlet at 6 bar and +20 °C acc. to ISO 12238.

Opening: Pressure rise 0 to 90%,
Closing: Pressure drop 100 to 10%

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

Thread insert material	Port (P) [inch]	Orifice [mm]	Qn [l/min]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]		
					024/DC	024/AC	230/AC
Type 6519 NAMUR version, 5/2-way convertible to 3/2-way							
brass nickelplated	G 1/4	6	900	2 - 8	131 421	131 422	131 424
stainless steel ¹⁾	G 1/4	6	900	2 - 8	131 425	131 426	131 428

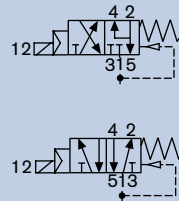
¹⁾ If the connectors are from stainless steel, the mounting screws will also be from stainless steel

5/2- from 3/2-way Convertible Pneumatic Solenoid Valve, NAMUR Ex i Version

6519 NAMUR Ex i

G 1/4" NAMUR

- Intrinsically Safe
- High flow rate
- High reliability
- Corrosion-resistant design



Type 6519 NAMUR Ex i is used for the pneumatic control of double or single-acting actuators with a NAMUR adapter plate flange. The circuit function can easily be changed using an adapter plate. In the 3/2-way function, feedback of the exhaust air takes place in the spring area of the armature drive. The diaphragm-controlled valve seats work with very low friction, ensuring reliable switching of the valve even after long shutdown periods and at ambient temperatures below 0 °C. The valves work without a continuous air consumption.

Technical Data

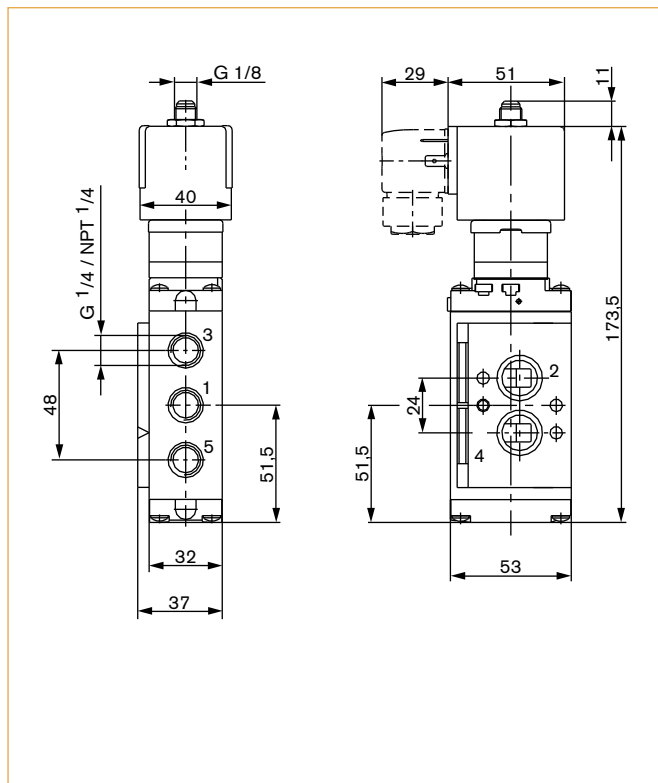
Orifice	DN6.0 mm
Body materials	
Pilot valve	Stainless steel 1.4305 or brass
Main valve	Polyamide, glass-fibre reinforced
Thread insert material	Stainless steel or brass, nickel plated
Seal materials	FKM, NBR and PUR
Pneumatic connection	
Supply ports 1,3,5	Threaded port G 1/4"
Service ports 2 and 4	NAMUR flange acc. to VDI/VDE 3845
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (not included). Ensure correct polarity!
Protection class	IP65 with cable plug
Ambient temperature	-25 °C to +55 °C
Medium	Lubricated or non-lubricated compressed air, instrument air, nitrogen
Environmental conditions	Open air, chemical atmosphere
Response times ¹⁾	
Opening	75 ms
Closing	115 ms

¹⁾ Measured at valve outlet at 6 bar and +20 °C acc. to ISO 12238.
Opening: Pressure rise 0 to 90%
Closing: Pressure drop 100 to 10%

Options

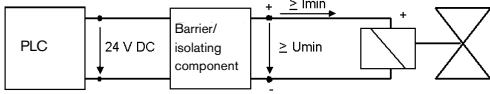
- With manual override
- High impedance coil

Envelope Dimensions [mm] (see datasheet for details)



Note

The units may only be used in explosive atmospheres in the manner approved by the Federal Institute of Physics and Technology (PTB), i.e., the permissible maximum electrical values must be complied with. Suitable barriers and isolating modules are available for this.



The valve is intended for operation on 24 VDC outputs via the intermediate switching of a corresponding intrinsically-safe operating resource (isolating module or barrier). If required, request the "Recommended Barrier and Isolating Module" data sheet.

Electrical data - coil AC10 Ex i

Approval	II 2G Ex ia IIC T6 PTB 01 ATEX 2101 II 2D Ex ia D21 T 80°C	
Functional values for valve switching function¹⁾	at +20°C	at +55°C
	Minimum switching current	29 mA
	Nominal resistance of the coil	310 Ω
Minimum terminal voltage	9.0 V	10.4 V
Permissible maximum values acc. to certificate of conformity		
U _i	35 V	
I _i	0.9 A	
P _i	1.1 W	

¹⁾ With high impedance coil on request

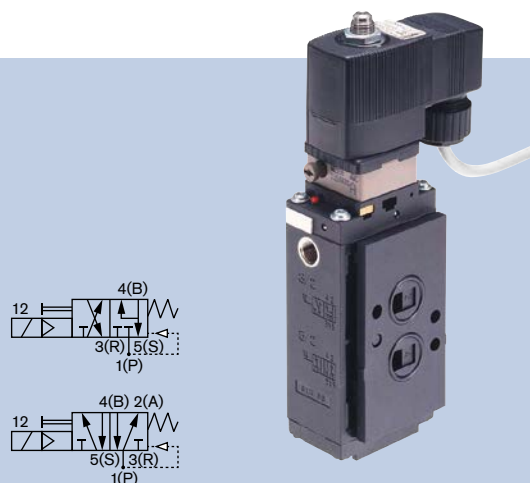
Ordering Chart

Thread insert material	Port (P) [inch]	Orifice [mm]	Q _{Nn} [l/min]	Pressure range [bar]	Item no.
Type 6519 NAMUR version, Ex i, 5/2-way convertible to 3/2-way 1)					
stainless steel	G 1/4	6	900	2 - 8	144 482
brass nickelplated	G 1/4	6	900	2 - 8	144 483
brass nickelplated	G 1/4	6	900	2 - 8	147 244

5/2 on 3/2-way Convertible Solenoid Valve for pneumatics, NAMUR Ex m/me version

G 1/4", NAMUR

- Ex m model with 3 m cable
- High flow rate
- High switching reliability
- Manual override as standard
- Corrosion-resistant construction



Type 6519 NAMUR Ex m/me valve for process plants switches reliably, even when fully restricted. The valve made out of premium polyamide can be operated either as a 5/2 or a 3/2-way version through different mounting plates. The NAMUR flange interface allows easy assembly on different pneumatic actuators on the spot.

Technical Data

Orifice	DN6.0 mm
Body materials	
Pilot valve and main valve	Polyamide (PA)
Thread insert material	Brass, nickel-plated or stainless steel
Seal material	NBR and PUR
Pneumatic connection	
Supply ports 1,3,5	Threaded port G 1/4"
Service ports 2 and 4	NAMUR flange
Electrical connection	Moulded cable, 3 m (non-detachable) or terminal box
Power consumption	Cable version 3W, 5W terminal box version with T5 and Tu 50 °C, 7W with T4 and Tu 55 °C
Protection class	IP65
Approval	Ex m II T5 (cable version), Ex em II T5 (with terminal box), II 2G, II 2D, IP65, max. surface temperature 100 °C
Operating voltage	24/230 V UC (universal current)
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Ambient temperature	-25 °C to +55 °C
Mediums	Lubricated or non-lubricated compressed air, nitrogen, instrument air
Environmental conditions	Slightly aggressive, also open air
Response times ¹⁾	
Opening	20 ms
Closing	40 ms

¹⁾ Measured at valve outlet at 6 bar and +20 °C acc. to ISO 12238.

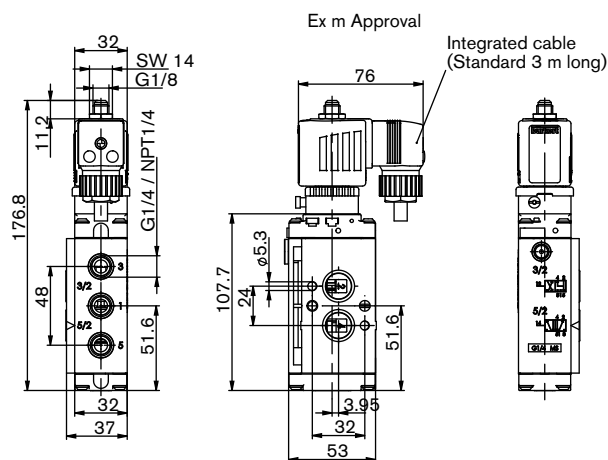
Opening: Pressure rise 0 to 90%,

Closing: Pressure drop 100 to 10%

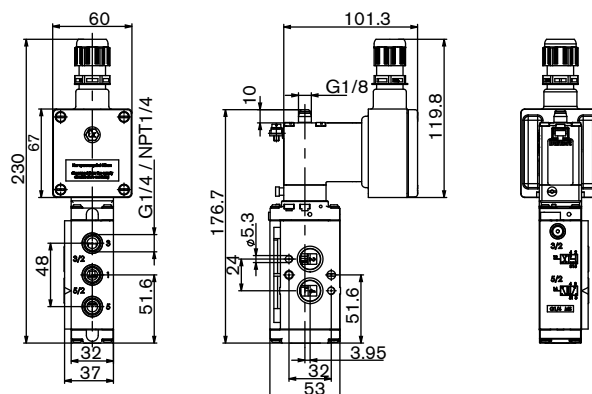
Envelope Dimensions [mm] (see datasheet for details)

3/2-way valve, circuit function C or 5/2-way valve, circuit function H

with moulded cable (3 m long) (Ex m)



3/2-way valve, circuit function C or 5/2-way valve, circuit function H, with terminal box (Ex me)



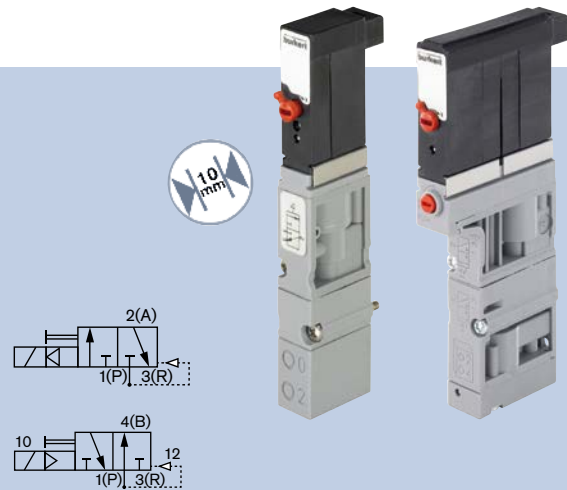
Ordering chart

Electric Connection	Thread insert material	Port (P) [inch]	Orifice [mm]	QNn [l/min]	Pressure range [bar]	Item no. voltage/frequency [V/Hz]	
						024/UC	230/UC
Type 6519 NAMUR version, ATEX 5/2-way convertible to 3/2-way ¹⁾							
3m cable	brass nickelplated	G 1/4	6	900	2 - 8	131 627	278 239
	stainless steel	G 1/4	6	900	2 - 8	131 631	278 237
Terminal box	brass nickelplated	G 1/4	6	900	2 - 8	131 430	131 432
	stainless steel	G 1/4	6	900	2 - 8	131 434	131 436

¹⁾ If the connectors are from stainless steel, the mounting screws will also be from stainless steel

3/2-way and 2 x 3/2-way Solenoid Valve for pneumatics

- Modular valve block with 10 mm mounting pitch
- Low power consumption
- Fast response times
- Space saving (2 x 3/2-way version)



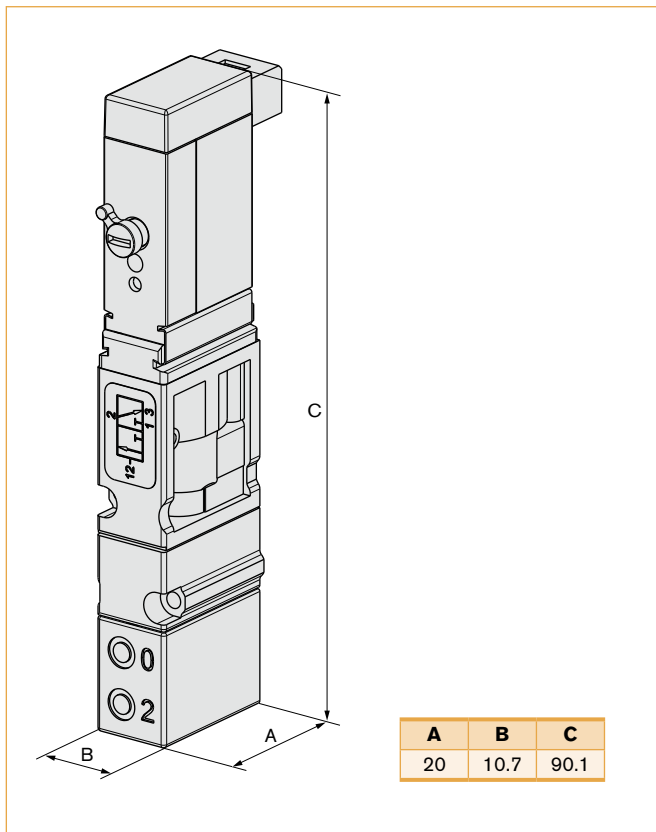
A compact manifold with a pitch of 11 mm per station can be put together from the components of Type 6524. Type 6524 consists of the pilot flipper solenoid valve, Type 6144 and a pneumatic seat valve. The flipper principle allows switching of high pressures together with low power consumption and fast response times. All valves are equipped with manual override as a standard. The 2 x 3/2-way valve version is the combination of two pilot flipper solenoid valves, Type 6144 and a pneumatic seat valve.

Technical Data

	3/2-way valve	2 x 3/2-way valve
Orifice	DN4.0 mm	
Body material	PPS, PA	
Seal material	FKM, NBR	
Medium	Lubricated, oil free, dry compressed air; neutral gases (5 µm filter recommended)	
Medium temperature	-10 °C to +50 °C	
Ambient temperature	-10 °C to +55 °C	
Manual override	Standard	
Port connection	Flange for MP11	
Pneumatic module	Type MP11 with M5, M7, push-in connection Ø 6 mm	
Voltage tolerance	± 10%	
Cycle rate	approx. 1000 c.p.m.	
Voltage	24 V DC *	
Nominal power	0.8 W	2 x 0.8 W
Duty cycle	Continuous operation (100% ED)	
Electrical connection on valve (not included)	Rectangular plug with 2-pole raster 5.08 mm	Rectangular plug with 3-pole raster 2.54 mm
Type of protection	IP40 with rectangular plug	
Protection class	3 acc. to VDE 0580	
Weight	20 g	40 g
Mounting	with 2 screws M2 x 20	with 2 screws M2 x 28
Installation	As required, preferably with actuator upright	
Response times [ms]	Measurement acc. to ISO 12238	
Opening	< 10 ms	
Closing	< 10 ms	

* 10% residual ripple allowed

Envelope Dimensions [mm] (see datasheet for details)

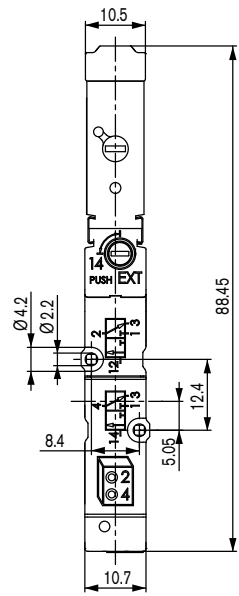
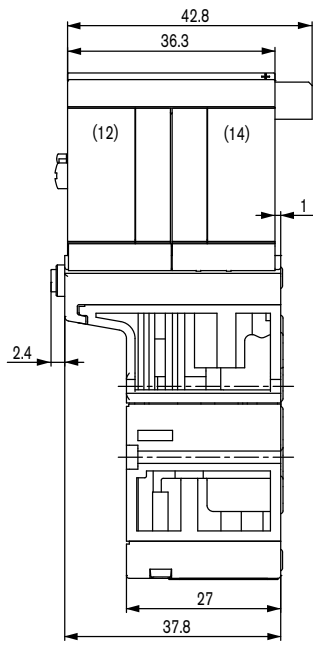
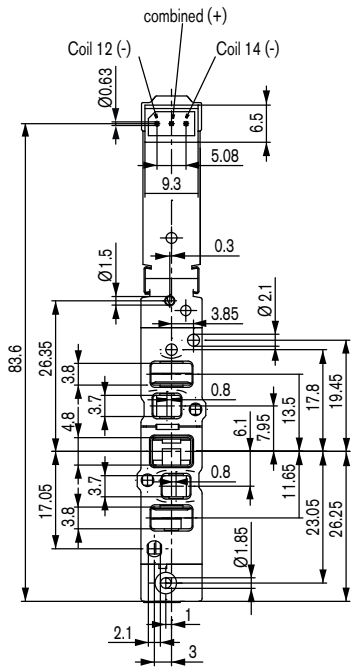
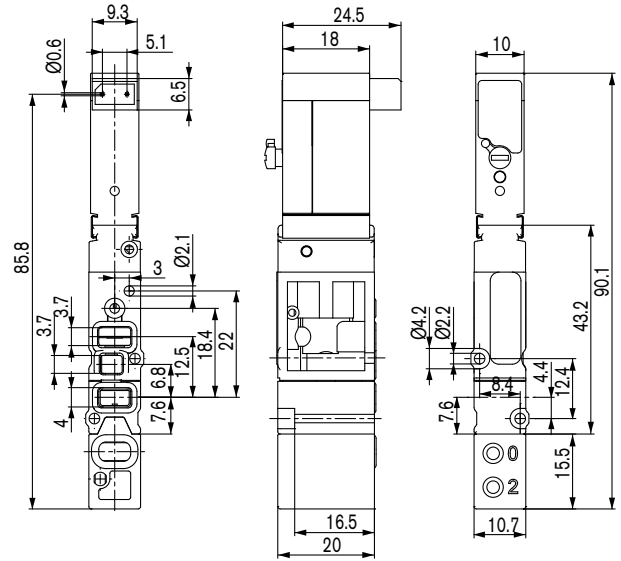
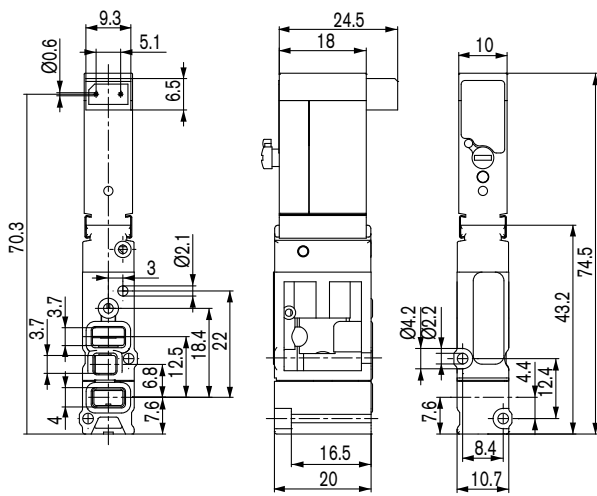


Dimensions [mm] 2 x 3/2-way Solenoid Valve

3/2-way solenoid valve

Without covering plate

With covering plate



Ordering Chart

Circuit function	Orifice [mm]	QNn value air [l/min] ²⁾	Pressure range [bar] ³⁾	Voltage/frequency [V/Hz] [*]	Item no.
3/2-way solenoid valve					
C 3/2-way valve normally closed	4	300	Vac - 10 ¹⁾	024V/DC	186 258
			1 - 10	024V/DC	186 257
			2.5 - 10	024V/DC	184 043
D 3/2-way valve normally open	4	300	2.5 - 10	024V/DC	184 400

* 10% residual ripple allowed

Circuit function	Orifice [mm]	QNn value air [l/min] ²⁾	Pressure range[bar] ³⁾	Voltage/frequency [V/Hz] [*]	Integrated power savings electronics	Item no.
2 x 3/2-way solenoid valve						
C 2 x 3/2-way valve normally closed	4	300	Vac - 10 ¹⁾	024V/DC	Yes ⁴⁾	186 259
			2.5 - 10	024V/DC	Yes ⁴⁾	186 260
			2.5 - 10	024V/DC	No	204 710

¹⁾ Version with auxiliary pilot air

²⁾ Measured at +20 °C, 6 bar pressure at valve inlet and 1 bar pressure difference

³⁾ Measured as overpressure to the atmospheric pressure

⁴⁾ Applicable on valve island 8640, AirLine system 8644 or valve blocks

* 10% residual ripple allowed

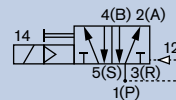
Accessories

Description	Version	Features	Item no.
Rectangular cable plug for 6524 single valve	Raster 5.08 mm	with 3 m cable 2-pins	133 486
		with 300 mm flying leads 2-pins	644 068
		with 2 single contacts	644 067
Covering plate for 5/2-way valve position	Complete	for 1 unused valve position	650 373
Covering plate for 2 x 3/2-way valve position		for 1 unused valve position	661 092
Pneumatic connector module	Left	G 1/4"	144 750
		NPT 1/4"	144 751
	Right	G 1/4"	144 753
		NPT 1/4"	144 754
Pneumatic basic module MP11, 2 valves wide	Push-in connection Ø 6 mm	without check valve	144 903
		with check valve in R	144 909
		without check valve for 2 x 3/2-way valve	170 261
		with check valve in R+S for 2 x 3/2-way valve	170 266
	Connection M5	without check valve	144 904
	Connection M7	without check valve for 2 x 3/2-way valve	144 905
		without check valve for 2 x 3/2-way valve	170 263
		with check valve in R+S for 2 x 3/2-way valve	170 276
without check valve for 2 x 3/2-way valve		170 279	
Pneumatic basic module MP11, 8 valves wide	Push-in connection Ø 6 mm	without check valve	144 912
		with check valve in R+S	144 915
		without check valve for 2 x 3/2-way valve	170 279
		with check valve in R+S for 2 x 3/2-way valve	170 285
	Connection M5	without check valve	144 913
	Connection M7	without check valve	144 914
		without check valve for 2 x 3/2-way valve	170 282
		with check valve in R+S for 2 x 3/2-way valve	170 287
without check valve for 2 x 3/2-way valve		170 282	

5/2-way Flipper Solenoid Valve for pneumatics

6525

- Modular valve block with 10 mm mounting pitch
- Low power consumption
- Fast response times
- With manual override



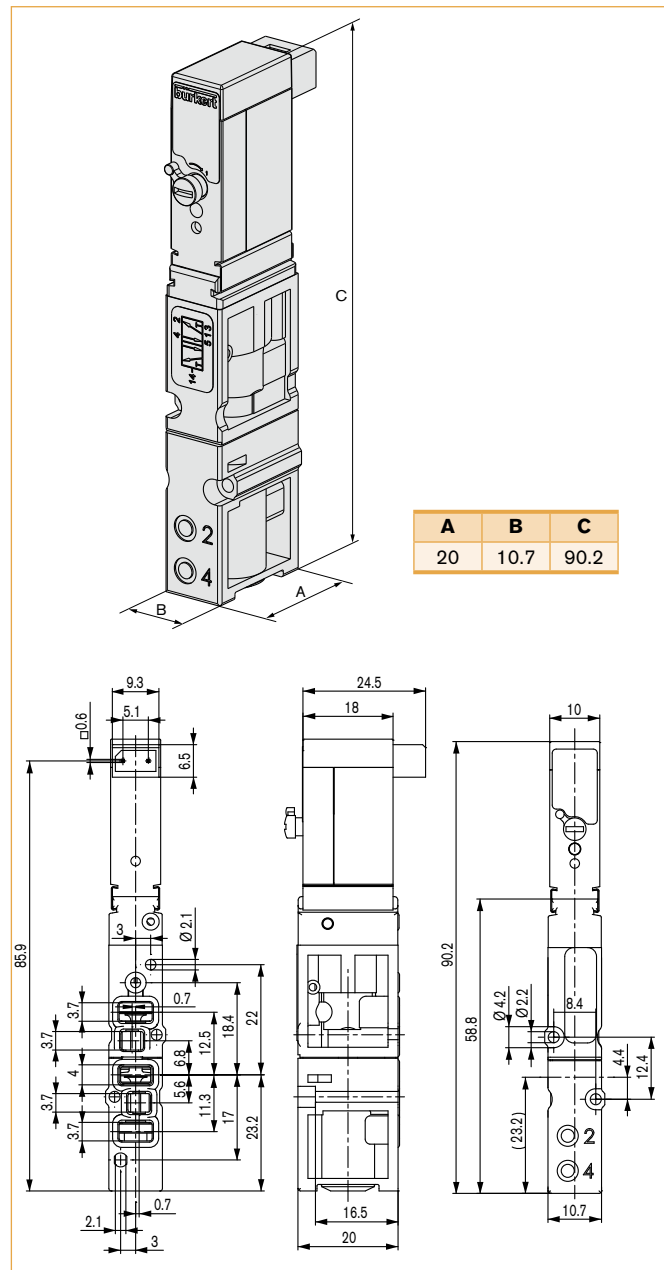
A compact manifold with a pitch of 11 mm per station can be put together from the components of Type 6525. Type 6525 consist of a pilot flipper valve, Type 6144 and a pneumatic seat valve. The flipper principle allows switching of high pressures together with low power consumption and fast response times. All valves are equipped with manual override as a standard.

Technical Data

Orifice	DN4.0 mm
Body material	PPS, PA
Seal material	FKM, NBR and PUR
Media	Lubricated, oil free, dry compressed air; neutral gases (5 µm filter recommended)
Media temperature	-10 °C to +50 °C
Ambient temperature	-10 °C to +55 °C
Manual override	Standard
Port connection	Flange for MP11
Pneumatic module	Type MP11 with M5, M7, push-in connection Ø 6 mm
Voltage tolerance	±10%
Cycling rate	approx. 1000 c.p.m.
Voltage	24 V DC *
Nominal power	0.8 W
Duty cycle	Continuous operation (100% ED)
Electrical connection on valve	Rectangular plug with Raster 5.08 mm (not included)
Type of protection	IP40 with rectangular plug
Protection class	3 acc. to VDE 0580
Weight	21 g
Mounting	with 2 screws M2x20
Installation	As required, preferably with actuator upright
Response times [ms]	Measurement acc. to ISO 12238
Opening	< 10 ms
Closing	< 10 ms

* 10% residual ripple allowed

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

Circuit function	Orifice [mm]	QNn value air [l/min] ²⁾	Pressure range [bar] ³⁾	Response times		Voltage/Frequency [V/Hz]	Item no.
				Opening [ms]	Closing [ms]		
H 5/2-way valve	4	300	1 - 10 ¹⁾	<10	<10	024V/DC	186 271
			2.5 - 10	<10	<10	024V/DC	179 938

* 10% residual ripple allowed

¹⁾ Version with auxiliary pilot air

²⁾ Measured at +20°C, 6 bar pressure at valve inlet and 1 bar pressure difference

³⁾ Measured as overpressure to the atmospheric pressure

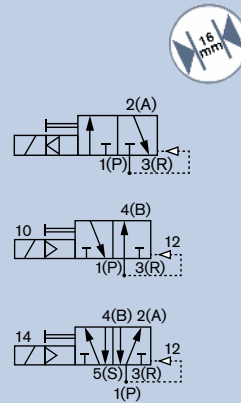
Accessories

Description	Version	Features	Item no.
Rectangular cable plug	Raster 5.08 mm	with 3 m cable	133 486
		with 300 mm flying leads	644 068
		with 2 single contacts	644 067
Protective cover for 5/2-way valve position	complete	for 1 unused valve position	650 373
Pneumatic connector module	left	Push-in connection Ø 10 mm	144 752
		G 1/4"	144 750
		NPT 1/4"	144 751
	right	Push-in connection Ø 10 mm	144 755
		G 1/4"	144 753
		NPT 1/4"	144 754
Pneumatic basic module MP11, 2 valve wide	Push-in connection Ø 6 mm	without check valve	144 903
		with check valve in R	144 909
		with check valve in R and S	144 906
	Connection M5	without check valve	144 904
	Connection M7	without check valve	144 905
Pneumatic basic module MP11, 8 valve wide	Push-in connection Ø 6 mm	without check valve	144 912
		with check valve in R and S	144 915
	Connection M5	without check valve	144 913
	Connection M7	without check valve	144 914

3/2 and 5/2-way Solenoid Valve for pneumatic

6526 / 6527

- Modular valve block with 16.5 mm mounting pitch
- Low power consumption
- Rocker pilot in DC
- Fast response times

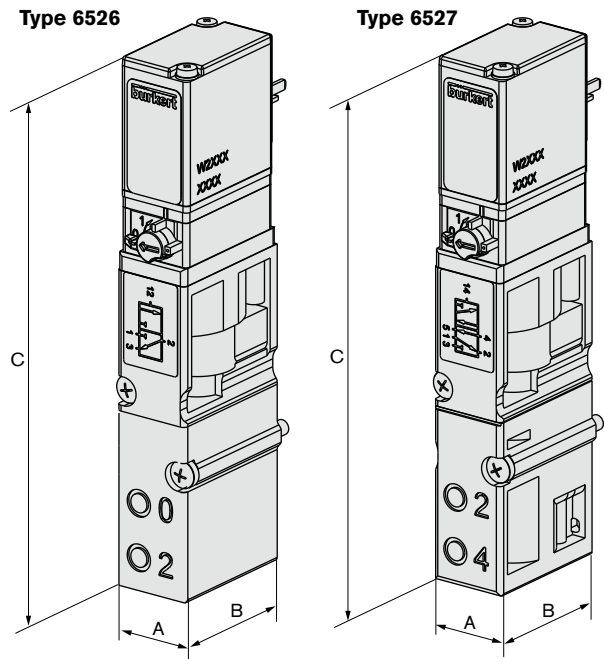


A compact manifold with a pitch of 16.5 mm per station can be put together from the components of Type 6526 / 6527. Type 6526 / 6527 consists of a pilot rocker valve, Type 6106 and a pneumatic seat valve. The rocker principle allows switching of high pressures together with low power consumption and fast response times. All valves are equipped with manual override as a standard.

Technical Data

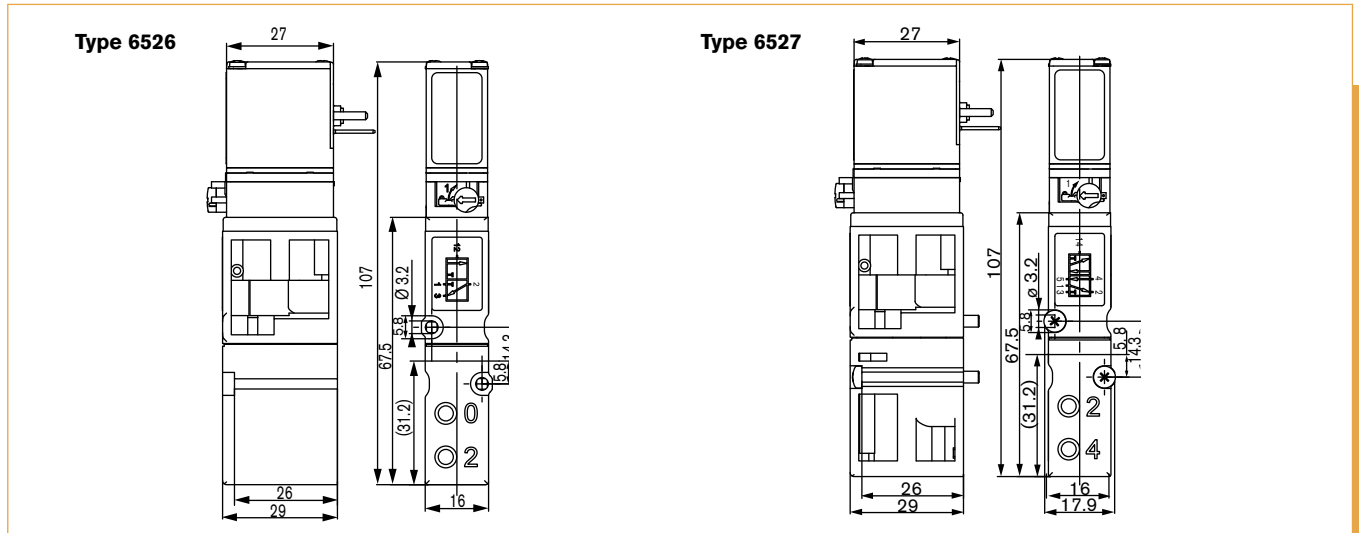
Orifice	DN6.0 mm
Body material	PA (Polyamide)
Seal material	NBR
Media	Lubricated and non-lubricated dry air; neutral gases (10 µm filtering)
Media temperature	-10 °C to +50 °C
Ambient temperature	-10 °C to +55 °C
Manual override	Standard
Port connection	Flange for MP12
Pneumatic module	Type MP12 with G 1/8", Push-in connection Ø 8 mm
Voltage tolerance	±10%
Voltage	24 V DC
Nominal power	2 W, 1 W
Duty cycle	Continuous operation (100% ED)
Electrical connection	Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) for cable plug, Form C (not included)
Protection class	IP65 (with cable plug)
Weight	Type 6526 85 g Type 6527 95 g
Mounting	with 2 screws M3x30
Installation	As required, preferably with actuator upright

Envelope Dimensions [mm] (see datasheet for details)



A	B	C
16	29	107

Envelope Dimensions [mm] (see datasheet for details)



6526 / 6527

Ordering Chart

Circuit function	Orifice [mm]	Qn value air [l/min]	Pressure range [bar]	Power consumption [W]	Response times		Item no. 024 V DC
					Opening [ms]	Closing [ms] ³⁾	
3/2-way solenoid valve without cable plug, Type 6526							
C 3/2-way valve normally closed	6	700	1.0 - 10	2	20	12	156 842 ²⁾
			1.0 - 10	2	20	12	163 028 ¹⁾
			2.0 - 10	2	20	12	156 318 ²⁾
			2.0 - 10	2	20	12	158 944 ¹⁾
			2.0 - 8.0	1	20	12	158 947 ¹⁾
D 3/2-way valve normally open	6	700	1.0 - 10	2	20	12	163 029 ¹⁾
			2.0 - 10	2	12	20	156 320 ²⁾
			2.0 - 10	2	20	12	158 946 ¹⁾

- 1) Electrical connection above manual override.
- 2) "long version": can be mounted together with Type 6527 on a valve island.
- 3) In combination with valve islands the closing time will be approx. 5 ms longer.

Circuit function	Orifice [mm]	Qn value air [l/min]	Pressure range [bar]	Power consumption [W]	Response times		Item no. 024 V DC
					Opening [ms]	Closing [ms] ³⁾	
5/2-way solenoid valve without cable plug, Type 6527							
H 5/2-way valve	6	700	1.0 - 10	2	20	12	156 828
			1.0 - 10	2	20	12	163 030 ¹⁾
			2.0 - 10	2	20	12	156 337
			2.0 - 10	2	20	12	158 942 ¹⁾
			2.0 - 8.0	1	20	17	156 827
			2.0 - 8.0	1	20	12	158 943 ¹⁾

- 1) Electrical connection above manual ride.
 - 2) In combination with valve islands the closing time will be approx. 5 ms longer.
- Flow rate, Qn-value air [l/min]: Measured at +20 °C, 6 bar pressure at valve inlet and 1 bar pressure difference
 Pressure values [bar]: Measured as overpressure to the atmospheric pressure
 Response times [ms]: Measures acc. to ISO 12238

Ordering Chart

Module	Version	Feature	Item no.
Type MP12 pneumatic modules			
Connection module	right	G 3/8"	655 110
		NPT 3/8"	655 112
	left	G 3/8"	655 109
		NPT 3/8"	655 111
Pneumatic basic module 2 valves	push-in connection Ø 8 mm	without check valve	156 617
		with integrated check valve with R and S-channel	156 632
	connection G 1/8"	without check valve	on request
		with integrated check valve with R and S-channel	on request
	connection NPT 1/8"	without check valve	on request
		with integrated check valve with R and S-channel	on request
Pneumatic basic module 4 valves	push-in connection Ø 8 mm	without check valve	156 656
		with integrated check valve with R and S-channel	156 659
	connection G 1/8"	without check valve	on request
		with integrated check valve with R and S-channel	on request
	connection NPT 1/8"	without check valve	on request
		with integrated check valve with R and S-channel	on request
Covering plate		for unused valve positions	653 765

6526 / 6527

Ready. Set. Go.

With our new Robolux valve block you are always one step ahead. By combining our established Robolux series with our robust ELEMENT stainless steel actuators, we have created a real winner with prime qualities: internal volume, dead volume and dead legs have been reduced to a minimum, making for easy cleaning and enhancing your plant's productivity. The compact design and small footprint save space, and the high degree of automation will allow you to clear any hurdle in your process. Take your marks!

We make ideas flow.



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FLUID CONTROL SYSTEMS

FLUID CONTROL SYSTEMS

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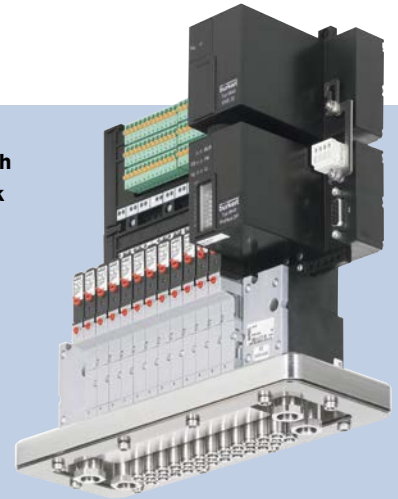
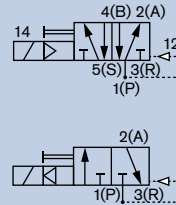
Modular pneumatic valve unit

8640

AirLINE and AirLINE Quick

- Compact design
- Modular configuration
- Cost savings in the control cabinet with AirLINE Quick
- Simple exchange of valves

Type 8640 with AirLINE Quick



The versatile operational capability of the valve terminal, Type 8640, in the food and beverage industry will push in extended connections for hygienic applications by AirLINE Quick adapter plate with stainless steel and stainless steel. Installation and commissioning times are reduced to a minimum. For general applications AirLINE Quick is available in aluminum.

Technical Data

Body material	PA (Polyamide)
Seal material	FKM, NBR
Medium	Lubricated and non-lubricated dry air; neutral gases (5 µm filter)
Manual override	Yes
Voltage	24 V DC
Voltage tolerance	±10%
Nominal power	1 W per valve
Duty cycle	Continuous operation (100% ED)
QNn	300 l/min
Pilot method	Flipper pilot valve
Circuit function	3/2-way, normally closed, 5/2-way
Pressure range	2.5–10 bar
Width/station	11 mm
Ambient temperature	0 °C to +55 °C
Protection class	3 acc. to VDE 0580
Type of protection	IP20 with terminal
Orifice	4 mm
Pneumatic connection	6 mm Push-in



Our fieldbus modules (Profinet IO, Profibus DP, Modbus TCP) can be combined under a bus address each with up to 7 RIO slave modules. Valve terminals with Modbus TCP on request.

Ordering chart

Valve function	Digital input	Item no.				
		Profinet IO	Profibus DP	RIO Slave	Common connection	Multipin
Type 8640 Standard 3/2- and 5/2-way functions						
8 x 3/2		253 644	216 223	187 663	203 956	706 532
	8	253 651	230 792	237 091	-	231 603
8 x 5/2		253 767	210 182	253 242	227 951	706 854
	16	253 769	224 071	253 245	-	253 244
8 x 2 x 3/2		253 679	189 667	237 096	208 382	224 404
	16	253 683	237 110	237 097	-	237 073
12 x 5/2		253 770	710 531	253 251	189 279	708 412
	24	253 771	710 046	253 247	-	207 607
12 x 2 x 3/2		253 703	208 176	218 304	235 702	182 089
	24	253 706	218 307	218 308	-	173 571
16 x 3/2		253 656	189 291	235 597	708 042	706 713
	16	253 666	178 229	174 333	-	177 419
16 x 5/2		253 773	709 711	710 317	708 751	169 891
	32	253 774	234 195	253 253	-	253 254
24 x 3/2		253 672	710 320	710 457	202 871	169 920
	24	253 675	215 422	214 681	-	707 368
24 x 5/2		253 776	182 710	253 258	181 735	182 716

8640

Valve function	Digital input	Manual/ Automatic switch	Item no.				
			Profinet IO	Profibus DP	RIO Slave	Common connection	Multipin
Type 8640 Standard 3/2- and 5/2-way functions including process safety functions, pneumatic HotSwap and check valves							
8 x 3/2			253 646	218 900	236 139	208 250	219 010
		Yes	253 648	218 898	237 057	-	237 069
	8		253 652	219 041	229 922	-	237 075
	8	Yes	253 654	218 894	237 092	-	219 572
8 x 5/2			253 589	218 906	237 093	213 074	707 131
	8		253 595	218 902	237 094	-	237 076
	16		253 599	218 904	237 095	-	229 577
8 x 2 x 3/2			253 681	236 022	237 071	226 084	179 369
	16		253 684	230 105	164 850	-	237 077
12 x 2 x 3/2			253 705	235 781	173 388	226 086	226 360
	24		253 708	230 102	236 014	-	179 368

Ordering chart (Continued)

8640

Valve function	Digital input	Manual/ Automatic switch	Item no.				
			Profinet IO	Profibus DP	RIO Slave	Common connection	Multipin
Type 8640 Standard 3/2- and 5/2-way functions including process safety functions, pneumatic HotSwap and check valves							
16 x 3/2			253 658	219 042	236 140	219 386	217 779
	16		253 670	212 180	227 905	–	237 079
	16	Yes	253 676	212 179	237 099	–	237 080
	32		253 664	212 182	220 612	–	237 083
	32	Yes	253 669	212 181	220 611	–	237 081
16 x 5/2			253 601	218 956	237 100	225 861	237 084
		Yes	253 603	218 955	237 101	–	237 085
	16		253 606	212 184	237 104	–	237 089
	16	Yes	253 608	212 183	237 102	–	237 088
	32		253 627	212 187	230 230	–	229 588
	32	Yes	253 628	215 840	215 841	–	237 090
24 x 3/2			253 680	213 292	214 416	183 055	171 115
		Yes	253 674	213 291	213 491	–	–
	24		253 677	212 109	212 115	–	707 369
	24	Yes	250 280	207 661	212 111	–	–
24 x 5/2			253 629	172 040	237 106	213 280	217 482
		Yes	253 631	237 108	237 107	–	–
	24		253 638	213 459	213 503	–	707 370
	24	Yes	253 641	213 458	213 493	–	–

Valve function	Digital input	AirLINE Quick	Item no.				
			Profinet IO	Profibus DP	RIO Slave	Common connection	Multipin
Type 8640 AirLINE Quick with 3/2- and 5/2-way functions							
4 x 2 x 3/2		Anodised aluminium	–	–	–	243 003	247 995
8 x 2 x 3/2			253 359	230 189	233 843	230 292	230 619
	16		253 495	230 195	233 933	–	230 543
12 x 2 x 3/2			253 539	230 196	233 953	230 295	230 616
	24		253 544	230 198	236 050	–	230 620
16 x 5/2			253 556	247 613	247 571	247 621	247 887
	32		253 560	247 618	247 625	–	247 895

Ordering chart (Continued)

Valve function	Digital input	AirLINE Quick	Item no.				
			Profinet IO	Profibus DP	RIO Slave	Common connection	Multipin
Type 8640 AirLINE Quick with 3/2- and 5/2-way functions							
4 x 2 x 3/2		Stainless steel 1.4301	–	–	–	247 986	247 997
8 x 2 x 3/2			253 360	230 183	233 886	230 290	230 617
	16		253 496	230 193	233 936	–	230 542
12 x 2 x 3/2			253 540	230 197	233 954	230 293	230 615
	24		253 552	230 200	236 041	–	230 622
16 x 5/2			253 557	247 615	247 587	247 622	247 892
	32		253 561	246 868	247 628	–	247 896

8640

Valve function	Digital input	AirLINE Quick	Item no.				
			Profinet IO	Profibus DP	RIO Slave	Common connection	Multipin
Type 8640 AirLINE Quick with 3/2- and 5/2-way functions including process safety functions, pneumatic HotSwap and check valves							
4 x 2 x 3/2		Anodised aluminium	–	–	–	247 987	247 998
8 x 2 x 3/2			253 362	230 711	233 865	231 117	230 860
	16		253 535	230 712	233 935	–	230 871
12 x 2 x 3/2			253 541	230 749	233 957	230 846	230 506
	24		253 553	230 876	236 047	–	230 841
16 x 5/2			253 558	247 616	247 603	247 624	247 893
	32		253 562	247 619	247 629	–	247 899
4 x 2 x 3/2			Stainless steel 1.4301	–	–	–	247 991
8 x 2 x 3/2		253 444		230 709	233 794	231 113	230 859
	16	253 538		230 714	233 930	–	230 870
12 x 2 x 3/2		253 543		230 808	233 955	230 845	230 840
	24	253 555		230 154	235 991	–	230 842
16 x 5/2		253 559		247 617	247 605	247 626	247 894
	32	253 563		247 620	247 630	–	247 900

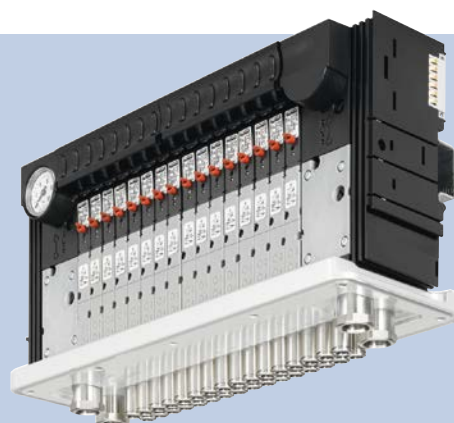
AirLINE Quick

Electrical/pneumatic automation system

8644

Compatible with systems Wago, Phoenix, Rockwell and Siemens

- Combination of fieldbus, pilot valves and I/O modules
- AirLINE Quick - Stainless steel mounting plate saves time, effort and cost
- Compact design
- High flow rates



The AirLINE system provides a universal interface between process and system control. It integrates electrical and pneumatic devices in an assembly group, which allows a modular and flexible structure comprising of fieldbus modules, pilot valves and I/O modules through a simple snap-in technique.

AirLINE Quick adapter plate, with integrated fluid connections (hose connectors), can be attached directly to the cabinet wall.

This reduces installation costs and the cabinet can be smaller. The hygienic design allows the cabinet to be placed closer to the process. Hose distances can be shortened.

Technical data

	Pilot valve 6524, 6525
Width/station	11 mm
Circuit function	C (3/2) H (5/2)
Flow rate	300 l/min
Pressure range	2,5 to 10 bar
Module types	2x and 8x (integrated check valve and P-shut-off optional)
Fieldbus	PROFIBUS DP, INTERBUS, DeviceNet, CANopen, Ethernet, further on request
Electrical modules	WAGO I/O System 750 PHOENIX INLINE Siemens ET200S Rockwell Point I/O
Operating voltage	24 V DC
Residual ripple	1 V _{ss}
Nominal power per valve	1 W (0.5 W Nominal power after 120 ms)
Nominal current per valve	43 mA (28 mA hold current after 120 ms) 41 mA (when using the Type 0460)
Temperatures	
Ambient	0 °C to +55 °C
Storage	-20 °C to +60 °C
Type of protection	IP20 IP65 in closed cabinet
Approvals	Zone 2

Ordering chart

Valve functions	AirLINE Quick	Item no.			
		Siemens ET 200S	Wago I/O System 750	Rockwell Point I/O	Phoenix Contact INLINE
Type 8644 AirLINE Quick with 3/2 and 5/2-way functions					
8 x 3/2	Anodised aluminium	239 952	239 982	254 389	254 323
8 x 5/2		239 956	239 987	254 428	254 334
8 x 2 x 3/2		239 948	239 978	245 818	254 282
12 x 5/2		252 396	253 757	254 437	254 432
12 x 2 x 3/2		246 849	248 097	254 340	254 242
16 x 5/2		239 958	239 990	254 554	241 610
16 x 2 x 3/2		239 950	239 980	254 560	240 906
16 x 2 x 3/2		–	–	254 571	254 606
24 x 5/2		248 090	248 104	254 564	254 610
24 x 2 x 3/2		248 099	248 094	254 575	254 614
Type 8644 AirLINE Quick with 3/2 and 5/2-way functions					
8 x 3/2	Stainless steel 1.4301	239 941	239 970	254 390	254 331
8 x 5/2		239 944	239 973	254 429	254 335
8 x 2 x 3/2		239 937	239 967	254 330	254 283
12 x 5/2		253 751	253 759	254 438	254 434
12 x 2 x 3/2		248 117	248 100	254 329	254 275
16 x 5/2		239 946	239 975	254 555	241 586
16 x 2 x 3/2		239 939	233 301	254 561	254 586
16 x 2 x 3/2		–	–	254 572	254 607
24 x 5/2		248 091	248 105	254 565	254 611
24 x 2 x 3/2		246 870	248 095	254 577	254 669

Ordering chart (Continued)

Valve functions	AirLINE Quick	Item no.					
		Siemens ET 200S	Wago I/O System 750	Rockwell Point I/O	Phoenix Contact INLINE		
Type 8644 AirLINE Quick with 3/2- and 5/2-way functions including process safety functions, pneumatic HotSwap and check valves							
8644 8 x 3/2	Anodised aluminium	239 953	239 983	254 391	254 332		
		239 957	239 988	254 430	254 336		
		239 949	239 979	244 856	254 284		
		171 778	253 758	254 439	254 435		
		248 121	244 418	254 342	254 280		
		239 959	239 991	254 557	254 584		
		239 951	239 981	254 562	254 605		
		–	–	254 573	254 608		
		248 092	248 107	254 566	254 612		
		248 101	248 096	254 580	254 672		
		8 x 3/2	Stainless steel 1.4301	239 942	239 971	254 392	254 333
		8 x 5/2		239 945	239 974	254 277	254 337
8 x 2 x 3/2	239 938	239 968		254 388	241 661		
12 x 5/2	253 755	253 760		254 440	254 436		
12 x 2 x 3/2	244 417	248 123		254 348	254 281		
1 6x 5/2	239 947	239 977		254 559	245 257		
16 x 2 x 3/2	239 940	239 969		254 563	241 662		
16 x 2 x 3/2	–	–		254 574	254 609		
24 x 5/2	248 093	248 108		254 567	254 613		
24 x 2 x 3/2	248 102	248 098		254 581	254 674		

On the dot.

Precision components dosing liquids in the microlitre (μ l) range require tolerances under $\pm 1\%$. And when handling aggressive media, outstanding chemical inertness is paramount as well. Bürkert offers an unparalleled solution to meet both of these demands: the Micro Dosing Unit 7615. It ensures high accuracy and reproducibility, pumps in both directions, and can be flushed conveniently. It's also very simple to install, making it the ideal choice for all your tasks – from analytical to medical!

We make ideas flow.



Electrical position feedback

1060

- High electrical and mechanical lifetime
- More for less – optimal configuration costs
- Easy maintenance and commissioning
- Increase system and operational safety



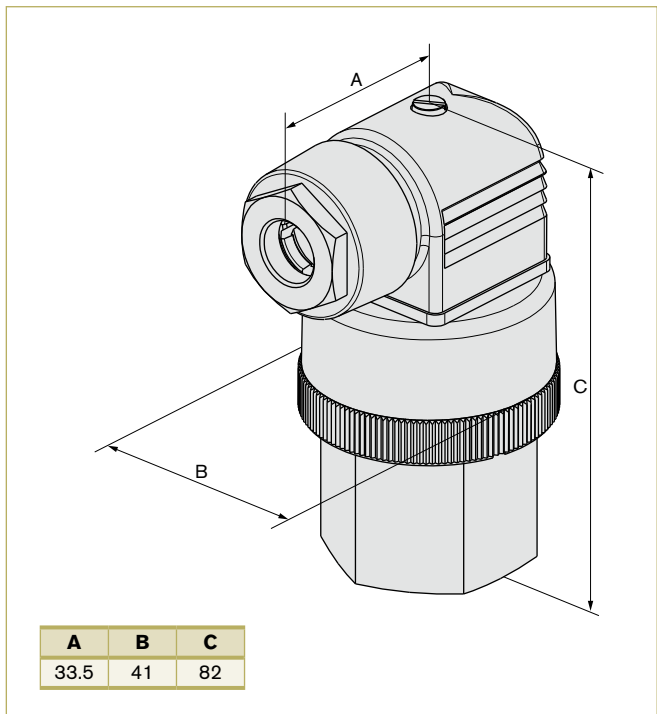
Figure shows Type 1060 mounted on actuator cover

The electrical position feedback is screwed in, instead of the visual position indicator. While the valve is opening, the piston of the actuator lifts a palm-button. This button actuates a micro switch with change-over contact, which gives the electrical feedback of the valve position. The palm-button also acts as an optical position indicator.

Technical data

Micro switch	1 switch over contact
Contact rating	till 250V AC – maximum 5 A ohmic or inductive contact load – filament load 0.5 A till 250V DC – maximum 0.25 A ohmic contact load – maximum 0.02 A inductive load – maximum 0.02 A filament load
Protection class	IP65 acc. to DIN 40050
Connection	solder terminals
Cable outlet	can be rotated through 4 x 90°
Cable diameter	5 to 9 mm
Continuous temperature	+125 °C
Material	housing and micro switch made of plastic

Envelope Dimensions [mm]

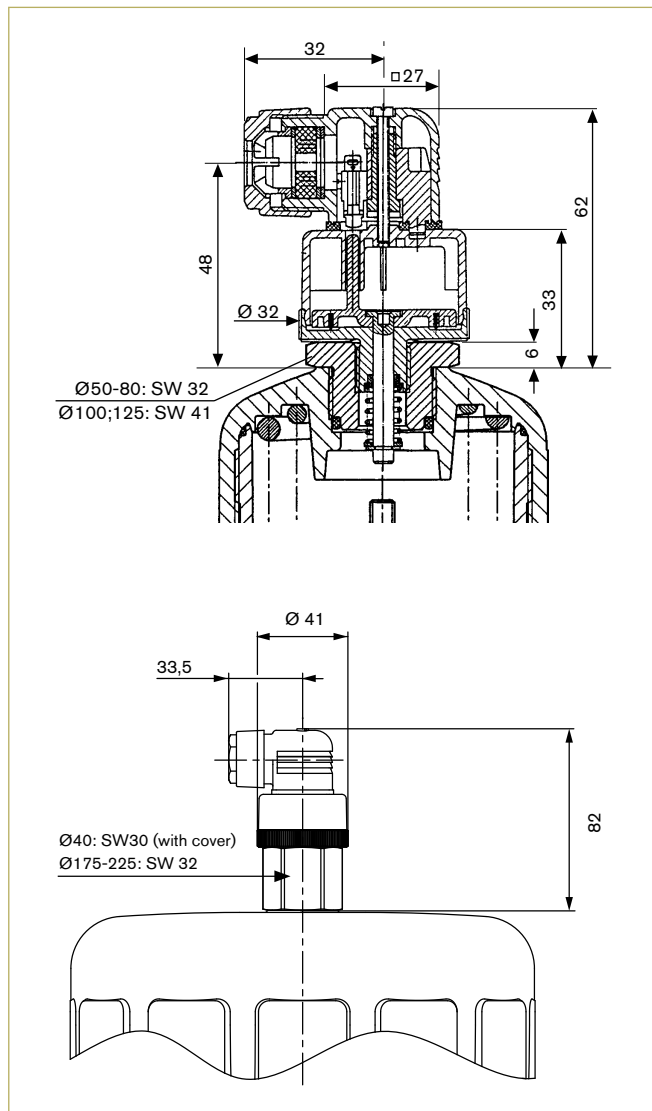


Ordering Chart

For Actuator size \varnothing [mm]	Item no.
40 (Seat valve)	158 244
40 (Diaphragm valve)	158 220
50 - 80	701 515
100, 125	701 516
175, 225	655 696

1060

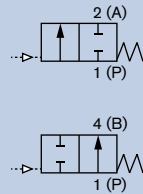
Envelope Dimensions [mm]



On-Off Pneumatically Operated 2/2-way Angle Valve for Liquids

G 1/2" - G 2 1/2"

- Waterhammer-free
- High flow rates
- Self adjusting double packing
- Optical position indicator is standard
- Rotating power head to orient air control connections



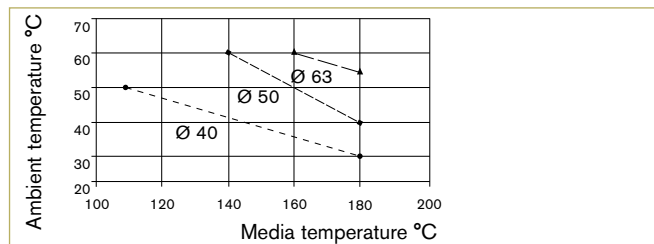
The angle seat valve consists of a pneumatically actuated piston-drive and a 2-way valve body. Depending on the ambient temperature the drive is available in two different materials, PA and PPS. The self reliable gland packing ensures a good seal. The 2/2-way flow valve body made of bronze or stainless steel precision casting allows high flow rates. These durable and robust valves can be retrofitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

Technical Data

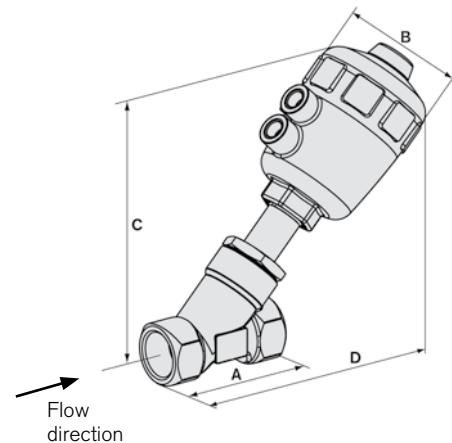
Pressure range	See Ordering Chart
Viscosity	max. 600 mm ² /s
Stuffing socket (with silicone grease)	PTFE V-Rings with spring compensation
Temperature media	-10 °C to +180 °C
Ambient temperature	
for PA-Actuator ¹⁾	-10 °C to +60 °C
for PPS-Actuator ¹⁾ Ø 40-80	+5 °C to +140 °C
for PPS-Actuator ¹⁾ Ø 100-125	+5 °C to +90 °C, temporary up to +140 °C
Body material	Gunmetal or stainless steel 316L
Seal material	PTFE
Actuator material	Polyamide or PPS
Control medium	Instrument air at 6 bar
Flow direction	Under seat
Safe position	Normally closed or normally open
Pilot air port	1/4" (Actuator Ø 40 = 1/8")

¹⁾ **Note:** For PA actuators in the sizes 40, 50 and 63, the combination of max. medium temperature and max. ambient temperature is as shown in the following chart

Temperature diagram



Envelope Dimensions [mm] (see datasheet for details)

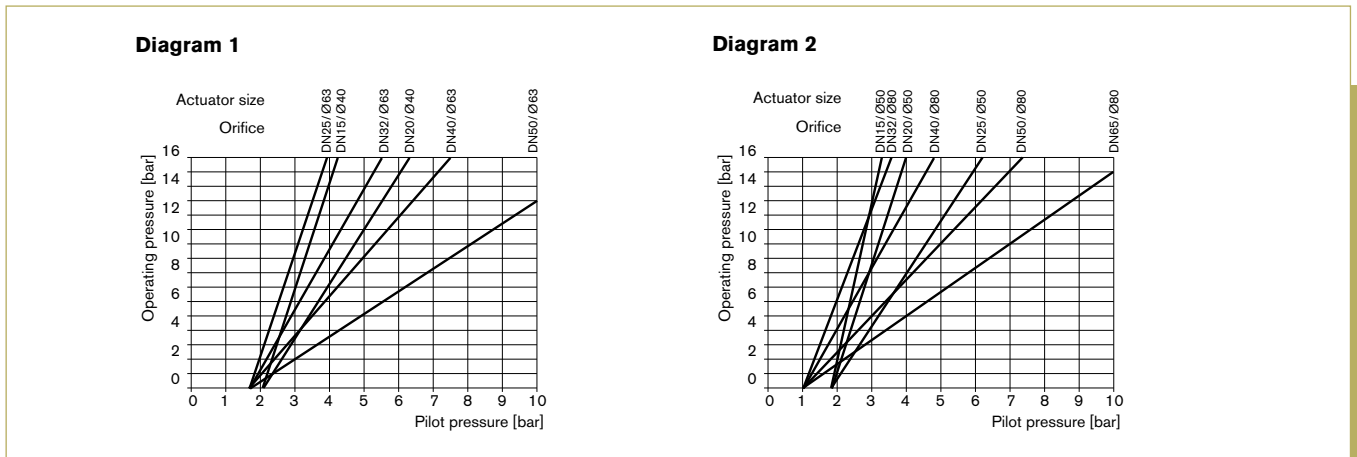


Size	Actuator	A	B	C	D
G 1/2"	40	65	53	115	139
G 1/2"	50	65	64	140	163
G 3/4"	50	75	64	144	171
G 3/4"	63	75	80	171	198
G 1"	50	90	64	152	181
G 1"	63	90	80	177	206
G 1"	80	90	101	198	228
G 1 1/4"	63	110	80	183	219
G 1 1/4"	80	110	101	205	240
G 1 1/2"	63	120	80	188	222
G 1 1/2"	100	120	127	260	295
G 1 1/2"	125	120	158	289	324
G 2"	80	150	101	225	270
G 2"	100	150	127	272	317
G 2"	125	150	158	302	347
G 2 1/2"	80	185	127	239	296
G 2 1/2"	125	185	158	317	374

Options

- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- Cleaned for oxygen service
- Seal material NBR, FKM, EPDM
- GL, SIL approvals
- Stroke limiter

Pilot pressure diagram for normally open and flow direction below seat



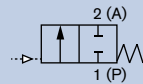
Ordering Chart

Port connection [inch]	Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Pressure range [bar]	Item no. Gunmetal body		Item no. Cast st. st. body	
					PA actuator	PPS actuator	PA actuator	PPS actuator
Normally closed								
G 1/2	13	40	3.7	0 - 15	178 608	178 607	178 606	178 605
		50	4.2	0 - 16	178 684	178 683	178 682	178 681
G 3/4	20	50	8.5	0 - 11	178 680	178 679	178 678	178 677
		63	9	0 - 16	178 666	178 665	178 664	178 663
G 1	25	63	18	0 - 11	178 676	178 675	178 674	178 667
		80	18	0 - 16	186 489	187 565	186 488	187 844
G 1 1/4	32	80	27	0 - 14	178 699	178 698	178 697	178 696
G 1 1/2	40	100	42	0 - 12.5	185 072	187 829	185 073	235 380
		125	42	0 - 16	186 487	-	187 840	-
G 2	50	100	55	0 - 7.2	001 134	002 170	001 140	001 239
		125	55	0 - 10	001 593	002 171	001 601	002 162
G 2 1/2	65	125	90	0 - 5.2	001 368	002 172	001 373	001 703
Normally open								
G 1/2	13	40	3.8	0 - 16	178 601	178 602	178 603	178 604
		50	4.2	0 - 16	178 691	178 690	178 689	178 688
G 3/4	20	50	8.5	0 - 16	178 687	179 020	178 686	178 685
G 1	25	50	10	0 - 16	178 850	178 849	178 848	178 847
G 1 1/4	32	63	25	0 - 16	178 845	178 853	178 852	178 851
G 1 1/2	40	63	35	0 - 16	178 864	178 863	178 862	178 861
G 2	50	80	49	0 - 16	001 595	002 180	001 603	002 164
G 2 1/2	65	80	77	0 - 16	001 372	002 181	001 377	001 710

On-Off Pneumatically Operated 2/2 Way Angle Valve for Steam and Gases

G 1/2" - G 2 1/2"

- Flow direction above seat
- PPS actuator for hot environments
- Optical position indicator is standard
- Self adjusting double packing
- High flow rates
- Rotating power head to orient air control connections



Bürkert's classic angle seat valve for steam applications. With this product and its longevity is it world wide dependable. These valves with flow direction above the seat for steam and gas are equipped with maintenance-free gland packing.

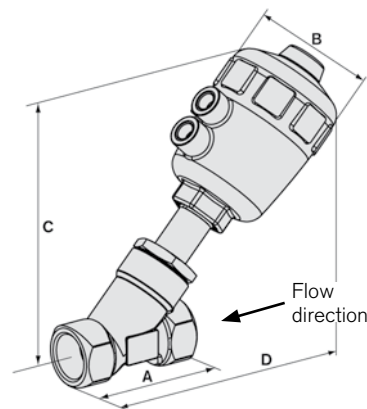
Technical Data

Pressure range	See Ordering Chart	
Temperature media	-10 °C to +180 °C	
Viscosity	max. 600 mm ² /s	
Stuffing socket (with silicone grease)	PTFE V-Rings with spring compensation	
Ambient temperature max.		
PA actuator	-10 °C to +60 °C	
PPS actuator Ø 40-80	+140 °C	
PPS actuator Ø 100-125	+90 °C	
Body material	Gunmetal or stainless steel 316L	
Seal material	PTFE	
Actuator material	Polyamide or PPS	
Control medium	Instrument air at 6 bar	
Flow direction	Over seat to minimise actuator size	
Safe position	Normally closed	
Max. pilot pressure		
Actuator size Ø 40-80	PA and PPS	10 bar
Actuator size Ø 100	PA	10 bar
Actuator size Ø 100	PPS	7 bar
Actuator size Ø 125	PA and PPS	7 bar
Pilot air port	1/4" (Actuator Ø 40 = 1/8")	

Options

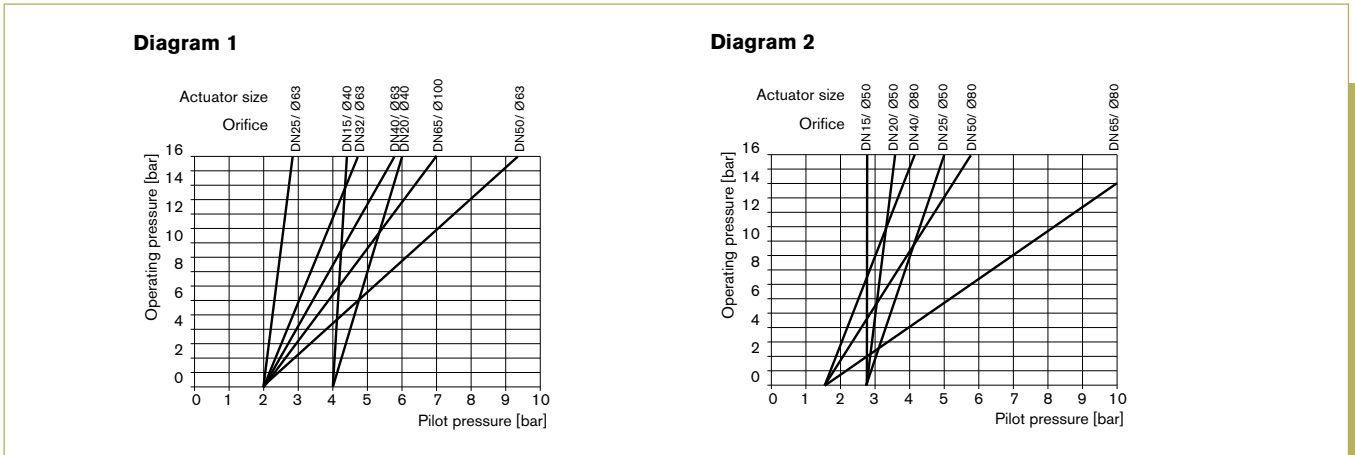
- Normally open
- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- Cleaned for oxygen service
- Stroke limiter
- Seal material NBR, FKM, EPDM

Envelope Dimensions [mm] (see datasheet for details)



Size	Actuator	A	B	C	D
G 1/2"	50	65	64	140	163
G 3/4"	40	75	53	120	147
G 3/4"	50	75	64	144	171
G 1"	50	90	64	152	181
G 1"	63	90	80	177	206
G 1 1/4"	63	110	80	183	219
G 1 1/2"	63	120	80	188	222
G 2"	63	150	80	204	249
G 2 1/2"	80	185	101	239	296
G 2 1/2"	100	185	127	287	344

Pilot pressure diagram for normally closed and flow direction below seat



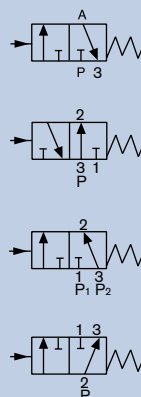
Ordering Chart

Port connection [inch]	Orifice [mm]	Actuator [mm]	Kv Value [m³/h]	Pressure range [bar]	Item no. PA	Item no. PPS
Gunmetal body						
G 1/2	13	50	4.2	0 - 16	183 939	186 106
G 3/4	20	40	7.9	0 - 16	186 822	-
		50	8	0 - 16	185 356	180 374
G 1	25	50	14.5	0 - 16	186 380	187 556
		63	18	0 - 16	178 860	178 859
G 1 1/4	32	63	25	0 - 16	178 855	178 854
G 1 1/2	40	63	35	0 - 16	178 896	178 897
G 2	50	63	49	0 - 16	001 251	002 149
G 2 1/2	65	80	77	0 - 14	001 398	002 151
		100	90	0 - 15	130 332	186 344
Stainless steel body						
G 1/2	13	50	4.2	0 - 16	186 376	186 467
G 3/4	20	40	7.9	0 - 16	187 672	-
		50	8	0 - 16	185 304	180 375
G 1	25	50	14.5	0 - 16	186 729	187 872
		63	18	0 - 16	178 857	178 856
G 1 1/4	32	63	25	0 - 16	178 893	178 892
G 1 1/2	40	63	35	0 - 16	178 895	178 894
G 2	50	63	49	0 - 16	001 401	002 158
G 2 1/2	65	80	77	0 - 14	001 402	002 160
		100	90	0 - 15	130 333	-

3/2-way Globe Valve, pneumatically operated

G 1/2" - G 2"

- Different flow circuit functions and control functions
- Long life actuator
- Optical display as standard in series
- Rotary actuator aligns the pilot air ports



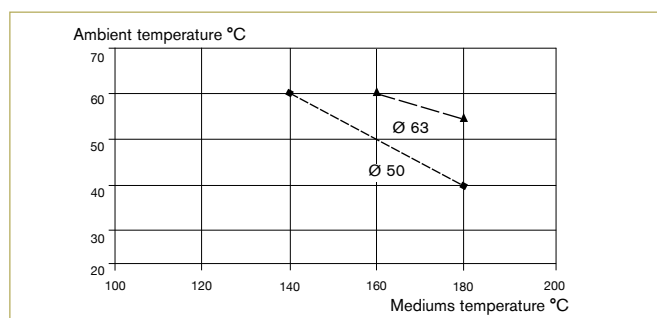
The externally piloted globe valve consists of a pneumatically operated piston actuator and a 3-way valve body. The drive is manufactured as standard in PA. On request PPS is available for high ambient temperatures (e.g. external sterilisation) up to 140 °C. High flow rates are attained with the self proven gunmetal body. A reliable self-adjusting packing gland provides high sealing integrity. Various fluidic circuit functions can be obtained by a simple exchange of the pressure and service ports. These maintenance-free and robust valves can be retrofitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

Technical Data

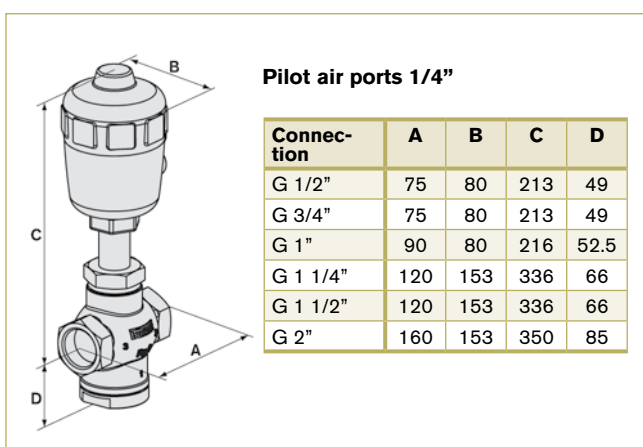
Pressure range	See Ordering Chart
Temperature media	-10 °C to +180 °C
Ambient temperature	-10 °C to +60 °C
Viscosity	Max. 600 mm ² /s
Body material	Gunmetal
Seal material	PTFE
Actuator material	Polyamide (optional PPS)
Stuffing socket (with silicone grease)	PTFE V-Rings with spring compensation
Max. pilot pressure	10 bar, 7 bar with actuator size Ø 125
Control medium	Instrument air at 6 bar
Safe position	Normally closed or normally open

Note: For PA actuators in the sizes 50 and 63, the combination of max. media temperature and max. ambient temperature is as shown in the following chart:

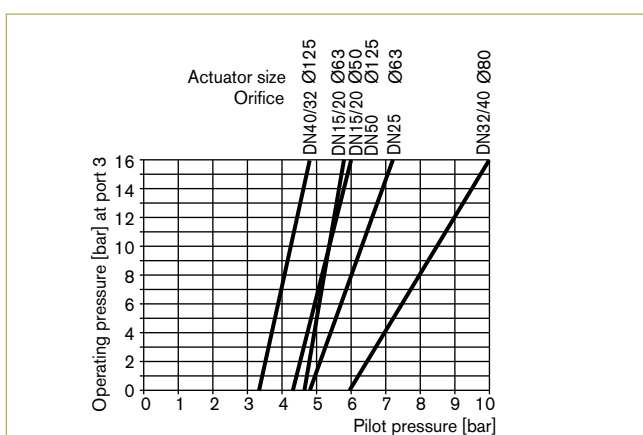
Ambient temperature



Envelope Dimensions [mm] (see datasheet for details)



Pilot pressure chart (CFA, flow direction 3 → 2)



Options

- Normally open
- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- Cleaned for oxygen service
- Stroke limiter

Ordering Chart

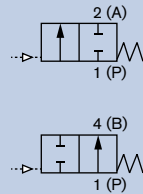
Port connection [inch]	Orifice [mm]	Actuator size [mm]	Kv Value [m ³ /h]		Pressure range [bar]		Item no.
			1 - 2	2 - 3	1 - 2	2 - 3	
G 1/2	13	63	9	5.5	0 - 16	0 - 16	002 300
G 3/4	20	63	10.5	6.5	0 - 16	0 - 16	002 301
G 1	25	63	17	10	0 - 10	0 - 16	002 133
G 1 1/4	32	125	38	24	0 - 14	0 - 16	002 302
G 1 1/2	40	125	40	26	0 - 14	0 - 16	002 303
G 2	50	125	55	37	0 - 10	0 - 16	002 136

On-Off Pneumatically Operated 2/2 Way Diaphragm Valve

2030

DN15-DN50 mm

- Use with aggressive media
- Streamlined housing
- Self-draining with appropriate mounting position
- Zero dead volume



Pneumatically actuated, chemically resistant diaphragm valve for on-off control. A wide range of accessories add to the overall safe function of this valve in critical areas while the addition of a control head transforms this to provide accurate modulating control.

Technical Data

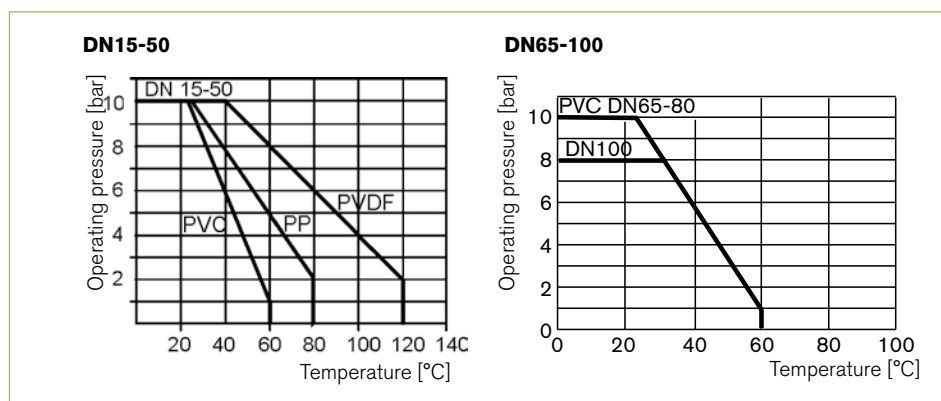
Pressure range	See Ordering Chart
Temperature media	-10 °C to +60 °C
Ambient temperature	-10 °C to +60 °C
Viscosity	to viscous
Body material	PVC-U
Seal material	EPDM, PTFE/EPDM (FKM on request)
Actuator material	Polyamide
Control medium	Neutral gases, air
Flow direction	Bidirectional
Control function	Normally closed or normally open

Options/Accessories

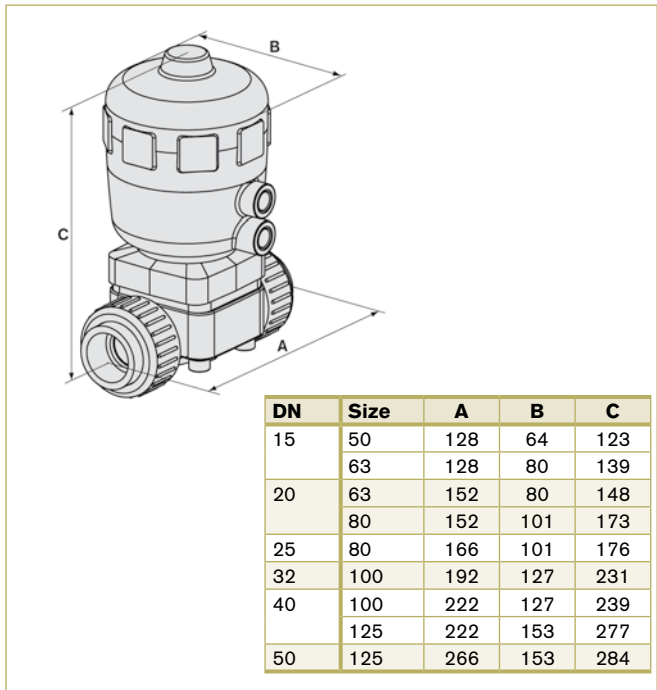
- PVDF, PP bodies
- PPS actuator
- Double acting actuator
- Feedback 1062
- Stroke limitation
- FDA/KTW-Approvals

Mediums temperature

Pressure temperature compatibility charts

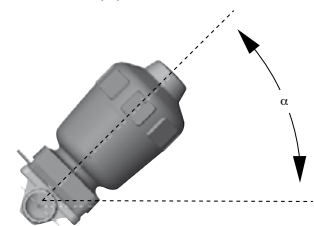


Envelope Dimensions [mm] (see datasheet for details)



Installation for self-draining

$\alpha = 15^\circ$ up to 30° plus 3° up to 5° inclination to pipe axis



Important for the material selection!

Note that the permissible operating pressure is dependent on the media temperature.

Pilot pressure charts for normally open

Seal material EPDM

Chart 1 – orifice 15-25

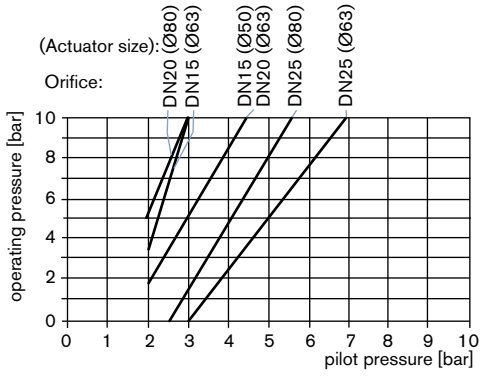
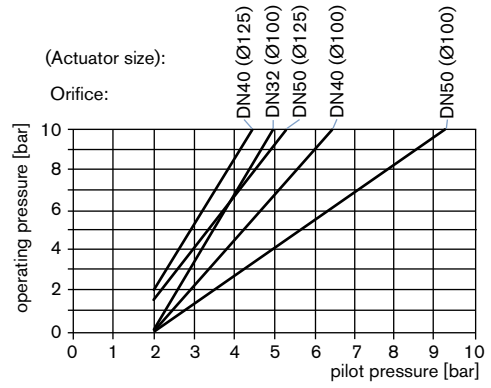


Chart 2 – orifice 32-50



Seal material PTFE/EPDM

Chart 3 – orifice 15-25

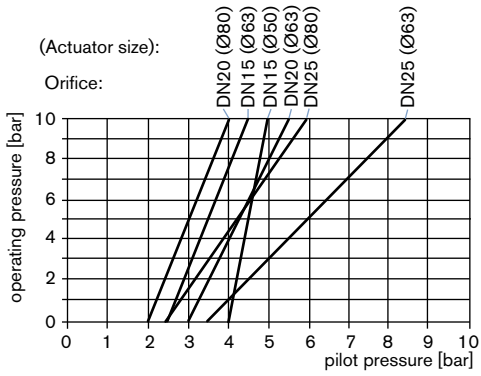
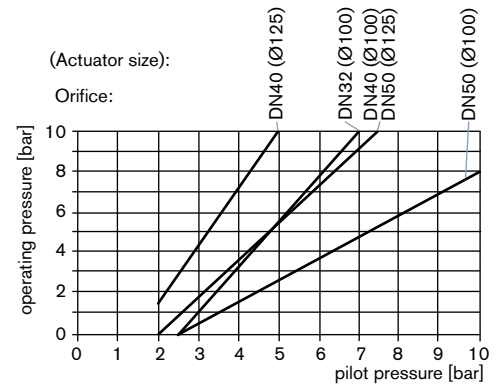


Chart 4 – orifice 32-50



Ordering Chart

2030

Orifice [mm]	Port connection [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Min. pilot pressure [bar]	Operating pressure [bar]	Seal material EPDM		Seal material PTFE / EPDM	
						Item no. true union	Item no. Spigot	Item no. true union	Item no. Spigot
Normally closed									
15	20	50	3	5	8.5	262 212	141 451	262 237	144 294
		63	3.5	5	10	262 231	141 452	262 245	141 456
20	25	63	7	5.5	10	262 740	141 461	262 760	144 298
		80	7	5.5	10	262 741	–	262 742	141 466
25	32	80	11	5.5	10	262 743	141 469	262 744	141 473
32	40	100	18	5.5	10	262 745	141 860	262 746	–
40	50	100	24	5.5	6.5	262 747	141 861	262 761	144 302
		125	26	5.5	10	262 748	141 484	262 749	141 488
50	63	125	43	5.5	8	262 750	141 862	–	–
50	63	125	43	5.5	7	–	–	262 751	141 494
Normally open									
15	20	50	3	see pilot pressure diagram	10	262 252	141 499	262 306	141 504
20	25	63	7		10	262 752	141 509	262 753	141 515
25	32	80	11		10	262 754	141 518	262 755	141 522
32	40	100	18	see pilot pressure diagram	10	262 756	–	–	–
40	50	100	24		10	262 757	141 865	262 758	141 537
50	63	125	43		10	262 759	141 866	–	141 543



Standing on the shoulders of giants

Introducing the third generation solenoid control valves!

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FLUID CONTROL SYSTEMS

Back in 1990 we were proud that our solenoid control valves worked particularly well. Today, we are proud that it is still the case – as the newest generation can do everything you expect from a solenoid control valve... now even better, thanks to experience and understanding gained.

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Type 2871
Diameter
0.8 to 2 mm,
20 mm coil width



Type 2873
Diameter
0.8 to 4 mm,
32 mm coil width



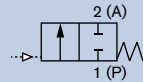
Type 2875
Diameter
2 to 8 mm,
49 mm coil width

Want to know more? Call us at: +49 (0) 7940/10-91 111.

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2/2-way Compact Diaphragm Valve, cast valve body, threaded port connection

- Hermetical separation of fluids from the actuator by diaphragm
- For contaminated, viscous or dirty fluids
- Optical position indicator is standard



The externally piloted diaphragm valve consists of a pneumatically operated piston actuator, a diaphragm and a 2-way valve housing made of investment cast stainless steel.

The standard material of the actuator is PA polyamide. With its favourable flow characteristics, the valve enables high flow capacities and a variety of applications for contaminated, viscous or dirty fluids to be realised.

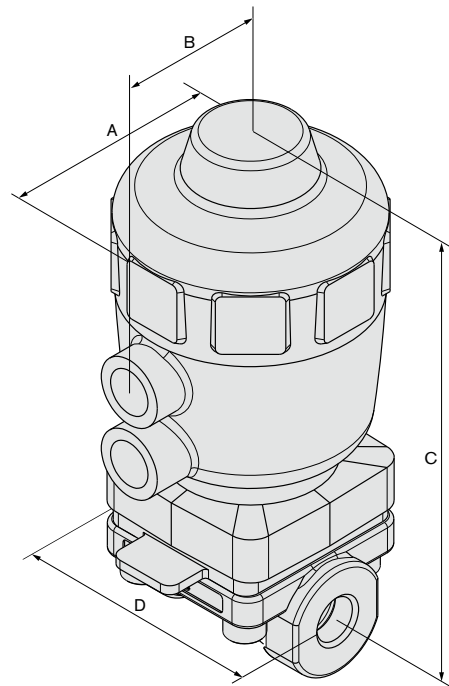
Technical Data

Port connection	Threaded ports ISO 228
Orifice	DN15-20
Body material	Cast stainless steel 316L/1.4435
Actuator material	PA polyamide
Pilot air ports	Stainless steel 1.4305
Seal materials	EPDM, FKM, EPDM lined with PTFE
Medium	Neutral gases and liquids, sterile, aggressive or abrasive fluids
Viscosity	Up to viscous
Medium temperature	
EPDM	-5 to +130°C
FKM, EPDM lined with PTFE	Briefly up to +150°C for steam sterilisation -5 to +130°C
Ambient temperature	-5 to +60°C
Control medium	Neutral gases; air
Installation	As required, preferably with actuator in upright position

Options

- Control function B (open by spring force) and I (double-acting actuator)
- Feedback
- Stroke limitation

Dimensions [mm] (see datasheet for further Details)



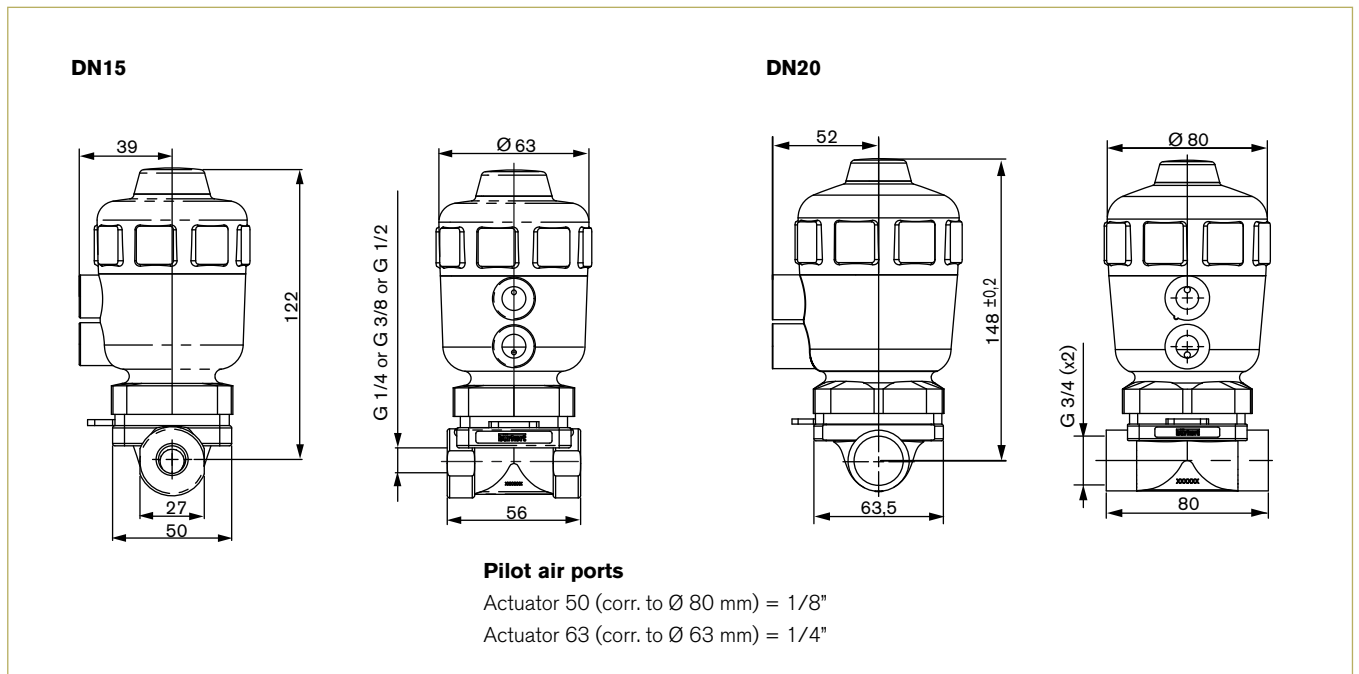
DN	A	B	C	D
15	63	39	122	56
20	80	52	148	80

Ordering Chart

Control function	Orifice [mm]	Port connection [inch]	Kv value water [m³/h]	Actuator size Ø [mm]	Pilot pressure [bar]		Max. operating pressure [bar]	Item no.
					min.	max.		
A 2/2-way normally closed, NC	EPDM seal							
	15	G 1/4	4	50	5	10	8.5	445 417
	15	G 3/8	4	50	5	10	8.5	445 418
	15	G 1/2	4	50	5	10	8.5	445 419
	20	G 3/4	7	63	5.5	10	10	558 712
	FKM seal							
	15	G 1/4	4	50	5	10	8.5	445 420
	15	G 3/8	4	50	5	10	8.5	445 421
	15	G 1/2	4	50	5	10	8.5	445 422
	20	G 3/4	7	63	5.5	10	10	558 714
	EPDM coated with PTFE seal							
	15	G 1/4	4	50	7	10	8.5	-
	15	G 3/8	4	50	7	10	8.5	444 148
	15	G 1/2	4	50	7	10	8.5	-
	20	G 3/4	7	63	8.5	10	10	558 713

2031 Compact

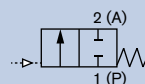
Envelope Dimensions [mm]



2/2-way Diaphragm Valve, Classic, pneumatically operated, forged valve body

DN8-100 mm

- Hermetical separation of fluids from the operating mechanism by diaphragm
- Zero dead volume
- Various surface finishes available



The externally piloted diaphragm valve consists of a pneumatically operated piston actuator, a diaphragm and a 2-way valve housing made of forged stainless steel. The standard material of the actuator is PPS. The flow optimised and zero dead volume valve body makes high flow rates possible and a variety of applications to be realised.

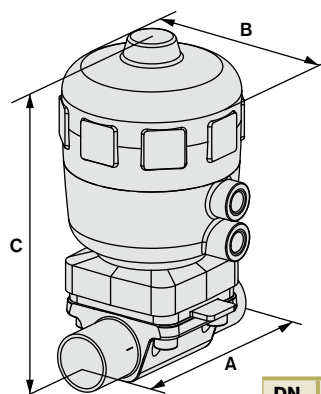
Technical data

Orifice	DN8-100 mm
Body material	Forged stainless steel 316L/1.4435 / BN2 Fe < 0.5% / C ≤ 0.03%
Pilot air ports	Stainless steel 1.4305
Seal materials	EPDM, PTFE/EPDM (advanced PTFE/EPDM on request)
Medium temperatures	EPDM, PTFE/EPDM, ad- vanced PTFE/EPDM
	-10 °C to +130 °C (Briefly up to +150 °C for steam sterilisation)
Actuator materials	PPS for actuator size ≥ 40-125 mm PA polyamide for actuator size ≥ 175 mm
Media	Neutral gases and liquids, high purity, aseptic, aggressive or abrasive fluids
Control medium	Neutral gases; air
Ambient temperature	
Actuator size < 100 mm	+5 °C to +140 °C
Actuator size 100-125 mm	+5 °C to +90 °C, briefly up to 140 °C
Actuator size > 125 mm	-10 °C to +50 °C
Port connections	
Weld end body acc. to	EN ISO 1127/ISO 4200, DIN 11850 S2
Viscosity	Up to viscous

Options

- Seal material FKM
- Feedback
- Stroke limitation

Dimensions [mm] (see datasheet for further Details)



Pilot air port
Actuator 40 & 50 = 1/8"
Actuator 63-225 = 1/4"

DN	Actuator	A	B	C
8	40	90	53	85
10	40	90	53	85
15	50	110	64	118
20	63	119	80	146
25	80	129	101	175
32	100	161	127	233
40	100	161	127	233
50	125	192	153	277
65	225	250	261	394
80	225	250	261	394
100	225	250	261	409

Ordering chart

Port connection		External Ø [mm]	Kv value water [m³/h]	Actuator size Ø [mm]	Pilot pressure [bar]	Operating pressure [bar]		Item no. Mechanical polished, Ra ≤ 0.6 µm	
[mm]	[inch]					EPDM	PTFE / EPDM	EPDM	PTFE / EPDM
According to EN ISO 1127/ISO 4200									
8	G 1/4	13.5	1.0	40	5.0 - 7	10	10	216 508	216 519
10	G 3/8	17.2	1.0	40	5.0 - 7	10	10	216 509	216 520
15	G 1/2	21.3	4.0	50	5.0 - 7	8.5	10	216 510	216 521
20	G 3/4	26.9	7.0	63	5.5 - 7	10	10	216 511	216 522
25	G 1	33.7	12.0	80	5.5 - 7	10	7.5	216 512	216 524
32	G 1 1/4	42.4	30.0	100	5.5 - 7	6.5	10	216 513	216 525
40	G 1 1/2	48.3	30.0	100	5.5 - 7	6.5	10	216 514	216 526
50	G 2	60.3	51.5	125	5.5 - 7	8	7	216 515	216 527
65	G 2 1/2	76.1	160.0	225	5.0 - 6	10	10	216 516	216 528
80	G 3	88.9	160.0	225	5.0 - 6	10	10	216 517	216 529
100	G 4	114.3	235.0	225	5.0 - 6	8	4	216 518	216 530
According to DIN 11850 Series 2									
10	G 3/8	13.0	1.0	40	5.0 - 7	10	10	216 531	216 541
15	G 1/2	19.0	4.0	50	5.0 - 7	8.5	10	216 532	216 542
20	G 3/4	23.0	7.0	63	5.5 - 7	10	10	216 533	216 543
25	G 1	29.0	12.0	80	5.5 - 7	10	7.5	216 534	216 544
32	G 1 1/4	35.0	30.0	100	5.5 - 7	6.5	10	216 535	216 545
40	G 1 1/2	41.0	30.0	100	5.5 - 7	6.5	10	216 536	216 546
50	G 2	53.0	51.5	125	5.5 - 7	8	7	216 537	216 547
65	G 2 1/2	70.0	160.0	225	5.0 - 6	10	10	216 538	216 548
80	G 3	85.0	160.0	225	5.0 - 6	10	10	216 539	216 549
100	G 4	104.0	235.0	225	5.0 - 6	8	4	216 540	216 550

On-Off Pneumatically Operated 2/2-way ELEMENT Angle Valve

G 1/2" - 2"

- Perfect for clean applications
- Wide range of accessories
- Compressed air recycling control function with ELEMENT Control Tops
- Long life
- Silencer included



2100 ELEMENT angle seat valves are designed for unmatched life cycle performance. Shown on this page in a normally closed configuration, with underseat flow for liquids, these valves exhibit live loaded packing with all of the advantages of the ELEMENT platform: Intelligent, Integrated and Beautiful.

Technical Data

Pressure range	See Ordering Chart
Viscosity	max. 600 mm ² /s
Temperature media	-10 °C to +185 °C
Ambient temperature	0 °C to +55 °C (with integrated control) 0 °C to +60 °C (connector hose air supply) 0 °C to +100 °C (threaded piping)
Body material	316L stainless steel
Seal material	PTFE
Actuator material	Actuator PPS Cover stainless steel 1.4561 (316Ti)
Control medium	Instrument air at 6 bar
Flow direction	Flow under seat
Port connection	G-thread, weld end, clamp
Spindle packing	PTFE seal with spring compensation
Safe position	Normally closed, normally open

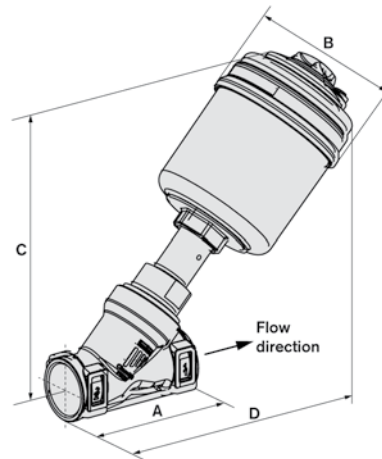
Options

- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches

Envelope Dimensions [mm] (see datasheet for details)

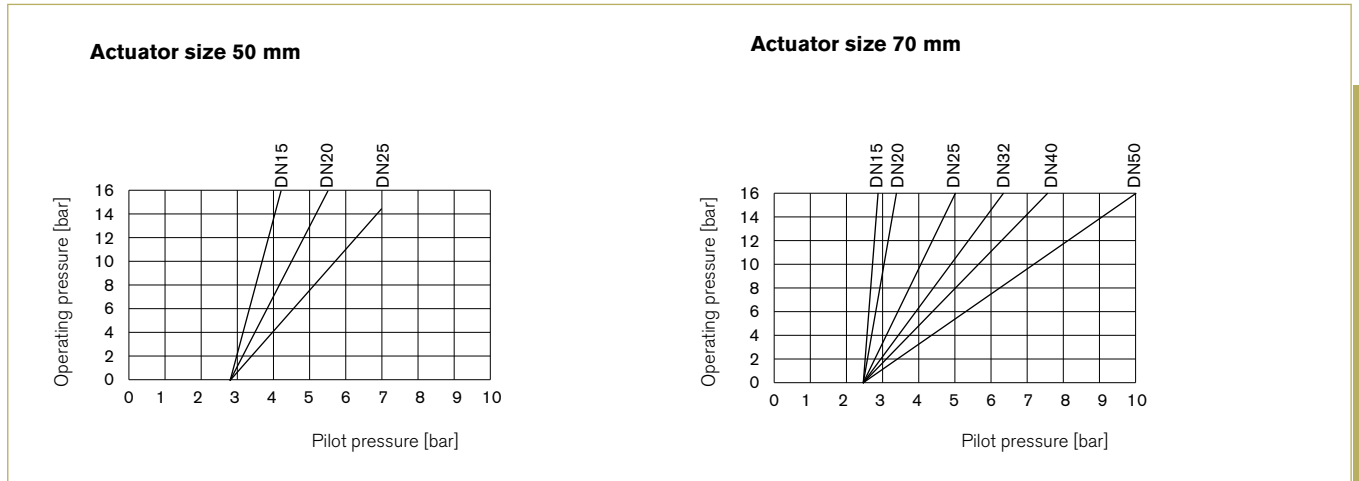
Dimensions shown for threaded version for others please see datasheet

Pilot air ports for 6/4 mm tubing

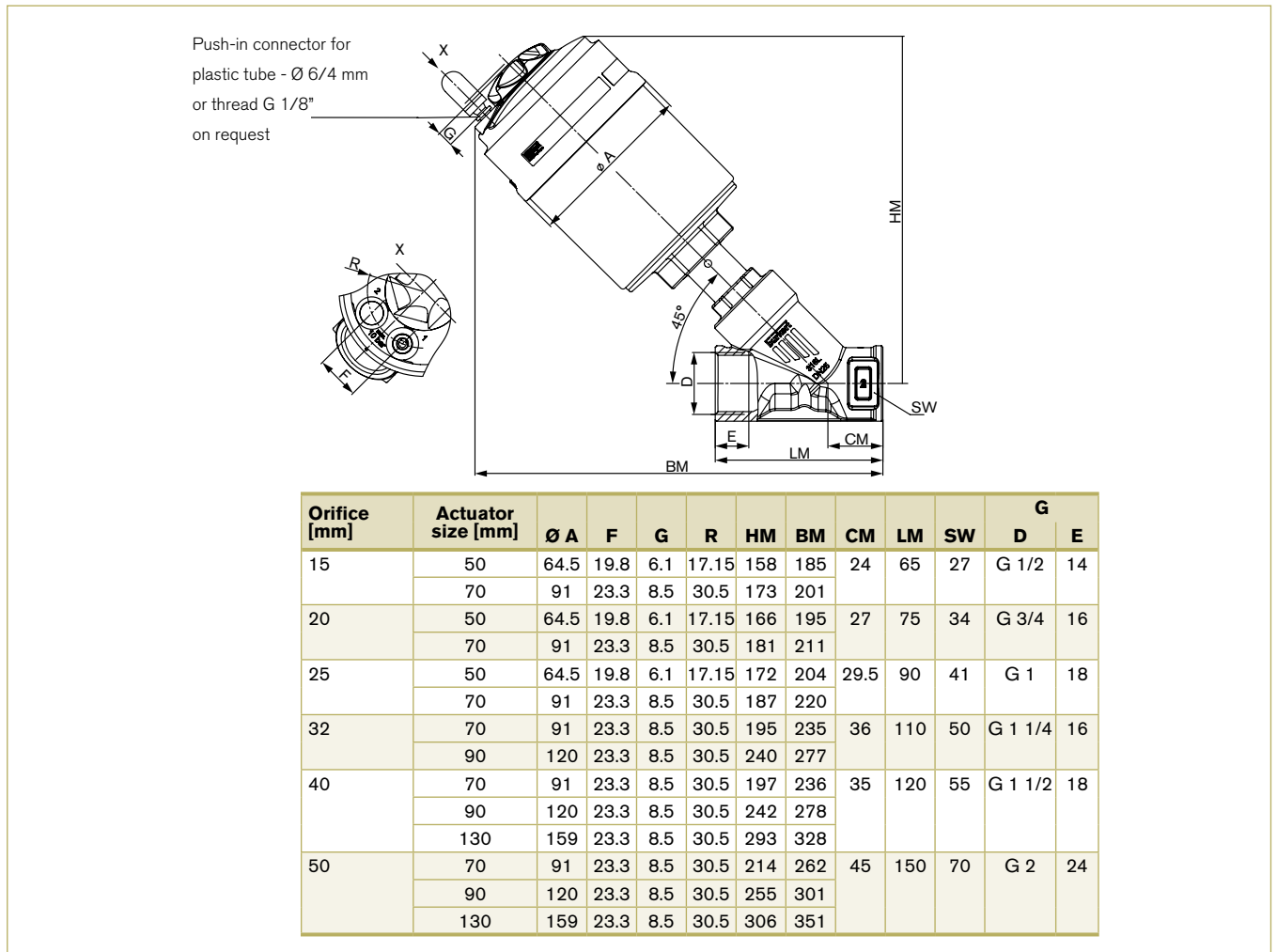


Port connection	Actuator [mm]	A	B	C	D
G 1/2"	50	65	64.5	158	185
G 1/2"	70	65	91	173	201
G 3/4"	50	75	64.5	166	195
G 3/4"	70	75	91	181	211
G 1"	50	90	64.5	172	204
G 1"	70	90	91	187	220
G 1 1/4"	70	110	91	195	235
G 1 1/4"	90	110	120	240	277
G 1 1/2"	70	120	91	197	236
G 1 1/2"	90	120	120	242	278
G 2"	70	150	91	214	262
G 2"	90	150	120	255	301
G 2"	130	150	159	306	351

Pilot pressure diagram, normally open



Dimensions angle seat valve Type 2100 [mm]



Ordering Chart

2100 ELEMENT

Port connection [inch]	Orifice Ø [mm]	Kv value [m ³ /h]	Actuator size [mm]	Minimum pilot pressure [bar]	Max. operating pressure [bar]	Item no.
Angle seat valve G Thread						
Normally closed						
G 1/2	15	5	50	5.2 - 10	25	213 619
		5	70	5.0 - 10	25	213 620
G 3/4	20	10	50	5.2 - 10	16	227 616
		11	70	5.0 - 10	20	213 621
G 1	25	15	50	5.2 - 10	9	227 617
		18	70	5.0 - 10	16	213 622
G 1 1/4	32	27	70	5.0 - 10	8.5	213 623
		28	90	5.0 - 10	16	213 624
G 1 1/2	40	38	70	5.0 - 10	6	213 625
		40	90	5.0 - 10	16	213 627
G 2	50	55	90	5.0 - 10	10	175 108
		62	130	5.0 - 7	16	188 610
Normally open						
G 1/2	15	5	50	see diagram	16	213 637
		5	70		16	213 638
G 3/4	20	10	50		16	213 639
		11	70		16	213 640
G 1	25	18	70		16	213 641
G 1 1/4	32	27	70		16	213 642
G 1 1/2	40	38	70		16	213 643
G 2	50	52	70		16	175 123

Ordering Chart

Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Port clamp external Ø [mm]	Minimum pilot pressure [mm]	Max. operating pressure [bar]	Item no.
Clamp acc. to ISO 2852						
Normally closed						
15	50	5	34	5.2 - 10	25	187 097
	70	5	34	5.0 - 10	25	188 783
20	50	10	50.5	5.2 - 10	16	209 437
	70	11	50.5	5.0 - 10	20	188 784
25	50	15	50	5.2 - 10	9	227 613
	70	18	50.5	5.0 - 10	16	188 785
32	70	27	50.5	5.0 - 10	8.5	188 786
	90	28	50.5	5.0 - 10	16	188 787
40	70	38	64	5.0 - 10	6	188 788
	90	40	64	5.0 - 10	16	188 789
50	90	55	77.5	5.0 - 10	10	188 790
	130	62	77.5	5.0 - 7	16	188 791
Normally open						
15	50	5	34	see diagram	16	187 101
	70	5	34		16	188 800
20	50	10	50.5		16	187 102
	70	11	50.5		16	188 801
25	70	18	50.5		16	188 802
32	70	27	50.5		16	188 803
40	70	38	64		16	188 804
50	70	52	77.5		16	188 805

Ordering Chart

2100 ELEMENT

Clamp acc. to ASME BPE						
Normally closed						
15	50	5	25	5.0	25	187 103
	70	5	25	5.0	25	188 806
20	50	10	25	5.0	16	227 614
	70	11	25	5.0	20	188 807
25	50	15	50.5	5.0	9	227 615
	70	18	50.5	5.0	16	188 808
40	70	38	50.5	5.0	6	188 809
	90	40	50.5	5.0	16	188 810
50	90	55	64	5.0	10	188 811
	130	62	64	5.0	16	188 812
Normally open						
15	50	5	25	see diagram	16	187 107
	70	5	25		16	188 820
20	50	10	25		16	187 108
	70	11	50.5		16	188 821
25	70	18	50.5		16	188 822
40	70	38	50.5		16	188 823
50	70	52	64		16	188 824

Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Port connection tube Ø [mm]	Minimum pilot pressure [mm]	Max. operating pressure [bar]	Item no.
Weld end acc. To EN ISO 1227						
Normally closed						
15	50	5	21.3 x 1.6	5.2 - 10	25	187 065
	70	5	21.3 x 1.6	5.0 - 10	25	188 680
20	50	10	26.9 x 1.6	5.2 - 10	16	210 399
	70	11	26.9 x 1.6	5.0 - 10	20	188 681
25	50	15	33.7 x 2	5.2 - 10	9	235 519
	70	18	33.7 x 2	5.0 - 10	16	188 682
32	70	27	42.4 x 2	5.0 - 10	8.5	188 683
	90	28	42.4 x 2	5.0 - 10	16	188 684
40	70	38	48.3 x 2	5.0 - 10	6	188 685
	90	40	48.3 x 2	5.0 - 10	16	188 686
50	90	55	60.3 x 2.6	5.0 - 10	10	188 687
	130	62	60.3 x 2.6	5.0 - 7	16	188 688

Ordering Chart

Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Port connection tube Ø [mm]	Minimum pilot pressure [mm]	Max. operating pressure [bar]	Item no.
Normally open						
15	50	5	21.3 x 1.6	see diagram	16	187 069
	70	5	21.3 x 1.6		16	188 697
20	50	10	26.9 x 1.6		16	187 070
	70	11	26.9 x 1.6		16	188 698
25	70	18	33.7 x 2		16	188 699
32	70	27	42.4 x 2		16	188 700
40	70	38	48.3 x 2		16	188 701
50	70	52	60.3 x 2.6		16	188 702
Weld end acc. to DIN 11850 S2						
Normally closed						
15	50	5	19 x 1.5	5.2 - 10	25	187 071
	70	5	19 x 1.5	5.0 - 10	25	188 703
20	50	10	23 x 1.5	5.2 - 10	16	227 605
	70	11	23 x 1.5	5.0 - 10	20	188 704
25	50	15	29 x 1.5	5.2 - 10	9	221 922
	70	18	29 x 1.5	5.0 - 10	16	188 705
32	70	27	35 x 1.5	5.0 - 10	8.5	188 706
	90	28	35 x 1.5	5.0 - 10	16	188 707
40	70	38	41 x 1.5	5.0 - 10	6	188 708
	90	40	41 x 1.5	5.0 - 10	16	188 709
50	90	55	53 x 1.5	5.0 - 10	10	188 710
	130	62	53 x 1.5	5.0 - 7	16	188 711
Normally open						
15	50	5	19 x 1.5	see diagram	16	187 075
	70	5	19 x 1.5		16	188 720
20	50	10	23 x 1.5		16	187 076
	70	11	23 x 1.5		16	188 721
25	70	18	29 x 1.5		16	188 722
32	70	27	35 x 1.5		16	188 723
40	70	38	41 x 1.5		16	188 724
50	70	52	53 x 1.5		16	188 725

Ordering Chart

2100 ELEMENT

Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Port connection tube Ø [mm]	Minimum pilot pressure [mm]	Max. operating pressure [bar]	Item no.
Weld end acc. To ASME BPE						
Normally closed						
15	50	5	12.7 x 1.65	5.2 - 10	25	187 077
	70	5	12.7 x 1.65	5.0 - 10	25	188 726
20	50	10	19.05 x 1.65	5.2 - 10	16	227 607
	70	11	19.05 x 1.65	5.0 - 10	20	188 727
25	50	15	25.4 x 1.65	5.2 - 10	9	227 608
	70	18	25.4 x 1.65	5.0 - 10	16	188 728
40	70	38	38.1 x 1.65	5.0 - 10	6	188 729
	90	40	38.1 x 1.65	5.0 - 10	16	188 730
50	90	55	50.8 x 1.65	5.0 - 10	10	188 731
	130	62	50.8 x 1.65	5.0 - 7	16	188 732
Normally open						
15	50	5	12.7 x 1.65	see diagram	16	187 082
	70	5	12.7 x 1.65		16	188 740
20	50	10	19.05 x 1.65	see diagram	16	187 083
	70	11	19.05 x 1.65		16	188 741
25	70	18	25.4 x 1.65	see diagram	16	188 742
40	70	38	38.1 x 1.65		16	188 743
50	70	52	50.8 x 1.65	see diagram	16	188 744
Weld end acc. to SMS 3008						
Normally closed						
15	50	5	12 x 1.0	5.2 - 10	25	187 084
	70	5	12 x 1.0	5.0 - 10	25	188 745
20	50	10	18 x 1.0	5.2 - 10	16	227 609
	70	11	18 x 1.0	5.0 - 10	20	188 746
25	50	15	25 x 1.2	5.2 - 10	9	227 610
	70	18	25 x 1.2	5.0 - 10	16	188 747
40	70	38	38 x 1.2	5.0 - 10	6	188 748
	90	40	38 x 1.2	5.0 - 10	16	188 749
50	90	55	51 x 1.2	5.0 - 10	10	188 750
	130	62	51 x 1.2	5.0 - 7	16	188 751

Ordering Chart

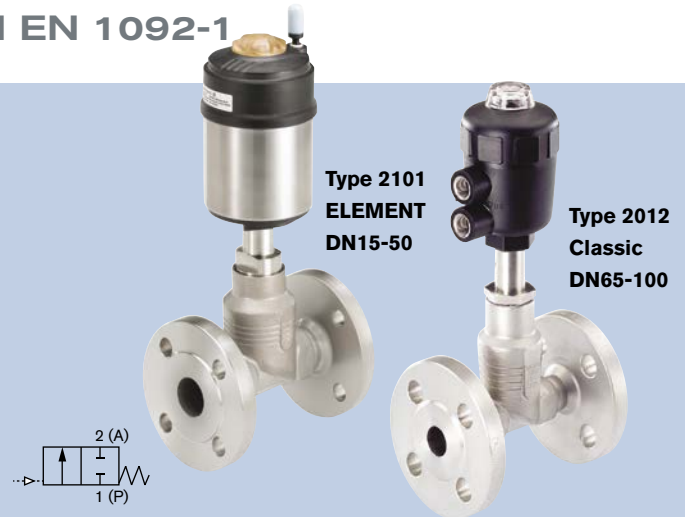
Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Port connection tube Ø [mm]	Minimum pilot pressure [mm]	Max. operating pressure [bar]	Item no.
Normally open						
15	50	5	12 x 1.0	see digramm	16	187 089
	70	5	12 x 1.0		16	188 759
20	50	10	18 x 1.0		16	187 090
	70	11	18 x 1.0		16	188 760
25	70	18	25 x 1.2		16	188 761
40	70	38	38 x 1.2		16	188 762
50	70	52	51 x 1.2		16	188 763
Weld end acc. to BS 4825						
Normally closed						
15	50	5	12.7 x 1.2	5.2 - 10	25	187 091
	70	5	12.7 x 1.2	5.0 - 10	25	188 764
20	70	11	19.05 x 1.65	5.0 - 10	20	188 765
25	70	18	25.4 x 1.65	5.0 - 10	16	188 766
40	70	38	38.1 x 1.65	5.0 - 10	6	188 767
	90	40	38.1 x 1.65	5.0 - 10	16	188 768
50	90	55	50.8 x 1.65	5.0 - 10	10	188 769
	130	62	50.8 x 1.65	5.0 - 7	16	188 770
Normally open						
15	50	5	12.7 x 1.2	see diagram	16	187 095
	70	5	12.7 x 1.2		16	188 778
20	50	10	19.05 x 1.65		16	187 096
	70	11	19.05 x 1.65		16	188 779
25	70	18	25.4 x 1.65		16	188 780
40	70	38	38.1 x 1.65		16	188 781
50	70	52	50.8 x 1.65		16	188 782

Pneumatically Operated 2/2-way Globe Valves with Flange connection acc. to DIN EN 1092-1

2101 / 2012

DN15-100 mm

- Flow direction below seat
- Long life
- Flow optimised stainless steel body 316L
- Silencer, Type 2101 included



The externally piloted globe valve consists of a pneumatically operated piston actuator and a 2-way angle valve body. Sealing integrity is guaranteed by the proven self adjusting gland. These maintenance-free and robust valves can be retrofitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

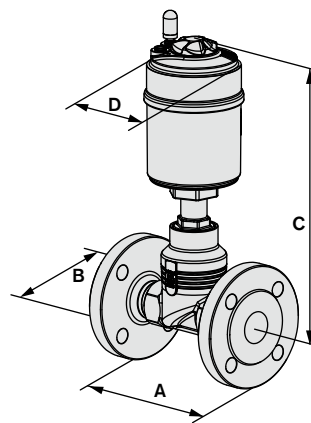
Technical Data

Pressure range	see Ordering Chart
Nominal pressure	PN25 (body)
Temperature media	-10 °C to +180 °C (CLASSIC) / +185 °C (ELEMENT)
Ambient temperature	
Actuator size up to Ø 125	-10 °C to +60 °C
Actuator size Ø 175-225	-10 °C to +50 °C
ELEMENT	0 °C to +55 °C (with integrated control) 0 °C to +60 °C (connector hose air supply)
CLASSIC	-10 °C to +60 °C
Body material	Cast stainless steel 316L
Viscosity	Max. 600 mm ² /s
Seal material	PTFE
Actuator material	PPS and St.st. 316L (ELEMENT), PA (Classic)
Control medium	Neutral gases, air
Flow direction	Under seat anti water-hammer
Port connection	Flange DIN EN 1092-1
Pilot air port	for ELEMENT connector hose for plastic hose, 6/4 mm for Classic, G 1/4"

Options

- Normally open
- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- High temperature actuator
- Chemically resistant actuator
- Stroke limiter
- JIS and ANSI flanges
- Type 2101 with threaded air connection for ambient temperature up to +100 °C

Envelope Dimensions [mm] (see datasheet for details)

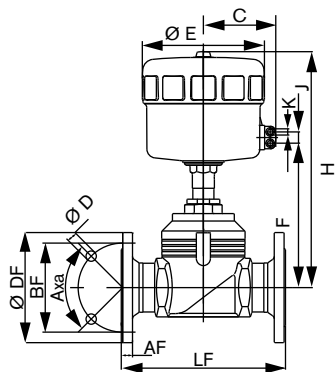


Dimensions shown for 2101 for exact 2012 dimensions please see datasheet

Size (DN)	Actuator	A	B	C	D
15	50	130	95	236	64.5
20	50	150	105	242	64.5
20	70	150	105	256	91
25	50	160	115	245	64.5
25	70	160	115	259	91
32	70	180	140	280	91
32	90	180	140	340	120
40	70	200	150	285	91
40	90	200	150	345	120
50	90	230	165	351	120
50	130	230	165	403	159

Dimensions [mm] (see datasheet for further details)

DN65-100
Actuator size 125 and 225 mm



All bodies								ANSI flange							
DN	Actuator	C	ØE	F	H	K	J	ØDF	LF	ØBF	AF	ØD	Axa	ØM	
1 1/2"	125	86	157	220	397	G1/4	30	127	222	98.6	17.5	15.7	4x90°	41	
2"	125	86	157	225	402	G1/4	30	152	254	120.7	19.1	19.1	4x90°	53	
2 1/2"	125	86	157	254	430	G1/4	30	178	276	139.7	22.3	19.1	4x90°	63	
	175	130	211	289	491	G1/4	24	178	276	139.7	22.3	19.1	4x90°	63	
3"	125	86	157	264	440	G1/4	30	190	298	152.4	23.9	19.1	4x90°	78	
	175	130	211	296	498	G1/4	24	190	298	152.4	23.9	19.1	4x90°	78	
	225	155	261	299	494	G1/4	24	190	298	152.4	23.9	19.1	4x90°	78	
4"	125	86	157	274	450	G1/4	30	229	352	190.5	23.9	19.1	8x45°	102	
	175	130	211	306	508	G1/4	24	229	352	190.5	23.9	19.1	8x45°	102	
	225	155	261	309	504	G1/4	24	229	352	190.5	23.9	19.1	8x45°	102	

Ordering Charts

Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Minimum pilot pressure [bar]	Max. operating pressure up to +185 °C [bar]	Item no.
Type 2101 ELEMENT - Flange connection acc. to DIN EN 1092-1					
Normally closed					
15	50	4.7	4.8 - 10	25	203 076
20	50	8.1	4.8 - 10	16	203 077
	70	8.1	4.8 - 10	20	203 078
25	50	13	4.8 - 10	9	203 079
	70	13	4.8 - 10	16	189 700
32	70	19.5	4.8 - 10	8.5	203 080
	90	19.5	5.0 - 10	16	203 081
40	70	31	4.8 - 10	6	203 082
	90	31	4.8 - 10	16	203 083
50	90	45	4.8 - 10	10	203 084
	130	45	5.0 - 7	16	218 418

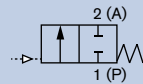
Orifice [mm]	Actuator size Ø [mm]	Kv value [m³/h]	Pilot pressure [bar]	Max. operating pressure up to +180 °C [bar]	Item no.
Type 2012 CLASSIC - Flange connection acc. to DIN EN 1092-1					
Normally closed - PA-actuator					
65	125	73	5.6-7	12	152 743
	175	73	4.5-6	15	152 761
80	125	110	5.6-7	7.5	155 527
	175	110	4.5-6	10	152 779
	225	110	3.3-6	12.5	152 797
100	125	165	5.6-7	5	155 546
	175	155	4.5-6	7	152 815
	225	155	4.8-6	10	152 833

On-Off Pneumatically Operated 2/2 Way Forged Diaphragm Valve

2103

DN8-50 mm

- Hygienic stainless steel design
- Optical display as standard in series
- Interface to feedback and control options
- For highly pure and aseptic materials
- Certification acc. to FDA
- Silencer included



The externally piloted diaphragm valve, Type 2103, consists of a pneumatically operated piston actuator, a diaphragm and a 2-way valve body made of forged steel. The high-quality drive with stainless steel casing ensures its suitable use in hygienic or aggressive environments. The streamlined and zero dead volume valve body allows high flow rates and versatility.

Technical Data

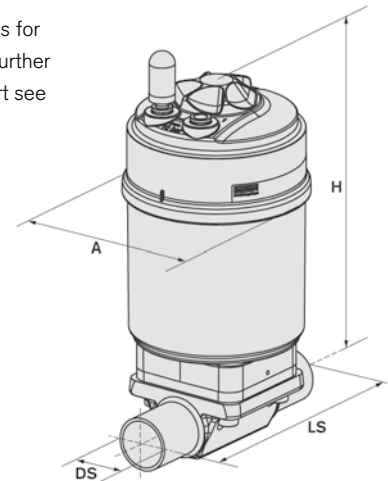
Pressure range	see Ordering Chart
Temperature media	-10 °C to +130 °C (for steam sterilization short term up to +150 °C)
Viscosity	up to viscous
Ambient temperature	+5 °C to +60 °C.
Body material	Forged stainless steel 316L/1.4435/BN2 Fe < 0.5% / C ≤ 0.03%
Internal finish	Ra ≤ 0.6 µm
External finish	Forged surface
Seal material	EPDM (FDA and KTW approval) or PTFE/EPDM (FDA approval)
Actuator material	Actuator PPS Cover stainless steel 1.4561 (316Ti)
Control medium	Neutral gases, air
Flow direction	Bidirectional
Pilot connections	Push-in connector (external Ø 6 mm or 1/4")
Norms	FDA compliant, 3A

Options

- Any standard surface finish
- Classic actuator for sizes above 2"
- Control heads/Positioner
- Advanced PTFE/EPDM
- Control function B (normally open) and I (double-acting)

Envelope Dimensions (see datasheet for details)

Drawing shows dimensions for weld end connection, for further versions with threaded port see datasheet.



Orifice		Actuator	A	H	LS	DS Ø	
[mm]	[inch]					EN ISO 1127/ ISO 4200	DIN 11850 R2
8	1/4"	50	64.5	129	90	13.5	-
10	3/8"	50	64.5	144	110	17.2	13
15	1/2"	70	91	161	110	21.3	19
20	3/4"	70	91	171	119	26.9	23
25	1"	70	91	174	129	33.7	29
25	1"	90	120	207	129	33.7	29
40	1 1/2"	130	159	288	161	48.3	41
50	2"	130	159	311	192	60.3	53

Ordering Chart

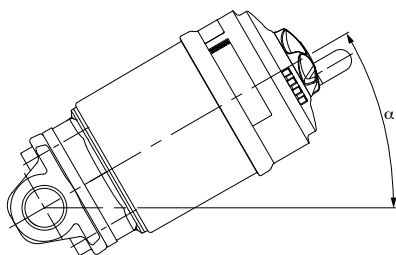
Orifice		Kv value [m ³ /h]	Actuator size Ø [mm]	Pilot pressure range [bar]	Max. operating pressure [bar] EPDM	Item no. mech. polished Ra ≤ 0.6 µm EPDM	Max. operat- ing pressure [bar] PTFE / EPDM	Item no. mech. polished Ra ≤ 0.6 µm PTFE / EPDM
[mm]	[inch]							
Body with weld end connection								
Acc. to EN ISO 1127 / ISO 4200								
8	1/4	1	50	5 - 10	10	218 005	10	218 012
15	1/2	5.5	70	5 - 10	10	218 006	10	218 013
20	3/4	10	70	5 - 10	10	218 007	10	218 014
25	1	14	70	5 - 10	6.5	218 008	6	218 015
			90	5.5 - 10	10	218 009	8	218 016
40	1 1/2	30	130	5 - 7	10	218 010	10	218 017
50	2	51.5	130	5 - 7	8	218 011	7	218 018
Acc. to DIN 11850 Series 2								
10	3/8	1	50	5 - 10	10	218 019	10	218 026
15	1/2	5.5	70	5 - 10	10	218 020	10	218 027
20	3/4	10	70	5 - 10	10	218 021	10	218 028
25	1	14	70	5 - 10	6.5	218 022	6	218 029
			90	5.5 - 10	10	218 023	8	218 030
40	1 1/2	30	130	5 - 7	10	218 024	10	218 031
50	2	51.5	130	5 - 7	8	218 025	7	218 032
Acc. to ASME BPE								
8	1/4	1.0	50	5 - 10	10	218 033	10	218 041
10	3/8	1.0	50	5 - 10	10	218 034	10	218 042
15	1/2	5.5	70	5 - 10	10	218 035	10	218 043
20	3/4	10.0	70	5 - 10	10	218 036	10	218 044
25	1	14.0	70	5 - 10	6.5	218 037	6	218 045
			90	5.5 - 10	10	218 038	8	218 046
40	1 1/2	30	130	5 - 7	10	218 039	10	218 047
50	2	51.5	130	5 - 7	8	218 040	7	218 048
Acc. to BS 4825								
8	1/4	1.0	50	5 - 10	10	218 049	10	218 053
10	3/8	1.0	50	5 - 10	10	218 050	10	218 054
15	1/2	5.5	70	5 - 10	10	218 051	10	218 055
20	3/4	10.0	70	5 - 10	10	218 052	10	218 056

Ordering Chart

2103

Orifice		Kv value [m ³ /h]	Actuator size Ø [mm]	Pilot pressure range [bar]	Max. operating pressure [bar] EPDM	Item no. mech. polished Ra ≤ 0.6 µm EPDM	Max. operat- ing pressure [bar] PTFE / EPDM	Item no. mech. polished Ra ≤ 0.6 µm PTFE / EPDM
[mm]	[inch]							
Body with clamp connection								
Acc. to DIN 32676								
15	1/2	5.5	70	5 - 10	10	218 057	10	218 063
20	3/4	10.0	70	5 - 10	10	218 058	10	218 064
25	1	14.0	70	5 - 10	6.5	218 059	6	218 065
			90	5.5 - 10	10	218 060	8	218 066
40	1 1/2	30.0	130	5 - 7	10	218 061	10	218 067
50	2	51.5	130	5 - 7	8	218 062	7	218 068
Acc. to ASME BPE - short dimension								
8	1/4	1.0	50	4.4 - 10	10	266 683	10	266 685
10	3/8	1.0	50	5 - 10	10	218 070	10	218 078
15	1/2	5.5	70	5 - 10	10	218 071	10	218 079
20	3/4	10.0	70	5 - 10	10	218 072	10	218 080
25	1	14.0	70	5 - 10	6.5	218 073	6	218 081
			90	5.5 - 10	10	218 074	8	218 082
40	1 1/2	30.0	130	5 - 7	10	218 075	10	218 083
50	2	51.5	130	5 - 7	8	218 076	7	218 084
Acc. to ASME BPE - long dimension								
8	1/4	1.0	50	5 - 10	10	218 085	10	218 092
15	1/2	5.5	70	5 - 10	10	218 086	10	218 093
20	3/4	10.0	70	5 - 10	10	218 087	10	218 094
25	1	14.0	70	5 - 10	6.5	218 088	6	218 095
			90	5.5 - 10	10	218 089	8	218 096
40	1 1/2	30.0	130	5 - 7	10	218 090	10	218 097
50	2	51.5	130	5 - 7	8	218 091	7	218 098

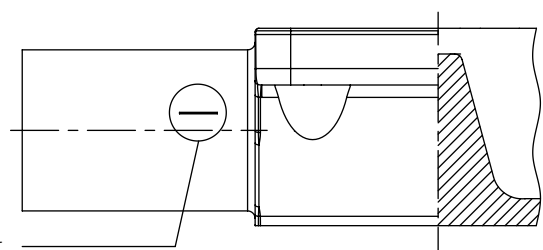
Installation for self-draining operation



$\alpha = 15$ up to 35° (Marking must face upwards, 12 o'clock position)

plus 3° to 5° inclination to the pipe axis.

Drain marks permanently marked on both sides of the valve body show the correct mounting position to optimise drain ability.



marking for
self-drain angle

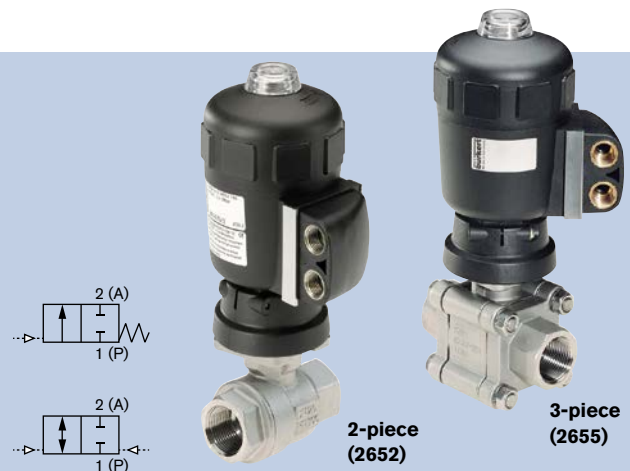
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2/2-way Quarter-Turn Ball Valve in stainless steel with pneumatic rotary actuator

- 2 or 3-piece ball valve
- Pneumatic actuator
- Compact design
- Optical position indicator
- Control valve connection acc. to NAMUR



The ball valves of Types 2652 and 2655 consist of a pneumatic rotary actuator (Type 2050) and a 2/2-way ball valve. The ball valve body is 2-piece (Type 2652) or 3-piece (Type 2655). The connection between the actuator and the ball valve takes place via a standard interface (flange connection).

The rotary movement in the actuator is produced by a linear piston with quick-acting screw thread coupling. The rotary actuator moves the ball valve through 90° and thus opens or closes the line cross-section. The actuator has an optical display of the piston position.

The compact, pneumatically actuated ball valve can be employed for a wide range of applications, even under heavy-duty, slightly aggressive conditions.

Technical Data

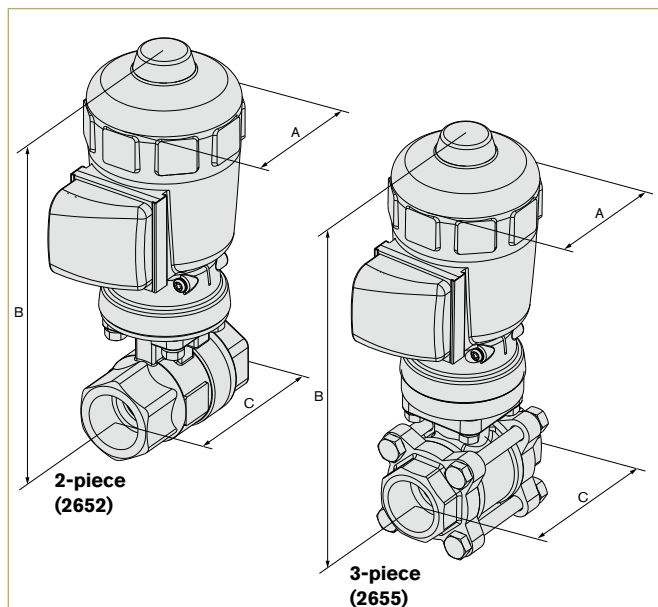
Orifice	DN10-50 mm
Body material	Stainless steel 1.4408
Actuator material	PA (polyamide, glass-fibre reinforced)
Control air connection material	Stainless steel 1.4305
Seal material	PTFE
Medium	Gaseous and liquid medium, which do not attack the body and seal materials
Medium temperature	-10 to +120°C
Ambient temperature	-10 to +60 °C
Control medium	Neutral gases; air
Port connection	Threaded port G 1/4" to G 2"
Pilot pressure	
Double acting actuator	2 to 10 bar (Ø 63 mm), 2 to 6 bar (Ø 100 mm)
Single acting actuator	5 to 10 bar (Ø 63 mm), 5 to 6 bar (Ø 100 mm)
Connection	
between actuator and ball valve	Flange acc. to ISO 5211 or DIN 3337
Rotation	90° ±3°
Rotation time for 90°	1 to 3.5 s (depending on load and pilot pressure)
Installation	As required, preferably with actuator in upright position

Options

- Control head Type 8631
- Electrical position feedback Type 1062

Envelope Dimensions [mm]

(Dimensions for Type 2652 see data sheet)



DN [mm]	A (Actuator size)		B (Actuator size)		C
	Ø 63 mm	Ø 100 mm	Ø 63 mm	Ø 100 mm	
10	79.6	126.6	201	275	65
12	79.6	126.6	201	275	65
15	79.6	126.6	201	275	75
20	79.6	126.6	205	279	80
25	79.6	126.6	204.5	278.5	90
32	–	126.6	–	284.5	110
40	–	126.6	–	294.5	120
50	–	126.6	–	303.5	140

Ordering Chart

Control function	Orifice [mm]	Port connection [inch]	Kv value water [m³/h]	Pressure range [bar]		Single-acting actuator			Double-acting actuator		
				2-piece body	3-piece body	Actuator size Ø [mm]	Item no. Type 2652 2-piece	Item no. Type 2655 3-piece	Actuator size Ø [mm]	Item no. Type 2652 2-piece	Item no. Type 2655 3-piece
A 2/2-way ball valve normally closed or I 2/2-way ball valve, double-acting	10	G 1/4	7	0 - 100	0 - 63	63	435 172	435 175	63	429 203	431 195
	12	G 3/8	9	0 - 100	0 - 63	63	435 173	435 176	63	429 204	431 196
	15	G 1/2	35	0 - 100	0 - 63	63	435 174	435 177	63	429 205	431 197
	20	G 3/4	46	0 - 100	0 - 63	100	431 109	431 205	63	429 206	431 198
	25	G 1	72	0 - 100	0 - 63	100	431 110	431 206	63	429 207	431 199
	32	G 1 1/4	105	0 - 100	0 - 63	-	-	-	100	429 208	431 200
	40	G 1 1/2	170	0 - 100	0 - 63	-	-	-	100	429 209	176 177
	50	G 2	275	0 - 100	0 - 63	-	-	-	100	429 210	-

2652 / 2655

Accessories

Actuator size Ø [mm]	Material	Item no.
NAMUR adapter for connections with NAMUR pilot valve		
63	Plastic (PA)	427 405
100	Brass	637 114
	Stainless steel	634 275

Valve for actuator size Ø [mm]	Type	Pressure inlet P	Service port A	Orifice [mm]	Qn value air [l/min]	Pressure range [bar]	Electrical connection	Power consumption [W]	Item no. voltage/frequency [V/Hz]		
									024/DC	230/50	
3/2-way Pilot valve with banjo bolt											
Seal material valve FKM, seal material banjo bolt NBR											
63 - 100	6014P	G 1/4"	G 1/4"	2	120	0 - 10	Form A	8	424 103	424 107	

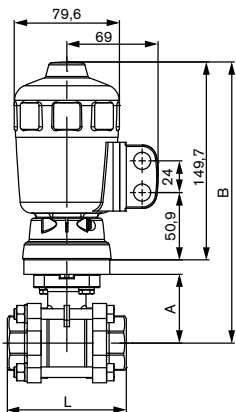
Cable plug Type 2508, Form A	Item no.
Type 2508, Form A acc. DIN EN 175301-803, 0 to 250 V without Circuitry (Type 6014P, Type 0331P)	008 376

Envelope Dimensions [mm]

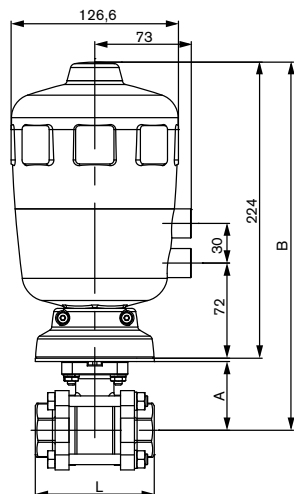
(Dimensions for Type 2652 see data sheet)

DN [mm]	Thread G	Actuator size [mm]	L	A	B (Actuator size)	
					Ø 63 mm	Ø 100 mm
10	G 1/4"	63/100	65	40	201	275
12	G 3/8"	63/100	65	40	201	275
15	G 1/2"	63/100	75	40	201	275
20	G 3/4"	63/100	80	44	205	279
25	G 1"	63/100	90	52	204.5	278.5
32	G 1 1/4"	100	110	58	-	284.5
40	G 1 1/2"	100	120	68	-	294.5
50	G 2"	100	140	77	-	303.5

Actuator size Ø 63 mm

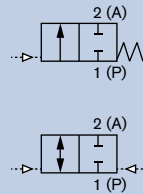


Actuator size Ø 100 mm



2/2-way Ball Valve with pneumatic rotary actuator, plastic body

- Radially expandable body
- Pneumatic actuator in compact model
- Optical position indicator
- Safe blocked union nuts with Dual Block® Technology ¹⁾



The complete unit of Type 2658 consists of a pneumatic rotary actuator and a ball valve body from plastic. The connection between the ball valve and the actuator is made via a standard interface (flange connection). The rotary movement in the actuator is produced by a linear piston with angled thread coupling. The rotary actuator moves the ball valve through 90° and thereby opens or closes the port cross-section. The compact pneumatically-operated ball valve can be used for a wide range of applications and medium. The pneumatic rotary actuator can also be used for other purposes.

Special feature

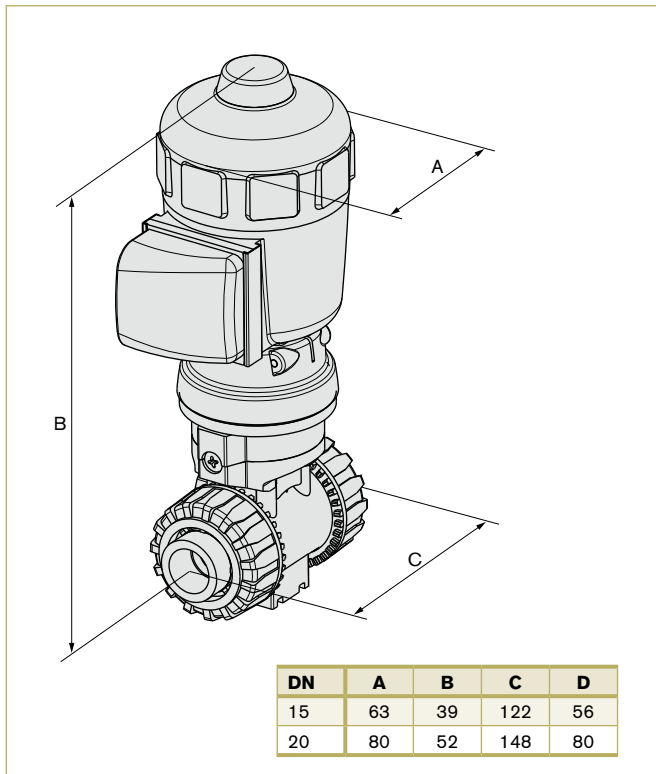
The ball valves are equipped with the so-called Dual Block® Technology. This system serves as a safety device for the union nuts. It prevents them separating during operation.

Technical Data

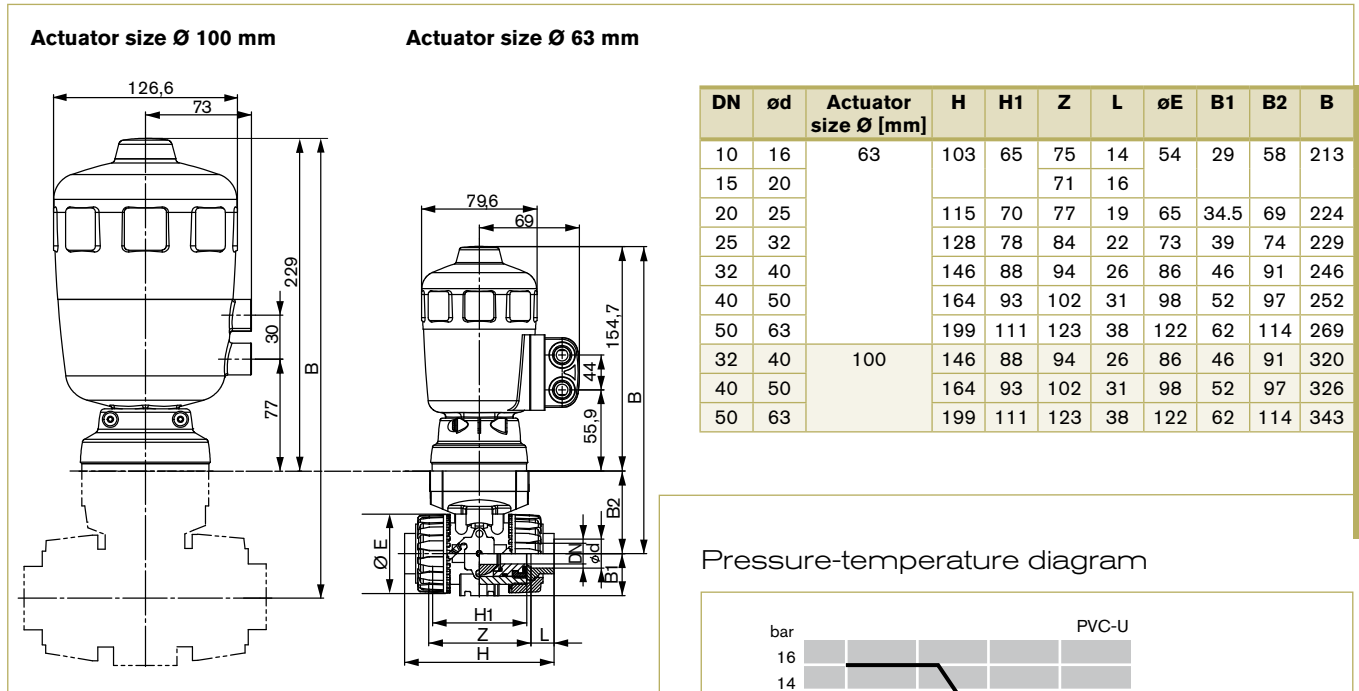
Orifice	DN10-50
Body material	PVC-U (PP, PVDF, PVC-C, ABS on request)
Actuator material	PA (polyamide, glass-fibre reinforced)
Pilot air ports material	Stainless steel
Seal material	
O-rings	EPDM, FKM
Ball seal	PTFE
Medium	Gaseous and liquid medium, which do not attack the body and seal materials
Medium temperature	
PVC body	0 to +60° C
Ambient temperature	-10 to +60 °C
Port connections	
PVC-U	True union
(PP, PVDF on request)	Fusion spigot
Control medium	Neutral gases, air
Pilot pressure	
Single-acting actuator	5 - 10 bar (Ø 63 mm) 5 - 6 bar (Ø 100 mm)
Double-acting actuator	2 - 10 bar (Ø 63 mm) 2 - 6 bar (Ø 100 mm)
Rotation	90° ±3°
Rotation time for 90°	1 to 3,5 s (depending on load and pilot pressure)
Connection between actuator and ball valve	Flange acc. to ISO 5211 and DIN 3337
Installation	As required, preferably with actuator upright

¹⁾Dual Block® Technology is a registered trademark of FIP - Formatura Iniezione Polimeri p.p.A

Envelope Dimensions [mm] (see datasheet for details)

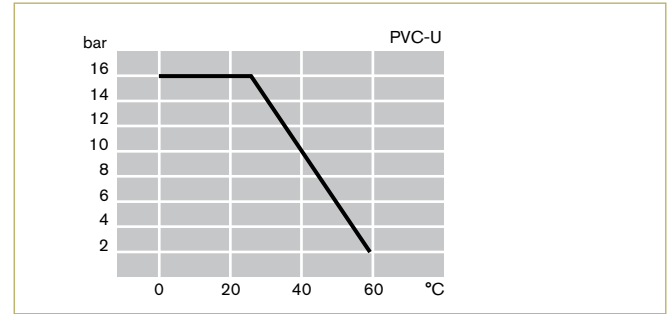


Envelope Dimensions [mm] (see datasheet for details)



2658

Pressure-temperature diagram



Ordering Chart

Control function	Orifice [mm]	Port connection [mm]	Actuator size Ø [mm]	Kv value water [m³/h]	Pressure range [bar]	Item no. Seal material EPDM	Item no. Seal material FKM
Ball valves							
PVC body, true union connection							
A 2/2-way, normally closed	10	16	63	4.8	0 - 16	178 898	178 987
	15	20	63	12	0 - 16	178 944	178 986
	20	25	63	23	0 - 16	178 949	178 985
	25	32	63	46	0 - 16	178 955	178 983
	32	40	100	66	0 - 16	178 960	178 982
	40	50	100	105	0 - 16	178 964	178 980
	50	63	100	204	0 - 10	178 966	178 979
I 2/2-way, double-acting	10	16	63	4.8	0 - 16	176 491	176 505
	15	20	63	12	0 - 16	176 492	176 506
	20	25	63	23	0 - 16	176 493	176 507
	25	32	63	46	0 - 16	176 494	176 508
	32	40	63	66	0 - 16	176 495	176 509
	40	50	63	105	0 - 16	176 496	176 510
	50	63	100	204	0 - 10	176 497	176 511

Flow rate: Kv value water [m³/h]: Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.
 Pressure values [bar]: Overpressure to the atmospheric pressure.

Accessories for pilot valve

Valve for actuator size Ø [mm]	Type	Pressure inlet P (valve body)	Service port A (banjo bolt)	Orifice [mm]	Kv value air [l/min]	Pressure range [bar]	Electrical connection	Power consumption [W]	Item no. voltage/frequency [V/Hz]	
									024/DC	230/50
63	6012P	Tube fitting Ø 6 mm	G 1/4"	1-Feb	48	0 - 10	Form B	4	552 283	552 286
63-100	6014P	G 1/4"	G 1/4"	2	120	0 - 10	Form A	8	424 103	424 107

Cable plug Type 2507, Form B or Type 2508, Form A	Item no.
Type 2507, Form B Industrial standard 0 to 250 V without circuitry (Type 6012 P)	423 845
Type 2508, Form A acc. DIN EN 175301-803, 0 to 250 V without circuitry (Type 6014 P, Type 0331 P)	008 376

For further accessories see datasheet Type 2XXX for the full accessories programme.



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- Direct mounting on quarter-turn valves
- Manual override standard
- Adjustable limit switches
- Multi-voltage
- Position indicator as standard

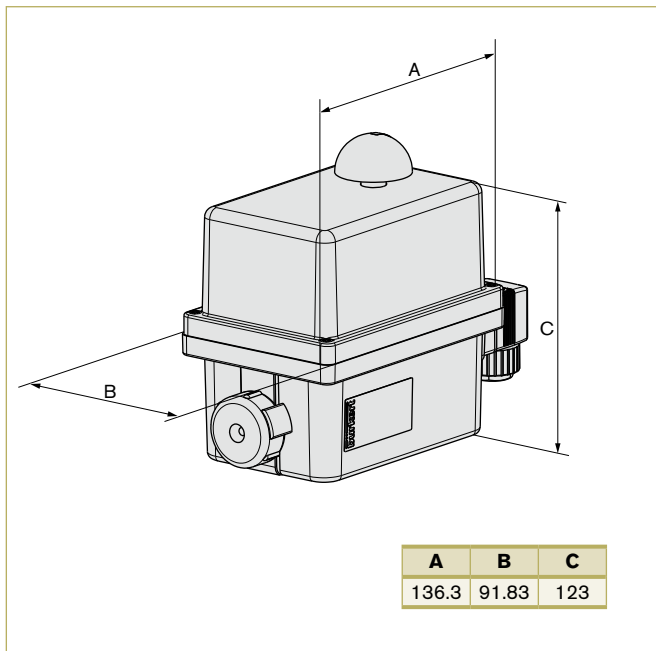


The electrical rotary actuator, Type 3003, is a compact and powerful actuator system which provides a long service life. Materials and components have been chosen for maintenance-free operation even in aggressive environments and ensure low thermal loading on the actuator. The modular design offers many additional features to be added to the basic device such as extra limit switches, potentiometers and emergency power. With the control actuator version the input signals (e.g. 4-20 mA, 0-20 mA, 0-10 V) as well as the output signals can be programmed. Heating resistor and torque limiter are in standard, the housing is made of flame resistant material classified according to UL 94 V0

Technical Data

Materials	Cover/body: Nylon / PA 6.6, Axis screws: stainless steel Transmission: stainless steel and PC
Torque	20, 35, 60 and 100 Nm (see ordering chart)
Angle of rotation	90° (+/- 5°) (extra angle on request)
90° rotation time	See ordering chart
Duty rating	According to IEC34 S4 = 50%
Power supply	15 - 30 V AC 50/60 Hz / 12 - 48 V DC 100 - 240 V AC 50/60 Hz / 100 - 350 V DC
Power consumption	15 W to 45 W (see ordering chart)
Motor protection	Torque limiter
Standard signal (programmable)	Input: 0-10 V, 4-20 mA, 0-20 mA Output: 0-10 V, 4-20 mA, 0-20 mA
Mechanical limit	Standard
Electrical connection	Cable plug acc. to EN175301-803 (supply voltage) (included) Cable glands ISO M20
Mounting	acc. ISO 5211 Motor 20 Nm F05 (removable fixation plate F03/F04/F05) Motor 35, 60, 100 Nm F05/F07
Drive	Motor 20 Nm Female star 14 mm; conversion sleeve 14/11 mm and 14/9 mm enclosed Motor 35, 60 Nm Female star 22 mm; conversion sleeve star 22/14 mm enclosed Motor 100 Nm Female star 22 mm; conversion sleeve star 22/17 mm enclosed
Ambient temperature	-10 °C to +55 °C (emergency power version -10 °C to +40 °C)
Limit switches	4 adjustable (2 for the motor and 2 additional for feedback), max. 250 V AC/5 A
Protection class	IP66 with mounted cable plug
Installation	Do not mount the actuator upside down!
Installation site	up to 2000 m high

Envelope Dimensions [mm]



Ordering Charts

Drive stars [mm]	Conversion sleeve star [mm]	Connection flange	Torque	90° rotation time* +/-1s (Information on load)	Power consumption	Voltage / frequency	Item no.
Multi-voltage version without analogue signal input							
Remark: For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque (standard).							
14	14/11 and 14/9	F05 (F03-F04)	20 Nm	12 s	15 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 192
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 193
22	22/14	F05-F07	35 Nm	7 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 194
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 195
			60 Nm	12 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 196
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 197
	22/17	F05-F07	100 Nm	23 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 198
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 225
Multi-voltage version with emergency reset switch							
Remark: For the actuator choice, we recommend a safety torque equal to 1.5 times of the valve maximal torque (standard).							
14	14/11 and 14/9	F05 (F03-F04)	20 Nm	12 s	15 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 207
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 208
22	22/14	F05-F07	35 Nm	7 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 209
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 210
			80 Nm	12 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 211
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 212
	22/17	F05-F07	100 Nm	23 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 213
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 214
Multi-voltage version with analogue signal input							
Remark: For the actuator choice, we recommend a safety torque equal to 2 times of the valve maximal torque.							
14	14/11 and 14/9	F05 (F03-F04)	20 Nm	25 s	15 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 199
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 200
22	22/14	F05-F07	35 Nm	40 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 201
			35 Nm	40 s	45 W	100-240 V AC, 50/60 Hz / 100-350 V DC	225 202
			60 Nm	79 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 203
						100-240 V AC, 50/60 Hz / 100-350 V DC	225 204
	22/17	F05-F07	100 Nm	119 s	45 W	15-30 V AC, 50/60 Hz / 12-48 V DC**	225 205
						100-240 V AC, 50/60 Hz / 100-350 V DC**	225 206

* other rotation time and rotation angle on request

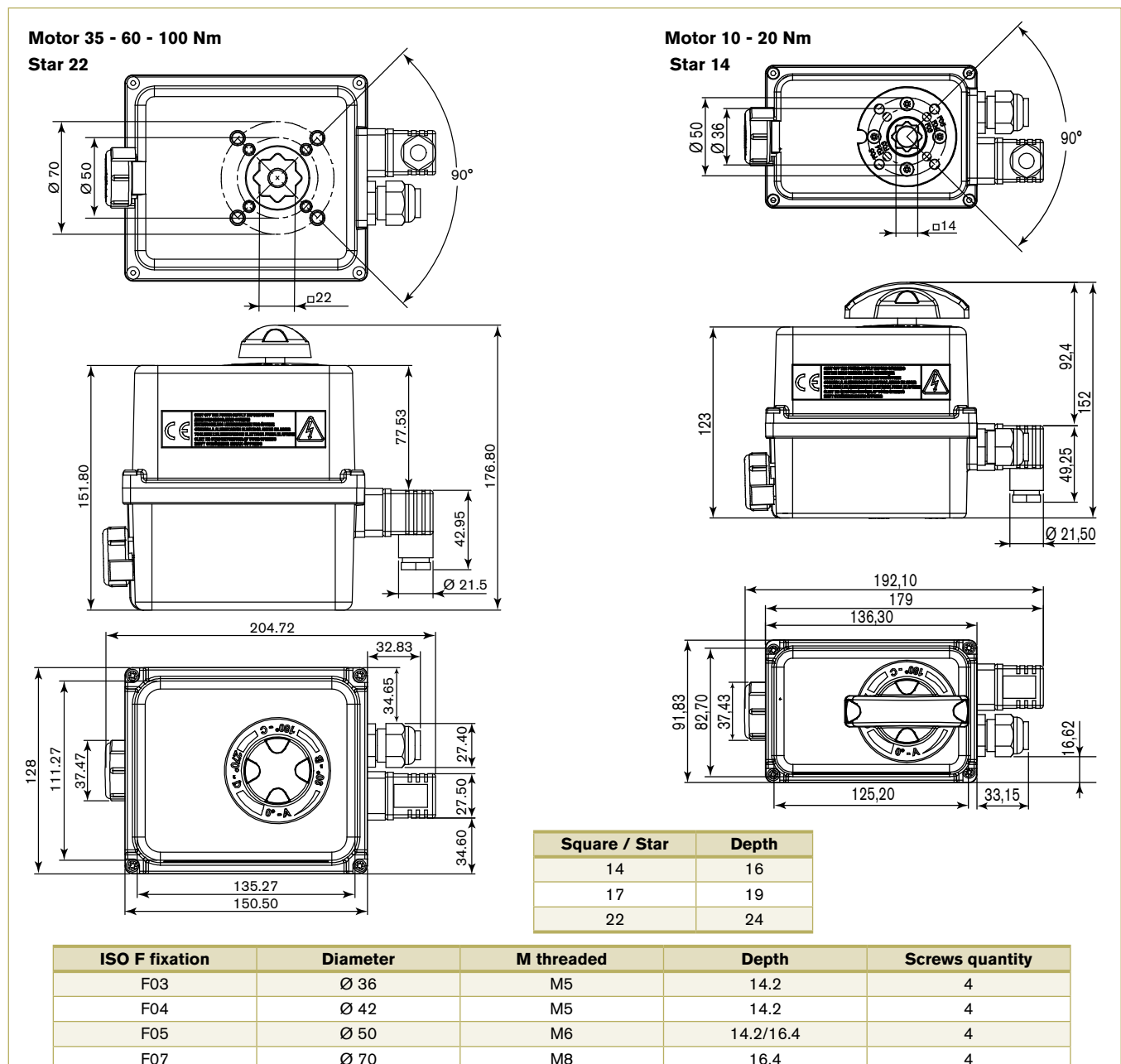
** The operating voltage must not fall below 11.5 V

Accessories

3003

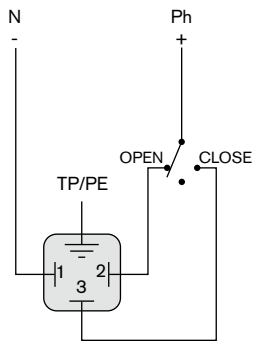
Description	Item no.
Removable flange plate F04 for actuators with torque 10 and 20 Nm	665 293
Key to adjust the limit switches	679 946
Conversion sleeve star/square 14/9 mm	665 288
Conversion sleeve star/square 14/11 mm	665 289
Conversion sleeve star/star 22/14 mm	666 684
Conversion sleeve star/square 22/17 mm	684 858
Conversion sleeve square/square 17/14 mm	665 290
Adapter external square 14/10 mm (for actuators with torque 10 and 20 Nm)	668 234
Adapter external square 14/10 mm (for actuators with torque from 35 Nm)	677 877

Envelope Dimensions [mm] (For additional information see datasheet)

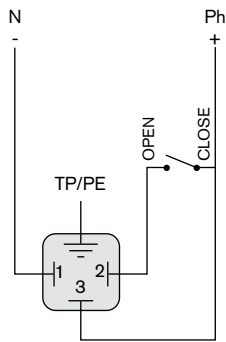


Open/Close version

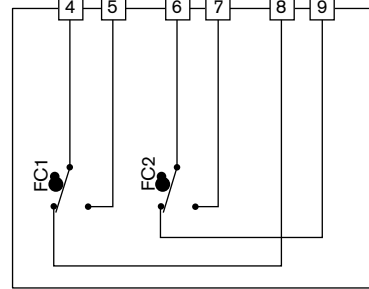
3 points Mode



On/Off Mode

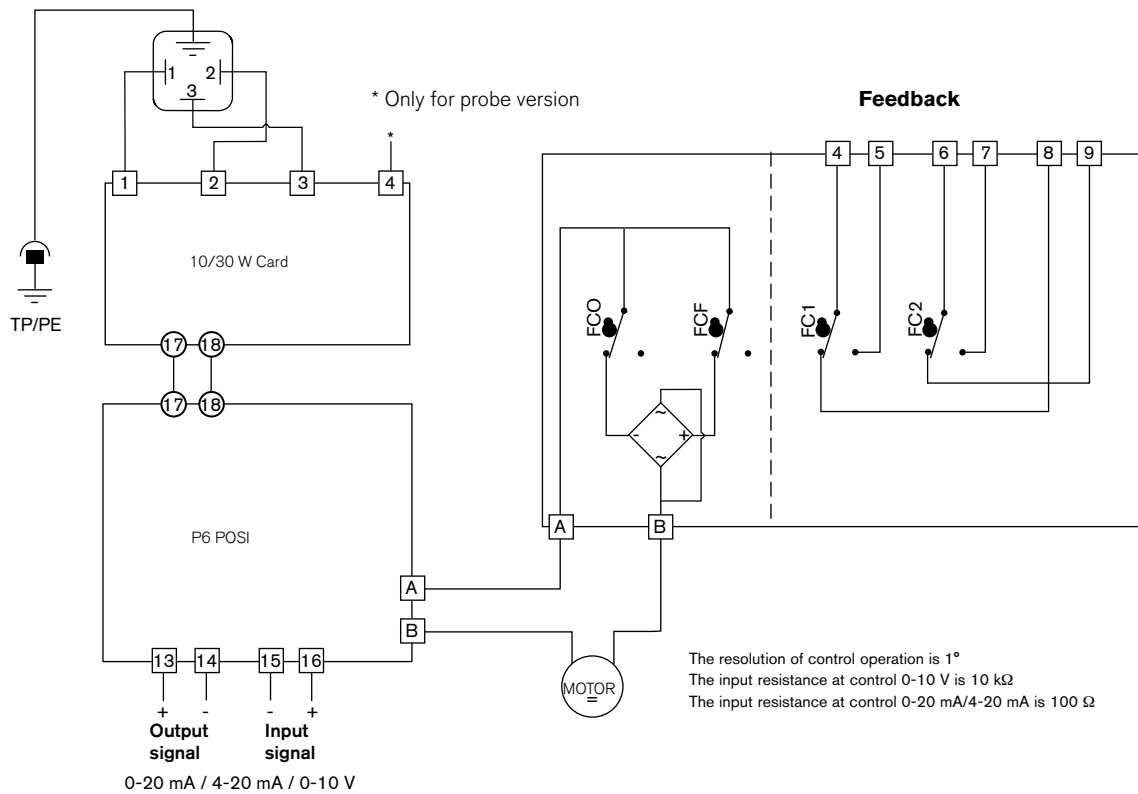
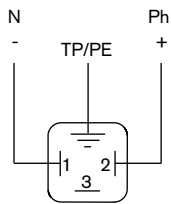


FEEDBACK



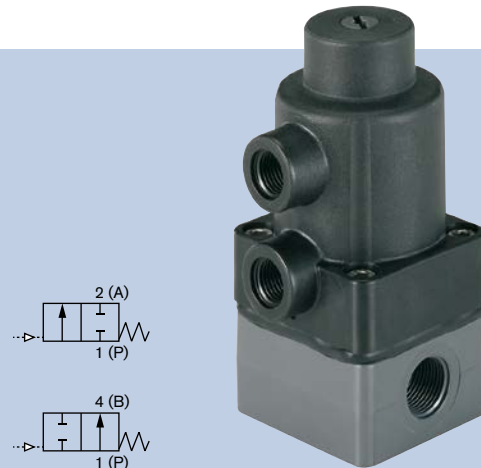
Symbol	Designation
FCO	Open limit switch
FCF	Close limit switch
FC1	Auxiliary 1 limit switch
FC2	Auxiliary 2 limit switch

Version with analogue signal input



2/2-way Diaphragm Valve with plastic body, pneumatically operated

- Easy conversion of the control function
- Use with aggressive and contaminate mediums
- Threaded port version
- Compact design
- Optical position indicator



2/2-way plastic diaphragm valve, pilot operated with pneumatic actuator and spring return. Used for polluted medium in process and water technology.

Technical Data

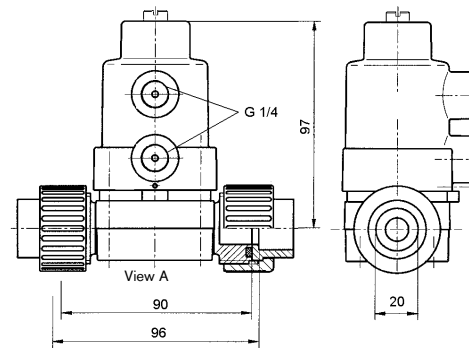
Orifice	DN12 and 15 mm
Body material	PVC-U, PP
Seal material	EPDM
Actuator material	PP, glass-fibre reinforced
Medium	Neutral or aggressive medium that do not attack the body and seal materials
Medium temperature	See pressure temperature chart
Ambient temperature	0 °C to +60 °C
Control medium	Lubricated/non-lubricated compressed air and other neutral medium (e.g., water)
Pilot pressure	Max. 7 bar
Port connections	Threaded port Ø 16, Ø 20 and G 3/8" Threaded port Ø 20 radially expandable
Installation	As required, preferably with actuator in upright position

Options

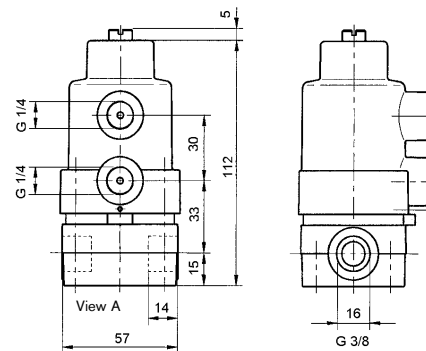
Double-acting actuator (circuit function I)

Body material, PVDF

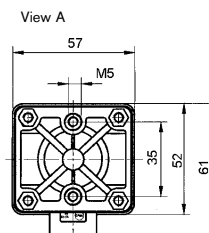
Envelope Dimensions [mm] (see datasheet for details)



True union connection Ø 20

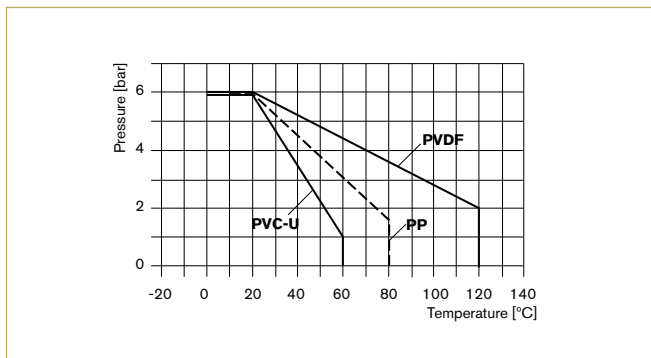


Threaded G 3/8, spigot connection Ø 16



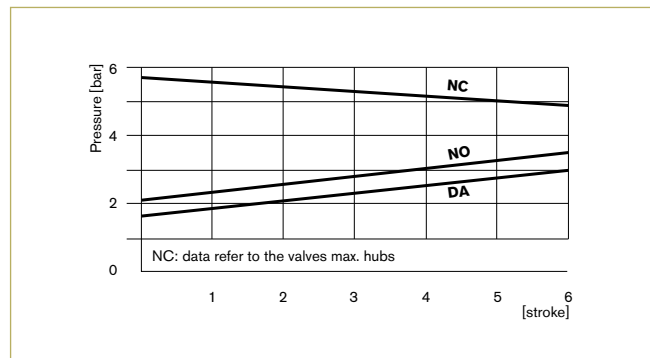
Pressure temperature chart

depending on the body materials



Pilot-pressure chart

NC = Control function A, NO = Control function B, DA = Control function I



Ordering Chart

Control function	Orifice [mm]	Kv value water [m ³ /h]	Pressure range at +20 °C [bar]	Body material	Port connection	Item no.
A 2/2-way, normally closed	12	2.8	0 - 6	PVC-U	True union Ø 16 mm	784 822
				PVC-U	G 3/8"	784 824
	15	3.5	0 - 6	PVC-U	True union Ø 20 mm	784 826
B 2/2-way, normally open	12	2.8	0 - 6	PVC-U	True union Ø 16 mm	784 823
				PVC-U	G 3/8"	784 825
	15	3.5	0 - 6	PVC-U	True union Ø 20 mm	784 827

Accessories

Type	Pressure inlet P (valve body)	Service port A (banjo bolt)	Orifice [mm]	Qn value air [l/min]	Pressure range [bar]	Electrical connection	Power consumption [W]	Item no. voltage/frequency [V/Hz]	
								024/DC	230/50
3/2-way pilot valves with banjo bolts									
Seal material valve FKM, seal material banjo bolt NBR									
6012 P	Tube fitting Ø 6 mm	G 1/4"	1.2	48	0 - 10	Form B	4	552 283	552 286

Type	Item no.
Cable plug for Type 2507, Form B	
Type 2507, Form B Industrial standard 0 up to 250 V without circuitry (Type 6012 P)	423 845

Manually Operated 2/2 Way Diaphragm Valve

3232

DN15-50 mm

- For aggressive media
- Flow optimised body
- Tough, durable PPS handwheel
- Self-emptying
- Low dead volume

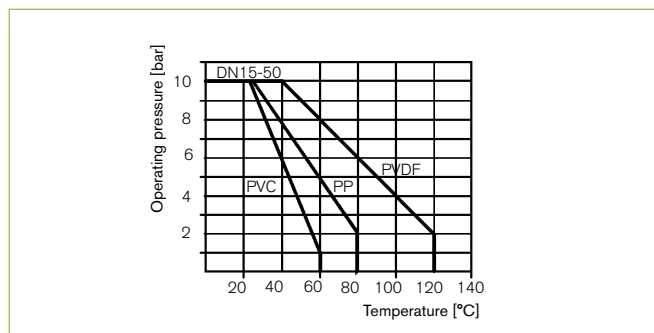


Hand operated diaphragm valve for aggressive chemicals. Provides long service life even with polluted, dirty or high viscosity fluids. The diaphragm between the actuator and body hermetically isolates the fluid from the actuator and provides a strong seal over the valve seat. The manual nature of the operator means that the valve can be used for shut-off and for flow control.

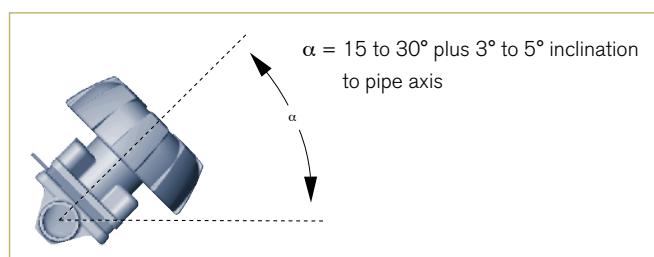
Technical Data

Mediums temperature	See pressure temperature diagram
Ambient temperature	-10 °C to +60 °C
Viscosity	to viscous
Body material	PVC, PP or PVDF
Seal material	EPDM (FDA and KTW approval) or PTFE/EPDM (FDA approval)
Handwheel / Bonnet	PPS / PPS
Process connection	True Union

Pressure-Temperature diagram



Installation for self-draining operation



Envelope Dimensions [mm] (see datasheet for details)

Drawing shows dimensions for true union connection. For other connections see datasheet.

DN	Size	A	B	C
15	1/2"	128	86	92
20	3/4"	152	86	102
25	1"	166	86	108
32	1 1/4"	192	114	139
40	1 1/2"	222	114	149
50	2"	266	114	170

Options

- Pneumatic actuation
- Safety lock

Ordering Chart

Orifice DN [mm]	Port [inch]	Kv value [m ³ /h]	Pressure range at +20 °C [bar]	PVC		PP		PVDF	
				Item no. EPDM diaphragm	Item no. PTFE/EPDM diaphragm	Item no. EPDM diaphragm	Item no. PTFE/EPDM diaphragm	Item no. EPDM diaphragm	Item no. PTFE/EPDM diaphragm
True union connection									
15	1/2	3.5	0 - 10	262 360	262 363	144 782	144 788	144 806	144 812
20	3/4	7.2	0 - 10	262 799	262 804	144 783	144 789	144 807	144 813
32	1	12.5	0 - 10	262 800	262 805	144 784	144 790	144 808	144 814
32	1 1/4	19	0 - 10	262 801	263 365	144 785	144 791	144 809	144 815
40	1 1/2	28	0 - 10	262 802	262 806	144 786	144 792	144 810	144 816
50	2	40	0 - 7	262 803	262 808	144 787	144 793	-	-
Spigot connection									
15	1/2	3.5	0 - 10	144 770	144 776	144 794	144 800	144 818	144 824
20	3/4	7.2	0 - 10	144 771	144 777	144 795	144 801	144 819	144 825
25	1	12.5	0 - 10	144 772	144 778	144 796	144 802	144 820	144 826
32	1 1/4	19	0 - 10	-	-	144 797	144 803	144 821	144 827
40	1 1/2	28	0 - 10	144 774	144 780	144 798	144 804	144 822	144 828
50	2	40	0 - 7	144 775	144 781	144 799	144 805	144 823	144 829

Manually Operated 2/2-way Forged Diaphragm Valve

3233

DN8-80 mm

- Hermetic separation of fluids from actuator
- For high purity and aseptic mediums
- Certifications for hygienic processing applications
- CIP/SIP
- Zero dead volume

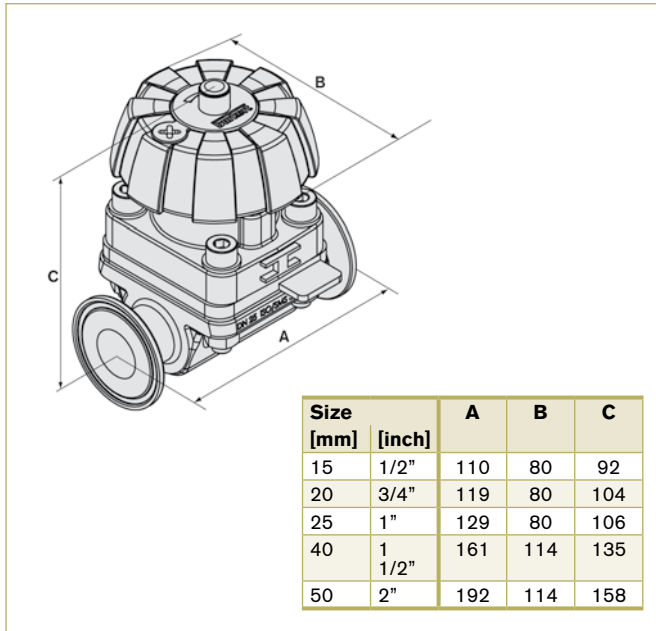


Hand operated diaphragm valve designed specifically for 3A/FDA compliant bioprocessing tasks. The forged 316L stainless steel body can be delivered with your specific surface finish with a range of diaphragm materials to suit positive control of ultra-pure, abrasive and aggressive fluids. The flow is continuously adjustable with the hand wheel. The valves are zero dead volume and can be mounted to self-draining. The valves are autoclavable.

Technical Data

Pressure range	see ordering chart
Temperature media	-10 °C to +130 °C (for steam sterilization short time up to +150 °C)
Ambient temperature	Up to +130 °C, short time up to 150 °C
Body material	Forged stainless steel 316L/1.4435/BN2 Fe < 0.5% / C ≤ 0.03%
Seal material	EPDM (FDA and KTW approval) or PTFE/EPDM (FDA approval)
Viscosity	to viscous
Surface	mechanically polished Ra ≤ 0.6 µm (Average roughness) (outside forged surface) electropolished inside (outside Ra ≤ 0.4 µm (Average roughness) Forged surface electropolished) (others on request)
Actuator materials	
Handwheel and attachment DN8-50	PPS, stainless steel
Handwheel and attachment DN65-100	Stainless steel

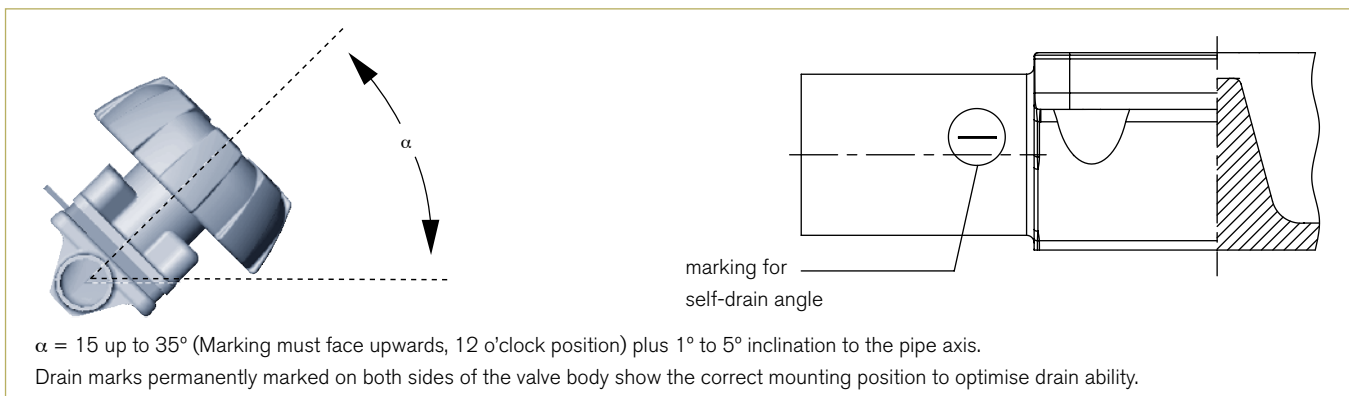
Envelope Dimensions [mm]



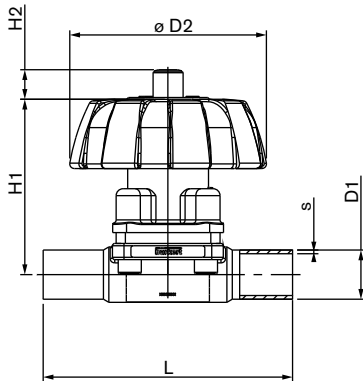
Options

- All mechanical and electropolished finishes a standard
- Locking function

Installation for self-draining operation



**Body with weld end
DN8-50**



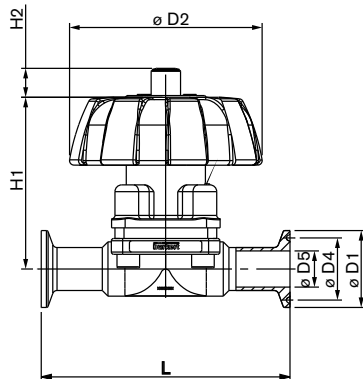
Dimensions acc. to EN ISO 1127/ISO 4200, DIN 11850 S2 and SMS 3008 [mm]

Port connection		ØD2	H1	H2	L	EN ISO 1127/ ISO 4200		DIN 11850 R2		SMS 3008	
[mm]	[inch]					ØD1	S	ØD1	S	ØD1	S
8	1/4"	35	56	-	90	13.5	1.6	-	-	-	-
10	3/8"	35	56	-	90	17.2	1.6	13.0	1.5	-	-
15	1/2"	80	85	7	110	21.3	1.6	19.0	1.5	-	-
20	3/4"	80	93	11	119	26.9	1.6	23.0	1.5	-	-
25	1"	80	94	12	129	33.7	2.0	29.0	1.5	25.0	1.2
32	1 1/4"	114	116	19	161	42.4	2.0	35.0	1.5	-	-
40	1 1/2"	114	116	19	161	48.3	2.0	41.0	1.5	38.0	1.2
50	2"	114	133	25	192	60.3	2.0	53.0	1.5	51.0	1.2

Dimensions acc. to BS 4825 and ASME BPE [mm]

Port connection		ØD2	H1	H2	L	BS 4825		ASME BPE	
[mm]	[inch]					ØD1	S	ØD1	S
8	1/4"	35	56	-	78.0	6.35	1.2	6.35	0.89
10	3/8"	35	56	-	89.0	9.53	1.2	9.53	0.89
15	1/2"	80	85	7.0	108.0	12.70	1.2	12.70	1.65
20	3/4"	80	93	11.0	117.0	19.05	1.2	19.05	1.65
25	1"	80	94	12.0	127.0	25.40	1.65	25.40	1.65
40	1 1/2"	114	116	19.0	159.0	38.10	1.65	38.10	1.65
50	2"	114	133	25.0	190.0	50.80	1.65	50.80	1.65

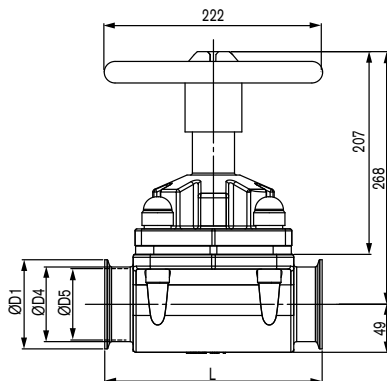
**Body with clamp connection
DN8-50**



Dimensions acc. to ISO 2852 and DIN 32676 [mm]

Port connection		ØD2	H1	H2	L	ØD1	ØD4	ISO 2852 ØD5	DIN 32676 ØD5
[mm]	[inch]								
15	1/2"	80.0	85.0	7.0	110.0	34.0	27.5	-	16.0
20	3/4"	80.0	93.0	11.0	119.0	34.0	27.5	-	20.0
25	1"	80.0	94.0	12.0	129.0	50.5	43.5	22.6	26.0
40	1 1/2"	114.0	116.0	19.0	161.0	50.5	43.5	35.6	38.0
50	2"	114.0	133.0	25.0	192.0	64.0	56.5	48.6	50.0
65	-	-	-	-	305	91	83.5	72.1	66
80	-	-	-	-	305	106	97	84.9	81

**Body with clamp connection
DN65-80**



Dimensions acc. to ASME BPE

long connection and short connection [mm]

Port connection		ØD2	H1	Long conn. L	Short conn. L	H2	ØD1	ØD4	ØD5
[mm]	[inch]								
8	1/4"	35	56	78.0	64.5	-	25.0	20.22	4.57
10	3/8"	35	56	89.0	89.0	-	25.0	20.22	7.75
15	1/2"	80	85	108.0	89.0	7.0	25.0	20.22	9.40
20	3/4"	80	93	117.0	102.0	11.0	25.0	20.22	15.75
25	1"	80	94	127.0	114.0	12.0	50.5	43.5	22.20
40	1 1/2"	114	116	159.0	140.0	19.0	50.5	43.5	34.90
50	2"	114	133	190.0	159.0	25.0	64.0	56.5	47.60
65	2 1/2"	114	133	-	190.0	25.0	77.5	70.5	60.2
80	3"	-	-	-	222.0	-	91	83.5	72.9

Ordering Chart

3233

Port connection		External-Ø [mm]	Kv value water [m³/h]	Max. operat- ing pressure [bar]	Item no. Diaphragm EPDM		Item no. Diaphragm PTFE/ EPDM	
[mm]	[inch]				mech. polished, Ra ≤ 0.6 µm	electro polished, Ra ≤ 0.4 µm	mech. polished, Ra ≤ 0.6 µm	electro polished, Ra ≤ 0.4 µm
Body with clamp connection acc. ISO 2852								
25	1	22.60	16.0	10	218 857	445 724	218 732	445 739
40	1 1/2	35.60	29.0	10	218 727	445 729	218 733	445 744
50	2	48.60	50.0	7	218 728	445 734	218 734	445 749
Body with clamp connection acc. DIN 32676								
15	1/2	16.00	6.0	10	218 738	445 894	218 748	445 919
20	3/4	20.00	11.0	10	218 739	445 899	218 749	445 924
25	1	26.00	16.0	10	218 740	445 904	218 750	445 929
40	1 1/2	38.00	29.0	10	218 741	445 909	218 751	445 934
50	2	50.00	50.0	7	218 742	445 914	218 752	445 939
Body with clamp connection acc. ASME BPE short connection								
8	1/4	25.00	1.0	10	218 758	445 859	218 775	445 824
10	3/8	25.00	1.0	10	218 759	445 864	218 776	445 829
15	1/2	25.00	6.0	10	218 760	445 869	218 777	445 834
20	3/4	25.00	11.0	10	218 761	445 874	218 778	445 839
25	1	50.50	16.0	10	218 762	445 879	218 779	445 844
40	1 1/2	50.50	29.0	10	218 763	445 884	218 780	445 849
50	2	64.00	50.0	7	218 764	445 889	218 781	445 854
65	2 1/2	77.50	54.0	7	218 765	551 455	218 782	551 461
80	3	91.00	160.0	5	253 099	252 571	263 163	257 108
Body with clamp connection acc. ASME BPE long connection								
8	1/4	25.00	1.0	10	218 792	445 754	218 806	445 789
10	3/8	25.00	1.0	10	218 793	445 759	218 807	445 794
15	1/2	25.00	6.0	10	218 794	445 764	218 808	445 799
20	3/4	25.00	11.0	10	218 795	445 769	218 809	445 804
25	1	50.50	16.0	10	218 796	445 774	218 810	445 809
40	1 1/2	50.50	29.0	10	218 797	445 779	218 811	445 814
50	2	64.00	50.0	7	218 798	445 784	218 812	445 819

Ordering Chart

Port connection		External-Ø [mm]	Kv value water [m³/h]	Max. operat- ing pressure [bar]	Item no. Diaphragm EPDM		Item no. Diaphragm PTFE/ EPDM	
[mm]	[inch]				mech. polished, Ra ≤ 0.6 µm	electro polished, Ra ≤ 0.4 µm	mech. polished, Ra ≤ 0.6 µm	electro polished, Ra ≤ 0.4 µm
Body with weld end acc. EN ISO 1127/ISO 4200, DN 8-50								
8	1/4	13.50	1.0	10	218 575	445 494	218 595	445 529
10	3/8	17.20	1.0	10	218 576	445 499	218 596	445 534
15	1/2	21.30	6.0	10	218 577	445 504	218 597	445 539
20	3/4	26.90	11.0	10	218 579	445 509	218 598	445 544
25	1	33.70	16.0	10	218 580	445 514	218 599	445 549
40	1 1/4	42.40	29.0	10	218 581	550 291	218 600	550 288
40	1 1/2	48.30	29.0	10	218 582	445 519	218 601	445 554
50	2	60.30	50.0	7	218 584	445 524	218 602	445 559
Body with weld end acc. DIN 11850 Series 2, DN 10-50								
10	3/8	13.00	1.0	10	218 620	445 634	218 634	445 664
15	1/2	19.00	6.0	10	218 621	445 639	218 635	445 669
20	3/4	23.00	11.0	10	218 622	445 644	218 636	445 674
25	1	29.00	16.0	10	218 623	445 649	218 637	445 679
40	1 1/2	41.00	29.0	10	218 625	445 654	218 640	445 684
50	2	53.00	50.0	7	218 626	445 659	218 641	445 689
Body with weld end acc. SMS 3008								
25	1	25.00	16.0	10	218 658	445 694	218 667	445 709
40	1 1/2	38.00	29.0	10	218 660	445 699	218 668	445 714
50	2	51.00	50.0	7	218 661	445 704	218 669	445 719
65	2 1/2	63.50	54.0	7	218 662	551 557	218 670	551 562
Body with weld end acc. BS 4825								
8	1/4	6.35	1.0	10	218 680	445 564	218 689	445 599
10	3/8	9.53	1.0	10	218 682	445 569	218 690	445 604
15	1/2	12.70	6.0	10	218 683	447 926	218 691	447 946
20	3/4	19.05	12.0	10	218 684	447 931	218 692	447 951
Body with weld end acc. ASME BPE								
8	1/4	6.35	1.0	10	218 697	447 936	218 712	447 956
10	3/8	9.53	1.0	10	218 698	447 941	218 713	447 961
15	1/2	12.70	6.0	10	218 699	445 574	218 715	445 609
20	3/4	19.05	12.0	10	218 700	445 579	218 716	445 614
25	1	25.40	16.0	10	218 701	445 584	218 717	445 619
40	1 1/2	38.10	29.0	10	218 702	445 589	218 718	445 624
50	2	50.80	50.0	7	218 703	445 594	218 719	445 629

SideControl Positioner

8635

- Electropneumatic positioner for pneumatically actuated process valves
- Optional for use in hazardous areas II (1) 2 G EEx ia IIC T6 approval



The SideControl Positioner, Type 8635, is an electropneumatic positioner for pneumatically actuated process valves with linear or part-turn actuators. It is executed in two conductor technology. Signal processing, control and actuation of the internal positioning system are accomplished with microprocessor-controlled electronics. The software function Autotune implemented therein enables automatic adaptation of the positioner to the control valve in use.

The positioner is parametrized and operated comfortably via three operating keys and a plain-text display. It is possible to set up a decentralized control system if a process controller with PID characteristics is used.

Technical Data

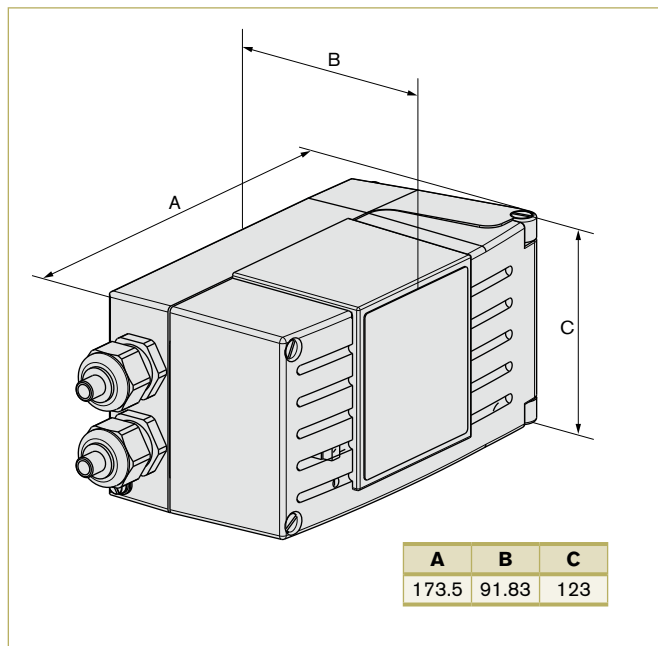
Body material	Aluminium, hard anodized and plastic coated
Other external parts	Stainless steel V4A
Seal material	NBR, Neoprene
Control medium	neutral gases
Processing	DIN ISO 8573-1
Dust content	Class 5 ($\leq 40 \mu\text{m}$ particle size)
Particle density	Class 5 ($\leq 10 \text{ mg/m}^3$)
Pressure dew point	min. 10°C under min. operating conditions
Oil concentration	Class 3 ($\leq 1 \text{ mg/m}^3$)
Control air temperature	-25°C to $+60^\circ\text{C}^{1)}$
Ambient temperature	-25°C to $+60^\circ\text{C}^{1)}$
Supply pressure	1.4-6 bar ²⁾
Air flow capacity²⁾	55 l/min at 1.4 bar ³⁾
Control valve	170 l/min at 6 bar ³⁾ for pressurizing and venting
Intrinsic air consumption	0 l/min
Positioning range	
Linear actuator	3-130 mm
Part-turn actuator	0-120°
Position sensor system	High-resolution conductive plastic rotary potentiometer
Operation	Operating keys and plain-text display
Electrical connection	2 x M20 x 1.5-bushing Clamping range 6-12 mm Screw terminals for 0.14-1.5 mm ²
Electrical data	
Type 8635	
Current supply for electronics	via setpoint signal 4 ... 20 mA
Burden voltage	< 10.2 V DC
Setpoint setting	4 ... 20 mA
Control air sockets	G 1/4 NPT 1/4; RC 1/4 on request

¹⁾ Up to $+65^\circ\text{C}$ temperature class T4/T5 or without EEx i approval.

²⁾ May be adapted to actuator size with throttle screw.

³⁾ Pressure data in bar; overpressure to atmospheric pressure

Dimensions [mm] (see datasheet for more details)



Technical Data (continued)

Mounting kits	NAMUR recommendation
for linear actuator	acc. to DIN IEC 534 T6
for part-turn actuator	acc. to VDI/VDE 3845
Weight	ca. 1.5 kg
Protection class	IP65 acc. to EN 60529
Type of ignition protection	II (1) 2 G EEx ia IIC T6 acc. to DIN EN 50020
Certification	acc. to ATEX 2027 (PTB04)
Conformity	EMV-89/336/EWG

Options

- Universal integrated attachment (air conduction without piping)
- Manometer VA (supply and drive chamber),
- Switches according to NAMUR as limit switches (optional)

Software functions (depending on the device configuration chosen)

Other software functions on Type 8635

Optional built-in process controller (PID)

Automatic parametrization of the process controller

Setting of the parameters of the process controller

- Calibration of the setpoint input and display
- Configuration of the analog input
- Configuration of the binary input and binary outputs

Other electrical data

	Function values		Permissible maxima as per Certificate of Conformity	
Power Supply	U I	10.2 V 4 mA	U _i I _i P _i	30 V 100 mA 1 W
Process value input (only for version with process controller)	Burden	10 Ω	U _i	30 V
	Burden voltage U	< 200 mV	I _i	100 mA
			C _i	14.3 nF
Binary input	make/break contact (conf.)	-	P _i	1 W
			Co	5.5 μF
			Lo	1000 mH
Analog feedback (Option)	U	12 ... 30 V	U _o	30 V
	I	4 ... 20 mA	I _o	100 mA
			P _o	1 W
Limit switches (Option) (NAMUR switches)	U	8 V	U _o	15.5 V
	I uncoated	3 mA	I _o	52 mA
	I coated	1 mA	P _o	150 mA

Recommendations for isolation transformers/DC transformers input 4-20 mA/output 4-20 mA

Company	Model	Burden	Ex	active/passive
Pepperl+Fuchs	KFD2-CD-Ex1.32	850 Ω	x	A
Foxboro Eckardt	TV228-S-EGX	700 Ω	x	A
Foxboro Eckardt	MT228-S-EGX	750 Ω	x	A
Foxboro Eckardt	I1949-S1 ZZZ	750 Ω	-	A
Steel	9318/16-22-10	700 Ω	x	A
Steel	M318/12-11-00	1000 Ω	x	A
PhoenixContact	PI/EX-ID-I/I	800 Ω	x	A

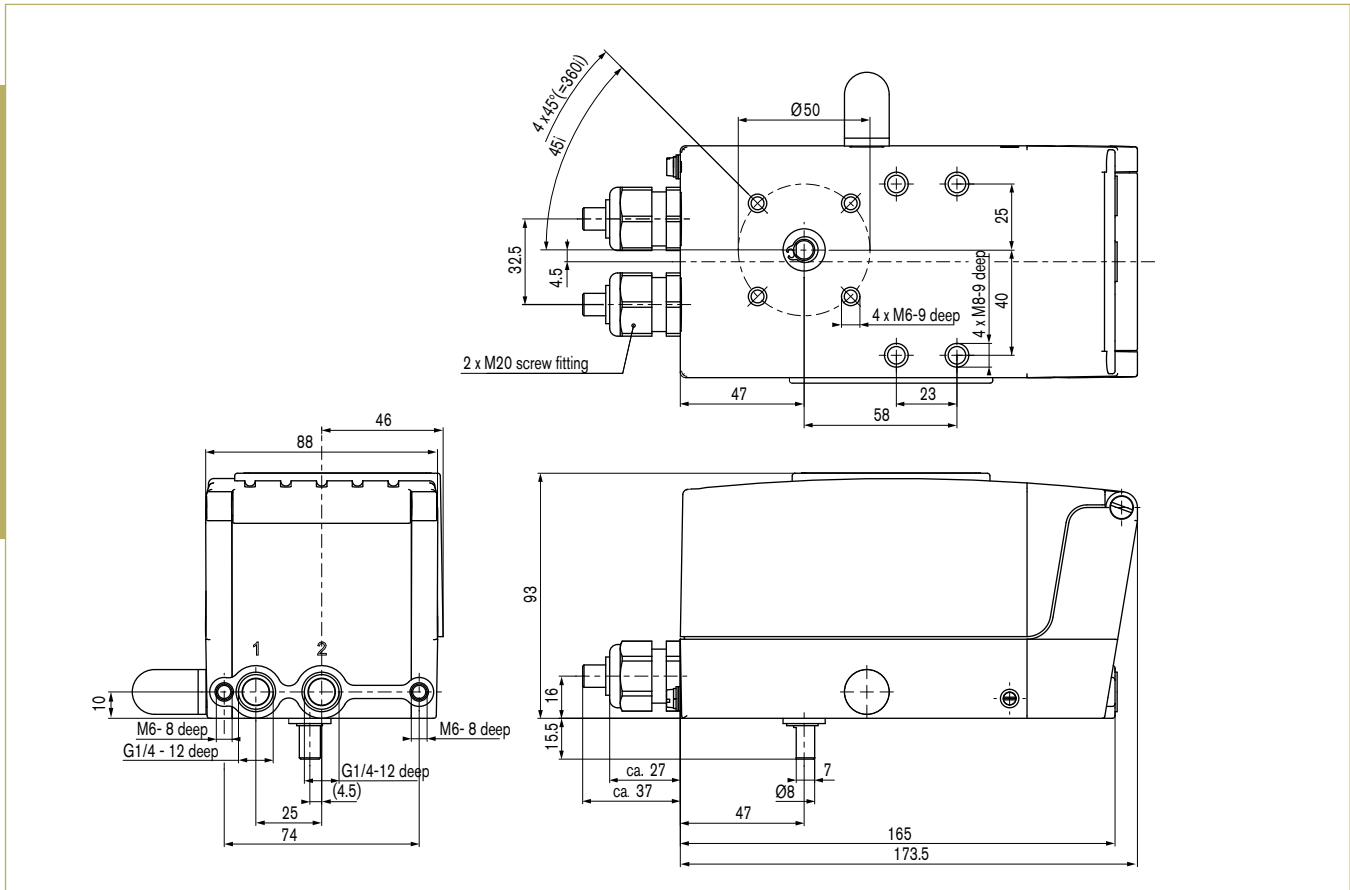
- Data given without guarantee of accuracy.
- For dimensioning and operation of intrinsically safe circuits, the user/owner is responsible.

Software functions (depending on the device configuration chosen)

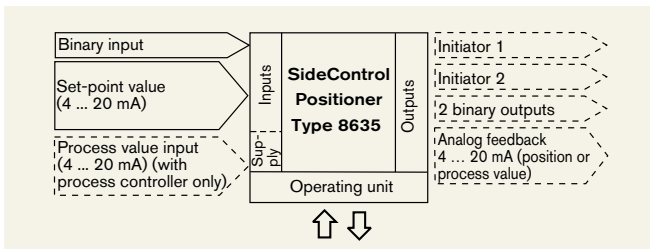
Type 8635

- Automatic commissioning of control system
- Parametrization of the positioner
- Automatic or manual entry of characteristic curve for correction of operating characteristic
- Setting of the tight-closure or maximum stroke threshold
- Stroke limitation
- Limitation of positioning speed
- Dead band
- Direction of action of the controller setpoint
- Signal range splitting (split range up to 4 times)
- Setting of direction of movement
- Definition of a safety position
- Calibration of input and display
- Configuration of binary input
- Code protection for settings/operation
- RESET of factory settings

Dimensions [mm]



Interfaces

**Note**

The optional inputs and outputs are shown by dotted lines.

Ordering chart

Function ¹⁾	Position sensor system	Communication	Switch DIN EN 60947-5-6	Analog feedback incl. 2 binary outputs	Mounting on pneumatic linear or part-turn actuator	Ex approval (acc. to ATEX)	Item no.
Pos	external	none		no	mounting on control valve Type 27XX	Ex ia II C T6	150 347
Pos	external	none		yes	mounting on control valve Type 27XX	Ex ia II C T6	155 369
Pos	internal	none		no	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	Ex ia II C T6	147 263
Pos	internal	none	2 open/close	no	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	Ex ia II C T6	*
Pos	internal	none		yes	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	Ex ia II C T6	155 371
Pos	internal	none	2 open/close	yes	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	none	*
Pos + Pro	external	none		no	mounting on control valve Type 27XX	Ex ia II C T6	151 111
Pos + Pro	external	none		yes	mounting on control valve Type 27XX	Ex ia II C T6	155 373
Pos + Pro	internal	none		no	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	Ex ia II C T6	147 264
Pos + Pro	internal	none		yes	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	Ex ia II C T6	155 375
Pos	internal	none		no	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	none	147 265
Pos	external	none		no	mounting on control valve Type 27XX	none	147 267
Pos + Pro	internal	none		no	NAMUR (DIN IEC 534-6; VDI/VDE 3845)	none	147 266
Pos + Pro	external	none		no	mounting on control valve Type 27XX	none	147 268

¹⁾ Pos.: positioner; pro: process controller
* available on request

8635

Accessories

Version	Item no.
Mounting kit for linear actuators to DIN IEC 534-6	787 215
Mounting kit for part turn actuators to VDI/VDE 3845, without bracket	787 338
Console VA VDI/VDE3845-ISO5211 F05 for attachment to a pneumatic actuator from ball valve, Type 8805	770 294
Attachment kit for piston actuators Type 27XX, 80 mm	651 771
Attachment kit for piston actuators Type 27XX, 100 mm/125 mm	651 772
Attachment kit for piston actuators Type 27XX, 175 mm/225 mm	655 567
Position sensor system for piston actuators Type 27XX, 80 mm	651 751
Position sensor system for piston actuators Type 27XX, 100 mm/125 mm	653 021
Position sensor system for piston actuators Type 27XX, 175 mm/225 mm	655 535

Ordering note

- To select a suitable control valve, use the data sheets of Types 27XX.
- To order a complete control valve, state the following numbers:
the order no. of the SideControl positioner Type 8635
the order no. of the position sensor system, (see accessories)
the order no. of the selected control valve and the order no. of the associated attached parts with the remark SideControl positioner Type 8635 control valve.
- Burkert supplies a completely assembled and tested control valve.

Control head for hygienic process valves

8681
Control head

- Universal attachment for hygienic process valves
- Contactless position measurement system with 3 switching points (Teach-In function)
- Coloured status display
- Magnetic manual override without opening the device
- Communication interface AS-Interface (option)



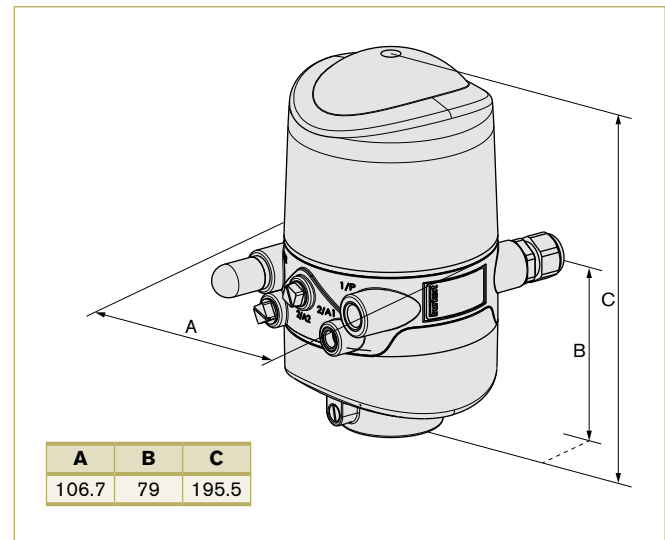
Type 8681 control head is optimised for decentralised automation of hygienic process valves. Thanks to its universal adapter it can be combined with all normal commercial butterfly valves, ball valves, single and double seated valves. With a decentralised automation concept, the control head takes over all pneumatic actuation, feedback and diagnostic functions up to and including field bus communication. The housing is easy to clean and features proven electrical IP protection and chemically resistant materials for use in hygienic processing in food, beverage and pharmaceutical industries.

Technical Data

Material	
Body	PA, PPO, VA
Cover	PC
Seal	CR, EPDM
Control medium	neutral gases, air DIN ISO 8573-1 (filter 5 µm recommended)
Dust concentration	class 5 (<40 µm particle size)
Particle density	class 5 (<10 mg/m ³)
Pressure condensation point	class 3 (<-20 °C)
Oil concentration	class 5 (<25 mg/m ³)
Supply pressure	2.5 to 8 bar
Air capacity solenoid valve¹⁾ (supply and exhaust air per solenoid valve adjustable)	110 l _N /min - for pressurization and exhaust, lifting device 110 l _N /min - delivery condition 200 l _N /min - max. typical flow rate (throttle)
Pilot air ports	
Air inlet and outlet	G 1/4"
Service ports	G 1/8"
Position sensor	Non-contact Position Sensor, 3 self-regulated switching points PNP (Teach-In-function) closer (normally open), PNP-output short-circuit proof, with clocking short-circuit protection
Outlet current	Max. 100 mA per feedback signal
Stroke range	0 to 80 mm
Resolution	≤ 0.1 mm
Total error	± 0.5 mm - when using a target for the dimensional drawing, material 1.4021 and a piston rod (Ø 22 mm, material 1.4301) (error refers to the reproducibility of a teach-position)
Ambient temperature	-10 °C to +55 °C +5 °C to +55 °C (ATEX II 3G Ex nA IIC T4; ATEX II 3G Ex tD A22 T135°C)
Installation	As required, preferably with actuator in upright position

¹⁾ QNn-value acc. to the definition with decrease in pressure from 7 to 6 bar absolute with 20°C.

Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

Type of protection	IP 65/67 acc. to EN 60529
Protection class	3 (AS-Interface, 24 VDC, DeviceNet); 1 (120 VAC) acc. to DIN EN 61140
Fieldbus communication	AS-Interface, DeviceNet
EG-Conformity	EMV2004/108/EG; ATEX 94/9/EG
Ignition protection	ATEX II 3G Ex nA IIC T4 ATEX II 3G Ex tD A22 T135°C

Technical data (continued)

Without fieldbus communication; 24V DC	
Operating voltages	12 to 28 VDC
Residual ripple with DC	max. 10 %
Power consumption	< 5 W (acc. to version and operating status see instruction manual)
Valve control inputs (Y1 - Y3)	
Signal level - active	$U > 10 \text{ V}$, max. 24 V DC + 10%
Signal level - inactive	$U < 5 \text{ V}$
Impedance	$U > 30 \text{ k}\Omega$
Outputs / binary feedback signals	S1 out - S4 out
Design	Normally open contact, PNP output short-circuit proof with self-locking short circuit protection
Switchable output current	max. 100 mA per feedback signal
Output voltage -active	\geq (operating voltage - 2 V)
Output voltage -inactive	max. 1 V in unloaded state
Input / proximity switches (external initiator: S4 in)	
Power supply	Voltage present at control head - 10 %
Current carrying capacity, sensor power supply	max. 90 mA short-circuit protection
Design	DC 2- and 3-conductor, NO or NC (factory setting NO), PNP output
Input current 1 signal	$I_{\text{Sensor}} > 6.5 \text{ mA}$, limited internally to 10 mA
Input voltage 1 signal	$U_{\text{Sensor}} > 10 \text{ V}$
Input current 0 signal	$I_{\text{Sensor}} < 4 \text{ mA}$
Input voltage 0 signal	$U_{\text{Sensor}} < 5 \text{ V}$
Electrical connection	
Multipole	M12 12-pin with cable 8 cm, 1 x M16 x 1.5 cable glands for external initiator (clamping range 3 ... 6 mm)
Cable gland	M16 x 1.5 (cable-Ø 5 ... 10 mm, screw terminals 0.14 ... 1.5 mm ²), 1 x M16 x 1.5 cable glands for external initiator (clamping range 3 ... 6 mm)
With Fieldbus communication; AS-Interface	
Profil	S-7.A.E (A/B slave max. 62 slaves/master) S-7.F.F (max. 31 slaves/master)
Operating voltages	
above bus line	as Specification
from bus signal separated	reversible (Jumper)
Power consumption equipment without external power supply	
Max. Current consumption	240 mA (incl. external initiator with 90 mA)
Current consumption in normal operation	$\leq 150 \text{ mA}$
(acc. to reduction of electric current; valve + 1 end position achieved)	3 valves activated, 1 position feedback with LED display, no external initiator
Power consumption equipment with external power supply	
The power supply unit must include a secure disconnect in accordance with IEC 364-4-41. It must conform to the SELV standard. The ground potential may not have an earth connection.	19.2 V DC up to 31.6 V DC $\leq 100 \text{ mA}$ 24 V DC $\leq 150 \text{ mA}$ type.
Output	
Contact rating	0.8 W with AS-Interface, per Solenoid Valve (0.9 W Switch-on power)
Watch-dog function	integrated
Input / proximity switches (external Initiator: S4 in)	
Power supply	AS interface voltage present at control head - 10 %
Current carrying capacity, sensor power supply	max. 30 mA short-circuit protection
Design	DC 2- and 3-conductor, NO or NC (factory setting NO), PNP output
Input current 1 signal	$I_{\text{Sensor}} > 6.5 \text{ mA}$, limited internally to 10 mA
Input voltage 1 signal	$U_{\text{Sensor}} > 10 \text{ V}$
Input current 0 signal	$I_{\text{Sensor}} < 4 \text{ mA}$
Input voltage 0 signal	$U_{\text{Sensor}} < 5 \text{ V}$
Electrical connection	
(ASI flat cable clip at cable 80 cm as standard)	M12 4-pin at cable 8 cm (acc. 0.3 m cable length acc. to AS-Interface Specification) 1 x M 16 x 1.5 cable glands for external initiator clamping range 3 ... 6 mm. M12 4-pin at cable 80 cm (acc. 1.0 m cable length acc. to AS-Interface Specification) 1 x M 16 x 1.5 cable glands for external initiator clamping range 3 ... 6 mm.

Bit configuration

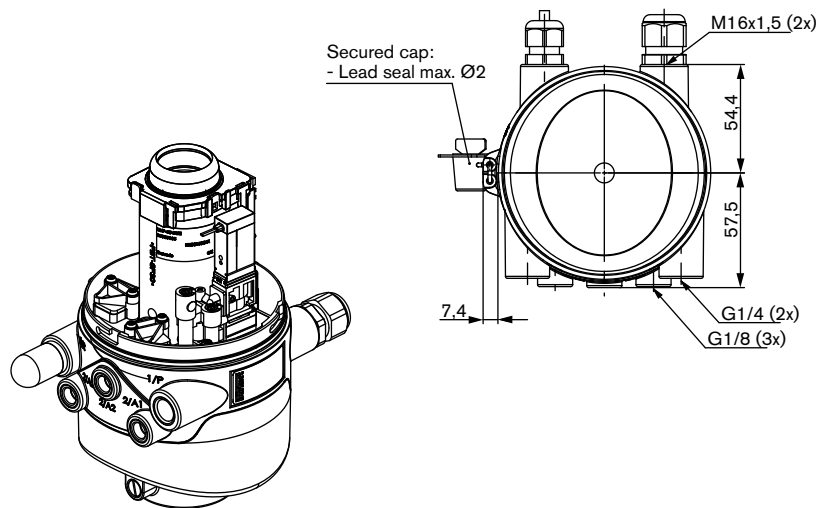
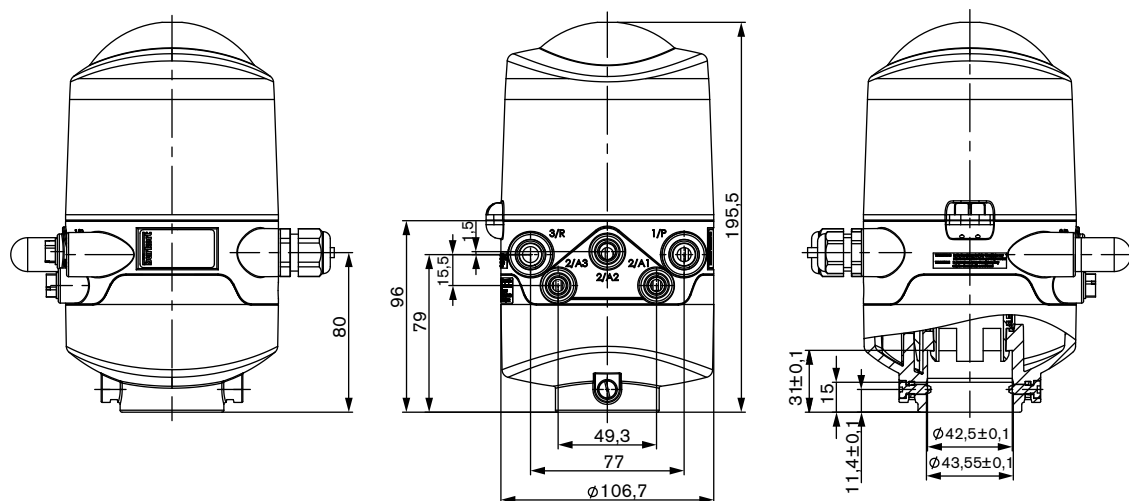
Databit	D3	D2	D1	D0
Input	external initiator S4	position 3	position 2	position 1
Output	not configured	solenoid valve 3	solenoid valve 2	solenoid valve 1
Parameterbit	D3	D2	D1	D0
Output	not configured	not configured	not configured	not configured

Programming data

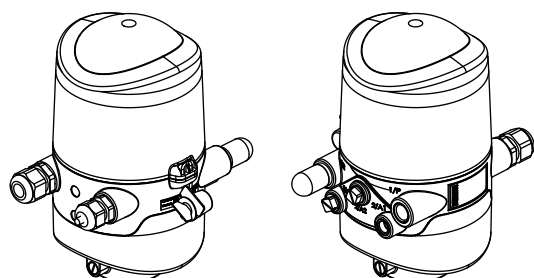
Databit	Programming data with 62 Slaves AS-Interface - apparatus for A/B-Slave-addressing (standard device)	Programming data with 31 Slaves AS-Interface (optional)
E/A - configuration	7 hex (4 Inputs / 4 Outputs) see bit configuration chart	7 hex (4 Inputs / 4 Outputs) see bit configuration chart
ID-code	A hex	F hex
combinative ID-code 1	7 hex	(F hex)
combinative ID-code 2	E hex	(F hex)
profile	S-7.A.E	S-7.F.F

Dimensions [mm]

Feedback version (without pilot valves)

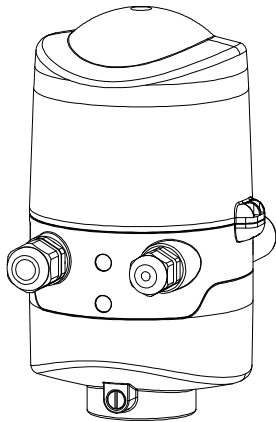


Version: 1 to 3 valves



Without Fieldbus communication 24VDC

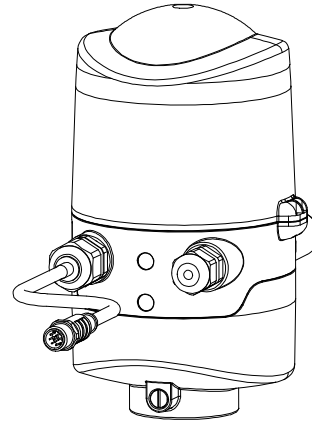
Cable glands



Connection left: Voltage, signals
 Connection right: external initiator

Cable glands with multipole connection

Version with 12 pin plug (24 V)¹⁾



Connection left: Voltage, signals
 Connection right: external initiator

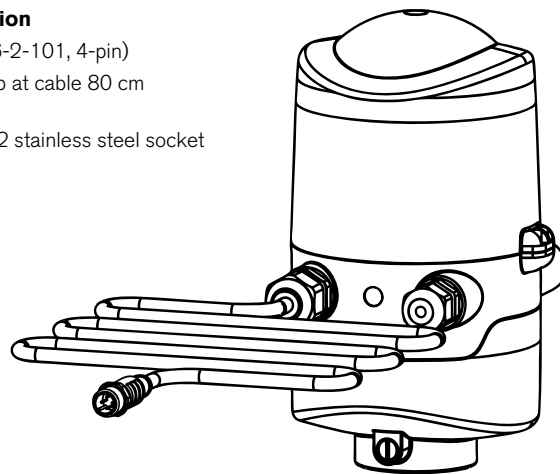
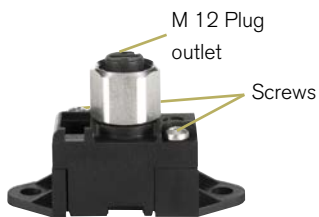
¹⁾ M12 plug acc. IEC 61076-2-101, 12 pin at cable 8 cm

With Fieldbus communication AS-Interface

with multipole connection

(M12-plug acc. IEC 61076-2-101, 4-pin)
 with mounted flat cable clip at cable 80 cm

ASI-flat cable clip with M12 stainless steel socket



left: AS-Interface
 right: external initiator

Ordering chart

Communication	Voltage	Connection	ATEX Zone 2/22 Kat. 3	Quantity of solenoid valves	Feedback	Item no.
without	12 - 28 V DC	cable gland	without	0	3 int. + 1 ext.	196 410
			without	1	3 int. + 1 ext.	196 411
			without	2	3 int. + 1 ext.	196 412
			without	3	3 int. + 1 ext.	196 413
			with	1	3 int. + 1 ext.	196 415
without	12 - 28 V DC	M12, 12 pin, cable 8 cm	without	0	3 int. + 1 ext.	196 420
			without	1	3 int. + 1 ext.	196 421
			without	2	3 int. + 1 ext.	196 422
			without	3	3 int. + 1 ext.	196 423
			with	1	3 int. + 1 ext.	196 425
AS-Interface (62 slaves)	29.5 - 31.6 V DC	Version with ASI flat cable terminal and 80 cm cable	without	0	3 int. + 1 ext.	196 430
			without	1	3 int. + 1 ext.	196 431
			without	2	3 int. + 1 ext.	196 432
			without	3	3 int. + 1 ext.	196 433
			with	1	3 int. + 1 ext.	196 435

Accessories

Version	Item no.
Silencer PE G 1/4"	780 780
Blind plug PP G 1/8"	770 901
Banjo fitting brass nickel-plated G 1/4" for Ø tube 8/6 mm	780 084
Banjo fitting brass nickel-plated G 1/8" for Ø tube 6/4 mm	780 082
Universal VA-flange with O-ring	196 495
Target for type 8681 from 1.4021	196 494
Magnet-manual control tool	196 490
Cable 27 cm (8 cm outside) with 12 pin M12 plug for 24 V DC	217 574
Cable 99 cm (80 cm outside) with 4 pin M12 plug for ASi	217 572
Cable 27 cm (8 cm outside) with 4 pin M12 plug for ASi	217 573
ASI-flat cable terminal with M12 with stainless steel female connector	799 646
Cable 99 cm (80 cm outside) with 5 pin M12 plug for DeviceNet	218 187
USB adaptation kit PC-communicator	227 093
Bluetooth-adaptation kit Smartphone-communicator	-



Clean up your Cabinet!

More Flexibility with AirLINE Quick

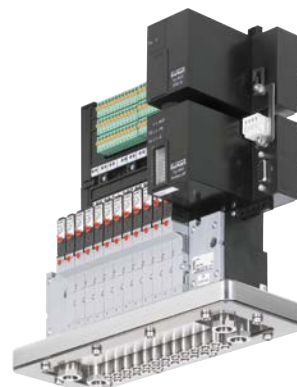
bürkert
FLUID CONTROL SYSTEMS

Pneumatic control of processes can be so easy! With AirLINE Quick for example. Our new adapter for valve islands and automation systems significantly reduces the need for components in the control cabinet. Besides requiring fewer pneumatic hoses and cables, AirLINE Quick can also be mounted directly on the wall or floor of the control cabinet. Without any bulkhead connections – fast and flexible. This cleans up your control cabinet and even allows for smaller ones.

The AirLINE Quick adapter plate is available in stainless steel for hygienic processes or as a general purpose anodized aluminium version; as a component or for individually designed control cabinets – it's your choice!



AirLINE Quick automation system type 8644 with interface module and I/O modules from cooperation partner Siemens ET 200S, 16 valve functions



AirLINE Quick valve island type 8640 with Profibus DPV1, 24 valve functions and 24 digital inputs

Want to know more? Just call: +49 (0) 7940/10-91 111.

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Control- and feedback head for integrated mounting on Robolux valves Type 2036

8685 / 8686

- Compact stainless steel design
- Contactless valve position registration
- Fieldbus AS- Interface (optional)
- Version for NAMUR circuits (optional)



Feedback, Type 8685, and control head, Type 8686, are optimised for integrated mounting on pneumatically operated actuator, Type 2036 Robolux. The adjustment to the individual actuator size is done through DIP-switches.

As a compact unit the devices provide the complete automation functionality for the two individually operated actuator pistons.

Depending on the configuration the electrical and visual position feedback is done by non-contact switches and high-power LEDs. Integrated pilot valves control the actuator pistons and AS-interface communication is available. Using appropriate barriers both types feature intrinsic safety acc. to ATEX.

In this way a complete concept for decentralized automation is feasible for the process technique.

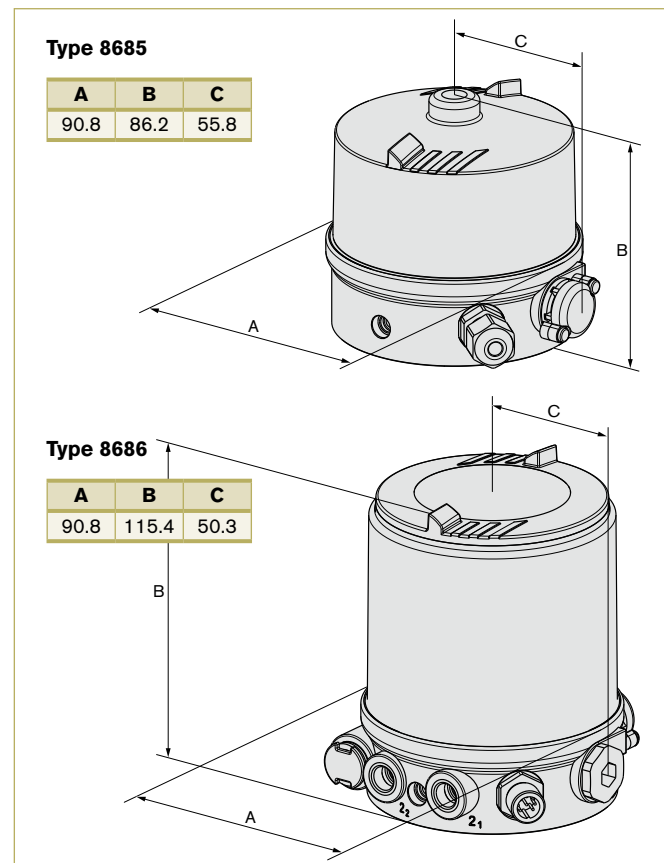
The compact body is especially distinguished by its hygienic design, with resistance to cleaning agents and a proven electrical IP protection.

In addition the control head, Type 8686, features an integrated compressed air filter to protect the pilot valve function against particles through the compressed air supply.

Technical data

Material:	
Body	PPS, stainless steel
Cover	PC
Seal	EPDM
Power supply	
Limit switches	24V DC +/- 10% 8.2V DC (Ex-i-NAMUR switch amplifier) U < 12V, Ii < 20 mA, Pi < 60 mW (Ex- Barrier)
Pilot valve	24V DC +/- 10% max. voltage see note ²⁾
Pilot valve	
	Residual ripple 10%; Power consumption 0,8 W every valve for Ex i-variants: acc datasheet II 2G Ex ia IIC T4 T5 T6 PTB01 ATEX 2048
Control medium	
	Neutral gases, air DIN ISO 8573-1
Dust content	Class 5 (< 40 µm particle size)
Particle density	Class 5 (< 10 mg/m ³)
Pressure dew point	Class 3 (< -20 °C)
Oil concentration	Class 5 (< 25 mg/ m ³)
Supply pressure	
	3-7 bar ¹⁾
Air supply filter	
	Exchangeable
Mesh aperture	~0.1 mm
Pilot air ports	
	Threaded ports G 1/8"
Position feedback	
	Reed sensors (no contact)
Stroke range valve spindle	
	RV50 = 6.0 mm, RV70 = 9.5 mm, RV110 = 13.5 mm

Dimensions [mm] (see datasheet for more details)



Technical data (cont.)

Ambient temperature	0 °C to +55 °C
Installation	As required, preferably with actuator in upright position
Type of protection	IP65/67 according to EN 60529
Protection class	3 acc. to VDE 0580
Fieldbus communication	AS-Interface
Conformity	CE acc. to EMV2004/108/EG
Electrical connection	
Multipole	M12 (8-pin), M12 (4-pin) with 1 m cable (AS-Interface)
Cable gland	M16x1.5 (Cable Ø 6.5 mm), screw terminals (1.0 mm ²)

¹⁾ The supply pressure must be 0.5 to 1 bar above the minimum required control pressure of the valve actuator.

Technical Data (continued)

Without Fieldbus communication	
Power supply	24 VDC
Residual ripple with DC	10%
Voltage tolerance	±10 %
Power consumption	< 2 W
Output	Max. 100 mA per output/ short-circuit protected
Electrical connection	
Multipole	M12 (8-pin)
Cable gland	M12x1.5 (cable Ø6.5 mm), screw terminals (1.0 mm ² / max. port cross-section 0.25 mm ²)

Type 8685 / 8686 2G II Ex ia IIC T4 Gb	
Ignition protection	IIG Ex ia IIC T4 Gb (BVS 13 ATEX E 039 X) Ex ia IIC T4 Gb (IECEX BVS 13.0047 X)
Operating conditions	Medium temperature of adapted process valve Type 2036 T(media) : 0-130 °C (safety requirement value)
Power supply	
Limit switches	Operates with Ex i-NAMUR switch amplifier: 8.2V DC Operates with Ex barrier ¹⁾ : max. input voltage U _i < 12V DC
Pilot valve	Control valve component for Ex valve coils ²⁾
Limit switches- Status	Only electrical feedback
Power consumption	Operates with Ex i-NAMUR- switch amplifier: < 1.2 mA (terminal position reached) > 2.1 mA (terminal position not reached) Operates with Ex barrier ¹⁾ : max. input voltage U _i < 50 mA
Electrical connection	Cable gland M12x1.5 (cable- 6.5 mm), screw terminals 1.0 mm ² /max. port cross-section: 8685: 0.25 mm ² ; 8686; 0.14 mm ²

¹⁾ Electrical feed-in through intrinsically safe electric circuit of type of protection Ex ia IIC
Each circuit (end position) has the following safety related max data:
Max. input voltage U_i = 12V DC / max. input circuit I_i = 50 mA
Max. input power P_i = 60 mW
Internal capacity and inductance negligible

²⁾ Feed-in valves
Max. input power P_i = 1.1 mW
Max input voltage and max. input circuit acc. following table:

U _i [V]	15	18	20	22	25	28	30	35
I _i [mA]	900	440	309	224	158	120	101	73

 Internal capacity and inductance negligible

With Fieldbus communication; AS- Interface Type 8685	
Profile	S-O.A.E (A/B slave, max 62 slaves/master)
Power supply	29.5 to 31.6 VDC
via bus lines	Acc. to specification
separated from bus signal	On request
Max. power consumption (2 terminal position reached)	35 mA
Electrical connection	M12 4-pin with 1 m cable on flat cable clip
Programming data	See operating manual

With Fieldbus communication; AS- Interface Type 8686	
Profile	S-O.A.E (A/B slave, max 62 slaves/master)
Power supply	29.5 to 31.6 VDC
via bus lines	Acc. to specification
separated from bus signal	On request
Max. power consumption Max. power consumption (2 valves activated and 2 feedback active)	≤ 120 mA
Outputs	
Contact rating	≤ 2x0.8 W (above AS- Interface)
Watch-dog function	Integrated
Inputs	
Sensor operating voltage	24 V ± 10% (above AS- Interface)
Acceptable current load	≤ 50 mA short circuit protected
Switching level High	10 V
Input current High	≤ 1.5 mA
Input current Low	≤ 0.1 mA
Electrical connection	M12 4-pin with 1 m cable on flat cable clip
Programming data	See operating instruction

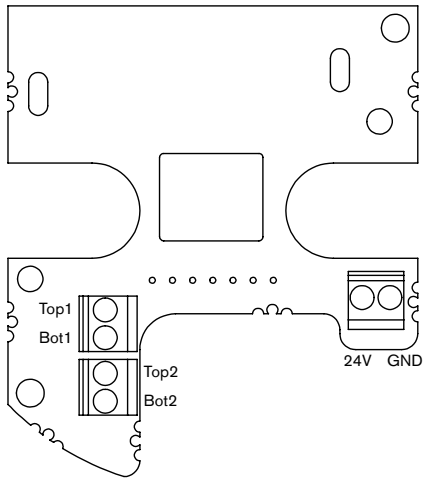
Options

- Type 8686 ASI version with external power supply
- Type 8686 24 V DC version with cable gland

Connection options Type 8685

Without field bus communication

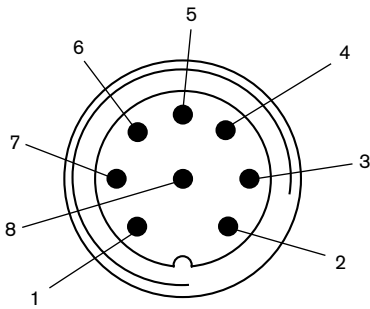
Cable gland



Description on circuit board	Description
24 V	Operating voltages + (24VDC)
GND	Operating voltages - (GND)
Top1	End positions above- Top actuator1
Bot1	End positions below- Bot actuator1
Top2	End positions above- Top actuator2
Bot2	End positions below- Bot actuator2

24 V DC

Multipole connection M12, 8-pin

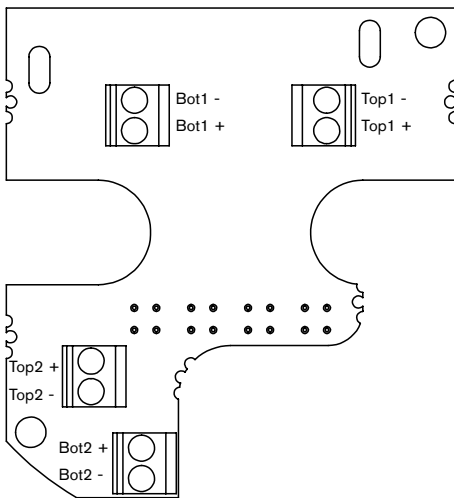


Pin	Description	Configuration
1	Limit Switch 3	End positions below- Bot actuator2
2	Limit Switch 4	End positions above- Top actuator2
3	Limit Switch 1	End positions below- Bot actuator1
4	Limit Switch 2	End positions above- Top actuator1
5	Valve 2	Valve control Y2+
6	Valve1	Valve control Y1+
7	GND	Power supply
8	24V DC	Operating voltages +

Note: Use only straight cable sockets

Ex i (NAMUR)

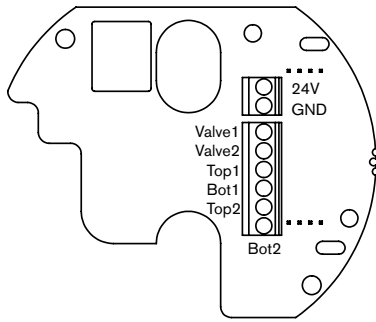
Cable gland



Description on circuit board	Description
Top1+	End positions above- actuator1
Top1-	End positions above- actuator1
Bot1 +	End positions below+ actuator1
Bot1-	End positions below- actuator1
Top2+	End positions above+ actuator2
Top2-	End positions above- actuator2
Bot2+	End positions below+ actuator2
Bot2-	End positions below- actuator2

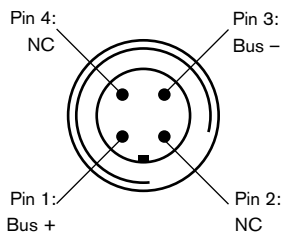
Connection options Type 8686

24V DC Cable gland



Description on circuit board	Configuration
Bot2	End positions below- Bot actuator2
Top2	End positions above- Top actuator2
Bot1	End positions below- Bot actuator1
Top1	End positions above- Top actuator1
Valve2	Valve control Y2+ (actuator 2 operated)
Valve1	Valve control Y1+ (actuator 1 operated)
GND	Power supply
24VDC	Operating voltages +

AS-Interface - Type 8685 and 8686

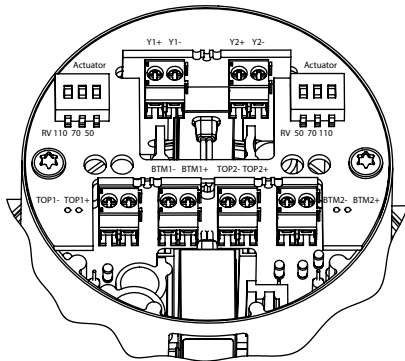


Control head Type 8686



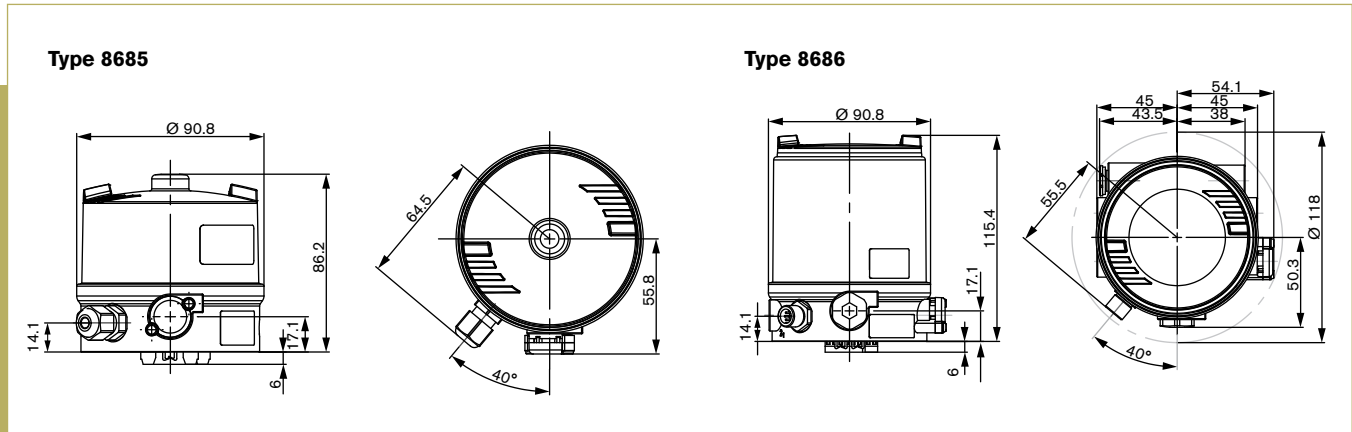
Feedback head Type 8685

Ex i (NAMUR)



Description on circuit board	Description
TOP1+	End positions above- actuator1
TOP1-	End positions above- actuator1
BTM1+	End positions below+ actuator1
BTM1-	End positions below- actuator1
TOP2+	End positions above+ actuator2
TOP2-	End positions above- actuator2
BTM2+	End positions below+ actuator2
BTM2-	End positions below- actuator2
Y1+	supply line valve1
Y1-	return circuit valve1
Y2+	supply line valve2
Y2-	return circuit valve2

Dimensions [mm] (see datasheet for more details)



Ordering chart

Type	Communication	Electrical connection	Pneumatic function	Position feedback	Pilot air ports	Item no.
8685	without	Cable gland	without	2 switching points	Threaded ports G 1/8"	231 306
	AS- Interface A/B	cable glands with 1 m cable on fl at cable clip	without	2 switching points	Threaded ports G 1/8"	231 307
	Exi (NAMUR)	Cable gland	without	2 switching points	Threaded ports G 1/8"	242 249
8686	without	M12 (8-pin)	2 x single-acting DN 3.0 mm	2 switching points	Threaded ports G 1/8"	231 292
	AS- Interface A/B	cable glands with 1 m cable on fl at cable clip	2 x single-acting DN 3.0 mm	2 switching points	Threaded ports G 1/8"	231 293
	Exi (NAMUR)	Cable gland	2 x single-acting DN 3.0 mm	2 switching points	Threaded ports G 1/8"	242 250

Accessories

Specifications	for actuator size	Item no.
Adapter set for Type 8685	RV50, RV70, RV110	684 267
Adapter set for Type 8686	RV50, RV70, RV110	684 268

Specifications	Item no.
M12 socket, 8-pin, 5 m assembled cable	919 267
M12 socket, 8-pin, 2 m assembled cable	919 061
ASI-fl at cable clip with VA-socket M12 (replacement part)	799 646
Silencer G 1/8" threaded ports	780 779
Pilot tool for cover mounting	674 077

All inclusive!

What you see here is the essence of universality. Perfect for whenever you require a direct-acting 2/2-way solenoid valve. It's the one valve you can use for each and every occasion. Built for both neutral and slightly aggressive media – powerful enough to work with dry gases or steam. Three design elements ensure you get maximum performance: its highest flow rates, its long service life and its top reliability.

All of which come standard. And it's no problem at all if your processing environment demands additional features – from more pressure and a different supply voltage, to an Ex version.

Simply universal: our solenoid valve 6027.

We make ideas flow.



Control Tops and Feedback Packages for Pneumatically Actuated Valves

8690 / 8691

- Spring chamber vent
- Flushing function
- Optical position indicator
- Integrated air supply



Type 8691

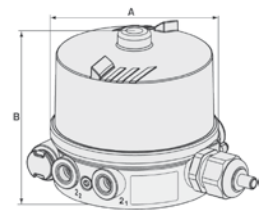


Type 8690

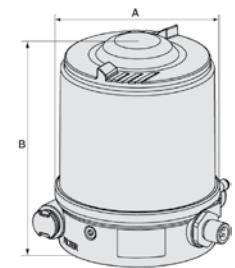
The pneumatic control units, Type 8690 and Type 8691, are optimised for the integrated mounting on process valves series 21XX. At the 8691 bright coloured LEDs indicate the current status of the process valves (visible from a distance). Chemically resistant PPS housing is designed in accordance with EHEDG guidelines for use in hygienic environments. Especially for the system cleaning the IP protection of the housing is supported by overpressure in the control head.

Envelope Dimensions [mm] (see datasheet for details)

Type 8690



Type 8691



Type	A	B
8690	91	86
8691	91	119

Technical Data

	8690	8691
Pilot valve	24 V DC \pm 10%, residual ripple 10% (no technical direct current); 1 W	24 V DC \pm 10%, residual ripple 10% (no technical direct current); 2 W
Micro switch	Max. 24 V DC, max. 2A	
Initiator	10 to 24 V DC, max. 100 mA ext. load per initiator	PNP, 10 to 24 V DC, max. 100 mA
Electrical connection	Cable gland or 8-pin M12	Cable gland or 8-pin M12, AS-i Connect
Buses available	–	DeviceNet, AS-i
Optical feedback	–	SuperBRIGHT LED
Media	Instrument air	Instrument air
Body, Cover, Seal	PPS, PC, EPDM	PPS, Stainless steel, PC, EPDM
Push in connector	(external \varnothing 6 mm or 1/4") or threaded ports G 1/8	
Integrated filter	0.1 mm (exchangeable)	0.1 mm (exchangeable)
Supply pressure	3-7 bar g	3-7 bar g
Accreditations	IP65/67, CE, (CSA pending)	IP65/67, CE, CSA (pending)
Ambient temperature	with pilot valve 0 °C to +55 °C without pilot valve -10 °C to +50 °C	0 °C to +55 °C
Protection class	IP65 and IP67 acc. to EN 60529	IP65 and IP67 acc. to EN 60529
Insulation class	3 acc. to VDE 0580	3 acc. to VDE 0580
Conformity	acc. to CE in compliance with EMV2004/108/EG	acc. to CE in compliance with EMV2004/108/EG

Options

8690

- Versions for double acting actuators

8691

- Versions for double acting actuators

Ordering Chart

Type 8690							
Electrical connection	Position feedback	Control function pilot valve system	Pilot air ports	Item no. Actuator series ELEMENT Type 21xx	Item no. Actuator series CLASSIC Type 20xx		
Inductive proximity switch							
M12 connection	2 Inductive switches 24 V/DC PNP	open/ closed	single-acting (NO/NC)	Threaded ports G 1/8"	227 222	227 226	
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 223	227 227	
			double-acting (springless)	Push-in connector external Ø 6 mm or 1/4"	227 206	247 084	
			none	Threaded ports G 1/8"	227 190	–	
			none	Push-in connector external Ø 6 mm or 1/4"	227 191	–	
			none	none	– #P_	227 193	
	1 Inductive switch 24 V/DC PNP	open/ closed	single-acting (NO/NC)	Threaded ports G 1/8"	227 218	–	
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 219	–	
			double-acting (springless)	Push-in connector external Ø 6 mm or 1/4"	227 204	–	
			none	Push-in connector external Ø 6 mm or 1/4"	227 187	–	
			none	none	–	227 193	
			–	–	–	–	
	Cable gland	2 Inductive switches 24 V/DC PNP	open/ closed	single-acting (NO/NC)	Threaded ports G 1/8"	227 220	227 224
				single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 221	227 225
double-acting (springless)				Push-in connector external Ø 6 mm or 1/4"	227 205	–	
double-acting (springless)				Threaded ports G 1/8"	–	227 207	
none				Threaded ports G 1/8"	227 189	–	
none				none	–	227 192	
1 Inductive switch 24 V/DC PNP		open/ closed	single-acting (NO/NC)	Threaded ports G 1/8"	227 216	–	
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 217	245 356	
			double-acting (springless)	Push-in connector external Ø 6 mm or 1/4"	227 203	–	
			none	none	–	227 192	
2 Inductive switches NAMUR 2-wire 8 V/ DC II 2G Ex ia IIC T6		open/ closed	single-acting (NO/NC)	Threaded ports G 1/8"	265 143	265 146	
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	265 143	265 146	
			double-acting (springless)	Threaded ports G 1/8"	265 144	265 147	
			none	Threaded ports G 1/8"	265 142	–	
			none	Push-in connector external Ø 6 mm or 1/4"	265 142	–	
			none	none	–	265 145	
none		open/ closed	single-acting (NO/NC)	Threaded ports G 1/8"	225 883	–	
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 215	225 231	

8690 / 8691

Ordering Chart

8690 / 8691

Electrical connection	Position feedback		Controlfunction pilot valve system	Pilot air ports	Item no. Actuator series ELEMENT Type 21xx	Item no. Actuator series CLASSIC Type 20xx
Micro switch feedback						
M12 connection	2 micro switches	open/closed	single-acting (NO/NC)	Threaded ports G 1/8"	227 234	227 238
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 235	227 239
			double-acting (springless)	Push-in connector external Ø 6 mm or 1/4"	227 212	–
			none	Push-in connector external Ø 6 mm or 1/4"	227 197	–
			none	none	–	227 200
	1 micro switch	open	single-acting (NO/NC)	Threaded ports G 1/8"	227 230	–
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 231	–
			double-acting (springless)	Push-in connector external Ø 6 mm or 1/4"	227 210	–
			none	Push-in connector external Ø 6 mm or 1/4"	227 194	–
			none	none	–	227 200
Cable gland	2 micro switches	open/closed	single-acting (NO/NC)	Threaded ports G 1/8"	227 232	227 236
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 233	227 237
			double-acting (springless)	Threaded ports G 1/8"	–	227 213
			double-acting (springless)	Push-in connector external Ø 6 mm or 1/4"	227 211	–
			none	Threaded ports G 1/8"	227 195	–
			none	Push-in connector external Ø 6 mm or 1/4"	227 196	–
			none	none	–	227 198
	1 micro switch	open	single-acting (NO/NC)	Threaded ports G 1/8"	227 228	–
			single-acting (NO/NC)	Push-in connector external Ø 6 mm or 1/4"	227 229	–
			double-acting (springless)	Push-in connector external Ø 6 mm or 1/4"	227 209	–
			none	Threaded ports G 1/8"	233 344	–
			none	none	–	228 284

8691 (other versions on request)		
Type	Item no. Cable Gland / AS-i Clip	Item no. M12
Inductive	227 261	227 263
AS-Interface (Push-in 1/4")	227 259	227 256
DeviceNet (Push-in 1/4")	–	227 257

Accessories for Type 8690

Specifications	Actuator size	Control function	Item no.
Adapter kit ELEMENT Type 21xx	Ø70 / 90 / 130 mm	Universal	665 720
Adapter kit CLASSIC Type 20xx	Ø63 mm	Universal	673 262
		feedback (without pilot valve)	677 203
	Ø80 mm	Universal	673 263
		feedback (without pilot valve)	677 204
	Ø100 mm	Universal	673 264
		feedback (without pilot valve)	677 205
	Ø125 mm	Universal	674 513
		feedback (without pilot valve)	677 205

8690 / 8691

Accessories for Type 8690 / 8691

Specifications	Item no.
M12 socket, 8-pins, 2 m assembled cable	919 061
M12 socket, 8-pins, 5 m assembled cable	919 267
M12 socket, 4-pins, 5 m assembled cable	918 038
M12 socket, 5-pins, 2 m assembled cable	438 680
ASI fl at cable clip with stainless steel socket M12 (spare part)	799 646
Silencer with G 1/8"	780 779
Silencer with push-in connector	902 662

Accessories for Type 8691

Description	Actuator size	Control function	Item no.
Adapter kit ELEMENT Type 21xx	Ø 70 / 90 / 130 mm	universal	679 917
Adapter kit CLASSIC Types 20xx	Ø 63 mm	universal	679 921
		8691 feedback (without pilot valve)	679 937
	Ø 80 mm	universal	679 922
		8691 feedback (without pilot valve)	679 938
	Ø 100 mm	universal	679 923
		8691 feedback (without pilot valve)	679 939
	Ø 125 mm	universal	679 924
		8691 feedback (without pilot valve)	679 939
Ø 175/225 mm	universal	679 925	
	8691 feedback (without pilot valve)	679 940	

Digital electropneumatic Positioner for the integrated mounting on process control valves

8692

- Compact stainless steel design
- Graphic display with backlight
- Easy start-up by automatic X-Tune function
- Comprehensive range of additional software functions
- Internal control air routing
- Profibus DPV1 or DeviceNet communication (option)



The compact Positioner, Type 8692, is optimised for integrated mounting on the pneumatic actuators in the process valve series, Type 23XX/2103 and is specially designed for the requirements of a hygienic process environment.

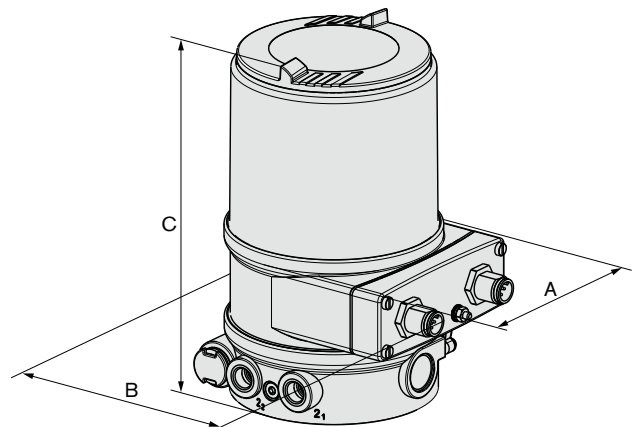
The control air channel is integrated in the actuator without external tubings. The easy handling and the selection of additional software functions are done either on a big backlit graphic display and keypad or over a PC interface.

The Positioner registers the valve position without deterioration through a contact-free, analog position sensor. The control of single- or double-acting actuators is done without intrinsic compressed air consumption. Communication interfaces such as Profibus DPV1 or DeviceNet and analogue as well as binary feedback can also be chosen.

The housing is easy to clean and features proven electrical IP protection and chemically resistant materials for use in hygienic processing, in food, beverage and pharmaceutical industries. Combined with Bürkert ELEMENT actuators the unique pilot valve system enables a compressed air recycling that avoids actuator chambers contamination from the environment.

Dimensions [mm]

Version Multipole connector



A	B	C
91	114.6	156

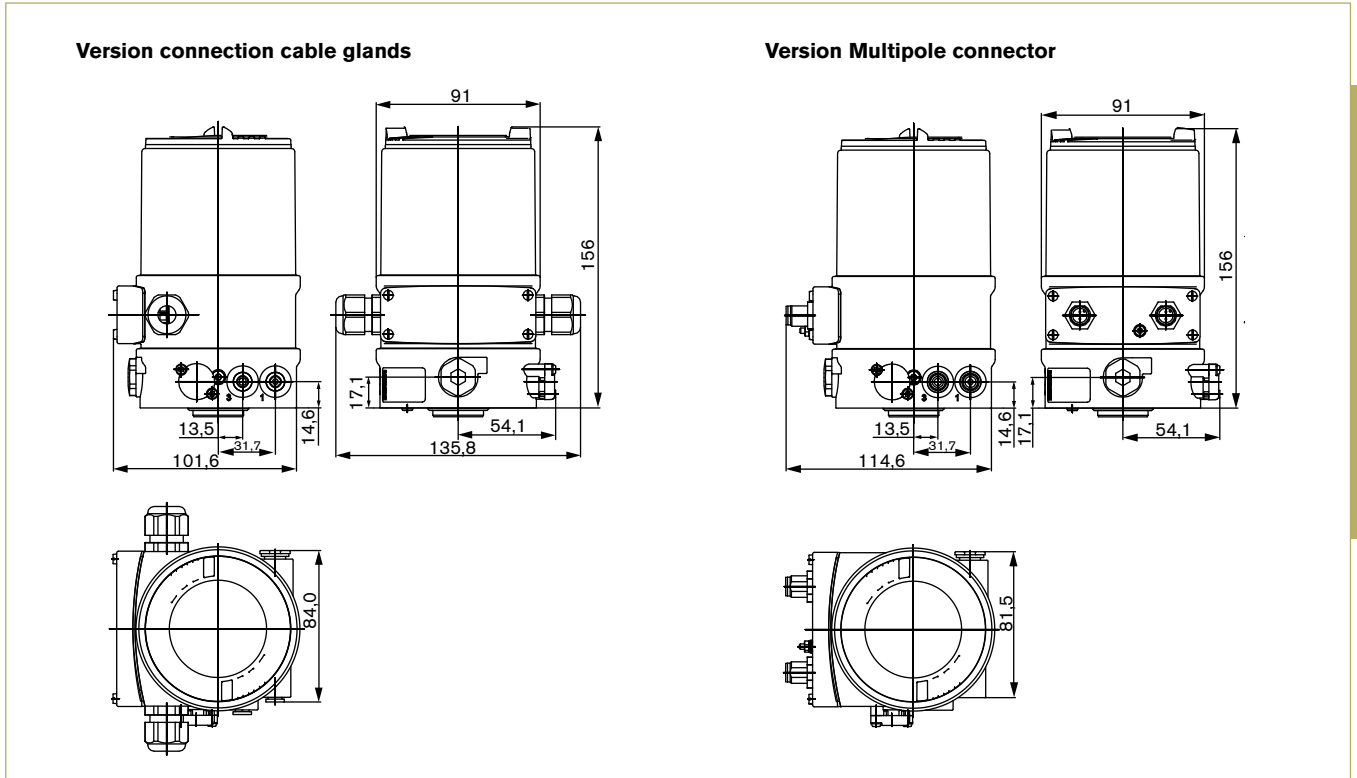
Technical data

Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Power supply	24 V DC +/-10%
Residual ripple	Max. 10%
Setpoint setting	0/4-20 mA and 0 to 5/10 V
Input resistance	0/4 to 20 mA: 180 Ω 0 to 5/10 V: 19 k Ω
Control medium	Neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (<40 µm particle size)
Particle density	Class 5 (<10 mg/m ³)
Pressure condensation point	Class 3 (<-20 °C)
Oil concentration	Class 5 (<25 mg/m ³)
Ambient temperature	0 °C to +55 °C
Control air ports	Threaded ports G 1/8" stainless steel or push-in connectors (Ø 6 mm and 1/4" tube)
Supply pressure	Low air flow rate 0-7 bar ¹⁾ High air flow rate 3-7 bar

¹⁾ The supply pressure has to be 0.5 - 1 bar above the minimum required pilot pressure for the valve actuator.

Air input filter	Exchangeable (mesh aperture ~0.1 mm)
Actuator system	Actuator series ELEMENT 23XX Low air flow rate: Ø Actuator 70 / 90 mm High air flow rate: Ø Actuator 130 mm Actuator series CLASSIC 27XX Low air flow rate: Ø Actuator 80 / 100 mm High air flow rate: Ø Actuator 125 / 175 / 225 mm
Position detection module	Contact-free, wear-free
Stroke range valve spindle	3-28 mm (3-45 mm on request)
Installation	as required, preferably with actuator in upright position
Type of protection	IP65/67 acc. to EN 60529 (NEMA 4x in preparation)
Power consumption	< 5 W
Electrical connection	M12, 8-pin or 4-pin Cable gland 2xM16x1.5 (Cable Ø10 mm) on terminal screws (1.5 mm ²)
Bus communication	Profibus DPV1, DeviceNet
Protection class	3 acc. to VDE 0580
Conformity	EMV2004/108/EG

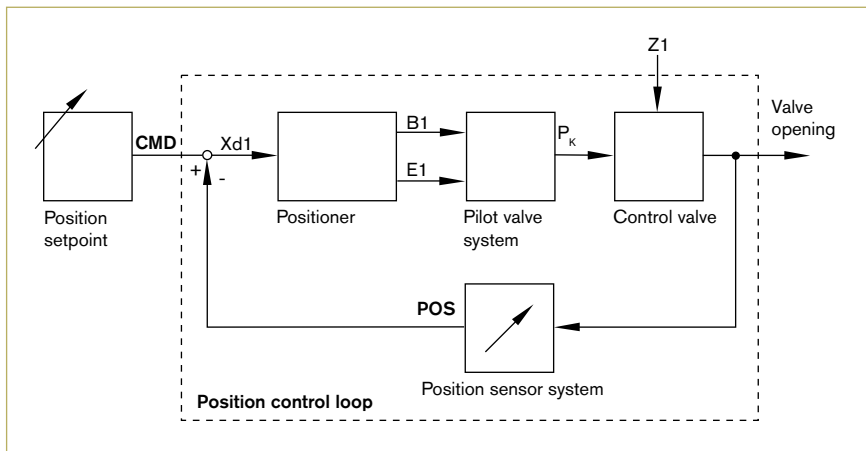
Dimensions [mm]



8692

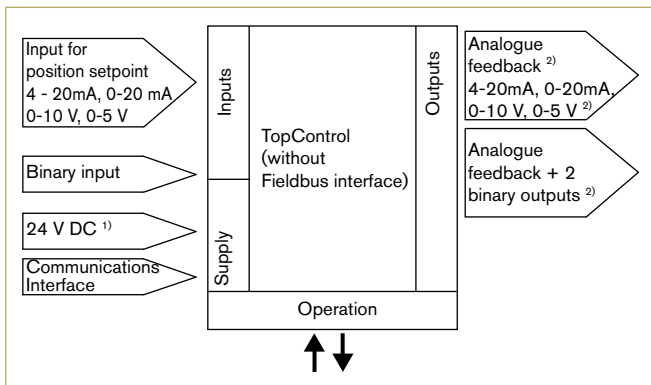
Signal flow diagram

Position control loop

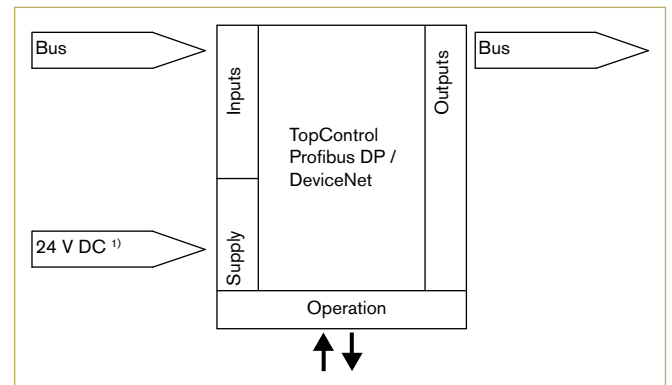


Schematic diagram of the TopControl Type 8692

Without Fieldbus interface



With Profibus DP / DeviceNet



¹⁾ The operating voltage is supplied with a 3-wire unit independent from the setpoint signal.
²⁾ Alternative options

Ordering chart

8692

Control function pilot valve system	Bus- Communication	Electrical connection	Analogue feedback	Analogue feedback + 2 binary outputs	Binary input	Item no.		
						Pilot air ports threaded G 1/8"	Pilot air ports Push-in	
Actuator series ELEMENT types 23xx actuator size Ø 70/90 mm								
Low air flow rate single acting	No	Cable gland	No	No	Yes	227 290	227 291	
			No	No	Yes	230 898	227 292	
			No	Yes	Yes	–	236 957	
	No	Multipole	No	No	Yes	226 206	227 293	
			4 - 20 mA	No	Yes	246 362	227 294	
			No	Yes	Yes	–	227 295	
	Profibus DPV1	Multipole	No	No	No	–	227 297	
			No	No	No	233 348	227 298	
			DeviceNet	No	No	No	–	227 296
	Low air flow rate double acting	No	Cable gland	No	No	Yes	227 274	227 275
4 - 20 mA				No	Yes	–	227 276	
No		Multipole	No	No	Yes	–	227 278	
			4 - 20 mA	No	Yes	227 277	227 279	
Profibus DPV1		Multipole	No	No	No	–	227 281	
			No	No	No	–	227 282	
			DeviceNet	No	No	No	–	227 280
Actuator series ELEMENT types 23xx actuator size Ø 130 mm								
High air flow rate single acting		No	Cable gland	No	No	Yes	227 316	227 317
				4 - 20 mA	No	Yes	233 347	227 318
	No	Multipole	No	No	Yes	245 016	227 319	
			4 - 20 mA	No	Yes	246 363	227 320	
			No	Yes	Yes	–	227 321	
	Profibus DPV1	Multipole	No	No	No	231 333	227 323	
			No	No	No	233 349	223 777	
			DeviceNet	No	No	No	–	227 322

* Profibus Anschluss 2x M12 (Bus IN / Bus OUT)

Ordering chart (cont.)

Control function pilot valve system	Bus- Communication	Electrical connection	Analogue feedback	Analogue feedback + 2 binary outputs	Binary input	Item no.	
						Pilot air ports threaded G 1/8"	Pilot air ports Push-in
Actuator series CLASSIC types 27xx actuator size Ø 80/100 mm							
Low air flow rate single acting	No	Cable gland	No	No	Yes	227 299	227 302
			4 - 20 mA	No	Yes	227 300	227 303
			No	Yes	Yes	227 301	227 305
	No	Multipole	No	No	Yes	227 306	227 309
			4 - 20 mA	No	Yes	227 307	227 310
			No	Yes	Yes	227 308	227 311
	Profibus DPV1	Multipole	No	No	No	-	227 313
DeviceNet	No		No	No	247 245	227 312	
Low air flow rate double acting	No	Cable gland	No	No	Yes	227 283	227 284
			No	Yes	Yes	-	227 285
	Multipole	No	No	No	Yes	227 286	227 287
			No	Yes	Yes	-	227 288
	Profibus DPV1	Multipole	No	No	No	-	227 586
	DeviceNet		No	No	No		
	Actuator series CLASSIC types 27xx actuator size Ø 125/175/225 mm						
High air flow rate single acting	No	Cable gland	No	No	Yes	227 324	227 327
			4 - 20 mA	No	Yes	227 325	227 328
			No	Yes	Yes	227 326	227 329
	No	Multipole	No	No	Yes	227 330	227 333
			4 - 20 mA	No	Yes	227 331	227 334
			No	Yes	Yes	227 332	227 335
	Profibus DPV1	Multipole	No	No	No	-	227 336
	DeviceNet		No	No	No	239 114	228 231

* Profibus Anschluss 2x M12 (Bus IN / Bus OUT)

Digital electropneumatic Process Controller for the integrated mounting on process control valves

- Compact stainless steel design
- Graphic display with backlight
- Easy start-up of process controller and positioner
- Comprehensive range of additional software functions
- Internal control air channel
- Profibus DPV1 or DeviceNet (option)



The compact Process Controller, Type 8693, is optimised for integrated mounting on the pneumatic actuators in the process valve series, Type 23XX/2103 and is specially designed for the requirements of a hygienic process environment.

The actual value of the process factor is directly supplied to the device as 4-20 mA, PT100 or a frequency signal. The process controller calculates the setpoint for the subordinated positioner through the variance comparison. Due to the analogue feedback all analogue values on the controlling level can be transferred.

The parameterization of process controller and positioner can be carried out automatically.

The easy handling and the selection of additional software functions are done either on a big graphic display with backlight and keypad or over a PC interface.

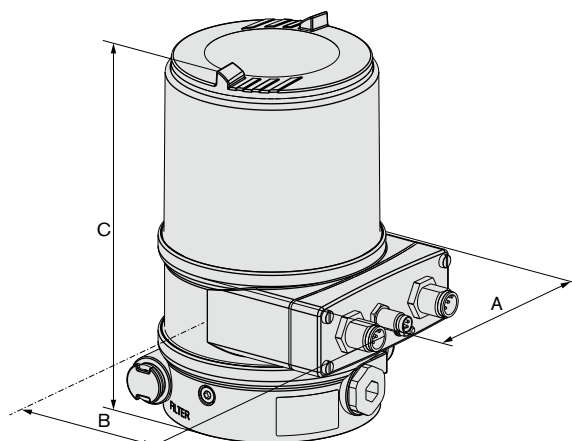
The Positioner registers the valve position without deterioration through a contact-free, analog position sensor. The control of single- or double-acting actuators is done without internal air consumption. Communication interfaces such as Profibus DPV1 or DeviceNet and analogue as well as binary feedback can also be chosen.

Technical data

Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Power supply	24V DC +/-10%
Residual ripple	10%, no technical direct current!
Setpoint setting	0/4 to 20 mA and 0 to 5/10 V
Input resistance	0/4 to 20 mA: 180 Ω 0 to 5/10 V: 19 k Ω
Sensor input	4-20 mA (180 Ω input resistance) frequency 0-1000 Hz (17 kΩ input resistance) PT100 -20 to +220 °C (resolution < 0.1 °C)
Control medium	neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (< 40 µm particle size)
Particle density	Class 5 (< 10 mg/m ³)
Pressure condensation point	Class 3 (< -20 °C)
Oil concentration	Class 5 (< 25 mg/m ³)
Ambient temperature	0 °C to +55 °C
Control air ports	Push-in connector (external Ø 6 mm or 1/4") or threaded ports G 1/8"

Dimensions [mm] (see datasheet for more details)

Ausführung Anschluss Multipol



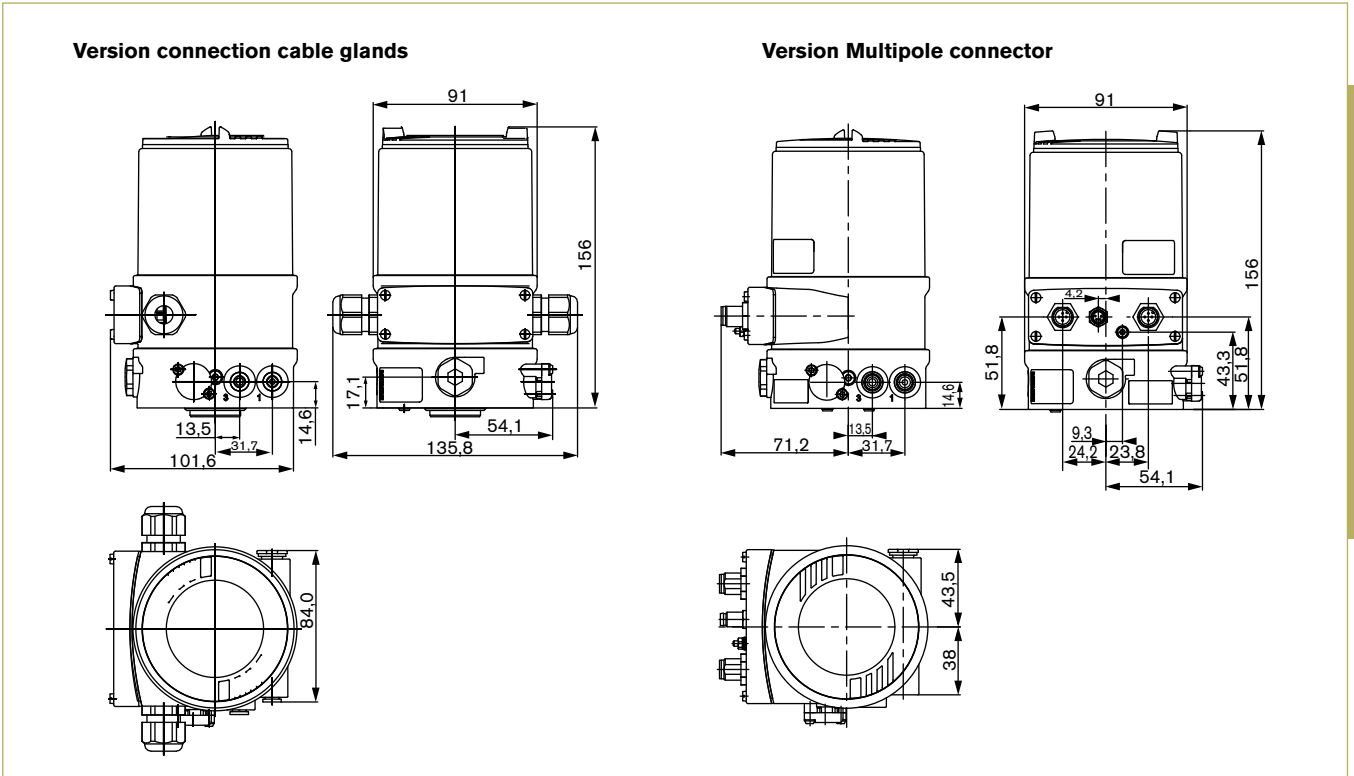
A	B	C
91	71.2	156

Technical data (cont.)

Supply pressure	Low air flow rate 0-7 bar ¹⁾ High air flow rate 3-7 bar
Air input filter	Exchangeable (mesh aperture ~0.1 mm)
Actuator system	Low air flow rate: Ø Actuator 70/90 mm High air flow rate: Ø Actuator 130 mm
Position detection module	Contact-free, wear-free
Stroke range valve spindle	3-28 mm (3-45 mm on request)
Installation	as required, preferably with actuator in upright position
Type of protection	IP65/67 acc. to EN 60529 (NEMA 4x in preparation)
Power consumption	< 5 W
Electrical connection	Multipole connection M12, 8-pin or 4-pin Cable gland 2xM16x1.5 (Cable Ø10 mm) on terminal screws (1.5 mm ²)
Bus communication	Profibus DPV1, DeviceNet
Protection class	3 acc. to VDE 0580
Conformity	CE acc. to EMV2004/108/EG

¹⁾ The supply pressure has to be 0.5 - 1 bar above the minimum required pilot pressure for the valve actuator.

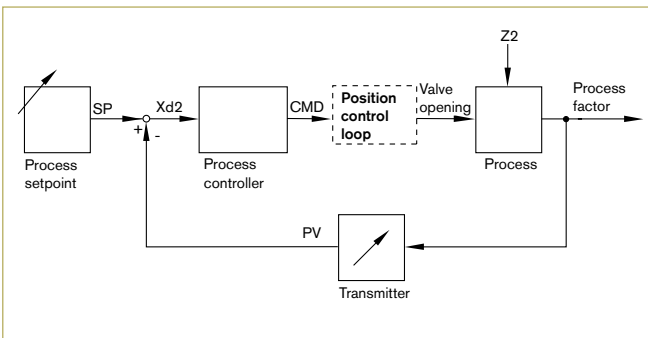
Dimensions [mm] (see datasheet for more details)



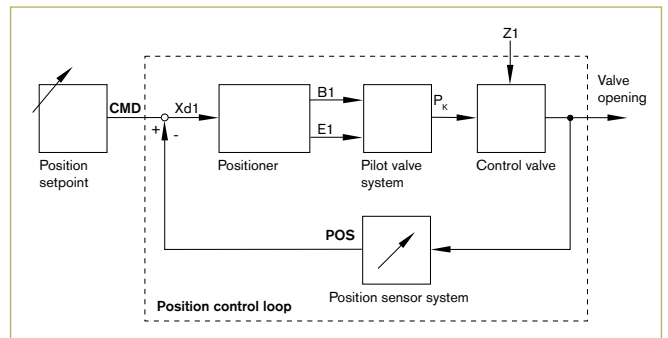
8693

Signal flow diagram

Process control loop

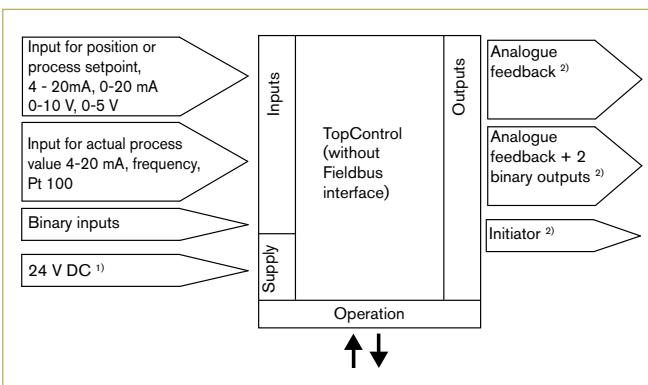


Position control loop

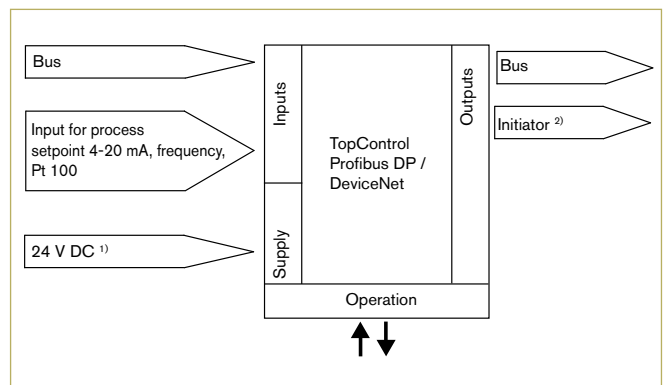


Schematic diagram Type 8693

Without Fieldbus interface



With Profibus DP / DeviceNet



¹⁾ The operating voltage is supplied with a 3-wire unit independent from the setpoint signal.
²⁾ Alternative options

Ordering chart

8693

Valve function	Communication	Electrical connection	Analogue feedback	Analogue feedback + 2 binary outputs	Initiator	Binary input	Pilot air ports	Item no.	
Actuator size Ø 70 / 90 mm									
Single-acting	No	Cable gland	No	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 353	
			4 - 20 mA	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 354	
			No	No	No	Yes	Threaded ports G 1/8"	227 352	
		Mutipole	No	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 355	
			4 - 20 mA	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 356	
			No	Yes	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 357	
	Profibus	Mutipole	No	No	No	No	Push-in connector external Ø 6 mm or G 1/4"	227 359	
			DeviceNet	Mutipole	No	No	No	Push-in connector external Ø 6 mm or G 1/4"	227 358
	Actuator size Ø 130 mm								
	Single-acting	No	Cable gland	No	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 376
4 - 20 mA				No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 377	
No				No	No	Yes	Threaded ports G 1/8"	227 375	
Mutipole			No	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 378	
			4 - 20 mA	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 379	
			No	Yes	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 390	
Profibus		Mutipole	No	No	No	No	Push-in connector external Ø 6 mm or G 1/4"	227 382	
			DeviceNet	Mutipole	No	No	No	Push-in connector external Ø 6 mm or G 1/4"	227 381
Actuator size Ø 70 / 90 mm									
Double-acting		No	Cable gland	No	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 340
	4 - 20 mA			No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 341	
	No			No	No	Yes	Threaded ports G 1/8"	227 339	
	Mutipole		No	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 342	
			4 - 20 mA	No	No	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 343	
			No	No	Yes	Yes	Push-in connector external Ø 6 mm or G 1/4"	227 350	
	Profibus	Mutipole	No	No	No	No	Push-in connector external Ø 6 mm or G 1/4"	227 345	
	DeviceNet	Mutipole	No	No	No	No	Push-in connector external Ø 6 mm or G 1/4"	227 344	

Accessories

Specifications	Actuator size	For control function	Item no.
Adapter kit for Type 23xx / 2103	Ø 70 / 90 mm	spring-closed (A) spring-open t (B) and double-acting (I)	679 917

Specifications	Item no.
M12 socket, 8-pin, 2 m assembled cable	919 061
M12 socket, 4-pin, 5 m assembled cable	918 038
M8 socket, 4-pin, 2 m cable, actual process value	918 718
Silencer with G1/8"	780 779
Silencer with push-in connector	902 662
M8 plug, 4-pin, initiator	917 131

Digital electropneumatic Positioner for the integrated mounting on process control valves

8694

Basic version for Ø 70-225 mm

- Digital smart positioner
- Automatic teach function
- Contact-free position sensor
- Compact stainless steel design
- AS-Interface communication (option)
- Internal control air routing



Compact positioner for integrated mounting on pneumatically operated process valves. Remote setpoint adjustment via a 4-20 mA signal or through AS-Interface. Without intrinsic compressed air consumption during steady state.

A contact-free analog position sensor measures the position of the valve spindle.

Simple installation through automatic tune function and setting through DIP-switch:

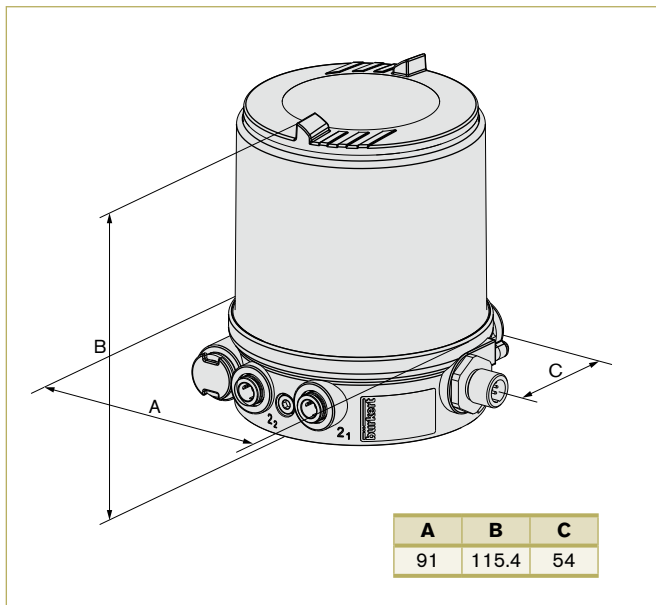
- Close tight function
- Characteristic curves selection
- Reversal of effective direction
- Switching manual /automatic operation
- Binary input

Additional parametrisation options are possible through DTM devices. A software interface can be used for, amongst others, lionization of the operation characteristics by using free programmable fixed points. The valve position indication is shown through LED components. As an option an analogue position feedback can be integrated.

Technical Data

Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Power supply	24V DC ±10%
Residual ripple	Max. 10%
Setpoint setting	4-20 mA (0-20 mA adjustable via communication interface)
Output resistance	180 Ω
Control medium	neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (<40 µm particle size)
Particle density	Class 5 (<10 mg/m³)
Pressure condensation point	Class 3 (<-20 °C)
Oil concentration	Class 5 (<25 mg/m³)
Ambient temperature	0 °C to +60 °C
Pilot air ports	Threaded ports G 1/8" stainless steel or Push-in connectors (Ø 6 mm and 1/4" tube)
Supply pressure	Low air flow rate 0-7 bar ¹⁾ High air flow rate 3-7 bar (in preparation)
Air input filter	Exchangeable (mesh aperture ~0.1 mm)

Dimensions [mm] (see datasheet for more details)



Technical Data (cont.)

Actuator system	
Actuator series ELEMENT 23XX	Low air flow rate: Ø Actuator 70/90 mm High air flow rate: Ø Actuator 130 mm
Actuator series CLASSIC 27XX	Low air flow rate: Ø Actuator 80/100 mm High air flow rate: Ø Actuator 125/175/225 mm
Position detection module	Contact-free, wear-free
Stroke range valve spindle	3-45 mm
Installation	as required, preferably with actuator in upright position
Type of protection	IP65 and IP67 acc. to EN 60529
Protection class	3 acc. to VDE 0580
Conformity	CE acc. to EMV2004/108/EG
Options	Analogue position feedback, 4-20 mA
Communication	AS-Interface (option, in preparation)

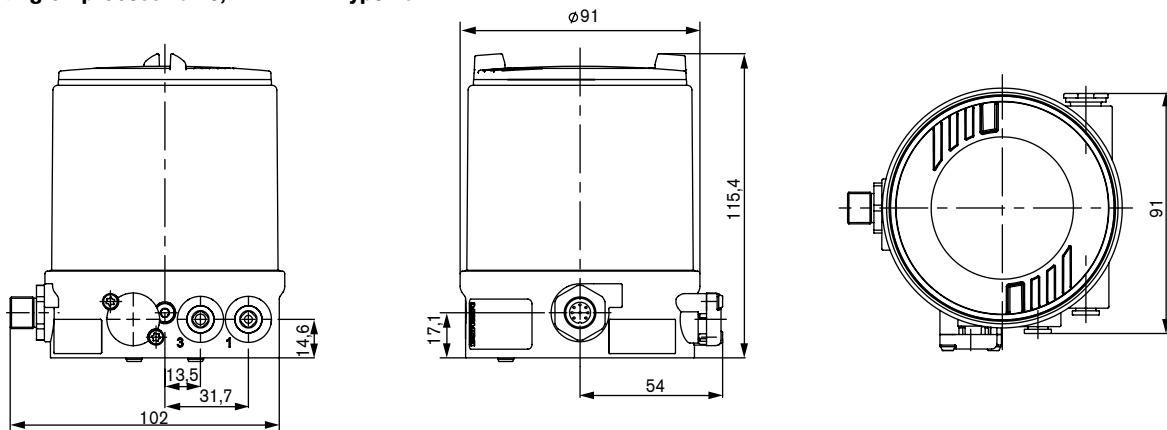
¹⁾ The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator.

Technical data (cont.)

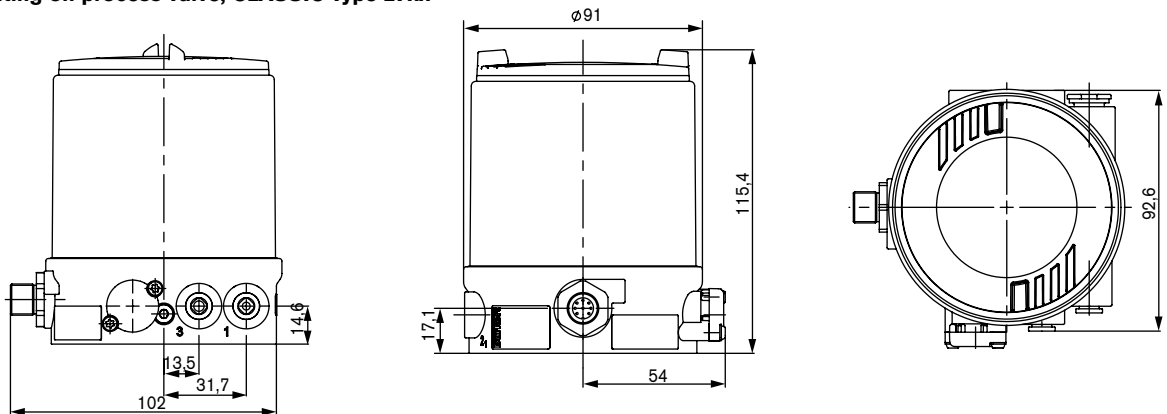
Without filed bus communication	
Power supply	24V DC +/- 10%
Risidual ripple	10%
Power consumption	< 3.5W
Electrical connection	
Multipole	M12 (8 pins), stainless steel
Cable gland	1xM16x1.5 (cable Ø5-10), terminal screws (1.5 mm ²)
Technical Data AS-interface - (Option)	
Profile	S-7.3.4 Output: 16 Bit setpoint / Certificate no. 87301 acc. to Version 3.0 -7.A S.5 Output: 16 Bit setpoint; Input: 16 Bit feedback / Certificate no. 95401 acc. to version 3.0
Programmed Information	see operating instructions
Power supply through bus line	29.5 to 31.6 VDC acc. to specification
Max. Current consumption	150 mA
Electrical connection	M12x1, 4-pin stainless steel plug assembled to 80 cm cable and flat cable clip

Dimensions [mm]

Mounting on process valve, ELEMENT Type 23xx

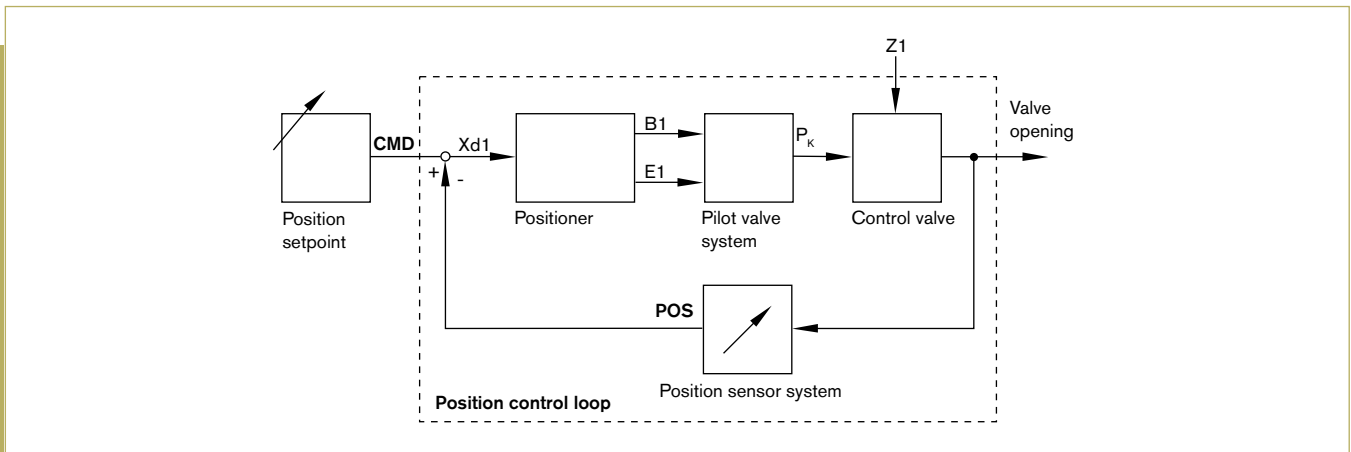


Mounting on process valve, CLASSIC Type 27xx

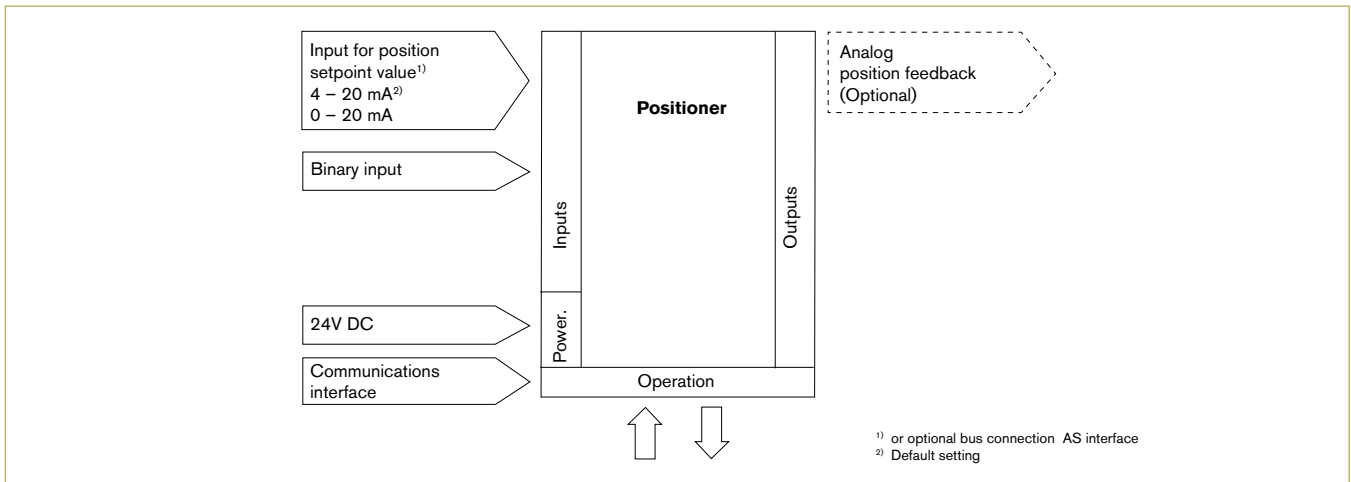


Signal flow diagram

Position control loop



Schematic diagram of the TopControl Basic



Ordering chart

Control function pilot valve system	Communication	Electrical connection	Analogue feedback	Item no.	
				Pilot air ports threaded G 1/8"	Pilot air ports Push-in (Ø 6 mm and 1/4")
Actuator series ELEMENT types 23xx actuator size Ø 70 / 90 mm					
Low air flow rate single acting	No	M12 connector	No	227 405	227 407
			Yes	227 406	227 408
	No	Cable gland	No	227 401	227 403
			Yes	227 402	227 404
	AS-Interface S-7.3.4	M12 / flat cable clip / 80 cm cable	No	227 398	227 399
	AS-Interface S-7.A.5		16 Bit via Bus	239 615	239 613
Actuator series ELEMENT types 23xx actuator size Ø 130 mm					
High air flow rate single acting	No	M12 connector	No	227 426	227 428
			Yes	227 427	227 429
	No	Cable gland	No	227 422	227 424
			Yes	227 423	227 425
	AS-Interface S-7.3.4	M12 / flat cable clip / 80 cm cable	No	227 420	227 421
	AS-Interface S-7.A.5		16 Bit via Bus	239 616	239 614
Actuator series CLASSIC types 27xx actuator size Ø 80 / 100 mm					
Low air flow rate single acting	No	M12 connector	No	227 416	227 418
			Yes	227 417	227 419
	No	Cable gland	No	227 411	227 414
			Yes	227 413	227 415
	AS-Interface S-7.3.4	M12 / flat cable clip / 80 cm cable	No	227 409	227 410
	AS-Interface S-7.A.5		16 Bit via Bus	239 611	239 609
Actuator series CLASSIC types 27xx actuator size Ø 125 / 175 / 225 mm					
High air flow rate single acting	No	M12 connector	No	227 436	227 438
			Yes	227 437	227 439
	No	Cable gland	No	227 432	227 434
			Yes	227 433	227 435
	AS-Interface S-7.3.4	M12 / flat cable clip / 80 cm cable	No	227 430	227 431
	AS-Interface S-7.A.5		16 Bit via Bus	239 612	239 610

Control Head for the integrated mounting on process valves, for the series 21XX

8695

- Compact stainless steel design
- Integrated analog valve position registration (Teach function)
- Coloured illuminated status display
- Internal control air routing
- Fieldbus interface AS-Interface/ DeviceNet (option)



The control head, Type 8695, is optimised for integrated mounting on the 21XX process valve series with smaller actuator sizes.

The registration of the valve position is done through a contact-free analog position sensor, which automatically recognises and saves the valve end position through the Teach function when starting up. The integrated pilot valve controls single or double-acting actuators. The design of the control unit and the actuator is specially designed for the requirements of a hygienic process environment and enables an internal control air channel without external tubings.

Besides the electrical position feedback signal the status of the device is shown directly on the control head itself through coloured LEDs showing a clear visible valve position status.

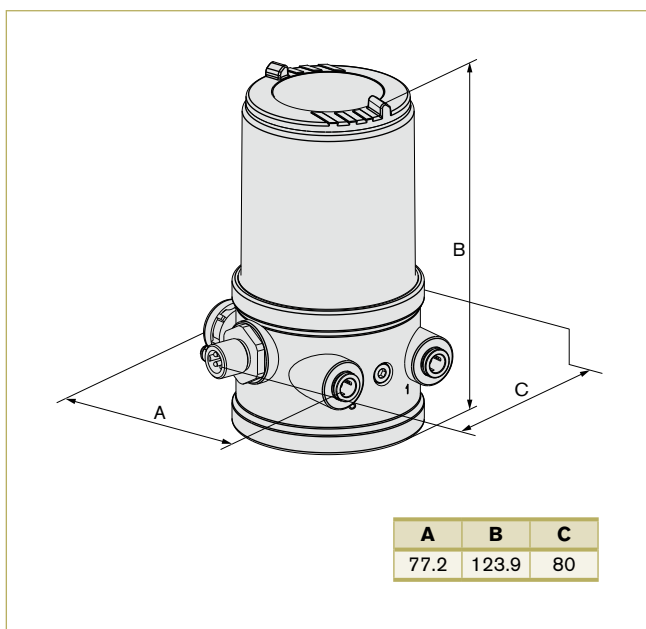
As an option a Fieldbus interface, AS-Interface or DeviceNet can be chosen.

Technical Data

Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Control medium	neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (<40 µm particle size)
Particle density	Class 5 (<10 mg/m ³)
Pressure condensation point	Class 3 (<-20 °C)
Oil concentration	Class 5 (<25 mg/m ³)
Supply pressure	0 to 7 bar ¹⁾
Actuator system	for single or double-acting actuators
Actuator series 21XX	actuator ø 50 mm
Pilot air ports	Threaded ports G 1/8" stainless steel or Push-in connectors (Ø 6 mm and 1/4" tube)
Position feedback	Analog position sensor (contact-free) with autotune switchpoint (PNP) (NPN on request)
Stroke range valve spindle	2.5 to 32 mm
Ambient temperature	0 to +55 °C
Installation	as required, preferably with actuator in upright position
Protection class	IP65/67 according to EN 60529
Protection class	3 according to VDE 0580
Fieldbus communication	AS-Interface / DeviceNet (option)
Conformity	according to CE in compliance with EMV2004/108/EG

¹⁾ The supply pressure has to be 0.5 - 1 bar above the minimum required pilot pressure for the valve actuator.

Envelope Dimensions [mm] (see datasheet for details)



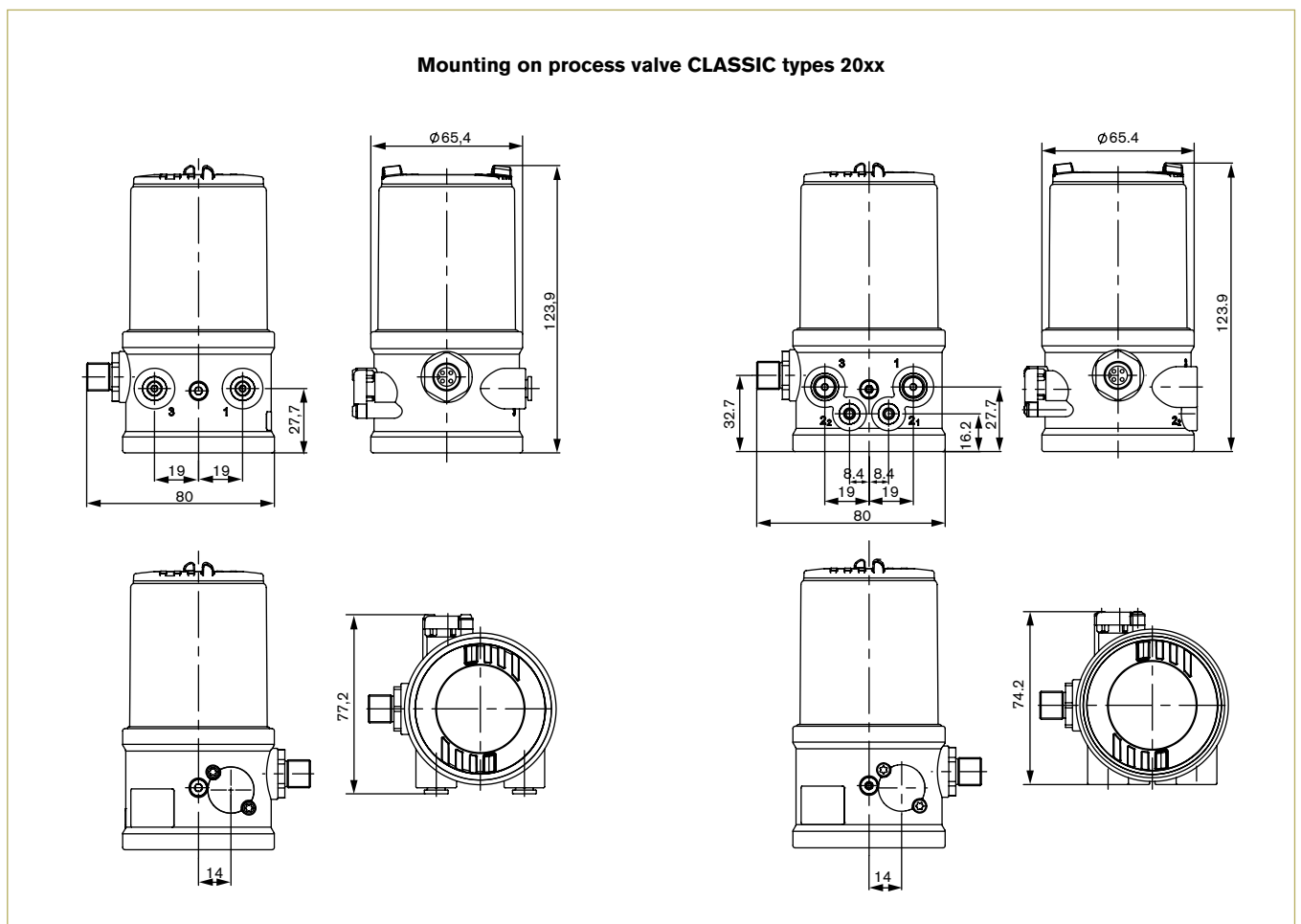
Technical Data continued

Power supply	24 VDC ±10%
Residual ripple with DC	10%
Power consumption	< 2W
Electrical connection	M12, 8-pin
Multipole	
Output	max. 100 mA per output

Technical data (cont.)

With Fieldbus communication; AS-Interface	
Profile	S-B.A.E. (A/B slave, max. 62 slaves/master) Certificate No. 87301 acc. to version 3.0
Power supply through bus line separated from bus signal	29.5 to 31.6 VDC according to specification on request
Power consumption Units without external power supply Max. power consumption Power consumption in normal operation (after current reduction; Valve + 1 end position achieved)	120 mA 90 mA
Output Contact rating Watch-dog function	≤ 1W over AS-Interface integrated
Electrical connection	M12 4-pins
Programming data	see operating instructions
With Fieldbus communication; DeviceNet	
Profile	Group 2 Only Slave Device; MAC-ID and transfer rate adjustable through DIP-switch
Power supply	11 to 25 VDC
Power consumption	≤ 80 mA
Output Inrush current Hold current	≤ 50 mA ≤ 30 mA
Input "0" "1"	0 to 1.5 V ≥ 8 V
Electrical connection	M12-Micro Style - flange connector 5-pins (configuration according DeviceNet-specification)

Dimensions [mm]



Ordering Chart

8695

Communication	Control function pilot valve system	Pilot air ports	Position feedback	Item no.	
				Actuator series ELEMENT types 21xx	Actuator series CLASSIC types 20xx
AS-Interface S-B.A.E	Single acting (NO/NC)	threaded ports G 1/8"	2 switching points	227 444	223 896
	Single acting (NO/NC)	Push-in Ø 6 mm or 1/4"	2 switching points	227 445	–
	Double acting (springless)	threaded ports G 1/8"	2 switching points	227 440	223 906
	Double acting (springless)	Push-in Ø 6 mm or 1/4"	2 switching points	227 441	–
DeviceNet	Single acting (NO/NC)	threaded ports G 1/8"	2 switching points	238 724	238 726
	Single acting (NO/NC)	Push-in Ø 6 mm or 1/4"	2 switching points	238 723	–
	Double acting (springless)	threaded ports G 1/8"	2 switching points	*	238 727
	Double acting (springless)	Push-in Ø 6 mm or 1/4"	2 switching points	*	–
Without	Single acting (NO/NC)	threaded ports G 1/8"	2 switching points	227 446	223 895
	Single acting (NO/NC)	Push-in Ø 6 mm or 1/4"	2 switching points	227 447	–
	Double acting (springless)	threaded ports G 1/8"	2 switching points	227 442	223 905
	Double acting (springless)	Push-in Ø 6 mm or 1/4"	2 switching points	227 443	–
	without	threaded ports G 1/8"	2 switching points	234 246	*
		Push-in Ø 6 mm or 1/4"	2 switching points	248 993	*

* on request

Accessories

Specifications	Actuator size [mm]	Control function	Item no.
Adapter kit ELEMENT types 21xx	Ø 50	universal	679 918
Adapter kit CLASSIC types 20xx	Ø 40	universal	683 057
Adapter kit CLASSIC types 20xx	Ø 50	universal	683 058
Globe and angle seat valves 2000 / 2012			
Diaphragm valve 2030 / 2031			
Adapter kit CLASSIC types 20xx	Ø 63 1)	universal	on request

For installation kits to 3rd party process valves please see datasheet installation kits for hygienic process valves or contact your sales office for related drawings or individual engineering support

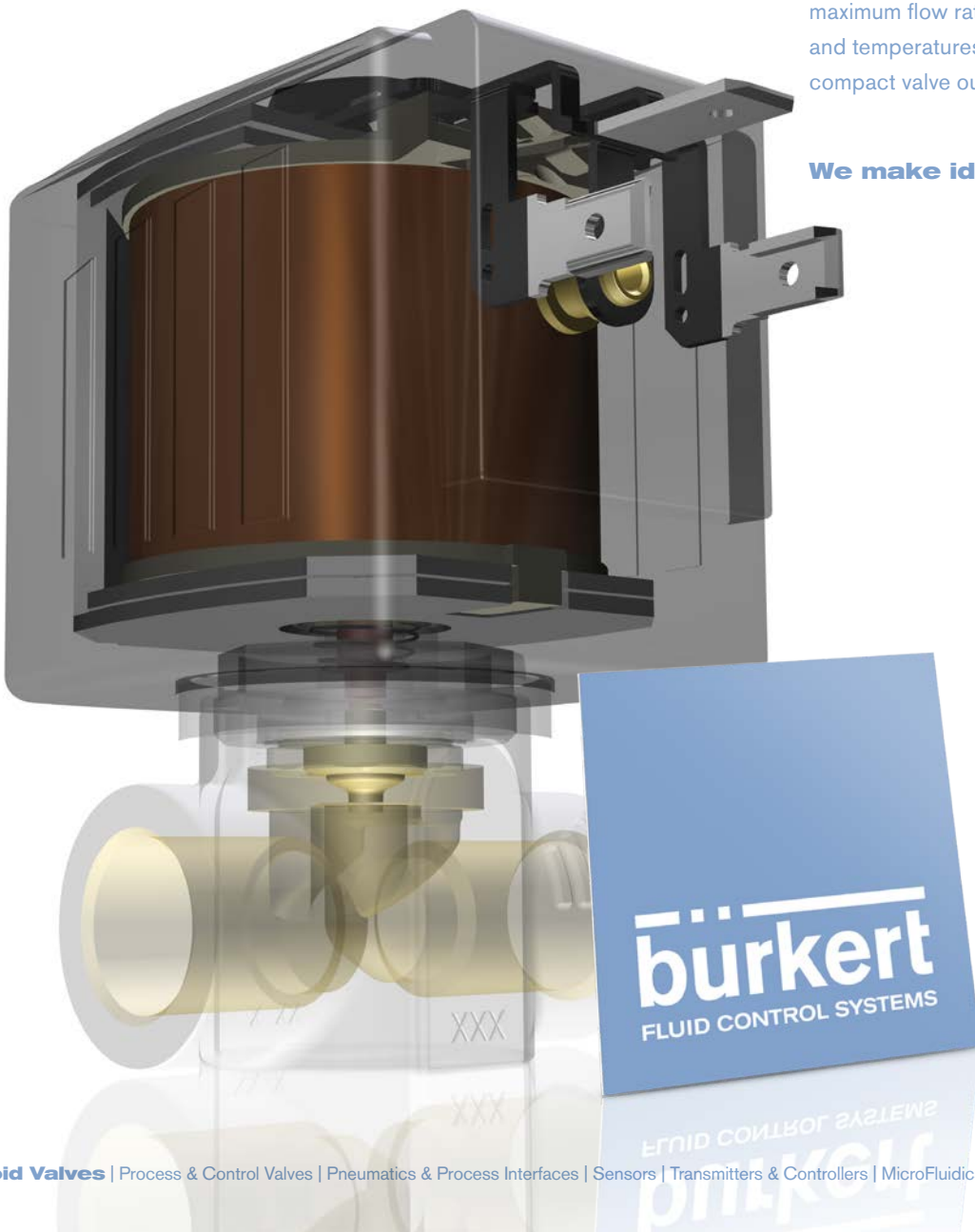
1) When combining actuator size Ø 63 mm with 8695 CLASSIC reduced switching dynamics should be expected. Please choose Type 8691 for shorter response times.

Specifications	Item no.
M12 socket, 8-pins, 2 m assembled cable	919 061
M12 socket, 8-pins, 5 m assembled cable	919 267
M12 socket, 4-pins, 5 m assembled cable	918 038
M12 socket, 5-pins, 2 m assembled cable	438 680
Silencer with G 1/8"	780 779
Silencer with push-in connector	902 662
Sensor puck (spare part)	677 245

Powerhouse!

Minimum effort – maximum effect: Our 6240 piston valve controls high pressures and large nominal sizes at low power consumption. This high efficiency stems from smart symbiosis – we've combined the advantages of a servo-assisted valve with the benefits of a direct-acting one. The result? A hard-coupled piston system that opens without differential pressure. Add the optimised fluidic design plus a brass/stainless steel housing, and you have a valve that takes it all in stride: maximum flow rates, high pressures up to 40 bar and temperatures up to 180 °C. Simply put, this compact valve outperforms the rest.

We make ideas flow.



Digital electropneumatic Positioner for the integrated mounting on process control valves

8698

Basic version for actuator sizes Ø 50 mm

- Digital smart positioner
- Automatic teach function
- Contact-free position sensor
- Compact stainless steel design
- Analogue feedback (option)
- Internal control air routing



Compact positioner for integrated mounting on pneumatically operated process valves. Remote setpoint adjustment via a 4-20 mA signal. Pilot valve system without intrinsic compressed air consumption during steady state. A contact-free continuous sensor measures the position of the valve spindle.

Simple installation through automatic tune function and setting through DIP-switch:

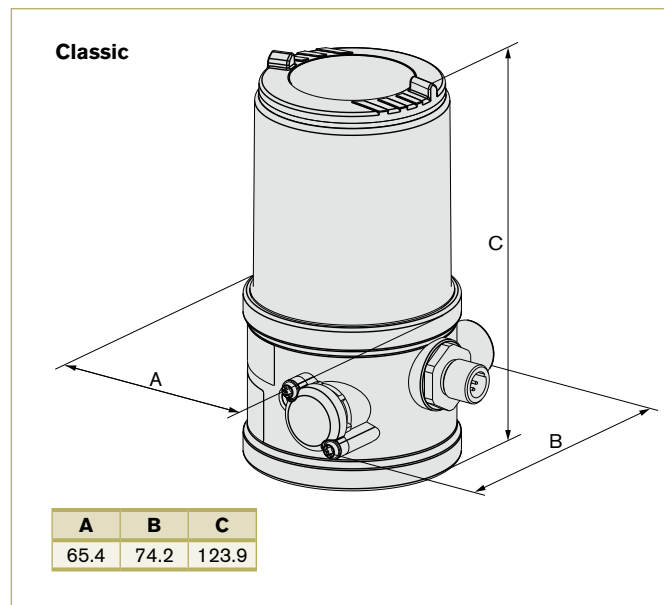
- Close tight function,
- Characteristic curves selection
- Reversal of effective direction
- Switching manual /automatic operation
- Binary input

Additional parametrisation options are possible through DTM devices. A software interface can be used for, amongst others, linearisation of the operation characteristics by using free programmable fixed points. The valve position indication is shown through LED components. As an option an analogue position feedback can be integrated.

Technical data

Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Power supply	24V DC +/-10%
Residual ripple	10%
Setpoint setting	4-20 mA (default setting) / 0-20 mA
Output resistance	180 Ω
Control medium	neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (< 40 µm particle size)
Particle density	Class 5 (< 10 mg/m ³)
Pressure condensation point	Class 3 (< -20 °C)
Oil concentration	Class 5 (< 25 mg/ m ³)
Ambient temperature	0 °C to +55 °C
Pilot air ports	Push-in connectors (external Ø 6 mm or 1/4") or Threaded ports G 1/8"
Supply pressure	0-7 bar ¹⁾
Actuator system	for single-acting actuators
Actuator series 23XX/2103	Actuator Ø 50 mm
Position detection module	Contact-free, wear-free
Stroke range valve spindle	3-32 mm
Installation	as required, preferably with actuator in upright position
Type of protection	IP65/67 acc. to EN 60529 (NEMA 4x in preparation)
Power consumption	< 3.5 W

Dimensions [mm] (see datasheet for more details)

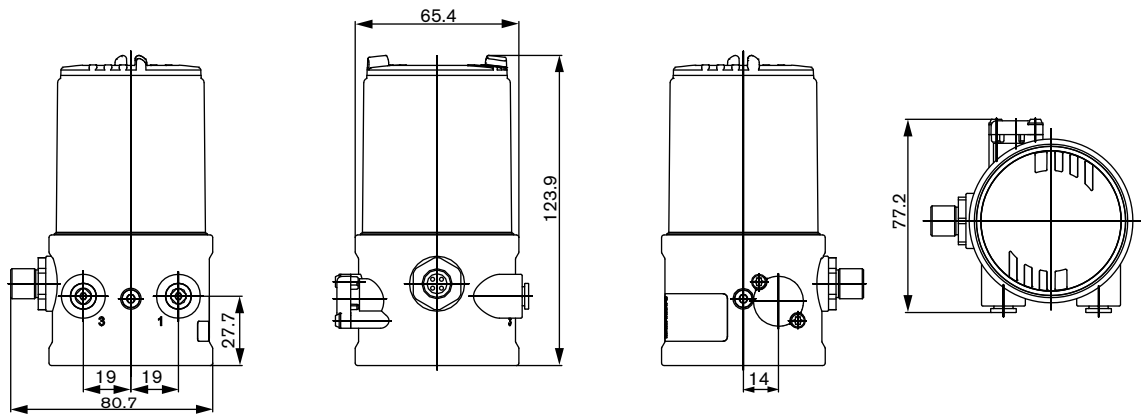


Technical data (cont.)

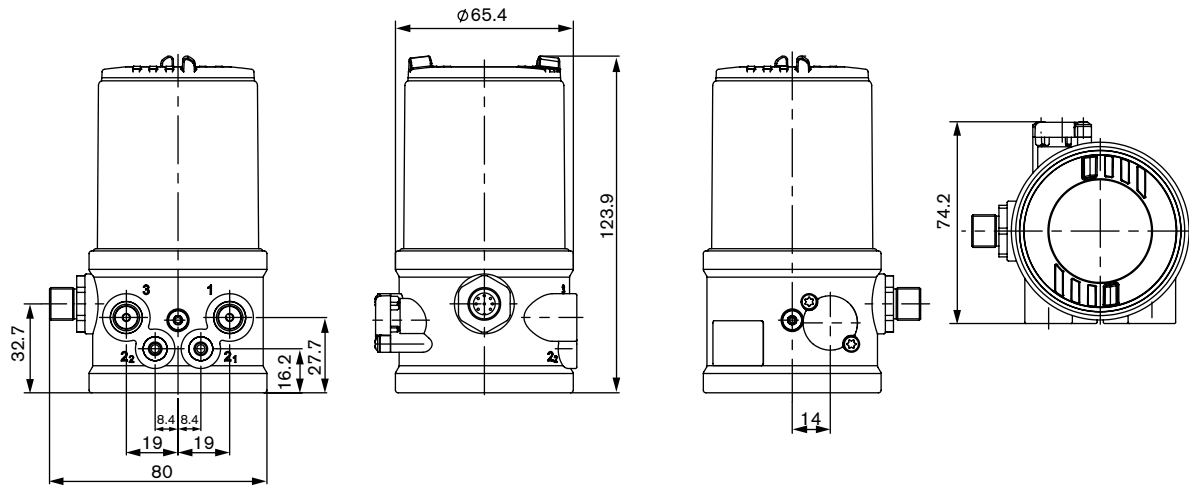
Electrical connection	
Multipole connection	M12 (8-pins), stainless steel
Protection class	3 acc. to VDE 0580
Conformity	CE acc. to EMV2004/108/EG
Options	Analogue position feedback, 4-20 mA

¹⁾ The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator.

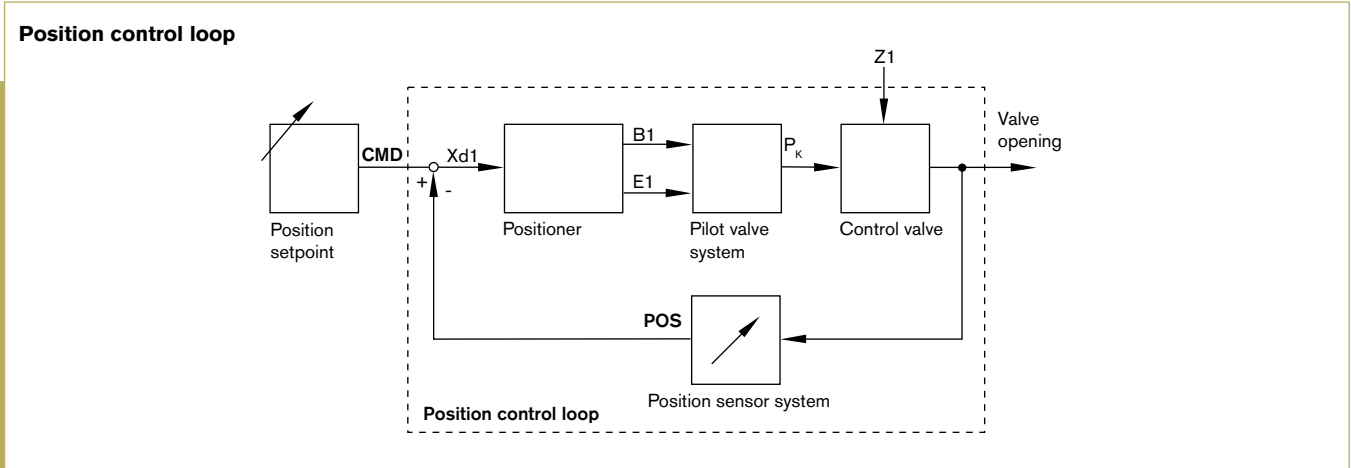
Mounting on ELEMENT process control valves, Type 27xx (external control air routing)



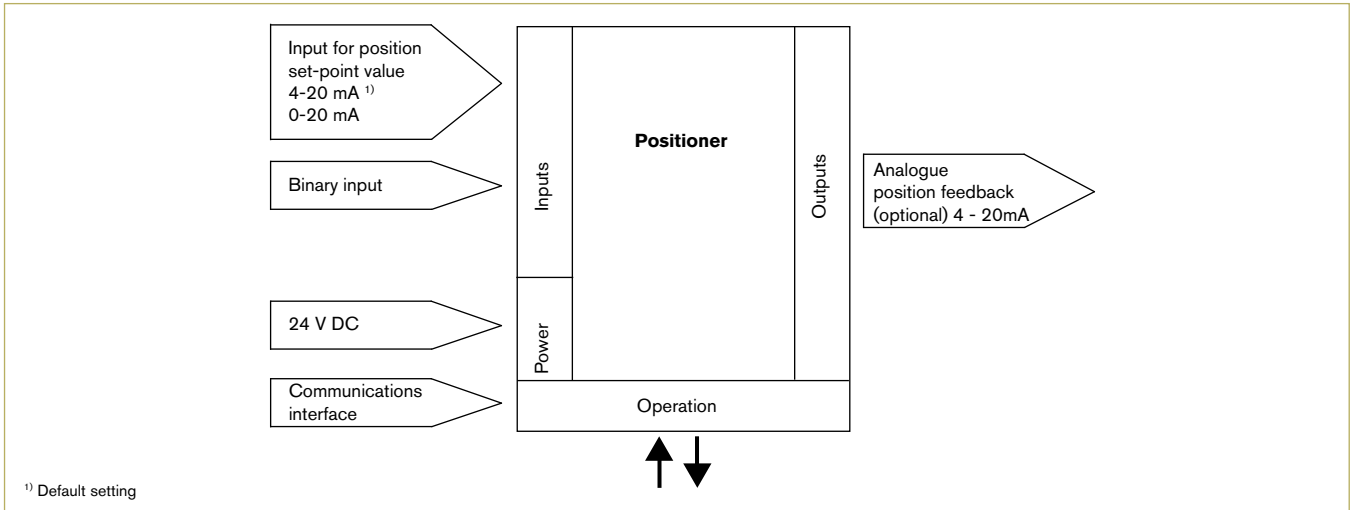
Mounting on CLASSIC process control valves, Type 27xx (external control air routing)



Signal flow diagram



Schematic diagram of the TopControl Basic



Ordering chart

Control function pilot valve system	Electrical connection	Analogue feedback	Item no. Pilot air ports threaded G 1/8"	Item no. Pilot air ports Push-in (Ø 6 mm and 1/4")
Actuator series ELEMENT Types 23xx actuator size Ø 50 mm (internal control air routing)				
Single acting	M12 connector	No	227 448	227 450
		Yes	227 449	227 451
Actuator 3rd party (external control air routing)				
Single acting	M12 connector	No	232 652	-
		Yes	249 013	-

Accessories

Specifications	Actuator size	Control function	Item no.
Adapter kit Types 23xx / 2103	Ø 50 mm	A (NO), B (NC)	679 918

Specifications	Item no.
M12 socket, 8-pins, 2 m assembled cable	919 061
M12 socket, 8-pins, 5 m assembled cable	919 267
Silencer with G 1/8"	780 779
Silencer with push-in connector 6 mm	902 662
USB interface for serial communication	227 093

Pneumatic Control Unit with integrated position feedback

8697

- Compact design
- Integrated pilot valve with manual override
- Integrated control air supply to the actuator
- Bright LED as a position indicator
- Automatic end position adjustment



The 8697 pneumatic control unit is optimised for integrated mounting on the ELEMENT 21XX process valve and CLASSIC 20xx series. Mechanical or inductive limit switches register the position of the valve. The integrated pilot valve controls single-acting actuators.

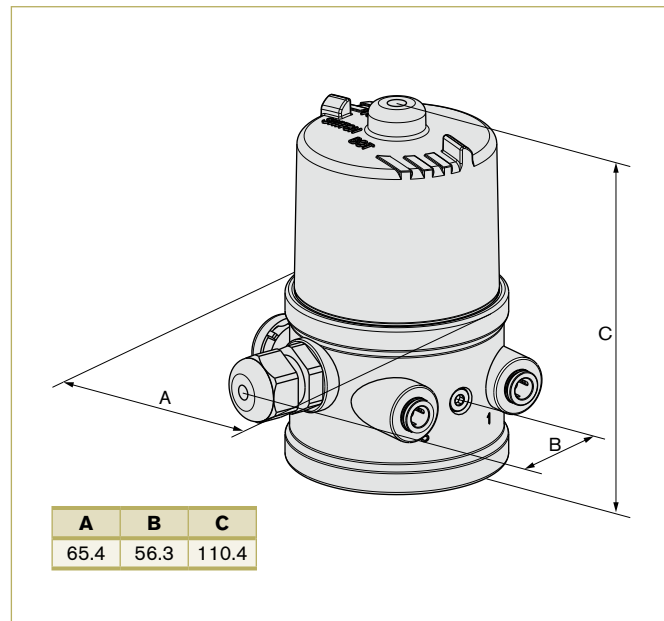
The design of the control unit and the actuator enables an internal control air routing without external tubings. Besides the electrical position feedback signal the status of the device is shown directly on the control head itself via LEDs.

The housing is easy to clean and features proven electrical IP protection and chemically resistant materials for use in hygienic processing, in food, beverage and pharmaceutical industries. Combined with Bürkert ELEMENT actuators the unique pilot valve system enables a compressed air recycling that avoids actuator chambers contamination from the environment.

Technical Data

Materials	
Body	PPS
Cover	PC
Sealing	EPDM
Operating voltage	
Pilot valve	24 V DC \pm 10% - residual ripple 10%, consumption 1 W
Micro switch	24 V-Version: 0-48 V AC/DC, max. 2 A 230 V-Version: 50-250 V AC/DC, max. 2 A
Initiator	10-30 V DC - max.100 mA per initiator
Control medium	
Dust concentration	neutral gases, air quality class DIN ISO 8573-1 Class 5: max. particle size 40 μ m
Particle density	Class 5: max. particle size 10 mg/m ³
Pressure condensation point	Class 3: max. -20 °C or min. 10 °C below the lowest operating temperature
Oil concentration	Class 5: max. 25 mg/m ³
Supply pressure	3-7 bar ¹⁾
Pilot air ports	Threaded ports G 1/8" or push-in connector (tube \varnothing 6 mm / 1/4")
Position feedback	2x micro switch (0-48 V AC/DC, max. 2 A) 2x micro switch (50-250 V AC/DC, max. 2 A) 2x initiator (24 V DC), PNP shutter 3-wire 2x initiator NAMUR (8.2 V DC) (2-wire) 2x initiator (24 V DC), shutter (2-wire)
Stroke range valve spindle	2-36 mm

Dimensions [mm] (see datasheet for more details)

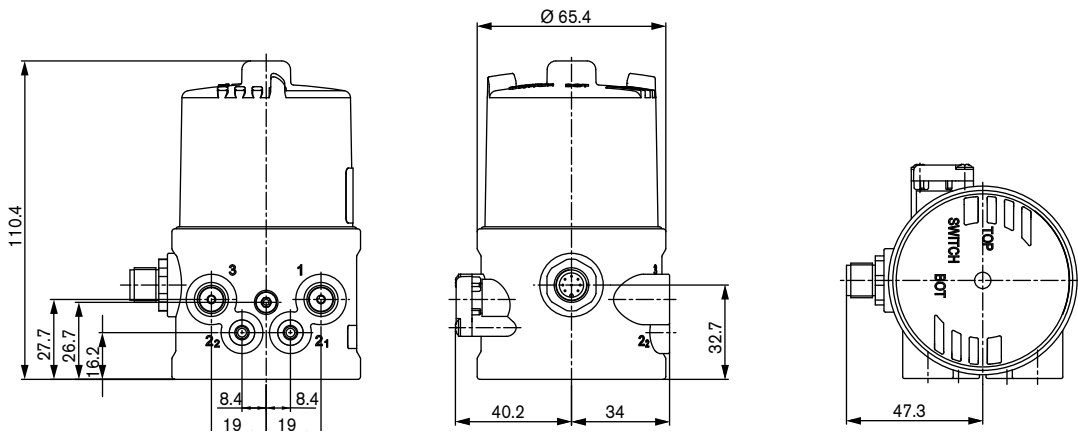


Technical Data (cont.)

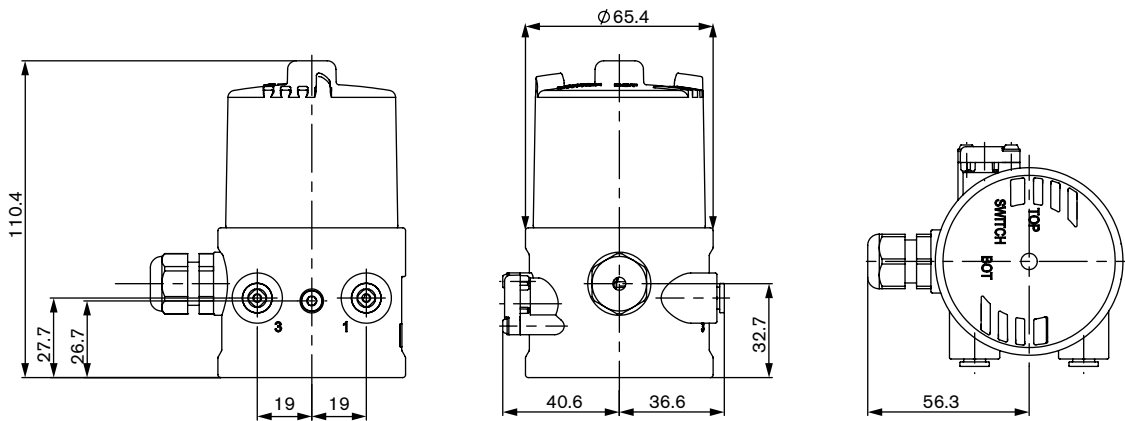
Ambient temperature	
with/without pilot valve	0 °C to +55 °C (II 3D Ex tc IIIC T135 °C Dc, II 3G Ex nA IIC T4 Gc)
with/without pilot valve	0 °C to +55 °C (II 2D Ex IIIC ia T135 °C Db, II 2G Ex ia IIC T4 Gb)
with pilot valve	-10 °C to +55 °C (II 2G Ex ia IIC T4 Gb)
without pilot valve	-20 °C to +60 °C (II 2G Ex ia IIC T4 Gb)
Installation	as required, preferably with actuator in upright position
Type of protection	IP65 and IP67 acc. to EN 60529
Protection class	3 acc. to VDE 0580
Conformity	acc. to CE in compliance with EMV 2004/108/EG
Ignition protection	II 3D Ex tc IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc II 3D Ex tc IIIC T135 °C Dc II 2G Ex nA IIC T4 Gc
Electrical connection	
Multipole	M12, 8-pin
Cable gland	M16x1.5 SW22 (cable diameter 5-10 mm), terminal screws 0.14-1.5 mm ²

¹⁾ The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator.

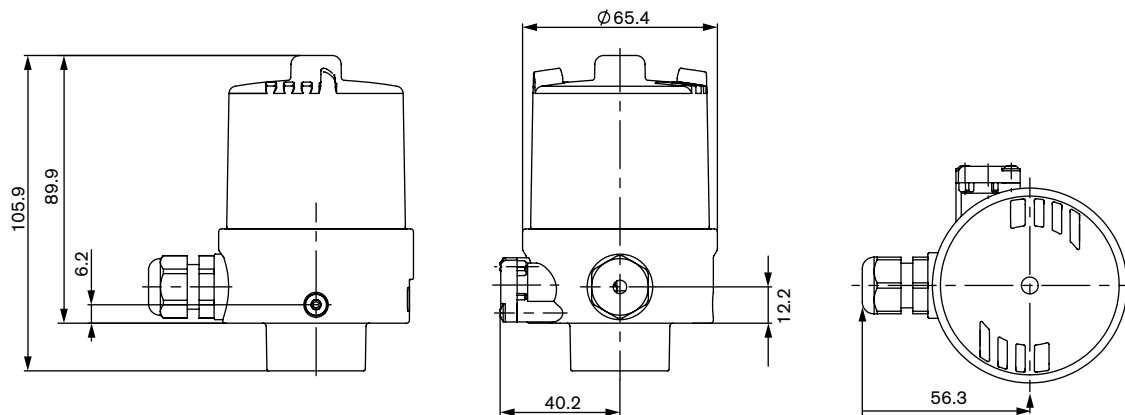
Control Unit for mounting on process valve CLASSIC Types 20xx



For ELEMENT valves



Feedback for mounting on process valve CLASSIC Types 20xx



Ordering chart

8697

End position feedback					Ex ia IIC T6	Electrical connection	Pilot air ports	Item no.	
Inductive Switch 3-wire PNP	Inductive Switch 2-wire NAMUR	Inductive Switch 2-wire 024/DC	Micro Switch 12 - 24 V DC	Micro Switch 50 - 250V AC/DC				Actuator series ELEMENT Types 21xx	Actuator series CLASSIC Types 20xx
Pneumatic Control Unit (pilot valve 3/2-way, single-acting NO/NC)									
2						Cable gland	Threaded ports G 1/8"	248 816	248 829
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 815	-
						M12 connector	Threaded ports G 1/8"	248 818	248 830
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 817	-
2					Yes	Cable gland	Threaded ports G 1/8"	248 822	248 832
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 821	-
		2				Cable gland	Threaded ports G 1/8"	248 814	248 828
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 813	-
Feedback (without pilot valve)									
2						Cable gland	Threaded ports G 1/8"	248 812	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 811	-
							without	-	248 827
						M12 connector	Threaded ports G 1/8"	250 471	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	250 469	-
							without	-	250 472
2					Yes	Cable gland	Threaded ports G 1/8"	248 820	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 819	-
							without	-	248 831
		2				Cable gland	Threaded ports G 1/8"	248 810	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 809	-
							without	-	248 826
			2			Cable gland	Threaded ports G 1/8"	248 824	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 823	-
							without	-	248 833
				2		Cable gland	Threaded ports G 1/8"	248 808	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 807	-
							without	-	248 825

Accessories

Adapter kit				
Specifications		Actuator size	Control function	Item no.
Adapter kit ELEMENT types 21xx	For Pneumatic Control Unit / Feedback	Ø 50 mm	single-acting / universal	682 259
Adapter kit CLASSIC types 20xx	For Pneumatic Control Unit	Ø 40 mm	single-acting	698 573
	For Pneumatic Control Unit	Ø 50 mm Seat valve types 2000 / 2012	single-acting	682 255
	For Pneumatic Control Unit	Ø 50 mm Diaphragm valve types 2030 / 2031	single-acting	682 258
	For Pneumatic Control Unit	Ø 63 mm	single-acting	682 256
	For Feedback	Ø 40 mm	universal	698 573
	For Feedback	Ø 50 / 63 / 80 mm	universal	682 264
	For Feedback	Ø 100 / 125 mm	universal	682 265
	For Feedback	Ø 175 / 225 mm	universal	683 265

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Specifications	Item no.
M12 socket, 8-pins, 2 m assembled cable	919 061
M12 socket, 8-pins, 5 m assembled cable	919 267
Silencer G 1/8"	780 779
Silencer, push-in connector	902 662
Stroke limitation actuator CLASSIC Ø 50 / 63 mm	551 868
Stroke limitation actuator CLASSIC Ø 80 mm	557 043
Stroke limitation actuator CLASSIC Ø 100 / 125 mm	552 360

Digital electropneumatic positioner

8791

Basic version

- Compact metal body
- Easy to start using tune function
- Dynamic positioning system with high air performance
- Extensive additional software functions via communication software configurable
- Mounting according to IEC 534-6/VDI VDE 3845



The robust and compact positioner is designed to a standardisation acc. to IEC 534-6 or VDI/VDE 3845 for assembly with linear and rotary actuators. In addition, the remote version with the displacement position sensor can be combined with Bürkert process control valves.

The setpoint setting for the electro-pneumatic digital Positioner SideControl BASIC occurs using a standard signal 4-20 mA or with AS-Interface as an option. In addition there is a binary input and an optional analogue feedback available.

The valve opening is signalled by a mechanical indicator element and the device status is shown on three coloured LEDs. All the operational elements are found in the housing.

The start-up happens automatically, and directly at the device the following functions by a DIP switches are activated:

- Close tight function
- Inversion of the operating direction of the setpoint signal
- Characteristic curves selection
- Switching - manual and automatic operation

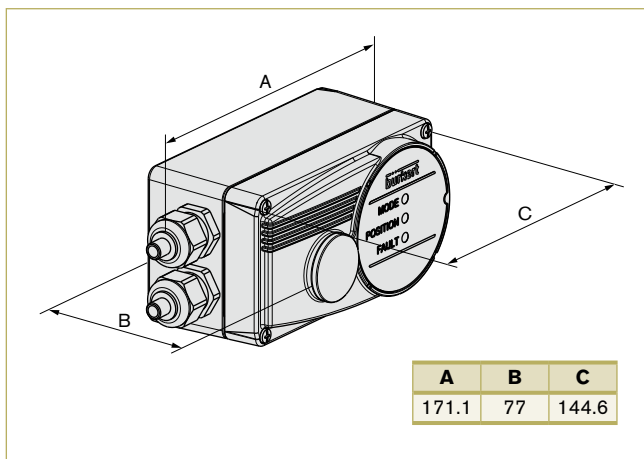
Additional possibilities on configuration and parameter setting, for example, linearisation of the operation characteristics by using communications software which allows customised programming.

The pilot valve system can be used equally for single and double-acting drives. It is characterised by a defined safety feature in case of failure of the electrical or pneumatic power supply and possesses an enormous air capacity range with pressure supply up to 7 bar.

Technical data

Material	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
Operating voltages	24 VDC +/-10%
Residual ripple	Max. 10%
Setpoint setting	4-20 mA (0-20 mA adjustable using configurations software)
Input resistance	0/4-20 mA: 180 Ω
Analogue feedback	4-20 mA (0-20 mA adjustable using configurations software, max. Burden 560 Ω)
Binary input	0-5 V = log "0", 10-30 V = log "1"
Control medium	Neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (< 40 µm particle size)
Particle density	Class 5 (< 10 mg/m³)
Pressure condensation point	Class 3 (< -20 °C)
Oil concentration	Class 5 (< 25 mg/m³)
Ambient temperature	0 °C to +60 °C

Dimensions [mm] (see datasheet for more details)




Technical data (continued)

Pilot air ports	Threaded ports G 1/4"
Supply pressure	1.4 to 7 bar ¹⁾
Air supply filter	Exchangeable (mesh aperture ~0.1 mm)
Actuator system	Single and double-acting up to 150 IN/min.
Air capacity	95 IN/min (with 1.4 bar ²⁾) for aeration and ventilation 150 IN/min (with 6 bar ²⁾) for aeration and ventilation (QNn = 100 IN/min (acc. to the definition with decrease in pressure from 7 to 6 bar absolute))
Position detection module	Potentiometer max. angle 180°
Stroke range valve spindle	Min. 30° on the rotary shaft, depending on lever
Installation	As required, display above or sideways
Type of protection	IP 65/67 acc. to EN 60529 (NEMA 4x in preparation)
Power consumption	< 3.5 W
Electrical connection	
Multipole connection	M12, 8-pin
Cable gland	2xM20x1.5 (cable Ø 10 mm) on screw terminals (0.14-1.5 mm ²)
Remote Version	1xM12x1.5 (cable Ø 3 to 6.5 mm)

¹⁾ The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator

²⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

Technical data (continued)

Technical data	
Protection class	3 acc. to VDE 0580
Type of ignition protection	II 3 G nA IIC T4 II 3 D tD A22 T135° C
Conformity	EMC directive 2004/108/EC
CSA approval information	Product category code Class 3221 82-VALVES - Actuators - Certified to US standards Class 3221 02-VALVES - Actuators
Considered standards	CAN/CSA-C22 2 No. 139 UL 429
CSA trademark	

Technical data - AS-interface (Option)	
Profile	S-7.3.4 Output: 16 Bit Set point/Certificate No. 87301 acc. to Version 3.0 S-7.A.5 Output: 16 Bit set point; Input: 16 Bit feedback/certificate No. 95401 acc. to Version 3.0
Programmed data	see instruction manual
Operating voltage	over Bus connection 29.5 to 31.6 VDC acc. to Specification
Max. current consumption	150 mA
Electrical connection	M12x1.4-pin stainless steel connection assembled with 80 cm cable and flat cable clamp

Technical data - Linear Remote Position Sensor (ELEMENT, CLASSIC)	
Electrical connection	Cable gland 1xM16x1.5 (cable Ø 5-10 mm) on terminal screws (0.14-1.5 mm ²) Connection cable length 10 m
Operating voltage	24V DC ± 10 %
Power consumption	< 0.3 W
Sensor measurement range	3 to 45 mm (Stroke range valve spindle)
Actual position signal	digital (RS485)
Ambient temperature	-25 °C to +80 °C
Protection class	3 acc. to VDE 0580
Type of protection	IP65 and IP67 acc. to EN 60529 (NEMA 4x in preparation)
Type of Ignition protection	II 3D Ex tc IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc
Conformity	EMC directive 2004/108/EC
Approvals	cCSAus

Technical data - rotative Remote Position Sensor (NAMUR)	
Electrical connection	2 m round cable (shielded)
Operating voltage	10 to 30V DC
Power consumption	< 0.8W
Sensor measurement range	0° to 360°
Actual position signal	digital (RS485)
Ambient temperature	-25 °C to +80 °C
Protection class	3 acc. to VDE 0580
Type of protection	IP65 acc. to EN 60529
Conformity	EMC directive 2004/108/EC
Approvals	UL (cULus) Certificate no. E226909

Technical data - Position feedback with proximity switches (Accessory)	
Electrical connection	M12, 4-pin
Output function	3-wire, normally open contact, PNP
Operating voltage	10 to 30 V DC
Residual ripple	≤ 10% U _{ss}
DC rated current	≤ 100 mA
Type of protection	IP65 and IP67
Protection class	3 acc. to VDE 0580
Conformity	EMC directive 2004/108/EC
Approvals	cCSAus

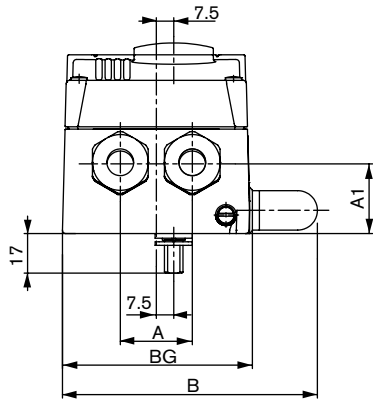
Note: The position feedback has two proximity switches which are independently adjustable via switch lugs.

Using a remote positioner the length of the control air pipes influences the dynamics and attainable accuracy of the position control loop. The length of the control air pipes therefore should be as short as possible.

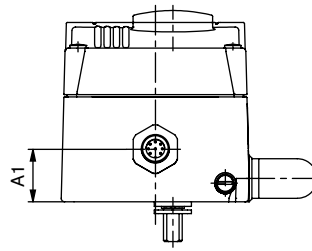
Dimensions [mm]

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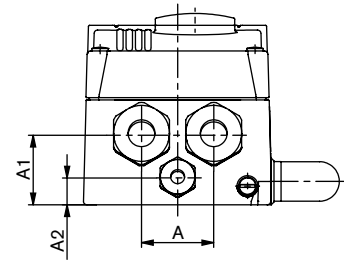
Standard version



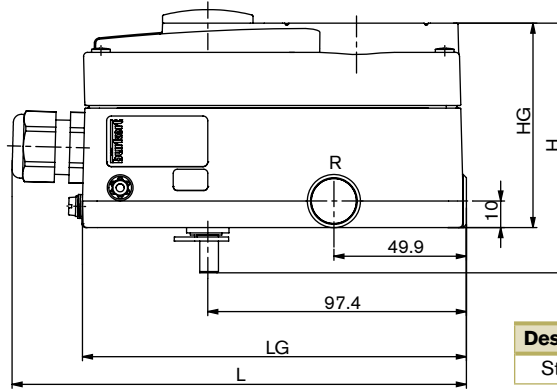
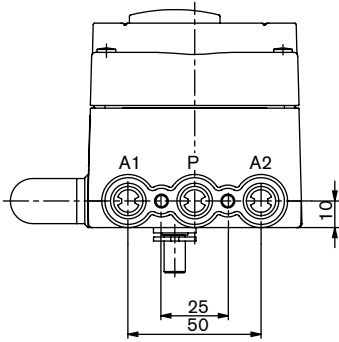
Multiple version



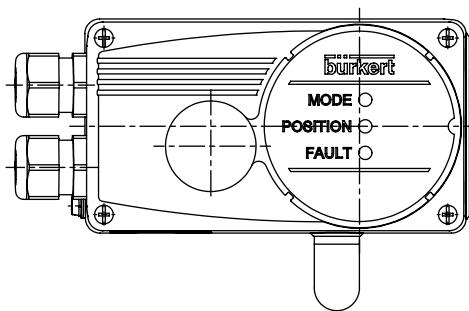
Remote version



Description	BG	B	A	A1	A2
Standard	81.8	109.8	31	30	-
Remote	81.8	109.8	31	30	11.5
Multipole	81.8	109.8	-	22.5	-



Description	LG	L	HG	H
Standard	144.6	171.1	77	94.1

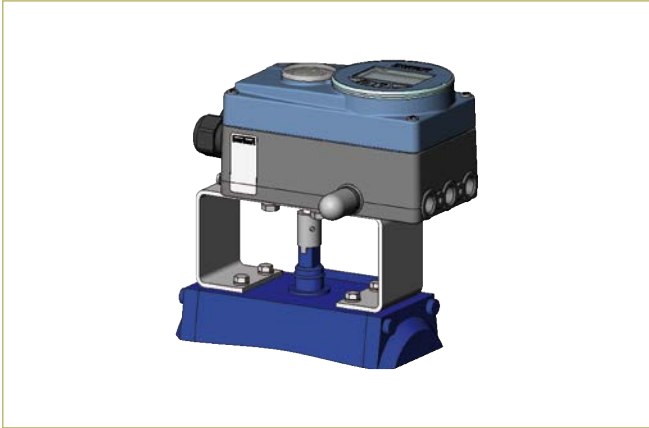


Assembly options

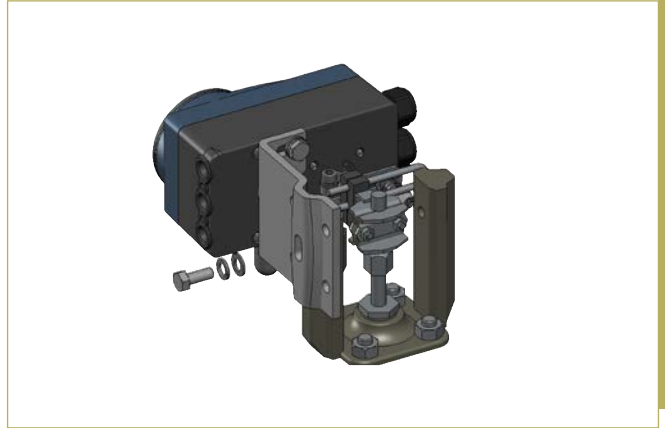
NAMUR Version

(Positioner with integrated position sensor, assembly acc. to NAMUR/IEC 534-6 and VDI/VDE 3845)

Assembly for rotary actuator



Assembly for linear actuator



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Dimensions [mm]

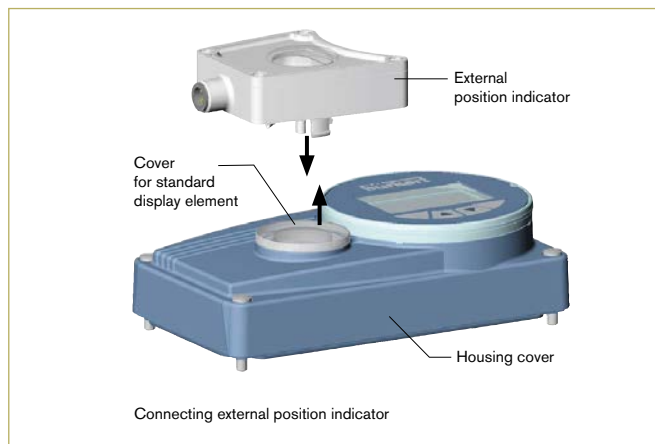
Adapter kit

Assembly bridge

Actuator shaft height	A	B	C
20	46.5	80	-
30	56.5	80	130
50	76.5	-	130

Position feedback with proximity switches

(upgrade feature for SideControl BASIC)



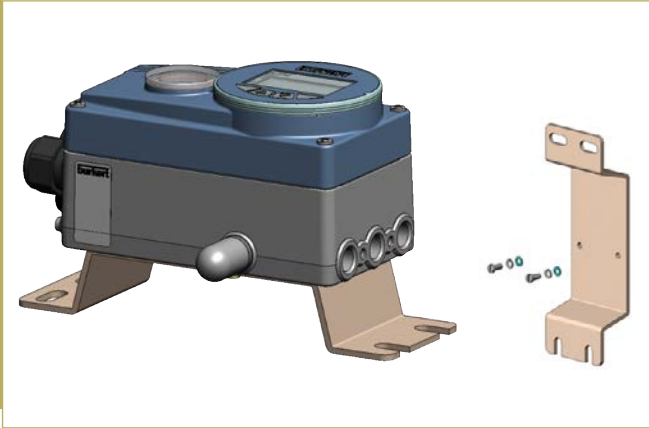
Assembly options (continued)

Remote version

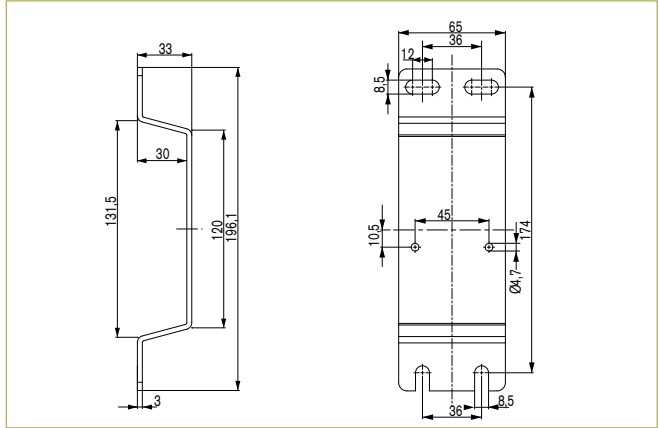
(Remote positioner from actuator with displacement position)

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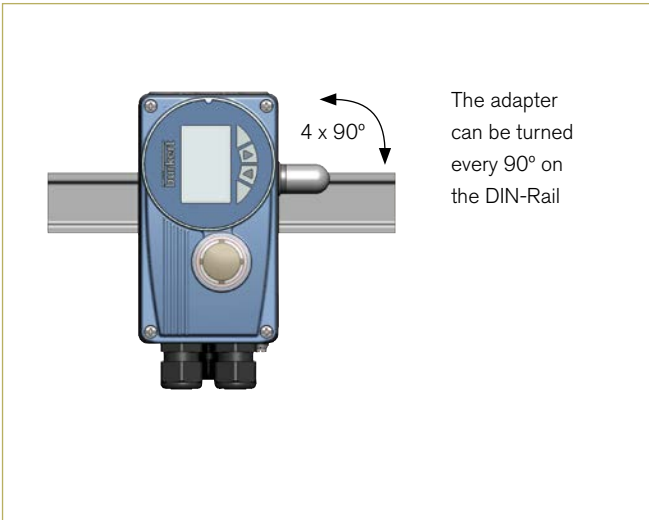
Bracket for wall mounting



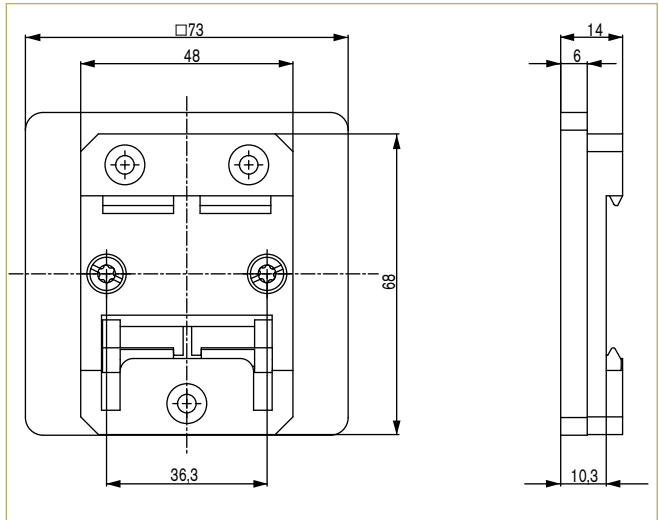
Dimensions [mm]



DIN rail assembly kit



Dimensions [mm]



Assembly options (continued)

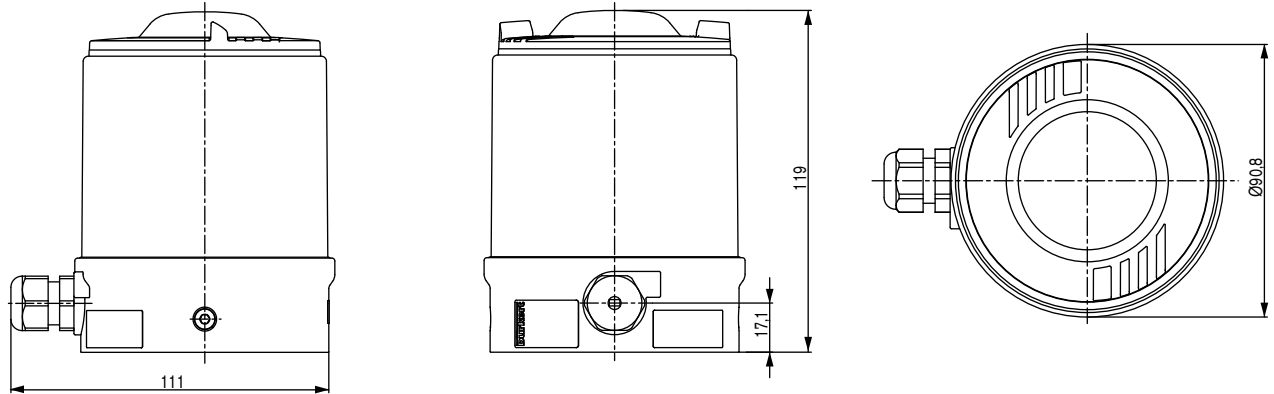
Remote version

Remote sensor control valves

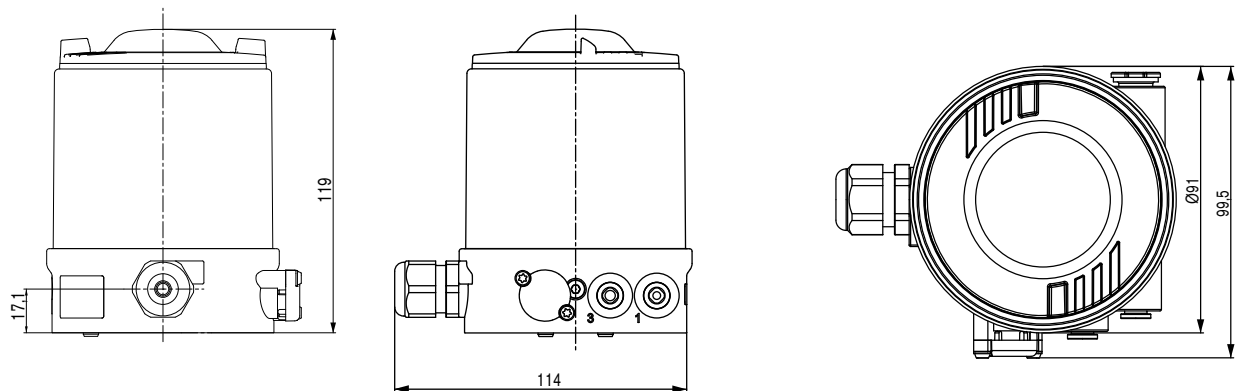


Dimensions mm

Control valves CLASSIC Types 27xx

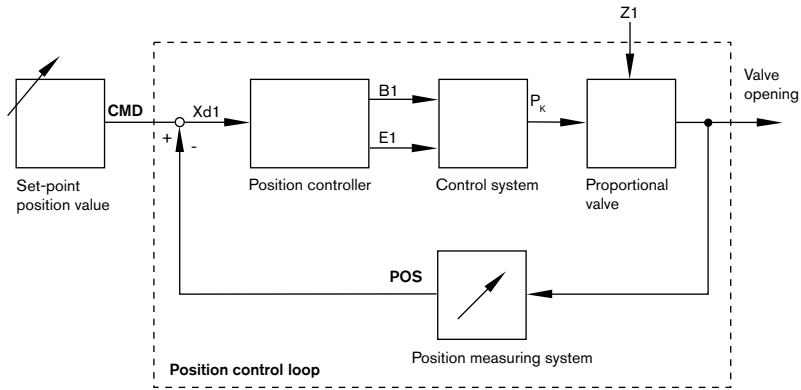


Control valve ELEMENT Types 23xx



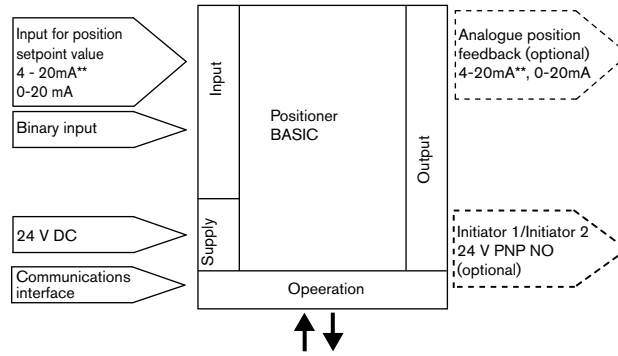
Signal flow plan

Position control loop



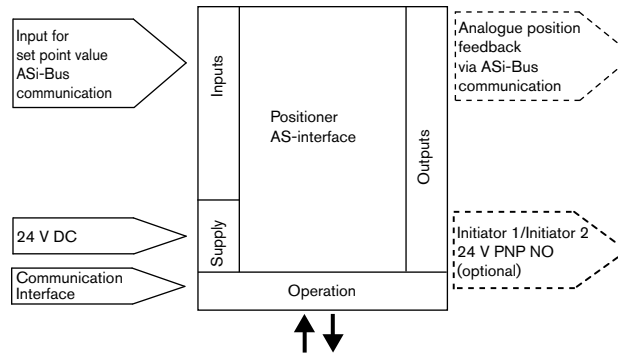
Schematic diagram of SideControl Type 8791 BASIC

without Fieldbus interface



** Default setting

with AS-interface



Ordering chart

Assembly variations	Communication	Electrical connection	Analogue feedback	Binary input	Initiator	Control function single and double-acting	Item no.
NAMUR IEC 534-6 VDI/VDE 3845	No	Cable gland	No	Yes	No	Yes	211 521
			Yes	Yes	No	Yes	211 522
		Multipole	No	Yes	No	Yes	211 523
			Yes	Yes	No	Yes	211 524
Remote	No	Cable gland	No	Yes	No	Yes	211 531
			Yes	Yes	No	Yes	211 532

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Accessories

Specifications	Item no.
Assembly bridge VDI/VDE 3845, Stainless steel	770 294
Adapter kit VDI/VDE 3845, Stainless steel	787 338
Adapter kit linear actuators IEC 534-6, stainless steel	787 215
Silencer G 1/4" (spare part)	780 780
M12 socket, 8-pin, 2 m cable set	919 061
PC-interface configuration / Parameter tool RS232*	227 093
Remote version	
Bracket for wall mounting, Stainless steel	675 715
DIN rail assembly kit	675 702
Remote sensor control valves CLASSIC Types 27xx	211 535
Remote sensor control valves ELEMENT Types 23xx	212 360
Adapter kit remote sensor ELEMENT Types 23xx	679 917
Adapter kit remote sensor CLASSIC Types 27xx	
Actuator size Ø 80 mm	679 943
Actuator size Ø 100 mm	679 944
Actuator size Ø 125 mm	679 944
Actuator size Ø 175 / Ø 225 mm	679 945

* Related communications software can be downloaded from www.buerkert.com Type 8791.

Digital electropneumatic positioner



8792 Positioner SideControl

- Compact and robust design
- Easy startup using tune function
- No internal air consumption in steady condition
- Profibus DPV1 or DeviceNet (optional)
- Assembly acc. to IEC 534-6/VDI VDE 3845 or Remote



The robust and compact positioner is designed to standardisation acc. to IEC 534-6 or VDI/VDE 3845 for assembly with linear and rotary actuators. In addition, the remote version with the displacement position sensor can be combined with Bürkert process control valves. The digital electropneumatic positioner SideControl can be operated with the usual current and voltage standard signals and can also be equipped with the Fieldbus interface PROBUS DPV1. Additionally to the digital graphic display the valve opening is signalled by a mechanical indicator element.

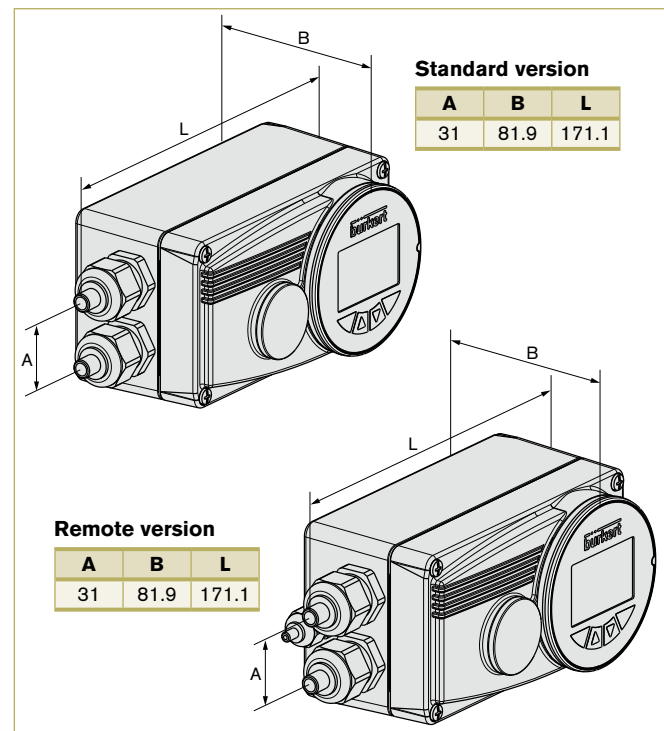
Technical Data

Material	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
Operating voltages	24 VDC +/- 10%
Residual ripple	max. 10%
Setpoint setting	0/4 to 20 mA and 0 to 5/10 V
Input resistance	0/4 to 20 mA: 180 Ω 0 to 5/10 mA: 19 k Ω
Analogue feedback	4-20 mA, 0-20 mA 0-10 V, 0-5 V
Binary input	galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"
Binary output	2 Outputs (optional), galvanically separated
Current limit	100 mA, Output will be synchronised when overloaded
Control medium	Neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (< 40 µm particle size)
Particle density	Class 5 (< 10 mg/m ³)
Pressure condensation point	Class 3 (< -20°C)
Oil concentration	Class 5 (< 25 mg/m ³)
Ambient temperature	0 to +60°C
Pilot air ports	Threaded ports G 1/4"
Supply pressure	1.4 to 7 bar ¹⁾
Air supply filter	Exchangeable (aperture size ~0.1 mm)
Actuator system	single and double-acting to 150 l _N /min. 95 l _N /min (with 1.4 bar ²⁾) for aeration and ventilation 150 l _N /min (with 6 bar ²⁾) for aeration and ventilation (Q _{in} = 100 l _N /min (acc. to the definition with decrease in pressure from 7 to 6 bar absolute))
Position detection module	Potentiometer, max. angle 180°
Stroke range valve spindle	min. 30° on the rotary shaft, depending on lever
Installation	as required, display above or sideways

¹⁾ The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator

²⁾ Pressure specifications: Overpressure with respect to atmospheric pressure

Envelope Dimensions [mm] (see datasheet for details)



Technical Data continued

Type of protection	IP 65 and IP 67 acc. to EN 60529 (NEMA 4x in preparation)
Power consumption	< 5 W
Electrical connection	Multipole connection M12, 8-pin/4-pin; M8, 4-pin Cable gland 2xM20x1.5 (cable Ø 10 mm) on screw terminals (0.14-1.5 mm ²) Remote version 1xM12x1.5 (cable Ø 3 to 6.5 mm)
Bus communication	Profibus DPV1 or DeviceNet
Protection class	3 acc. to VDE 0580
Type of ignition protection	II 3 G nA II B T4 II 3 D tD A22 T135°
Conformity	EMV2004/108/EG
CSA approval information	Product category code Class 3221 82-VALVES - Actuators - Certified to US standards Class 3221 02-VALVES - Actuators
Considered standards	CAN/CSA-C22 2 No. 139, UL 429

Technical Data continued

Technical data - Linear Remote Position Sensor (ELEMENT, CLASSIC)

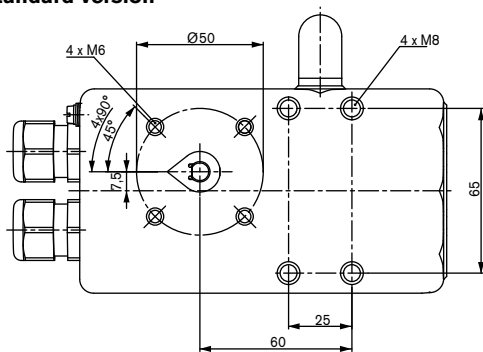
Electrical connection	1xM16x1.5 (cable Ø 5-10 mm) on terminal screws (0.14-1.5 mm ²)
Connection cable length	10 m
Operating voltage	24V DC ± 10 %
Power consumption	< 0.3 W
Sensor measurement range	3 to 45 mm (Stroke range valve spindle)
Actual position signal	digital (RS485)
Ambient temperature	-25 °C to +80 °C
Protection class	3 acc. to VDE 0580
Type of protection	IP65 and IP67 acc. to EN 60529 (NEMA 4x in preparation)
Type of Ignition protection	II 3D Ex tc IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc
Conformity	EMC directive 2004/108/EC
Approvals	cCSAus

Technical data - rotative Remote Position Sensor (NAMUR)

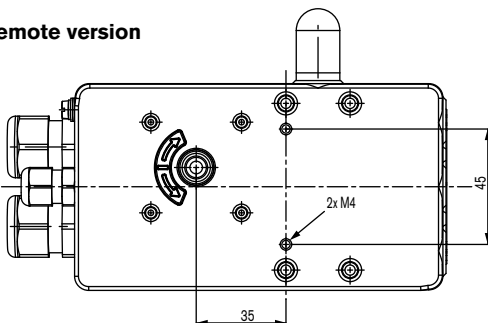
Electrical connection	2 m round cable (shielded)
Operating voltage	10 to 30V DC
Residual ripple	< 0.8W
Sensor measurement range	0° to 360°
Actual position signal	digital (RS485)
Ambient temperature	-25 °C to +80 °C
Protection class	3 acc. to VDE 0580
Type of protection	IP65 acc. to EN 60529
Conformity	EMC directive 2004/108/EC
Approvals	UL (cULus) Certificate no. E226909

Dimensions [mm]

Standard version



Remote version

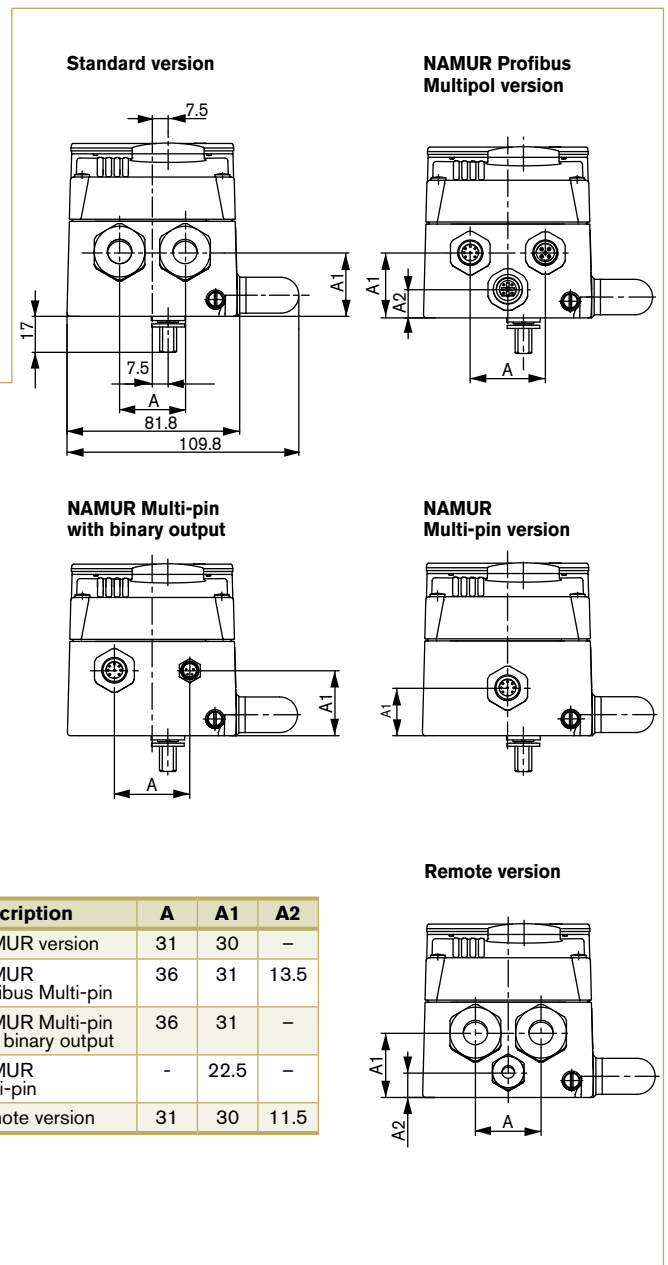


Technical data - Position feedback with proximity switches (Accessory)

Electrical connection	M12, 4-pin
Output function	3-wire, normally open contact, PNP
Operating voltage	10 to 30 V DC
Residual ripple	≤ 10% U _{ss}
DC rated current	≤ 100 mA
Type of protection	IP65 and IP67
Protection class	3 acc. to VDE 0580
Conformity	EMC directive 2004/108/EC
Approvals	cCSAus

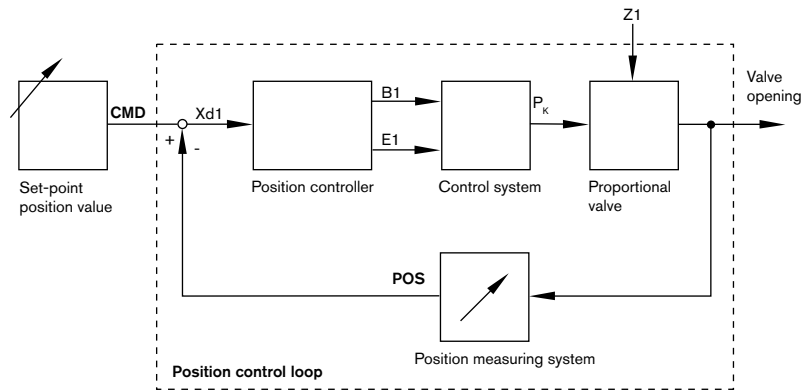
Note: The position feedback has two proximity switches which are independently adjustable via switch lugs.

Using a remote positioner the length of the control air pipes influences the dynamics and attainable accuracy of the position control loop. The length of the control air pipes therefore should be as short as possible.



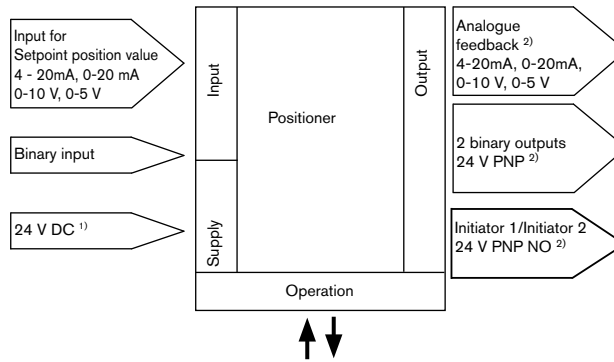
Signal flow plan

Position control loop

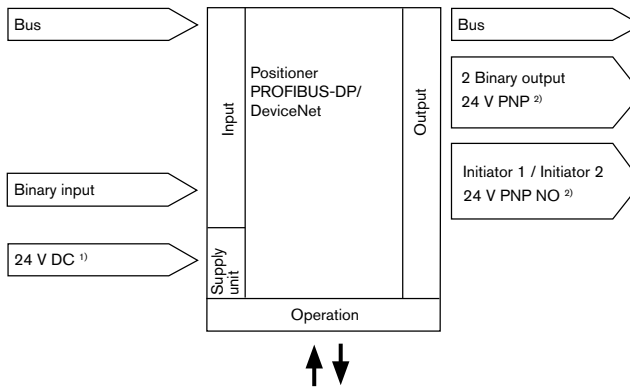


Schematic diagram of SideControl Type 8792

Without Fieldbus interface



With Profibus DP / DeviceNet



¹⁾ The operating voltage is supplied with a 3-wire unit independent from the setpoint signal
²⁾ Alternative options

Note: For assembly options please see Type 8791

Ordering Chart

Assembly variations	Communication	Electrical connection	Analogue feedback	2 Binary outputs	Binary input	Control function	Item no.
NAMUR IEC 534-6 VDI / VDE 3845							
	no	Cable gland	no	no	yes	single and double-acting	206 610
			no	yes	yes	single and double-acting	206 612
			yes	yes	yes	single and double-acting	206 611
	Profibus DPV1	Multipole	via Bus	no	yes	single and double-acting	206 616
			via Bus	yes	yes	single and double-acting	206 617
REMOTE MOUNTING							
ELEMENT Actuator Ø 70 mm/90 mm CLASSIC Actuator Ø 80 mm/100 mm	no	Cable gland	no	yes	yes	single-acting	224 871
			yes	yes	yes	single-acting	224 870
ELEMENT Actuator Ø 130 mm CLASSIC Actuator Ø 125/175/225 mm	no		no	no	yes	single and double-acting	206 623
			no	yes	yes	single and double-acting	206 625
			yes	yes	yes	single and double-acting	206 624

8792 Positioner
SideControl

Accessories

Description	Item no.
Assembly bridge VDI/VDE 3845, Stainless steel	770 294
Adapter kit VDI/VDE 3845, Stainless steel	787 338
Adapter kit linear actuators IEC 534-6, stainless steel	787 215
Silencer G 1/4" (replacement part)	780 780
M12 socket, 8-pin, 2 m cable set	919 061
M8 plug, 4-pin for binary outputs, without cable	917 131
Feedback unit for end positions 2, PNP proximity switches	677 218
Remote version	
Bracket for wall mounting, Stainless steel	675 715
DIN rail assembly kit	675 702
Remote sensor control valves CLASSIC Types 27xx	211 535
Remote sensor control valves ELEMENT Types 23xx	212 360
Adapter kit remote sensor ELEMENT Types 23xx	679 917
Adapter kit remote sensor CLASSIC Types 27xx	
Actuator size Ø 80 mm	679 943
Actuator size Ø 100 mm/Ø 125 mm	679 944
Actuator size Ø 175 mm/Ø 225 mm	679 945

Digital electropneumatic Process Controller

8793

- Compact metal housing
- Graphic display with backlight
- Easy start-up of process controller and positioner
- Comprehensive range of additional software functions
- Mounting acc. to IEC 534-6/VDI VDE 3845

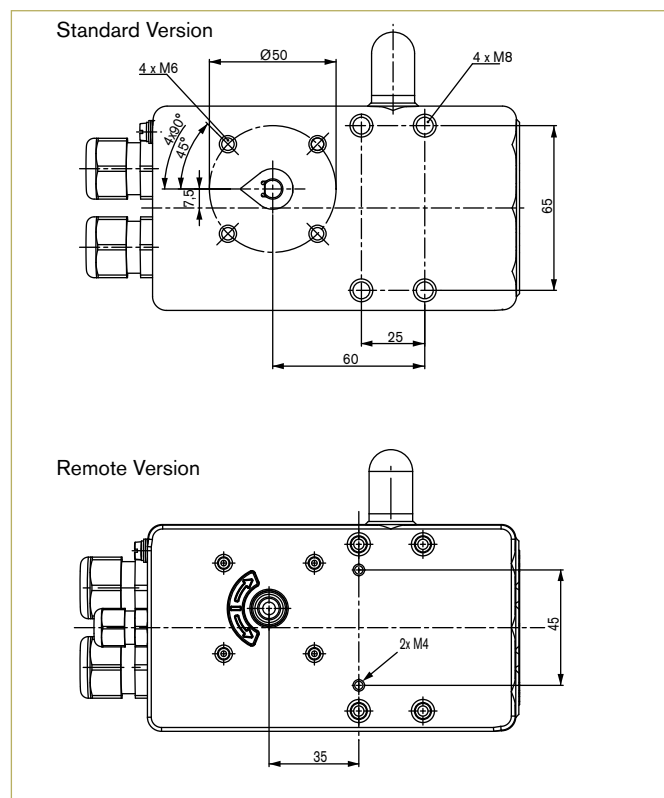


The robust and compact process controller is designed to standardisation acc. to IEC 534-6 or VDI/VDE 3845 for assembly with linear and rotary actuators. In addition, the remote version can be combined with Bürkert process control valves. The digital electropneumatic SideControl process controller can be operated by the usual current and voltage standard signals and can also be equipped with the Fieldbus interface PROFIBUS DPV1. Additional to the digital display the valve opening is signalled by a mechanical indicator element. The actual process value is directly supplied to the device as 4-20 mA, PT100 or as frequency signal. The process controller calculates the position setpoint for the subordinated positioner through the variance comparison. Due to the analogue feedback all analogue values on the controlling level can be transferred. The parameterization of process controller and positioner can be carried out automatically.

Technical Data

Material:	Body	Aluminium plastic-coated
	Seal	EPDM, NBR, FKM
Operating voltages	24 VDC +/-10%	
Residual ripple	max. 10%	
Setpoint setting	0/4 to 20 mA and 0 to 5/10 V	
Input resistance	0/4 to 20 mA:	180 Ω
	0 to 5/10 V:	19 kΩ
Input data for actual value signal		
Setting 4 - 20 mA	180 Ω Input resistance / Resolution 12 bit	
Frequency setting	17 kΩ Input resistance, 0 - 1000 Hz / 1‰ o.R. measuring range, Input signal > 300 mV _{RMS}	
Setting Pt 100	Signal form Sine, rectangle, triangle Measuring range -20 °C - +220 °C, Resolution < 0.1 °C, M	
Analogue feedback	4-20 mA, 0-20 mA 0-10 V, 0-5 V	
Binary input	galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"	
Binary Output	2 Outputs (optional), galvanically isolated	
Current limit	100 mA, Output will be synchronised when overloaded	
Control medium	Neutral gases, air DIN ISO 8573-1	
Dust concentration	Class 5 (<40 µm particle size)	
Particle density	Class 5 (<10 mg/m ³)	
Pressure condensation point	Class 3 (<-20 °C)	
Oil concentration	Class 5 (<25 mg/m ³)	

Envelope Dimensions [mm] (see datasheet for details)




Ambient temperature	0 °C to +60 °C
Pilot air ports	Threaded port G 1/4"
Supply pressure	1.4 to 7 bar ¹⁾
Air input filter	Exchangeable (aperture size ~0.1 mm)
Pilot valve system	Single and double-acting up to 150 l _N /min.
Air capacity	95 l _N /min (with 1.4 bar ²⁾) for aeration and ventilation 150 l _N /min (with 6 bar ²⁾) for aeration and ventilation (Q _N = 100 lN/min (acc. to the definition with decrease in pressure from 7 to 6 bar absolute)
Position detection module	Potentiometer, max. angle 180°

¹⁾ The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator

²⁾ Pressure specifications: Overpressure with respect to atmospheric pressure

Technical Data (continued)

Technical data	
Stroke range valve spindle	Min. 30° on the rotary shaft, independent of lever
Installation	As required, display above or sideways
Type of protection	IP65 and IP67 acc. to EN 60529 (NEMA 4x in preparation)
Power consumption	< 5 W
Electrical connection	Multi-pin connection M12, 8-pin / 4-pin; M8, 4-pin Cable gland 2xM20x1.5 (cable Ø 10 mm) on screw terminals (0.14-1.5 mm ²) Remote Version 1xM12x1.5 (cable Ø 3 to 6.5 mm)
Bus communication	Profibus DPV1 or DeviceNet (optional)
Inductive proximity switch	on request
Protection class	3 acc. to VDE 0580
Type of ignition protection	II 3 G nA II B T4 II 3 D tD A22 T135°
Conformity	EMC directive 2004/108/EC
CSA approval information	Class 3221 82-VALVES - Actuators - Certified to US standards Product category code Class 3221 02-VALVES - Actuators
Considered standards	CAN/CSA-C22 2 No. 139 UL 429
CSA trademark	

Technical data - Linear Remote Position Sensor (ELEMENT, CLASSIC)	
Electrical connection	Cable gland 1xM16x1.5 (cable Ø 5-10 mm) on terminal screws Connection cable length 10 m (0.14-1.5 mm ²)
Operating voltage	24V DC ± 10 %
Power consumption	< 0.3 W
Sensor measurement range	3 to 45 mm (Stroke range valve spindle)
Actual position signal	digital (RS485)
Ambient temperature	-25 °C to +80 °C
Protection class	3 acc. to VDE 0580
Type of protection	IP65 and IP67 acc. to EN 60529 (NEMA 4x in preparation)
Type of Ignition protection	II 3D Ex tc IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc
Conformity	EMC directive 2004/108/EC
Approvals	cCSAus

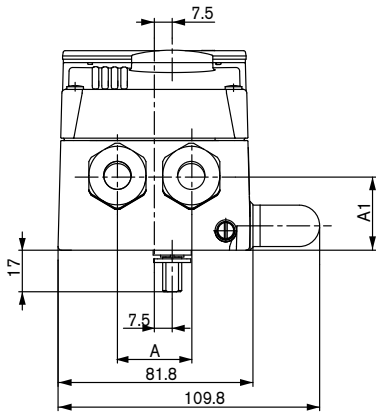
Technical data - rotative Remote Position Sensor (NAMUR)	
Electrical connection	2 m round cable (shielded)
Operating voltage	10 to 30V DC
Residual ripple	< 0.8W
Sensor measurement range	0° to 360°
Actual position signal	digital (RS485)
Ambient temperature	-25 °C to +80 °C
Protection class	3 acc. to VDE 0580
Type of protection	IP65 acc. to EN 60529
Conformity	EMC directive 2004/108/EC
Approvals	UL (cULus) Certificate no. E226909

Technical data - Position feedback with proximity switches (Accessory)	
Electrical connection	M12, 4-pin
Output function	3-wire, normally open contact, PNP
Operating voltage	10 to 30 V DC
Residual ripple	≤ 10% U _{ss}
DC rated current	≤ 100 mA
Type of protection	IP65 and IP67
Protection class	3 acc. to VDE 0580
Conformity	EMC directive 2004/108/EC
Approvals	cCSAus

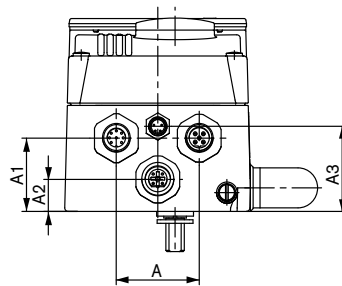
Note: The position feedback has two proximity switches which are independently adjustable via switch lugs.

Using a remote positioner the length of the control air pipes influences the dynamics and attainable accuracy of the position control loop. The length of the control air pipes therefore should be as short as possible.

Standard version

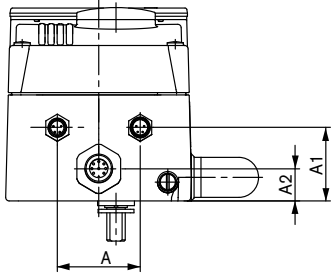


NAMUR Profibus Multipol version

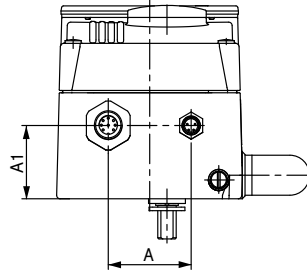


Description	A	A1	A2	A3
NAMUR version	31	30	-	-
NAMUR Profibus Multi-pin	36	31	13.5	36.1
NAMUR Multi-pin with binary output	36	31	13.5	-
NAMUR Multi-pin	36	31	-	-
Remote version	31	30	11.5	-

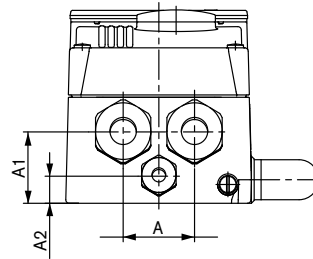
NAMUR Multi-pin with binary output



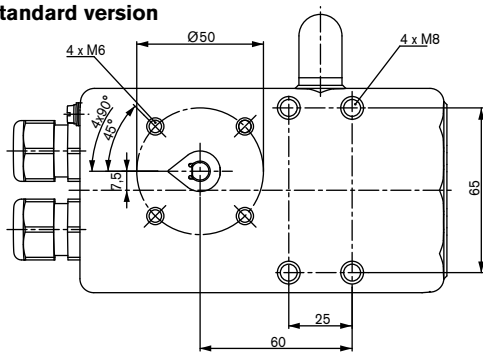
NAMUR Multi-pin version



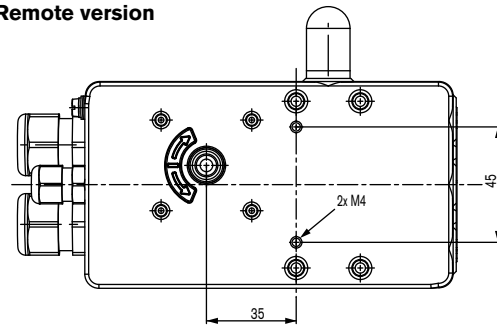
Remote version



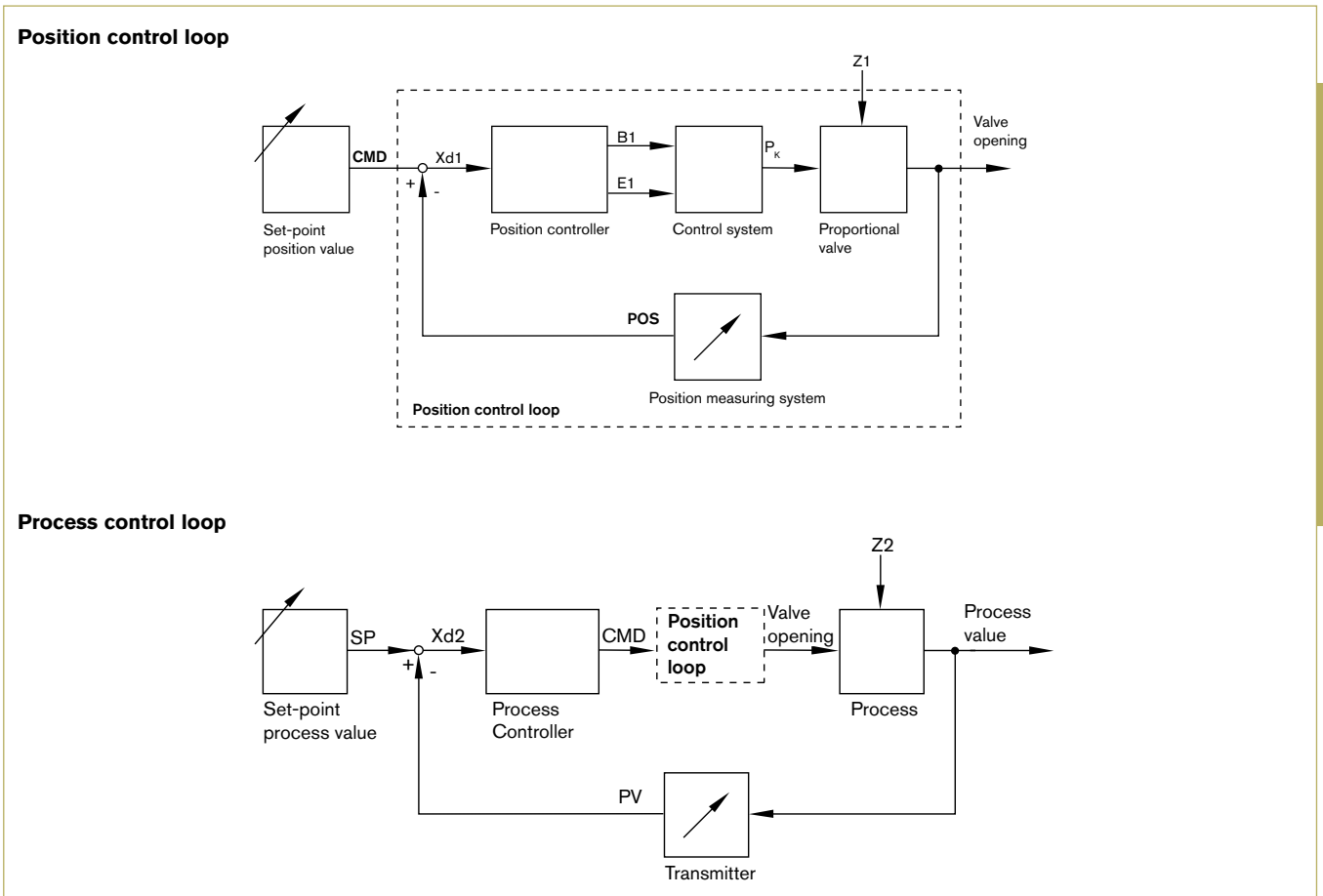
Standard version



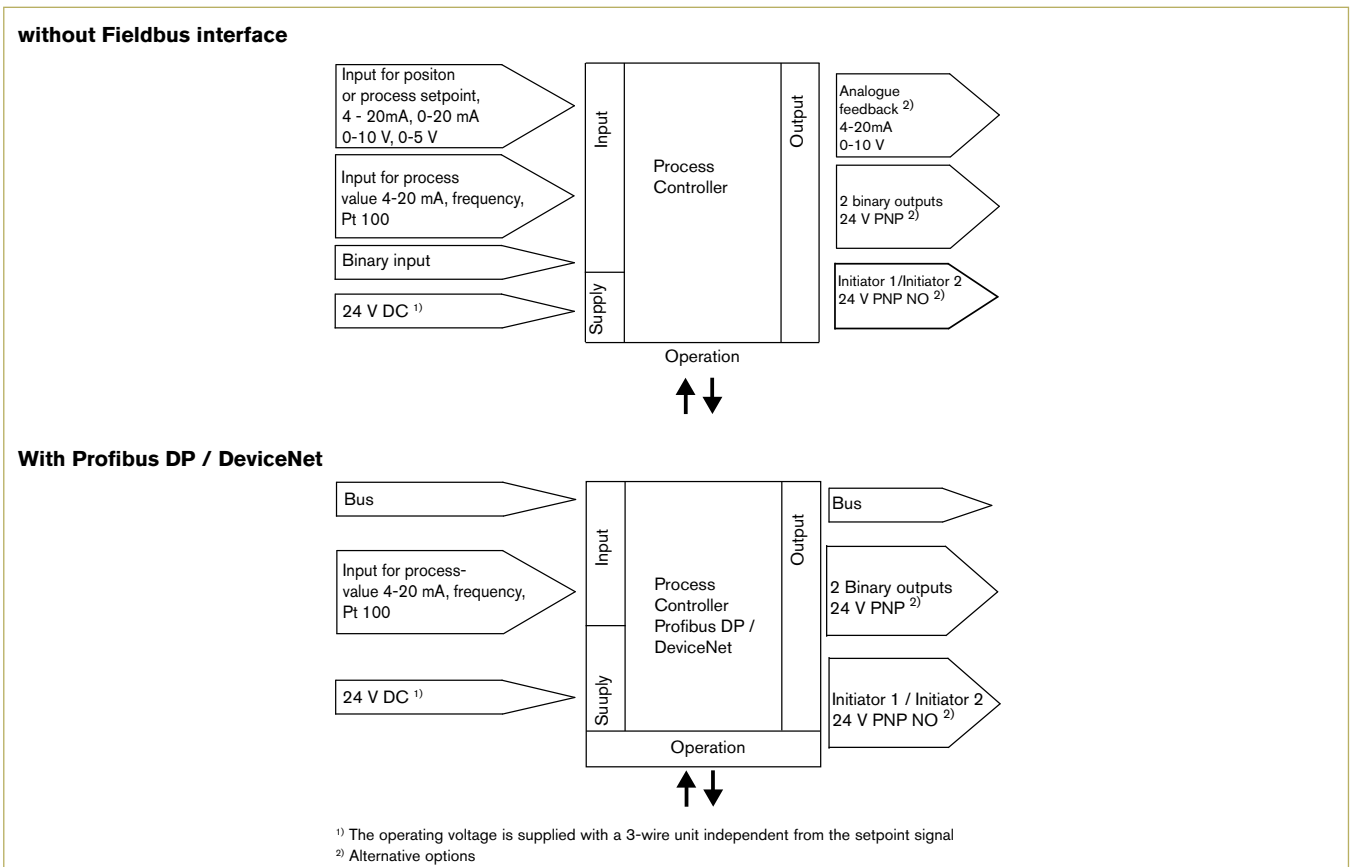
Remote version



Signal flow plan



Schematic diagram of Type 8793



Note: For assembly options please see Type 8791

Ordering Chart

Assembly variations	Communication	Electrical connection	Analogue feedback	2 Binary outputs	Binary input	Control function	Item no.
NAMUR IEC 534-6 VDI / VDE 3845							
	no	Cable gland	no	no	yes	single and double-acting	206 593
			no	yes	yes	single and double-acting	206 595
			yes	yes	yes	single and double-acting	206 594
	Profibus DPV1	Multipole	via Bus	no	yes	single and double-acting	206 600
			via Bus	yes	yes	single and double-acting	206 601
REMOTE							
ELEMENT Actuator Ø 70 mm/90 mm CLASSIC Actuator Ø 80 mm/100 mm	no	Cable gland	no	yes	yes	single-acting	224 873
			yes	yes	yes	single-acting	224 872
ELEMENT Actuator Ø 130 mm CLASSIC Actuator Ø 125/175/225 mm	no	Cable gland	no	no	yes	single and double-acting	206 607
			no	yes	yes	single and double-acting	206 609
			yes	yes	yes	single and double-acting	206 608

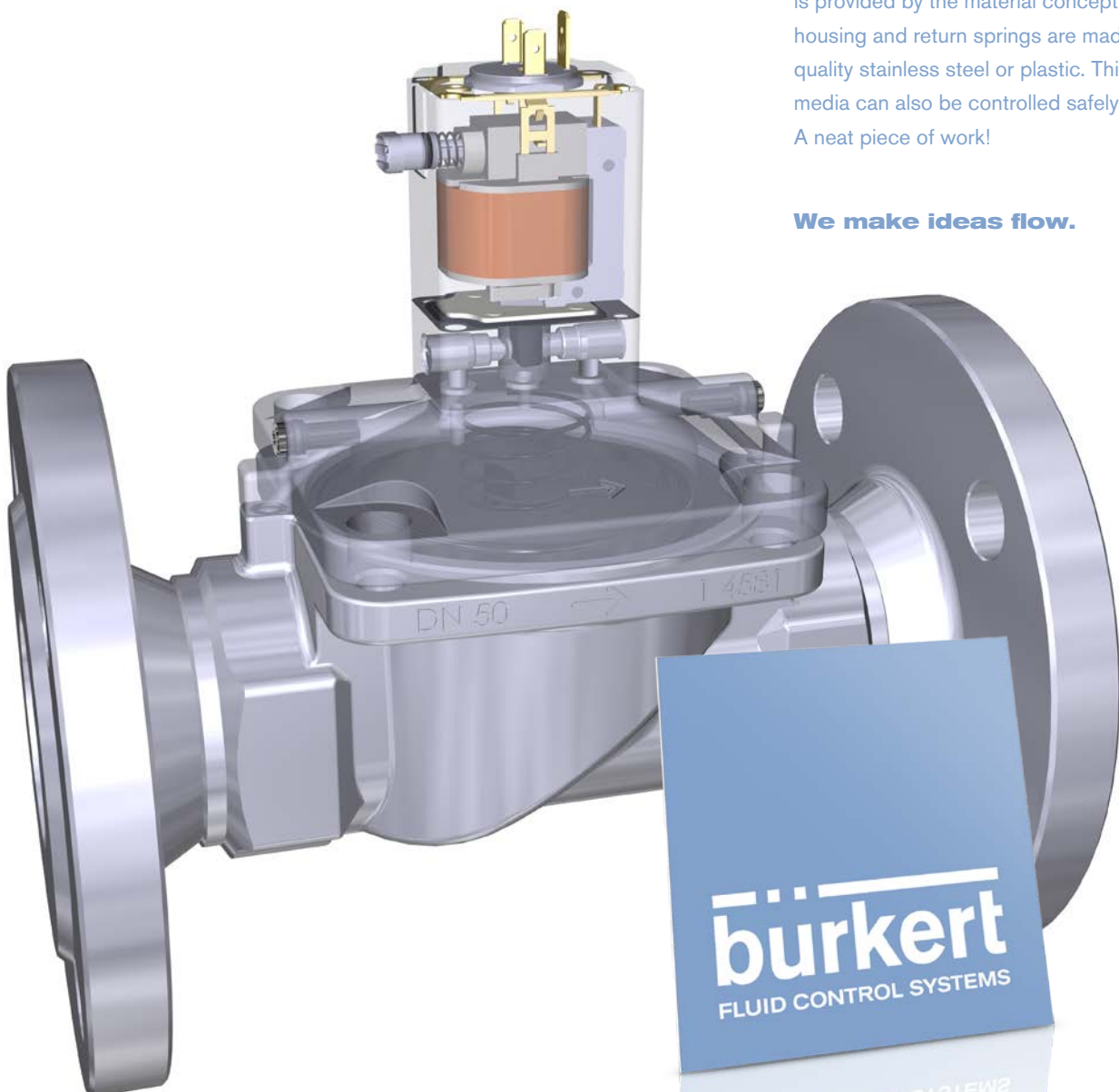
Accessories

Description	Item no.
Assembly bridge VDI / VDE 3845, Stainless steel	770 294
Adapter kit VDI / VDE 3845, Stainless steel	787 338
Adapter kit linear actuators IEC 534-6, stainless steel	787 215
Silencer G 1/4" (replacement part)	780 780
M12 socket, 8-pin, 2 m cable set	919 061
M8 plug, 4-pin for binary outputs, without cable	917 131
Feedback unit for end positions 2, PNP proximity switches	677 218
Remote Version	
Bracket for wall mounting, Stainless steel	675 715
Holder for DIN-Rail assembly Al/Stainless steel	675 702
Remote position sensor control valves CLASSIC Type 27xx	211 535
Remote position sensor control valves CLASSIC Type 23xx	212 360
Adapter kit for remote position sensor control valves Type 23xx	679 917
Adapter kit for remote position sensor control valves Type 27xx	
Actuator size Ø 80 mm	679 943
Actuator size Ø 100 mm / Ø 125 mm	677 215
Actuator size Ø 175 mm / Ø 225 mm	677 217

For dirty work.

Contaminated or adhesive media, such as waste oil and fat, often cause blocked control bores. Our servo-assisted valve 5282 is the exception: The 2/2-way allrounder has no pressure compensation bore in the diaphragm in which foreign objects could get stuck. What's more, no medium flows through the pilot valve in open position, which is unique among servo-assisted valves with 2-way pilot control. Last but not least, additional safety is provided by the material concept: The main valve housing and return springs are made from high quality stainless steel or plastic. This way aggressive media can also be controlled safely. A neat piece of work!

We make ideas flow.



2/2-way Globe Control Valve CLASSIC with positioner, flange version

- With three to five interchangeable valve seat sizes per port size
- Excellent control performance
- Lengths according to international industry standards
- Compact design
- High reliability



The 2712 system has been specifically engineered for reliable control in applications where control accuracy is paramount. The valve is made from an all stainless steel valve body combined with Bürkert's classic pneumatic actuator. When combined with the 8692 TopControl, a unique control valve system is formed which can be operated as a simple, accurate positioner for flow rate, temperature or pressure.

Technical Data

Materials

Body (Type 2712)	Cast stainless steel 316L (conform to 1.4409)
Sealing (Type 2712)	Stainless steel/stainless steel
Actuator (Type 2712)	PA (polyamide) (PPS on request)
Body (Type 8692)	PPS, Stainless steel
Cover (Type 8692)	PC
Seal (Type 8692)	EPDM
Sealing	Stainless steel/stainless steel

Seat leakage

acc. to IEC 534-4/EN 1349 Shut-off class IV for St.st./St.st.

Viscosity

Max. 600 mm²/s

Packing gland

PTFE V-rings (silicon grease) with spring compensation

Nominal pressure

PN25 (body)

Temperature

Medium -10 °C to +180 °C
Ambient 0 °C to +55 °C actuators 80 to 125 mm
0 °C to +50 °C actuators 175 and 225 mm

Control medium

Compressed air

Pilot pressure

5.5 to 7 bar actuators 80 to 125 mm
5 to 6 bar actuators 175 and 225 mm

Pilot air ports

Push-in connector (Ø 6 mm and 1/4" tube)

Flow direction

Below seat

Control ratio (Kvs/Kv0)

50:1

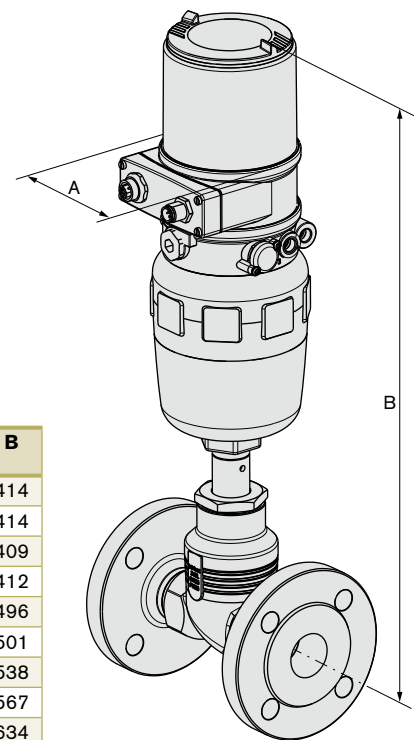
Operating voltage

24 VDC +/-10%

Setpoint

0/4 to 20 mA and 0 to 5/10 V

Envelope Dimensions [mm] (see datasheet for details)

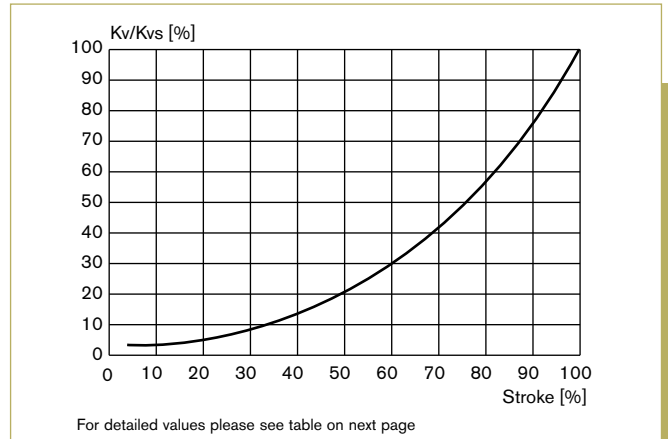
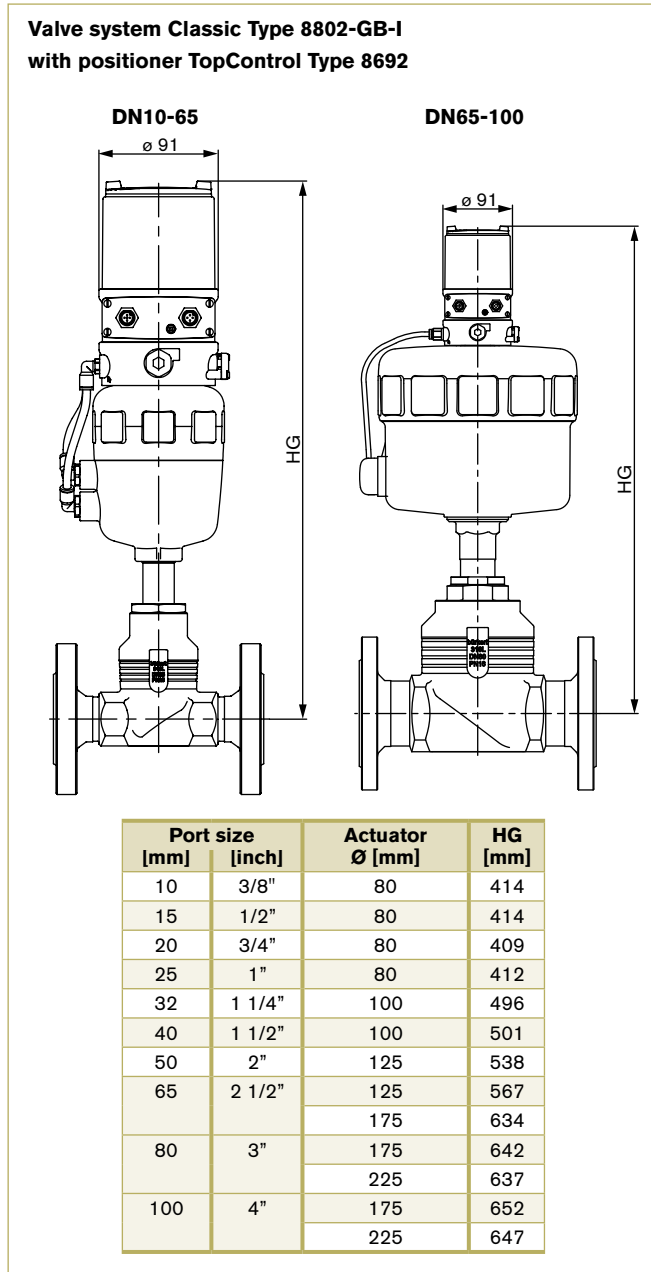


Actuator Ø [mm]	A	B
80	91	414
80	91	414
80	91	409
80	91	412
100	91	496
100	91	501
125	91	538
125	91	567
175	91	634
175	91	642
225	91	637
175	91	652
225	91	647

Note: For more technical data see Type 8692

Envelope Dimensions [mm] (see datasheet for details)

Flow curve and description



Remarks on the flow characteristic

- Equipercentile parabolic plug for the orifices DN8...DN100
- Linear plug for the orifices DN4 and DN6
- Flow characteristic runs within DIN/IEC 534-2-4
- Theoretical control ratio (Kvs/Kvo):
50:1 for the orifices DN8...DN100
25:1 for the orifice DN6
10:1 for the orifice DN4
- KVR value at 5% of stroke for DN > 10 mm
KVR value at 10% of stroke for DN ≤ 10 mm

(KVR value = smallest Kv value at which the gradient tolerance to DIN/IEC 534-2-4 is still complied with)

System 8802-GB-I
Continuous Classic

Ordering Chart

Control function	Orifice [mm]	Port connection	Actuator size Ø [mm]	Kv value water [m³/h]	Pressure range to +180 °C [bar]	Item no. Seal material¹) steel
8802-GB-I (Type 2712 and Positioner 8692)						
A 2/2-way valve normally closed (NC)	15	Flange DIN EN 1092-1	80	4.3	16	229 474
	25	Flange DIN EN 1092-1	80	12	16	229 475
	32	Flange DIN EN 1092-1	100	17.8	16	229 476
	50	Flange DIN EN 1092-1	125	37	16	229 477
	65	Flange DIN EN 1092-1	125	52	10	229 481
	100	Flange DIN EN 1092-1	225	140	10	229 487

2/2-way Angle-Seat Control Valve CLASSIC with positioner, threaded version

- Compact design with stainless steel housing
- Robust and affordable option with long service life
- Excellent control performance combined with high flow capacity



The 2702 Control Valve consists of an 316L angle seat body with a rugged pneumatic piston actuator. The parabolic trim results in a flow characteristic approximately 35% larger than conventional control valves. When combined with the 8692 TopControl, a unique control valve system is formed which can be operated as a simple, accurate positioner for flow rate, temperature or pressure.

Technical Data

Material	
Body (Type 2702)	Cast stainless steel 316L (conform to 1.4409)
Sealing (Type 2702)	Stainless steel/stainless steel
Actuator (Type 2702)	PA (polyamide) (PPS on request)
Body (Type 8692)	PPS, Stainless steel
Cover (Type 8692)	PC
Seal (Type 8692)	EPDM
Sealing	Stainless steel/stainless steel

Seat leakage
acc. to IEC 534-4/EN 1349 Shut-off class IV for St.st./St.st.

Viscosity Max. 600 mm²/s

Packing gland PTFE V-rings (silicon grease) with spring compensation

Nominal pressure PN25 (body)

Temperature
Medium -10 °C to +180 °C
Ambient 0 °C to +55 °C, actuators 80 to 125 mm

Control medium Compressed air

Pilot pressure 5.5 to 7 bar

Pilot air ports Push-in connector (Ø 6 mm and 1/4" tube)

Flow direction Below seat

Control ratio (Kvs/Kv0) 50:1

Operating voltage 24 VDC ±10%

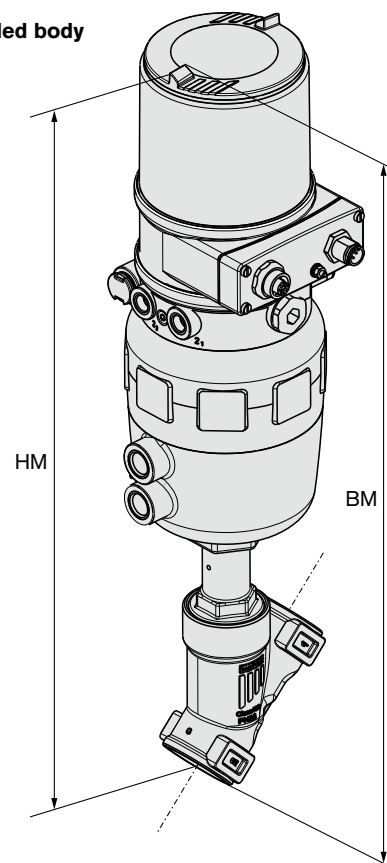
Setpoint 0/4 to 20 mA and 0 to 5/10 V

Note: For more technical data see Type 8692

Envelope Dimensions [mm] (see datasheet for details)

Valve system Continuous Classic Type 8802-YC-I with Positioner TopControl Type 8692

Threaded body



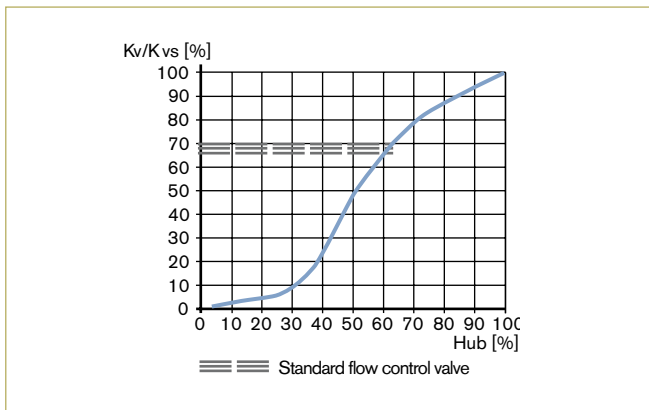
Port size [mm]	Actuator [mm]	HM [mm]	BM G, NPT and Rc thread
15	80	302	326
20	80	302	329
25	80	307	337
32	80	314	349
40	100	363	398
50	100	375	420

Ordering Chart

Control function	Orifice [mm]	Port connection	Actuator size \varnothing [mm]	Kv value water [m ³ /h]	Pressure range to +180 °C [bar]	Item no. Seal material ¹⁾ steel
8802-YC-I (Type 2702 and Positioner 8692)						
A 2/2-way valve normally closed (NC)	20	G 3/4"	80	9	16	229 470
	32	G 1 1/4"	80	23	12	229 471
	40	G 1 1/2"	100	35	16	229 472
	50	G 2"	100	53	10	228 928

¹⁾ Sealing-System: St. St./St. St.: regulation ball Stainless steel/Seat Stainless steel.

Flow characteristic



Remarks on the flow characteristic

Modified equipercentile flow characteristic, engineered for a quick response during peak flow demand (an advantage for many processes like heating/cooling with heat exchangers) and fine control at lower flow.

2/2-way ELEMENT Angle Seat Control Valve with positioner or process controller, flange version

- High control accuracy
- Stainless steel IP65 protection and 67
- Easy to install



The fully integrated system with control valve, Type 2301, and automation unit, Type 8692 or Type 8693, is characterized by compact and smooth design, integrated air channels, IP65/67/NEMA 4X protection class and a high chemical resistance.

Technical Data

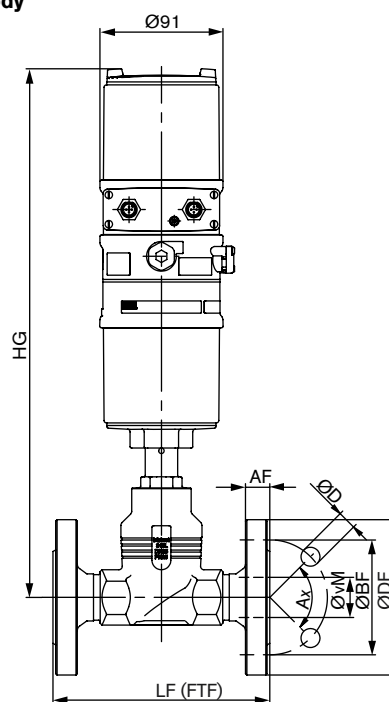
Orifice (seat orifice)	DN10 to 50 (DN4 to 50)
Port connection	
Flange conn. acc. to	DIN EN 1092-1
Welded and threaded connection	see separate Datasheet
Body material	Cast stainless steel 316L
Actuator material	
Actuator	PPS
Case	Stainless steel 1.4561 (316Ti)
Plug seal	PTFE/Steel (PTFE/stainless steel) and Steel/steel (Stainless steel/stainless steel)
Seat leakage acc. to . IEC 534-4/EN 1349	Shut-off class III and IV for steel/steel. Shut-off class VI for PTFE/steel (see details in ordering chart)
Medium	Neutral gases, water, alcohol, oil, fuels, hydraulic fluid, salt solutions, alkalis, organic solvents, steam
Viscosity	max. 600 mm ² /s
Packing spindle	PTFE seal with spring compensation
Mediums temperature	-10 °C to +185 °C (max. +130 °C for sealing PTFE/steel)
Ambient temperature	0 °C to +55 °C (in conjunction with positioners - respectively process controllers) 0 °C to +80 °C (remote version)
Control medium	Compressed air
Required pilot pressure for control function A	Orifice DN10 to 50 5.5 to 7 bar Orifice DN65 to 100 5.6 to 7 bar
Operating voltage	24 VDC ±10%
Setpoint	0/4 to 20 mA and 0 to 5/10 V
Installation	As required, preferably with actuator upright

Note: For more technical data, see Type 8692 or Type 8693

Envelope Dimensions [mm] (see datasheet for details)

Continuous ELEMENT valve system, Type 8802 GD-I and 8802 GD-J

Flange body



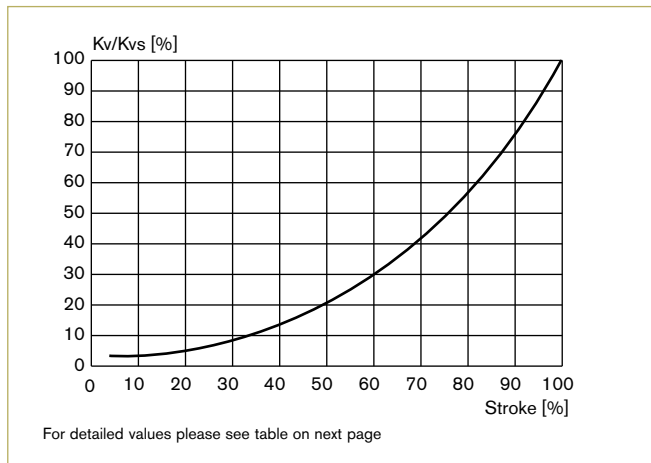
Orifice [mm]	Actuator size [mm]	DIN EN 1092 FTF acc. to EN558 Series 1						
		HG	ØDF	LF	ØBF	AF	ØD	ØM
10	70	383	90	130	60	16	14	13.6
15	70	383	95	130	65	16	14	18.1
20	70	389	105	150	75	18	14	23.7
	90	392	115	160	85	18	14	29.7
32	90	473	140	180	100	18	18	38.4
	130	525	140	180	100	18	18	38.4
40	90	478	150	200	110	18	18	44.3
	130	530	150	200	110	18	18	44.3
50	90	484	165	230	125	20	18	56.3
	130	536	165	230	125	20	18	56.3

Ordering chart

Control function	Orifice [mm]	Port connection thread	Actuator size Ø [mm]	Kv value water [m³/h]	Pressure range to +185 °C [bar]	Item no. 8802-GD-I with positioner 8692 Steel/Steel	Item no. 8802-GD-J with positioner and Process controller 8693 Steel/Steel	Item no. 8802-GD-I with positioner 8692 Steel/PTFE	Item no. 8802-GD-J with positioner and Process controller 8693 Steel/PTFE
8802 GD-I and 8802 GD-J									
A 2/2-way valve normally closed (NC)	15	Flange DIN EN 1092-1	70	4.3	16	225 353	232 010	229 667	232 217
	20	Flange DIN EN 1092-1	70	7.1	16	219 164	229 461	232 262	232 342
	25	Flange DIN EN 1092-1	90	12	16	229 422	229 462	266 884	-
	32	Flange DIN EN 1092-1	90	13.6	16	219 166	229 464	236 168	276 578
	40	Flange DIN EN 1092-1	130	23.8	16	229 423	229 465	260 905	277 569
	50	Flange DIN EN 1092-1	130	37	16	229 424	229 467	232 750	238 259

8802 GD-I/GD-J
ELEMENT

Flow curve and description



Remarks on the flow characteristic

- Equipercentile parabolic plug for the orifices DN8 to DN50
- Linear plug for the orifices DN4 and DN6
- Flow characteristic runs within DIN/IEC 534-2-4
- Theoretical control ratio (Kvs/Kvo):
 - 50:1 for the orifices DN8 to DN50
 - 25:1 for the orifice DN6
 - 10:1 for the orifice DN4
- KVR value at 5% of stroke for DN > 10 mm
- KVR value at 10% of stroke for DN ≤ 10 mm

(KVR value = smallest Kv value at which the gradient tolerance to DIN/IEC 534-2-4 is still complied with)

2/2-way ELEMENT Angle Seat Control Valve with positioner or process controller, flange version

- High control accuracy
- Stainless steel IP65 protection and 67
- Easy to install



The fully integrated system with control valve type 2300 and automation unit type 8692 or type 8693 has a compact and smooth design, integrated pneumatic lines, IP65/67/NEMA 4X protection class and a high chemical resistance.

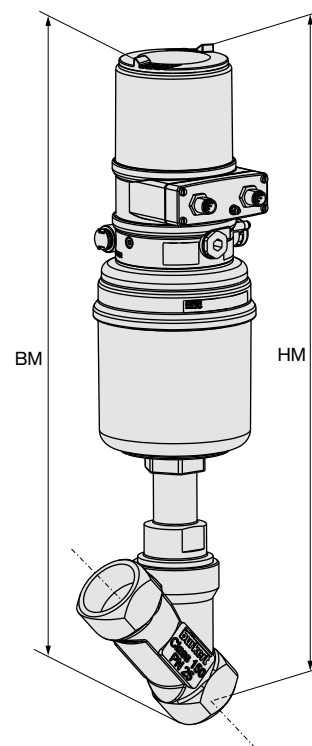
Technical data

Orifice	DN15 to 50 mm		
Port connection	G 1/2" to G 2"		
Body material	Stainless steel 316L		
Actuator material			
Actuator	PPS		
Case	Stainless steel 1.4561 (316Ti)		
Plug seal	PTFE/Steel (PTFE/stainless steel) and Steel/steel (Stainless steel/stainless steel)		
Seat leakage acc. to IEC 534-4/EN 1349	Shut-off class III and IV for steel/steel. Shut-off class VI for PTFE/steel		
Medium	Water, alcohol, oil, fuels, hydraulic fluid, salt solutions, alkalis, organic solvents, steam		
Viscosity	Max. 600 mm ² /s		
Packing spindle	PTFE seal with spring compensation		
Mediums temperature	-10 °C to +185 °C (max. +130 °C for sealing PTFE/steel)		
Ambient temperature	0 °C to +55 °C (in conjunction with positioners - respectively process controllers) 0 °C to +80 °C (remote version)		
Control medium	Compressed air		
Required pilot pressure for control function A	Orifice DN15 to 50	5.5 to 7 bar	
	Orifice DN65	5.6 to 7 bar	
Control air connections	Push-in connector (external Ø 6 mm or 1/4")		
Installation	As required, preferably with actuator upright		

Note: For more technical data, see Type 8692 or Type 8693

Envelope Dimensions [mm] (see datasheet for details)

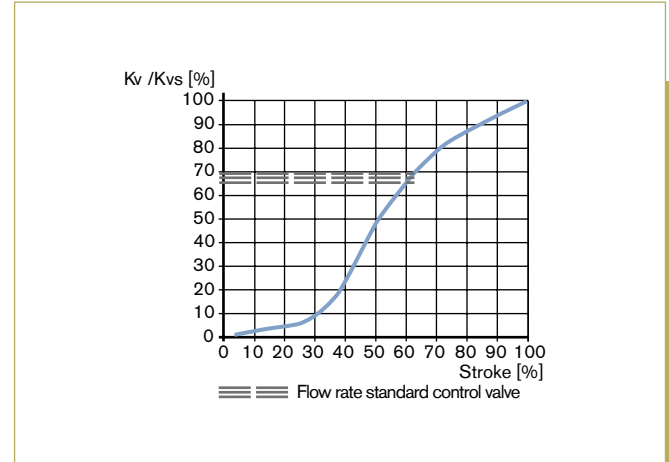
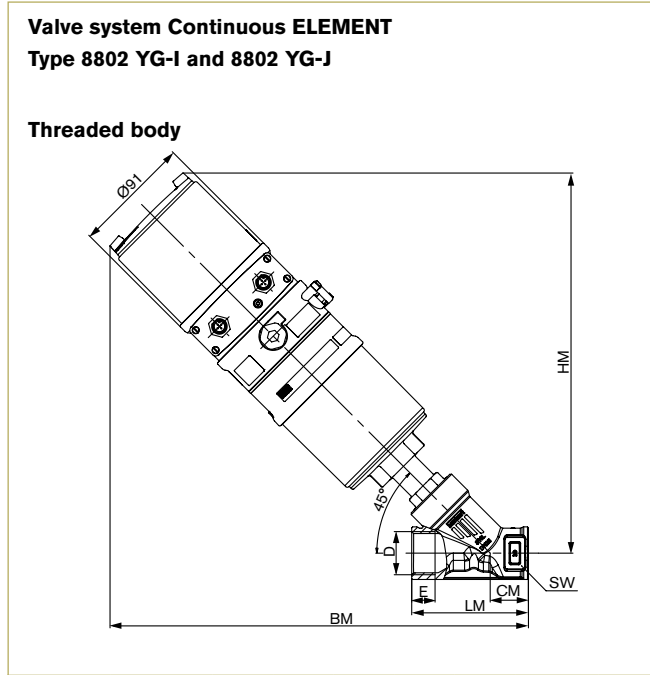
Valve system Continuous ELEMENT Type 8802 YG-I and 8802 YG-J



Orifice [mm]	Actuator size [mm]	HM	BM
15	70	280	308
20	70	288	318
25	70	294	327
	90	331	362
32	70	302	342
	90	345	382
40	90	347	383
	130	384	419
50	90	360	406
	130	397	442

Dimensions [mm] (see datasheet for further details)

Flow characteristic



Remarks on the flow characteristic

Modified equipercentile flow characteristic, engineered for a quick response during peak flow demand (an advantage for many processes like heating/cooling with heat exchangers) and fine control at lower flow.

Orifice [mm]	Actuator size [mm]	G						
		HM	BM	CM	LM	SW	D	E
15	70	280	308	24	65	27	G 1/2	14
20	70	288	318	27	75	34	G 3/4	16
25	70	294	327	29.5	90	41	G 1	18
	90	331	362	29.5	90	41	G 1	18
32	70	302	342	36	110	50	G 1 1/4	16
	90	345	382	36	110	50	G 1 1/4	16
40	90	347	383	35	120	55	G 1 1/2	18
	130	384	419	35	120	55	G 1 1/2	18
50	90	360	406	45	150	70	G 2	24
	130	397	442	45	150	70	G 2	24

Ordering chart

Control function	Orifice [mm]	Port connection thread	Actuator size Ø [mm]	Kv value water [m³/h]	Pressure range to +185 °C [bar]	Item no. 8802-YG-I with positioner 8692 Steel/Steel	Item no. 8802-YG-J with positioner and Process controller 8693 Steel/Steel	Item no. 8802-YG-I with positioner 8692 Steel/PTFE	Item no. 8802-YG-J with positioner and Process controller 8693 Steel/PTFE
8802 YG-I and 8802 YG-J									
A 2/2-way valve normally closed (NC)	15	G 1/2"	70	5	16	229 270	228 611	232 164	259 464
	20	G 3/4"	70	10	16	229 272	229 415	240 343	249 255
	25	G 1"	90	16	16	229 279	249 829	267 356	256 739
	32	G 1 1/4"	90	23	16	229 275	229 417	273 975	273 104
	40	G 1 1/2"	130	36	16	229 280	229 419	267 374	-
	50	G 2"	130	53	16	229 281	229 420	267 362	247 460

8802 YG-I/YG-J ELEMENT

2/2-way ball valve with electric rotary actuator

DN10-65 mm

- Applications for neutral, contaminated or aggressive mediums
- High flow rate value
- Actuator with adjustable limit switches
- Visual position indicator
- Multi-voltage

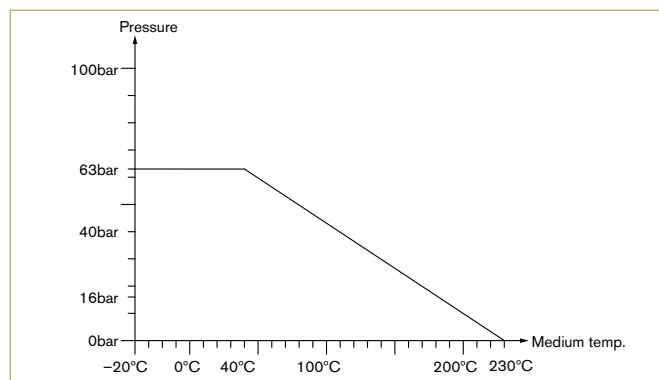


The electric ball valve, Type 8804, consists of an electrical rotary actuator and a 2/2-way ball valve made of stainless steel full bore. Heat resistor and torque limiter are standard. The body is made of low inflammable material, classified acc. to UL 94 V0.

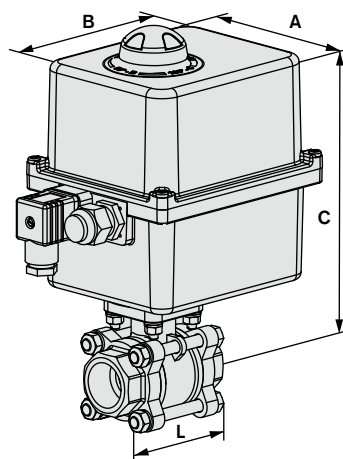
Technical Data

Pressure range	0-63 bar
Medium temperature	-10 °C to +130 °C, depending on the medium pressure - see diagram
Ambient temperature	-10 °C to +55 °C
Body material	Stainless steel 1.4408
Seal material	PTFE
Duty rating acc. to IEC34 S4	50%
Operating voltage	15-30 V AC 50/60 Hz/12-48 V DC 100-240 V AC 50/60 Hz/100-350 V DC
Voltage tolerance	+/-10%; from 12 to 48V DC the operating voltage should not go below 11.5 V
Type of protection	IP66 with cable plug installed
Limit switches	4 adjustable (2 for motor and 2 additional for feedback) max. 230 V / 5A
Electrical connection	Cable plug acc. to EN175301-803 (supply voltage) Cable glands ISO M20 (included)

Pressure/temperature diagram



Dimensions [mm] (see datasheet for more details)



Actuator [Nm]	Port connection [inch]	A	B	C	L
20	1/4"	91.7	136.5	163.7	65
20	3/8"	91.7	136.5	163.7	65
20	1/2"	91.7	136.5	163.7	75
20	3/4"	91.7	136.5	167.7	80
35-100	1/4"	127.7	150.3	190.8	65
35-100	3/8"	127.7	150.3	190.8	65
35-100	1/2"	127.7	150.3	190.8	75
35-100	3/4"	127.7	150.3	194.8	80
35-100	1"	127.7	150.3	202.8	90
35-100	1 1/4"	127.7	150.3	208.8	110
35-100	1 1/2"	127.7	150.3	218.8	120
35-100	2"	127.7	150.3	227.8	140
35-100	2 1/2"	127.7	150.3	248.8	185

Options

- Also available as 2-piece ball valve
- Also available as a 3/2-way ball valve
- With weld ends
- Ball valve in plastic version

Ordering chart

Orifice [mm]	Port connection [inch]	Actuator [Nm]	Rotation time for 90° (s)	Kv value [m ³ /h]	Voltage	Item no.
Type 8804, 3-piece globe valve with thread, pressure range 0 - 63 bar						
10.0	1/4	20	12	7	100 – 240 V, 50 / 60 Hz and 100 – 350 V, DC	226 483
12.7	3/8	20	12	9		226 484
15.0	1/2	20	12	19		226 485
20.0	3/4	35	12	46		226 486
25.0	1	35	7	72		226 487
32.0	1 1/4	60	7	105		226 488
40.0	1 1/2	100	12	170		241 107
50.0	2	100	12	275		226 490
65.0	2 1/2	100	23	507		226 491
10.0	1/4	20	12	7		15 – 30 V, 50 / 60 Hz and 12 – 48 V, DC
12.7	3/8	20	12	9	226 497	
15.0	1/2	20	12	19	226 498	
20.0	3/4	35	12	46	226 499	
25.0	1	35	7	72	226 500	
40.0	1 1/2	100	12	170	241 109	
50.0	2	100	12	275	226 502	
65.0	2 1/2	100	23	507	226 503	

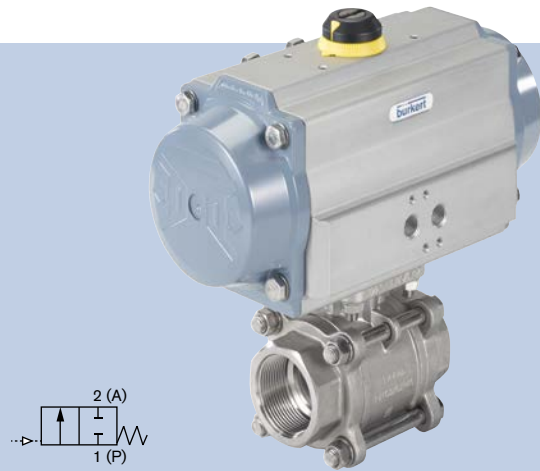
8804

On-Off Ball Valve Packages

8805

G 1/4" - G 4"

- Full bore
- Plug and play
- Three-piece stainless steel ball valve



Ball valves have proven themselves in numerous industrial applications and are particularly suitable for applications where high reliability and full flow is required..

Technical Data

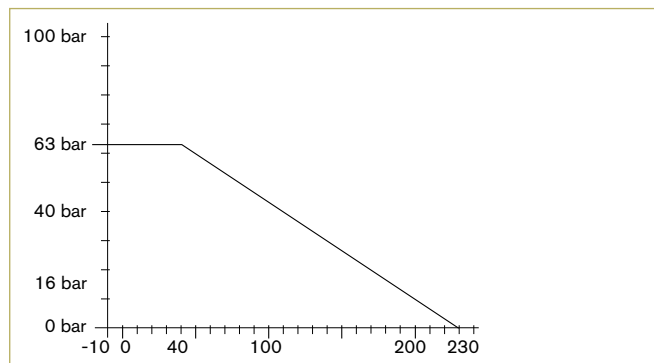
Pressure range	0-63 bar (see pressure/temperature diagram)
Temperature media	-10 °C to +100 °C (see pressure/temperature diagram)
Ambient temperature	-10 °C to +80 °C (see pressure/temperature diagram)
Control function	Normally closed by spring force
Control medium	Filtered compressed air, dry or lubricated
Control pressure	6 to 8 bar ¹⁾
Body material	Stainless steel 1.4408 and 1.4401
Seal material	
Ball seal	PTFE
Control shaft seal	FKM
Port connection	G-thread

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

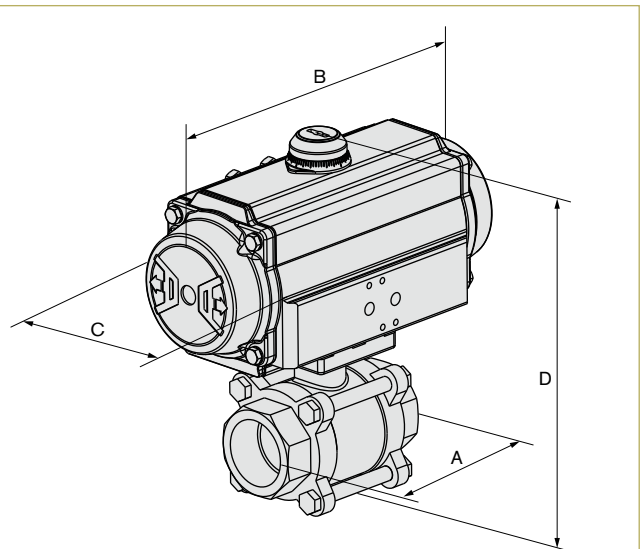
Options

- Actuator normally opened or double acting
- Feedback
- NAMUR see p. 37 - Pilot valve

Pressure/temperature diagram



Envelope Dimensions [mm] (see datasheet for details)



Size	A	B	C	D
G 1/4"	65	136	72	129
G 3/8"	65	136	72	129
G 1/2"	75	154	85	145
G 3/4"	80	154	85	145
G 1"	90	204	93	174
G 1 1/4"	110	204	93	174
G 1 1/2"	120	241	106	203
G 2"	140	241	106	203
G 2 1/2"	185	259	119	245
G 3"	205	304	136	285
G 4"	240	333	147	325

Ordering Chart

Orifice [mm]	Port connection [inch]	Actuator [Nm]	Kv Value [m ³ /h]	Pressure range [bar]	Item no.
Type 8805 with 3 piece thread					
10	G 1/4	15	9	0 - 63	217 250
12	G 3/8	15	9	0 - 63	217 251
15	G 1/2	30	19	0 - 63	217 252
20	G 3/4	30	46	0 - 63	217 253
25	G 1	60	72	0 - 63	217 254
32	G 1 1/4	60	105	0 - 63	217 255
40	G 1 1/2	100	170	0 - 63	217 256
50	G 2	100	275	0 - 63	217 257
63	G 2 1/2	150	507	0 - 63	217 258
80	G 3	220	905	0 - 63	217 259
100	G 4	300	1414	0 - 63	217 260

8805

Micro Dosing Unit

7615

- Diaphragm Pump
- Self priming
- Precision Dosing
- Pumps in both Directions
- Integrated Electronics, easy to use

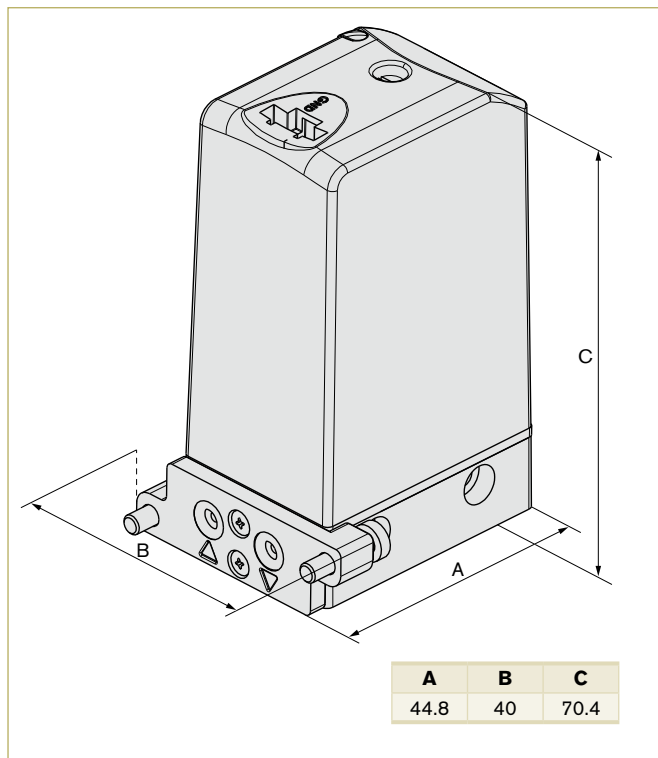


Bürkert's Micro Dosing Unit has been designed for precise dosing applications in the microliter range. It combines high dosing accuracy and precision with excellent chemical inertness. The unit is comprised of three valves which can be opened simultaneously for flushing. Active inlet and outlet valves enable the device to pump liquid in two directions. This feature can be used to mix fluids inside a tube or channel or to constantly keep them in motion. Even low ambient temperatures and dry runs are no problem: the integrated heating function heats up the valves and the media, and the unit comes along with dry running capabilities.

Technical Data

Body Material	PEEK
Seal Material	FFKM; EPDM on request
Fluids	Neutral and aggressive liquids (see Chemical Resistance Chart)
Fluid Temperatures	+15 to 60 °C (FFKM) +5 to 60 °C (EPDM) ¹⁾
Ambient Temperature	+10 to +55 °C ¹⁾
Dosing Quantity	5 µl/Hub; max. 8 ml/min in both directions
Pump Frequency (Frequency Mode)	5 Hz (Standard) 10 Hz; 25 Hz; 40 Hz
Length of Voltage Impulse (Impulse Mode)	> 120 ms
Accuracy	< ± 2% ²⁾
Max. Outlet Pressure	1.0 bar ³⁾
Max. Suction Lift	> 2 m (dry); > 4 m (wet)
Duty Cycle	100%
Voltage	12 V/DC, 24 V/DC
Voltage Tolerance	± 10%
Power Consumption	11 W (short term); 5 W
Electrical Connection	4-pin Molex-Plug (Molex no. 50-57-9404) (not included)
Installation	variable, unit with two holes for M3 fixing screws
Fluid Connection	Flange, UNF 1/4-28 internal thread
Protection class	IP40
Lifetime	ca. 20 Mio cycles (at 20 °C; 10 Hz; water)
Dimensions (L x W x H)	50 x 28,5 x 70 mm (UNF 1/4-28) 44 x 39,5 x 70 mm (Flange)
Max. Viscosity	< 250 mm ² /s
Weight	ca. 120 g

Dimensions [mm] Flange version



¹⁾ For lower temperatures the unit can be electrically preheated (heating mode)

²⁾ At 20 °C; 5 Hz; Medium water and without back pressure.

³⁾ Overpressure above atmospheric pressure

Ordering chart

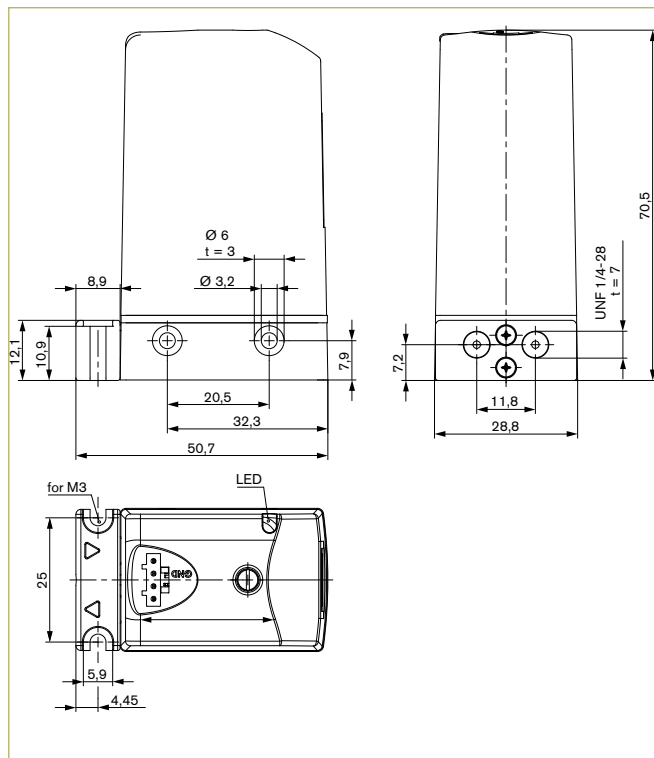
Version	Voltage [V/Hz]	Connection	Seal material	Function mode	Item no.
Standard	024/DC	Sub-base	FFKM	5 Hz (Frequency mode)	238 190
Standard	024/DC	UNF 1/4-28	FFKM	5 Hz	215 793
Standard	024/DC	Sub-base	FFKM / EPDM	5 Hz	238 193
Standard	024/DC	UNF 1/4-28	FFKM / EPDM	5 Hz	238 194
Standard	012/DC	UNF 1/4-28	FFKM / EPDM	5 Hz	238 195

7615

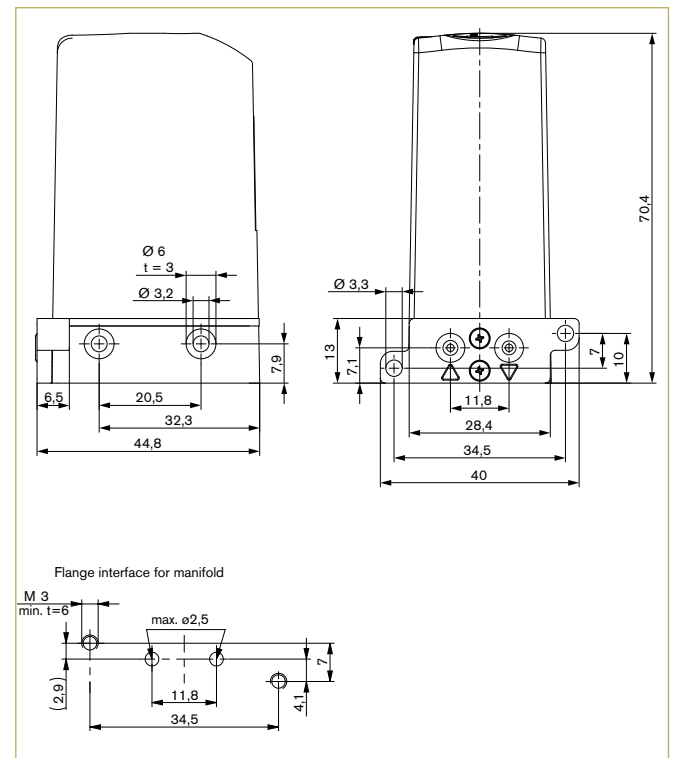
Accessories

Version	Voltage [V/Hz]	Item no.
Leads 500 mm with Molex 4-pin connector	12 - 24	683 613

Dimensions [mm] UNF-Version



Dimensions [mm] Flange version



Flowmeter for continuous flow measurement

8011

- Economic integration in pipe systems without any additional piping
- Magnetic measuring principle (paddle wheel with hall sensor)
- Output: transistor output (frequency pulse signal)



The paddle wheel flowmeter for continuous flow measurement is especially designed for use in neutral, slightly aggressive, solid free liquids. Type 8011 consists of a fitting (S012) and an electronic module (SE11) connected together with screws. The Bürkert designed fitting system ensures simple installation into all pipes from DN06 to DN65. It can also be installed in fluid block systems.

Type 8011 produces a frequency pulse signal, proportional to the flow rate, which can be processed by a Bürkert remote transmitter/controller.

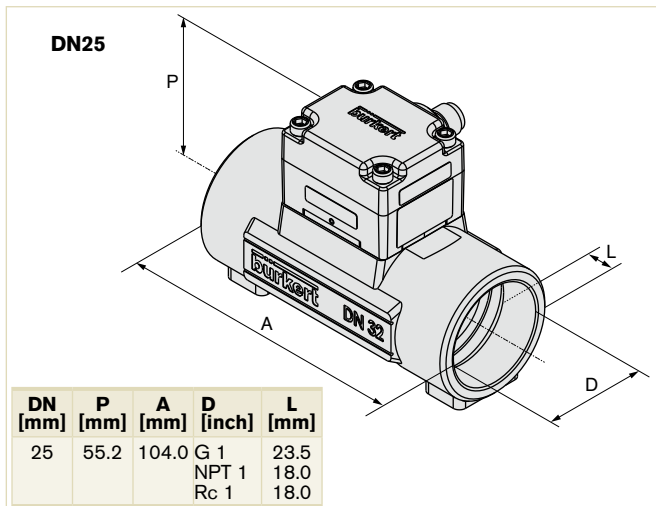
Type 8011 is available in two versions:

- with one pulse output: transistor NPN
- with two pulse outputs: transistor NPN and PNP.

Technical Data

General data	
Compatibility	with fittings S012
Materials	
Housing / Seal	PPS / EPDM
Fixed connector M12, cable gland	PA
1 meter cable	PVC
Wetted parts materials	
Fitting	Brass, stainless steel 1.4404/316L, PVC, PP
Paddle wheel / Holder	PVDF blue / PVDF
Axis and bearing / Seal	Ceramics (AL ₂ O ₃) / FKM (EPDM option)
Electrical connection	Fixed connector 5-pin M12 (or with 1 m cable, on request)
Connection cable	1.5 mm ² max. cross-section
Complete device data (fitting + electronic module)	
Pipe diameter	DN06 to DN50 (DN65 on request)
Measuring range	0.3 to 10 m/s
Measuring element	Magnetic hall sensor
Medium temperature with	
PVC fitting	0 °C to +60 °C
PP fitting	0 °C to +80 °C
Stainless steel, brass fitting	-15 °C to +100 °C (if T [°] ambient ≤ 45 °C) or -15 °C to +90 °C (if 45 °C ≤ T [°] ambient ≤ 60 °C)
Fluid pressure max.	PN10 (with plastic fitting) PN16 (with metal fitting)
Viscosity / Pollution	Max. 300 cSt. / max. 1% (size of particles 0.5 mm max.)
Accuracy	with standard K-factor ±(0,5% of FS.* + 2,5% of Reading) ¹⁾
Linearity	±0,5% of FS.* (at 10 m/s)
Repeatability	±0,4% of Reading ¹⁾

Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

Electrical data	
Operating voltage (V+)	
One pulse output version	4.5 - 24 V DC, filtered and regulated
Two pulse outputs version	6 - 36 V DC, filtered and regulated
Current consumption	< 5 mA (without load)
Reversed polarity of DC	Protected
Voltage peak	Protected
Short circuit	Protected for transistor output
Output	
One pulse output version	Transistor NPN open collector, max. 20 mA, NPN output: 0.2 - 24 V DC, frequency up to 300 Hz (Frequency [Hz] = K factor [pulse/litre] x flow rate [l/s])
Two pulse outputs version	Transistor NPN and PNP open collector, max. 700 mA, NPN output: 0.2 - 36 V DC, PNP output: operating voltage, frequency up to 300 Hz (Frequency [Hz] = K factor [pulse/litre] x flow rate [l/s])

* FS. = Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Technical Data (continued)

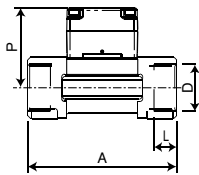
Environment	
Ambient temperature	-15°C to +60°C (operating and storage)
Relative humidity	≤ 80%, without condensation
Standards, directives and approvals	
Protection class	IP67 with multipin M12 (IP65 with cable)
Standard and directives	
EMC	EN 61000-6-3, EN 61000-6-2
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

Approval/Certificate on request	3.1 certificate; 2.2 certificate; Surface finish certificate; Calibration certificate; FDA (only for device with EPDM seal and stainless steel fitting) KTW (only for device with EPDM seal and stainless steel or brass fitting)
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* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

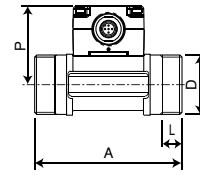
Envelope Dimensions [mm] (see datasheet for details)



8011 with internal thread connection

G, NPT or Rc
in stainless steel
(316L - 1.4404) or
brass (CuZn39Pb2)

DN [mm]	P [mm]	A [mm]	D [inch]	L [mm]
15	57.5	84.0	G 1/2 NPT 1/2 Rc 1/2	16.0 17.0 15.0
20	55.0	94.0	G 3/4 NPT 3/4 Rc 3/4	17.0 18.3 16.3
25	55.2	104.0	G 1 NPT 1 Rc 1	23.5 18.0 18.0
32	58.8	119.0	G 1 1/4 NPT 1 1/4 Rc 1 1/4	23.5 21.0 21.0
40	62.6	129.0	G 1 1/2 NPT 1 1/2 Rc 1 1/2	23.5 20.0 19.0
50	68.7	148.5	G 2 NPT 2 Rc 2	27.5 24.0 24.0



8011 with external thread connection

G, NPT or Rc
in stainless steel
(316L - 1.4404),
brass (CuZn39Pb2) or PVC

DN [mm]	P [mm]	A [mm]	D [inch]	[mm]	L [mm]
06	52.5	90.0	G 1/2	-	14.0
08	52.5	90.0	** 1/2	M 16 x 1.5	14.0

** G, NPT, RC according to fitting version

Ordering Chart

For Type 8011, 4.5 - 24 V DC, 5-pin M12, NPN output											
Process connection	Standard	Output	Item no. DN06 - 1/4"	Item no. DN06 - 1/2"	Item no. DN08 - 1/2"	Item no. DN15	Item no. DN20	Item no. DN25	Item no. DN32	Item no. DN40	Item no. DN50
Brass - Medium temperature max. 100 °C, PN16											
Internal thread	G (ISO 228)	NPN-Pulse	-	-	-	559 918	559 919	559 920	559 921	559 922	559 923
External thread	G	NPN-Pulse	559 915	559 916	559 917	-	-	-	-	-	-
Stainless steel - Medium temperature max. 100 °C, PN16											
Internal thread	G (ISO 228)	NPN-Pulse	-	-	-	559 939	559 940	559 941	559 942	559 943	559 944
External thread	G (ISO 228)	NPN-Pulse	559 936	559 937	559 938	-	-	-	-	-	-

Accessories

Specification	Item no.
4 short screws (M4 x 35 - A4) + 4 long screws (M4 x 60 - A4)	555 775
5-pin M 12 female connector moulded on cable (2 m, shielded)	438 680
5-pin M 12 female connector with plastic threaded locking ring	917 116
O-ring set for metal fitting - FKM - DN 06 to 50	426 340

Flowmeter for continuous flow measurement

8012

- Economic integration in pipe systems without any additional piping
- Optic measuring principle
- Configurable output: 1 analog 4 - 20 mA and/or 1 transistor output (frequency or switch)
- Outputs configurable (through interface on USB port with PC)



The flow meter with paddle wheel is particularly useful in the optical version for use in infrared transparent liquids.

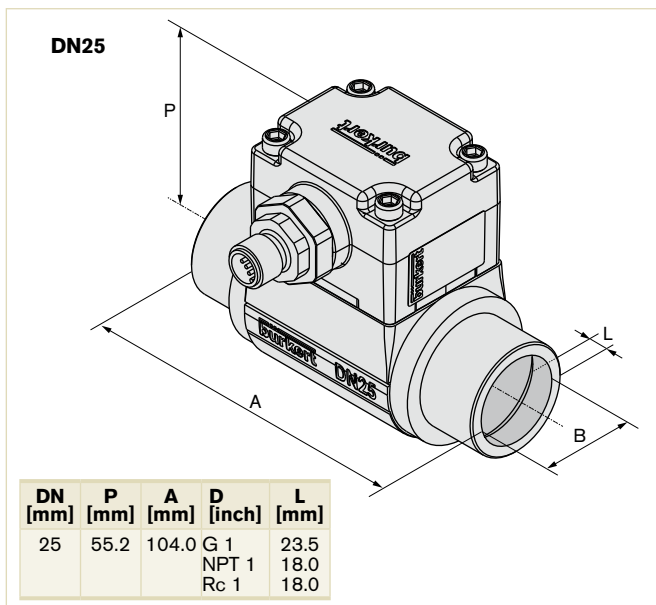
Type 8012 is made up of a fitting (S012) and an electronic module (SE12) connected together with screws. The Bürkert designed fitting system ensures simple installation into all pipes from DN06 to DN65. It can also be installed in fluid block systems.

Type 8012 produces a programmable frequency pulse signal, proportional to the flow rate, which can easily be transmitted and processed by a Bürkert remote transmitter/controller, or a programmable switch output or a 4 - 20 mA signal.

Technical Data

General data	
Compatibility	with fittings S012
Materials	
Housing / Seal	PPS / EPDM
Fixed connector M12, (gland on request)	PA
1 meter cable	PVC
Wetted parts materials	
Fitting	Brass, stainless steel 1.4404/316L
Paddle wheel / Holder	PVDF
Axis and bearing / Seal	Ceramics (Al ₂ O ₃) / FKM (EPDM option)
Electrical connection	Free positionable fixed connector M12-5 pin (or with 1 m cable length, on request)
Connection cable	1.5 mm ² max. cross-section
Complete device data (fitting + electronic module)	
Pipe diameter	DN06-50 mm (DN65 mm on request)
Measuring range	0.3 to 10 m/s
Measuring element	Optical - infra-reds (or magnetic paddle-wheel, on request)
Medium temperature with	
PVC fitting	0 °C to +60 °C
PP fitting	0 °C to +80 °C
Stainless steel or brass fitting	-15 °C to +100 °C (if T [°] ambient ≤ 45 °C) or -15 °C to +90 °C (if 45 °C ≤ T [°] ambient ≤ 60 °C)
Fluid pressure max.	PN10 (with plastic fitting) PN16 (with metal fitting)
Viscosity / Pollution	300 cSt. max./max. 1% (size of particles 0.5 mm max.)
Accuracy	with standard K-factor ±(0.5% of FS.* + 2.5% of Reading) ¹⁾
Linearity	±0.5% of FS.* (at 10 m/s)
Repeatability	±0.4% of Reading ¹⁾

Envelope Dimensions [mm] (see datasheet for details)



* FS. = Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Technical Data (continued)

Electrical data	
Operating voltage (V+)	12 - 36 V DC, filtered and regulated
Current consumption	< 60 mA (at 12 V DC for current version - without load)
Reversed polarity of DC	Protected
Voltage peak	Protected
Short circuit	Protected for transistor output
Output	
Transistor version	Transistor NPN (default setting) / PNP (configurable on request), open collector, max. 700 mA, NPN output: 0.2 - 36 V DC (default setting) PNP output: operating voltage frequency or switching mode
Current version (configurable on request)	4 - 20 mA, sinking (default setting), image of flow velocity (default setting), configurable on request (sourcing mode); Loop impedance max.: 1125 W at 36 V DC; 650 W at 24 V DC; 140 W at 12 V DC
4... 20 mA measurement error	±1%

Environment

Ambient temperature	-15 °C to +60 °C (operating and storage)
Relative humidity	≤ 80%, without condensation

Standards, directives and approvals

Protection class	IP67 with multipin M12 (IP65 with cable)
-------------------------	--

Standard and directives

EMC	EN 61000-6-3, EN 61000-6-2
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

Approval / Certificate on request

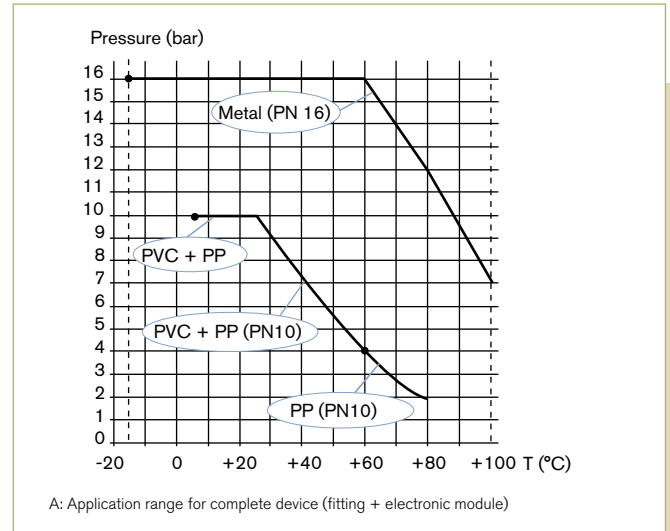
3.1 certificate;	
2.2 certificate;	
Surface finish certificate;	
Calibration certificate;	
FDA (only for device with EPDM seal and stainless steel fitting)	
KTW (only for device in magnetic measuring version with EPDM seal and stainless steel or brass fitting)	

Type of fluid

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Pressure/temperature diagram



Envelope Dimensions [mm] (see datasheet for details)

8012 with internal thread connection
G, NPT or Rc
in stainless steel (316L - 1.4404) or brass (CuZn39Pb2)

DN [mm]	P [mm]	A [mm]	D [inch]	L [mm]
15	57.5	84.0	G 1/2 NPT 1/2 Rc 1/2	16.0 17.0 15.0
20	55.0	94.0	G 3/4 NPT 3/4 Rc 3/4	17.0 18.3 16.3
25	55.2	104.0	G 1 NPT 1 Rc 1	23.5 18.0 18.0
32	58.8	119.0	G 1 1/4 NPT 1 1/4 Rc 1 1/4	23.5 21.0 21.0
40	62.6	129.0	G 1 1/2 NPT 1 1/2 Rc 1 1/2	23.5 20.0 19.0
50	68.7	148.5	G 2 NPT 2 Rc 2	27.5 24.0 24.0

8012 with external thread connection
G, NPT or Rc
in stainless steel (316L - 1.4404), brass (CuZn39Pb2) or PVC

DN [mm]	P [mm]	A [mm]	D [inch]	L [mm]
06	52.5	90.0	G 1/2	14.0
08	52.5	90.0	** 1/2	M 16 x 1.5 14.0

** G, NPT, RC according to fitting version

Main features

8012 with optical (standard) or magnetic (on request) principle

Version with Transistor output

- ▶ Transistor output: NPN (standard) or PNP (on request) operation
- ▶ With one configured transistor output mode (4 possibilities)
 - Raw frequency (standard) - (2 pulses per paddle wheel rotation)
 - Proportional frequency (on request) - (e.g. 5 pulses per litre)
- Switching mode
 - 2 switching modes for the output, either hysteresis or window, inverted or not, depending on transistor output version
 - Configurable delay before switching

- Detection of flow direction - only with optical principle

Version with Transistor and current outputs

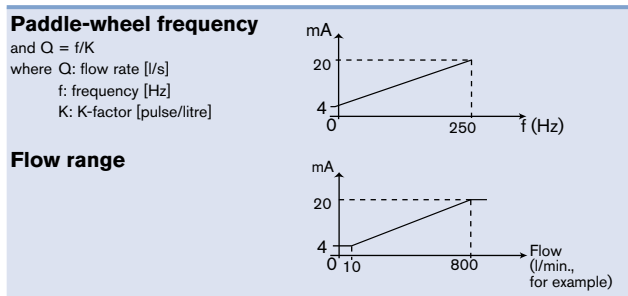
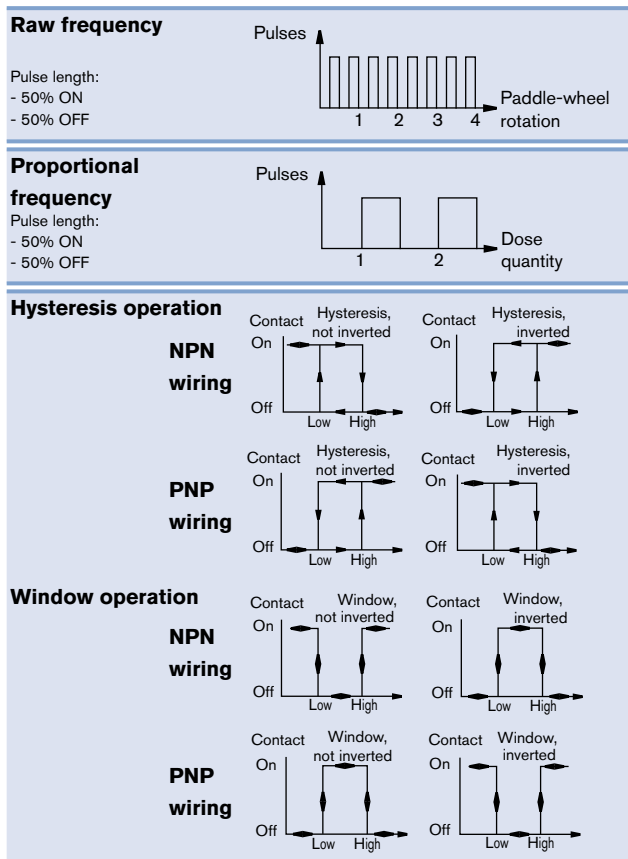
Transistor output:

- ▶ Same features described as above

Current output:

- ▶ with sinking (standard) or sourcing (on request) wiring
- ▶ 8012 with configurable current output
 - 4 - 20 mA current corresponding to paddle wheel frequency (0 - 250 Hz) - (standard)
 - 4 - 20 mA current corresponding to a flow range - (on request)

- Damping of fluctuation of current output through filter function
- Generation of an alarm current (22 mA) - when fluid circulation is opposite to the direction indicated by the arrow on the side of the housing (only versions with optical principle) or when full scale has been exceeded (versions with optical or magnetic principle)



Ordering Chart

For Type 8012, 12 - 36 V DC, 5-pin M12											
Process connection	Standard	Output	Item no. DN 06 - 1/4"	Item no. DN 06 - 1/2"	Item no. DN 08 - 1/2"	Item no. DN 15	Item no. DN 20	Item no. DN 25	Item no. DN 32	Item no. DN 40	Item no. DN 50
Brass - Medium temperature max. 100 °C, PN16											
Internal thread	G (ISO 228)	Pulse + 4 - 20 mA	-	-	-	556 012	556 013	556 014	556 015	556 016	556 017
External thread	G (ISO 228)	Pulse + 4 - 20 mA	556 009	556 010	556 011	-	-	-	-	-	-
Stainless steel - Medium temperature max. 100 °C, PN16											
Internal thread	G (ISO 228)	Pulse + 4 - 20 mA	-	-	-	556 054	556 055	556 056	556 057	556 058	556 059
External thread	G (ISO 228)	Pulse + 4 - 20 mA	556 051	556 052	556 053	-	-	-	-	-	-

8012

Accessories

Specification	Item no.
4 short screws (M4 x 35 - A4) + 4 long screws (M4 x 60 -A4)	555 775
5-pin M 12 female connector moulded on cable (2 m, shielded)	438 680
5-pin M 12 female connector with plastic threaded locking ring	917 116
O-ring set for metal fitting - FKM - DN 06 to 50	426 340

INSERTION paddle wheel flowmeter for continuous flow measurement

- Economic integration in pipe systems without any additional piping
- 3-wire frequency pulse version to directly interface with PLC's (both PNP and NPN)
- Connection to Bürkert devices in remote versions



The paddle wheel flowmeter for continuous flow measurement is especially designed for use in neutral, slightly aggressive, solid free liquids.

The Bürkert designed fitting system ensures simple installation of the devices into all pipes from DN20 to DN400 mm. The flowmeter produces a frequency pulse signal, proportional to the flow rate, which can easily be transmitted and processed by a Bürkert transmitter/controller.

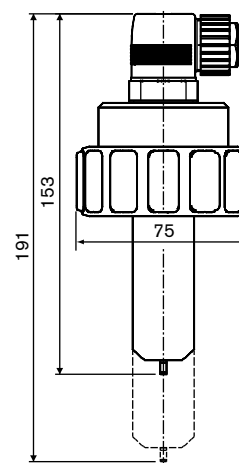
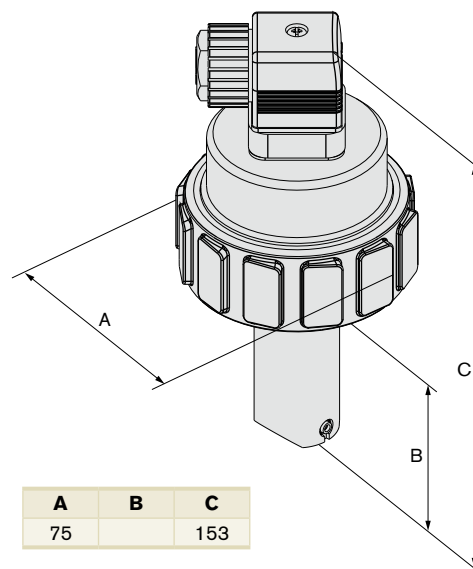
Technical Data

General data	
Compatibility	With fittings S020 (see datasheet)
Materials	
Housing / Union nut	PE / PC
Cable plug	PA
Wetted parts materials	
Fitting	Brass, st. st. 1.4404/316L, PVC, PP, PVDF
Sensor armature, paddle wheel	PVDF
Axis, bearing / Seal	Ceramics / FKM (EPDM option)
Electrical connection	Cable plug EN 175301-803 (included)
Connection cable	1.5 mm ² cross section; Max. 50 m length, shielded
Complete device data (fitting + electronic module)	
Pipe diameter	DN20-400 mm
Measuring range	0.3 to 10 m/s
Medium temp. with fitting in	
PVC / PP	0 °C to +50 °C / 0 °C to +80 °C
Stainless steel, brass, PVDF	-15 °C to +80 °C
Medium pressure max.	PN10 (145.1 PSI)
Viscosity / Pollution	300 cSt. max. / max. 1% (Size of particles 0.5 mm max.)
Accuracy	
Teach-In	±0.5% of F.S.* (at 10 m/s) ¹⁾
Standard K-factor	±(0.5% of F.S.* + 2.5% of Reading) ¹⁾
Linearity	±0.5% of F.S.* (at 10 m/s) ¹⁾
Repeatability	≤ 0.4% of Reading ¹⁾
Environment	
Ambient temperature	-15 to 60 °C (5 to 140 °F) (operating and storage)
Relative humidity	≤ 80%, without condensation

* F.S. = Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Envelope Dimensions [mm] (see datasheet for details)



Note:

The length of the sensor armature depends on the fitting used. See data sheet Type S020.

Technical Data (continued)

Electrical data	
Operating voltage	12 - 36 V DC (via Bürkert transmitter for "Low Power" version)
Current consumption	with sensor
Pulse version	≤ 50 mA
Pulse "Low power" version	≤ 0,8 mA
Output: Frequency	
Pulse version	Transistor NPN/PNP, open collector, max. 100 mA, frequency: 0... 300 Hz; duty cycle 1/2
Pulse "Low Power" version	Transistor NPN, open collector, max. 10 mA, frequency: 0... 300 Hz; duty cycle 1/2
Reversed polarity of DC	Protected
Standards and approvals	
Protection class	IP65 with connector plugged-in and tightened
Standard and directives	
EMC	EN 61000-6-2, 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN25 only
Fluid group 2, §1.3.a	DN ≤ 32 or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	DN ≤ 25 or DN > 25 and PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 400

Ordering Chart

Description	Operating voltage	Output	Sensor version	Electrical connection	Item no.
Pulse version flowmeter (pluggable to Types 8025 Universal transmitter, batch controller; 8032; PLC)	12 - 36 V DC	Frequency with PNP or NPN	short	Cable plug DIN EN 175301-803	419 587
			long	Cable plug DIN EN 175301-803	419 589
Pulse "Low Power" version flowmeter (pluggable to Types 8025, 8032 transmitter)	from Transmitter	Frequency with NPN Pulse	short	Cable plug DIN EN 175301-803	419 591
			long	Cable plug DIN EN 175301-803	419 593

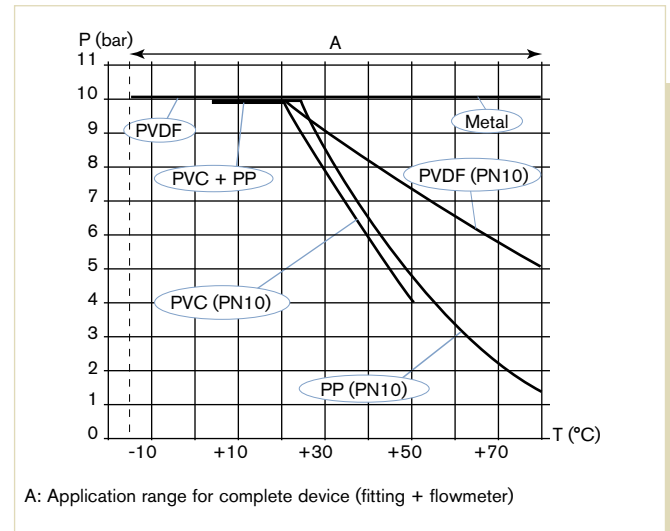
Note regarding the ordering of a complete sensor:

The complete 8020 sensor consists of the Type S020 INSERTION fitting and the Type 8020 sensor.
FKM seal in standard; 1 Kit including a black EPDM seal and a green FKM seal is supplied with each sensor.
Please order the relevant INSERTION fitting and the sensor separately!

Accessories

Description	Item no.
Set with 1 green FKM and 1 black EPDM gasket	552 111
Ring	619 205
Union nut	619 204
Cable plug EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug EN 175301-803 with NPT 1/2" reduction without cable gland (Type 2509)	162 673

Pressure / temperature chart



Compact INSERTION Batch Controller

- DN06-400 mm
- 4-20 mA output
- On-site calibration by TEACH-IN
- Check of input/output signals
- Total and daily totalizers for batch quantity and number of batches, volume or mass totalizers displayed



The compact batch controller combines a paddle-wheel flow sensor and an electronic module with a display in an IP65 enclosure. The electrical connection is provided via two cable glands.

Bürkert designed fitting S020 ensures simple installation of the Bürkert sensor into pipes from DN20 to DN400.

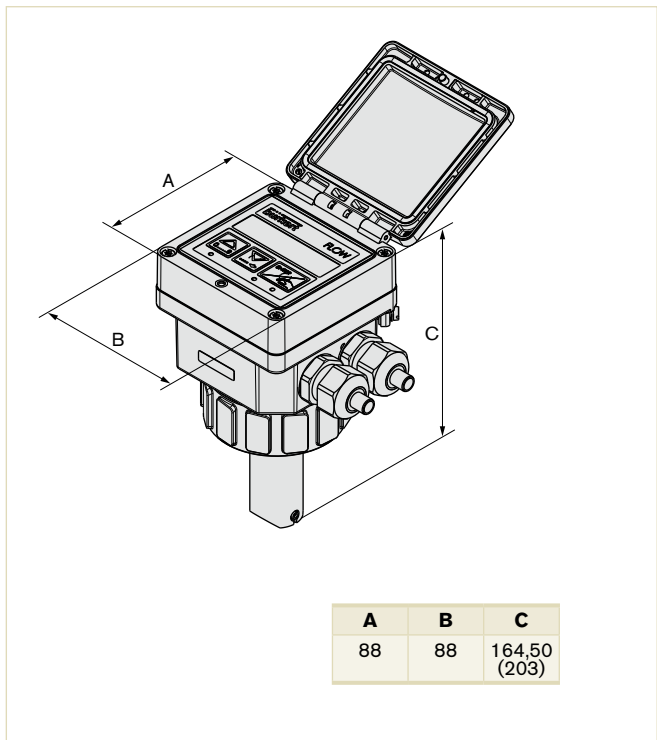
Technical Data

General data	
Compatibility	With fittings S020 (see corresponding data sheet)
Materials	
Housing, cover, lid, nut	PC
Front panel foil / Screws	Polyester / Stainless steel
Cable glands	PA
Wetted parts materials	
Fitting	Brass, stainless steel 1.4404/316L, PVC, PP or PVDF
Sensor holder, paddle-wheel	PVDF
Axis and bearing / Seal	Ceramics / FKM (EPDM option)
Electrical connections	Cable glands M20 x 1.5, max. 50 m protected cable with 1.5 mm ² max. cross-section
Device data (Fitting S020 + batch controller)	
Pipe diameter	DN20 to 400 mm
Measuring range	0.3 to 10 m/s (Hall transducer version)
Fluid temperature with fitting in	
PVC / PP	0 °C to +50 °C / 0 °C to +80 °C
PVDF, brass or stainless steel	-15 to +80 °C
Fluid pressure max.	PN10 (see pressure/temperature in datasheet)
Viscosity / Pollution	300 cSt. max. / 1% max.
Measurement error	
Teach-In	±1% of Reading ¹⁾ (at the teach flow rate value)
Standard K-factor	±2.5% of Reading ¹⁾
Linearity	±0.5% of F.S. ¹⁾
Repeatability	±0.4% of Reading ¹⁾
Environment	
Ambient temperature (operation and storage)	-10 to +60 °C (version 12 - 36 V DC) -10 to +50 °C (version 115/230 V AC)
Height above sea level	max. 2000 m
Relative humidity	≤ 80%, without condensation

* F.S.=Full scale (10 m/s)

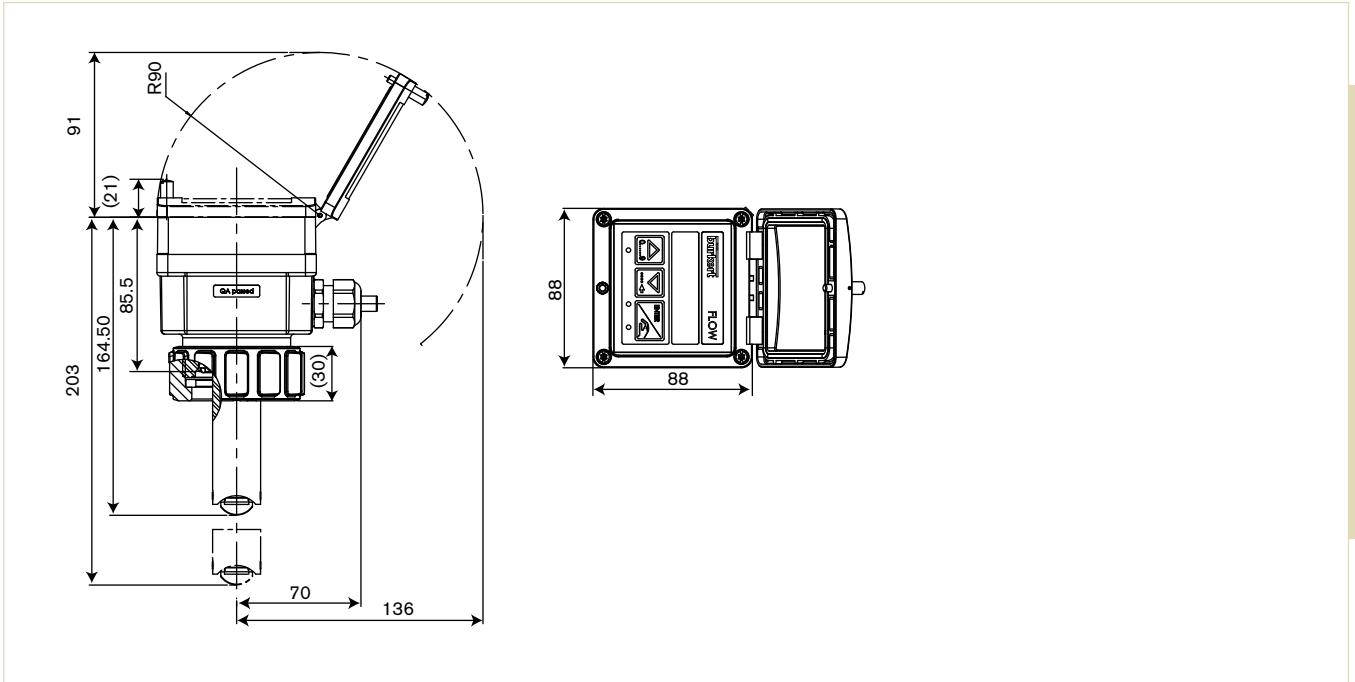
¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature = 20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions

Envelope Dimensions [mm] (see datasheet for details)



A	B	C
88	88	164,50 (203)

Envelope Dimensions [mm] (see datasheet for details)




Technical Data (continued)

Electrical data	
Power supply (V+)	12 - 36 V DC (max tolerance: -5% or +10% at 12 V DC; $\pm 10\%$ at 36 V DC), filtered and regulated, SELV (safety extra low voltage), circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Reversed polarity of DC	protected
Current consumption	with relays with sensor (without consumption of digital input and pulse output)
Inputs DI (1 to 4)	Switching threshold Von: 5... 36 V DC; Switching threshold Voff max: 2 V DC; Input impedance: 9.4 KOhms; Galvanic insulation, protected against polarity reversals and voltage spike
Outputs	
Transistors (DO1 and DO4)	NPN or PNP (wiring dependent), potential free; function: pulse output (by default for DO1), batch state (by default for DO4), configurable and parameterizable 0.6 - 2200 Hz, 5 - 36 V DC, 100 mA max., line drop 2.7 V DC at 100 mA duty cycle: ■ > 0.45 if 0.6 < frequency < 300 Hz ■ > 0.4 if 300 < frequency < 1500 Hz ■ < 0.4 if 1500 < frequency < 2200 Hz Galvanic insulation, protected against over-voltage, polarity reversals and short-circuits
Relays (DO2 and DO3)	2 relays (normally open), parameterizable (by default: DO2 always configured to control the valve, parameterized of 100% of the batch quantity and DO3 configured as alarm), 230 V AC/3 A or 40 V DC/3 A (resistive load), max. cutting power of 750 VA (resistive load)

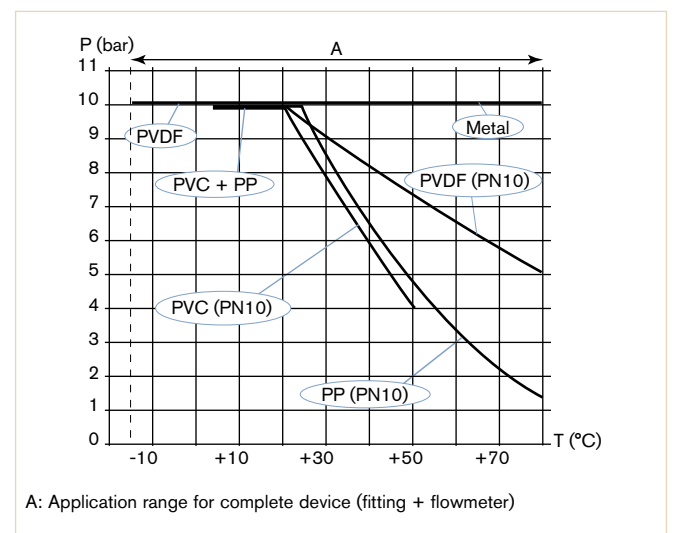
Technical specifications 115/230 V AC

Voltage supply	27 V DC regulated, max. current: 125 mA available inside the device integrated protection: fuse 125 mA temporised power: 3 VA
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Standards, directives and approvals

Protection class	IP65 with cable gland mounted and tightened or with obturator locked if not used. (according to EN60529)
Standards and directives	Pressure Complying with article 3 of chap. 3 from 97/23/CE directive*
Approvals	CE; UL-Recognized for US and Canada (61010-1 + CAN/CSA-C22 No.61010-1) 

Pressure / temperature chart



* F.S.=Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature = 20 °C (68 °F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions

Operation and display (common to the various versions)

When mounted in a pipe (compact version) or connected to a flowmeter (remote version) in series with one or two valves, the 8025 batch controller makes it possible to carry out a dosing of one or several quantities of liquids. The unit controls the opening of the valves and measures the quantity of the fluid which flows. The unit also closes the valves when the preset quantity has been delivered.

The electronic component needs a voltage supply of 12 - 36 V DC or 115/230 V AC.

The device is equipped with 4 digital inputs (DI1 up to DI4), 2 transistor outputs (DO1 configured as a pulse output and DO4 configured as state output, by default), 2 relay outputs (DO2 always configured to control the valve and by default parameterize of 100% of the batch quantity and DO3 configured as alarm output by default), two volume or mass totalizers and two batch totalizers.

The second relay output can be used to activate another valve, to initiate alarms or to generate warnings.

The following dosing modes are possible:

- **Locally started dosing of free quantity:**
the user enters the quantity to be filled and starts the dosing from the keypad.
- **Locally started dosing of preset quantity:**
the user selects a quantity which has been preset and starts the dosing from the keypad.
- **Locally started dosing of free/preset quantity**
the user enters the quantity to be filled or selects a quantity which has been preset and starts the dosing from the keypad.
- **Dosing controlled by a PLC unit**
the user selects a quantity which has been preset and starts the dosing using binary inputs.
- **Locally/remote selection of preset quantity and dosing controlled by a PLC unit:**
the user selects a quantity which has been preset from the keypad or using binary inputs and starts the dosing using binary inputs.
- **Automatic dosing controlled by variation of pulse duration:**
the quantity of the dosing is directly proportional to the duration of a pulse.
- **Remote dosing determined by Teach-In:**
Teach-In of the dosing quantity using binary inputs.
- **Local dosing determined by Teach-In:**
Teach-In of the dosing quantity from the keypads.

The device is calibrated by means of the K-factor which is either entered or determined via the Teach-In functions.

User adjustments, such as measuring range, engineering units, pulse output, etc. are carried out via the device operators interface.

The operation is specified according to five levels:

Indication in operating mode/display	Parameter definition	Test	Information	History
<ul style="list-style-type: none"> ▪ dosing amount ▪ dosing mode ▪ main quantity totalizer ▪ daily quantity totalizer with reset function ▪ main batch totalizer ▪ daily batch totalizer with reset function 	<ul style="list-style-type: none"> ▪ language ▪ engineering units ▪ K-factor/Teach-In function ▪ selection of dosing mode ▪ over run correction ▪ alarm ▪ outputs configuration ▪ reset both quantity/batch totalizers (main and daily) ▪ Brightness of the display (backlight) 	<ul style="list-style-type: none"> ▪ input test ▪ output test ▪ frequency test ▪ warning and fault messages generating ▪ configuration mode 	<ul style="list-style-type: none"> ▪ Display of error, alarm and/or warning messages 	<ul style="list-style-type: none"> ▪ Display of the 10 latest batches

Ordering Chart

Description	Voltage supply	Relay	Sensor version	Electrical connection	Item no.
Compact Batch Controller Type 8025B					
2 totalizers	12 - 30 V DC	2	Hall, short	2 cable glands	419 520
			Hall, long	2 cable glands	419 522
	115 - 230 V AC	2	Hall, short	2 cable glands	419 521
			Hall, long	2 cable glands	419 529

Accessories

Description	Item no.
Set with 2 cable glands M20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5 + 2 multiway seals 2 x 6 mm	449 755
Set with 2 reductions M20 x 1.5 /NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5	551 782
Set with 1 stopper for unused cable gland M20 x 1.5 + 1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551 775
Ring	619 205
Union nut	619 204
Set with 1 green FKM and 1 black EPDM seal	552 111

Batch Controller for panel or wall mounting

8025 Batch controller

7 batch sizes, 2 relay outputs

- Controls 7 batches automatically
- Fast fill and fine control for accuracy
- Shows both flow rate and volume

See flow sensor 8020, 8030, 8070



The remote 8025 batch controller can be connected (with pulse output signal) with Bürkert flowmeters Type 8020, 8030, 8070 or other flow sensor devices which emit a frequency signal.

The remote 8025 is a batch controller with display, available in wall-mounted and panel versions:

The panel version

is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronics board

The wall-mounted version

is made up of an electronics board which is integrated in a housing with a cover and display. The electrical connection is made via the terminal blocks of the electronic board via 5 cable glands.

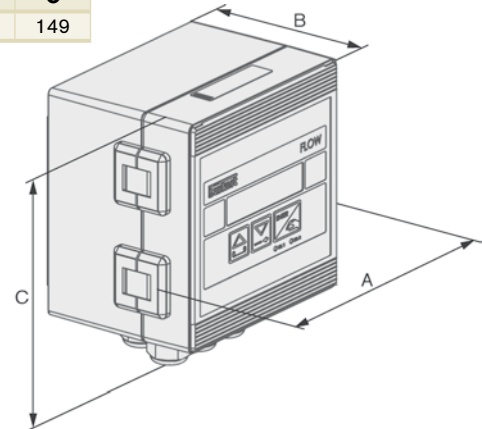
Technical data

Housing material	ABS, PC*
Front panel foil	Polyester
Screws	Stainless Steel
Cable gland	PA
Ambient temperature	-10 °C to +60 °C
Display	15 x 60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high
Voltage supply	12-30 V DC or 115/230 V AC, 50-60 Hz
Current consumption with sensor	(without consumption of 4-20 mA output of the flowmeter) ≤ 90 mA (bei 12 V DC); ≤ 45 mA (bei 36 V DC) ≤ 55 mA (115/230 V AC)
Electrical protection	Reversed polarity of DC protected
Compatibility with Bürkert sensors	Any Bürkert flow sensor with frequency output (8020, 8030, 8030HT, 8041, 8031, 8070, 8071)
Compatibility with other sensors	Any open collector NPN, coil, TTL, CMOS
Electrical connections	Terminal strip (cabinet mounting version) or terminal strip by threaded connections (version wall mounting) Cable glands M20 x 1.5, max. 50 m protected cable with 1.5 mm ² max. cross-section
Recommended cable	0.2 to 1.5 mm ² cross-section, shielded cable, 4... 8 mm diameter (for the cable glands of the wall-mounted version)

Envelope Dimensions [mm] (see datasheet for details)

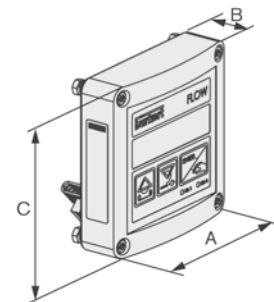
Wall Mount

A	B	C
126	90	149



Panel Mount

A	B	C
88	25	88



Outputs	2 relays, freely programmable, 3A, 230 V AC
Flow input frequency	2.5 Hz up to 700 Hz
Sensor power supply	12-30 or 0-18 V DC, 100 mA max. (24 V DC version); +15 V DC or +27 V DC, 25 mA max. (115 V AC version)
Ingress protection	IP65, IP65 (front)*

* Panel mount version.


Optionv

- Compact inline mount

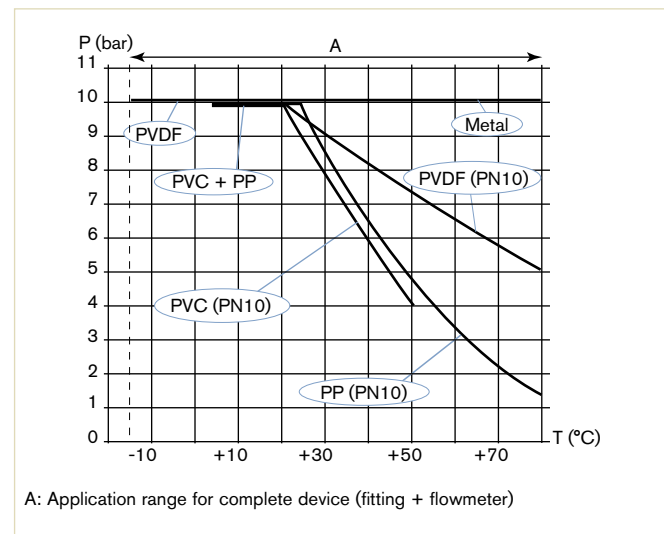
Technical data (continued)

Electrical data	
Power supply (V+)	
Panel- and wall-mounted version	12 - 36 V DC (max tolerance: -5% or +10% at 12 V DC; ±10% at 36 V DC), filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level,
Wall-mounted version	115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Reversal polarity of DC	Protected
Current consumption with sensor	(without consumption of current output of the flowmeter) ≤ 90 mA (at 12 V DC); ≤ 45 mA (at 36 V DC); ≤ 55 mA (115/230 V AC)
Controller input (from sensor) Frequency range	0.6 Hz to 2.2 kHz, max. voltage: 36 V DC Open collector NPN (with 470 Ω or 2.2 kΩ resistance) or PNP, Coil, TTL, CMOS (with 39 kΩ resistance)
Controller output (to sensor) Voltage supply	- with a 12 - 36 V DC powered controller: <ul style="list-style-type: none"> ■ 10.5... 34.5 V DC [= (V+) - 1.5 V DC], 140 mA max. ■ 0... 23.5 V DC [= (V+) - 12.5 V DC], 80 mA max. non regulated ■ 5 V DC, 30 mA max. - with a 115/230 V AC powered controller: <ul style="list-style-type: none"> ■ +27 V DC, 80 mA max. ■ +14.5 V DC [= (V+) - 12.5 V DC] 80 mA max. non regulated ■ 5 V DC, 30 mA max.
Inputs DI (1 to 4)	Switching threshold Von: 5... 36 V DC; Switching threshold Voff max: 2 V DC; Input impedance: 9.4 KOhms; Galvanic insulation, protected against polarity reversals and voltage spike
Outputs	
Transistors (DO1 and DO4)	NPN or PNP (wiring dependent), potential free; function: pulse output (by default for DO1), state (by default for DO4), configurable and parameterizable 0.6 - 2200 Hz, 5 - 36 V DC, 100 mA max., line drop 2.7 V DC at 100 mA duty cycle: <ul style="list-style-type: none"> ■ > 0.45 if 0.6 < frequency < 300 Hz ■ > 0.4 if 300 < frequency < 1500 Hz ■ < 0.4 if 1500 < frequency < 2200 Hz
Relays (DO2 and DO3)	Galvanic insulation, protected against over-voltage, polarity reversals and short-circuits 2 relays (normally open), parameterizable (by default: DO2 always configured to control the valve, parameterized of 100% of the batch quantity and DO3 configured as alarm), 230 V AC/3 A or 40 V DC/3 A (resistive load), max. cutting power of 750 VA (resistive load)

Technical specifications 115/230 V AC

Supply voltage available inside the device	Wall-mounted version: Voltage supply: 27 V DC regulated, Max. current: 250 mA Integrated protection: fuse 250 mA temporised Power: 6 VA
Standards, directives and approvals	
Protection class (according to EN60529)	IP65 (panel-mounted and wall-mounted version) device wired and cable glands tightened screwed tight IP20 (panel-mounted version, inside the cabinet)
Approvals	CE; UL-Recognized for US and Canada (61010-1 + CAN/CSA-C22 No.61010-1) 

Pressure / temperature chart



Operation and display (common to the various versions)

When mounted in a pipe (compact version) or connected to a flowmeter (remote version) in series with one or two valves, the 8025 batch controller makes it possible to carry out a dosing of one or several quantities of liquids. The unit controls the opening of the valves and measures the quantity of the fluid which flows. The unit also closes the valves when the preset quantity has been delivered.

The electronic component needs a voltage supply of 12 - 36 V DC or 115/230 V AC.

The device is equipped with 4 digital inputs (DI1 up to DI4), 2 transistor outputs (DO1 configured as a pulse output and DO4 configured as state output, by default), 2 relay outputs (DO2 always configured to control the valve and by default parameterize of 100% of the batch quantity and DO3 configured as alarm output by default), two volume or mass totalizers and two batch totalizers.

The second relay output can be used to activate another valve, to initiate alarms or to generate warnings.

The following dosing modes are possible:

- Locally started dosing of free quantity:

the user enters the quantity to be filled and starts the dosing from the keypad.

- Locally started dosing of preset quantity:

the user selects a quantity which has been preset and starts the dosing from the keypad.

- Locally started dosing of free/preset quantity

the user enters the quantity to be filled or selects a quantity which has been preset and starts the dosing from the keypad.

- Dosing controlled by a PLC unit

the user selects a quantity which has been preset and starts the dosing using binary inputs.

- Locally/remote selection of preset quantity and dosing controlled by a PLC unit:

the user selects a quantity which has been preset from the keypad or using binary inputs and starts the dosing using binary inputs.

- Automatic dosing controlled by variation of pulse duration:

the quantity of the dosing is directly proportional to the duration of a pulse.

- Remote dosing determined by Teach-In:

Teach-In of the dosing quantity using binary inputs.

- Local dosing determined by Teach-In:

Teach-In of the dosing quantity from the keypads.

The device is calibrated by means of the K-factor which is either entered or determined via the Teach-In functions.

User adjustments, such as measuring range, engineering units, pulse output, etc. are carried out via the device operators interface.

The operation is specified according to five levels:

Indication in operating mode/ display	Parameter definition	Test	Information	History
<ul style="list-style-type: none"> ▪ dosing amount ▪ dosing mode ▪ main quantity totalizer ▪ daily quantity totalizer with reset function ▪ main batch totalizer ▪ daily batch totalizer with reset function 	<ul style="list-style-type: none"> ▪ language ▪ engineering units ▪ K-factor/Teach-In function ▪ selection of dosing mode ▪ over run correction ▪ alarm ▪ outputs configuration ▪ reset both quantity/batch totalizers (main and daily) ▪ Brightness of the display (backlight) 	<ul style="list-style-type: none"> ▪ input test ▪ output test ▪ frequency test ▪ warning and fault messages generating ▪ configuration mode 	<ul style="list-style-type: none"> ▪ Display of error, alarm and/or warning messages 	<ul style="list-style-type: none"> ▪ Display of the 10 latest batches

Ordering Chart

Description	Totalizers	Relays	Connection	Item no.	
				12 - 30 V DC	115 - 230 V AC
Wall mount	2	2 x 3 A	5 x PG 13.5 cable gland	433 740	433 741
Panel mount (CSA)	2	2 x 3 A	Terminal strip	419 536	-

Digital flowmeter INSERTION COMPACT

- Compact version for DN06 to DN400 mm, PN10
- Displays both flow rate and volume (with two totalizers)
- On site calibration by Teach-In
- Simulation of all output signals

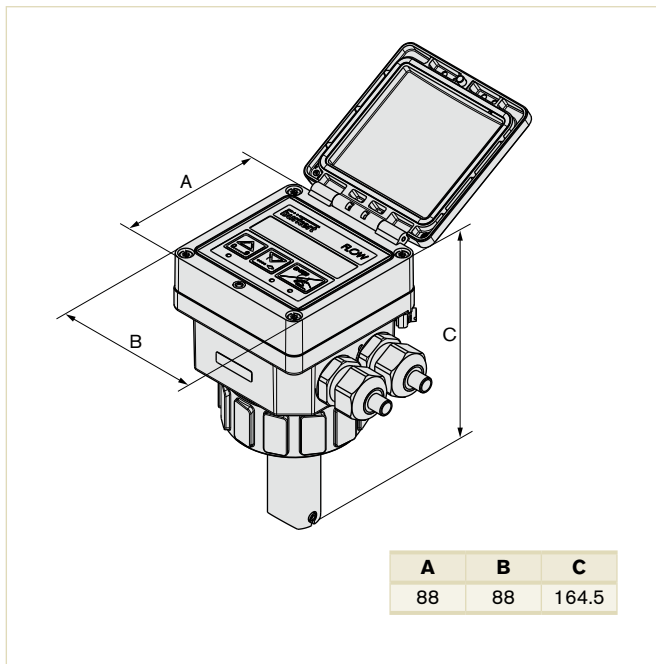


The compact flowmeter with paddle wheel sensor is specially designed for use with neutral and slightly aggressive, solid-free liquids.

Technical Data

Technical Data	
Display	15 x 60 mm, 8 digit LCD, alphanumeric, 15 segments, 9 mm high
Compatibility	with Fittings S020 (see Type S020)
Materials	
Housing, cover, lid, nut	PC
Front panel foil/	Polyester/Stainless steel
Screws	
Cable plug or glands	PA
Wetted parts materials	
Fitting	Brass, stainless steel 1.4404/316L, PVC, PP or PVDF
Sensor holder, paddle-wheel	PVDF
Axis and bearing/Seal	Ceramics / FKM (EPDM option)
Electrical connections	Cable plug or cable glands M20 x 1.5 or none (for battery version)
Recommended cable	Max. 50 m, shielded, 1.5 mm ² max. cross-section
Device data (Fitting S020 + flowmeter)	
Pipe diameter	DN20 to DN400
Measuring range	0.5 to 10 m/s (Battery version - Coil transducer) 0.3 to 10 m/s (Hall transducer version)
Fluid temperature with fitting in	
PVC / PP	0 °C to 50 °C (32 to 122°F) / 0 °C to 80 °C (32 to 176°F)
PVDF, brass or stainless steel	-15 °C to 80 °C ¹⁾ (5 to 176°F)
Fluid pressure max.	PN10 (145.1 PSI) (see pressure/temperature diagram)
Viscosity / Pollution	300 cSt. max. / 1% max.
Measurement error	
Teach-In	±1% of Reading ¹⁾ (at the teach flow rate value)
Standard K-factor	±2.5% of Reading ¹⁾
Linearity	±0.5% of F.S.* ²⁾
Repeatability	±0.4% of Reading ²⁾

Envelope Dimensions [mm] (see datasheet for details)



Electrical data	
Power supply (V+)	
Standard signal version	12 - 36 V DC ±10%, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Battery indicator/totalizer version	2 x 9 V DC batteries, lifetime min. 1 year at 20 °C (68°F)
Reversed polarity of DC	protected
Current consumption with sensor	≤ 70 mA at 12 V DC - flowmeter with relays ≤ 25 mA at 12 V DC - flowmeter without relay (without consumption of pulse output)

Technical Data (continued)

Output	
Standard signal version	
Signal current	4... 20 mA (3-wire with relays; 2-wire without relay) max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply
Pulse	Polarized, potential free, 5... 36 V DC; 100 mA, protected, line drop at 100 mA: 2.5 V DC
Relay	2 relays, freely configurable, 3 A, 230 V AC
Battery indicator/ totalizer version	None
4... 20 mA measurement error	±1%
Environment	
Height above sea level	Max. 2000 m
Relative humidity	≤ 80%, without condensation
Ambient temperature (operation and storage)	-10 to +60 °C (32 to 140°F) (version 12 - 36 V DC) -10 to +50 °C (32 to 122°F) (version 115/230 V AC)
Technical specifications 115/230 V AC	
Voltage supply available inside the device	27 V DC regulated, max. current: 125 mA integrated protection: fuse 125 mA temporised power: 3 VA

Standards, directives and approvals	
Protection class (according to EN60529)	IP65 with cable plug or gland mounted and tightened or with obturator locked if not used
Standards and directives Pressure	Complying with article 3 of chap. 3 from 97/23/CE directive*
Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

* F.S.=Full scale (10 m/s)

¹⁾ with Battery version = 100 °C (212°F)

²⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20 °C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Type of fluid	Conditions
Fluid group 1, chapter 1.3.a	DN25 only
Fluid group 2, chapter 1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, chapter 1.3.b	PN*DN ≤ 2000
Fluid group 2, chapter 1.3.b	DN ≤ 200

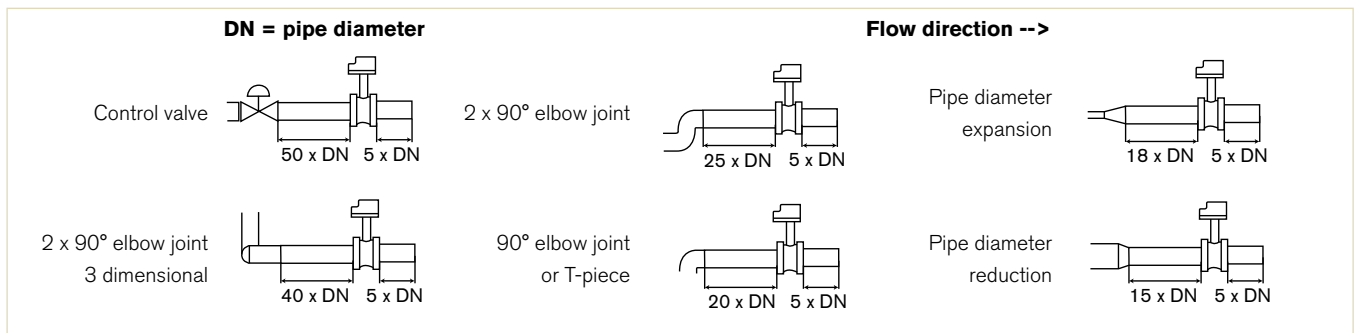
* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Installation

The Type 8025 can easily be installed into any Bürkert INSERTION fitting system (S020) by just fixing the main nut.

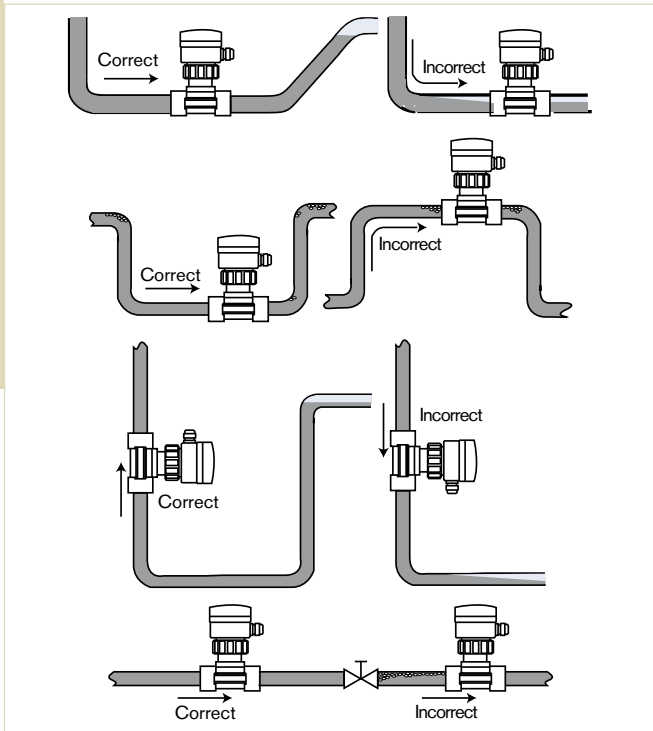
Minimum straight upstream and downstream distances must be observed. According to the pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy. For more information, please refer to EN ISO 5167-1.

EN ISO 5167-1 prescribes the straight inlet and outlet distances that must be complied with when installing fittings in pipe lines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated prescribed minimum inlet and outlet distances. These ensure calm, problem-free measurement conditions at the measurement point.



Installation (continued)

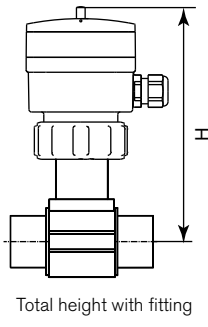
The device can be installed into either horizontal or vertical pipes. Mount the Type 8025 in these correct ways to obtain an accurate flow measurement.



Pressure and temperature ratings must be in accordance to the selected fitting material. The suitable pipe size is selected using the diagram Flow/Velocity/DN.

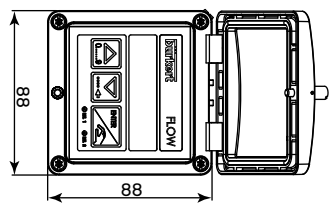
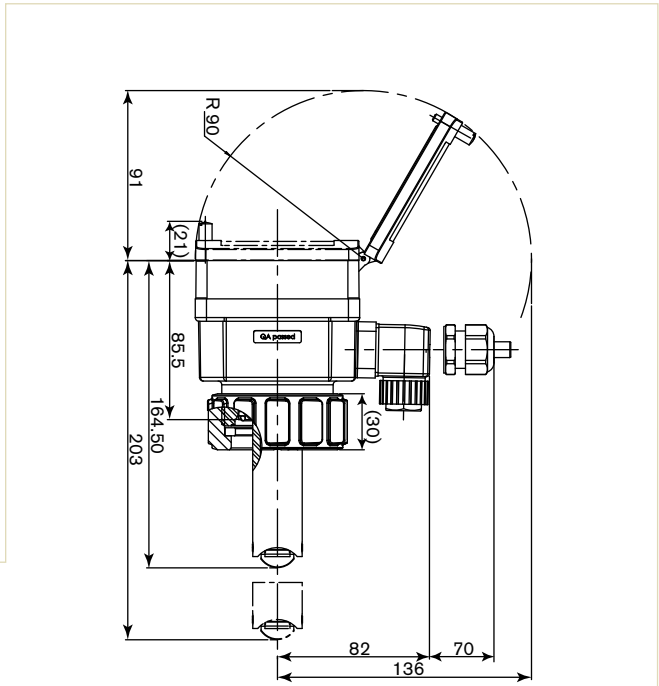
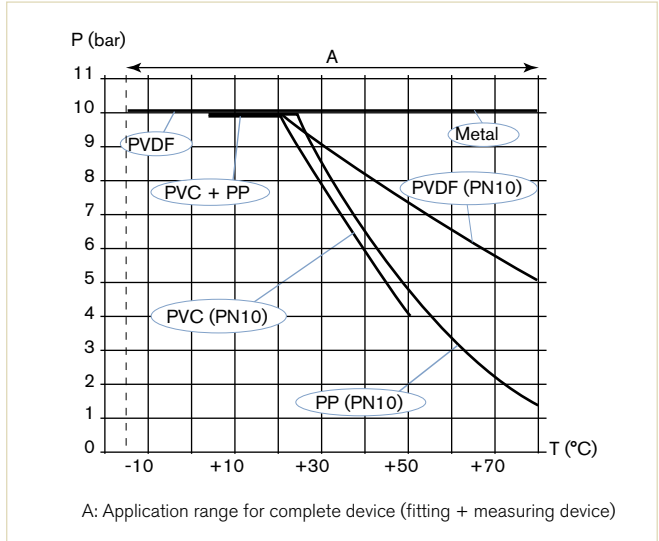
The flowmeter is not designed for gas or steam flow measurement.

Dimensions [mm]



DN	H			
	T-Fitting	Saddle	Plastic spigot	Metal spigot
20	185			
25	185			
32	188			
40	192			
50	198	223		193
65	198	221	206	199
80		226	212	204
100		231	219	214
110		227		
125		234	254	225
150		244	261	236
180		268		
200		280	282	257
250			300	317
300			312	336
350			325	348
400			340	

Pressure/Temperature diagram



Note:
The length of the sensor finger depends on the fitting used.

see Type S020.






Ordering chart

Description	Voltage supply	Output	Relay	Sensor version	Electrical connection	Item no.	
Compact Flowmeter Type 8025T							
Standard output signal flowmeter, 2 totalizers	12 - 30 V DC	4 - 20 mA (2-wire) + pulse	none	Hall, short	DIN EN 175301-803	418 762	
					2 cable glands	418 802	
				Hall, long	DIN EN 175301-803	418 763	
					2 cable glands	418 803	
				Hall, short	2	2 cable glands	418 778
	Hall, long	2 cable glands	418 779				
	115 - 230 V AC	4 - 20 mA (2-wire) + pulse	none	Hall, short	2 cable glands	418 423	
					Hall, long	2 cable glands	418 424
				Hall, short	2	2 cable glands	418 431
							Hall, long
2 x 9 V DC battery				none	none	Coil, short	none
	Coil, long	none	418 405				

8025
INSERTION COMPACT

Note regarding the ordering of a complete sensor for the Type 8025T remote Transmitter:

Please enter the appropriate sensor according to the Technical Data table regarding compatibility and select and order the respective INSERTION fitting and the selected sensor separately.

		DN20	DN50	DN65	DN100	DN200	DN350	DN400
Available S020 fitting DN	T-fitting 	Short sensor						
	Weld-in socket 			Short sensor		Long sensor		
	Fusion spigot 			Short sensor		Long sensor		
	Screw-on S020 				Long sensor			
	Saddle 			Long sensor				

Accessories

Description	Item no.
Set with 2 cable glands M20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5 + 2 multiway seals 2 x 6 mm	449 755
Set with 2 reductions M20 x 1.5 /NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5	551 782
Set with 1 stopper for unused cable gland M20 x 1.5 + 1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551 775
Ring	619 205
Union nut	619 204
Set with 1 green FKM and 1 black EPDM seal	552 111
Cable plug DIN EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug DIN EN 175301-803 with NPT1/2" reduction without cable gland (Type 2509)	162 673

Transmitter UNIVERSAL, remote version

8025
Transmitter UNIVERSAL,
remote version

- Displays both flow rate and volume (with two totalizers)
- On site calibration by Teach-In
- Simulation of all output signals



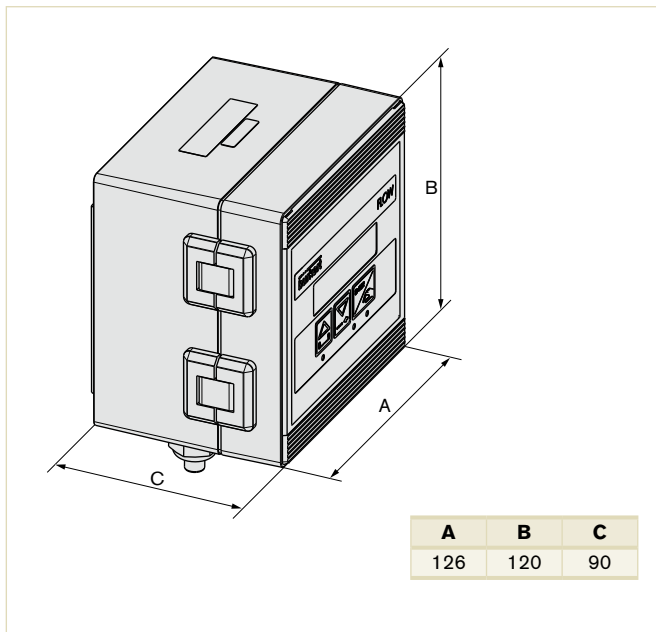
The 8025 universal flow transmitter with display, is available in wall-mounted and panel versions:

- The panel version**
 is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronic board
- The wall-mounted version**
 is made up of an electronics integrated in a housing with cover, display. The electrical connection is carried out on the terminal blocks of the electronic board via 3 cable glands.

Technical data

General data	
Display	15 x 60 mm, 8 digit LCD, alphanumeric, 15 segments, 9 mm high
Recommended cable	Max. 50 m, shielded, 1.5 mm ² max. cross-section
Compatibility	Bürkert flow sensor with frequency output (8020, 8030, 8030HT, 8041, 8031, 8070, 8071) or other sensors with compatible electrical data.
Materials	
Housing, cover	PC (panel-mounted version); ABS (wall-mounted version)
Front panel foil	Polyester
Screws	Stainless steel
Cable glands/Cable clips	PA (wall-mounted version) / PA (panel-mounted version)
Electrical connections	Terminals (panel-mounted version) or terminals via gland (wall-mounted version)
Recommended cable	0.2 to 1.5 mm ² cross-section, shielded cable, 4... 8 mm diameter (for the cable glands of the wall-mounted version)
Electrical data	
Power supply (V+)	
Panel- and wall-mounted version	12 - 36V DC (max tolerance: -5% or +10% at 12V DC; ±10% at 36 V DC), filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level,
Wall-mounted version	115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Reversal polarity of DC	Protected
Current consumption with sensor	(without consumption of current output of the flow-meter)
Version with relay	≤ 90 mA (at 12 V DC); ≤ 45 mA (at 36 V DC); ≤ 55 mA (115/230 V AC)
Version without relays	≤ 60 mA (at 12 V DC); ≤ 30 mA (at 36 V DC); ≤ 40 mA (115/230 V AC)

Dimensions [mm] (see datasheet for further details)



Transmitter input (from sensor)	
Frequency range	0.6 Hz to 2.2 kHz, can be adjusted - max. voltage: 36 V DC Open collector NPN (with 470 Ω or 2.2 kΩ resistance) or PNP, Coil, TTL, CMOS (with 39 kΩ resistance)
Transmitter output (to sensor)	
Voltage supply	- with a 12 - 36 V DC powered transmitter: <ul style="list-style-type: none"> • 10.5... 34.5 V DC [= (V+) - 1.5 V DC], 140 mA max. • 0... 23.5 V DC [= (V+) - 12.5 V DC], 80 mA max. non regulated • 5 V DC, 30 mA max. - with a 115/230 V AC powered transmitter: <ul style="list-style-type: none"> • +27 V DC, 80 mA max. • +14.5 V DC [= (V+) - 12.5 V DC] 80 mA max. non regulated • 5 V DC, 30 mA max.

Technical data (continued)

Digital outputs

Transistor (DO1)	NPN or PNP (wiring dependent), potential free Function: pulse output (by default), configurable 0.6 - 2200 Hz, 5 - 36 V DC, 100 mA max., line drop 2.7 V DC at 100 mA duty cycle: <ul style="list-style-type: none"> ▪ > 0.45 if 0.6 < frequency < 300 Hz ▪ > 0.4 if 300 < frequency < 1500 Hz ▪ < 0.4 if 1500 < frequency < 2200 Hz Galvanic insulation, protected against polarity reversals and short-circuits
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Relay (DO2 and DO3)	2 relays (normally open), freely adjustable (hysteresis by default), 230 V AC/3 A or 40 V DC/3 A (resistive load), max. cutting power of 750 VA (resistive load), life span of min. 100000 cycles
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Analogue output

Current (AO1)	4... 20 mA, sink or source (wiring dependent), 22 mA to indicate a fault (can be activated); max. loop impedance: 1300 Ω at 36 V DC, 1000 Ω at 30 V DC, 750 Ω at 24 V DC, 300 Ω at 15 V DC, 200 Ω at 12 V DC
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4... 20 mA measurement error

±1%

Technical specifications 115/230 V AC available inside the device

Wall-mounted version:
Voltage supply: 27 V DC regulated,
Max. current: 250 mA
Integrated protection: fuse 250 mA temporised
Power: 6 VA

Environment

Height above sea level	Max. 2000 m
Ambient temperature	-10 °C to +60 °C (14 to 140°F) (operation and storage)
Relative humidity	≤ 80%, without condensation

Standards, directives and approvals

Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

Protection class	IP65 (panel-mounted and wall-mounted version) device wired and cable glands tightened screwed tight IP20 (panel-mounted version, inside the cabinet)
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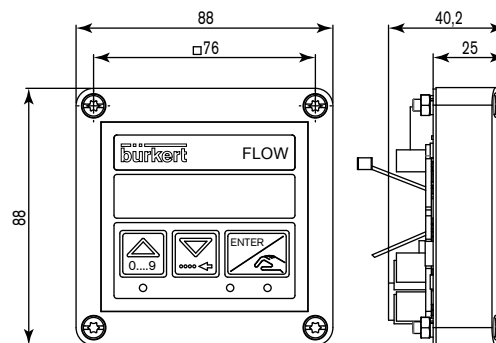
Specific technical data of UL-recognized products for US and Canada

Relay output	30 V AC and 42 V peak max. or 60 V DC max.
Ambient temperature	0 °C to +40 °C (32 to 104°F)
Relative humidity	max. 80 %, without condensation
Intended for an inner pollution	Grade of pollution 2, according to EN61010-1
Installation category	Category I, according to UL61010-1

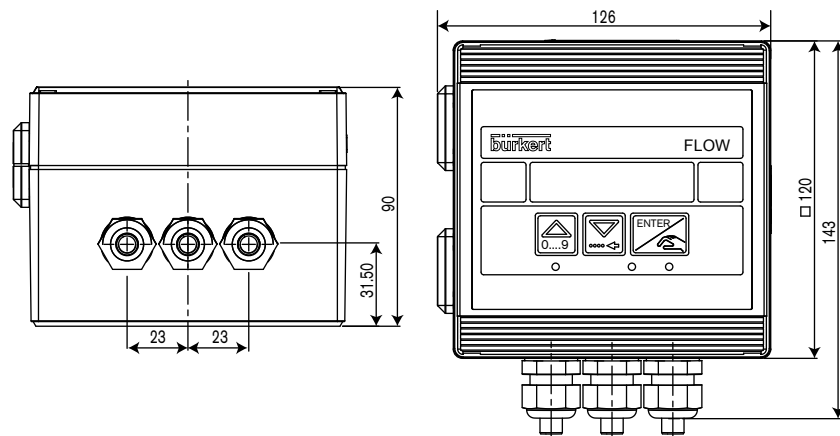
8025 Transmitter UNIVERSAL, remote version

Dimensions [mm]

Panel-mounted version



Wall-mounted version



Ordering chart

Version	Description	Voltage supply	Output	Relay	Electrical Connection	Item no.
Remote Transmitter Type 8025T						
Panel mounting	Universal transmitter, 2 totalizers	12 - 30 V DC	4 - 20 mA (3-wire) + pulse	none	Terminal strip	419 538
				2	Terminal strip	419 537
Wall mounting	Universal Transmitter, 2 totalizers	12 - 30 V DC	4 - 20 mA (3-wire) + pulse	none	3 cable glands	419 541
				2	3 cable glands	419 540
	115 - 230 V AC	4 - 20 mA (3-wire) + pulse	none	3 cable glands	419 544	
			2	3 cable glands	419 543	

Note regarding the ordering of a complete sensor for the Type 8025T remote Transmitter:

Please enter the appropriate sensor according to the Technical Data table regarding compatibility and select and order the respective INSERTION fitting and the selected sensor separately.

Accessories

Description	Item no.
Spare part, panel version	
Mounting set (screws, washer, nuts, cable clips)	554 807
Seal	419 350
Set with 8 FLOW foils	553 191
Spare part, wall version	
Power supply board 115/230 V AC + mounting instruction sheet	555 722

8025 Transmitter UNIVERSAL, remote version

Extremely cool.

We don't testify our direct-acting plunger valve 2610 special coolness just because it allows temperatures of minus 200°C. On the contrary: the normally closed plunger valve can also take the heat – up to 180°C – without any problems. The highlight of this temperature extreme: We isolated the coil from the housing with a metal bellow system, thus preventing both condensation build-up and excess coil heating. To top it off, we've even integrated an energy saving effect: the “kick & drop” electronics assists during the opening process and then directly reduces the current to the holding power. That's pretty cool, too!

We make ideas flow.



Transmitter, remote Version

8025 Transmitter remote Version

- Only for Bürkert flowmeters in „Low Power“ version
- Displays both flow rate and volume (with two totalizers)
- On site calibration by Teach-In
- Simulation of all output signals



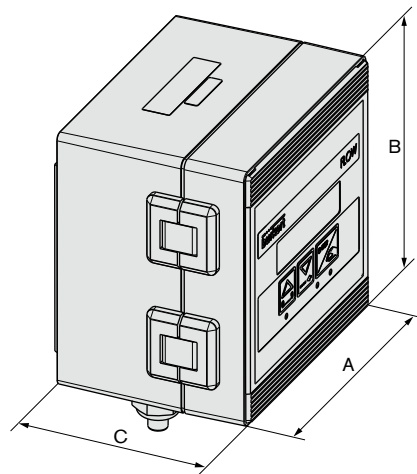
The 8025 flow transmitter with display, is available in wall-mounted and panel versions:

- **The panel version**
is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronic board
- **The wall-mounted version**
is made up of an electronics integrated in a housing with cover, display. The electrical connection is carried out on the terminal blocks of the electronic board via 3 cable glands.

Technical data

General data	
Display	15 x 60 mm, 8 digit LCD, alphanumeric, 15 segments, 9 mm high
Compatibility	Bürkert flow sensor with frequency output 8020, 8030 or 8070 (pulse "Low Power" version).
Materials	
Housing, cover	PC (panel-mounted version); ABS (wall-mounted version)
Front panel foil	Polyester
Screws	Stainless steel
Cable glands/Cable clips	PA (wall-mounted version) / PA (panel-mounted version)
Electrical connections	Terminals (panel-mounted version) or terminals via cable gland (wall-mounted version)
Recommended cable	0.2 to 1.5 mm ² cross-section, shielded cable, 4... 8 mm diameter (for the cable glands of the wall-mounted version)
Electrical data	
Power supply (V+)	
Panel-mounted version	12 - 36 V DC ±10%, filtered and regulated
Wall-mounted version	12 - 36 V DC ±10%, filtered and regulated or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Reversal polarity of DC	Protected
Current consumption with sensor	(without consumption of pulse output) ≤ 70 mA (at 12 V DC) Version with relay ≤ 25 mA (at 12 V DC) Version without relays
Transmitter input (from sensor)	2.5 to 400 Hz Frequency range Pulse "Low Power" (open collector NPN)
Transmitter output (to sensor)	10... 34 V DC (=V+) - 2 V DC, Voltage supply max. current available from transmitter: 1 mA Current consumption

Dimensions [mm] (see datasheet for further details Details)



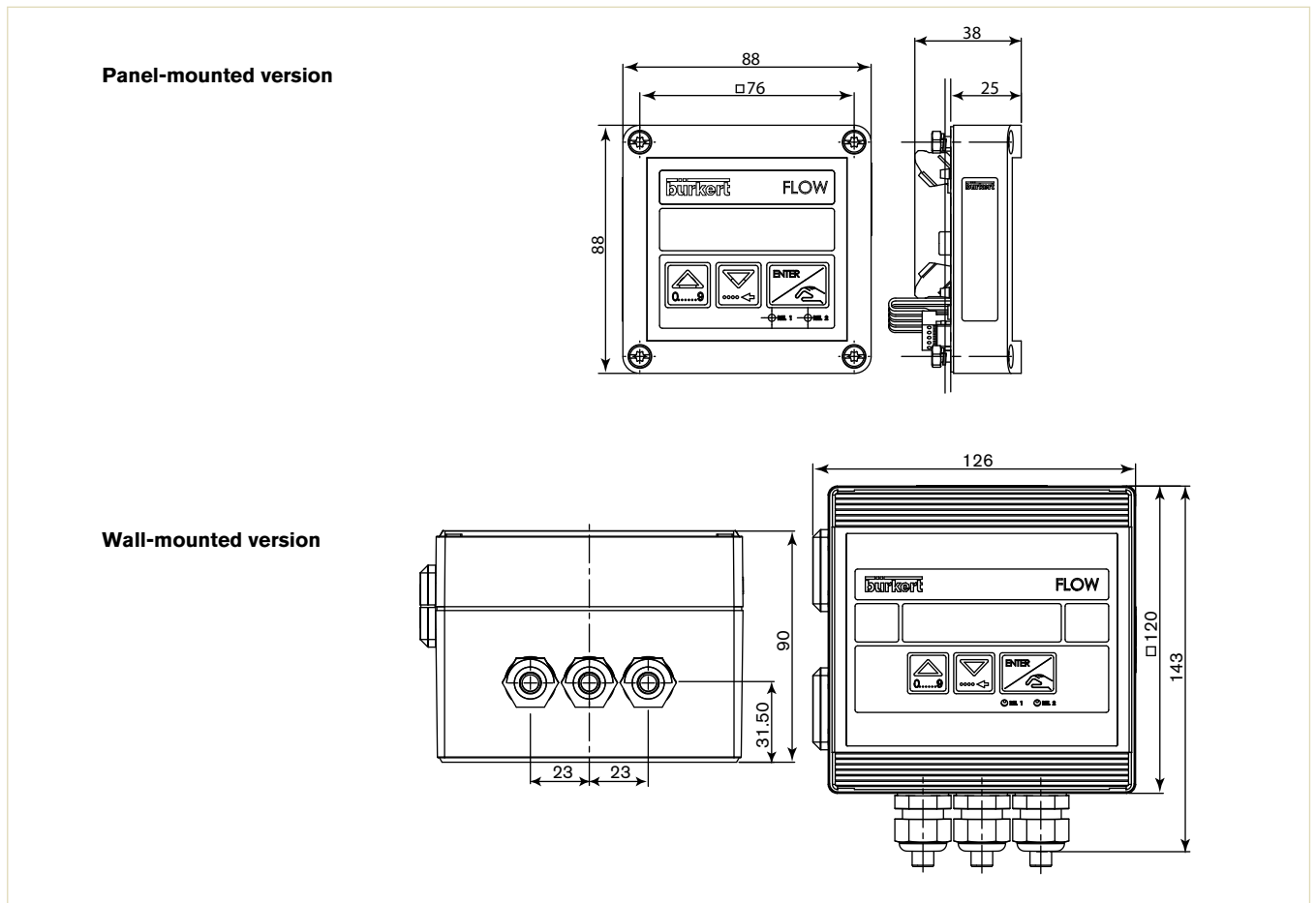
Version	A	B	C
Mounting panel	88	88	25
Wall-mounting	126	120	90

Digital outputs	
Pulse	polarized, potential free, 5... 36 V DC; 100 mA, protected, line drop at 100 mA: 2.5 V DC
Relay	2 relays, freely adjustable 3 A, 230 V AC
Analogue output	
Current	4... 20 mA (3-wire with relays; 2-wire without relay); max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply
4...20 mA measurement error	±1%
Technical specifications 115/230V AC	Wall-mounted version: Supply voltage: 27V DC controlled, Max. current: 250 mA Integrated protection: security fuse 250 mA Power: 6 VA

Technical data (continued)

Environment	
Height above sea level	Max. 2000 m
Relative humidity	≤ 80%, without condensation
Ambient temperature	-10 °C to +60 °C (32 to 140°F) (operation and storage)
Standards, directives and approvals	
Protection class	IP65 (panel-mounted and wall-mounted version) device wired and cable glands tightened screwed tight IP20 (panel-mounted version, inside the cabinet)
Approvals	
Standard	CE
Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27
Specific technical data of UL-recognized products for US and Canada	
Relay output	30 V AC and 42 V peak max. or 60 V DC max.
Ambient temperature	-10 °C to +60 °C (14 to 140°F)
Relative humidity	max. 80 %, without condensation
Intended for an inner pollution	Grade of pollution 2, according to EN61010-1
Installation category	Category I, according to UL61010-1

Dimensions [mm]



Ordering chart

Description	Voltage supply	Output	Relays	Sensor version	Electrical connection	Item no.
Transmitter, panel mounted, 2 totalizers	12 - 36 V DC	4... 20 mA (2 wires) + pulse	None	8020/8030 ¹⁾ /8070 ²⁾	Terminal strip	418 992
		4... 20 mA (3 wires) + pulse	2	8020/8030 ¹⁾ /8070 ²⁾	Terminal strip	418 994
Transmitter, wall-mounted, 2 totalizers	12 - 36 V DC	4... 20 mA (2 wires) + pulse	None	8020/8030 ¹⁾ /8070 ²⁾	3 cable glands	418 397
	115/230 V AC	4... 20 mA (3-wires) + pulse	None	8020/8030 ¹⁾ /8070 ²⁾	3 cable glands	418 400

¹⁾ 8030 = SE30 + S030

²⁾ 8070 = SE30 + S070

Note regarding the ordering of a complete sensor for remote Type 8025T Transmitter:

Please enter the appropriate sensor according to "Technical Data - compatibility" table and select the respective INSERTION fitting and order the selected sensor separately.

Accessories for remote transmitter Type 8025 (has to be ordered separately)

Description	Item no.
Spare part, panel version	
Mounting set (screws, washer, nuts, cable clips)	554 807
Seal	419 350
Set with 8 FLOW foils	553 191
Spare part, wall version	
Power supply board 115/230 V AC + mounting instruction sheet	555 722

Out-of this-world versatility.

OK, so it still can't fly to the moon. But for anything that needs measuring, controlling and metering, the Bürkert multiCELL multi-channel transmitter/controller Type 8619 is the ideal choice. Up to 6 modular signal inputs and outputs as well as options for mathematical functions or data logging adapt this universal genius individually to every application. This gives you more flexibility, expands the range of possible applications – including those that you might not even have thought of yet – and gives you precisely the support you need. Now also available for measuring chlorine and wall or pipe mounting with an operating voltage of 12..36 VDC and 110/230 VAC. The sky really is the limit!

We make ideas flow.



Insertion Flow Transmitter for continuous measurement

8026

For use with fitting DN15-400, PN10

- Up and download of the data through removable display
- Preferably, for pipe diameter greater than DN65 mm

Please see fitting S020



The insertion style flow meter provides a 4-20 mA output directly proportional to flow. A range of fittings from weld-o-lets to saddles makes these ELEMENT style transmitters perfect for neutral, solid free liquids. A backlit removable display with joystick programming makes commissioning a breeze.

Technical Data

General data

Compatibility Any pipe from DN15 to 400, which is mounted with Bürkert INSERTION fitting (see separate datasheet S020).

Materials See the following materials below

Housing	Stainless steel 1.4404, PPS
Cover	PC
Gaskets	EPDM
Screws	Stainless steel
Fixed connector mounting plate	Stainless steel 1.4404 (316L)
Fixed connector	Nickel-plated brass
Display	PC
Navigation key	PBT
Nut	PC
Wetted part materials	
Sensor finger	PVDF
Gasket	FKM (Standard)
Axis and bearings	Ceramic (Al ₂ O ₃)
Paddle-wheel	PVDF

Display (accessories) Grey dot matrix 128 x 64 with backlighting

Electrical connections

2 or 3 outputs transmitter	1 x 5-pin M12 male fixed connector
4 outputs transmitter	1 x 5-pin M12 male and 1 x 5-pin M12 female fixed connectors

Connection cable Shielded cable

Complete device data (Pipe + transmitter)

Pipe diameter DN15 to 400

Measuring range 0.3 up to 10 m/s

Medium temperature

with fitting in

PVC / PP	0 °C to 50 °C (32 to 122 °F) / 0 °C to 80 °C (32 to 176 °F)
PVDF, brass or stainless steel	-15 °C to 100 °C (5 to 212 °F)

Medium pressure max. PN10 (145 PSI) - see pressure / temperature chart

Viscosity / Particles rate 300 cSt max. / 1% max.

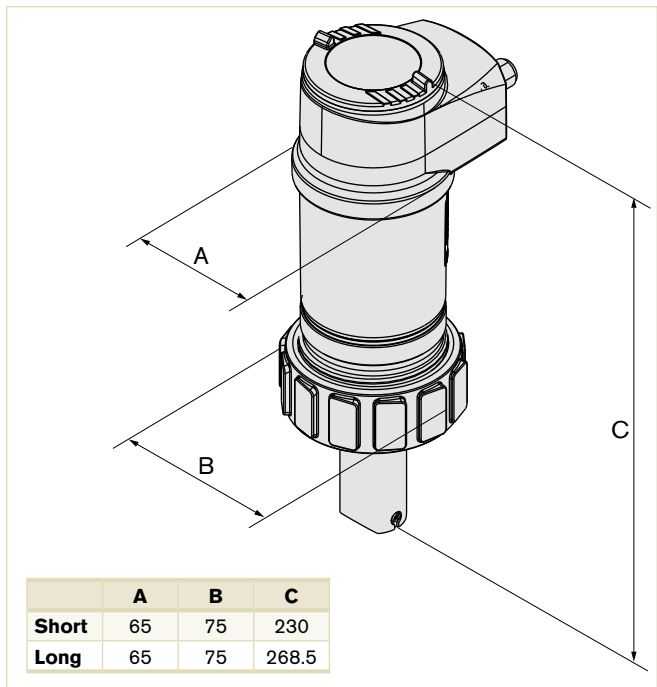
Measurement error

Teach-In	±1% of Reading (at Teach-In flow rate value) ¹⁾
Standard K-factor	±2.5% of Reading ¹⁾

Linearity ±0.5% of F.S.*¹⁾

Repeatability ±0.4% of Reading¹⁾

Envelope Dimensions [mm] (see datasheet for details)



Options

- PVC, PVDF and PP, St.st. and brass fitting
- Various sealing materials
- Individual calibration certificate
- Pre-wired connection ports, M12 plug and cable

¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature = 20 °C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

* F.S.=Full scale (10 m/s)

Technical Data (continued)

Power supply

2 or 3 outputs transmitter 14-36 V DC, filtered and regulated

(2-wire)

Electrical data

4 outputs transmitter (3-wire) 12-36 V DC, filtered and regulated

Characteristics of the power source (not provided) of UL recognized devices

Limited power source (according to § 9.3 of the UL61010-1 standard) or Class 2 type power source (according to the 1310/1585 and 60950-1 standards)

Current consumption with sensor

2 or 3 outputs transmitter (2-wire) ≤ 1 A (with transistors load)
 ≤ 25 mA (at 14 V DC without transistors load, with current loop)
 4 outputs transmitter (3-wire) ≤ 5 mA (at 12 V DC without transistors load, without current loop)

Power consumption

max. 40 W

Reversed polarity of DC

Protected

Voltage peak

Protected

Short circuit

Protected for transistor outputs

Output

Transistor
 1 Transistor output (Transmitter 2-wire) NPN, open collector, 1–36 V DC, max. 700 mA

2 Transistor outputs (Transmitter 2 or 3-wire) Configurable as sourcing or sinking (respectively both as PNP or NPN), open collector, max. 700 mA, 0.5 A max. per transistor if the 2 transistor outputs are wired
 NPN-output: 1 - 36 V DC
 PNP-output: Power supply

Current
 1 Current output (Transmitter 2-wire) 4-20 mA programmable as sourcing or sinking (in the same mode as transistor), max. loop impedance: 1100 W at 36 V DC ; 610 W at 24 V DC; 180 W at 14 V DC

2 Current outputs (Transmitter 3-wire) max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 100 W at 12 V DC

4...20 mA measurement error ±1%

Environment

Ambient temperature -10 °C to +60 °C (operating and storage)

Relative humidity ≤ 85%, without condensation

Standards, directives and approvals

Protection class IP65, IP67, NEMA250 4X with M12 cable plug mounted and tightened and cover fully screwed down

Standard and directives

EMC EN 61000-6-2 (2005), EN 61000-6-3 (2001)
 Pressure Complying with article 3 of §3 from 97/23/CE. directive*
 Vibration / Shock EN 60068-2-6 / EN 60068-2-27

Approvals

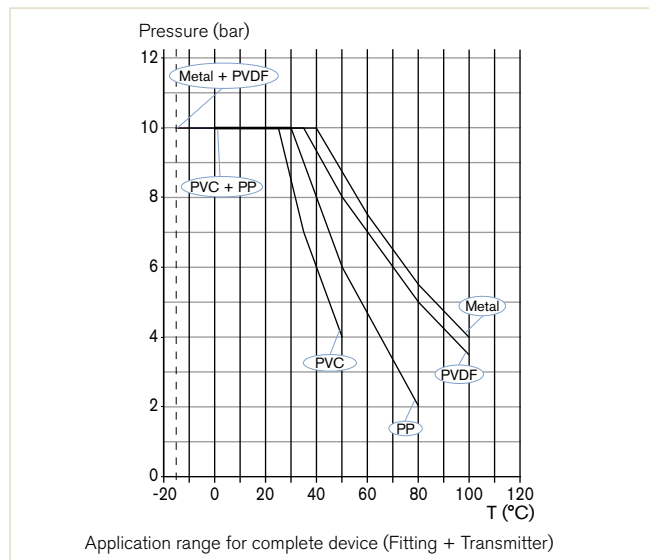
UL-Recognized for US and Canada 

UL-Recognized for US and Canada

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32 DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.a	DN ≤ 25 DN > 25 and PN*DN ≤ 2000
Fluid group 2, §1.3.a	DN ≤ 400

Pressure / temperature chart



Ordering Chart

Output	Electrical connection	Item no.	
		Short	Long
with display			
1 x transistor NPN + 1 x 4 - 20 mA (2-wire)	5-pin M12 male	561 860	561 870
2 x transistor NPN / PNP + 1 x 4 -20 mA (2-wire)	5-pin M12 male	561 861	561 871
2 x transistor NPN / PNP + 2 x 4 - 20 mA (3-wire)	5-pin M12 male and 5-pin M12 female	561 862	561 872
without display			
1 x transistor NPN + 1 x 4 -20 mA (2-wire)	5-pin M12 male	560 860	560 870
2 x transistor NPN / PNP + 1 x 4 - 20 mA (2-wire)	5-pin M12 male	560 861	560 871
2 x transistor NPN / PNP + 2 x 4 - 20 mA (3-wire)	5-pin M12 male and 5-pin M12 female	560 862	560 872

8026

Accessories

Description	Item No
Removable display/programmer module (with instruction sheet)	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m pre-wired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m pre-wired	438 680

Note: Type 8026, a complete flow transmitter with integrated paddle, consists of Type 8026 which is a compact ELEMENT Flow Transmitter, a removable display/programming module and Type S020, an INSERTION fitting (the latter must be ordered separately)

Insider Tip!

Did you know...? The Bürkert Type 330 is more than just a solenoid valve: it's many in one. Featuring a body made of plastic, brass, aluminium or stainless steel and with various ports and sealants, it adapts to perfectly fit every requirement. Which means its unique and versatile valve technology is suitable for use in nearly all industries. Full encapsulation, the IP65 rating and an explosion-proof enclosure make the 330 fit for rough environments and critical media. Its long service life ensures it won't be a thing of the past tomorrow. So spread the word!

We make ideas flow.



Digital batch controller INLINE

DN06-65 mm

- Dosing
- On site calibration by Teach-In
- Check of input/output signals
- Total and daily totalizers for batch quantity and number of batches, volume or mass totalizers displayed



The 8035 batch controller is specially designed for use in neutral, slightly aggressive, solid-free liquids. The batch controller is made up of a compact fitting with paddle-wheel (S030) and an electronic module (SE35) quickly and easily connected together by a Quarter-Turn.

The Bürkert designed fitting system ensures simple installation of the sensors into all pipes from DN06-65.

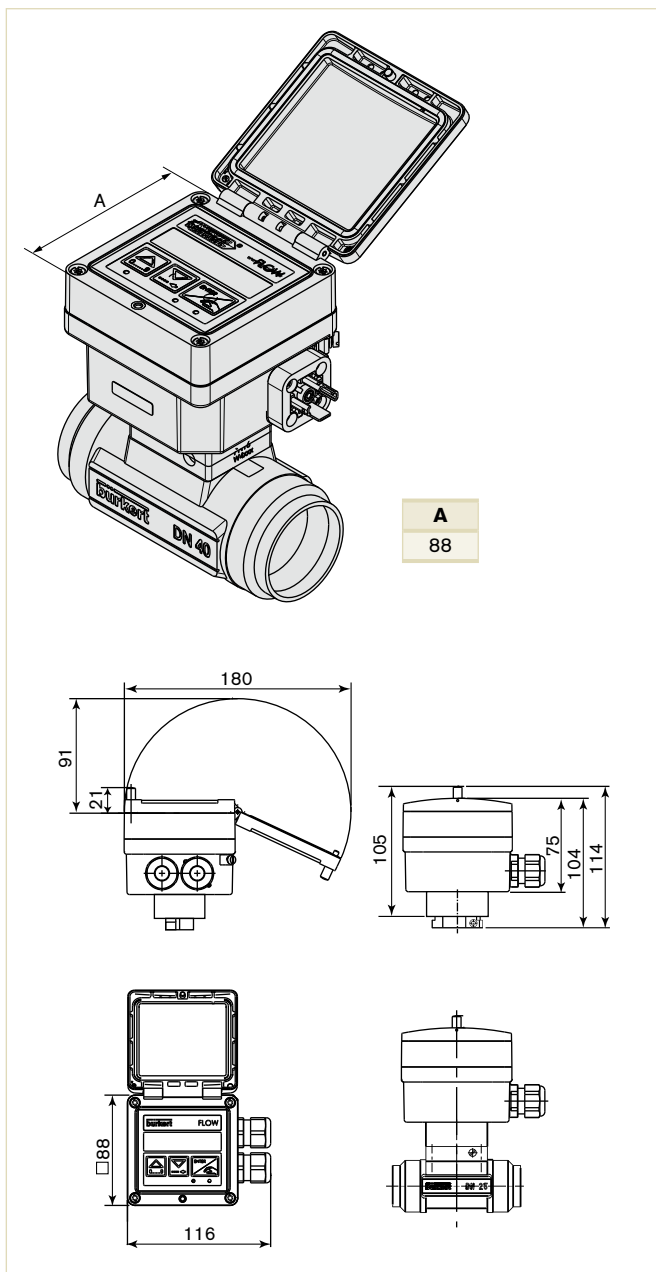
Technical Data

General data	
Compatibility	with fittings S030 (see datasheet)
Materials	
Housing, cover, lid, nut	PC
Front panel foil / Screws	Polyester / Stainless steel
Cable glands	PA
Wetted parts materials	
Fitting, sensor armature	Brass, st, st, 1.4404/316L, PVC, PP or PVDF
Paddle-wheel	PVDF
Axis and bearing / Seal	Ceramics / FKM (EPDM incl., but not mounted)
Display	15 x 60 mm, 8 digit LCD, alphanumeric, 15 segments, 9 mm high
Electrical connections	Cable glands M20 x 1.5
Recommended cable	Max. 50 m, shielded, 1.5 mm ² max. cross-section
Device data (Fitting S030 + Electronics)	
Pipe diameter	DN06-65 mm
Measuring range	0.3 to 10 m/s (Hall transducer version)
Fluid temp. with fitting in	
PVC / PP	0 °C to +50 °C / 0 °C to +80 °C
PVDF, brass or st. st.	-15 °C to +100 °C
Fluid pressure max.	PN10 (with plastic fitting) - PN16 (with metal fitting) - (PN40 on request, see S030 data sheet) - see Pressure/Temperature diagram
Viscosity / Pollution	300 cSt. max. / 1% max (size: max. 0.5 mm)
Accuracy	
Teach-In	±0.5% of F.S.* ¹⁾
Standard K-factor	±(0.5% of F.S.* + 2.5% of Reading) ¹⁾
Linearity	±0.5% of F.S.* ¹⁾
Repeatability	≤ 0.4% of Reading ¹⁾


¹⁾ Under ref. conditions i.e. measuring fluid=water, ambient and water temperature=20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

* F.S.=Full scale (10 m/s)

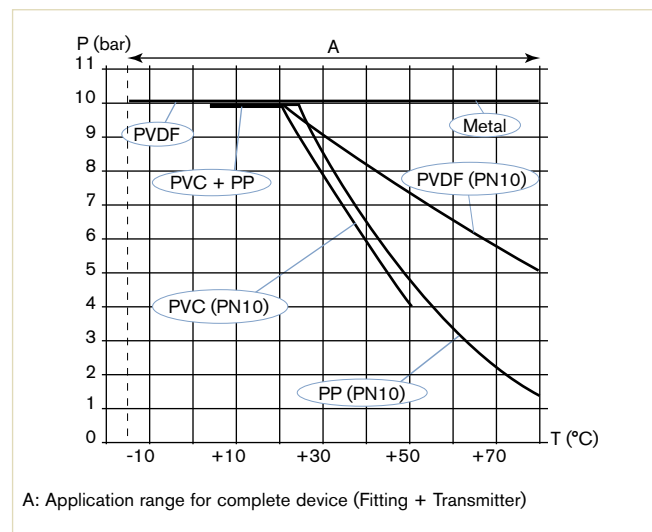
Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

Electrical data	
Power supply (V+)	12 - 36 V DC (max tolerance: -5% or +10% at 12 V DC; $\pm 10\%$ at 36 V DC), filtered and regulated, SELV (safety extra low voltage), circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Reversed polarity of DC	protected
Current consumption with sensor (without consumption of digital input and pulse output)	with relays ≤ 90 mA at 12 V DC; ≤ 45 mA at 36 V DC
Inputs DI (1 to 4)	Switching threshold Von: 5... 36 V DC; Switching threshold Voff max: 2 V DC; Input impedance: 9.4 KOhms; Galvanic insulation, protected against polarity reversals and voltage spike
Outputs	
Transistors (DO1 and DO4)	NPN or PNP (wiring dependent), potential free; function: pulse output (by default for DO1), batch state (by default for DO4), configurable and parameterizable 0.6 - 2200 Hz, 5 - 36 V DC, 100 mA max., line drop 2.7 V DC at 100 mA duty cycle: <ul style="list-style-type: none"> ■ > 0.45 if 0.6 < frequency < 300 Hz ■ > 0.4 if 300 < frequency < 1500 Hz ■ < 0.4 if 1500 < frequency < 2200 Hz Galvanic insulation, protected against overvoltage, polarity reversals and short-circuits
Relays (DO2 and DO3)	2 relays (normally open), parameterizable (by default: DO2 always configured to control the valve, parameterized of 100% of the batch quantity and DO3 configured as alarm), 230 V AC/3 A or 40 V DC/3 A (resistive load), max. cutting power of 750 VA (resistive load)
Technical specifications 115/230 V AC	
Voltage supply available inside the device	27 V DC regulated max. current: 125 mA integrated protection: fuse 125 mA temporised power: 3 VA
Environment	
Ambient temperature (operation and storage)	-10 to +60°C (14 to 140°F) (version 12 - 36 V DC) -10 to +50°C (14 to 122°F) (version 115/230 V AC)
Height above sea level	max. 2000 m
Relative humidity	≤ 80 %, without condensation
Standards, directives and approvals	
Protection class (according to EN60529)	IP65 with cable gland mounted and tightened or with obturator locked if not used.
Standard and directives	
EMC	EN 61000-6-2, EN 61000-6-3
Security	EN 61010-1
Pressure (Fitting S030, DN06 to DN65, in PVC, PP, PVDF, stainless steel or brass)	Complying with article 3 of chap. 3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27
Approvals	CE; UL-Recognized for US and Canada (61010-1 + CAN/CSA-C22 No.61010-1) 

Pressure / temperature chart



Operation and display

When mounted in a pipe in series with one or two valves, the 8035 batch controller makes it possible to carry out a dosing of one or several quantities of liquids. The unit controls the opening of the valves and measures the quantity of the fluid which flows. The unit also closes the valves when the preset quantity has been delivered.

The electronic component needs a voltage supply of 12 - 36 V DC or 115/230 V AC.

The device is equipped with 4 digital inputs (DI1 up to DI4), 2 transistor outputs (DO1 configured as a pulse output and DO4 configured as state output, by default), 2 relay outputs (DO2 always configured to control the valve and by default parameterize of 100% of the batch quantity and DO3 configured as alarm output by default), two volume or mass totalizers and two batch totalizers.

The second relay output can be used to activate another valve, to initiate alarms or to generate warnings.

The following dosing modes are possible:

- Locally started dosing of free quantity:

the user enters the quantity to be filled and starts the dosing from the keypad.

- Locally started dosing of preset quantity:

the user selects a quantity which has been preset and starts the dosing from the keypad.

- Locally started dosing of free/preset quantity

the user enters the quantity to be filled or selects a quantity which has been preset and starts the dosing from the keypad.

- Dosing controlled by a PLC unit

the user selects a quantity which has been preset and starts the dosing using binary inputs.

- Locally/remote selection of preset quantity and dosing controlled by a PLC unit:

the user selects a quantity which has been preset from the keypad or using binary inputs and starts the dosing using binary inputs.

- Automatic dosing controlled by variation of pulse duration:

the quantity of the dosing is directly proportional to the duration of a pulse.

- Remote dosing determined by Teach-In:

Teach-In of the dosing quantity using binary inputs.

- Local dosing determined by Teach-In:

Teach-In of the dosing quantity from the keypads.

The device is calibrated by means of the K-factor which is either entered or determined via the Teach-In functions.

User adjustments, such as measuring range, engineering units, pulse output, etc. are carried out via the device operators interface.

The operation is specified according to five levels:

Indication in operating mode/ display	Parameter definition	Test	Information	History
<ul style="list-style-type: none"> ▪ dosing amount ▪ dosing mode ▪ main quantity totalizer ▪ daily quantity totalizer with reset function ▪ main batch totalizer ▪ daily batch totalizer with reset function 	<ul style="list-style-type: none"> ▪ language ▪ engineering units ▪ K-factor/Teach-In function ▪ selection of dosing mode ▪ over run correction ▪ alarm ▪ outputs configuration ▪ reset both quantity/batch totalizers (main and daily) ▪ Brightness of the display (backlight) 	<ul style="list-style-type: none"> ▪ input test ▪ output test ▪ frequency test ▪ warning and fault messages generating ▪ configuration mode 	<ul style="list-style-type: none"> ▪ Display of error, alarm and/or warning messages 	<ul style="list-style-type: none"> ▪ Display of the 10 latest batches

Ordering Chart

Description	Voltage supply	Relay	Sensor version	Electrical connection	Item no.
Electronic module Type SE35 for batch controller					
Batch controller, compact version	12 - 30 V DC	2	Hall	2 Cable glands	443 360
	115 - 230 V AC	2	Hall	2 Cable glands	423 926

Accessories

Description	Item no.
Set with 2 cable glands M20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5 + 2 multiway seals 2 x 6 mm	449 755
Set with 2 reductions M20 x 1.5 /NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5	551 782
Set with 1 stopper for unused cable gland M20 x 1.5 + 1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551 775

Note: Type 8035 batch controller consists of Type SE35, an INLINE electronics and Type S030, an INLINE fitting (DN06 - DN65) and must be ordered separately

Digital flow ELEMENT transmitter for continuous flow measurement

8036

- DN06-65 mm fluidic process connection
- Programmable outputs: one or two transistor output(s) and single or dual 4-20 mA current output(s)
- Removable backlit display of flow and/or two totalized volumes
- Automatic-calibration: TEACH-IN, simulation of outputs signals provided without the need for real flow



The Bürkert transmitter, Type 8036, is a compact device, specially designed for measuring the flow rate in solid-free liquids, in a variety of applications (water, waste water monitoring, chemical processing...).

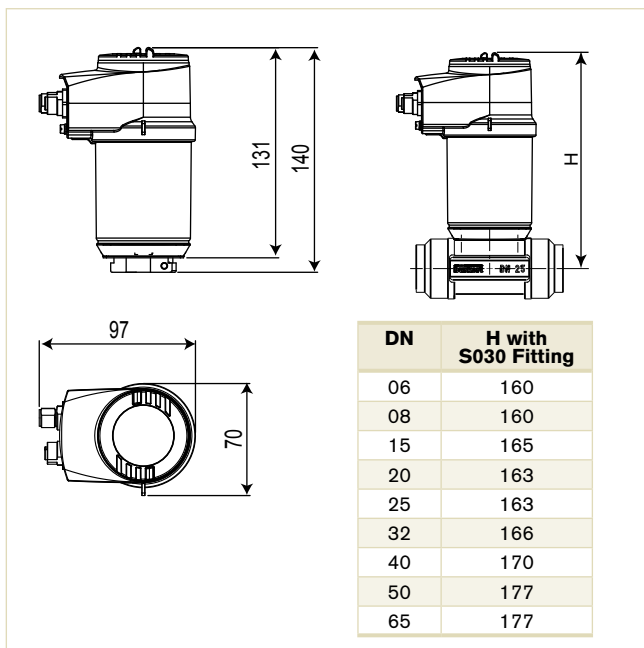
The transmitter is made up of a compact INLINE fitting equipped of a sensor with paddle-wheel and an enclosure with cover, containing the electronic module. A removable display completes this transmitter. This ensemble (SE36) is quickly and easily connected to the fitting (S030) by a Quarter-Turn.

The flow transmitter can operate without the display, but it will be required for programming the transmitter (i.e. set parameters, restore default parameters, programme information to be displayed, programme access codes, adjust 4-20 mA output(s) ...) and also for visualizing continuously the measured and processed data. (see datasheet for more information)

Technical Data

General data	
Compatibility	Any pipe from DN06-65 mm which is fitted out with Bürkert INLINE Fitting S030 (see corresponding data sheet)
Materials	See exploded view, on next page
Housing	Stainless steel 1.4561, PPS
Cover	PC
Gaskets	EPDM
Screws	Stainless steel
Fixed connector mounting plate	Stainless steel 1.4404 (316L)
Fixed connector	Brass nickel plated
Display	PC
Navigation key	PBT
Quarter-Turn system	PC
Display (accessories)	Grey dot matrix 128 x 64 with backlighting
Electrical connections	
2 or 3 outputs transmitter	1 x 5-pin M12 male fixed connector,
4 outputs transmitters	1 x 5-pin M12 male and 1 x 5-pin M12 female fixed connectors
Connection cable	Shielded cable
Environment	
Ambient temperature	-10 °C up to +60 °C (operating and storage)
Relative humidity	≤ 85%, without condensation
Complete device data (Pipe + transmitter)	
Pipe diameter	DN06 to 65
Measuring range	0.3 up to 10 m/s

Envelope Dimensions [mm] (see datasheet for details)





Medium temperature with fitting in	0 °C to 50 °C (32 to 122 °F)
PVC	0 °C to 80 °C (32 to 176 °F)
PP	-15 °C to 100 °C (5 to 212 °F)
PVDF, brass or stainless steel	
Medium pressure max.	PN10 (145 PSI) (with plastic fitting) - PN16 (232 PSI) (with metal fitting) - (PN40 on request, see S030 data sheet) - see pressure / temperature chart
Viscosity / Particles rate	300 cSt max. / 1% max.
Measurement error	
Teach-In	±1% of Reading (at Teach-In flow rate value) ¹⁾
Standard K-factor	±2.5% of Reading ¹⁾
Linearity	±0.5% of F.S.* ¹⁾
Repeatability	±0.4% of Reading ¹⁾

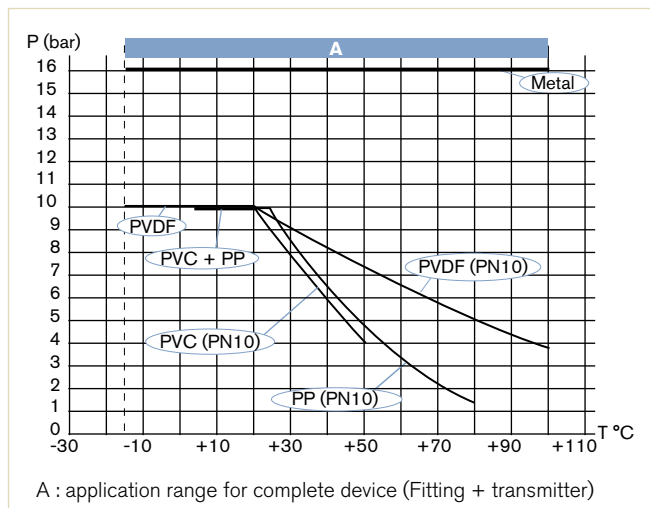
¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20°C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.
* F.S.=Full scale (10 m/s)

Technical Data (continued)

Electrical data	
Power supply	
2 or 3 outputs transmitter (2-wire)	14-36 V DC, filtered and regulated
4 outputs transmitter (3-wire)	12-36 V DC, filtered and regulated
Characteristics of the power source (not provided) of UL recognized devices	Limited power source (according to § 9.3 of the UL61010-1 standard) or Class 2 type power source (according to the 1310/1585 and 60950-1 standards)
Current consumption	
with sensor	≤ 1 A (with transistors load)
2 or 3 outputs transmitter (2-wire)	≤ 25 mA (at 14 V DC without transistors load, with current loop)
4 outputs transmitter (3-wire)	≤ 5 mA (at 12 V DC without transistors load, without current loop)
Power consumption	40 W max.
Reversed polarity of DC	Protected
Voltage peak	Protected
Short circuit	Protected for transistor outputs
Output	
Transistor	
1 Transistor output (Transmitter 2-wire)	NPN, open collector, 1 - 36 V DC, max. 700 mA
2 Transistor outputs (Transmitter 2 or 3-wire)	Configurable as sourcing or sinking (respectively both as PNP or NPN), open collector, max. 700 mA, 500 mA max. per transistor if the 2 transistor outputs are wired NPN-output: 1 - 36 V DC PNP-output: Power supply
Current	4-20 mA programmable as sourcing or sinking (in the same mode as transistors), max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 180 W at 14 V DC
1 Current output (Transmitter 2-wire)	
2 Current outputs (Transmitter 3-wire)	max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 100 W at 12 V DC
4... 20 mA measurement error	±1%

Standards, directives and approvals	
Protection class	IP65, IP67, NEMA 4X and NEMA 6P with M12 cable plug mounted and tightened and cover fully screwed down
Standard and directives 	EN 61000-6-2 (2005), EN 61000-6-3 (2001)
EMC	Complying with article 3 of §3 from 97/23/CE. directive*
Pressure	EN 60068-2-6 / EN 60068-2-27
Vibration / Shock	
Approvals	
UL-Recognized for US and Canada 	UL61010-1 + CAN/CSA-C22 No.61010-1
* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).	





Pressure/temperature chart



Ordering Chart

Description	Voltage supply	Output	Electrical connection	Item no.	
				without display	with display
For compact transmitter, Type SE36					
2 outputs	14 - 36 V DC	1 x Transistor NPN + 1 x 4-20 mA (2-wire)	5-pin M12 male fixed connector male fixed connector	560 880	561 880
3 outputs	14 - 36 V DC	2 x Transistor NPN/PNP + 1 x 4-20 mA (2-wire)	5-pin M12 male fixed connector male fixed connector	560 881	561 881
4 outputs	12 - 36 V DC	2 x Transistor NPN/PNP + 2 x 4-20 mA (3-wire)	1 x 5-pin M12 male + 1 x 5-pin M12 female fixed connector	560 882	561 882

Accessories

Specification	Item no.
Removable display/programmer module (with instruction sheet)	559 168
Black blank cover with EPDM seal	560 948
Transparent cover with EPDM seal	561 843
 5 pin M12 female straight cable plug with plastic threaded locking ring, to be wired	917 116
 5 pin M12 male straight cable plug with plastic threaded locking ring, to be wired	560 946
 5 pin M12 female straight cable plug moulded on cable (2 m, shielded)	438 680
 5 pin M12 male straight cable plug moulded on cable (2 m, shielded)	559 177

Note about ordering table

To select an entire device the following order items are required:

- Product no. of the desired compact flow transmitter, Type SE36
- Product no. of the selected INLINE fitting, Type S030, must be ordered separately

Important

Please be careful when ordering devices without a display, that you purchase at least one display module.

Process control made simple.

Trust, but verify. Water treatment demands powerful and precise products which work reliably and intuitively. With their modular design, the multichannel transmitter solutions from Bürkert are able to handle different sensor sizes in parallel – perfectly attuned to the respective application. Their spectrum ranges from simple measurement value recording up to sophisticated control tasks – for high quality process control and your peace of mind.

MultiCELL 8619:
The versatile controller for individual transparency.



We make ideas flow.
www.burkert.com



bürkert
FLUID CONTROL SYSTEMS

FLUID CONTROL SYSTEMS
bürkert

Blind INSERTION Magmeter

8041

For use with fitting DN15-350 mm

- Solid state technology
- Clean in place
- FDA approved

Please see fitting S020

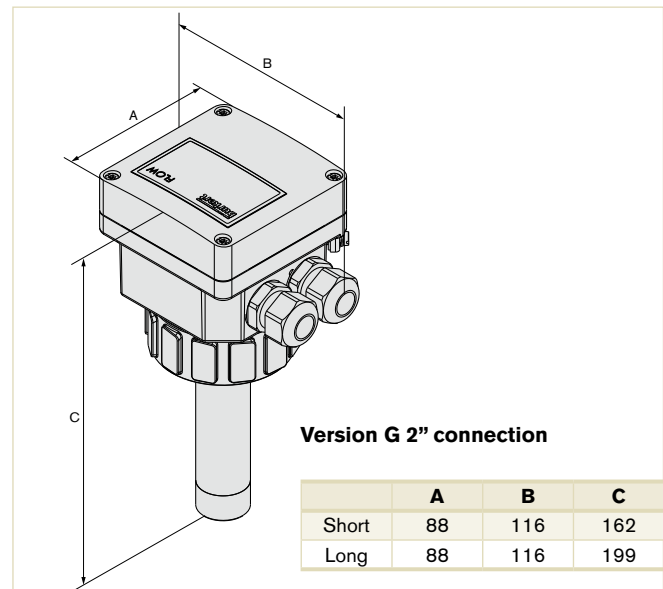


The insertion magmeter constructed from a PVDF finger and high quality blind electronic module. Perfect for contaminated or aggressive fluids it has both 4 to 20 mA and pulse output, with optional 3A relays, making this a flexible solution for flow control or batching.

Technical Data

General data	
Compatibility	with fittings S020 (see corresp. datasheet)
Materials	
Housing, cover, nut	PC (glass fibre reinforced for housing) PPA (glass fibre reinforced)
PVDF sensor version	Stainless steel sensor version
Stainless steel sensor version	Stainless steel / NBR / PA with neoprene seal
Screws/Seal/Cable glands	
Wetted parts materials	PVDF or Stainless steel 1.4404/316L
Sensor holder	Stainless steel 1.4404/316L
Electrodes	G 2" connection: FKM (FDA approved), [EPDM (KTW approved)]
Seals	Clamp connection: EPDM or FEP (to be ordered separately) Stainless steel 1.4404/316L
Earth ring (PVDF sensor version)	PEEK (FDA approved)
Electrode holder (St. Steel sensor version)	
Surface finishing quality	Ra < 0.8 mm (Clamp connection)
Electrical connections	2 cable glands M20 x 1.5
Recommended cable	0.5 to 1.5 mm ² cross-section, shielded cable, 6... 12 mm diameter (if only one cable is used per cable gland) or 4 mm diameter (if two cables are used per cable gland with using the supplied multi-way seal)
Environment	
Ambient temperature	-10 °C to +60 °C (14 to 140 °F) (operating) -20 °C to +60 °C (-4 to 140 °F) (storage)
Relative humidity	< 80%, without condensation
Height above sea level	max. 2000 m
Complete device data (Fitting S020 + flowmeter)	
Pipe diameter	
G 2" connection	DN06 to DN400
Clamp connection	DN32 to DN100
Measuring range	0.2 to 10 m/s
Sensor element	Electrodes
Fluid temperature	see Pressure/Temperature diagram
PVDF sensor version	0 °C to 80 °C (32 to 176°F) (depends on fitting)
Stainless steel sensor version	-15 °C to 150°C (5 to 302°F) (depends on fitting)

Envelope Dimensions [mm] (see datasheet for details)



Options

- Stainless steel finger for +150 °C and 16 bar with PPA housing
- FDA approved wetted materials, - Hastelloy C Electrodes

Fluid pressure max.	see pressure/temperature diagram
PVDF sensor version	PN10 (145.1 PSI)
Stainless steel sensor version	PN10 (145.1 PSI) (with plastic fitting) - PN16 (232.16 PSI) (with metal fitting)
Conductivity	min. 20 mS/cm
Accuracy	
Teach-In	±0.5% of Reading ¹⁾ (at the teach flow rate value)
Standard K-factor	±3.5% of Reading ¹⁾
Linearity	±0.5% of F.S. ¹⁾
Repeatability	±0.25% of Reading ¹⁾

¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature = 20 °C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

* F.S.= Full scale (10 m/s)

Technical Data (continued)

Electrical data	
Power supply	18 - 36V DC filtered and regulated (3 wires)
Reversed polarity of DC	protected
Current consumption	≤ 220 mA (at 18V DC)
Output	
Signal current	4... 20 mA (sink or source by wiring), 100 ms refresh time; max. loop impedance: 1100 Ω at 36V DC; 330 Ω at 18V DC
Frequency	0... 240 Hz, duty cycle = 50%±1%; 100 mA max., protected against short-circuits and polarity reversals.
Relay	Normally open or normally closed (depending on wiring), 3 A, 250V AC
4... 20 mA output accuracy	±1%
Alarm	
Full scale exceeding	22 mA and 256 Hz
Fault signalling	22 mA and 0 Hz
User parameter	Saved in EEPROM

Standards, directives and approvals	
Protection class	IP65
Standards and directives	
EMC	EN 50081-1, EN 61000-6-2
Low voltage (LVD)	EN 61010-1
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27
Approval	FDA

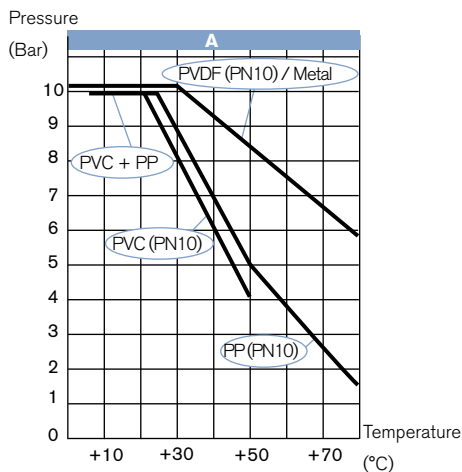
* For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	Forbidden
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200 or PN ≤ 10 or PN*DN ≤ 5000

Pressure/Temperature diagram

8041 with a PVDF sensor

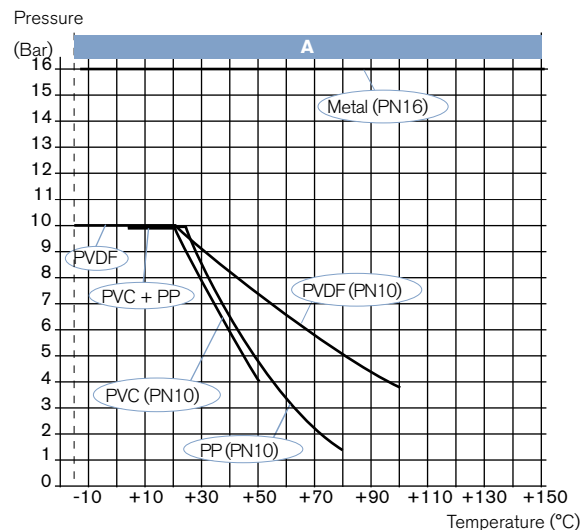
(depending on the fitting material)



A : application range for complete device (Fitting + transmitter)

8041 with a stainless steel sensor

(depending on the fitting material)



Ordering Chart

Output	Relay	Housing material	Seal material	Sensor version	Electrical connection	Item no.	
4 - 20 mA, frequency	1	PC	FKM	short, PVDF	2 cable glands	558 064	
				long, PVDF	2 cable glands	558 065	
			PPA	FKM	short, stainless steel	2 cable glands	552 779
					long, stainless steel	2 cable glands	552 780

Note

1 Kit 558 102, 1 relay connection kit 552 812 and 1 EPDM seal are supplied with each transmitter.

To select a complete device the following items need to be ordered:

- Product no. of the desired flow meter for Type 8041
- Product no. of the Type S020 fitting, for gauges with G 2" connector, must be ordered separately

INSERTION Magmeter with display

8045

For use with fitting DN15-350 mm

- Simple to read display
- Easy push button menu
- Clean in place
- FDA approved

Please see fitting S020

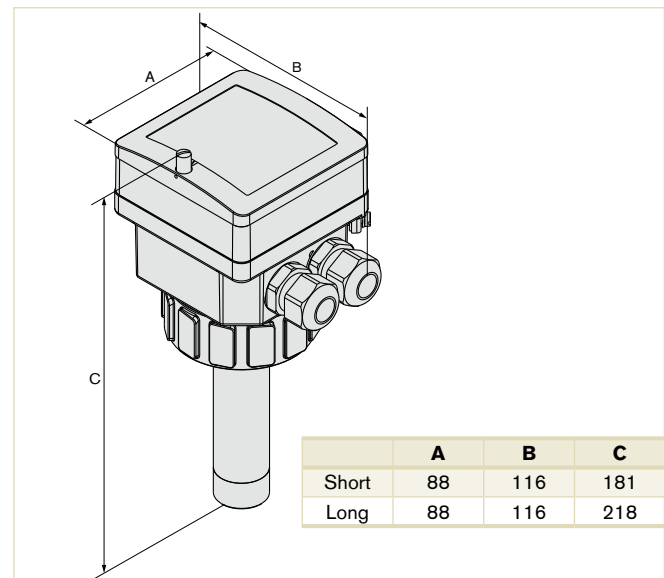


With a stainless steel insertion finger and high quality electronic display module this unit is perfect for contaminated or aggressive fluids. 4-20 mA and pulse output with optional 3A relays makes this a flexible solution for flow control, batching or CIP control in FDA applications.

Technical Data

General data	
Compatibility	with Fittings S020 (see corresp. datasheet)
Materials	
Housing, cover, nut / seal	
PVDF sensor version	PC (glass fibre reinforced for housing) / NBR
Stainless steel sensor version	Black PPA (glass fibre reinforced) / NBR
Front panel foil	Polyester
Protection lid / seal	
PVDF sensor version	PC / silicone
Stainless steel sensor version	PSU / silicone
Screws / Seal	Stainless steel / NBR
Cable glands	PA with neoprene seal
Wetted parts material	
Sensor holder	PVDF or Stainless steel 1.4404/316L
Electrodes	Stainless steel 1.4404/316L or Alloy C22
Seals	G 2" connection: FKM (FDA approved) [EPDM (KTM approved)]
Earth ring (PVDF sensor version)	Clamp connection: EPDM or FEP (to be ordered separately)
Electrode holder (St. Steel sensor version)	Stainless steel 1.4404/316L or Alloy C22
	PEEK (FDA approved)
Surface finishing quality	Ra < 0.8 mm (Clamp connection)
Electrical connections	2 cable glands M20 x 1.5
Recommended cable	0.5 to 1.5 mm ² cross-section, shielded cable, 6... 12 mm diameter (if only one cable is used per cable gland) or 4 mm diameter (if two cables are used per cable gland with using the supplied multi-way seal)
Environment	
Ambient temperature	-10 °C to +60 °C (14 to 140°F) (operating) -20 °C to +60 °C (-4 to 140°F) (storage)
Relative humidity	< 85%, without condensation
Height above sea level	max. 2000 m
Complete device data (Fitting S020 + flowmeter)	
Pipe diameter	
G 2" connection	DN06 to DN400
Clamp connection	DN32 to DN100
Measuring range	0.2 to 10 m/s
Sensor element	Electrodes

Envelope Dimensions [mm] (see datasheet for details)




Options

- PVDF finger for +80 °C and 6 bar with PC housing
- Hastelloy electrodes

Medium temperature	
PVDF sensor version	see Pressure/Temperature diagram 0 °C to 80 °C (32 to 176°F)
Stainless steel sensor version	(depends on fitting) -15 °C to 110 °C (5 to 230°F) (depends on fitting)
Medium pressure max.	
PVDF sensor version	see Pressure/Temperature diagram PN10 (145.1 PSI)
Stainless steel sensor version	PN10 (145.1 PSI) (with plastic fitting) PN16 (232.16 PSI) (with metal fitting)
Conductivity	
	min. 20 mS/cm
Accuracy	
Teach-In	±0.5% of Reading ¹⁾
Standard K-factor	(at the teach flow rate value) ±3.5% of Reading ¹⁾

Technical Data (continued)

Linearity	±0.5% of F.S. ¹⁾
Repeatability	±0.25% of Reading ¹⁾
¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature = 20 °C (68°F), applying the minimum inlet and outlet straight pipe lengths, matched inside pipe dimensions. * F.S.= of Full scale (10 m/s)	
Electrical data	
Operating voltage	18 - 36V DC filtered and regulated (3 wires) Tolerance: ±0.5%
Reversed polarity of DC	protected
Current consumption	≤ 300 mA (at 18V DC)
Digital input DI1	Supply voltage: 18 - 36V DC, input impedance 15 kΩ min. pulse duration: 200 ms Galvanic insulation, protected against polarity reversals of DC and voltage spikes
Digital outputs	
Transistor (DO1)	Type: NPN or PNP (wiring dependent), open collector Function: pulse output (by default), user configurable 0 - 250 Hz, 5 - 36V DC, 100 mA max., duty cycle if frequency > 2 Hz: 1/2; min. pulse duration if frequency < 2 Hz: 250 ms
Relay (DO2 and DO3)	Galvanic insulation, protected against polarity reversals of DC and short-circuits 2 normally open relays, freely adjustable (hysteresis by default), 250V AC/3 A or 30V DC/3 A (resistive load), max. cutting power of 750 VA (resistive load); life span of min. 100000 cycles
Analogue output	
Current (AO1)	4... 20 mA, sink or source (wiring dependent), 22 mA to indicate a fault max. loop impedance: 1300 Ω at 36V DC, 1000 Ω at 30V DC, 700 Ω at 24V DC, 450 Ω at 18V DC
4... 20 mA output accuracy	±1%

Standards, directives and approvals	
Protection class	IP65, device wired and cable glands tightened and lid screwed tight
Standards and directives	
EMC	EN 61000-6-2, EN 61000-6-3
Low voltage (LVD)	EN 61010-1
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27
Approvals	FDA (only for device with FKM seal and PEEK electrode holder) KTW (only for device with EPDM seal and PVDF sensor holder) Available version with CSA-Approved for US and Canada  on request

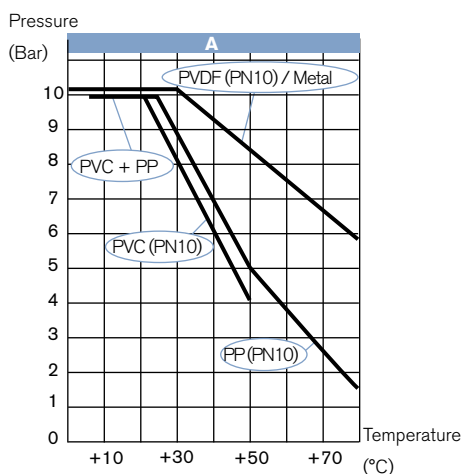
* For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	Forbidden
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200 or PN ≤ 10 or PN*DN ≤ 5000

Pressure/Temperature diagram

8045 with a PVDF sensor

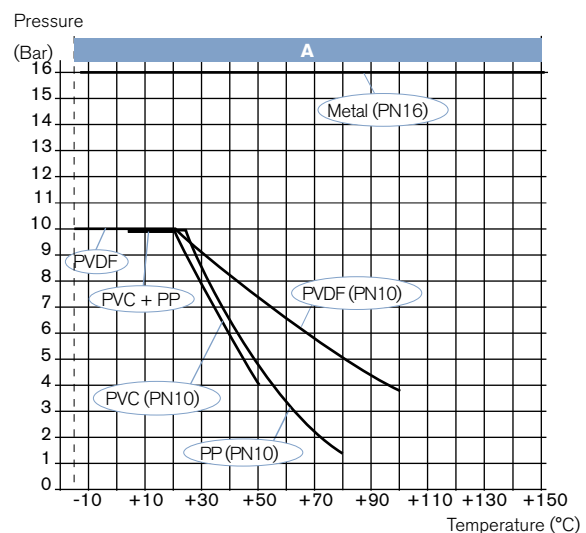
(depending on the fitting material)



A : application range for complete device (Fitting + transmitter)

8045 with a stainless steel sensor

(depending on the fitting material)



Ordering Chart (please order fitting separately)

8045

Relays	Housing material	Sensor version	Item no.
No	PC	Short, PVDF	426 498
		Long, PVDF	426 499
2		Short, PVDF	426 506
		Long, PVDF	426 507
No	PPA	Short, Stainless Steel (FDA)	449 670
		Long, Stainless Steel (FDA)	449 672
2		Short, Stainless Steel (FDA)	449 671
		Long, Stainless Steel (FDA)	449 673

Note

Delivered with 1 set 551 775 and 1 EPDM seal.

To select a complete device the following items need to be ordered:

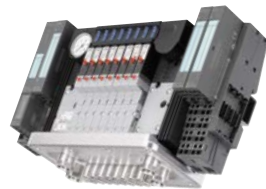
- Product no. of the desired flow meter for Type 8045
- Product no. of the Type S020 fitting, for gauges with G 2" connector, must be ordered separately

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Full bore INLINE Magmeter

8051 / 8055 / 8056

DN3-150 mm

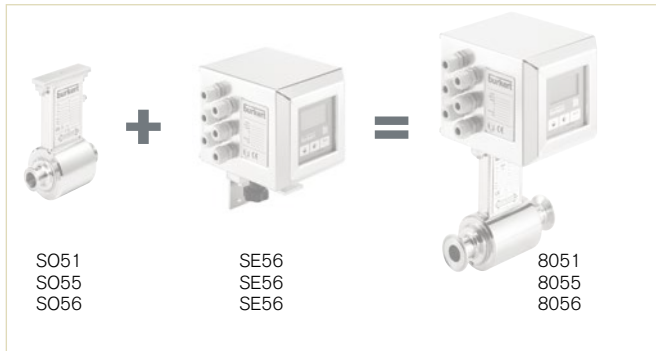
- High frequency sampling
- Flow or Batch Control
- Compact or remote version
- 3 different electronics can be connected to 3 different types of sensors



Shown is the remote flanged sensor and the hygienic clamp compact version

These full bore magmeters accurately measure the flow of liquids with conductivities as low as 5 µS/cm with or without solids. Varied application environments such as water, wastewater, sludge, slurries, pastes, acids, alkalis, juices, fruit pulp can easily be handled. This extremely robust, time tested design incorporates the latest electronics and when combined with a valve as the actuating element they can control high-precision dosing operations.

System Architecture



Technical Data (with standard compact version SE56)

	8051	8055	8056
Pipe diameter	DN03 to DN20	DN25 to DN200 [to DN2000]*	DN03 to DN100
Measuring range	0... 10 l/h to 0... 12500 l/h	0... 0.72 m³/h to 0... 1130 m³/h	0... 10 l/h to 0... 280 m³/h
Process connection	Thread ISO 228-1, NPT (DIN 11851, SMS 1145, Clamp ISO 2852 or BS 4825, Flanges DIN 2501, ANSI on request)	S054: wafer - S055: Flange EN1092-1, ANSI B16-5, [JIS]*	DIN11851, Clamp ISO2852 or Clamp BS4825 [SMS1146 (from DN10)]*
Medium temperature	see datasheet	see datasheet	see datasheet
Medium pressure max.	PN16 (232 PSI) (PN40 (580 PSI), on request)	PN16 (232 PSI) (with PP lining) or [up to PN64 (928 PSI) (with Ebonite or PTFE lining)]*	PN16 (232 PSI)
Vacuum resistance	200 mbar (2.9 PSI) absolute at 100 °C (212 °F)	200 mbar (2.9 PSI) absolute at 100 °C (212 °F)	200 mbar (2.9 PSI) absolute at 100 °C (212 °F)
Accuracy ¹⁾	± 0.2% of reading (SE56 standard; SE56 blind) ± 0.8% of reading (SE56 basic)	± 0.2% of reading (SE56 standard; SE56 blind) ± 0.8% of reading (SE56 basic)	± 0.2% of reading (SE56 standard; SE56 blind) ± 0.8% of reading (SE56 basic)
Repeatability	± 0.1% (SE56 standard; SE56 blind) ± 0.2% (SE56 basic)	± 0.1% (SE56 standard; SE56 blind) ± 0.2% (SE56 basic)	± 0.1% (SE56 standard; SE56 blind) ± 0.2% (SE56 basic)
Minimum conductivity	5 µS/cm (or 20 µS/cm with demineralized water)	5 µS/cm (or 20 µS/cm with demineralized water)	5 µS/cm (or 20 µS/cm with demineralized water)
Environment			
Ambient temperature with			
SE56 standard	-20 to 60 °C (operating and storage)	-20 to 60 °C (operating and storage)	-20 to 60 °C (operating and storage)
SE56 basic	-10 to 50 °C (operating) -20 to 50 °C (storage)	-10 to 50 °C (operating) -20 to 50 °C (storage)	-10 to 50 °C (operating) -20 to 50 °C (storage)
SE56 blind	-20 to 40 °C (operating and storage)	-20 to 40 °C (operating and storage)	-20 to 40 °C (operating and storage)
Standard			
Protection class	IP65 and IP67 (compact version, SE56 standard or SE56 blind) IP65 (remote version, SE56 standard) IP68 (remote version and junction box filled with resin, SE56 standard) IP65 (compact version, SE56 basic)		
Norms	EN 61326-1, EN 55011 (Group 1, Class B) / IEC 1000-4-2/3/4/5/6/11 EN 61010		

¹⁾ under reference conditions: water temperature = 20°C, ambient temperature = 25°C, constant flow rate during the test, liquid speed > 1 m/s

* on request

Ordering Chart

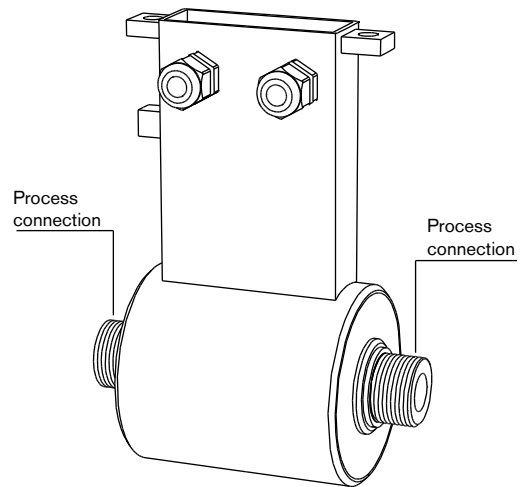
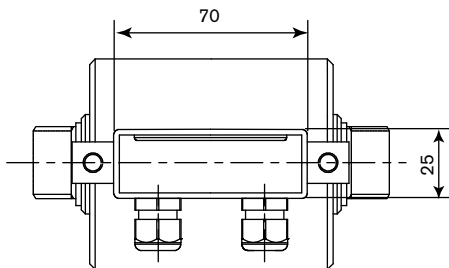
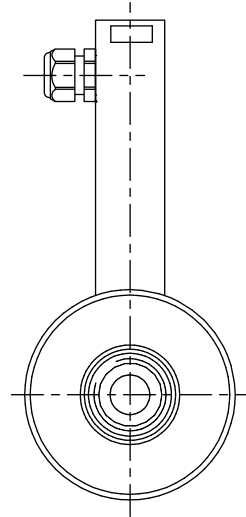
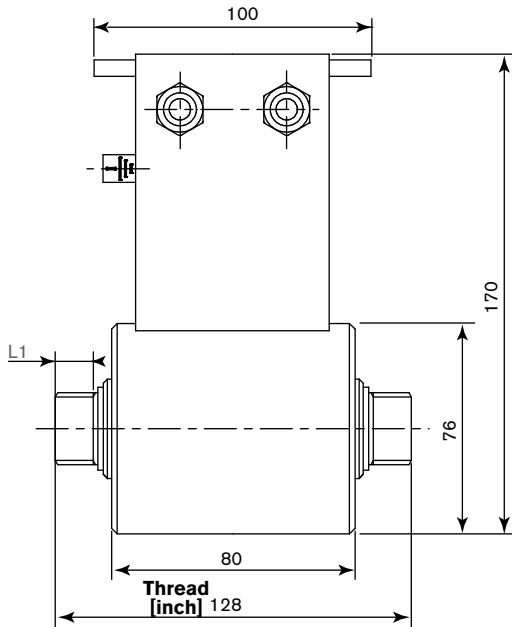
Electronics for electromagnetic flowmeters - SE56		Item no.
Stainless steel		558 306
Aluminium		558 747

INLINE Flow Meter				
Connection [inch]	Orifice [mm]	Flow Range	Lining	Item no.
ISO 228-1 Inline sensor fitting - S051 - Stainless steel body				
1/4	3	0 - 250 l/h	PTFE	554 321
3/8	6	0 - 1000 l/h	PTFE	553 065
1/2	10	0 - 3000 l/h	PTFE	553 374
3/4	15	0 - 6000 l/h	PTFE	553 481
1	20	0 - 12500 l/h	PTFE	553 539
DIN 2501 Inline sensor fitting - S055 - Carbon steel body				
1	25	0 - 18 m ³ /h	PP	553 540
1 1/2	40	0 - 45 m ³ /h	PP	553 542
2	50	0 - 72 m ³ /h	PP	553 485
2 1/2	65	0 - 120 m ³ /h	PP	553 393
3	80	0 - 180 m ³ /h	PP	553 394
4	100	0 - 280 m ³ /h	PP	553 489
6	150	0 - 640 m ³ /h	PP	557 512
BS4825 Hygienic clamp Inline sensor fitting - S056 - Stainless steel body				
1/8	3	0 - 250 l/h	PTFE	559 786
1/4	6	0 - 1000 l/h	PTFE	553 325
3/8	10	0 - 3000 l/h	PTFE	554 350
1/2	15	0 - 6000 l/h	PTFE	553 533
3/4	20	0 - 12500 l/h	PTFE	553 534
1	25	0 - 18 m ³ /h	PTFE	553 535
1 1/2	40	0 - 45 m ³ /h	PTFE	553 536
2	50	0 - 72 m ³ /h	PTFE	553 537
2 1/2	65	0 - 120 m ³ /h	PTFE	553 538
3	80	0 - 180 m ³ /h	PTFE	559 791

Options

- Various sealing materials
- Larger sizes are available as standard
- Individual calibration certificate
- Remote versions (10/20 m cable, IP68), blind version
- St.St. body and EN or ANSI/DIN flanges for S055
- PTFE lining and PN40 pressure class for S054 and S055
- 2 relay outputs NO/NC 2A-250V AC, 60W 125V AC
- Hart, Profibus, RS232, RS485

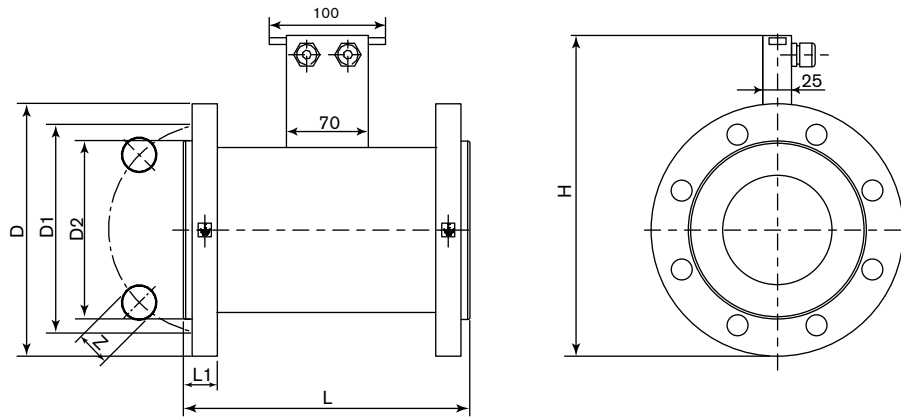
Dimensions [mm] of Type S051 sensor fitting (without full lining)

NOTE: Dimensions of SE56 electronics, see page 454

DN [mm]	Thread [inch]	L1 [mm]
03	G or NPT 1/4"	16.4
06	G or NPT 3/8"	16.4
10	G or NPT 1/2"	17.4
15	G or NPT 3/4"	20.0
20	G or NPT 1"	20.0

Dimensions [mm] of Type S055 sensor fitting – compact flanges version

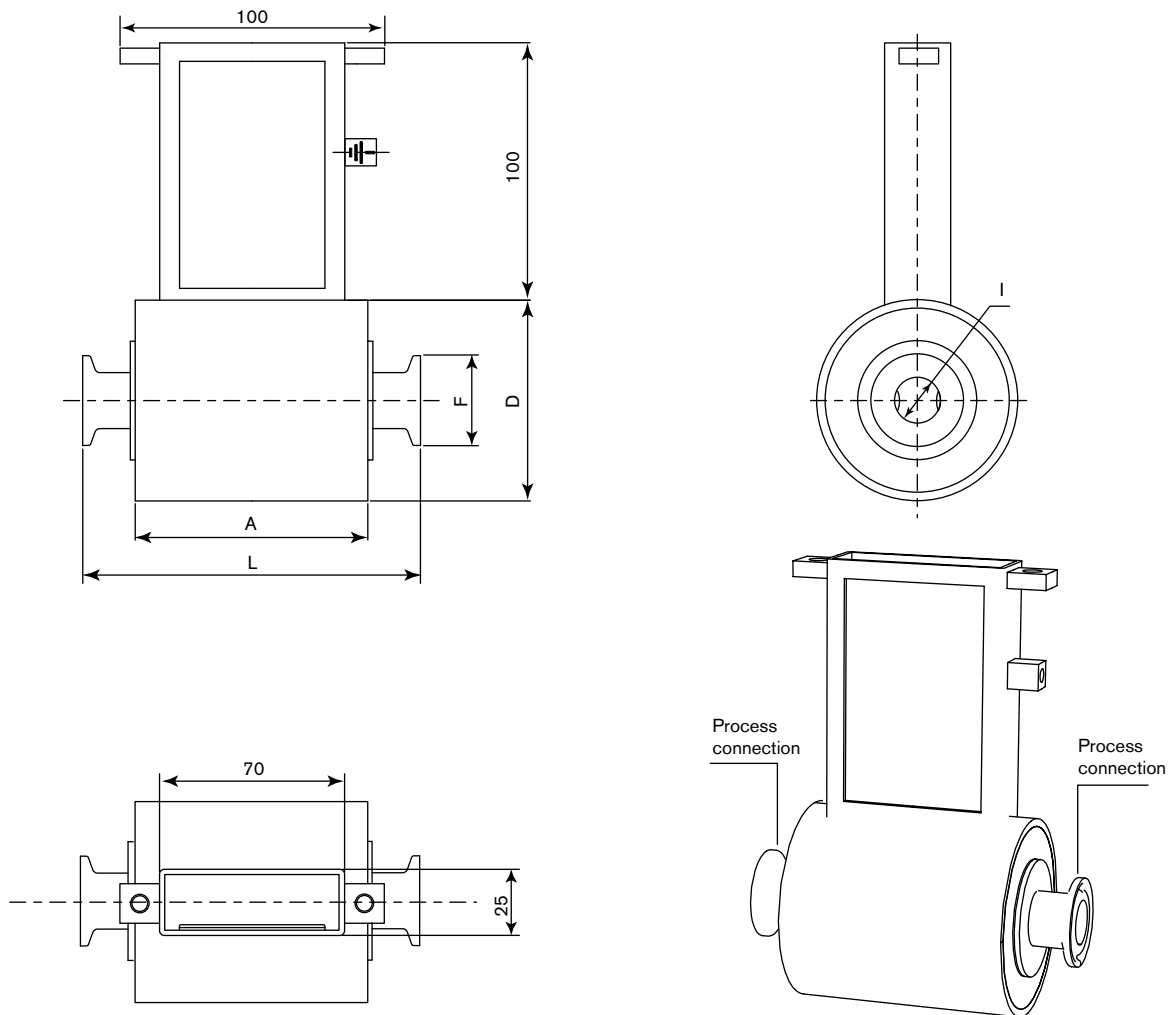
NOTE: Dimensions of SE56 electronics, see page 454



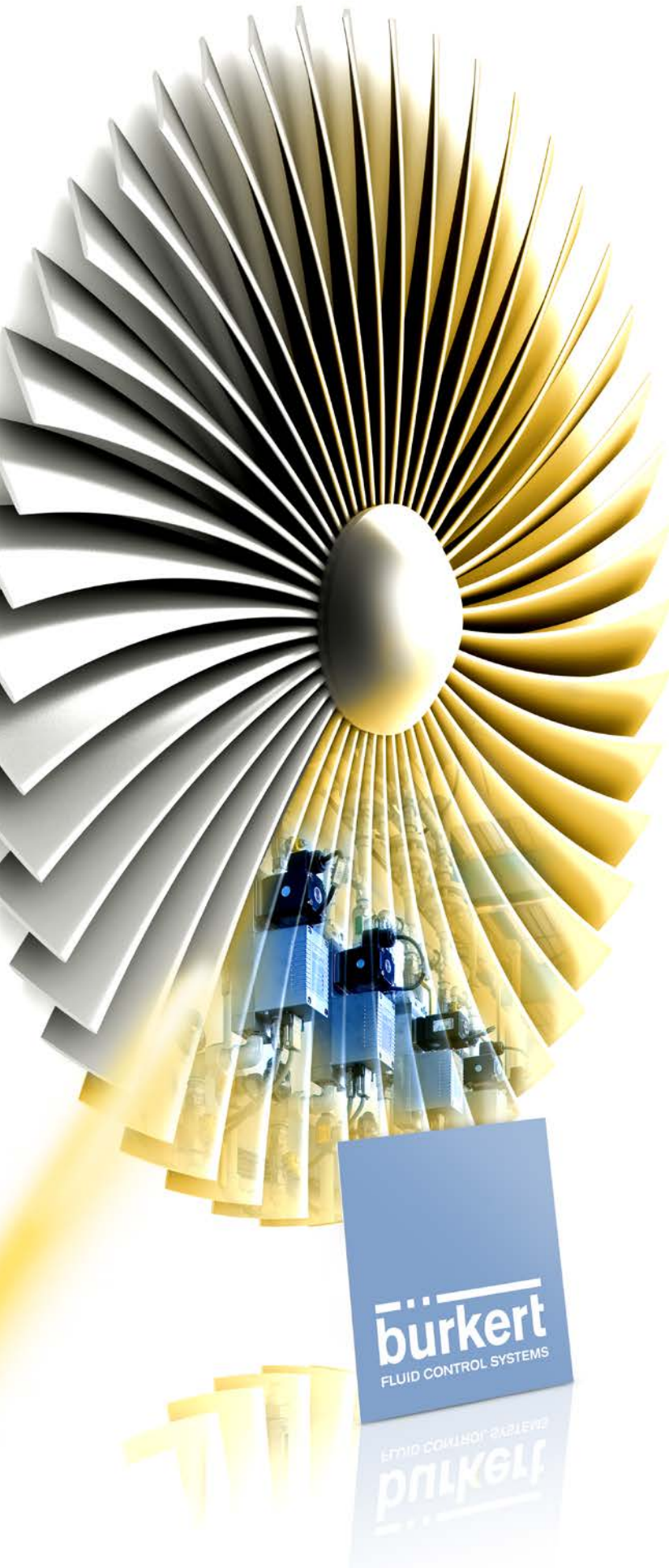
S055 compact or remote, with flanges PN16

DN	H	L	Standard	L1	Z	D2	D1	D
25	185 182	200	EN1092-1 ANSI 150 RF	18 16.3	4 x 14 4 x 15.9	68 50.8	85 79.4	115 107.9
40	213 202	200	EN1092-1 ANSI 150 RF	18 19.5	4 x 18 4 x 15.9	88 73	110 98.4	150 127
50	228 222	200	EN1092-1 ANSI 150 RF	18 21.1	4 x 18 4 x 19	102 92.1	125 120.7	165 152.4
65	248 245	200	EN1092-1 ANSI 150 RF	18 24.3	4 x 18 4 x 19	122 104.8	145 139.7	185 177.8
80	263 258	200	EN1092-1 ANSI 150 RF	20 25.9	8 x 18 4 x 19	138 127	160 152.4	200 190.5
100	283 287	250	EN1092-1 ANSI 150 RF	20 25.9	8 x 18 8 x 19	158 157.2	180 190.5	220 228.6
150	344 341	300	EN1092-1 ANSI 150 RF	22 27.4	8 x 22 8 x 22.2	212 215.9	240 241.3	285 279.4

NOTE: Dimensions of SE56 electronics, see page 454



DN	A	L	D	Standard	F	I
03	77	128	76	Clamp ISO2852	34	12.7
				Clamp BS4825	25.4	9.5
06	77	128	76	Clamp ISO2852	34	12.7
				Clamp BS4825	25.4	9.5
10	77	128	76	Clamp ISO2852	34	12.7
				Clamp BS4825	25.4	9.5
15	77	128	76	Clamp ISO2852	34	17.2
				Clamp BS4825	25.4	15.85
20	77	128	76	Clamp ISO2852	34	21.3
				Clamp BS4825	50.5	22.2
25	100	180	76	Clamp ISO2852	50.5	22.6
				Clamp BS4825	50.5	22.2
40	100	180	89	Clamp ISO2852	50.5	35.6
				Clamp BS4825	50.5	34.9
50	100	180	114	Clamp ISO2852	64	48.6
				Clamp BS4825	64	47.6
65	100	180	140	Clamp ISO2852	77.5	60.3
				Clamp BS4825	77.5	60.3
80	100	200	140	Clamp ISO2852	91	72.9
				Clamp BS4825	91	72.9



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FLUID CONTROL SYSTEMS

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Flowmeter with threshold detector for highly viscous mediums

8072

DN15-100 mm

- Indication, monitoring, transmitting and On/Off control in one device
- Selectable outputs (transistor or relay)
- Automatic calibration: Teach-In
- Process value output: 4-20 mA



Complete sensor consisting of Type SE32 and fitting Type S070

This positive displacement flowmeter/threshold detector with display is designed for use in slightly viscous fluid like glue, honey or oil and specially to switch a valve and to establish a monitoring system or an On/Off control loop. The switching points can be configured with the 3-keys below the display. The 8072 is available with On/Off output, or with 4-20 mA process value outputs.

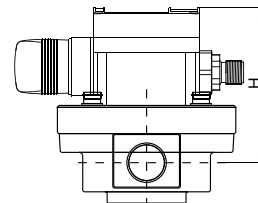
Technical Data

General data	
Compatibility	With fittings S070 (see corresponding data sheet)
Materials	
Housing, cover	PC, glass fibre reinforced
Front panel folio / Screws	Polyester / Stainless steel
Cable plug, connector M12	PA
Wetted parts materials	
Fitting	Aluminium, stainless steel (316F/1.4401)
Rotor	PPS, Aluminium, stainless steel (316F/1.4401)
Shaft / Seal	Stainless steel / FKM or FEP/PTFE
Display	8 digit LCD with backlighting
Electrical connections	Cable plug acc. to EN 175301-803 Free positionable male M12 connector, 5 pins or male M12 connector, 8 pins
Voltage supply cable	0.5 mm ² max. cross section; max. 100 m length, shielded
Complete device data (fitting S070 + electronic module SE32)	
Pipe diameter	DN15-100 mm
Measuring range	2-1200 l/min (0.26-320 gpm) for viscosity > 5 mPa.s 3-616 l/min (0.78-320 gpm) for viscosity < 5 mPa.s
Medium temperature	
Fitting in aluminium	0 °C to +80 °C
Fitting in stainless steel	0 °C to +100 °C
Fluid pressure max.	55 bar (threaded process connection) 55 bar ¹⁾ 18 bar / 12 bar / 10 bar
Viscosity	1 Pa.s max. (higher on request)
Accuracy²⁾	±1% of Reading
Operating mode	Threshold: window or hysteresis
Repeatability²⁾	≤ 0.03% of Reading

¹⁾ or in accordance to the value of the used flanges

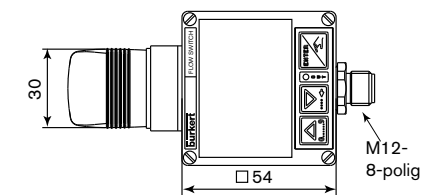
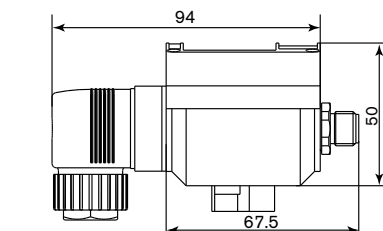
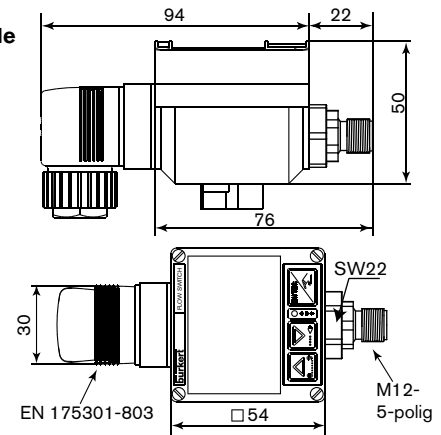
²⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Envelope Dimensions [mm] (see datasheet for details)



DN	H
15	85
25	100
40	117
50	135
80	175
100	176

Electronics module SE32



DN15 DN25 DN40 DN50 DN80

Threaded connection

DN25 DN40 DN50 DN80 DN100

Flanged connection

Ordering Chart

Orifice DN [mm]	Process connection	Flow rate		Body material	Oval wheels material	Seal material	Item no.
		> 5 cps	< 5 cps				
Fitting S070							
15	G 1/2"	2 - 30 l/min	3 - 25 l/min	Aluminium	PPS	FKM	443 985
				Stainless steel	Stainless steel	FKM	443 990
	NPT 1/2"	2 - 30 l/min	3 - 25 l/min	Aluminium	PPS	FKM	443 995
				Stainless steel	Stainless steel	FKM	444 000
25	G 1"	6 - 120 l/min	10 - 100 l/min	Aluminium	PPS	FKM	443 986
				Stainless steel	Stainless steel	FKM	443 991
	NPT 1"	6 - 120 l/min	10 - 100 l/min	Aluminium	PPS	FKM	443 996
				Stainless steel	Stainless steel	FKM	444 001
	25 mm DIN 16 Flange	6 - 120 l/min	10 - 100 l/min	Aluminium	PPS	FKM	553 637
				Stainless steel	Stainless steel	FKM	553 634
	1" ANSI 150 LB Flange	6 - 120 l/min	10 - 100 l/min	Aluminium	PPS	FKM	553 636
				Stainless steel	Stainless steel	FKM	553 633
40	G 1 1/2"	10 - 250 l/min	15 - 235 l/min	Aluminium	PPS	FKM	443 987
				Stainless steel	Stainless steel	FKM	443 992
	NPT 1 1/2"	10 - 250 l/min	15 - 235 l/min	Aluminium	PPS	FKM	443 997
				Stainless steel	Stainless steel	FKM	444 002
	40 mm DIN 16 Flange	10 - 250 l/min	15 - 235 l/min	Aluminium	PPS	FKM	443 988
				Stainless steel	Stainless steel	FKM	443 993
	1 1/2" ANSI 150 LB Flange	10 - 250 l/min	15 - 235 l/min	Aluminium	PPS	FKM	443 998
				Stainless steel	Stainless steel	FKM	444 003
50	G 2"	15 - 350 l/min	30 - 300 l/min	Aluminium	PPS	FKM	553 640
				Stainless steel	Stainless steel	FKM	553 641
	50 mm DIN 16 Flange	15 - 350 l/min	30 - 300 l/min	Aluminium	PPS	FKM	443 989
				Stainless steel	Stainless steel	FKM	443 994
	2" ANSI 150 LB Flange	15 - 350 l/min	30 - 300 l/min	Aluminium	PPS	FKM	443 999
				Stainless steel	Stainless steel	FKM	444 004
80	G 3"	20 - 733 l/min	66 - 616 l/min	Aluminium	Aluminium	FKM	553 642
				Stainless steel	Stainless steel	FKM	553 643
	80 mm DIN 16 Flange	20 - 733 l/min	66 - 616 l/min	Aluminium	Aluminium	FKM	553 645
				Stainless steel	Stainless steel	FKM	553 644
3" ANSI 150 LB Flange	20 - 733 l/min	66 - 616 l/min	Aluminium	Aluminium	FKM	553 644	
			Stainless steel	Stainless steel	FKM	553 644	
100	100 mm DIN 16 Flange	120 - 1200 l/min	-	Aluminium	Aluminium	FKM	553 647
	4" ANSI 150 LB Flange	120 - 1200 l/min	-	Aluminium	Aluminium	FKM	553 646

8072

Note about ordering a complete sensor: Switch 8072 consists of an INLINE Fitting, Type S070, and an Electronic module, Type SE32.

Please order the INLINE Fitting and the Electronic module separately!

Ordering Chart

Supply voltage	Inputs	Outputs	Electrical Connection	Item no.
Switch electronic module, Type SE32				
12 - 30V DC	none	Transistor NPN	Cable plug DIN EN 175301-803	436 474
		Transistor PNP	Cable plug DIN EN 175301-803	434 871
		Transistor NPN / PNP	5-pin plug M12 (adjustable)	436 473
		Relay	5-pin plug M12 (adjustable) and cable plug DIN EN 175301-803	436 475
	4 - 20 mA1)	4 - 20 mA2) + Relay	8-pin plug M12 (adjustable) and cable plug DIN EN 175301-803	444 699

¹⁾ External setpoint

²⁾ Process value

Accessories

Description	Item no.
Female M12 connector, 5 pins, with plastic threaded locking ring	917 116
Female M12 connector, 5 pins, moulded on cable (2 m, shielded)	438 680
Female M12 connector, 8 pins, with plastic threaded locking ring	444 799
Female M12 connector, 8 pins, moulded on cable (2 m, shielded)	444 800
Cable plug EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug EN 175301-803 with NPT 1/2" reduction without cable gland (Type 2509)	162 673

Spare parts for fitting	Orifice		Material	Item no.
	[mm]	[inch]		
Oval Wheel	DN 15	1/2	PPS	550 933
			Stainless steel	550 934
	DN 25	1	PPS	550 937
			Stainless steel	550 938
	DN 40	1 1/2	PPS	550 941
			Stainless steel	550 942
	DN 50	2	PPS	550 945
			Stainless steel	550 946
O-Ring	DN 15	1/2	EPDM	550 929
			FKM	550 930
	DN 25	1	EPDM	550 935
			FKM	550 936
	DN 40	1 1/2	EPDM	550 939
			FKM	550 940
	DN 50	2	EPDM	550 943
			FKM	550 944

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FLUID CONTROL SYSTEMS

FLUID CONTROL SYSTEMS
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Ultrasonic flow meter for continuous measurement of water

8081

- Ultrasonic flowmeter using transit time method
- Dynamic range $\geq 1:250$
- Low pressure drop
- No flow-settling section necessary in the inlet and/or outlet



The 8081 ultrasonic flowmeter is intended for the measurement of water flows which may be slightly charged with contaminants. It consists of an electronic module and a brass fitting with a built-in measuring tube. It enables a control loop to be established. The electrical connection is made via an 5-pin M12 fixed connector.

The flowmeter features, depending on the version:

- a pulse output or
- a pulse output and a 4-20 mA current output.

Each version is available for 5 flow ranges:

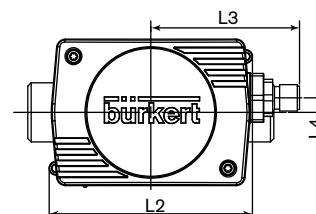
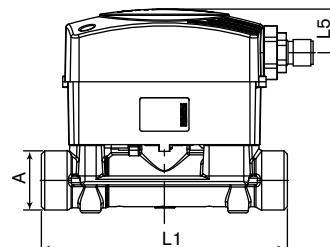
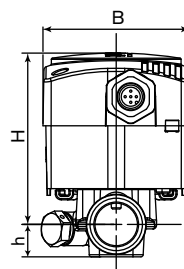
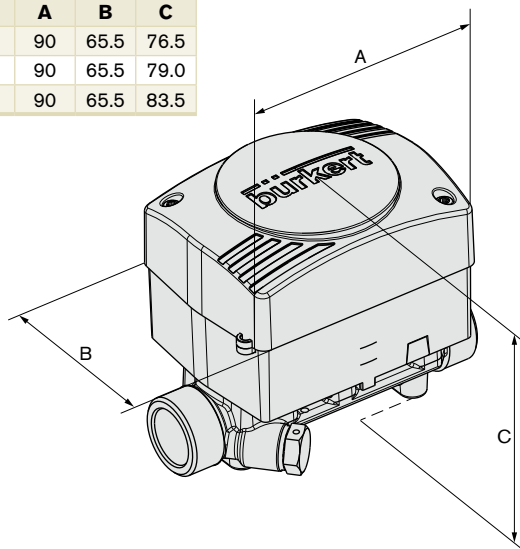
- model QN 0.6 DN15: 0.06 to 20 l/min
(nominal flow rate 0.6 m³/h namely 10 l/min)
- model QN 1.5 DN15: 0.1 to 50 l/min
(nominal flow rate 1.5 m³/h namely 25 l/min)
- model QN 2.5 DN20: 0.16 to 82 l/min
(nominal flow rate 2.5 m³/h namely 41 l/min)
- model QN 3.5 DN25: 0.6 to 116 l/min
(nominal flow rate 3.5 m³/h namely 58 l/min)
- model QN 6.0 DN25: 1 to 200 l/min
(nominal flow rate 6.0 m³/h namely 100 l/min)

Technical Data

General data	
Process connection	G or NPT External thread; 3/4", 1" or 1 1/4"
Materials	
Housing, cover	PPS
Fixed connector M12	PA
Seal	Silicone
Materials wetted parts	
Fitting	Brass
Measuring tube	PES
Seal	EPDM
Electrical connection	5-pin M12 male fixed connector for female 5-pin M12 cable plug (not provided)
Connection cable	1.5 mm ² max. cross-section
Complete device data (fitting + electronic module)	
Pipe diameter	DN15-25
Measuring range	0.06 to 200 l/min
Measuring element	2 ultrasound emitter-receiver cells
Medium temperature	+5 °C to +90 °C

Envelope Dimensions [mm] (see datasheet for details)

DN	A	B	C
15	90	65.5	76.5
20	90	65.5	79.0
25	90	65.5	83.5

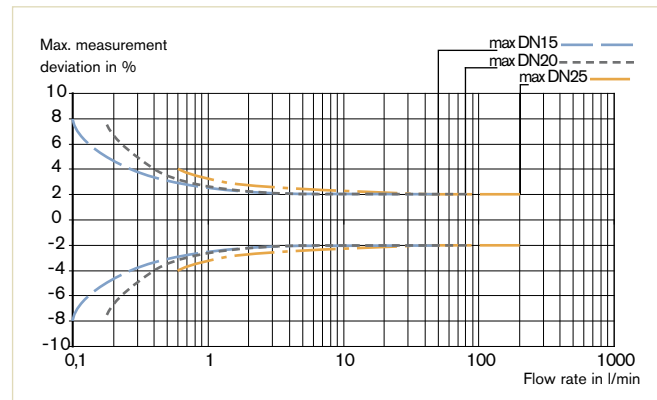


DN	A	B	H	h	L1	L2	L3	L4	L5
15	G / NPT 3/4"	65.5	76.5	14.5	110	90	67	6.5	19.5
20	G / NPT 1"	65.5	79.0	18	130	90	67	6.5	19.5
25	G / NPT 1 1/4"	65.5	83.5	23	260	90	67	6.5	19.5

Technical Data (continued)

Fluid pressure max.	PN16
Accuracy (Flowrate)	$\leq (0.01\% \text{ of F.S.*} + 2\% \text{ of measuring value})^1$
Repeatability	$\leq 1\%$
* F.S. = Full scale (see flow range on accuracy diagram)	
¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = +20 °C.	
Electrical data	
Power supply (V+)	12 - 36 V DC
Current consumption	Own consumption: < 4 mA Consumption with load: < 1 A
Reversed polarity of DC	Protected
Voltage peak	Protected
Short circuit	Protected for transistor output
Output	
Pulse (transistor)	Version without current output: NPN (as default setting) or PNP (on request), open collector, 700 mA max., 5 mA min., NPN output: 0.2 - 36 V DC Version with current output: PNP (as default setting) or NPN (on request), open collector, 700 mA max., 5 mA min., PNP output: supply voltage (V+)
Current	4... 20 mA (sourcing mode and PNP transistor as default setting, sinking mode and NPN transistor on request) loop resistance max.: 1100W at 36V DC 610W at 24V DC; 100W at 12V DC
Scaling	
Pulse (Transistor)	K-factor: 500 Pulse/Litre (version QN 0.6 and 1.5) 200 Pulse/Litre (version QN 2.5 - 3.5) 100 Pulse/Litre (version QN 6.0)
Current	4 mA correspond to 0 l/min (by default) or to Tmin of temperature range (on request) 20 mA correspond to Qmax. of flow range (by default) or to Tmax. of temperature range (on request)
Environment	
Ambient temperature	5 °C to +55 °C (41 to 131 °F) (operating and storage)
Relative humidity	$\leq 80\%$, without condensation
Standards, directives and approvals	
Protection class	IP65 with M12 cable plug plugged-in and tightened
Standards, directives	
EMC	EN 61000-6-3, EN 61000-6-2
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27
Approval / Certificate on request	2.2 Certificate; Calibration Certificate
* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).	
Type of fluid	
Fluid group 1, §1.3.a	Forbidden
Fluid group 2, §1.3.a	Allowed (PN*DN ≤ 1000)
Fluid group 1, §1.3.b	Forbidden
Fluid group 2, §1.3.b	Allowed

Accuracy diagram

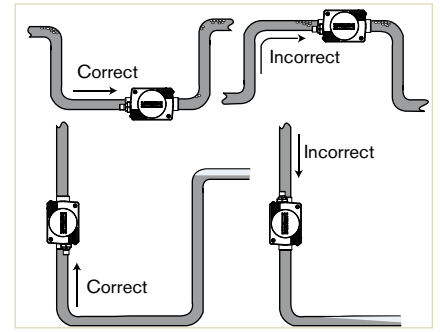
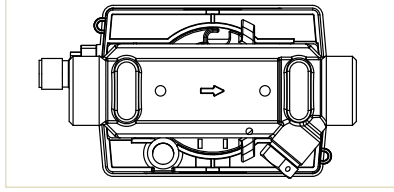


Installation

The 8081 ultrasound flowmeter can be fitted onto a horizontal or vertical pipe.

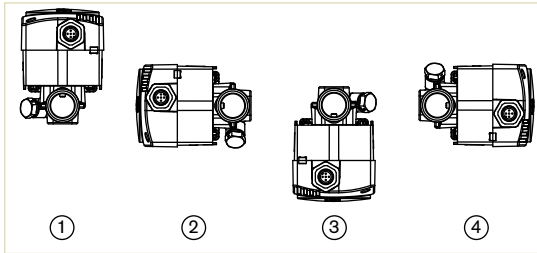
When horizontally mounted, the max. fluid temperature is 90°C. But the max. fluid temperature must be reduced to 80°C when the electronic (black enclosure) is turned upwards. When vertically mounted the max. fluid temperature is also 80°C.

The correct direction of fluid flow in the pipe is indicated with an arrow, engraved on the underside of the fitting.



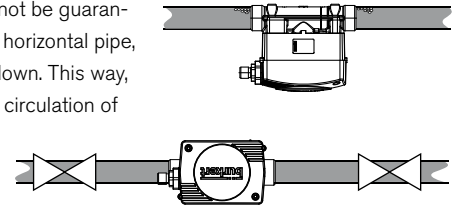
Minimum upstream and downstream distances are not necessary.

The 8081 works correctly when the pipe is full and free of any air bubbles near the flowmeter. In presence of bubbles in the pipe, the left installation no.1 should be avoided.



If the absence of any air bubbles cannot be guaranteed, the device should be fitted on a horizontal pipe, with the electronic enclosure facing down. This way, the bubbles will not interfere with the circulation of ultrasound waves.

It is equally advisable to place stop valves before and after the flowmeter, in order to facilitate the assembly and disassembly of the latter.



Ordering Chart

Model	DN [mm]	Flow range	Process connection	Outputs	Item no.
QN 0.6	15	0.06 up to 20 l/min	External thread G 3/4"	NPN-Pulse	560 131
				PNP-Pulse + 4-20 mA as source	560 113
			External thread NPT 3/4"	NPN-Pulse	560 612
				PNP-Pulse + 4-20 mA as source	560 617
QN 1.5	15	0.1 up to 50 l/min	External thread G 3/4"	NPN-Pulse	559 865
				PNP-Pulse + 4-20 mA as source	559 868
			External thread NPT 3/4"	NPN-Pulse	560 613
				PNP-Pulse + 4-20 mA as source	560 618
QN 2.5	20	0.16 up to 82 l/min	External thread G 1"	NPN-Pulse	559 866
				PNP-Pulse + 4-20 mA as source	559 869
			External thread NPT 1"	NPN-Pulse	560 614
				PNP-Pulse + 4-20 mA as source	560 619
QN 3.5	25	0.6 up to 116 l/min	External thread G 1 1/4"	NPN-Pulse	559 867
				PNP-Pulse + 4-20 mA as source	559 870
			External thread NPT 1 1/4"	NPN-Pulse	560 615
				PNP-Pulse + 4-20 mA as source	560 620
QN 6.0	25	0.4 up to 200 l/min	External thread G 1 1/4"	NPN-Pulse	560 132
				PNP-Pulse + 4-20 mA as source	560 114
			External thread NPT 1 1/4"	NPN-Pulse	560 616
				PNP-Pulse + 4-20 mA as source	560 621

8081

Accessories

Description	Item no.
5 pin M 12 female cable plug moulded on cable (2 m, shielded)	917 116
5 pin M 12 female cable plug with plastic threaded locking ring	438 680

Tuning-Fork Level Switch

8110 / 8111

G 3/4", G 1" and clamp 2"

- For universal use as overflow or dry run protection system
- Hygienic surface finish
- Extension tubes available



Type 8110



Type 8111

Level switch for liquids with a tuning fork as a sensor element. Simple setup without adjustment makes this perfect for deployment into process environments. This device provides peace of mind from overflow or run dry

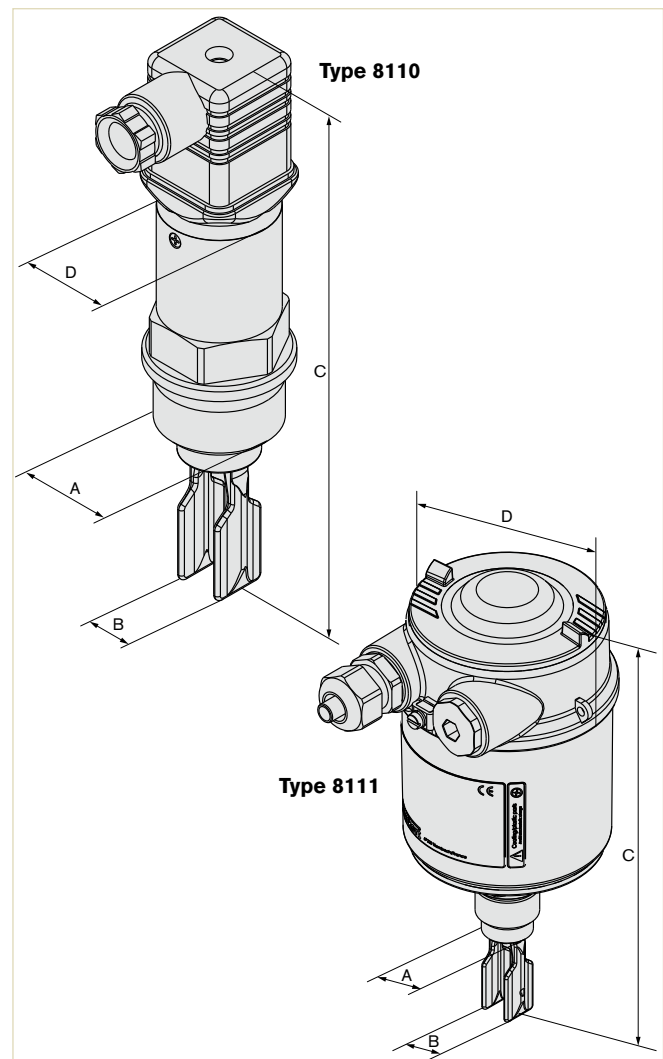
Type 8110 - The small tuning fork (40 mm length) can be used in vessels, tanks or pipes.

Type 8111 - SuperBRIGHT visual output lets the user know the status from a distance.

Technical Data



Type	8110	8111
Process connection	G 3/4", G 1" or Clamp 2"	G 3/4", G 1" or Clamp 2"
Max. fluid temperature	+100 °C G +150 °C Clamp	+150 °C G +150 °C Clamp
Materials	Stainless / PEI housing Stainless steel forks Klingersil® seal	Stainless / PBT housing Stainless steel forks Klingersil® seal
Max. fluid pressure	64 bar	64 bar
Voltage supply	10-55V DC / max. 0.5W	20-253V AC (5 A), 50-60 Hz, or 20-72V DC
Electrical connections	M12	M20 cable glands
Outputs	Transistor output PNP, 250 mA	Relay (DPDT), 2 floating SPDTs
Ingress protection	IP66 and 67	IP66 and 67
Surface finishing quality	Ra < 3.2 µm (thread) Ra < 0.8 µm (clamp)	Ra < 3.2 µm (thread) Ra < 0.8 µm (clamp)
Dynamic viscosity	0.1 to 10000 mPa.s / 0.7 to 2.5 g/cm³	0.1 to 10000 mPa.s / 0.7 to 2.5 g/cm³
Medium temperature	-40 °C to 100 °C (150 °C for Clamp process connection)	-50 °C to 150 °C
Medium pressure	-1 to 64 bar	-1 to 64 bar
Accuracy		
Hysteresis	Approx. 2 mm with vertical installation	Approx. 2 mm with vertical installation
Delay time/ Frequency	Approx. 500 ms / Approx. 1200 Hz	Approx. 500 ms / Approx. 1200 Hz
Voltage loss	Max. 1 V DC	
Turn-on voltage	Max. 55 V DC	min.: 10 mV; max.: 253 VAC, 253 V DC
Switching current		min.: 10 mA; max.: 5 A (AC), 1 A (DC)

Envelope Dimensions [mm] (see datasheet for details)



Type	A	B	C	D
8110	3/4" G	21.3	158	31.7
	1" G	21.3	161	31.7
	2" clamp	21.3	165	31.7
8111	3/4" G	16	210	91
	1" G	16	213	91
	2" clamp	16	213	91

Technical Data (continued)

Type	8110	8111
Power consumption		1 to 8 VA (AC); approx. 1.3 W (DC)
Breaking capacitance		max. 1250 VA, 50 W
Delay time		when immersed: 0.5 s when laid bare: 1 s
Blocking current	< 10 µA	
Mode	Min./max changeover by electrical connection Max.: overfill protection - Min.: dry run protection LED indication: green and red	Min./max changeover by electrical connection Max.: overfill protection - Min.: dry run protection
Ambient temperature		
Operating	-40 °C to +70 °C	
Storage	-40 °C to +80 °C	
Standard		
EMC	EN 61326	EN61326
Security	EN 61010-1	EN61010-1, ATEX ¹⁾ EN50014; EN50020; EN50284
Specifications Ex		
 - Protection		Categories 1/2G, 2 G
 - Certification		Ex ia IIC T6
Conformity specifications¹⁾		
Power supply Ui		20 V
Short circuit rating Ii		103 mA
Power limitation Pi		516 mW
Ambient temperature		-40 °C to +85 °C (depend on categories)
Internal capacity Ci		negligible
Internal inductivity Li		negligible

¹⁾ homologation certificate PTB 07 ATEX 2004X

Options

8110

- DIN 11851, Flange, SMS
- Higher temperatures on request

8111

- ATEX approvals
- DIN 11851, Flange, SMS
- ECTFE, enamel, Hastelloy C4 or PFA
- Higher temperatures on request

Ordering Chart

Process connection	Electrical connection	Item no.
8110		
G 3/4" ISO 228	Multipin M12	555 290
G 1" ISO 228	Multipin M12	555 292
Clamp 2"	Multipin M12	555 294

Process connection	Electrical connection	Item no.
8111		
G 3/4" ISO 228	2 x M20 glands	558 110
G 1" ISO 228	2 x M20 glands	558 112
Clamp 2"	2 x M20 glands	558 114

Extension tubes are available (see datasheet Type 8112).

Vibrating Level Switch

8112

- For universal use as overflow or dry run protection system
- Setup without adjustment
- For food and beverage industry thanks to surface finishing < 0.8 µm
- ATEX approvals



The 8112 is a vibrating level switch for liquids, using a tuning fork for level detection.

It is designed for industrial use in areas of process technology and can be used in liquids. Typical applications are overflow or dry run protection.

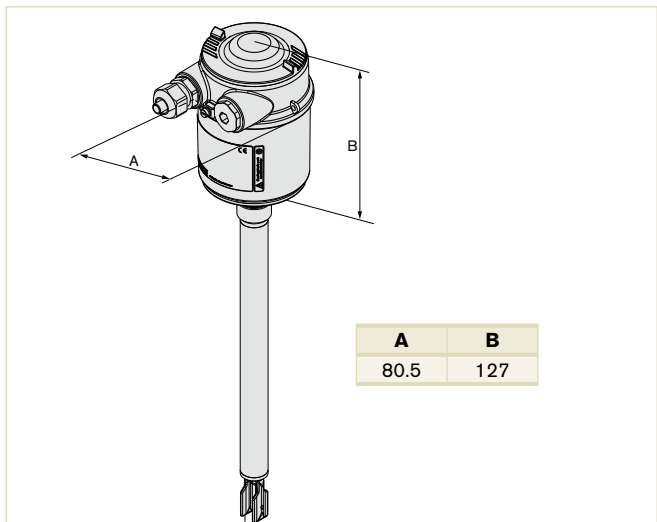
The Type 8112 is available with different sensor length using tube extension. The right length can be adapted thanks to a lock fitting.

Due to the simple and rugged measuring system, the Type 8112 is virtually unaffected by the chemical and physical features of the liquid. It works even under unfavourable conditions such as turbulence, air bubbles, foam generation, buildup or varying products.

Technical Data

Materials	
Housing / Cover / Seal ring	PBT, Stainless steel 316L (1.4435) / PC / EPDM
Wetted parts	
Tuning fork & process fitting	Stainless steel 316L (1.4435)
Extension tube ø 21.3	Stainless steel 316L (1.4435)
Process seal	Klingsil C 4400
Weight	approx. 890 g + approx. 110 g/m (tube extension)
Electrical connections	1 or 2 cable glands M20 x 1.5 (depends on output version)
Process fitting	Thread G, NPT 3/4", G, NPT 1" or Clamp 2"
Surface finishing quality	Ra < 3.2 µm (thread) / Ra < 0.8 µm (Clamp)
Extension tube length	200-1000 mm
Viscosity dynamic	0.1 up to 10000 mPa.s (requirement: with density 1)
Density	0.5 up to 2.5 g/cm ³ (selected by DIP switch) or 0.7 up to 2.5 g/cm ³
Fluid temperature	-50 °C up to +150 °C
Fluid pressure	-1 to 64 bar
Accuracy	
Hysteresis	Approx. 2 mm with vertical installation
Delay time / Frequency	Approx. 500 ms / Approx. 1200 Hz
Output	Double relay output or NAMUR output
Ambient temperature	-40 °C up to +70 °C (Operating); -40 °C up to +80 °C (Storage)

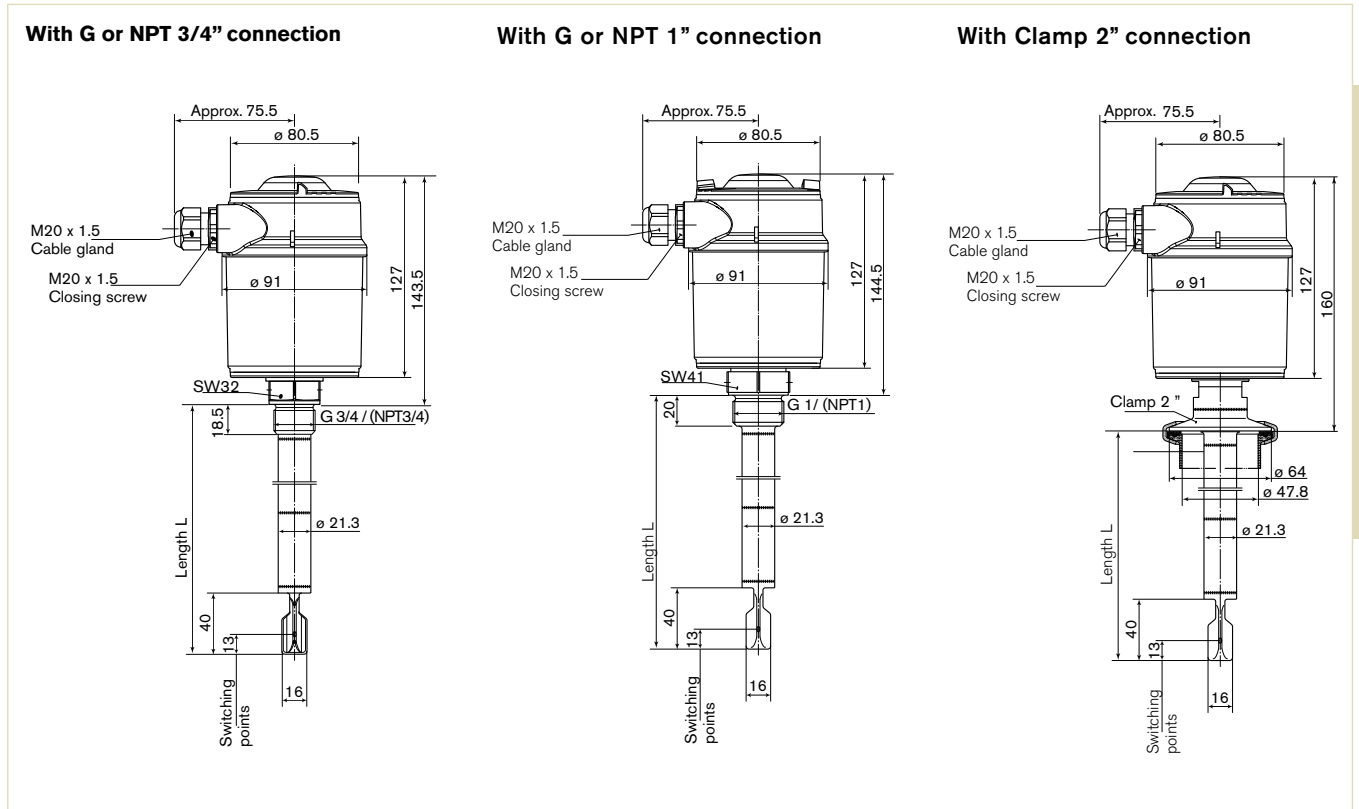
Envelope Dimensions [mm] (see datasheet for details)



Electrical data - Sensor with relay output	
Output	Relay (DPDT), 2 floating spdts
Power supply	20 to 253 V AC, 50/60 Hz or 20 to 72 V DC (at U > 60 V DC the ambient temperature must be max. 50 °C (122°F))
Power consumption	1 to 8 VA (AC); approx. 1.3 W (DC)
Turn-on voltage	min.: 10 mV; max.: 253 VAC, 253 V DC
Switching current	min.: 10 mA; max.: 5 A (AC), 1 A (DC)
Breaking capacitance	max. 1250 VA, 50 W
Modes (adjustable)	A = max. detection or overflow protection B = min. detection or dry run protection
Delay time	when immersed: 0.5 s when laid bare: 1 s
Standards and approvals	
Protection	IP66/IP67 with M20 x 1.5 gland mounted and tightened
Overvoltage category	III
Protection class	I (relay output); II (NAMUR output)
Standards	
EMC / Security	EN61326 / EN61010-1
ATEX ¹⁾	EN50014; EN50020; EN50284
NAMUR	IEC 60947-5-6 (EN 50227)

¹⁾ homologation certificate PTB 07 ATEX 2004X

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

Output	Power supply	Extension tube length [mm]	Port connection	Electrical connection	Item no.
Double relay (DPDT) *	20 - 72 VDC / 20 - 250 V AC (5A)	300	G 3/4"	2 cable glands M20 X 1.5	558 119
		500	G 3/4"	2 cable glands M20 X 1.5	558 121
		1000	G 3/4"	2 cable glands M20 X 1.5	558 123
		300	G 1"	2 cable glands M20 X 1.5	558 125
		500	G 1"	2 cable glands M20 X 1.5	558 127
		1000	G 1"	2 cable glands M20 X 1.5	558 129
		300	Clamp 2"	2 cable glands M20 X 1.5	558 131
		500	Clamp 2"	2 cable glands M20 X 1.5	558 132
		1000	Clamp 2"	2 cable glands M20 X 1.5	558 133

* Double Pole Double Throw

Ordering Chart

Description	Item no.
Lock fitting - only for pressureless handling, -50...150 °C; G 1"	558 218
Lock fitting - only for pressureless handling, -50...150 °C; NPT 1"	558 219
Set with 2 reductions M20 x 1.5 / NPT 1/2" + 2 neoprene flat seals for cable gland + 2 screw-plugs M20 x 1.5	551 782

OEM radar measuring device for aggressive medium

8136

- For level measurement up to 20 m, 4-20 mA/Hart - 2 wires
- Adjustable via Display, key operation or PC-Tool with DTM
- ATEX approvals
- Insensitive to variations of temperature, pressure, medium data of the product and gas layers



Type 8136 is a non-contact radar level measuring device for continuous level measurement.

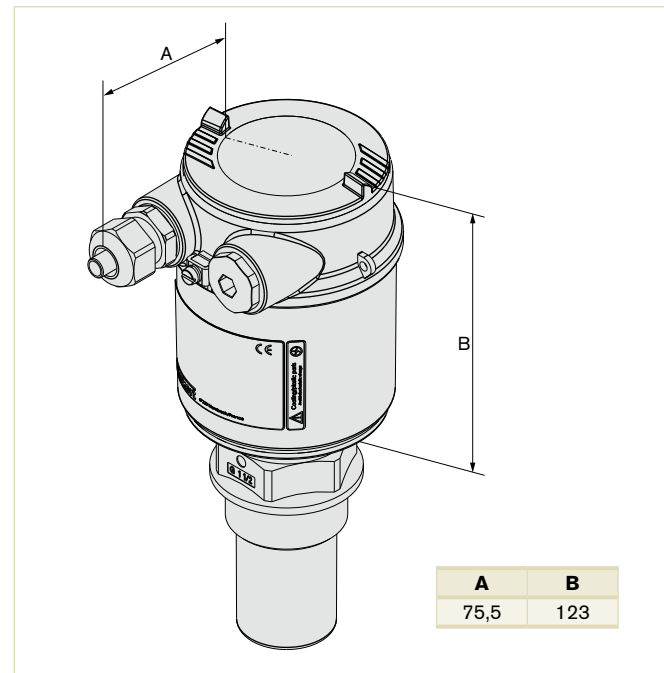
The unit is available in two versions:

- with encapsulated horn antenna particularly suitable for level measurement of aggressive liquids in small vessels.
- with plastic horn antenna particularly suitable for measurement in open flumes or gauge measurement in waters.

Technical Data

Materials	
Housing / Cover	PBT, Stainless steel. 316L / PC
Seal ring / Ground terminal	NBR / St. st. 316Ti/316L (1.4571/1.4435)
Mounting strap / Fixing screws	St. st. 304 (1.4301) / St. st. 316L (1.4435)
Wetted parts	
Encapsulated horn antenna version	
Process connection/Antenna/Seal	PVDF/PVDF (completely encapsulated)/FKM
Plastic horn antenna version	
Process connection	Stainless steel 316L (1.4435)
Horn antenna / Focus lens	PBT-GF30 / PP
Display*	LCD in full dot matrix (option)
Process connection	Thread G 1 1/2" or NPT 1 1/2" (Encapsulated horn antenna version) Mounting strap 170 mm (Plastic horn antenna version)
Max. torque mounting boss	4 Nm (mounting screws - strap on the sensor housing)
Electrical connection	Cable glands M20 x 1.5
Measuring value	Distance between process connection and product surface
Min. dielectric figure	$\mu r > 1.6$
Dead zone	50 mm ¹⁾
Measuring range	0.05 to 10 m (Encapsulated horn antenna ver.) 0 to 20 m (Plastic horn antenna version)
Process temperature	-40 °C to +80 °C
Vessel pressure	-1 to 3 bar (-100 to 300 kPa)
Vibration resistance	Mechanical vibrations with 4 g and 5-100 Hz
Temperature coefficient	0.03%/10 K (Average temperature coefficient of the zero signal - temperature error)
Resolution	Max. 1 mm
Frequency	K-band (26 GHz technology)
Interval	approx. 1 s
Beam angle at 3 dB	22° (Encapsulated horn antenna vers.) - 10° (Plastic horn antenna vers.)
Adjustment time	> 1 s (dependent on the parameter adjustment)
Accuracy	± 2 mm

Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

Electrical data	
Operating voltage	14 - 36 V DC or 14 - 30 V DC (Ex ia instrument)
Permissible residual ripple	< 100 Hz: U _{ss} < 1 V 100 Hz.. 10 kHz: U _{ss} < 10 mV
Output signal	4... 20 mA/HART
Resolution	1.6 μ A
Fault signal	current output unchanged 20.5 mA, 22 mA or < 3.6 mA (selectable)
Current limitation	22 mA
Load	see load diagram
Damping	0.. 999 s, adjustable (63% of the input variable)

* to be ordered separately

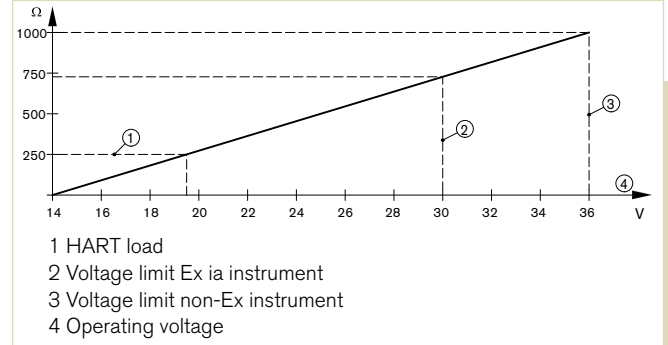
¹⁾ Encapsulated horn antenna version. In products with low dielectric value up to 50 cm.

Technical Data (continued)

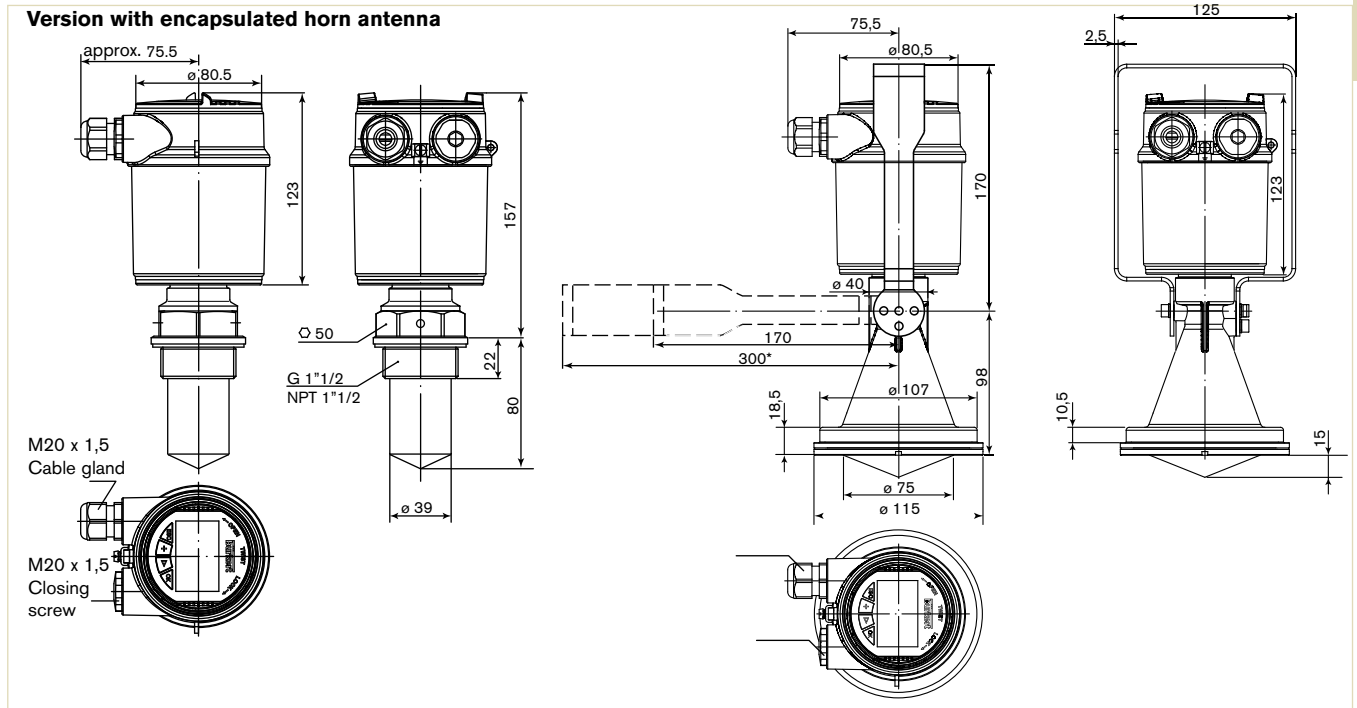
Standards and approvals	
Protection	IP66/IP67 with M20 x 1.5 gland mounted and tightened
Overvoltage category	III
Protection class	II
Standard	
EMC	EN61326
Security	EN61010-1
NAMUR	NE 21; NE 43
Approvals	ATEX ²⁾ : EN60079-0; EN60079-11; EN60079-26

²⁾ Certificate PTB 08 ATEX 2002X

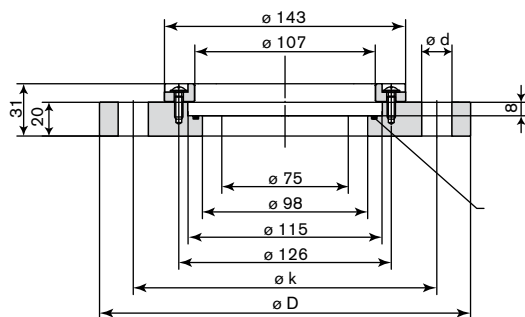
Load diagram



Envelope Dimensions [mm]



Adapter flange* for plastic horn antenna \varnothing 80 mm version



Flange	\varnothing D	\varnothing k	\varnothing d	Number of hole
DN100 PN16	220	180	18	8 x 45° (=360°)
ASME (ANSI B16,5) 4" 150 psi	228,6	190,5	19,1	8 x 45° (=360°)

* The 300 mm mounting bracket of the flange adapter must be ordered separately.

Ordering Chart

Description	Voltage supply	Output	Sensor	Electrical connection	Item no.
Encapsulated horn - 40 mm	14 - 36 V DC	4 - 20 mA/HART (2-wire)	G 1 1/2"	Cable gland M20 x 1.5	560 146
Plastic horn - 80 mm	14 - 36 V DC	4 - 20 mA/HART (2-wire)	Mounting bracket or compression flange	Cable gland M20 x 1.5	560 150

Note: Display not included, must be ordered separately (see accessories)

Accessories

Description	Item no.
Set with 2 reductions M20 x 1.5/NPT 1/2" + 2 neoprene flat seals for cable gland + 2 screw-plugs M20 x 1.5	551 782
Set with a display/configuration module, a transparent cover and a seal ring	559 279
Hart-USB Modem	560 177
Mounting strap 300 mm	559 839
Adapter flange DN 100 PN 16 FKM / PPH	560 437
Adapter flange ASME (ANSI B16.5) 4" 150PSI FKM / PPH	560 436

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Radar Level Transmitter for Liquids

8137 / 8138

G thread or flange connection

- For filling level measurement up to 30 m
- High Pressure Version
- Two-wire version
- Adjustable via display and buttons as well as PC-Tool with DTM



Radar level transmitter for aggressive media and high pressure. A sleek, compact stainless steel design incorporates a 2-wire HART transmitter which is easily PC configurable.

Technical Data

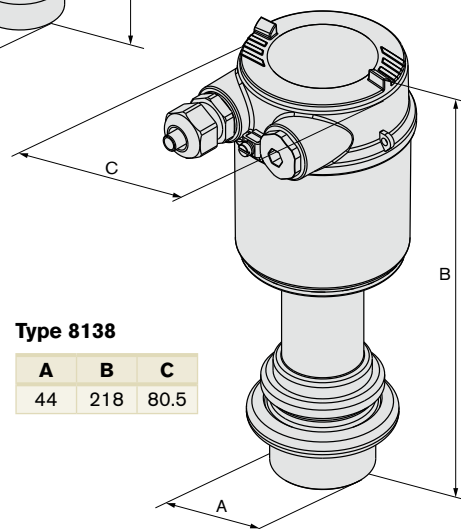
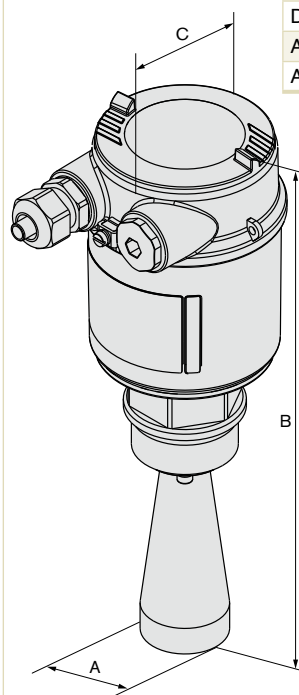
Type	8137	8138
General data		
Housing / Cover	PBT, Stainless steel 316L / PC	
Seal ring / Ground terminal	NBR / Stainless steel 316Ti/316L (1.4571/1.4435)	
Seal	KLINGERSIL® C-4400 (8137), EPDM (8138)	
Antenna / cone	Stainless steel 316L (8137), TFM™ PTFE (8138) / PTFE (8137)	
Seal (antenna system)	FKM (8137), EPDM (8138)	
Display	LCD in full dot matrix*	
Ambient temperature	-40 °C to +80 °C	
Voltage supply	2-wire, 14 to 36 V DC	
Current consumption max.	22 mA	
Electrical connections	Cable glands M20 x 1.5	
Outputs	4-20 mA/HART	
Dead zone	50 mm	
Measuring range (40 mm antenna)	50 mm to 10 m	
Process temperature	-40 °C to +130 °C	-40 °C to +200 °C
Vessel pressure	-1 to 40 bar (-100 to 4000 kPa) or according to flange rules	-1 to 16 bar (-100 to 1600 kPa)
Vibration resistance	Mechanical vibrations with 4 g and 5 to 100 Hz	
Accuracy	± 3 mm	
Min. dielectric	ε _r > 1.6	
Temperature coefficient	0.03%/10K (Average temperature coefficient of the zero signal - temperature error)	
Resolution	max. 1 mm	
Frequency	K-band (26 GHz technology)	
Interval	approx. 1 s	
Beam angle at 3 dB	22° (antenna with ø 40 mm)	18° (range 0.05 to 10 m) - 10° (range 0.05 to 20 m)
Adjustment time	> 1 s (dependent on the parameter adjustment)	
Accuracy	± 2 mm	
Ingress protection	IP66, IP67	

* must be ordered separately.

Envelope Dimensions [mm] (see datasheet for details)

Type 8137

Standards	DN	A	B	C
DIN 2501	50	40	279	80.5
DIN 2501	100	75	395	80.5
ANSI B16.5	2"	40	279	80.5
ANSI B16.5	4"	75	395	80.5



Type 8138

A	B	C
44	218	80.5

Technical Data (continued)

Type	8137	8138
Electrical Specifications		
Operating voltage	14 - 36 V DC or 14 - 30 V DC (Ex ia instrument)	
Permissible residual ripple	< 100 Hz: $U_{ss} < 1\text{ V}$ 100 Hz... 10 kHz: $U_{ss} < 10\text{ mV}$	
Output signal	4... 20 mA/HART	
Resolution	1.6 μA	
Fault signal	current output unchanged 20.5 mA, 22 mA or < 3.6 mA (selectable)	
Current limitation	22 mA	
Load	see load diagram	
Damping (63% of the input variable)	0... 999 s, adjustable	
Standards and approvals		
Protection	IP66 / IP67 with mounted and tightened cable gland M20 x 1.5	
Overvoltage category	III	
Protection class	II	
Standard		
EMV	EN61326	EN61326
Security	EN61010-1	EN61010-1
NAMUR	NE 21; NE 43	NE 21; NE 43
Approvals	ATEX ¹⁾ : EN60079-0; EN60079-11; EN60079-26	ATEX ¹⁾ : EN60079-0; EN60079-11; EN60079-26 FDA

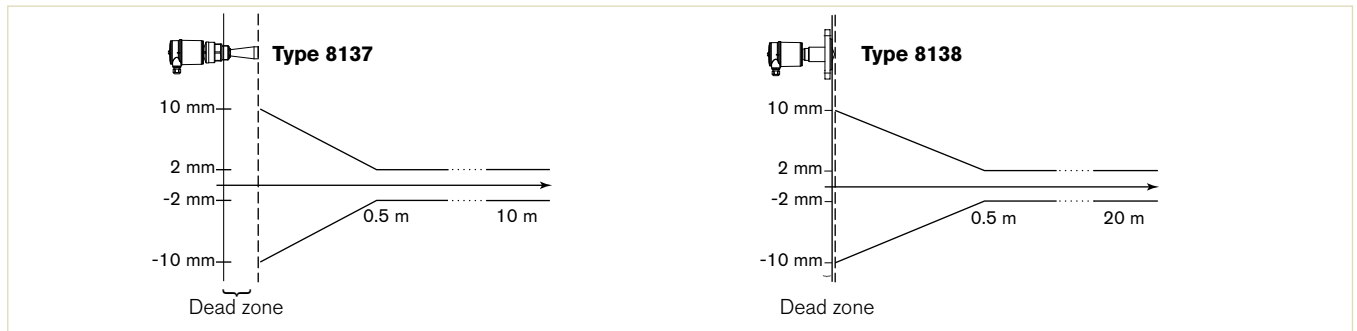
Type	8137	8138
Specifications Ex		
Ex - Protection	Categories 1/2G or 2G	
Ex - Certification	EEx ia IIC T6	
Conformity specifications¹⁾		
Operating voltage U_i	30 V	
Short circuit rating I_i	131 mA	
Power limitation P_i	983 mW	
Ambient temperature	-40 to +55 °C (depending on the category)	
Internal capacity C_i	negligible	
Internal inductivity L_i	negligible	

¹⁾ homologation certificate PTB 08 ATEX 2002X

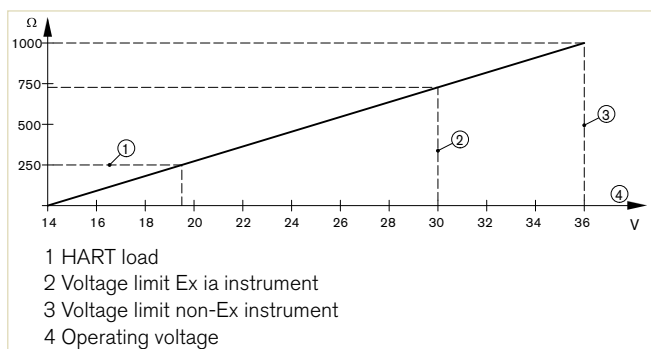
Option

- Other hygienic fittings

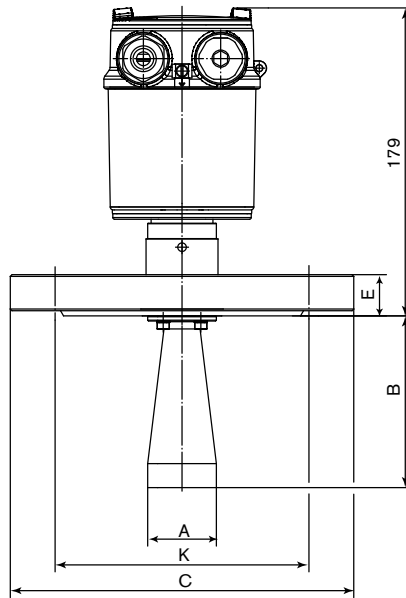
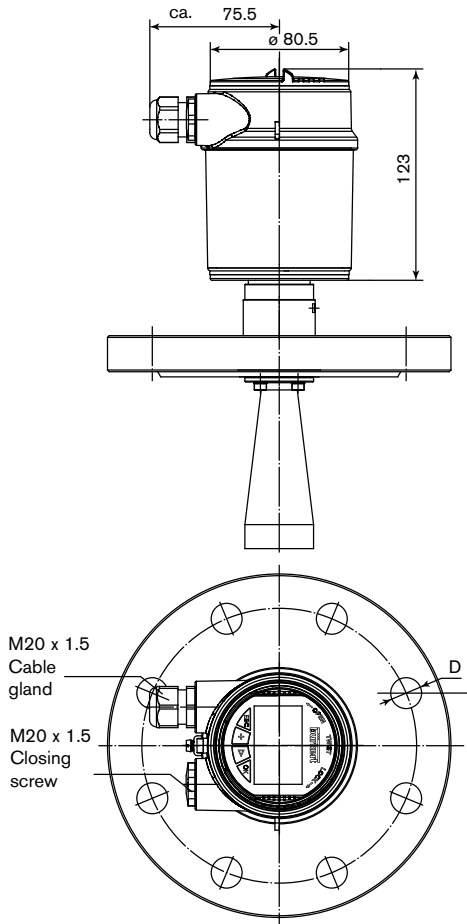
Accuracy diagram



Load diagram



Flange horn antenna version



Standard	DN	A	B	C	E	D	K
DIN 2501	50	ø 40	100	ø 165	20	4 x ø18	ø 125
DIN 2501	100	ø 75	216	ø 220	20	8 x ø18	ø 180
ANSI B16.5	2"	ø 40	100	ø 152.4	19.1	4 x ø19.1	ø 120.7
ANSI B16.5	4"	ø 75	216	ø 228.6	23.9	8 x ø19.1	ø 190.5

Ordering Chart

Area of application	Process connection	Electrical connection	Item no.
8137			
Without Ex	G 1 1/2" ISO 228	M20 cable gland	560 157
	Flange DIN 2301 DN 50	M20 cable gland	560 161
Ex	G 1 1/2" ISO 228	M20 cable gland	560 158
	Flange DIN 2301 DN 50	M20 cable gland	560 162

Area of application	Process connection	Electrical connection	Item no.
8138			
Without Ex	Clamp 2"	M20 cable gland	560 169
Ex	Clamp 2"	M20 cable gland	560 170

Note: Display not included, must be ordered separately (see accessories)

Accessories

Description	Item no.
Set with 2 M20 x 1.5 / NPT $\frac{1}{2}$ "-Reductions + 2 Neoprene gaskets for cable gland M20 x 1.5 + 2 sealing plugs	551 782
HART-USB Modem	560 177
Set with a display/configuration module, a transparent cover and a seal ring	559 279
Set with a transparent cover and a sealing ring	561 006

Ultrasonic Level Transmitter for General Application

8177

G thread process connection

- Two-wire version
- Reliable non-contact measurement
- HART configuration

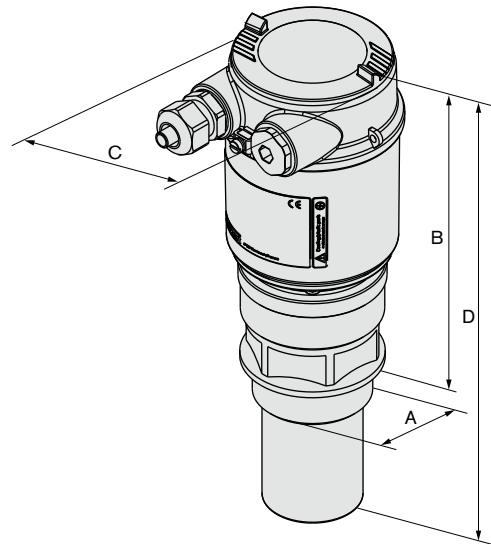


Ultrasonic level transmitters for non-contact measurement of process liquids and solids. Standard HART and 4-20mA HART compatible output.

Technical Data

Housing / Cover	PBT, Stainless steel 316L / PC
Seal ring / Ground terminal	NBR / Stainless steel 316Ti/316L (1.4571/1.4435)
Seal	EPDM
Transducer	PVDF
Display	LCD in full dot matrix*
Voltage supply	2-wire, 14 to 36 V DC (10-30 V DC for Ex)
Current consumption max.	22 mA
Electrical connections	Cable glands M20 x 1.5
Outputs	4-20 mA/HART
Output load max.	See diagram
Dead zone	0.4 m
Measuring range:	8176: up to 5 m 8177: up to 8 m
Beam angle	11°
Accuracy	< 0.2% or ± 4 mm
Process temperature	-40 °C to +80 °C
Vessel pressure	-0.2 to 2 bar (-2.9 to 29.02 PSI) (-20 to 200 kPa)
Vibration resistance	Mechanical vibrations with 4 g and 5-100 Hz
Temperature coefficient	0.06%/10K (Average temperature coefficient of the zero signal - temperature error)
Resolution	max. 1 mm
Frequency	55 kHz
Interval	> 2 s (dependent on the parameter adjustment)
Beam angle at 3 dB	11°
Adjustment time¹⁾	> 3 s (dependent on the parameter adjustment)
Ingress protection	IP66/IP67, with M20 x 1.5 gland mounted and tightened
Electrical data	
Operating voltage	14 - 36 V DC or 14 - 30 V DC (Ex ia instrument)
Permissible residual ripple	< 100 Hz: U _{ss} < 1 V 100 Hz... 10 kHz: U _{ss} < 10 mV
Output signal	4... 20 mA/HART
Resolution	1.6 µA
Fault signal	current output unchanged; 20.5 mA; 22 mA < 3.6 mA (adjustable)
Current limitation	22 mA
Load	see load diagram
Damping	0... 999 s, adjustable
(63% of the input variable)	

Envelope Dimensions [mm] (see datasheet for details)



A	B	C	D
NPT 2	123	80.5	274
G 2"	123	80.5	274

Option

- Process connection clamp 2", 3", 3 1/2", 4"

* Must be ordered separately

¹⁾ Time to output the correct level (with max. 10% deviation) after a sudden level change.

Technical Data (continued)

Environment	
Ambient temperature with display, adjustment elements	-20 to +70°C (-4 to 158°F) (operation and storage)
Relative humidity	Max. 75% (operation), max. 85% (storage); without condensation
Standards and approvals	
Protection	IP66/IP67 with M20 x 1.5 gland mounted and tightened
Overvoltage category	III
Protection class	II
Standard	
EMC	EN61326
Security	EN61010-1
NAMUR	NE 21; NE 43
Approvals	ATEX ²⁾ : EN50014; EN50020; EN50284

Specifications Ex	
Ex - Protection	Categories 1/2G or 2G
Ex - Certification	EEx ia IIC T6
Conformity specifications ²⁾	
Operating voltage U _i	30 V
Short circuit rating I _i	131 mA
Power limitation P _i	983 mW
Ambient temperature	-20 to +41°C (-4 to 105.8°F) (dependent on categories)
Internal capacity C _i	negligible
Internal inductivity L _i	negligible

²⁾ Homologation certificate PTB 07 ATEX 2003X

8177

Ordering Chart (versions with display)

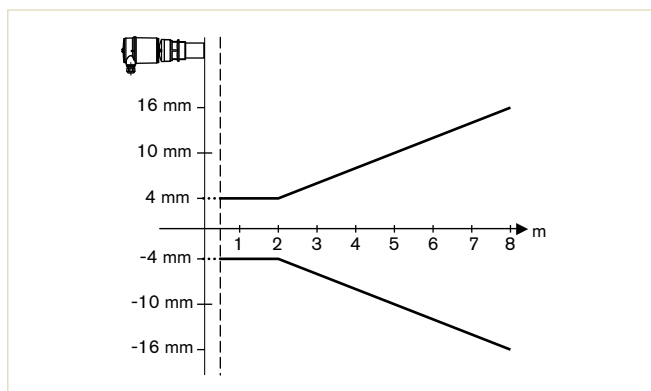
Area of application	Process connection [inch]	Range (liquids)	Range (solids)	Electrical connection	Item no.
8177					
Without Ex	G 2" ISO 228	0.4 - 8 m	0.4 - 3.5 m	M20 cable gland	558 224
Ex	G 2" ISO 228	0.4 - 8 m	0.4 - 3.5 m	M20 cable gland	558 226

Note: Display not included, must be ordered separately (see accessories)

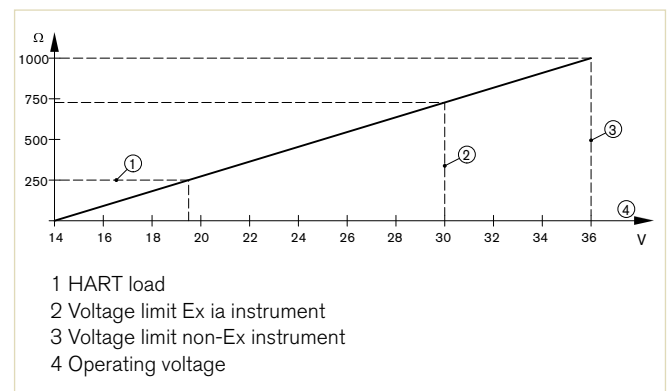
Accessories for Type 8177

Description	Item no.
Set with 2 reductions M20 x 1.5/NPT½" + 2 neoprene flat seals for cable gland + 2 screw-plugs M20 x 1.5	551 782
Set with a display/configuration module, a transparent cover and a seal ring	559 279
Set with a transparent cover and a seal ring	561 006

Accuracy diagram



Load diagram



pH Transmitter

8202 ELEMENT

- Accepts all standard pH probes
- Removable programming puck
- Data upload/download via puck
- With temperature compensation
- Diagnostic function

Please see fittings

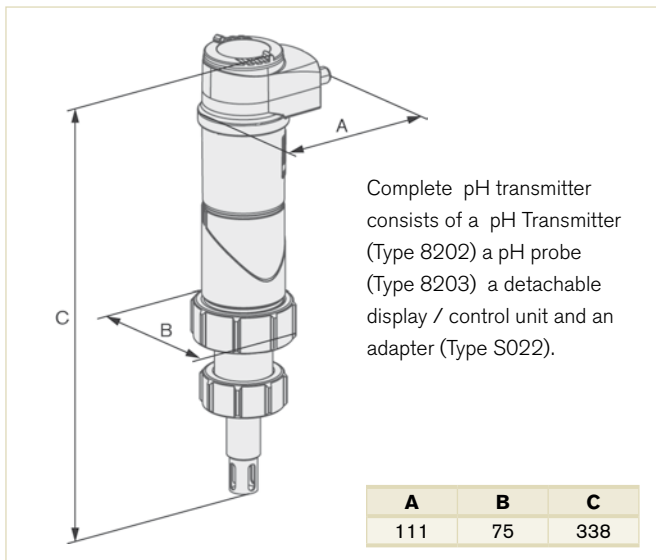


pH transmitter with programmable outputs. pH and temperature output via single or dual analog 4-20 mA. Two transistor outputs are also included. Transmitters are engineered for a wide scope of measuring ranges and can be delivered in 2-wire or 3-wire configurations. Intelligent, integrated, beautiful design fits perfectly with an assortment of easily configured fittings.

Technical Data

pH measurement	
Measuring range	-2 to 16 pH or -580 to +580 mV
Resolution	0.001 pH or 0.1 mV
Accuracy	±0.02 pH or 0.5 mV
Minimal pH scale	
	0.5 pH or 30 mV (i.e. 6.7 to 7.2 pH or -20 to +10 mV corresponding to 4-20 mA)
Temperature compensation	
	Automatic via integrated temperature sensor Pt. 1000
Temperature performance (via integrated Pt1000)	
	Measuring range -40 °C to +130 °C (-40 to 266 °F)
	Resolution 0.1 °C (0.18 °F) Accuracy ± 1 °C (1.8 °F)
Minimal temperature scale	
	10 °C (18 °F) (i.e. 10 °C to 20 °C (50 to 68 °F) corresponding to 4-20 mA)
Available fitting materials	
	Stainless, PP, PVC
Housing material	
	Stainless steel, PPS, PC
Insertion finger	
	PVDF
Gasket seal	
	EPDM
Max. fluid temperature	
	-20 °C to +130 °C (depending on fitting & pH probe)
with PVC nut connection	0 °C to 50 °C
Max. fluid pressure	
	0-16 bar
Ambient temperature	
	-10 °C to +60 °C
Relative humidity	
	≤ 85%, without condensation
Storage temperature	
	-10 °C to +60 °C (without probe)
Ingress protection	
	IP65, IP67
Voltage supply	
	14-36 V DC for 2-wire models 12-36 V DC for 3-wire models
Electrical protection	
	Reversed polarity of DC and peak protected
Current consumption max.	
	1 A max. (with transistor load)
Electrical connections	
	1 x 5-pin M12 male (2-wire) 1 x 5-pin M12 male + 1 x 5-pin M12 female (3-wire)

Envelope Dimensions [mm] (see datasheet for details)





Technical Data (continued)

Outputs		4-20 mA configurable temperature or pH 2 Transistors, configurable, open collector, 700 mA max., 0.5 A max. per transistor if the 2 transistor output are wired
Output load		1100 Ω at 36 V 610 Ω at 24 V 180 Ω at 14 V
Electrical data		
Power supply		
3 outputs transmitter (2-wire)	14-36 V DC, filtered and regulated	
4 outputs transmitter (3-wire)	12-36 V DC, filtered and regulated	
Current consump. with sensor		
3 outputs transmitter (2-wire)	≤ 1 A (with transistor loads) ≤ 25 mA (at 14 V DC without transistor loads, with current loop)	
4 outputs transmitter (3-wire)	≤ 5 mA (at 12 V DC without transistor loads, without current loop)	
Reversed polarity of DC		Protected
Voltage peak		Protected

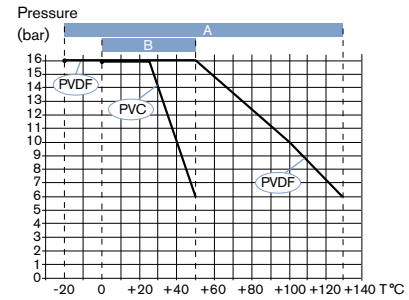
Options

- Blind version (Neutrino)
- ORP: see datasheet 8202

Technical Data (continued)

Short circuit	Protected for transistor outputs
Output	
Transistor	configurable as sourcing or sinking (respectively both as PNP or NPN), open collector max. 700 mA, 0.5 A max. per transistor if the 2 transistor outputs are wired output NPN: 0.2-36 VDC output PNP: V+ power supply
Current	4-20 mA programmable as sourcing or sinking, max. loop impedance: 1 100 W at 36 V DC; 610 W at 24 V DC; 180 W at 12 V DC
3 outputs transmitter (2-wire)	configurable in the same mode as transistor: sourcing or sinking, max. loop impedance: 1 100 W at 36 V DC; 610 W at 24 V DC; 180 W at 12 V DC
4 outputs transmitter (3-wire)	configurable in the same mode as transistor: sourcing or sinking, max. loop impedance: 1 100 W at 36 V DC; 610 W at 24 V DC; 180 W at 12 V DC
Response time (10% - 90%)	150 ms (standard)
General data	
Compatibility	Any pipe which are fitted out with Bürkert adaptor S022 (see separate data sheet)
Materials	
Housing/cover/seals	See exploded view, opposite
Screws/Display/navigation key	Stainless steel 1.4561, PPS / PC / EPDM
Fixed connector mounting plate	Stainless steel 1.4404 (316L)
Fixed connector/Nut	Brass nickel plated / PVC or PVDF
Wetted part materials	
Probe holder	PVDF, Stainless steel 1.4571 (316Ti)
Probe	See probe specific technical data
Probe	120 mm Bürkert pH or ORP probe Type 8203 or any combined 120 mm pH or ORP probe, without temperature sensor, with PG13.5 head, S7/S8 connector
Temperature sensor	
Temperature sensor	Pt1000 integrated within the holder
Display (accessories)	
Display (accessories)	Grey dot matrix 128x64 with backlighting
Electrical connections	
3 outputs transmitter (2-wire)	1x 5-pin M12 male fixed connector,
4 outputs transmitter (3-wire)	1x 5-pin M12 male and 1x 5-pin M12 female fixed connectors
Connection cable	
Connection cable	Shielded cable
Standards, directives and approvals	
Protection class	
Protection class	IP65 and IP67 with M12 cable plug mounted and tightened and cover fully screwed down
Standard and directives 	
EMC	EN 61000-6-2, EN 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27
Approvals	
UL-Recognized for US and Canada 	61010-1 + CAN/CSA-C22 No.61010-1

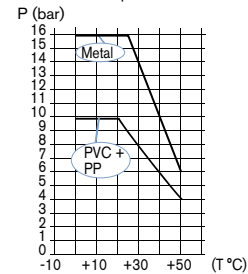
Pressure / temperature chart



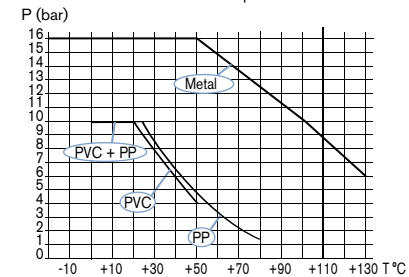
Application range of a 8202:
A : with PVDF nut
B : with PVC nut
 The measures have been made at an ambient temperature of 60 °C, without probe.

Application range of a 8202 (without probe)

- with PVC nut with S022 adaptor



- with PVDF nut with S022 adaptor



Ordering Chart

Transmitter				
Wiring	Outputs	Nut	M12	Item no.
2-wire	2 x transistors + 1 x 4 - 20 mA	PVC	5-pin male	559 630
		PVDF	5-pin male	559 632
3-wire	2 x transistors + 2 x 4 - 20 mA	PVC	5-pin male + female	559 631
		PVDF	5-pin male + female	559 633

Probe Type 8203 (additional versions available)	Item no.
pH probe 0...130 °C, 0 - 16 bar, pH 0 - 14 - UNITRODE PLUS pH 120 mm	560 376
pH probe 0...80 °C, 0 - 6 bar, pH 0 - 14 - FLATRODE pH 120 mm	561 025

Accessories

Description	Item no.
Display/programming module	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m prewired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m prewired	438 680

Note

For a complete transmitter the following items must be ordered:

- Transmitter, Type 8202 ELEMENT
- pH or ORP probe, Type 8203
- Display/programmer module
- M12 cable socket, cable connector (only cable socket for a 4-20 mA current output, cable and cable connector for two 4-20mA current outputs)

Pharmacy made simple.

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pH or ORP Transmitter

8202 ELEMENT neutrino

- Analog 4-20 mA output
- Universal process connection
- Compatible with 120 mm pH/ ORP probes Type 8203
- Temperature compensated pH measurement

Please see fittings



The Bürkert ELEMENT neutrino transmitter, Type 8202, is a compact device designed for the measurement of:

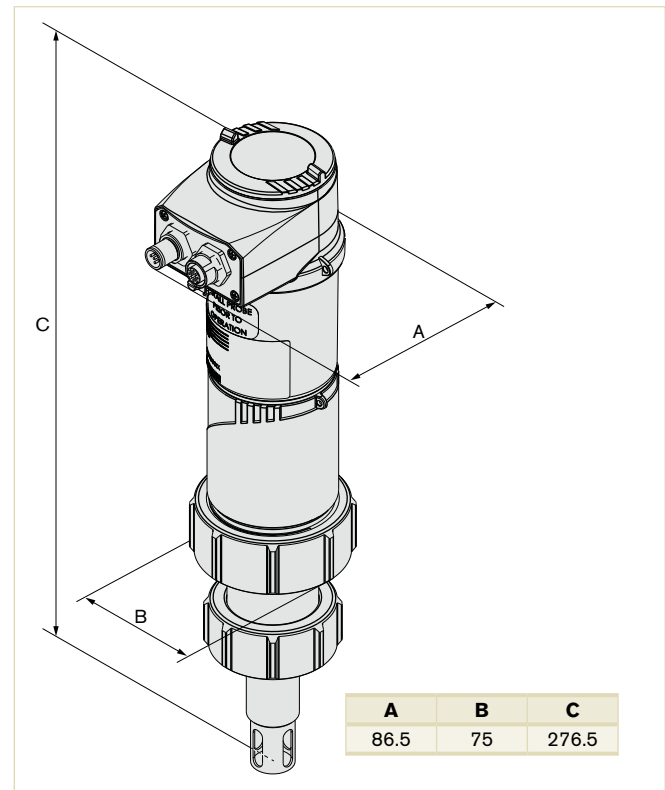
- the pH in clean liquids or liquids containing solids, sulphides or proteins
- or the oxidation-reduction potential in clean liquids or liquids containing solids, sulphides or proteins which may present low conductivity.

Technical Data

Pipe + Transmitter	
Pipe diameter	DN25-110 mm (DN<25 mm with reduction)
pH measurement	
Measuring range	0-14 pH
Accuracy	±0.05 pH
ORP measurement	
Measuring range	-2000 to +2000 mV
Accuracy	±3 mV
Temp. measurement	
Measuring range	-40 °C to +130 °C
Accuracy	±1 °C
Temp. compensation	
	automatic (integrated Pt1000) - reference temperature 25 °C
Ambient temperature	
	-10 °C to +60 °C (Operation and storage without probe)
Medium temp.*	
With PVC nut connection	0 up to +50 °C restricted by the used probe
With PVDF nut connection (on request)	-20 °C up to +130 °C restricted by the used adaptor or probe restriction with adaptor S022 in:
	- PVC: 0 °C up to +50 °C
	- PP: 0 °C up to +80 °C
	- Metal: -20 °C up to +130 °C
Fluid pressure max	
	PN16
4-20 mA output accuracy	
	±1%
Environment	
Relative humidity	≤ 85%, without condensation

* If the specific temperature limits for the probe used and the temperature limits given in the above technical data chart are different, please use the more restrictive range.


Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

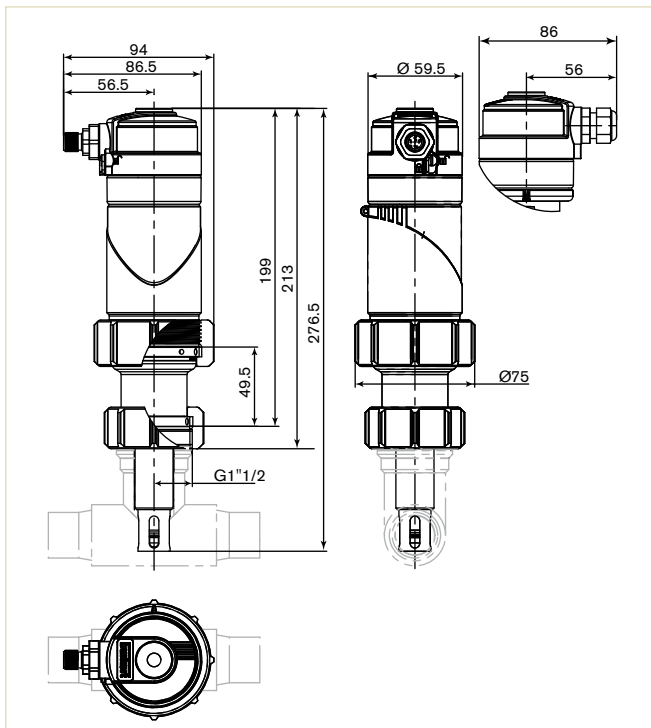
Electrical data	
Power supply	12-36 V DC, filtered and regulated
Current consumption with sensor	≤ 25 mA
Reversed polarity of DC	Protected
Voltage peak	Protected
Output	
Current	4-20 mA max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 100 Ω at 12 V DC;
Response time (10%-90%)	5 s. (standard)

Technical Data (continued)

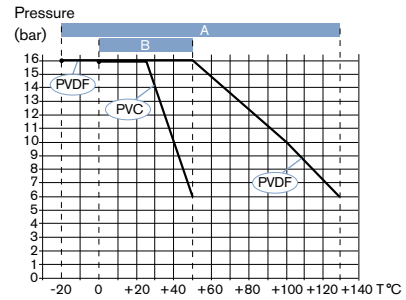
General data	
Compatibility	Any pipe from which are fitted out with Bürkert adaptor S022 (see separate data sheet)
Materials	See exploded view, opposite
Housing	Stainless steel 1.4561 (316L), PPS
Cover	PPS
Seals	EPDM
Fixed connector/cable gland	PA66
Nut	PVC (PVDF on request)
Wetted part materials	
Sensor holder	PVDF, Stainless steel 1.4571 (316Ti)
Probe	See probe specific technical data
Probe	120 mm Bürkert pH or ORP probe Type 8203 or any combined 120 mm pH or ORP probe, without temperature sensor, with PG13.5 head, S7/S8 connector
Temperature sensor	Pt1000 integrated within the holder
Electrical connections	1x 5-pin M12 male fixed connector, or Terminal strip via 1x cable gland M16x1.5
Recommended connection cable for terminal strip	Shielded cable (Measuring data acc. to CEI 664-1/VDE 0110 (4.97))
Solid H05(07) V-U	0.25 up to 1.5 mm ²
Flexible H05(07) V-K	0.25 up to 1.5 mm ²
With wire end ferrule	0.25 up to 1.5 mm ²
With plastic collar ferrule	0.25 up to 0.75 mm ²
Diameter	4 to 8 mm
Standards, directives and approvals	
Protection class	IP65, IP67, NEMA 4X and NEMA 6P, with M12 cable plug or cable gland tightened or obturated and cover properly mounted and secured
Standard and directives 	
EMC	EN 61000-6-2, EN 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter, type of probe and fluid).

Envelope Dimensions [mm] (continued)



Pressure / temperature chart



Application range of a 8202 ELEMENT neutrino transmitter:

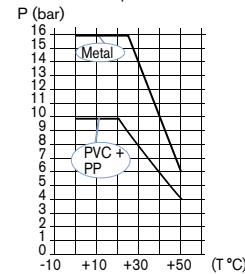
A : with PVDF nut (on request)

B : with PVC nut

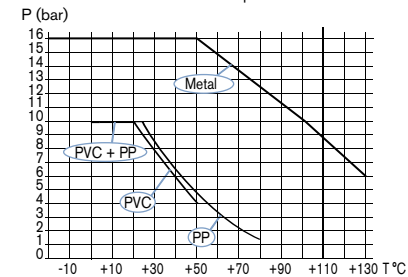
The measures have been made at an ambient temperature of 60 °C, without probe.

Application range of a 8202 ELEMENT neutrino transmitter (without probe)

- with PVC nut with S022 adaptor



- with PVDF nut with S022 adaptor



Ordering Chart

Description	Voltage supply	Output	Sensor version	Nut material	Electrical connection	Item no.
Compact transmitter: sensor holder with integrated Pt1000 + electronic module with cover	12 - 36 V DC	1 x 4 - 20 mA	None	PVC	5-pin M12 male fixed connector	561 685
					Cable gland	561 686

Accessories

Description	Item no.
One Ø 46x2 mm EPDM seal for 120 mm probe holder (with instruction sheet)	559 169
EPDM seal for cover/housing sealing	561 752
Probe holder with PVC nut	560 947
pH-probe -10...40 °C, 0 - 6 bar, pH 0 - 14 - PLASTRODE pH 120 mm	560 377
pH-probe 0... 80 °C, 0 - 6 bar, pH 0 - 14 - FLATRODE pH 120 mm	561 025
pH-probe -10...60 °C, 0 - 6 bar, pH 2 - 14 - LOGOTRODE pH 120 mm	427 114
pH-probe 0...130 °C, 0 - 6 bar, pH 0 - 14 - UNITRODE PLUS pH 120 mm	560 376
pH-probe 0...130 °C, 0 - 16 bar, pH 0 - 14 - CERATRODE pH 120 mm	418 319
Redox potential-probe 0...80 °C, 0 - 6 bar, -2000 ... +2000 mV - FLATRODE ORP 120 mm	561 027
Redox potential-probe -10...50 °C, 0 - 6 bar, -2000... +2000 mV - LOGOTRODE ORP 120 mm	560 379
Redox potential-probe 0...130 °C, 0 - 6 bar, -2000... +2000 mV - UNITRODE PLUS ORP 120 mm	560 378
Storage solution for probe (KCl 3M), 500 ml	418 557
Cleaning solution set for probe, 3 x 500 ml	560 949
Buffer solution, 500 ml, pH=4	418 540
Buffer solution, 500 ml, pH=7	418 541
Buffer solution, 500 ml, pH=10	418 543
Buffer solution, 500 ml, Redox potential = 475 mV	418 555
5 pin M12 female straight cable plug with plastic threaded locking ring, to be wired	917 116
5 pin M12 female straight cable plug moulded on cable (2 m, shielded)	438 680

Note

For a complete transmitter the following items must be ordered:

- Transmitter, Type 8202 ELEMENT neutrino
- pH or ORP probe, Type 8203
- INSERTION Adapters (see Type S022)



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Conductivity transmitter with removable operating unit

- Intuitive menu structure
- Removable programming puck
- Data upload / download via puck
- Diagnostic function

Please see adapters



Conductivity transmitter with programmable outputs. Conductivity and temperature output via single or dual analog 4-20 mA. Two transistor outputs are also included. Transmitters are engineered for a wide scope of measuring ranges and can be delivered in 2-wire or 3-wire configurations. Intelligent, integrated, beautiful design fits perfectly with an assortment of easily configured fittings.

Technical Data

Technical data (Pipe + conductivity meter)

Pipe diameter DN25 to DN110 (DN<25 with reduction)

Conductivity measurement

Measuring range 0.05 mS/cm... 10 mS/cm
Resolution 1 nS/cm
Accuracy $\pm 3\%$ of measured value

Temperature measurement

Measuring range -40 °C to +130 °C (-40 to 266 °F)
Internal resolution 0.1 °C (0.18 °F)
Accuracy ± 1 °C (1.8 °F)
Minimal temperature range 10 °C (i.e. 10 °C to 20 °C (50 to 68 °F) corresponding to 4... 20 mA)

Temperature compensation

none
or according to a predefined graph (NaCl or ultra pure water)
or according to a graph defined especially for your process

Medium temperature

with G 1½" PVC nut connection 0 °C to 50 °C (32 to 122 °F)
with G 1½" PVDF nut connection -20 °C to 100 °C (-4 to 212 °F) restricted by the used adaptor
restriction with adaptor S022 in:
- PVC: 0 °C to 50 °C (32 to 122 °F)
- PP: 0 °C to 80 °C (32 to 176 °F)
- Metal: -20 °C to 100 °C (-4 to 212 °F)

Fluid pressure max PN16 (232 PSI) (see Pressure/Temperature chart)

Environment

Ambient temperature -10 °C to +60 °C (14 to 140 °F) (operating and storage)

Relative humidity $\leq 85\%$, without condensation

Electrical data

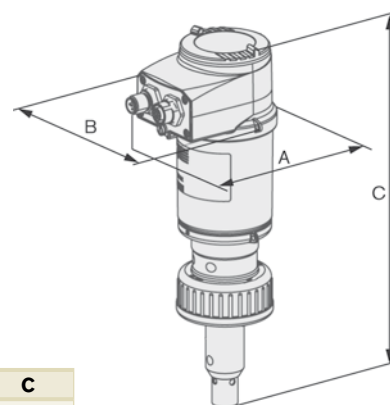
Power supply
4 outputs meter (3-wire) 12 - 36 V DC, filtered and regulated

Current consumption with sensor
4 outputs meter (3-wire) ≤ 1 A (with the 2 transistors loads)
 ≤ 5 mA (at 12 V DC without transistors load, without current loop)

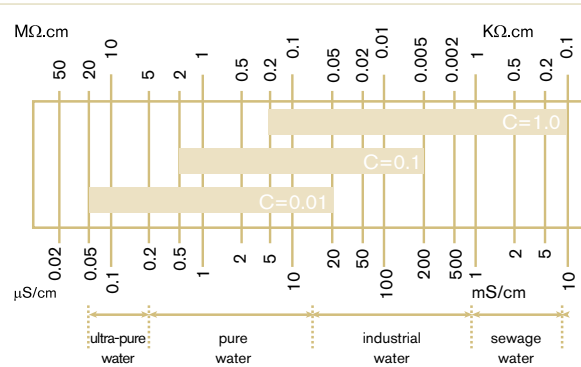
Reversed polarity of DC Protected

Voltage peak Protected

Envelope Dimensions [mm] (see datasheet for details)



A	B	C
97	70	244



The electrode is selected according to the measuring range and medium by using this table.

Short circuit	Protected for transistor outputs
Output	
Transistor	configurable as sourcing or sinking (respectively both as PNP or NPN), open collector max. 700 mA, 0.5 A max. per transistor if the 2 transistor outputs are wired output NPN: 0.2 - 36 V DC output PNP: V+ power supply
Current	4... 20 mA programmable as sourcing or sinking,
4 outputs meter (3-wire)	configurable in the same mode as transistor: sourcing or sinking, max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 100 W at 12 V DC
Response time (10% - 90%)	150 ms (standard)
General data	
Compatibility	Any pipe which are fitted out with Bürkert adaptor S022 (see separate data sheet)

Materials


Housing/cover	Stainless steel 1.4561, PPS / PC
Seals/Screws	EPDM / Stainless steel
Fixed connector mounting plate	Stainless steel
Fixed connector	Brass nickel plated
Display/navigation key	PC / PBT
Nut	PVC or PVDF
Wetted part materials	
Conductivity sensor	PVDF, stainless steel 1.4571 (316Ti)
Electrode	Stainless steel 1.4571 (316Ti) for cell constant C=0.01 or C=0.1 or graphite for cell constant C=1.0

Temperature sensor	Pt1000 (316Ti) integrated in the sensor
Display (accessories)	Grey dot matrix 128x64 with backlighting
Electrical connections	
4 outputs meter (3-wire)	1x 5-pin M12 male + 1x 5-pin M12 female fixed connectors
Connection cable	Shielded cable
Standards, directives and approvals	
Protection class	IP65 and IP67 with M12 cable plug mounted and tightened and cover fully screwed down

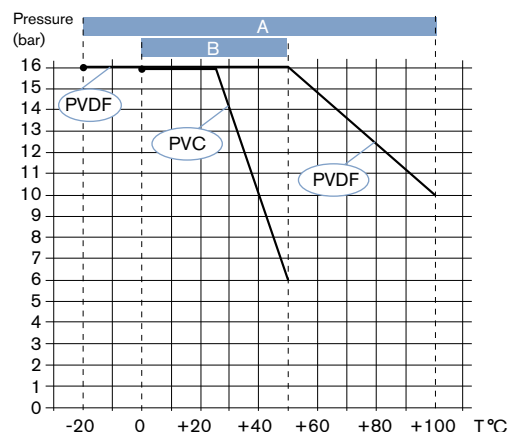
Standard and directives

EMC	EN 61000-6-2, EN 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

Approvals

UL-Recognized for US and Canada 	61010-1 + CAN/CSA-C22 No.61010-1
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Pressure/Temperature chart



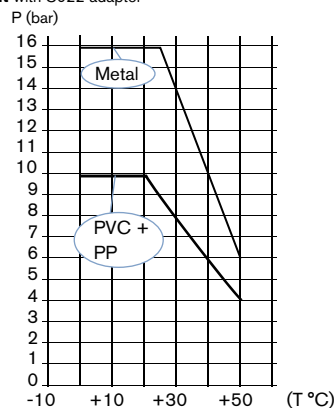
Application range of a 8222 ELEMENT conductivity meter:

- A** : with PVDF nut (on request)
- B** : with PVC nut

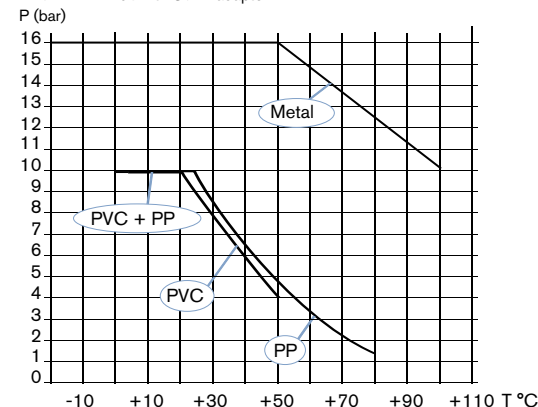
The measures have been made at an ambient temperature of 60 °C.

Application range of a 8222 ELEMENT conductivity meter

- with PVC nut with S022 adaptor



- with PVDF nut with S022 adaptor



Ordering Chart

Nut material	Cell constant	Electrical connection	Item No
PVC	C = 0.01	5-pin M12 male and 5-pin M12 female	559 619
	C = 0.1	5-pin M12 male and 5-pin M12 female	559 615
	C = 1.0	5-pin M12 male and 5-pin M12 female	559 611
PVDF	C = 0.01	5-pin M12 male and 5-pin M12 female	559 621
	C = 0.1	5-pin M12 male and 5-pin M12 female	559 617
	C = 1.0	5-pin M12 male and 5-pin M12 female	559 613

Accessories

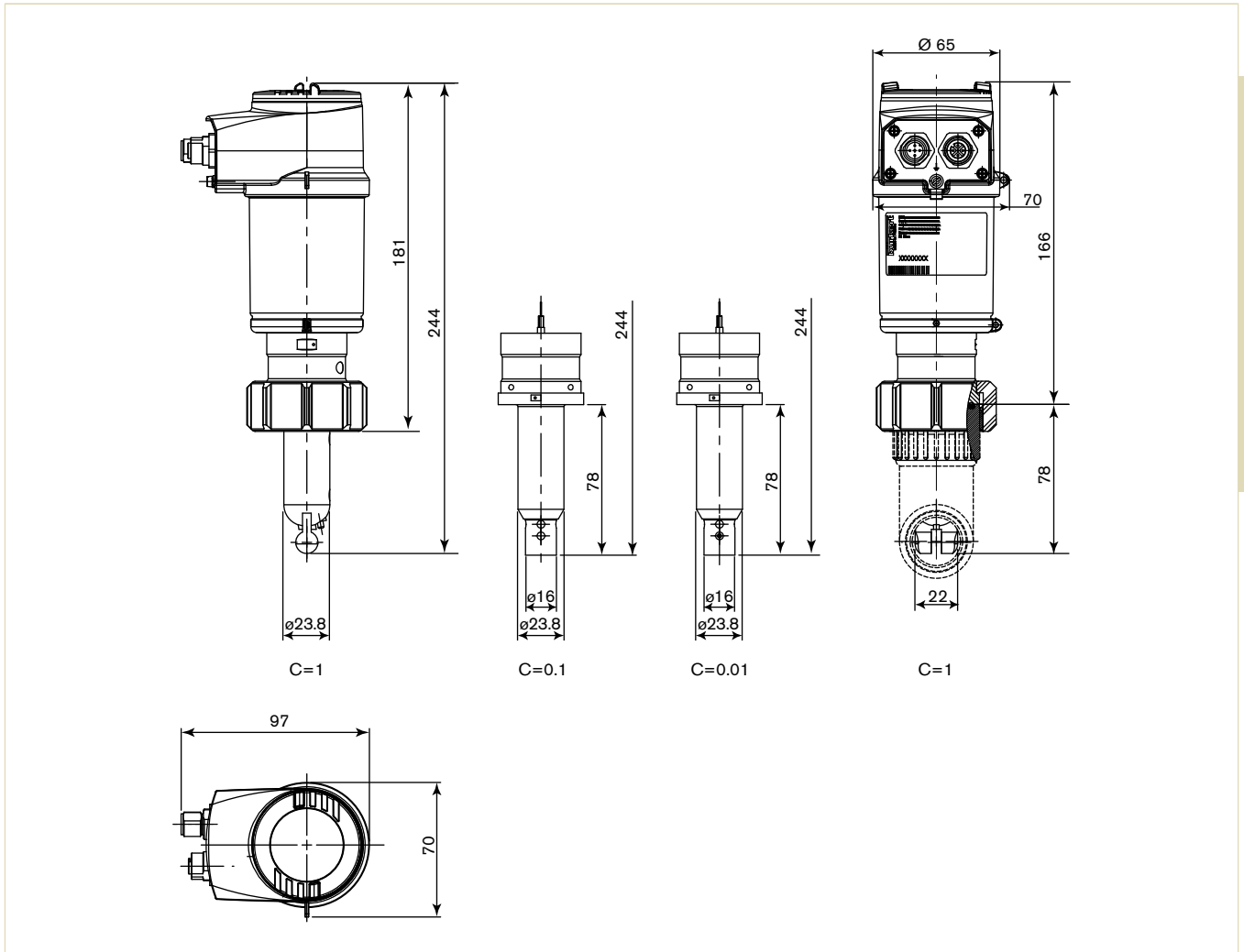
Description	Item No
Display/programming module	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m prewired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m prewired	438 680

Note

For a complete transmitter the following items must be ordered:

- Transmitter, Type 8222 ELEMENT
- Display/programmer module
- INSERTION Adapters (see Type S022)
- M12 cable socket, cable connector (only cable socket for a 4-20 mA current output, cable and cable connector for two 4-20mA current outputs)

Dimensions [mm] of conductivity meter Type 8222



Conductivity meter without display and operating unit

- Analog 4-20 mA output
- Universal process connection
- Three cell constants for covering a wide measuring range
- Temperature compensated measurement

Please see adapters

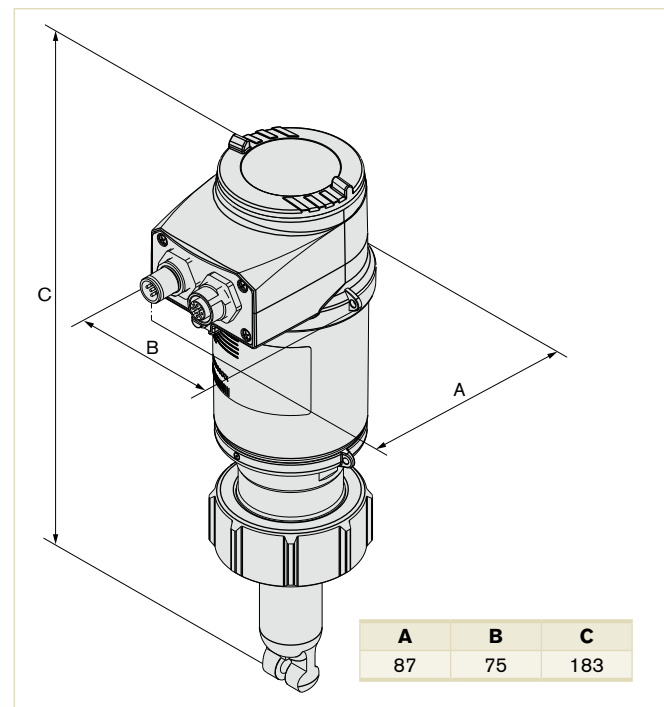


The Bürkert ELEMENT neutrino meter, Type 8222, is a compact device designed for measuring the conductivity of fluids.

Technical Data

Pipe + conductivity meter	
Pipe diameter	DN25-110 mm (DN < 25 mm with reduction)
Conductivity measurement	
Measuring range	0.05 µS/cm to 10 mS/cm
Accuracy	± 3% of measured value
Temperature measurement	
Measuring range	-40 °C to +130 °C
Accuracy	± 1 °C
Temperature compensation	
Cell constants C = 0.1 or 1	according to a NaCl graph
Cell constants C = 0.01	according to an ultra pure water graph
Medium temperature*	
with G 1½" PVC connection nut	0 °C to +50 °C
with G 1½" PVDF connection nut	-20 °C to +100 °C restricted by the used adaptor
(on request)	restriction with adaptor S022 in:
	- PVC: 0 °C to +50 °C - PP: 0 °C to +80 °C
	- Metal: -20 °C to +100 °C
with G ¾" ext. threaded connection	-20 °C to +100 °C restricted by the used adaptor
	restriction with adaptor S022 in:
	- PVC: 0 °C to +50 °C
	- PVDF: 0 °C to +100 °C
	- metal: -20 °C to +100 °C
Fluid pressure max	PN16 (see pressure / temp. chart)
4-20 mA output accuracy	± 1%
Environment	
Ambient temperature	-10 °C to +60 °C (14 to 140°F) (operating and storage)
Relative humidity	≤ 85%, without condensation
Electrical data	
Power supply	12 - 36 V DC, filtered and regulated
Current consumption with sensor	≤ 25 mA
Reversed polarity of DC	Protected
Voltage peak	Protected
Output	
Current	4... 20 mA max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 100 W at 12 V DC
Response time (10% - 90%)	5 s (standard)


Envelope Dimensions [mm] (see datasheet for details)



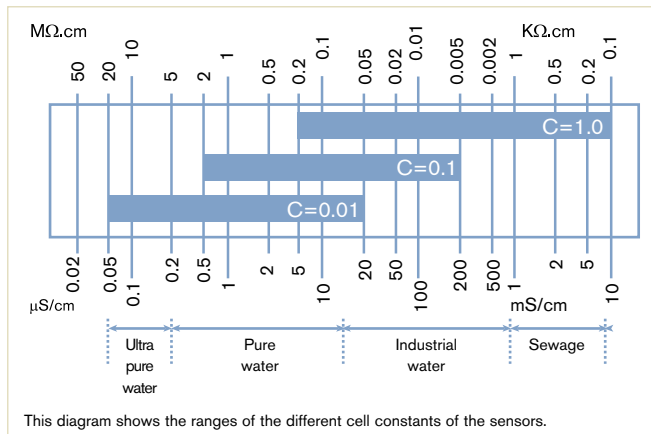
Technical data (continued)

General data	
Compatibility	Any pipe which are fitted out with Bürkert adaptor S022 (see separate data sheet)
Materials	See exploded view, opposite
Housing	Stainless steel 1.4561 (316L), PPS
Cover	PPS
Seals	EPDM
Fixed connector	PA66
Nut	PVC (PVDF on request)
Wetted part materials	
Temperature sensor	PVDF, stainless steel 1.4571 (316Ti)
Conductivity electrodes	Stainless steel 1.4571 (316Ti) for cell constant C=0.01 or C=0.1 or graphite for cell constant C=1.0
Temperature sensor	Pt1000 (316Ti) integrated in the sensor

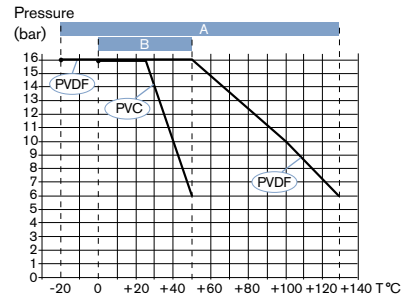
Technical data (continued)

Electrical connections	1x 5-pin M12 male fixed connector, or terminal strip via 1x cable gland M16x1.5
Recommended connection cable for terminal strip	Shielded cable (Measuring data acc. to CEI 664-1/VDE 0110 (4.97))
Solid H05(07) V-U	0.25 to 1.5 mm ²
Flexible H05(07) V-K	0.25 to 1.5 mm ²
With wire end ferrule	0.25 to 1.5 mm ²
With plastic collar ferrule	0.25 to 0.75 mm ²
Diameter	4 to 8 mm
Standards, directives and approvals	
Protection class	IP65, IP67, NEMA 4X and NEMA 6P with M12 cable plug or cable gland tightened or obturated and cover properly mounted and secured
Standard and directives 	
EMC	EN 61000-6-2, EN 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).



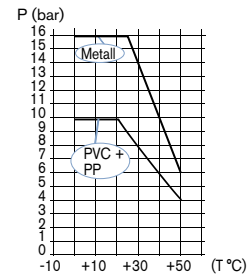
Pressure/temperature chart



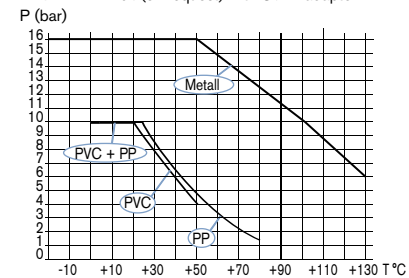
Application range of a 8222 ELEMENT neutrino conductivity meter:
A : with PVDF nut (on request) or G $\frac{3}{4}$ " external threaded connection
B : with PVC nut
 The measures have been made at an ambient temperature of 60 °C.

Application range of a 8222 ELEMENT neutrino conductivity meter

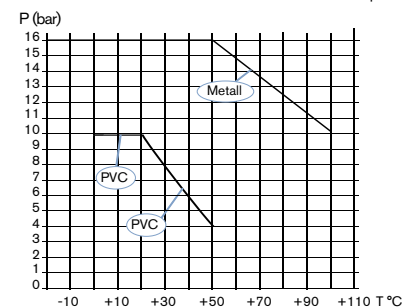
- with PVC nut with S022 adaptor



- with PVDF nut (on request) with S022 adaptor

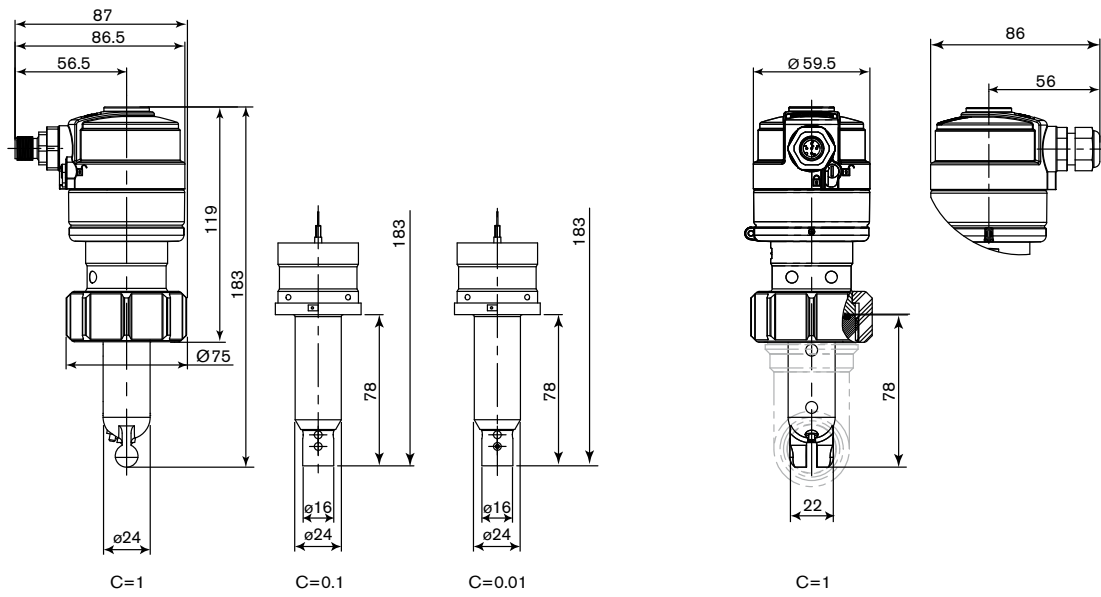


- with G $\frac{3}{4}$ " threaded connection with S022 adaptor



Envelope Dimensions [mm] (see datasheet for details)

with a G 1½" union connection nut



Ordering Chart

Description	Voltage supply	Output	Sensor version	Nut material	Electrical connection	Item no.
Compact conductivity meter with a G 1½" union connection nut	12 - 36 V DC	4 - 20 mA	C = 0.01	PVC	5-pin M12 male fixed connector	561 661
					Cable glands	561 662
			C = 0.01	PVC	5-pin M12 male fixed connector	561 663
					Cable glands	561 664
			C = 0.01	PVC	5-pin M12 male fixed connector	561 665
					Cable glands	561 666

Accessories

Description	Item no.
EPDM seal for cover/housing sealing	561 752
EPDM seal for conductivity meter with G ¾" external thread / S022 adaptor sealing*	561 955
Calibration solution, 300 ml, 5 mS	440 015
Calibration solution, 300 ml, 15 mS	440 016
Calibration solution, 300 ml, 100 mS	440 017
Calibration solution, 500 ml, 706 mS	440 018
Calibration solution, 500 ml, 1413 mS	440 019
5 pin M12 female straight cable plug with plastic threaded locking ring, to be wired	917 116
5 pin M12 female straight cable plug moulded on cable (2 m, shielded)	438 680

* Important!

To ensure the tightness between the meter, with G ¾" thread, and the S022 INSERTION adapter, only this O-ring should be used.

Note

For a complete transmitter the following items must be ordered:

- Transmitter, Type 8222 ELEMENT neutrino
- INSERTION Adapters (see Type S022)

Inductive conductivity meter

8228

- Configurable outputs: up to 2 transistor and up to 2 analogue 4... 20 mA outputs
- Removable backlighted display
- Simulation of process values and diagnostic functions
- Sensor-versions available with PEEK, PVDF or PP

Please see fitting S020



The analysis gauge, Type 8228, includes a detachable display module. This is used for setup, configuration and calibration or required as a process value display. For temperature calibration, a temperature sensor is included as standard.

Technical Data

Complete device data (Fitting + conductivity meter)

Pipe diameter	DN15 to 400
Conductivity measurement	
Measuring range	100 µS/cm...2 S/cm
Resolution	0.1 µS/cm
Measurement deviation	±(2% of the measured value + 5 µS/cm)
Linearity	±2%
Repeatability	±(0.2% of the measured value + 2 µS/cm)
Response time t90	from 3 s (without filter) to 40 s (with slow filter)
Temperature measurement	
Measuring range	-40 °C to +150 °C (-40 to 302 °F)
Resolution	0.1 °C (0.18 °F)
Measuring uncertainty	±1 °C (1.8 °F)
Response time t90	< 280 s (without filter)
Temperature compensation	
	– none or
	– according to a predefined graph (NaCl, NaOH, HNO3 or H2SO4) or
	– according to a graph defined especially for your process

Medium temperature with conductivity sensor in

PVDF	-15 °C to +100 °C (5 to 212 °F)
PP	0 °C to +80 °C (32 to 176 °F)
PEEK	-15 °C to 130 °C (5 to 266 °F)

Temperature limits may depend on the material the S020 fitting used is made of. Refer to the relevant data sheet or instruction manual and the pressure/temperature diagram of the fluid on page 3. If the temperature ranges given for the device and the fitting are different, use the most restrictive range.

Fluid pressure (max.) with conductivity sensor in

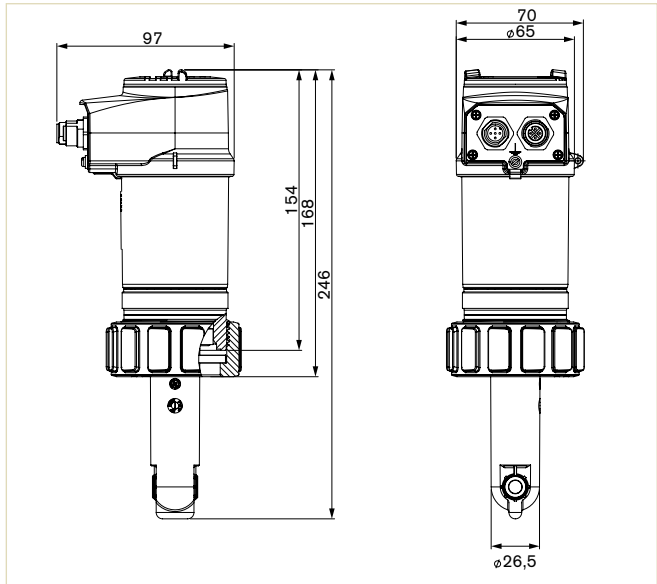
PVDF, PP	PN6 (87 PSI)
PEEK	PN10 (145 PSI)

Pressure limits may depend on the material the S020 fitting used is made of. Refer to the relevant data sheet or instruction manual and the pressure/temperature diagram of the fluid on page 3. If the temperature ranges given for the device and the fitting are different, use the most restrictive range.

Environment

Ambient temperature	-10 °C to +60°C (14 to 140 °F) (operating and storage)
Relative humidity	≤ 85%, without condensation
Height above sea level	Max. 2000 m

Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

General data

Compatibility	Any pipe which are fitted out with Bürkert INSERTION Fitting S020 (see corresponding data sheet)
----------------------	--

Materials

Housing / Cover	Stainless steel 1.4404, PPS / PC
Seal / Screws	EPDM / Stainless steel
Fixed connector holder	Stainless steel 1.4404 (316L)
M12 fixed connector	Brass nickel plated
Display / Navigation key	PC / PBT
Nut	PC

Wetted part materials

Sensor holder	PP, PVDF or PEEK
Seal	FKM (standard) or EPDM (option)

Temperature sensor

Integrated in the sensor

Display (accessories)

Grey dot matrix 128x64 with backlighting

Electrical connections

2 outputs meter (3-wire)	1x 5-pin M12 male fixed connector,
4 outputs meter (3-wire)	1x 5-pin M12 male + 1x 5-pin M12 female fixed connectors

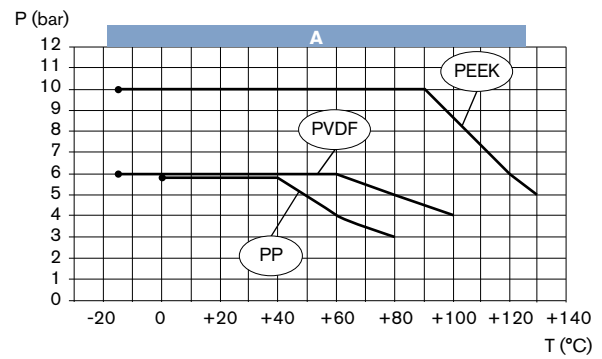
Connection cable

Shielded cable, ø 3 to 6.5 mm; max. 0.75 mm² cross section

Technical Data (continued)

Electrical data	
Supply voltage	12 - 36 V DC, $\pm 10\%$ oscillation rate, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level
Current consumption with sensor	≤ 25 mA (at 12 V DC and without the consumption of the 4... 20 mA output)
Reversed polarity of DC	Protected
Voltage peak	Protected
Short circuit	Protected
Output	
Transistor	Polarized, galvanically insulated configurable through wiring and through parameterizing as sourcing (PNP) or sinking (NPN) output NPN: 1 - 36 V DC, max. 700 mA (or 500 mA max. per transistor if both transistor outputs are wired) output PNP: V+ supply voltage, max. 700 mA (or 500 mA max. per transistor if both transistor outputs are wired)
Current (3-wire)	4... 20 mA configurable through wiring and through parameterizing as sourcing or sinking, 22 mA to indicate a fault (can be parametered) max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 100 W at 12 V DC
Uncertainty of the output value	1% of the full scale
Response time (10% - 90%)	150 ms (default value)
Standards, directives and approvals	
Protection class acc. to EN 60529	IP65 and IP67 with M12 connectors plugged in and tightened and electronic module cover fully screwed down
Standard and directives	
CE	
EMC	EN 61000-6-2, EN 61000-6-3 and Annex1, EN 61326-1-7 (Table 2)
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

Pressure/temperature chart



A: Application range for complete device (conductivity meter with either PP, PVDF or PEEK sensor inserted into a Stainless steel S020 fitting)

8228

Ordering Chart

Holder material	Output	Seal material	Electrical connection	Item No
PP	1 x transistor NPN/PNP + 1 x 4 to 20 mA	FKM	5-pin M12 connector	566 601
	2 x transistor NPN/PNP + 2 x 4 to 20 mA	FKM	5-pin M12 male connector + 5-pin M12 female connector	566 602
PVDF	1 x transistor NPN/PNP + 1 x 4 to 20 mA	FKM	5-pin M12 connector	566 603
	2 x transistor NPN/PNP + 2 x 4 to 20 mA	FKM	5-pin M12 male connector + 5-pin M12 female connector	566 604
PEEK	1 x transistor NPN/PNP + 1 x 4 to 20 mA	FKM	5-pin M12 connector	566 605
	2 x transistor NPN/PNP + 2 x 4 to 20 mA	FKM	5-pin M12 male connector + 5-pin M12 female connector	566 606

Note for ordering chart:

For a complete conductivity unit the following items must be ordered:

- Transmitter Type 8228
- INSERTION Fitting Type S020

Further versions and information see datasheet type 8228.

Options

- UL and CSA approvals
- Preparameterized conductivity meters

Pressure transmitter / Switch

8311

- Pressure measurement and switch in one device
- Switch for alarm or event logging
- Bar graph display for local monitoring
- Continuous or on/off control
- 2-wire transmitter



Programmable pressure sensor with switching and transmitting functions. It has a large display with bar graph and simple menu guided controls. Connection to the process with standard stainless steel connection. The process value can be transmitted to a PLC via a 4-20 mA signal.

Technical Data

General data

Materials

Housing, cover	PC, +20% glass fibre
Front panel folio / Screws	Polyester / Stainless steel
Cable plug/Multipin	PA
Materials wetted parts	Stainless steel
Seal	FKM (EPDM option)

Sensor element Ceramic cell (Al₂O₃)

Service life of pressure cell Min. 100 million cycles

Electrical connections Adjustable 5-pin M12 connector for 5-pin Socket (included)

Voltage supply cable 50 m, shielded, 0.14 up to 0.5 mm² max.

Complete device data (pipe + electronic module)

Pipe diameter Any pipe with sensor connection 1/2"

Measuring range up to 1, 2, 5, 10, 20 or 50 bar

Medium temperature -20 up to 100°C
(+100°C for an ambient temperature of max. 40°C)

Typical accuracy

Transmitter 2-wire version

for 0°C < T < 70°C	≤ ±1% of F.S.*
for -20°C < T < 0°C	≤ ±1% ± 0.03% of F.S.* / °C
for 70°C < T < 100°C	≤ ±1% ± 0.03% of F.S.* / °C

Switch version ≤ ±1.5% of F.S.*

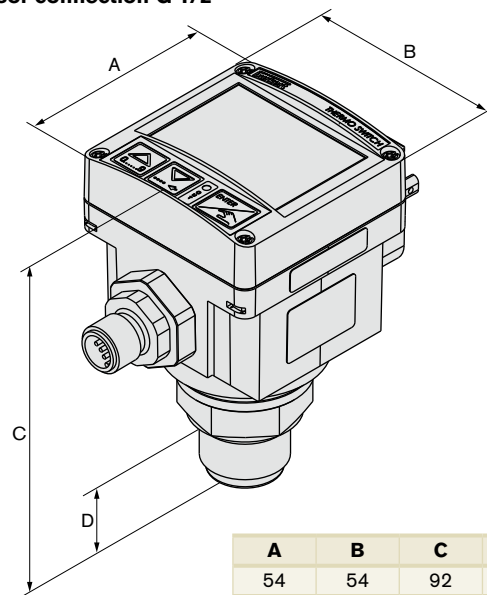
Typical repeatability

Transmitter 2-wire version	≤ ±0.06%
Switch version	≤ ±0.25%

* F.S. = Full scale

Envelope Dimensions [mm] (see datasheet for details)

Sensor connection G 1/2"



Options

- Cable plug, Type 2508, acc. to EN 175301-803
- Outputs: Relay 3 A/250 or 3 A/30 V DC

Technical Data (continued)

Electrical data	
Power supply	12-30 V DC, filtered and regulated
Overvoltage protection	Yes, for power supply and for transistor outputs
Current consumption	
Transmitter 2-wire version	< 30 mA (+700 mA max. per transistor output used)
Switch version	< 750 mA (with load - PNP output configuration) < 80 mA (with load - Relay version)
Output	
Transmitter 2-wire version	
Transistor (programmable)	open collector, 2 NPN or 2 PNP, 700 mA max., NPN: [(V+) minus 0.5 VDC] - 0 VDC PNP: 0.5 VDC - (V+) protected against short circuit
Process value	4-20 mA, Loop resistance: 800 Ω at 30 V DC, 550 Ω at 24 V DC, 300 Ω at 18 V DC (For more details, see instruction manual)
Switch version	
Transistor (programmable)	open collector, NPN / PNP, 700 mA max., NPN: 0.2 - 30 VDC ; PNP: (V+) protected against short circuit
Optional relay (programmable)	Normally open/normally closed 3 A / 250 V AC or 3 A / 30 V DC (relay)
Reversed polarity of DC	Protected (for power supply and all outputs)
Environment	
Ambient temperature	0 up to 60°C (operating and storage)
Relative humidity	≤ 80%, non condensated

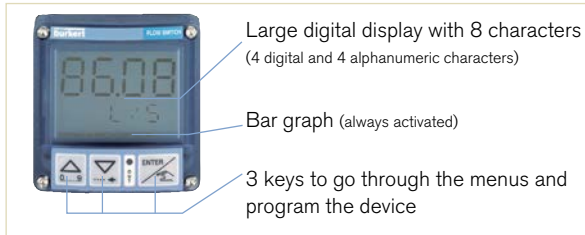
Standards, directives and approvals	
Protection class	IP65 with connector plug-in
Standards and directives	
EMC	Transmitter version: EN 50081-1, 61000-6-2 Switch version: EN 50081-1, 50082-2
Low voltage	Transmitter version: EN 61010-1 Switch version: EN 61010-1
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN25 only
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	DN ≤ 25, or DN > 25 and PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

Main features

Display



Software main features

Switch and transmitter

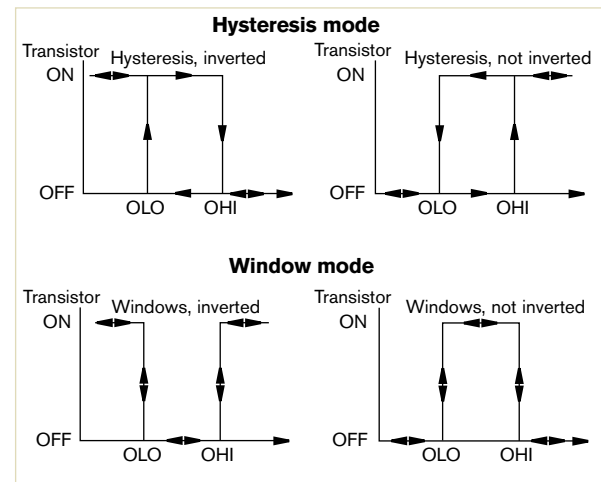
- International measuring units
- 10-segment bar graph
- Teach-In for an improved accuracy
- Simulation mode to test the programming of the switching points, in dry conditions

Transmitter

- Simulation mode to test the programming of 4-20 mA output, in dry conditions
- Display and storage of min/max value
- Protection by code against unauthorized access
- Reset function to default parameters
- Alarm output programmable as internal default alarm

Working mode of alarm outputs

- 2 switching modes for the output, either hysteresis or window, inverted or not



- Programmable delay before switching
- Output available as transistor NPN or PNP, relay (up to 3A)
- Outputs can be programmed as internal default alarm.

Ordering Chart

Pressure range	Electrical connection	Output	Burst Pressure [bar]	Max. Pressure [bar]	Item no. Sensor connection G 1/2
Transmitter					
0 - 1	Free positionable 5-pin, M12	4 - 20 mA + 2 NPN or 2 PNP ¹⁾	4	2	557 934
0 - 2	Free positionable 5-pin, M12	4 - 20 mA + 2 NPN or 2 PNP ¹⁾	7	4	444 507
0 - 5	Free positionable 5-pin, M12	4 - 20 mA + 2 NPN or 2 PNP ¹⁾	12	10	444 506
0 - 10	Free positionable 5-pin, M12	4 - 20 mA + 2 NPN or 2 PNP ¹⁾	25	20	444 503
0 - 20	Free positionable 5-pin, M12	4 - 20 mA + 2 NPN or 2 PNP ¹⁾	50	40	444 504
0 - 50	Free positionable 5-pin, M12	4 - 20 mA + 2 NPN or 2 PNP ¹⁾	120	100	444 505

¹⁾ PNP standard, can be change in NPN with jumpers on electronic board

Accessories

Description	Item no.
5-pin M12 female cable connector with plastic threaded locking ring	917 116
5-pin M12 female connector moulded on cable (2 m, shielded)	438 680

Laboratory Analysis made simple.



Every drop counts. With TwinPower technology, high efficiency laboratory analysis is effortless. Fewer reagents are required because the internal volume of the solenoid valves has been reduced to an absolute minimum. At the same time, energy consumption is less because two smaller solenoid coils share the work in the valve, making this system more durable and reliable than previous systems.

The 6624 TwinPower: So much cleverness in such a small space. More minimum – hardly possible.

We make ideas flow.

www.burkert.com

Pressure Transmitter for general applications

8323

- Piezoresistive or thin film sensor element
- Available with flush diaphragm standard or acc. to EHEDG
- Housing and wetted parts in corrosion-resistant stainless steel
- Standard signal 4-20 mA for connection to automation-system
- Connector plug for fast installation and service



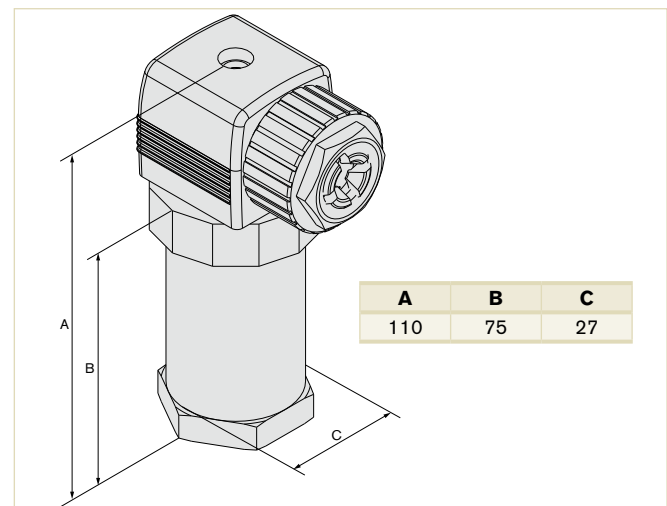
The 8323 compact pressure transmitter is designed to cover the majority of industrial applications in the field of industrial pressure measurement technology. High accuracy, compact design, robust construction and flexibility make this instrument universal and suitable for different measurement functions. For technical reasons piezoresistive sensor element is used for measuring ranges up to 16 bar and thin film sensor element for the measuring range of 25 bar. Wetted parts are made of stainless steel and completely welded. Internal seal elements, which could restrict the choice of measuring materials, are excluded.

Technical Data

Pipe diameter	Any pipe with sensor connection:
Standard version	G1/2" A acc. to DIN 16288
Flush diaphragm version	G1" B with O-ring (range up to 1.6 bar) G1/2" B with O-ring (range > 1.6 bar) G1" B for EHEDG (all ranges) [Weld-on socket with connection G1/2"B, G1"B]
Material - Housing	Stainless steel 1.4571
Wetted parts	
Standard version	Stainless steel 1.4571 (and 1.4542 with 25 bar)
Flush diaphragm version	Stainless steel 1.4571, FKM seal
EHEDG flush diaphragm	Stainless steel 1.4571, EPDM seal
Internal transmitting liquid	Synthetic oil (only for pressure range up to 16 bar or for flush diaphragm units)
Electrical connection	4-pin cable plug, Type 2508, acc. to DIN EN 175301-803 (included in delivery)
Measurement range	0 up to 0.1, 0.16, 0.25, 0.4, 0.6, 1.0, 1.6, 2.5, 4.0, 6.0, 10.0, 16.0 or 25.0 bar
[Pressure reference = relative pressure (atmospheric)]	
Sensor element	piezo (≤ 16 bar) / thin film (≤ 25 bar)
Fluid temperature	
Std. version	-20 up to +100 °C
Std flush diaphragm version	-30 up to +100 °C
Flush diaphragm EHEDG	-20 up to +150 °C
Compensated T° range	0 up to +80 °C
Temperature coefficient	in compensated T° range
Average Tc of zero	
Standard version	$\leq 0.2\%$ of F.S.* / 10K
Flush diaphragm version	$\leq -0.2\%$ to $+0.3\%$ of F.S.* / 10K
Average Tc of Span	$\leq 0.2\%$ of F.S.* / 10K
Accuracy	$\leq 0.5\%$ of F.S.* (2-point calibration) ¹⁾ $\leq 0.25\%$ of F.S.* (Best fit calibration, BFSL) ¹⁾
Hysteresis	$\leq 0.1\%$ of F.S.*
Repeatability	$\leq 0.05\%$ of F.S.*
1-year stability	$\leq 0.2\%$ of F.S.* (at reference condition)

¹⁾ Calibrated in vertical mounting position with pressure connection bottom
* F.S.=Full scale

Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

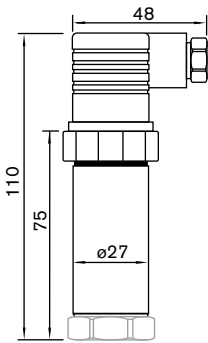
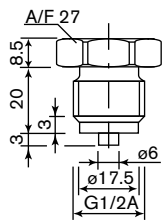
Electrical data	
Power supply [Vs]	10 -30 V DC
Reversed polarity of DC	Protected
Overvoltage protection	Yes
Short circuit protection	Yes
Output	Standard 4-20 mA signal, 2 wires
Load in Ω	$\leq (V_s [V] - 10 [V]) / 0.02 [A]$
Adjustability: Zero / span	$\pm 10\%$
Response time	≤ 1 ms
Environment	
Ambient temperature	
Standard version	-20 up to +80°C (-4 to 176 °F)
Standard Flush Diaphragm ver.	-20 up to +80°C (-4 to 176 °F)
EHEDG Flush Diaphragm ver.	-20 up to +80°C (-4 to 176 °F)
Storage temperature	
Standard version	-40 up to +100°C (-40 to 212 °F)
Standard Flush Diaphragm ver.	-40 up to +100°C (-40 to 212 °F)
EHEDG Flush Diaphragm ver.	-20 up to +100°C (-4 to 212 °F)
Standards, directives and approvals	
Protection class	IP65 with cable plug mounted and tightened
Standards and directives	
EMC	EN 50081-1, 50081-2, 50082-2
Shock resistance	IEC 770, 1000g (mechanical shock)
Vibration resistance	IEC 770, 2g (vibration under resonance)

Dimensions

Pressure connection:

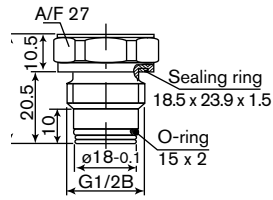
Standard version

G 1/2" A

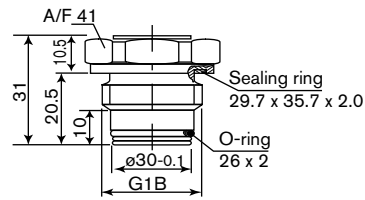


Flush diaphragm version

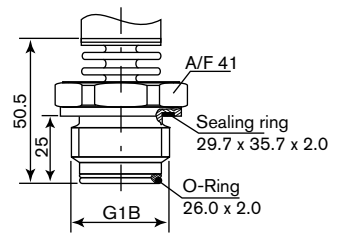
G 1/2" B



G 1" B

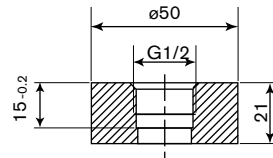


EHEDG G 1" B

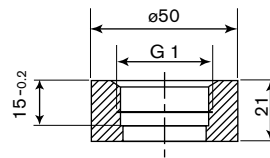


Weld-on socket for pressure connection flush diaphragm version

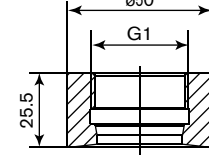
G 1/2" B



G 1" B



EHEDG G 1" B



Ordering Chart

Pressure range [bar]	Max. pressure [bar]	Bursting pressure [bar]	Power supply	Output signal	Item no.			
					Standard	Standard Flush diaphragm G 1/2" B	Standard Flush diaphragm G 1" B	EHEDG Flush diaphragm G 1" B
0 - 0.10	1	2	10 - 30 V DC	4 - 20 mA	417 692	-	552 063	551 803
0 - 0.16	1.5	2	10 - 30 V DC	4 - 20 mA	417 693	-	552 064	-
0 - 0.25	2	2	10 - 30 V DC	4 - 20 mA	417 694	-	-	-
0 - 0.40	2	2	10 - 30 V DC	4 - 20 mA	417 695	-	552 065	551 675
0 - 0.60	4	4	10 - 30 V DC	4 - 20 mA	417 696	-	-	551 676
0 - 1.00	5	5	10 - 30 V DC	4 - 20 mA	417 697	-	552 066	551 677
0 - 1.60	10	10	10 - 30 V DC	4 - 20 mA	417 698	-	-	551 678
0 - 2.50	10	10	10 - 30 V DC	4 - 20 mA	417 699	-	-	551 679
0 - 4.00	17	17	10 - 30 V DC	4 - 20 mA	417 700	-	-	-
0 - 6.00	35	35	10 - 30 V DC	4 - 20 mA	417 701	552 067	-	-
0 - 10.0	35	35	10 - 30 V DC	4 - 20 mA	417 702	552 068	-	551 684
0 - 16.0	80	80	10 - 30 V DC	4 - 20 mA	417 703	552 069	-	-
0 - 25.0	50	250	10 - 30 V DC	4 - 20 mA	417 704	-	-	-

Accessories

Description	Item no.
Weld-on socket G 1/2"	443 295
Weld-on socket G 1"	444 137
Weld-on socket EHEDG G 1"	443 296

Temperature Transmitter / Switch with display

8400

- Menu-guided configuration
- Wide choice of connections and outputs
- Large digital display
- Bar graph display for local monitoring
- Continuous on/off control
- 2-wire transmitter

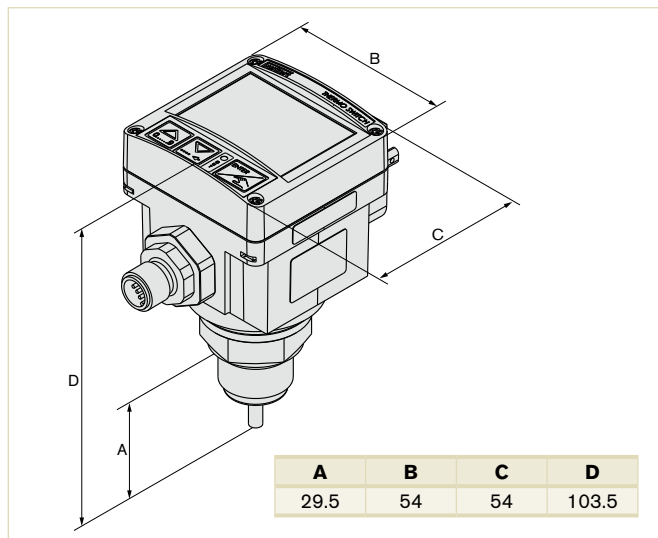


This intelligent sensor / switch with a particularly large display is designed specifically for monitoring limit values or an on/off or continuous control loop. The switching points can be programmed directly via buttons on the display or optionally externally by a PLC via a 4-20 mA standard signal input. In addition, the process value can be transmitted via a 4-20 mA signal to the PLC.

Technical Data

General data	
Materials	
Housing	PC, +20% glass fibre
Front panel folio / Screws	Polyester / Stainless steel
Cable plug, Multipin	PA
Materials wetted parts	
Sensor element	Stainless steel
Seal	FKM
Sensor element	Pt100
Screw-in thread	G 1/2"
Electrical connections	Cable plug: EN 175301-803 Multipin: swivel M12, 5-pin or M12, 4-pin or 8-pin
Voltage supply cable	max. 100 m, shielded, 0.14 up to 0.5 mm ² max. 5 Ω max. cable impedance (Wall-mounted version)
Complete device data (pipe + electronic module)	
Pipe diameter	Any pipe with sensor connection 1/2"
Measuring range	-40 to +125 °C (for ambient temp. between 0 and +40 °C)
Compact version	-40 to +90 °C (for ambient temp. > +40 °C)
Medium temperature	+125 °C max.
Fluid pressure max.	PN16
Switching accuracy	±0.5 °C (0 up to +80 °C) ±1.5 °C (outside of 0 up to +80 °C)
Repeatability	≤ ±0.4%
Electrical data	
Power supply	12-30V DC, filtered and regulated
Outputs - Compact version	
Transistor (programmable)	NPN and PNP, open collector, 5 up to 30V DC, 700 mA max., protected against short circuits
Relay (programmable)	3A/250V AC or 3A/30V DC 3A/48V AC or 3A/30V DC ¹⁾
Input external setpoint	
Compact version	4-20 mA, galvanic insulation, max. input impedance: 250 Ω
Current consumption	
Compact version	Max. 80 mA (no load)
Response time (10 to 90%)	7 s (for one step increment from 0 up to 100 °C)
Reversed polarity of DC	Protected

Envelope Dimensions [mm] (see datasheet for details)



Environment	
Ambient temperature	-20 up to 60 °C
Relative humidity	≤ 80%, without condensation
Standards, directives and approvals	
Protection class	IP65 with connector plug-in
Standards and directives	
EMC	EN 50081-1, 50082-2
Security	EN 61010-2
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN25 only
Fluid group 2, §1.3.a	DN ≤ 50
Fluid group 1, §1.3.b	DN ≤ 50
Fluid group 2, §1.3.b	DN ≤ 50

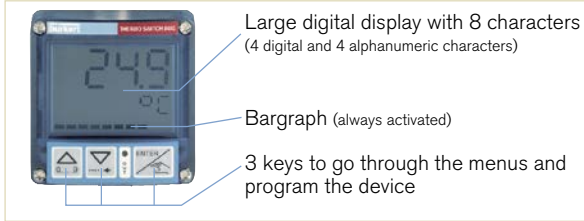
¹⁾ Valid for: external setpoint input and process value output

Option

- 8400: Outputs : Relay 3 A/250 or 3 A/30V DC

Main features

Display



Software main features

- International measuring units
- 10-segment bar graph
- Temperature adjusting for a better accuracy
- Simulation mode to test the programming of the switching points, in dry conditions

8400 with external setpoint

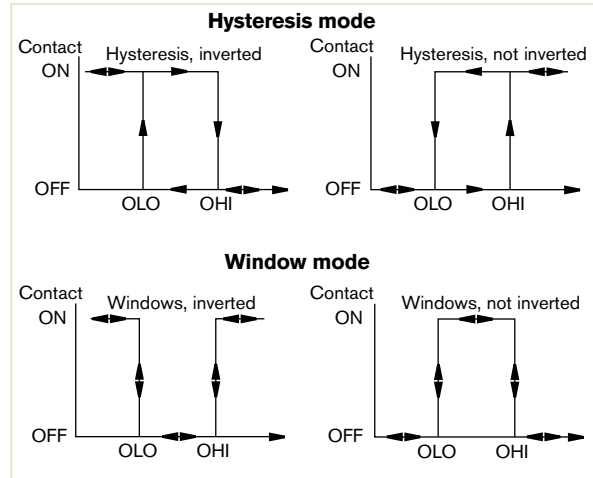
- The switching points are automatically adjusted by the 4-20 mA input signal originating from a PLC.
- On/Off relay output

8400 with process value option

- This version delivers a 4-20 mA electric signal whose value is the image of the measured temperature
- On/Off relay output
- 4-20 mA output
- External setpoint (4-20 mA input)

8400 with standard On/Off output

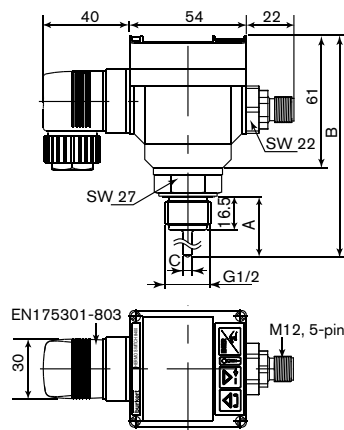
- 2 switching modes for the output, either hysteresis or window, inverted or not



- Programmable delay before switching
- Possible outputs depending on the version: relay, transistor NPN or transistor PNP

Dimensions [mm]

8400 Standard



Version	A	B	C
Standard	29.5	103.5	Ø 4

Ordering Chart

8400 Sensor/Switch for sensor connection G 1/2"	Item no.
NPN and PNP, free positionable 5-pin M12	436 501
Transmitter Version is available with 4 - 20 mA output and relay with 8-pin M12 and cable plug EN175301-803	444 696
Relay version is available, free positionable 5-pin M12 and cable plug EN175301-803	436 503

Accessories

ON/OFF Temperature Control System 8400	Item no.
5-pin M12 female connector with moulded on cable (2 m long, shielded)	438 680

Universal Process Controller eCONTROL

8611

54 x 54 x 50 mm 1/16 DIN Cut out Compact Universal controller

- For flow, pressure, pH, conductivity, level and temperature
- Continuous control: 2-point, 3-point, On/Off, ratio control
- Easy connectable to pneumatically or electrically driven systems



Thanks to its compact design, the universal 8611 controller is specially designed for compact control system applications. It is compatible with a wide range of proportional control valves and connects with an electro-pneumatic servo-system for pneumatically actuated process control valves. The PI process controller is equipped with many additional functions. The actual process value can be supplied as one of three inputs; analogue 4-20 mA/0-10V, frequency or Pt100 signal directly to the universal controller. The process switching points can be set via a 4-20 mA/0-10V signal or with the keypad.

Technical Data

General data	
Materials	
Housing, cover	PC, +20% glass fibre
Front panel folio / Screws	Polyester / Stainless steel
Multipin	CuZn, nickel-plated
Wall-mounting holder	PVC
Display	Dual-line 8-digit LCD with backlight
Electrical connections	Multipin: M12-8pin, M8-3pin, Terminals Insert for direct connecting to electrical components acc. to DIN EN 175301-803
Voltage supply cable	0.5 mm ² max. cross section, max. 100 m, shielded
Environment	
Ambient temperature	0°C to +70°C (operating and storage)
Relative humidity	≤ 80%, without condensation
Height above sea level	max. 2000 m
Standards and approvals	
Protection class	IP65
Standard	
EMC, CE	EN 61326
Approvals	
UL-Recognized for US and Canada	61010-1 + CAN/CSA-C22 No.61010-1

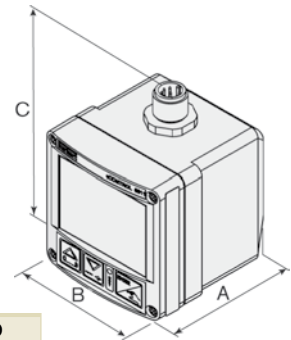
Options (see datasheet for details)

- Mounted on flow sensor fitting
- Mounted on rail or valve

Envelope Dimensions [mm] (see datasheet for details)

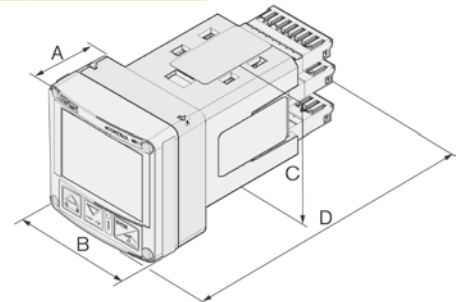
Valve-mounting

A	B	C
61	55	76

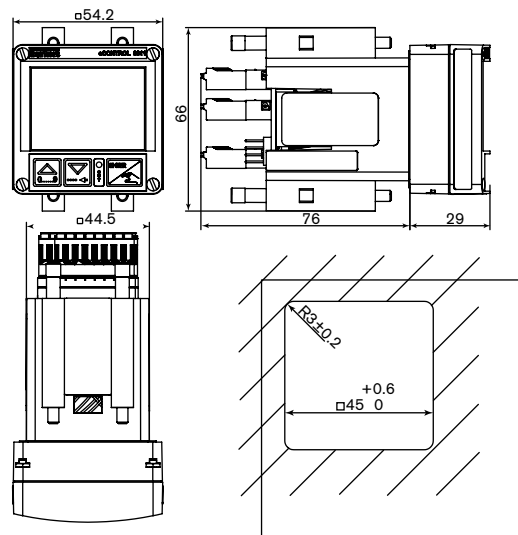


Panel-mounting

A	B	C	D
29	55	66	105



8611 eCONTROL Panel-mounting



Technical data (continued)

Electrical data	
Operating voltage	24 V DC \pm 10%, filtered and regulated
Power consumption	approx. 2 W (without valve-without sensor input)
Input	
Setpoint	
Standard 4 - 20 mA	Sourcing mode Max. input impedance: 70 Ω Resolution: 5.5 μ A
Standard 0 - 10 V	Max. input impedance: 11.5 k Ω Resolution: 2.5 mV
Sensors	
	Sourcing mode
Standard 4 - 20 mA	Max. input impedance: 70 Ω Resolution: 5.5 μ A
Standard 0 - 10 V	Max. input impedance: 11.5 k Ω Resolution: 2.5 mV
Frequency	
Input 1	External sensor min. 0.25 Hz / max. 1 kHz input impedance: > 1 k Ω Signal type: Sinus, square, triangle pulse (> 3000 mVpp, max. 30 Vpp)
Input 2	Internal Hall sensor min. 0.25 Hz / max. 1 kHz (only with Bürkert Type S030 flow fitting)
Pt100 (2 wires)	Measuring range: 0°C to 200°C Measuring current: 1 mA Measuring error: < 0.5°C
Binary input	Input impedance: 10 k Ω Operating threshold: 3 V - 30 V Max. frequency: 1 kHz

Outputs	
Continuous signal	Standard signal 4 - 20 mA max. loop resistance: 680 Ω accuracy: 0.5% Standard signal 0 - 10 V max. current: 20 mA accuracy: 0.5%
Discontinuous signal	2 transistor outputs for PWM^{*)} or PTM^{*)} signal Control frequency 1.2 kHz - 20 Hz resolution max.: 16 Bit (depend from frequency) max. current load: 1.5 A switching voltage: 24 V DC
Binary output	Transistor output (PNP) (configurable) max. current load: 1.5 A switching voltage: 24 V DC
Power supply sensor/actuator	24 V DC, max. 1 A
Total load of all outputs	max. 1.5 A
Controller modes	PI-Control, 2 point and 3 point, cascaded Up to 2 Binary out with windows and hysteresis mode


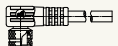
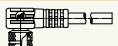
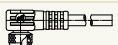
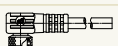



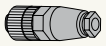




^{*)} PWM = pulse width modulation
PTM = pulse time modulation

Ordering Chart

Mounting position	Sensor Input (external)	Controller outputs	Setpoint setting	Process value output	Binary In/Out	UL Recognition	Item no.
Proportional valve	Temperature (Pt100)	1 x PWM	4 - 20 mA 0 - 10 V	4 - 20 mA 0 - 10 V	1 x Bin In 1 x Bin Out	none	204 642
	Flow rate (Frequency - NPN)	1 x PWM	4 - 20 mA 0 - 10 V	4 - 20 mA 0 - 10 V	1 x Bin In 1 x Bin Out	none	204 639
	All sensors with standard signal (4 - 20 mA / 0 - 10 V)	1 x PWM	4 - 20 mA 0 - 10 V	4 - 20 mA (*) 0 - 10 V	1 x Bin In 1 x Bin Out	none	186 289
Panel	2 x Frequency (NPN/PNP) 1 x 4 - 20 mA / 0 - 10 V	1 x PWM 2 x PTM	4 - 20 mA 0 - 10 V	4 - 20 mA 0 - 10 V	1 x Bin In 2 x Bin Out	none	210 206
	1 x RTD	1 x 4 - 20 mA / 0 - 10 V				UL-Recognized	562 655

* Either PWM/PTM or 4-20 mA/0-10 V selectable as PI-control output. If 4-20 mA/0-10 V selected as PI-output, the process value isn't available.

Accessories (must be ordered separately)

	Description	Item no.
	Positioning system 8810 for pneumatic actuators with rail-mount adaptor	204 458
	4-pin M8 female right angle connector with self-locking threaded joint and 2 m molded cable (valve output)	918 718
	4-pin M8 female right angle connector with self-locking threaded joint and 5 m molded cable (valve output)	919 412
	3-pin M8 female right angle connector with self-locking threaded joint and 2 m molded cable (sensor input)	918 717
	3-pin M8 female right angle connector with self-locking threaded joint and 5 m molded cable (sensor input)	919 410
	4-pin M8 female connector, straight with snap-on connection and 2 m molded cable (valve output)	919 060
	3-pin M8 female connector, straight with snap-on connection and 2 m molded cable (sensor input)	918 039
	8-pin M12 female connector, straight with screw connection and 2 m molded cable (PUR) (Power supply)	919 061
	8-pin M12 female connector, straight with screw connection, to assemble (Power supply)	918 998
	2-pin female connector, straight with 3 m cable (for connection to Positioning system 8810)	133 486
	2-pin female connector, straight with 5 m cable (for connection to Positioning system 8810)	167 494
	2-pin female connector, straight with 0,3 m wire (for connection to Positioning system 8810)	644 068
	2-pin female connector, straight with 0,6 m wire (for connection to Positioning system 8810)	162 144

PVD made simple.

Life is complicated enough. So make it simpler — with the new solutions for surface coating from Bürkert — designed specially for the needs of the PVD industry in mind, featuring precise repeatability and multiple opportunities for field-bus connection. Perfect for optimal process yields, high quality and your peace of mind.

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The MFC 8711.
Quick to respond
like no other.



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FLUID CONTROL SYSTEMS

FLUID CONTROL SYSTEMS
bürkert

Multi-channel, multi-functional transmitter/controller

8619

1/4" DIN Panel Mount

- Flexible analytical and flow transmitter
- Unique flexibility
- Intuitive programming
- SD card for data logging and upload/download



Bürkert's 8619 transmitter/controller is the latest addition to the process control program. The 1/4DIN panel mounted transmitter/controller incorporates a large backlit LCD display for adding up to 6 boards in a free mix for pH, conductivity incl. temperature, and output boards are connected to the digital inputs of the mainboard.

Optional software features can be simply activated when required by the application and an SD card is standard for data logging and up/down loading of parameterization files.

Special integrated dosing and control functions allow use in a large range of applications without the need of additional devices.

Technical Data

General data

Mounting panel-mounted
(stand. 1/4 DIN housing for 92 x 92 mm cutout)
wall-mounted (with mounting plate)

Materials

Seal / Screws Silicone / Stainless steel 316
Support plate for terminals Stainless steel 304
Terminal blocks PBT, contact in gold-plated copper alloy
Display / Front panel and keys PC / Silicone

Housing

Panel-mounted PPO (incl. fastening element)
Wall-mounted PA66 (incl. fastening plate, cable gland, protecting cover (display)), protecting cap (free terminal place), stiffener hinge)

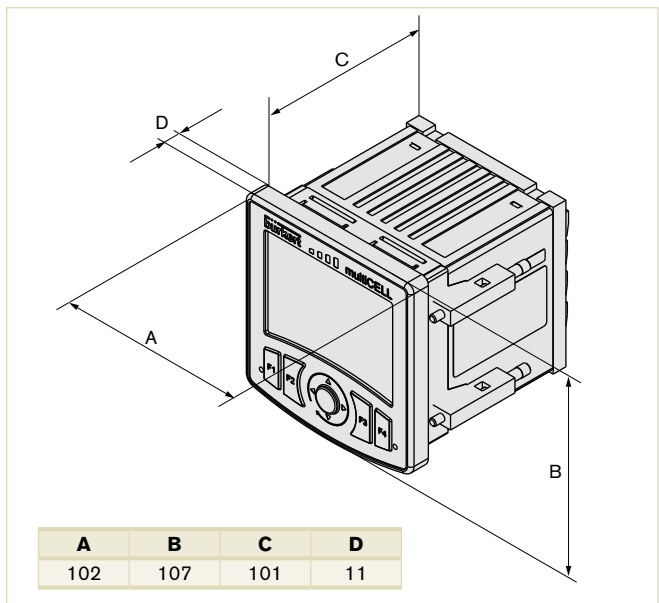
Supply 110/240 V AC

terminal protecting cover (wall-mounted version) Stainless steel 304
PVC

Cover screws (wall-mounted version)

Display LC graphic display, light blue backlitged;
128 x 168 pixels resolution; German, English,
French languages


Envelope Dimensions [mm] (see datasheet for details)



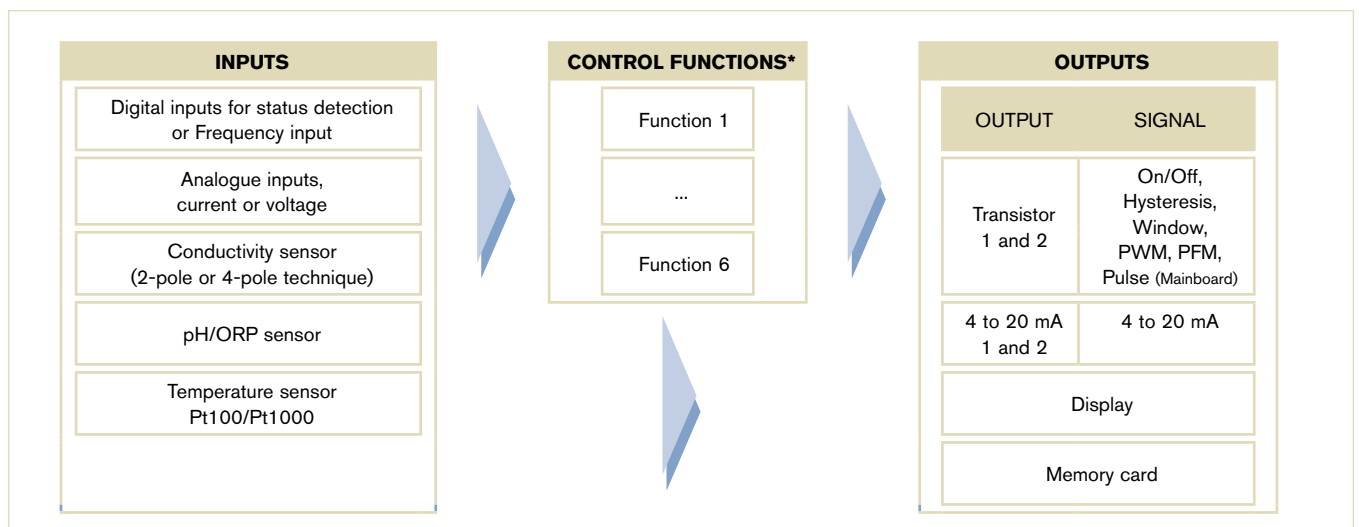
Keypad	4 soft keys [F1] [F2] [F3] [F4] for dynamic functions 1 central navigation key with \uparrow \downarrow \rightarrow \leftarrow assignments
Data logger	up to 16 values
Sensor monitor	Direct display and verification of measured sensor values
Clock	Real-time clock with date
Board slots	6
Electrical connection	Terminal blocks
Recommended cable	Shielded cable
Solid H05(07) V-U	0.2 to 1.5 mm ²
Flexible H05(07) V-K	0.2 to 1.5 mm ²
With wire end ferrule	0.2 to 1.5 mm ²
With plastic collar ferrule	0.2 to 1.5 mm ²

Technische Daten (Fort.)

Electrical data		
Device version	Panel-mounted - Mainboard	Wall-mounted - Power supply board
Operating voltage ("SUPPLY")	12 - 36 V DC, $\pm 10\%$, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level	<ul style="list-style-type: none"> 12 - 36 V DC $\pm 10\%$, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level 110/240 V AC, 50/60 Hz, max. 500 mA, integrated protection: 3.15 A time delay fuse
Power consumption (of multiCELL device - without additional boards and outputs not connected)	Max. 1.5 VA	Max. 2 VA
Power charges ("PWR OUT" or "POWER OUT" acc. to version)	12 - 36 V DC, max 1.8 A protected against polarity reversals	<ul style="list-style-type: none"> 12 - 36 V DC version: 12 - 36 V DC, max 1.8 A protected against polarity reversals 110 - 240 V AC version: 24 V DC $\pm 2\%$, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level, max 1.2 A, protected against polarity reversals The allowed max. current depends on the ambient temperature: see diagram below
Device version	Panel-mounted - Mainboard	Wall-mounted - Mainboard
Digital inputs DI1, DI2	Voltage: 0 - 36 V DC, input impedance 3 k Ω Switching threshold : Von = 5 - 36 V DC, Voff < 2 V DC; Frequency: 0.5 to 2500 Hz Galvanic insulation, protected against reversed polarity of DC and voltage spikes	Voltage: 0 - 36 V DC, input impedance 3 k Ω Switching threshold : Von = 5 - 36 V DC, Voff < 2 V DC; Frequency: 0.5 to 2500 Hz Galvanic insulation, protected against reversed polarity of DC and voltage spikes
Digital outputs DO1, DO2	Transistor: can be wired as PNP or NPN, galvanic insulation, protected against short circuit, max. 36 V DC, max. 700 mA per transistor output, 1 A max. in total if both transistor outputs are used; Operating modes: On/Off, Hysteresis, Window, PWM, PFM, Pulse Frequency: max. 2000 Hz	Transistor: can be wired as PNP or NPN, galvanic insulation, protected against short circuit, max. 36 V DC, max. 700 mA per transistor output, 1 A max. in total if both transistor outputs are used Operating modes: On/Off, Hysteresis, Window, PWM, PFM, Pulse Frequency: max. 2000 Hz
Analogue output AO1, AO2	4 to 20 mA, can be wired as sourcing or sinking, galvanic insulation, protected against reversed polarity of DC, max. loop impedance: 1100 Ω at 36 V DC, 610 Ω at 24 V DC, 100 Ω at 12 V DC Resolution: 6 μ A	4 to 20 mA, can be wired as sourcing or sinking, galvanic insulation, protected against reversed polarity of DC, max. loop impedance: 1100 Ω at 36 V DC, 610 Ω at 24 V DC, 100 Ω at 12 V DC Resolution: 6 μ A
Memory card Type Capacity	SD (Secure Digital) or SDHC (Secure Digital High Capacity) max. 8 GB	
Additional boards - output board		
Power consumption	Max. 0.1 VA	
Digital outputs DO1, DO2	Transistor: can be wired as PNP or NPN, galvanic insulation, protected against short circuit, max. 36 V DC, max. 700 mA per transistor output, 1 A max. in total if both transistor outputs are used; Operating modes: On/Off, Hysteresis, Window, PWM, PFM; Frequency: max. 2000 Hz	
Analogue output AO1, AO2	4 to 20 mA, can be wired as sourcing or sinking, galvanic insulation, protected against reversed polarity of DC, max. loop impedance: 1100 Ω at 36 V DC, 610 Ω at 24 V DC, 100 Ω at 12 V DC Resolution: 6 μ A	

 If the unit is installed in a humid environment or outdoors, the maximum allowable voltage is **35 V DC** instead of 36 V DC

Process diagram



* Can be used in parallel and independently

Ordering Chart

Description	Digital Inputs	Raw signals	RTD	Digital Outputs	Analog	Item no.
BASE unit	2	–	–	2	2	560 205
pH/ORP transmitter	2	1 (pH/ORP)	1	2	2	560 200
pH/ORP transmitter	2	2 (pH/ORP)	2	4	4	560 202
CONDUCTIVITY transmitter	2	1 (Cond.)	1	2	2	560 201
CONDUCTIVITY transmitter	2	2 (Cond.)	2	4	4	560 203
pH/ORP and CONDUCTIVITY transmitter	2	1 (pH/ORP) + 1 (Cond.)	2	4	4	560 204

Note for ordering the above multiCELL Transmitter / Controller:

In all the above variations are arithmetic, PASS, REJECT, DEVIAT, PROP, the On/Off function standard features. In the basic model, the flow measurement function is included. When a totalizer function is needed, then a flow meter via a digital input (main or input board) must be connected. Other optional features can be ordered later, see data sheet.

Hot Ideas for Water Chemistry.

The new Bürkert 8620 multi-parameter controller saves time and space by allowing PC configuration and data logging of a wide number of control variants via an SD card slot. With up to 8 control loops that can be run simultaneously and 23 inputs/outputs, the number of control variants is unprecedented. The addition of a digital serial bus, Ethernet, modem and USB connection further enhances the controllers application potential. No matter what your application is – cooling tower, boiler or membrane filtration – the mxCONTROL 8620 will meet all your needs.



mxCONTROL Multifunction Controller

8620

- Data and event logging
- One controller hardware with dozens of configuration possibilities quickly downloaded via SD card (supplied) or via USB interface
- Ethernet or modem communication with email or call event notification & numerous input/output control signals



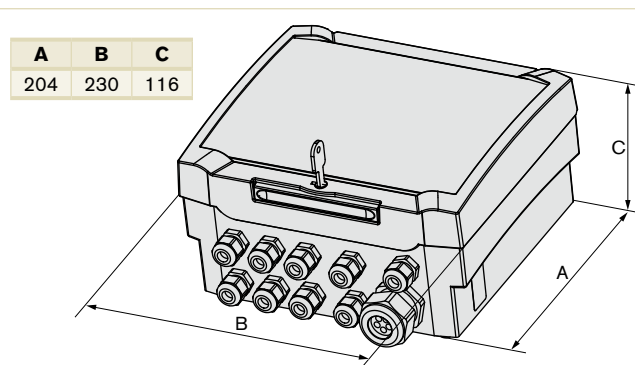
The mxCONTROL multifunction controller, is a microprocessor controller designed to automate the control of process variables within a water treatment system (e.g. boiler, cooling tower or Reverse Osmosis system). Sophisticated electronics and state of the art control algorithms ensure that optimum process control is maintained at all times, with minimal operator intervention.

Note: To ease configuration and parameterization a free PC-Tool is available at www.burkert.com

Technical Data

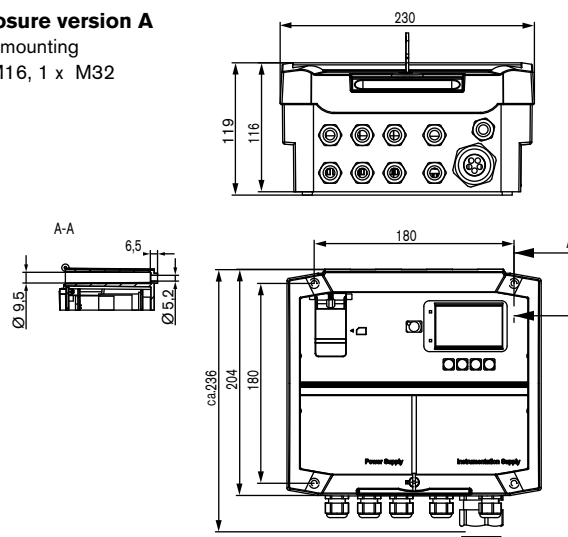
General details of the device	
Enclosure	With sealed keypad and display
Enclosure outer dimensions L x W x H	230 x 204 x 119 mm without cable glands
Enclosure material	PC (UL94) with transparent door and key
Weight	1.8 kg
Degree of protection	IP65 with door closed and properly sealed cable glands, waterproof according to NEMA 4X, additional cover of USB port and SD card slot
Graphic display, large and backlit	128 x 64 dots, two coloured (blue and white)
Keypads for manual operation	5 keys for user inputs
Operating temperature	0 °C to +50 °C
Storage temperature	-20 °C to +60 °C
Electrical details	
Mains voltage (power supply)	100 to 240 V AC, 50/60 Hz, no adjustment necessary
Power consumption (of mxCONTROL device)	Max. 35 W (incl. sensor supply at Instrumentation Supply part)
Total power consumption (using the internal power distribution)	Max. 2400 W (at 240 V AC) or max. 1100 W (at 110 V AC) incl. connected actuators at Power Supply part
Total input current I_{in} (using internal power distribution)	Max. 10 A
Total output current I_{out} (using internal power distribution)	< 10 A (incl. device power consumption of 35 W)
Instrumentation supply for sensors / transistor outputs	24 V DC (±5 %), max. 1.04 A (25 W), short circuit and overload protected
Fuse for device protection (Instrumentation)	Internal: electronic fuse, recovers automatically after fault condition is removed
Fuse for relays outputs	Relay outputs to be fused in external installation according to actuators
Inrush current (typ.)	Cold start: 30 A / 230 V AC

Envelope Dimensions [mm] (see datasheet for details)



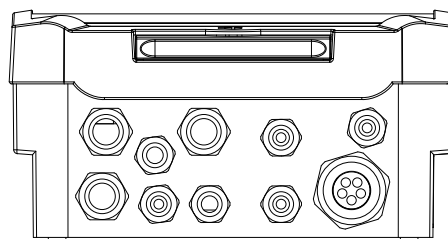
Enclosure version A

Wall mounting
9 x M16, 1 x M32

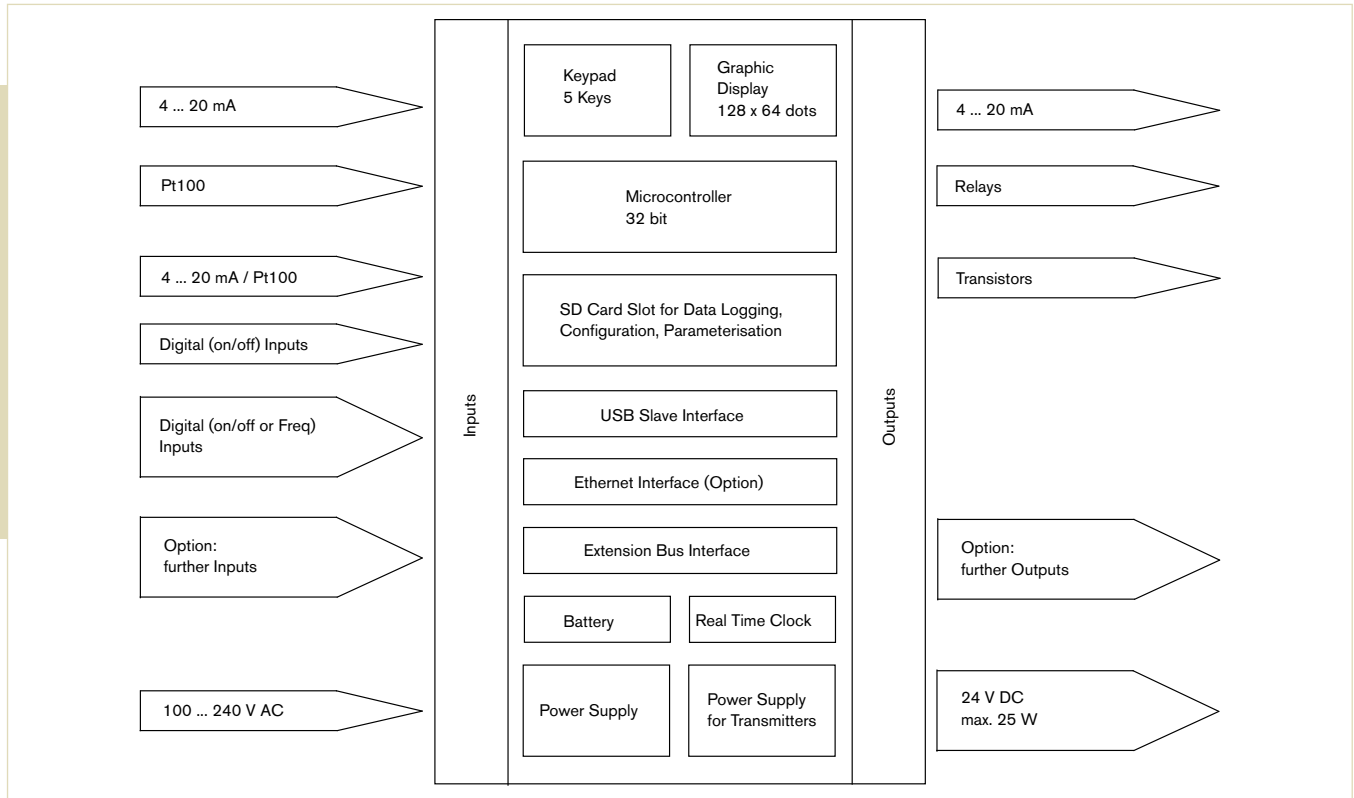


Enclosure version B

Wall mounting, 6 x M16, 3 x M20, 1 x M32

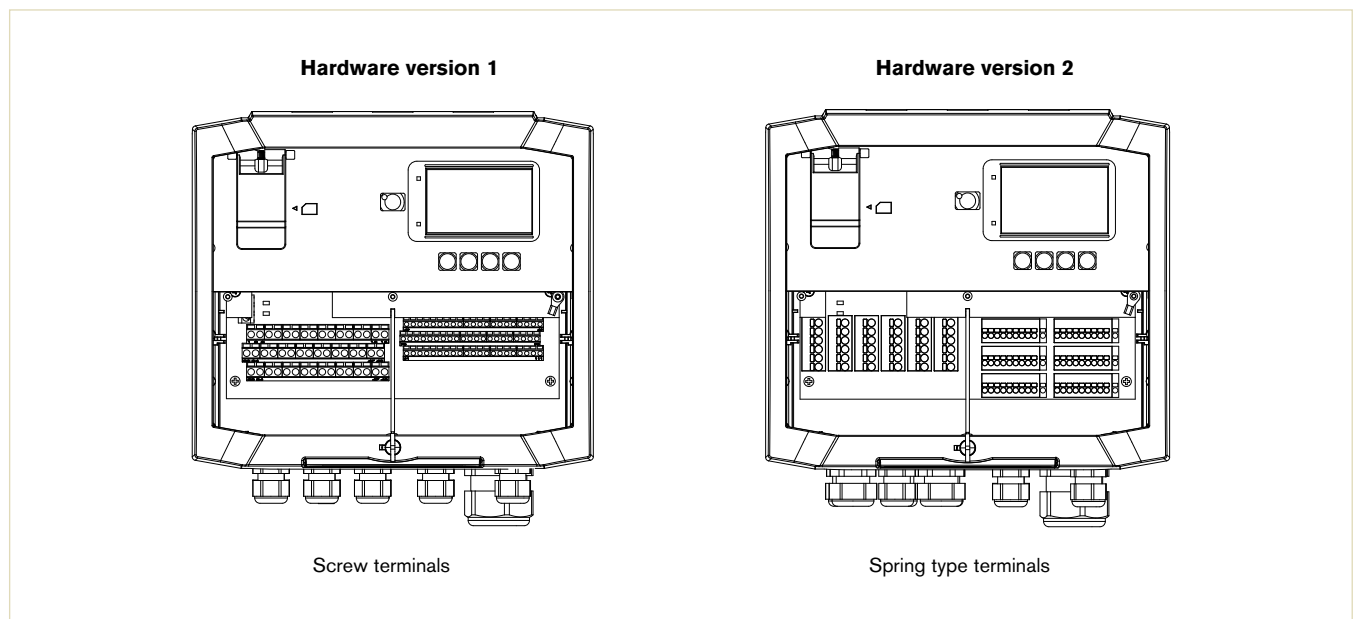


Hardware Structure



Hardware Version

		Hardware version 1	Hardware version 2
Inputs	Analog 4 to 20 mA	-	4
	Analog Pt100	-	2
	Analog 4 to 20 mA / Pt100	4	-
	Digital (on/off)	-	4
	Digital (on/off or Freq)	4	4
Outputs	Analog 4 to 20 mA	4 (optional)	2
	Relay	5	5
	Transistor	4 (optional)	2



Control Functions

General PID control

PID process controller for fixed value, subsequent value or cascade control

Conductivity control

On/off or PI control - continuous dosing through pulse frequency modulation (PFM), PWM or 4-20 mA analog output, automatic or manual drain

Corrosion display

No controller function, only display of measuring values; impact on general alarm output

pH control

PI control - continuous dosing through pulse frequency modulation (PFM), PWM or analog output

Module for dosing of oxygen scavenger media

Proportional dosing for flow and oxygen content depending on flow with or without temperature input

Chlorine / Redox Control

PI control - continuous dosing through pulse frequency modulation (PFM), PWM or 4-20 mA analog output

Batch dosing

Allows batching of a chemical based on volume of water added

Biocide dosing

14-day program, 8 dosing events per channel / per day; Pre-bleed function to optimize biocide kill time

Monitor module

Display of process value

Totalizer function

Single or dual channel flow totalizer (each having two manually resettable totalizers)

Ordering Chart

Electrical connection	Hardware version	Input					Output			Communication Ethernet	Body version	Item no.
		Analogue input 4 - 20 mA	Pt100 - Input	Analogue input 4 - 20 mA or Pt100	Digital (on/off) input	Digital (on/off or Freq) input	Analogue output 4 - 20 mA	Relay output	Transistor output			
Screw terminals	1	-	-	4	-	4	-	5	-	-	A	188 133
		-	-	4	-	4	4	5	4	X	A	188 136
Spring type terminals	2	4	2	-	4	4	2	5	2	-	B	188 137
		4	2	-	4	4	2	5	2	X	B	188 138

Mass Flow Meter (MFM) for Gases

8701

- Direct flow measurement for nominal flow rates from 10 mlN/min to 80 lN/min (N₂) in MEMS technology
- High accuracy
- Short response time
- Optional Fieldbus



Mass flow meters are used in process technology for the direct measurement of the mass flow of gases. In case of volumetric flow meters, it is necessary to measure the temperature and the pressure either the density, because gases change their density or rather their volume depending on the pressure. The measurement of the mass flow, on the other hand, is independent on pressure and the temperature.

The digital mass flow meter, Type 8701, uses a sensor on silicon chip basis (see the description on page 2) located directly in the bypass channel. Due to the fact that the sensor is directly in the bypass channel a very short response time of the MFM is reached. The actual flow is given as an analog output signal or could be read out over RS communication. Type 8701 can optionally be calibrated for two different gases, the user is able to switch between these two gases. The materials of the parts that come into contact with the medium are selected according to customer specification so that the unit can be operated with the complete range of standard process gases.

Typical application areas are gas flow measurement in

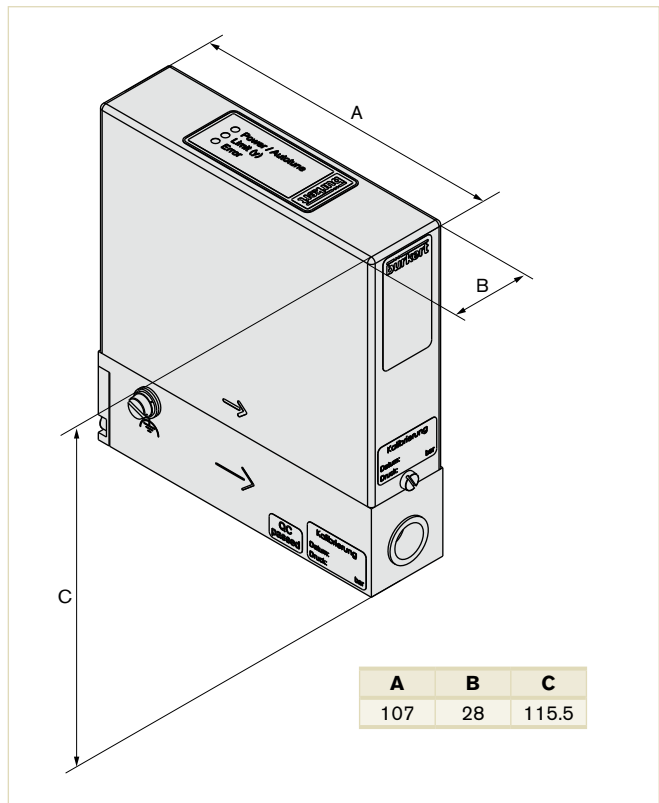
- Test benches
- Environmental technology
- Medical technology and
- Analytical instruments

Note: With the free downloadable communication software, numerous other functions can be programmed. To do this, the MFC / MFM should be connected via an adapter to a computer.

Technical Data

Nominal flow range¹⁾ (Q_{nom})	10 ml _N /min ²⁾ to 80 l _N /min (N ₂),
Span	1:50 (2-100%), (higher span on request)
Operating medium	Neutral, non-contaminated gases, (others on request)
Calibration medium	Operating gas or air with correction function
Max. operating pressure (Inlet pressure)	10 bar (145 psi)
Medium temperature	-10 °C to +70 °C (-10 °C to +60 °C with oxygen)
Ambient temperature	-10 °C to +50 °C
Measuring accuracy (after 1 min. warm up time)	±0.8% o. R. (of reading) ±0.3% F. S. (of full scale)
Repeatability	±0.1% F.S. (of full scale)
Response time (t_{95%})	< 300 ms
Materials	
Body	Aluminium or stainless steel
Housing	PC (Polycarbonate) or metal
Seals	FKM, EPDM
Port connection	G 1/4", others on request
Electr. connection	Plug D-Sub 15-pin
Additionally with Fieldbus:	with PROFIBUS DP: Socket M12 5-pin with DeviceNet/CANopen: Socket M12 5-pin
Power supply	24V DC
Voltage tolerance	±10%

Dimensions [mm] (see datasheet for more details)



A	B	C
107	28	115.5

Technical Data (continued)

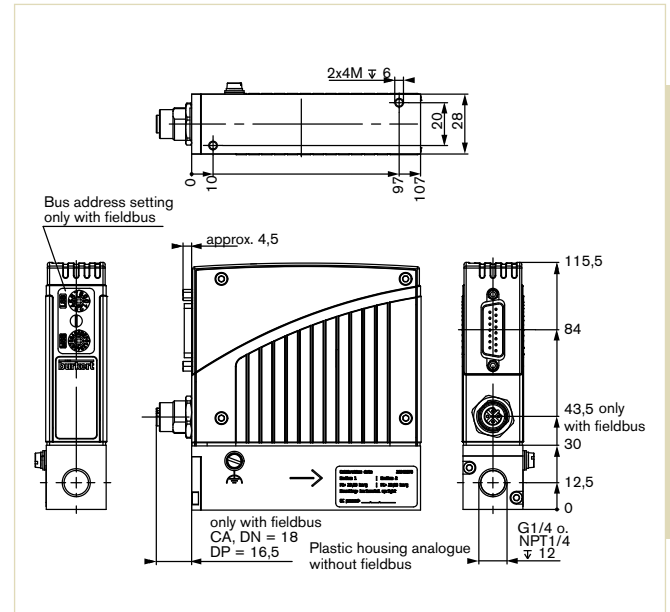
Residual ripple	< 2%
Power consumption	2.5 W
Output signal	0-5 V, 0-10 V, 0-20 mA or 4-20 mA
Max. current (voltage)	10 mA
Max. load (current)	600 Ω
Digital communication	RS232, Modbus RTU (via RS adapter)
via adapter possible:	RS485, RS422 or USB
Fieldbus option	PROFIBUS DP, DeviceNet, CANopen
Type of protection	IP40
Total weight	ca. 500 g (aluminum)
Installation	horizontal or vertical
Light emitting diodes	Indication for power, (default functions, other functions programmable)
	Limit (with analog signals) / Communication (with Fieldbus) and error
Binary inputs	Two
(default functions, other functions programmable)	1. not assigned
	2. not assigned
Binary output	A relay output for:
(default functions, other functions programmable)	1. Limit (actual value close to Q_{nom})
	Max. Load: 25V, 1A, 25VA

¹⁾ The nominal flow value is the max. flow value calibrated which can be measured. The nominal flow range defines the range of nominal flow rates (full scale values) possible.

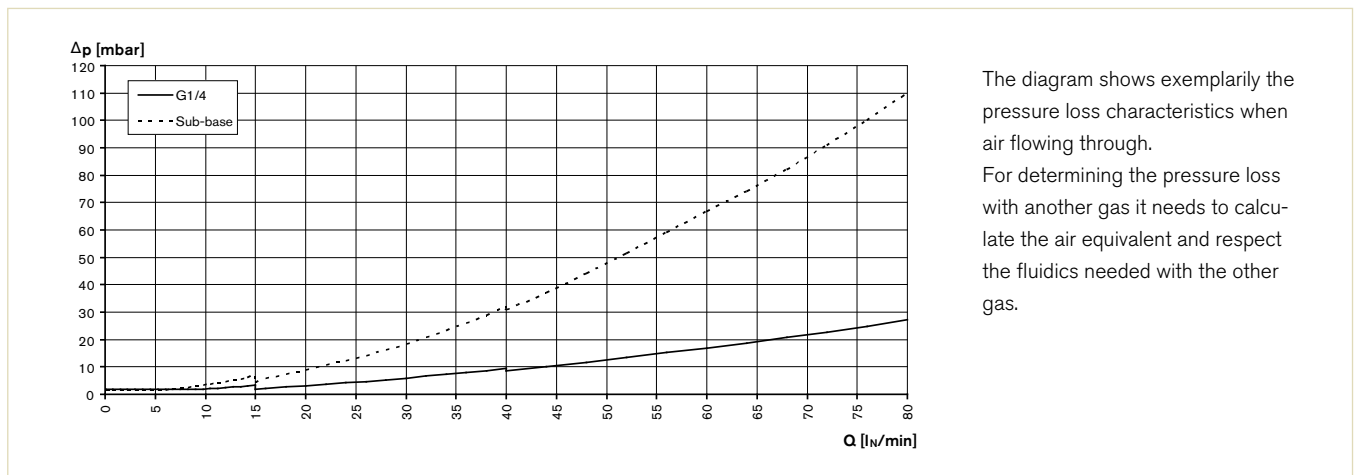
²⁾ Index N: Flow rates referred to 1.013 bar and 0° C.

Alternatively there is an Index S available which refers to 1.013 bar and 20° C

Dimensions [mm] (see datasheet for more details)



Pressure Loss Diagram (ref. to air, with 250µm inlet filter)



The diagram shows exemplarily the pressure loss characteristics when air flowing through.

For determining the pressure loss with another gas it needs to calculate the air equivalent and respect the fluidics needed with the other gas.

Nominal Flow Range of Typical Gases (Other gases on request)

Gas	Min. Q_{Nenn} [l _N /min]	Max. Q_{Nenn} [l _N /min]
Argon	0.01	80
Helium	0.01	500
Carbon dioxide	0.02	40
Air	0.01	80
Methane	0.01	80
Oxygen	0.01	80
Nitrogen	0.01	80
Hydrogen	0.01	500

Ordering chart

Operating gas	Flow rate - Full scale	Base block Aluminium	Seal material	Operating pressure [bar(ü)]	Signal actual value output	Item no.
Type 8701						
Air	100 cm ³ N/min	x	FKM	1	4 - 20 mA	180 866
Air	500 cm ³ N/min	x	FKM	1	4 - 20 mA	219 568
Air	1 IN/min	x	FKM	3	0 - 10 V	226 222
Air	5 IN/min	x	FKM	1	0 - 10 V	202 858
Air	10 IN/min	x	FKM	5	4 - 20 mA	252 074
Air	25 IN/min	x	FKM	5	4 - 20 mA	171 006
Air	50 IN/min	x	FKM	5	4 - 20 mA	174 412
Air	80 IN/min	x	FKM	5	4 - 20 mA	241 884
Hydrogen	1 IN/min	x	FKM	5	4 - 20 mA	251 554
Hydrogen	10 IN/min	x	FKM	2	0 - 10 V	235 503
Hydrogen	100 IN/min	x	FKM	4	4 - 20 mA	182 567
Hydrogen	200 IN/min	x	FKM	4	4 - 20 mA	212 355
Dioxygen	20 IN/min	x	FKM	4	4 - 20 mA	253 550
Dioxygen	3 m ³ N/h	x	FKM	4	4 - 20 mA	181 207
Argon	10 IN/min	x	FKM	5	4 - 20 mA	235 159
Argon	30 IN/min	x	FKM	4	4 - 20 mA	174 419

Notes regarding the selection of the unit

The decisive factors for the perfect functioning of an MFM within the application are the fluid compatibility, the normal inlet pressure and the correct choice of the flow meter range. The pressure drop over the MFM depends on the flow rate and the operating pressure.

8701

Accessories

Article	Item No.	
Connections/Cables		
Socket D-Sub 15-pin solder connection		918 274
Hood for D-Sub socket, with screw locking		918 408
Socket D-Sub 15-pin with 5 m cable		787 737
Socket D-Sub 15-pin with 10 m cable		787 738
Adapters ¹⁾		
RS232 adapter (for connection of a PC, in combination with the PC cable)		654 748
PC extension cable for RS232 9-pin socket/plug 2 m		917 039
RS422 adapter (RS485 compatible)		666 371
USB adapter (Version 1.1, USB socket type B)		670 639
Communication software MassFlowCommunicator		Download from www.buerkert.com
Accessories for Fieldbus	PROFIBUS DP (B-coded)	DeviceNet, CANopen (A-coded)
Plug M12 ²⁾	918 198	917 115
Socket M12 ²⁾	918 447	917 116
Y-junction ²⁾	902 098	788 643
Terminating resistor	902 553	(on request)
GSD-File (PROFIBUS), EDS-File (DeviceNet, CANopen)	Download from www.buerkert.com (see Type 8701)	

¹⁾The adapters serve mainly for initial operation or diagnosis. Those are not obligatory for continuous operation.

²⁾ The two M12 connectors as listed above cannot be used together on the same side of the Y-junction. At least one of the two M12 connection needs to be an overmoulded cable which uses typically a thinner connector. A T-junction cannot be used together with this type of MFM.

Mass Flow Meter (MFM) for Gases

8702

- Direct flow measurement with CMOS-ens[®] technology for nominal flow rates from 20 mlN/min to 80 lN/min
- High accuracy and quick response time
- Optional fieldbus



The digital mass flow meter, Type 8702, uses a sensor on silicon chip basis located directly in the bypass channel. Due to the fact that the sensor is directly in the bypass channel a very fast response time of the MFM is reached. The actual flow is given as an analog output signal or could be read out over fieldbus communication.

Typical application areas are gas flow measurement in

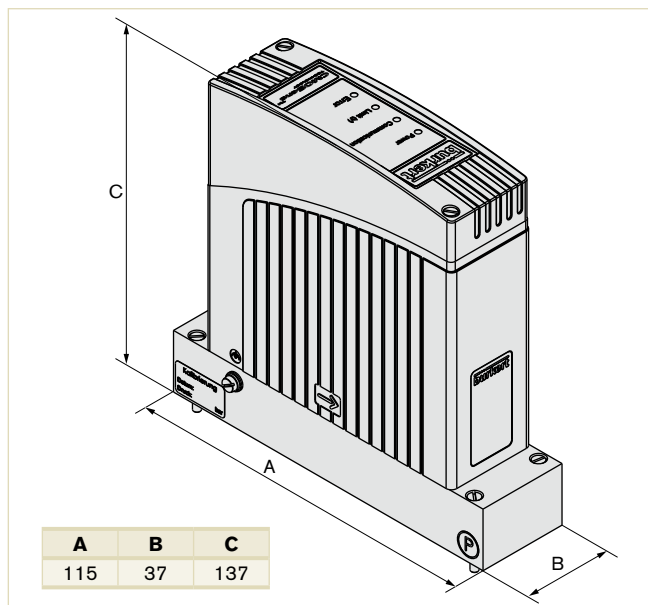
- Test benches
- Packaging and foodstuff industry
- Environmental technology
- Pharmaceutical and Biotechnology

In particular, Type 8702 fulfils the requirements of IP65 protection.

Technical Data

Nominal flow range¹⁾ (Q_{nom})	0.01 to 80 l _N /min ²⁾ (ref. to N ₂)
Turn-down ratio	1:50, wider span on request
Operating gas	Neutral, non-contaminated gases, others available on request
Calibration gas	Operating gas or air with correcting function
Max. operating pressure (Inlet pressure)	Up to max. 10 bar (145 psi), depending on the orifice of the valve
Gas temperature	-10 to +70°C (-10 to +60°C with oxygen)
Ambient temperature	-10 to +50°C (others on request)
Accuracy (after 1 min warm up time)	±0.8% o.R. ±0.3% F.S. (o.R.: of reading; F.S.: of full scale)
Repeatability	±0.1% F.S.
Settling time (t_{95%})	<300 ms
Materials	
Body	Stainless steel
Housing	PC (Polycarbonate)
Seals	FKM, EPDM (others on request)
Port connection	G 1/4" (others on request)
Electr. connection	Socket M16, round, 8-pin and socket D-Sub HD15, 15-pin
Additionally with fieldbus:	With PROFIBUS-DP: Socket M12 5-pin (for IP65) or D-Sub 9-pin With DeviceNet/CANopen: Plug M12 5-pin (for IP65) or D-Sub 9-pin
Operating voltage	24V DC
Voltage tolerance	±10%
Residual ripple	<2%
Power consumption	max. 2.5 W (analog communicator) to 5 W (digital communicator)
Output signal (signal output)	0–5 V, 0–10 V, 0–20 mA or 4–20 mA
Max. current, volt. output	10 mA
Max. load, current output	600 Ω

Dimensions [mm] (see datasheet for more details)

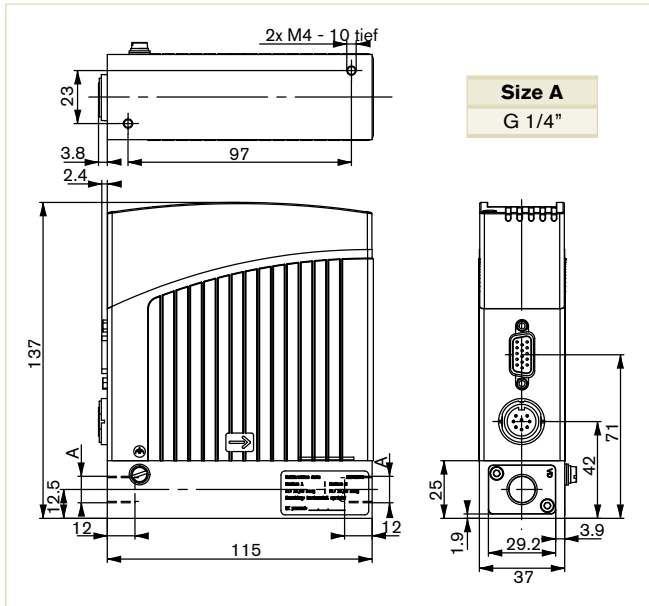


Digital communication via adapter possible:	RS232, Modbus RTU (via RS interface) RS485, RS422 or USB (see accessories table)
Fieldbus option	Profibus-DP, DeviceNet, CANopen (D-Sub HD15 covered with sealed plate with fieldbus MFC)
Type of protection (with connected cables)	IP65
Total weight	1000 g
Mounting position	Horizontal or vertical
Light emitting diodes (Default, other functions programmable)	Indication for Power, Communication, Limit, Error
Binary inputs (Default, other functions programmable)	Three various functions programmable
Binary outputs (Default, other functions programmable)	Two relay outputs 1. Limit (Q _{nom} almost reached) 2. Error (i.e. sensor fault) Load capacity: max. 60 V, 1 A, 60 VA

¹⁾ The nominal flow value is the max. flow value calibrated which can be controlled. The nominal flow range defines the range of nominal flow rate possible.

²⁾ Index N: Flow rates referred to 1.013 bar(a) and 0 °C, alternatively also Index S: Flow rates referred to 1.013 bar(a) and +20 °C.

Dimensions [mm] (see datasheet for more details)



8702

Ordering chart

Operating gas	Flow rate - Full scale	Base block Stainless steel	Seal material	Operating pressure [bar(g)]	Signal actual value output	Item no.
Type 8702						
Air	10 lN/min	yes	FKM	6	4 - 20 mA	214 514
Air	25 lN/min	yes	FKM	6	4 - 20 mA	168 115
Air	50 lN/min	yes	FKM	6	4 - 20 mA	202 678

Accessories

8702

Article	Item No.	
Connectors/Cables		
Round plug M16 8-pin (solder connection)		918 299
Round plug M16 8-pin with 5 m cable		787 733
Round plug M16 8-pin with 10 m cable		787 734
Plug D-Sub HD15 15-pin with 5 m cable		787 735
Plug D-Sub HD15 15-pin with 10 m cable		787 736
Adapters ¹⁾		
RS232 adapter for connection to a computer, connection with an extension cable (item no. 917 039)		654 757
Extension cable for RS232 9-pin socket/plug 2 m		917 039
RS422-Adapter (RS485 compatible)		666 370
USB-Adapter (Version 1.1, USB socket type B)		670 696
USB cable 2 m, connection type A to connection type B		772 299
Adapter for manual setting of bus address		667 525
Software MassFlowCommunicator		Download at www.buerkert.com
Accessories for Fieldbus	PROFIBUS DP (B-codiert)	DeviceNet/CANopen (A-codiert)
M12-Plug ²⁾	918 198	917 115
M12-socket (coupling) ²⁾	918 447	917 116
Y-junction ²⁾	902 098	788 643
T-junction	918 531	(on request)
Shut-off resistor	902 553	(on request)
GSD-Datei (PROFIBUS), EDS-Datei (DeviceNet, CANopen)	Download at www.buerkert.com	

¹⁾ The adapters serve mainly for initial operation or diagnosis. Those are not obligatory for continuous operation.

²⁾ The two M12 connectors as listed above cannot be used together on the same side of the Y-junction. At least one of the two M12 connection needs to be a prefabricated cable which uses typically a thinner connector..

Intelligent, Integrated and Beautiful.

ELEMENT is a complete system approach to allow you to solve process problems. It encompasses the total loop: valves, sensors and controllers in one beautifully simple architecture which can be relied on to monitor and control inert fluids, steam, corrosive solvents, chemicals or abrasive fluids in a wide variety of application environments. ELEMENT meets all the requirements of the food and beverage industry, as well as the pharmaceuticals and cosmetics industry, in regard of safe process applications and easy-to-clean equipment.

Give your plant a competitive edge. The new ELEMENTs of success.



Flow fittings

- Universal fitting for INSERTION measuring devices
- Wide range of materials and process connections
- For pipe diameters DN15 to 350 mm
- Metal up to 16 bar
- Plastic up to 10 bar

**Example
S020 PVC**



The fitting can be used to connect any INSERTION device for a measurement in the pipe. i.e. sensors, indicators and controllers for flow, pH, oxidation reduction potential (O.R.P) and conductivity measurement. The fitting is available for flowmeter having a G 2" or a clamp connection.

Technical Data

General data

Pipe diameter

G 2" flowmeter connection ver. DN06 to DN400¹⁾

Clamp flowmeter connection ver. DN32 to DN100

Fitting process connections

Metal	Internal or external thread, weld ends, clamp or flange
Plastic	True union, spigot or external thread

Materials

G 2" flowmeter connection ver.

Seal	FKM or EPDM
Body & adapter	Brass (CuZn39Pb2) & stainless steel (316L -1.4404), all in stainless steel (316L -1.4404) or all in PVC, PP, PVDF, PE
Clamp flowmeter connection ver.	Stainless steel 316L

Surface finish

Clamp flowmeter conn. ver. Ra < 0.8 µm

Medium data

Medium temperature	0 to 50°C (32 to 122°F) for fitting in PVC 0 to 80°C (32 to 176°F) for fitting in PP -15 to 100°C (5 to 212°F) for fitting in PVDF -15 to 160°C (5 to 320°F) for fitting in stainless steel or brass
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Temperature limits may depend on the inserted device. Refer to the relevant data sheet or instruction manual and the pressure/temperature diagram of the fluid on next page. If the temperature ranges given for the adapter and the inserted device are different, use the most restrictive range

Medium pressure (max.)

Metal	PN16 (232.16 PSI)
Plastic	PN10 (145.1 PSI)

Pressure limits may depend on the inserted device. Refer to the relevant data sheet or instruction manual and the pressure/temperature diagram of the fluid on next page. If the pressure ranges given for the adapter and the inserted device are different, use the most restrictive range

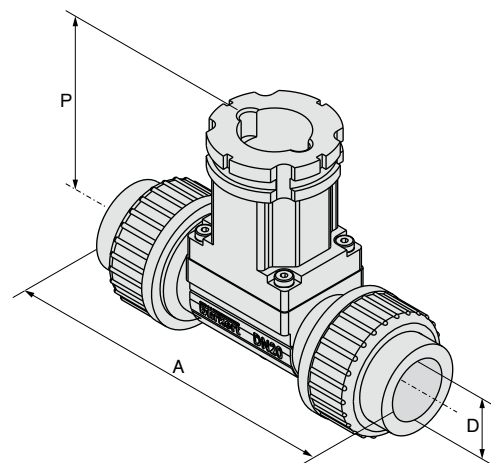
Environment

Ambient temperature	Temperature limits may depend on the inserted device. Refer to the relevant data sheet or instruction manual for more details
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Approvals

Approval/Certificate on request	3.1 certificate 2.2 certificate Surface finish certificate Calibration certificate FDA (with EPDM seal) - stainless steel fitting only
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Dimensions [mm] (see datasheet for more details)



True union process connection

DIN 8063, DIN 16962 in PP or ISO 10931 in PVDF

DN [mm]	P [mm]	A [mm]	D [mm]
15	80.4	128.0	20.00
20	77.8	144.0	25.00
25	78.0	160.0	32.00
32	81.4	168.0	40.00
40	85.2	188.0	50.00
50	91.5	212.0	63.00

Note: short sensor version

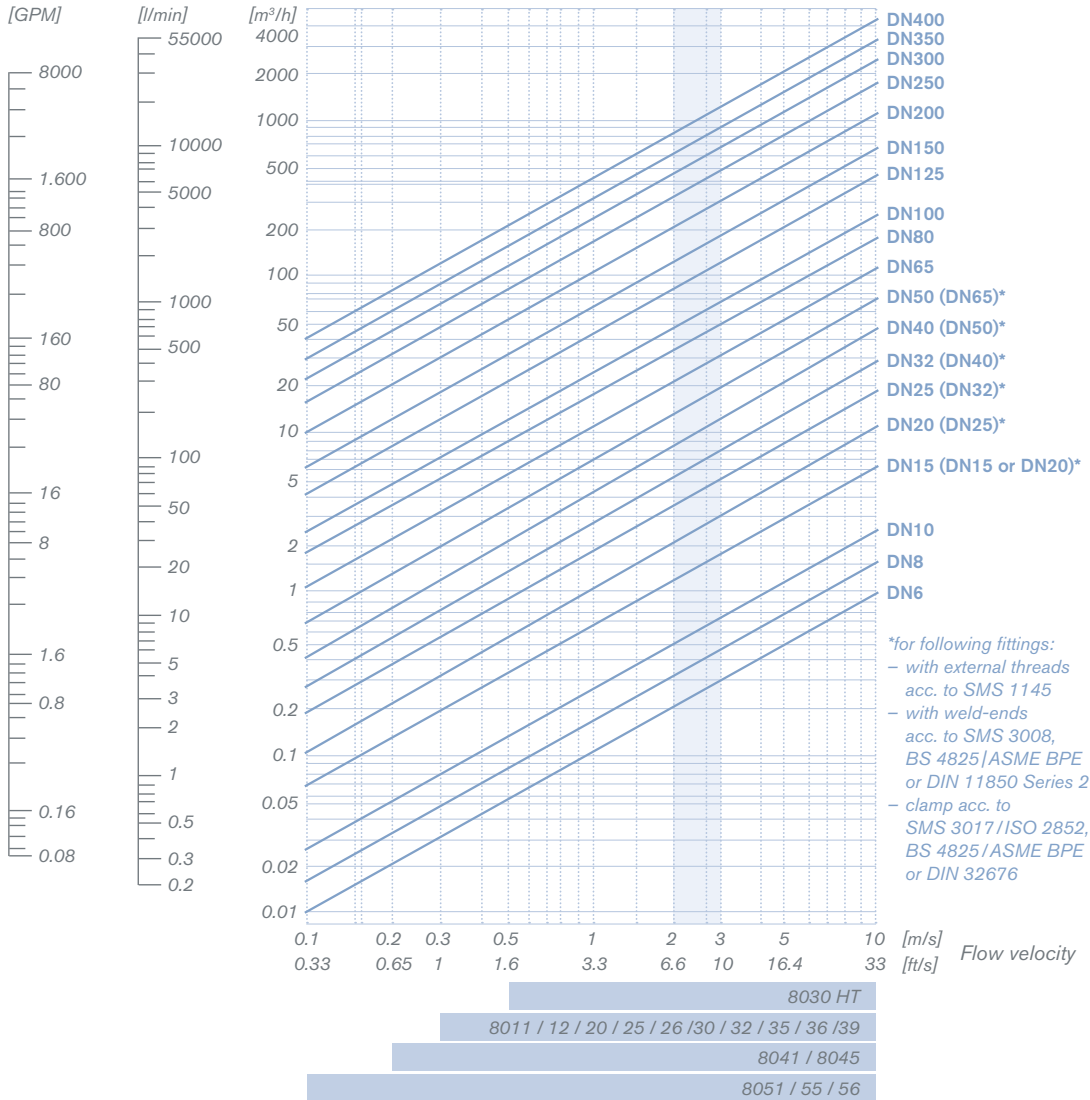
Selection Help – Flow Velocity Considerations

Depending on the sensor type, the right flow rate has to be chosen to get the best accuracy. The higher the flow velocity, the lower the measurement error, but the higher the pressure loss. The following chart will help

you find the correct fitting diameter for your application depending on flow velocity and sensor technology. Pipes for fluids similar to water are generally designed for an average flow velocity of approx. 2 to 3 m/s or 6-10 ft/s.

Flow rate

Diagram for nominal diameter selection

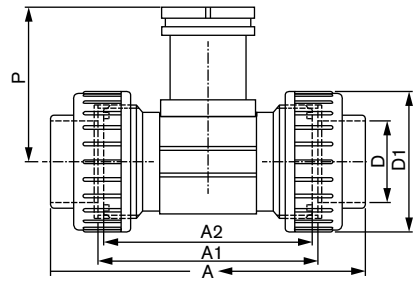


True union process connection

DIN 8063, DIN 16962 in PP or ISO 10931 in PVDF

DN [mm]	P [mm]	A [mm]	A1 [mm]	A2 [mm]	D [mm]	D1 [mm]
15	80.4	128.0	96	90	20.00	43
20	77.8	144.0	106	100	25.00	53
25	78.0	160.0	116	110	32.00	60
32	81.4	168.0	116	110	40.00	74
40	85.2	188.0	127	120	50.00	83
50	91.5	212.0	136	130	63.00	103

Note: short sensor version

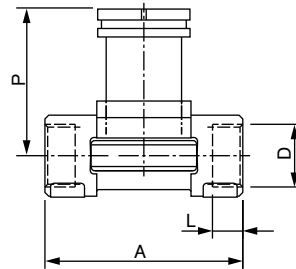


Internal thread process connection

G in stainless steel (316L - 1.4404) or brass (CuZn39Pb2)

DN [mm]	P [mm]	A [mm]	D [inch]	L [mm]
15	80.3	84.0	G 1/2	16.0
20	77.8	94.0	G 3/4	17.0
25	78.0	104.0	G 1	23.5
32	81.6	119.0	G 1 1/4	23.5
40	85.4	129.0	G 1 1/2	23.5
50	91.5	148.5	G 2	27.5

Note: short sensor version



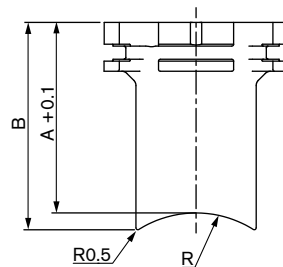
Welding socket with radius

in stainless steel (316L - 1.4404)

DN [mm]	A [mm]	B [mm]	R [mm]
50	56.6	61.6	30.2
65	54.5	58.6	36.7
80	53.1	56.4	44.5
100	50.7	53.2	57.2
125	48.2	50.3	70.7
150	45.7	47.4	84.2
200	41.0	42.3	109.6
250	37.6	39.7	136.6
300	34.8	37.7	162.0
350	32.5	35.7	177.8

Note: sensor version:

- short for DN50 - DN200
- long for DN250 - DN350

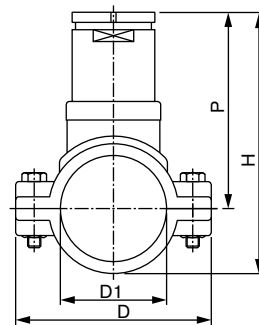


Saddle

in PP & PVC

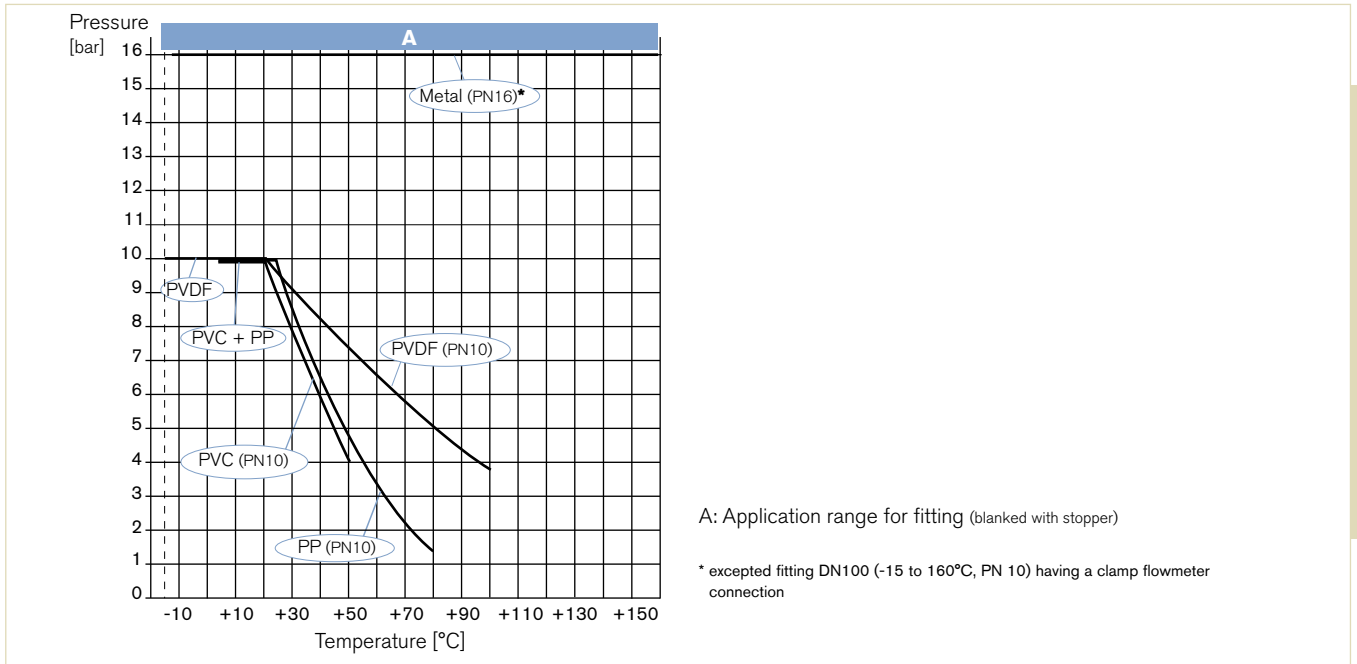
DN [mm]	P [mm]	H [mm]	D [mm]	D1 [mm]
50	116.0	155	116	63
65	115.0	160	129	75
80	119.0	171	144	90
100	124.0	187	166	110
110	120.0	191	181	125
125	127.0	205	196	140
150	137.0	225	216	160
180	161.0	271	266	200
200	173.0	291	290	225

Note: long sensor version








Body material: PP & PVC adapter
Seal material: EPDM

Pressure/temperature diagram



Ordering Chart

Size DN [mm]	PVC (DIN) true union, FKM	Brass G internal thread, FKM	Item no. Stainless G internal thread, FKM	Stainless steel welding tab	PP saddle EPDM
					
S020 (for 8026, 8041, 8045)					
15	428 670	428 712	428 736		
20	428 671	428 713	428 737		
25	428 672	428 714	428 738		
32	428 673	428 715	428 739		
40	428 674	428 716	428 740		
50	428 675	428 717	428 741	418 111	425 138
65				418 112	425 139
80				418 113	425 140
100				418 114	425 141
125				418 115	425 143
150				418 116	425 144
200				418 117	425 416
250				418 756	
300				420 070	
350				416 637	

Short sensor Long sensor

Fittings for Type 8202 pH-value/ORP and Type 8222 Conductivity Sensors

DN32-110 mm adapters for pipe and tank mount fittings

- Simple installation guaranteed
- Modular concept for pH, ORP and conductivity

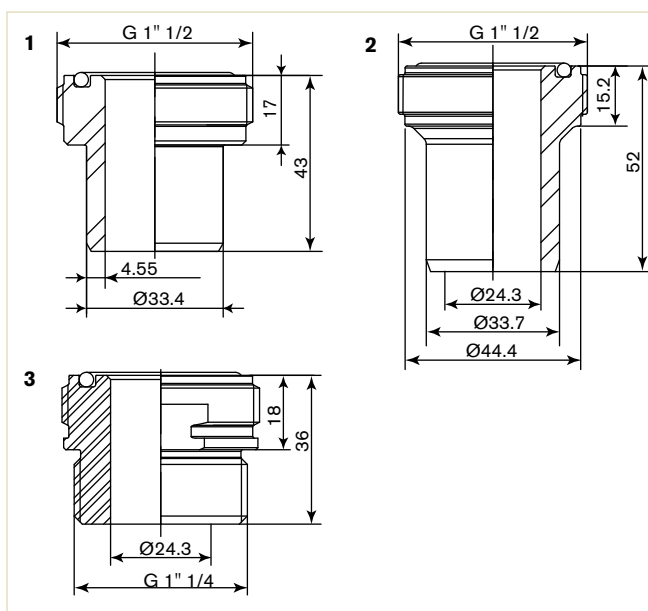


Fittings to connect the compact analytical transmitters to the media. Materials included are PVC-U, PP, Stainless steel, and PVC thread. For chemical resistance details please download our chemical resistance booklet from our website www.burkert.com

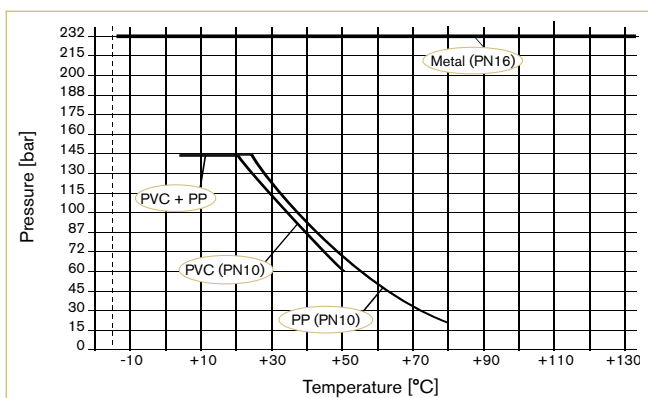
Technical Data

General data	
Pipe diameter	DN06 (with reduction) to DN110 (plastic) or bigger (stainless steel)
Process connection	
Adapter	Solvent, fusion, welding, threaded and to connect with screws
Fitting	Metric or ASTM True union or weld ends; saddle
Materials	
Adapter	PVC, PP, stainless steel - delivered with 2 seals, 1 FKM and EPDM
Fitting	
Seal	FKM, EPDM
Body & adapter	PVC&PVC, PP&PVC
Medium data	
Medium temperature	See pressure-temperature chart on next page. Temperature limits may depend on inserted measuring device ¹⁾ .
Medium pressure (max.)	PN10 (plastic) or PN16 (metal). Pressure limits may depend on inserted measuring device ¹⁾ .
Environment	
Ambient temperature	Temperature limits may depend on inserted measuring device ¹⁾ .
Standards, directives and approvals	
Directive - Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
¹⁾ Please refer to appropriate instruction manual or data sheet for more details.	
* For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).	
Type of fluid	Conditions
Fluid group 1, §1.3.a	Only DN ≤ 25
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	DN ≤ 25, or DN > 25 and PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 125

Envelope Dimensions [mm] (see datasheet for details)









Pressure / temperature chart



Note: Always take lowest max. medium temp. of both adapter and chosen ELEMENT transmitter.

Ordering Chart

Adaptor S022	Piping systems	DN	Description	Materials Body / Seal	Type of Installation	Item no.
1.  PVC-U, PP metric solvent adapter		32 up to 110 (06 up to 25 with reduction)	Solvent adaptor with G 1 1/2" external threaded for ELEMENT transmitter connection	PVC-U / FKM, EPDM	Solvent weld on d32x32 and d40x32 T-fitting	560 705
2.  Stainless steel **		Respect recommendations of installation	Welding adaptor with G 1 1/2" external threaded for ELEMENT transmitter connection	Stainless steel / FKM, EPDM	To weld directly on pipe	561 232
3.  PVC-U, G or G 1 1/4" screw-on		Respect recommendations of installation	G 1 1/4" screw-on adaptor with G 1 1/2" external threaded for ELEMENT transmitter connection	PVC-U / FKM, EPDM	To screw on tank or pipe	560 707

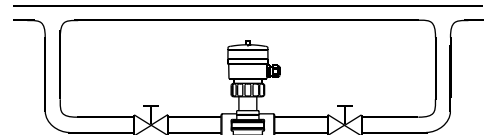
** Please ask for Material Test Reports (MTRs) at time of ordering if required.

Installation and recommendations

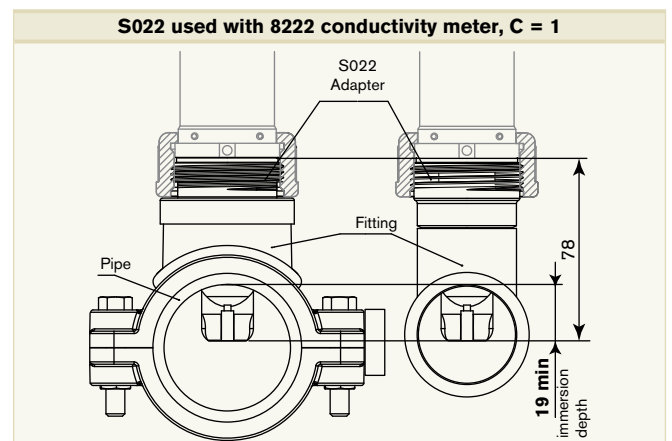
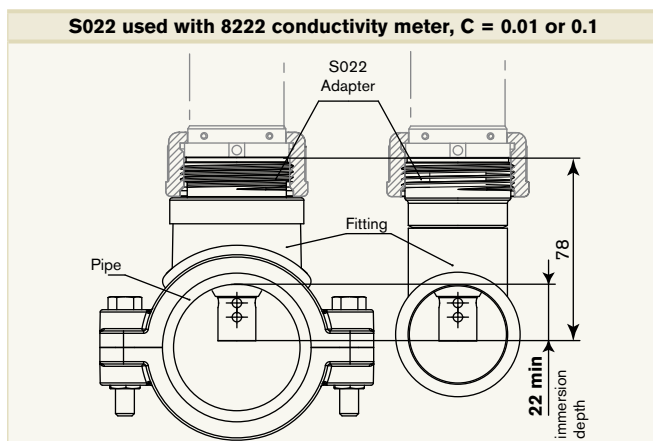
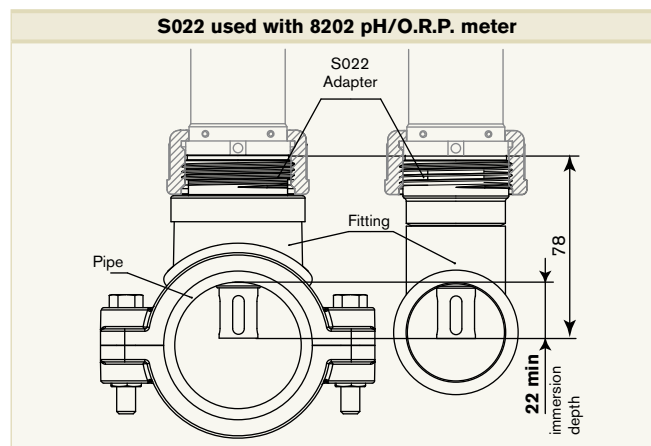
For pH and ORP measurements, we recommend a "U"- form bypass installation to ensure that the electrode is maintained in a wet condition and enable the customer to calibrate the unit without stopping the whole process or to use the special designed measuring chamber.

The specially designed measuring chamber enables to install the measuring device in all pipe systems, either directly in the main stream or in a by-pass line. Additionally it enables to keep the electrode always wet and isolates it easily from the main stream for calibration purposes.

Pressure and temperature ratings must be respected according to the selected adaptor material. Be sure that the sensor element is completely covered with liquid. Avoid dead legs which interfere the local fluid exchange.

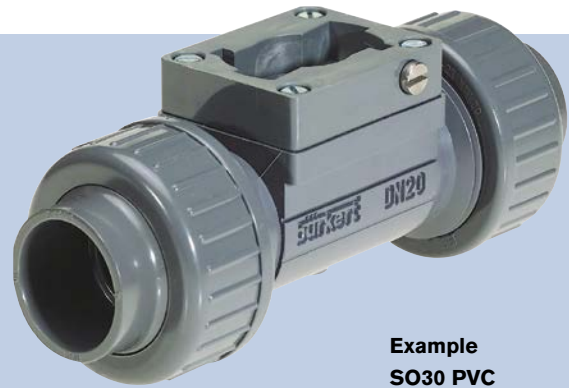


When mounting the adaptor into a T-fitting, a tank or directly into a pipe, please ensure that the minimum immersion depth of the electrode is respected (refer to the under drawing).



Flow fittings

- Closed pipe system, i.e. sensor is integrated
- Wide range of materials and process connections
- Metal up to 16 bar
- Plastic up to 10 bar



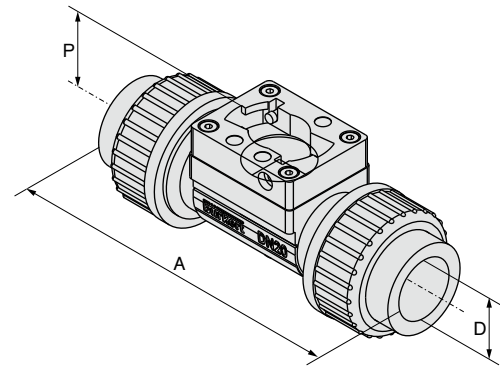
**Example
S030 PVC**

The S030 sensor-fitting has a built-in paddle wheel to measure the flow rate. When liquid flows through the pipe, the paddle wheel is set in rotation producing pulses which frequency is proportional to the flow rate. The Bürkert special construction, called "INLINE Quarter-turn" technology, ensures leakage free operation. The paddle wheel rotation (permanent magnets included in the wheels) is detected contactless through the sensor-fitting wall. The transmitter can be snapped-on or removed without opening the pipe or interrupting the process.

Technical Data

General data	
Pipe diameter	DN06 to DN65
Measurement range	from 0.5 to 1200 l/min
Flow velocity	0.3 to 10 m/s (see flow diagram)
Measurement error	
Teach-In	±0.1% of Reading ¹⁾ (at the teach flow rate value)
(via a remote transmitter)	±2.5% of Reading ¹⁾
Standard K-factor	
Linearity¹⁾	±0.5% of F.S.*
Repeatability¹⁾	±0.4% of Reading
Process connections	
Metal	Internal or external thread, weld ends, Clamp or flange
Plastic	True union, spigot or external thread
Materials	
Seal	FKM or EPDM (depending on version, see ordering chart)
Body	Stainless steel (316L -1.4404), brass (CuZn ₃₉ Pb ₂), PVC, PP, PVDF
Screws	Stainless steel (316L -1.4404)
Paddle wheel	PVDF (PP on request or st. st., see datasheet 8030HT)
Shaft and bearings	Ceramics (Al ₂ O ₃)
Medium data	
Medium temperature	0 to 50°C for sensor-fitting in PVC 0 to 80°C for sensor-fitting in PP -15 to 100°C for sensor-fitting in st. st., brass or PVDF
Medium pressure (max.)	see pressure/temperature chart
Metal	PN16 (232.16 PSI) (PN40 (580.4 PSI) on request)
Plastic	PN10 (145.1 PSI)
Fluid properties	
Pollution	clean, neutral or slightly aggressive, solid-free liquids max. 1%, size of particles 0.5 mm max.
Viscosity	300 cSt. max.
Environment	
Ambient temperature (operating and storage)	-15 to 60°C for sensor-fitting in PVC -15 to 80°C for sensor-fitting in PP -15 to 100°C for sensor-fitting in stainless steel, brass or PVDF depending on associated transmitter

Pressure/temperature diagram



True union connection

DIN 8063 in PVC

DN [mm]	P [mm]	A [mm]	D [mm]
15	34.5	128.0	20.00
20	32.0	144.0	25.00
25	32.2	160.0	32.00
32	35.8	168.0	40.00
40	39.6	188.0	50.00
50	45.7	212.0	63.00

Standards, directives and approvals

Directive - Pressure Complying with article 3 of §3 from 97/23/CE directive.*

Approval/Certificate on request 3.1 certificate; 2.2 certificate; surface finish certificate; calibration certificate; FDA (with EPDM seal) - stainless steel sensor-fitting only

* F.S. = Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20°C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

* For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32 or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

Diagram Flow/Velocity/DN

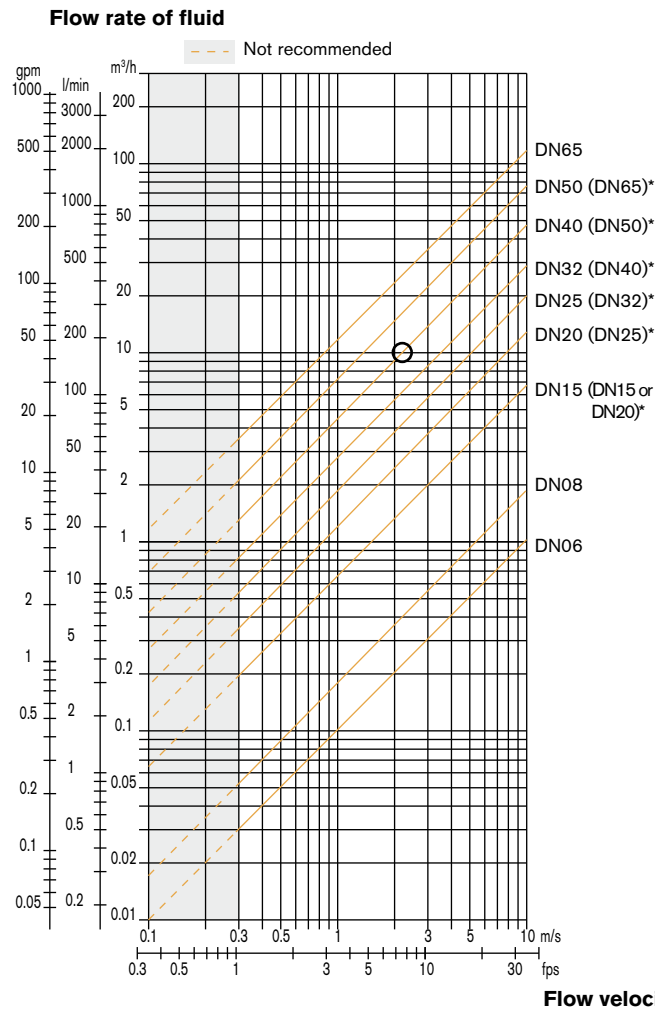
Selection Help – Flow Velocity Considerations

Depending on the sensor type, the right flow rate has to be chosen to get the best accuracy. The higher the flow velocity, the lower the measurement error, but the higher the pressure loss. The following chart will help you find the correct fitting diameter for your application depending on flow velocity and sensor technology. Pipes for fluids similar to water are generally designed for an average flow velocity of approx. 2 to 3 m/s or 6-10 ft/s.

Example:

- Flow: 10 m³/h
- Ideal flow velocity: 2... 3 m/s

For these specifications, the diagram indicates a pipe size of DN40 [or DN50 for (*) mentioned sensor-fittings]



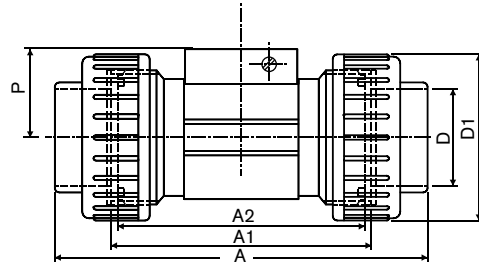
* for following fittings with:

- external threads acc. to SMS 1145
- weld ends acc. to SMS 3008, BS 4825/ASME BPE or DIN 11850 Series 2
- Clamp acc. to SMS 3017/ISO 2852, BS 4825/ASME BPE or DIN 32676

True union connection

DIN 8063 in PVC

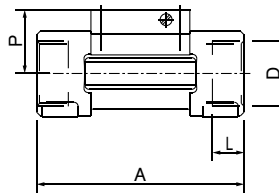
DN [mm]	P [mm]	A [mm]	Norm	A1 [mm]	A2 [mm]	D [mm]	D1 [mm]
15	34.5	128.0	DIN/ISO	96	90	20.00	43
20	32.0	144.0	DIN/ISO	106	100	25.00	53
25	32.2	160.0	DIN/ISO	116	110	32.00	60
32	35.8	168.0	DIN/ISO	116	110	40.00	74
40	39.6	188.0	DIN/ISO	127	120	50.00	83
50	45.7	212.0	DIN/ISO	136	130	63.00	103



Internal thread connection

G in stainless steel (316L - 1.4404) or brass (CuZn39Pb2)

DN [mm]	P [mm]	A [mm]	D [Zoll]	L [mm]
15	34.5	84.0	G 1/2	16.0
20	32.0	94.0	G 3/4	17.0
25	32.2	104.0	G 1	23.5
32	35.8	119.0	G 1 1/4	23.5
40	39.6	129.0	G 1 1/2	23.5
50	45.7	148.5	G 2	27.5

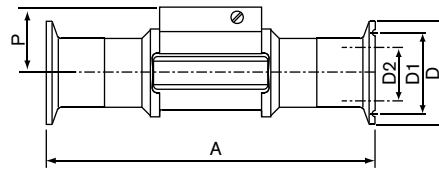


Clamp connection

BS 4825/ASME BPE* in stainless steel (316L - 1.4404)

* Available with internal surface finish Ra = 0.8 µm

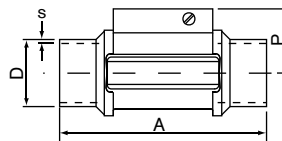
DN [mm]	P [mm]	A [mm]	Norm	D2 [mm]	D1 [mm]	D [mm]
20	34.5	119	ASME BPE	15.75	19.6	25.0
25	32.0	129	BS 4825/ASME BPE	22.10	43.5	50.5
40	35.8	161	BS 4825/ASME BPE	34.80	43.5	50.5
50	39.6	192	BS 4825/ASME BPE	47.50	56.5	64.0
65	45.7	216	BS 4825/ASME BPE	60.20	70.5	77.5



Weld end connection

BS 4825 in stainless steel (316L - 1.4404)

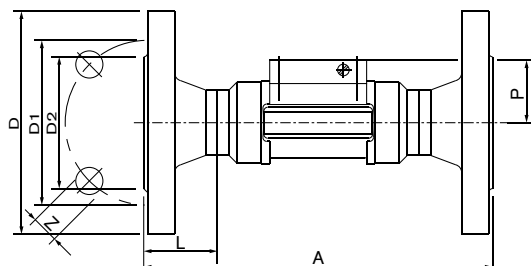
DN [mm]	P [mm]	A [mm]	Norm	D [mm]	s [mm]
20	34.5	84.0	BS 4825	19.05	1.20
25	32.0	94.0	BS 4825	25.40	1.65
40	35.8	119.0	BS 4825	38.10	1.65
50	39.6	128.0	BS 4825	50.80	1.65
65	45.7	147.0	BS 4825	63.50	1.65



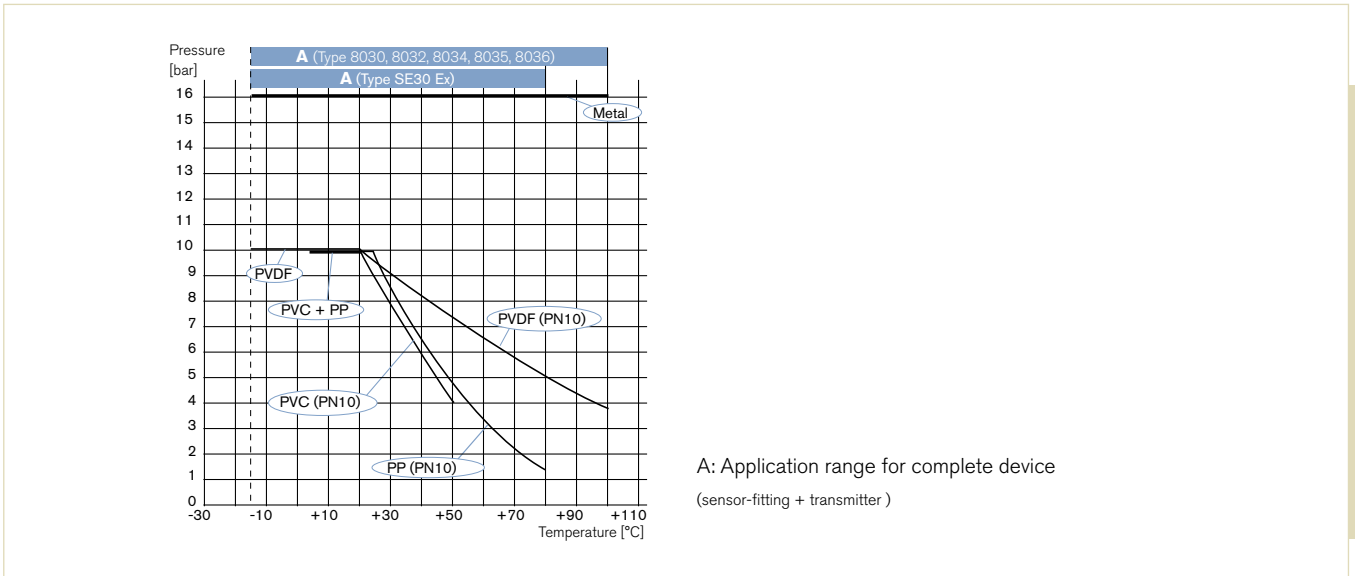
Flange connection

EN1092-1 (ISO PN16) in stainless steel (316L - 1.4404)









DN [mm]	P [mm]	A [mm]	Norm	L [mm]	Z [mm]	D2 [mm]	D1 [mm]	D [mm]
15	34.5	130	EN	23.5	4 x 14.0	45.0	65.0	95.0
20	32.0	150	EN	28.5	4 x 14.0	58.0	75.0	105.0
25	32.2	160	EN	28.5	4 x 14.0	68.0	85.0	115.0
32	35.8	180	EN	31.0	4 x 18.0	78.0	100.0	140.0
40	39.6	200	EN	36.0	4 x 18.0	88.0	110.0	150.0
50	45.7	230	EN	41.0	4 x 18.0	102.0	125.0	165.0



Pressure/temperature diagram



Ordering Chart

Size DN [mm]	Item no.							
	PVC (DIN) true union	Brass G internal thread	Stainless G internal thread	Stainless G internal thread high temp.	PVDF ISO 10931	Stainless steel hygienic clamp	Stainless steel BS4825	DIN EN 1092-1
								
S030 (for SE30, SE32, SE36)								
15	423 938	423 980	424 004	449 726	423 968	–	–	424 040
20	423 939	423 981	424 005	449 727	423 969	443 395	443 369	424 041
25	423 940	423 982	424 006	449 728	423 970	443 396	443 370	424 042
32	423 941	423 983	424 007	449 729	423 971	–	443 371	424 043
40	423 942	423 984	424 008	449 730	423 972	443 397	443 372	424 044
50	423 943	423 985	424 009	449 731	423 973	443 398	443 373	424 045
65	–	–	–	–	–	443 399	443 374	–

INLINE Flowmeter for Continuous Flow Measurement

SE30

For use with fitting S030, DN15-50 mm

- Turn & Lock bayonet fitting isolates sensor from media
- Economic integration in pipe systems
- 3-wire frequency version for direct connection to PLC (PNP and NPN)
- Connection to Bürkert evaluators in remote versions



Please see fitting S030

Unique bayonet style flow meter constructed from an SE30 sensor and an S030 flow fitting. Perfect for neutral, solid free liquids. A hall-effect sensor produces a square wave frequency proportional to the flow rate.

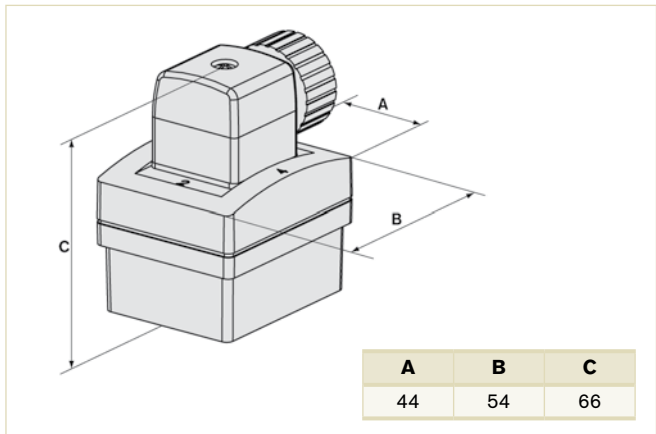
Technical Data (Standard)

General data	
Compatibility	With fittings S030 (see corresp. datasheet)
Materials	
Housing, cover, male fixed conn.	PC
Cable plug / seal / screws	PA / NBR / Stainless steel
Wetted parts materials	
Fitting, sensor armature	Brass, stainless steel 1.4404/316L, PVC, PP, PVDF
Paddle wheel	PVDF
Axis, bearing / Seal	Ceramics / FKM or EPDM (depending on Sensor-Fitting version)
Electrical connection	Cable plug EN 175301-803 (Type 2508) (included in delivery)
Connection cable	max. 1.5 mm ² cross section; max. 50 m length, shielded
Complete device data (fitting + electronic module)	
Pipe diameter	DN06 to DN65
Measuring range	0.3 to 10 m/s
Medium temp. with fitting in	
PVC / PP	0 to 50°C / 0 to 80°C
Stainless steel, brass, PVDF	-15 to 100°C
Medium pressure max.	PN10 (with plastic fitting) PN16 (with metal fitting) (PN40 on request, see S030 data sheet)
Viscosity / Pollution	300 cSt. max. / max. 1% (Size of particles 0.5 mm max.)
Measurement error	
Teach-In	±1% of Reading ¹⁾ (at the teach flow rate value)
Standard K-factor	±2.5% of Reading ¹⁾
Linearity	±0.5% of F.S.* ¹⁾
Repeatability	±0.4% of Reading ¹⁾
Environment	
Ambient temperature	-15 to + 60°C (5 to 140°F) (operating and storage)
Relative humidity	≤ 80%, without condensation

* F.S. = Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20°C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Envelope Dimensions [mm] (see datasheet for details)



Electrical data	
Operating voltage	12 - 36 V DC filtered and regulated (via Bürkert transmitter the device is connected for "Low Power" version)
Current consumption	with sensor
Hall version	≤ 30 mA
Hall "Low power" version	≤ 0.8 mA
Output: Frequency	
Hall version	2 transistors NPN and PNP, open collector, max. 100 mA, frequency: 0 to 300 Hz; duty cycle 1/2 ± 10% NPN output: 0.2-36 V DC PNP output: supply voltage
Hall "Low Power" version	1 transistor NPN, open collector, max. 10 mA, frequency: 0 to 300 Hz; duty cycle 1/2 ± 10%
Dielectric strength	2300 V AC
Reversed polarity of DC	Protected
Standards and approvals	
Protection class	IP65 with connector plugged-in and tightened
Standard and directives	
EMC	EN 61000-6-2, 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

Technical Data (Standard)

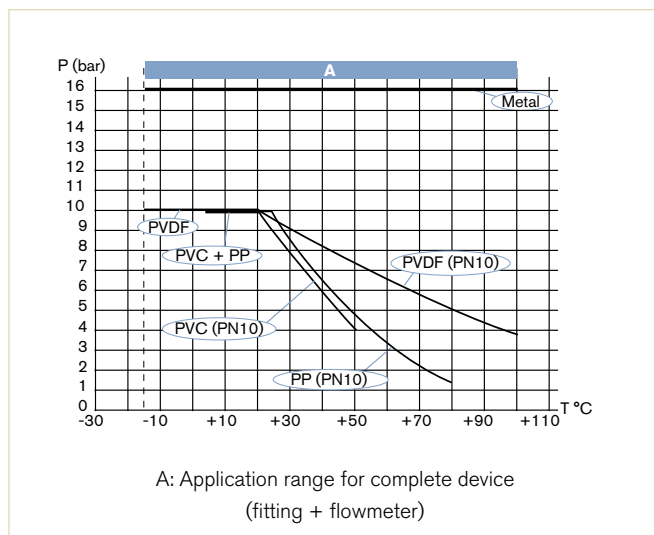
* For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32 or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

Options

- AS-i Connection
- Hygienic clamp and ASME weld end connections
- ANSI flange connection
- PVDF and PP fittings.
- High flow fittings (8020) to DN350 mm
- Various sealing materials
- Individual calibration certificate

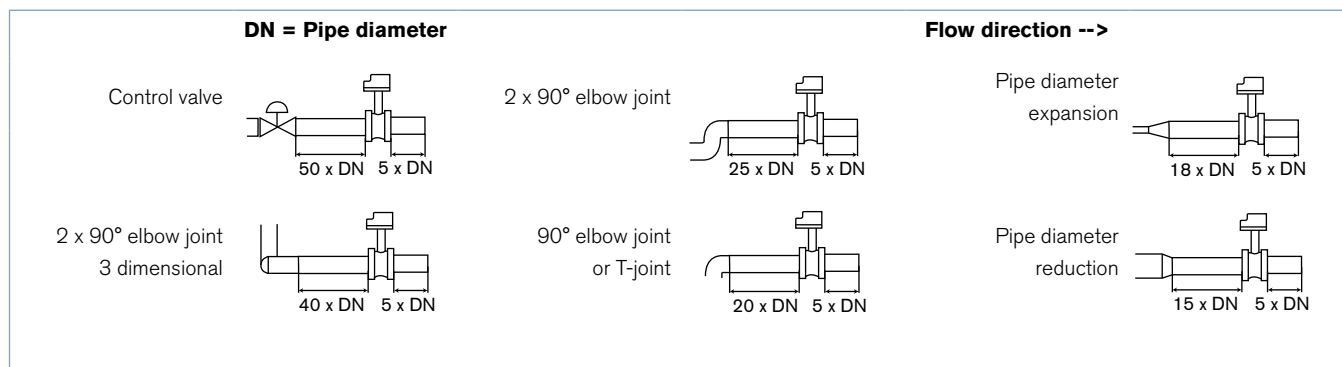
Pressure/Temperature Diagram



Installation

EN ISO 5167-1 prescribes the inlet and outlet distances that must be observed when installing fittings in pipe lines to achieve calm flow conditions. Below you will find the most important layouts that could lead to turbulence in the flow, and the associated prescribed minimum inlet and outlet distances.

Make sure that the measuring point is steady, to ensure good measuring conditions



Ordering Chart

Description	Item no.
Hall	423 913
Hall (use with 8025)	423 914
Meter for High Temperatures *	449 694

*see separate datasheet 8030, for high temperatures

Note: The electronic module, SE30 and the fitting, S030 must be ordered separately

INLINE Flowmeter for hazardous area II 1 G/D - II 3 GD - I M1

SE30 Ex

- Flowmeter with NAMUR or NPN/PNP output signal
- Mounting, dismounting of electronics by a Quarter-Turn
- Intrinsic safety approvals (see ordering chart)



The intrinsic safety flowmeter, SE30 Ex, for continuous flow measurement is especially designed for use in neutral, slightly aggressive, solid-free liquids, in hazardous environments.

The flowmeter SE30 Ex is made up of an electronic module and a measuring element, (sensor fitting S030) and is quickly and easily connected by a Quarter-Turn.

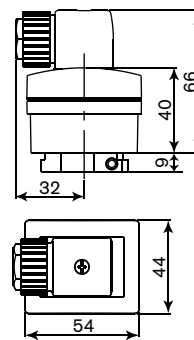
Technical Data

General data	
Compatibility ¹⁾	With sensor fitting S030 (please order separately) (see relevant datasheet)
Materials	
Body, cover	PC (NPN/PNP version)
Cable plug	PPS (NAMUR version) glass fibre reinforced PA with silicon seal (NAMUR version), with NBR seal (NPN/PNP version)
Wetted parts	Selection of the appropriate sensor fittings (see datasheet)
Sensor-Fitting S030 ¹⁾	
Body	Brass, Stainless steel, PVDF
Paddle wheel	PVDF
Axis and bearings	Ceramic
Seal	FKM
Electrical connection	
Namur version	Cable plug Form A acc to EN 175301-803 (supplied)
Voltage supply cable	0.5 to 1.5 mm ² cross section, 5 to 8 mm diameter; shielded, max. 50 m length; line impedance < 50 Ω (not included in delivery)
Environment	
Ambient temperature	0 to +60°C (operating and storage)
Relative humidity	≤ 80%, without condensation
Electrical data	
Power supply ¹⁾	8 - 15 V DC (NAMUR version, from connected intrinsic safety barrier)
Current consumption (with sensor)	max. 7 mA (NAMUR version);
Output	Depends on the device model and application area: 2-wire current modulation acc. to Namur (0.5 or 2.5 mA)
Reversed polarity (of DC)	Protected

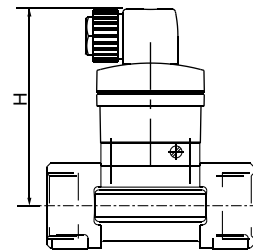
¹⁾ see datasheet overview: "SAFETY INSTRUCTIONS - NOTICE OF ATEX INSTRUCTIONS", to choose the appropriate sensor fitting for the area of application

Envelope Dimensions [mm] (see datasheet for details)

Electronics SE30 Ex



Mounted on S030 sensor fitting



DN	H
06	96
08	96
15	101
20	98
25	98
32	102
40	106
50	112
65	112

Technical Data (continued)

Complete device data (sensor fitting + electronic module)	
Pipe diameter	
S030 sensor fitting	DN06 to DN65
Measuring range	
S030 sensor fitting	0.5 to 1200 l/min (velocity 0.3 to 10 m/s)
Medium temperature max.	80°C (176°F)
Fluid pressure max.	
S030 sensor fitting	PN10 (PVDF), PN16 (stainless steel, brass - PN40 on request)
Viscosity	
S030 sensor fitting	300 cSt. max / 1% max. pollution
Accuracy	
S030 + Electronics SE30 Ex	
Teach-In (via remote transmitter)	± 1% of Reading ²⁾ (at the teach flow rate value)
Standard K-factor	± 2.5% of Reading ²⁾
Linearity	± 0.5% of F.S.*
Repeatability	
S030 sensor fitting	± 0.4% of Reading ²⁾
Standards, directives and approvals	
Protection class	IP67 with connector plugged-in and tightened acc. to EN 60529
Standard and directives	
ATEX	see "SAFETY INSTRUCTIONS - NOTICE OF ATEX INSTRUCTIONS"
EMC	EN 61000-6-3 EN 61000-6-2
Pressure (with S030 sensor fitting)	Complying with article 3 of Chap. 3 from 97/23/CE directive.*
NAMUR	EN 60947-5-6

²⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20°C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

* F.S. = Full scale (10 m/s)

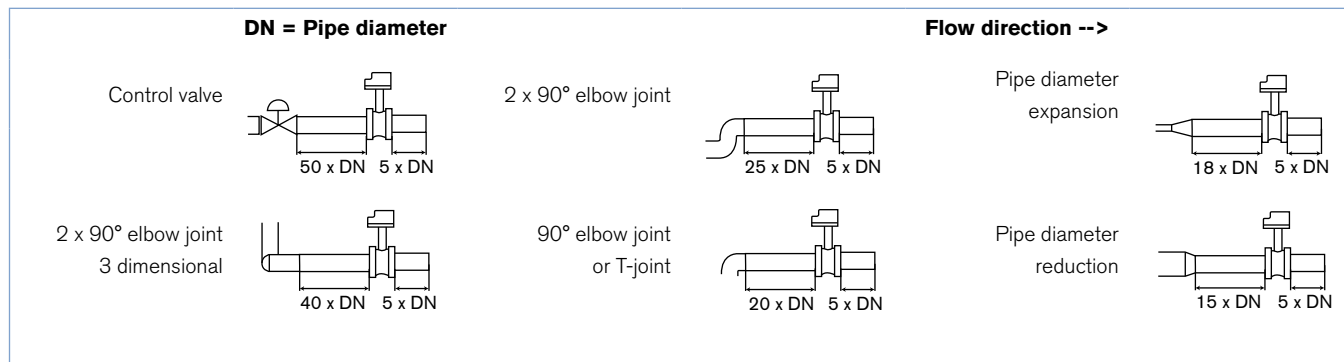
**** For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).**

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32 or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

Installation

EN ISO 5167-1 prescribes the inlet and outlet distances that must be observed when installing fittings in pipe lines to achieve calm flow conditions. Below you will find the most important layouts that could lead to turbulence in the flow, and the associated prescribed minimum inlet and outlet distances.

Make sure that the measuring point is steady, to ensure good measuring conditions



Safety Barrier



- **2 or 4 channels, intrinsic safety digital inputs: proximity detectors NAMUR, contacts...**
- **Rail mount on hat profile 35 mm**
- **All connections by removable screw terminals**

Specifications

Digital inputs	Each of the 4 x intrinsic safety inputs can be configured independently for a contact or a proximity detector NAMUR as per DIN 19234
Intrinsic safety inputs	Proximity detector NAMUR as per DIN 19234 or free potential contacts, relays, pressure or temperature switches or push buttons in hazardous area.
Non intrinsic safety recopy outputs	According to the type of sensor and the chosen logic: a green LED on the front panel displays a free-potential contact for each channel without common wire.
Collector cut-off power	15 V - 60 mA - 0.9 VA - 350 Hz
Selection of the sensor type	Inductive / capacitive intrinsic safety certified NAMUR proximity detector or free-potential contacts.
Selection of the logic	By a mini-DIP choice of active proximity switches or when contact is NO (Normally Open) or NC (Normally Closed).
Fault detector	For all inputs configured as NAMUR, all models are provided with fault detector (broken line or short-circuit). In faulty case, the green front LED switches off, the contact of the defective channel opens and the red LED corresponding to the defective channel switches on. Other channels are not affected.
Power supply	24 V DC \pm 10% 230 V AC \pm 10% 1 front panel yellow LED is "ON" when supply is active
Consumption	5 VA
Connections	All connections by removable screw terminals. Supply distribution by means of a flat cable from one unit to the next one.

Specifications (continued)

Classification for explosive areas	Intrinsic safety associated apparatus. It must be installed in safe area and connected to materials installed in zone 0, 1 or 2 - Gas (G) or in zone 20, 21 or 22 - Dust (D) Classification according to ATEX 94/9/CE: Ex I/II (M1)/(1) G/D [EE _x ia] IIC Safety parameters see EC-type certificate LCIE 00ATEX 6034X
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Ambient Temperature

Operating	-20 to +60°C
	-20 to +50°C (recommended)
Storage	-40 to +80°C

Dimensional & mechanical

Housing for symmetrical DIN rail (hat profile 35 mm as per standard NFC63015 / EN50022) - Depth: 120 mm ; - Height: 90 mm - 145 mm overall including space for cables ; Width on rail 29.5 mm. Minimal distance between rails: 180 mm.

Installations conditions

Mounting on DIN rail:	must take into account thermal dissipation and risk of overheating generated by housings installed side by side. In case of a high concentration inherent safety barrier, we recommend to leave a free space of 10 mm between each group of 8 units (horizontal rail) and between each group of 4 units (vertical rail).
Mounting inside a cabinet:	It is recommended to close the electrical cabinet and to ensure a circulation of fresh air even by means of an air conditioner to keep the inside temperature at the level compatible with the recommended operating temperature among the units.

Ordering Chart

Description	Voltage supply	Output	Electrical connection	Item no.
Flowmeter Type SE30 Ex for sensor fitting S030				
SE30 Ex - NAMUR II 1 G/D for explosive gas and dust environments: zones 0, 1 or 2 and 20, 21 or 22	8 - 15 V DC - via an intrinsic safety barrier with NAMUR input*	NAMUR current modulation - 2-wire	1 cable plug EN 175301-803	552 901

* The open circuit voltage for the NAMUR input must be included between 8 and 15 V.

Note regarding the ordering of a complete sensor:

A SE30 Ex sensor consists of the Type SE30 Ex electronic module and the INLINE fitting, see datasheet for Type S030

Please order the relevant INLINE fitting and the electronics separately!

Accessories

Description	Item no.
Cable plug EN 175301-803 with blue cable gland and silicone seal (Type 2508)	167 526

Classifications for explosive areas	Voltage supply	Output	Number of channels	Item no.
Intrinsic safety barrier				
ATEX 94/9/CE I/II (M1)/ (1) G/D [Ex ia] IIC	24 V DC	open collector, 15 V, 60 mA	2, with NAMUR input	553 456
		open collector, 15 V, 60 mA	4, with NAMUR input	553 457
	230 V AC	open collector, 15 V, 60 mA	2, with NAMUR input	553 458
		open collector, 15 V, 60 mA	4, with NAMUR input	553 459

In-Line Flowmeter for Monitoring, Switching and Display

SE32

For use with fitting S030, DN15-50 mm

- Monitor, switch and transmit functions
- Large display
- Free configurable switching point

Please see fitting S030



The 8032 flowmeter consists of a SE32 transmitter and a S030 fitting. It is used for measuring clean, neutral or aggressive liquids. It is available with freely configurable switching outputs (transistor or relay) or 4-20 mA process output value.

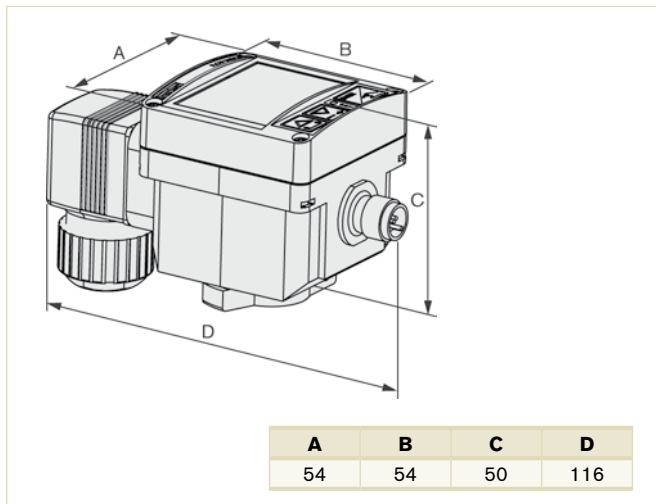
Technical Data

General data	
Compatibility	With fittings S030 (see corresponding data sheet)
Materials	
Housing, cover	PC, glass fibre reinforced
Front panel folio/Screws	Polyester / Stainless steel
Cable plug/connector M12	PA / PA or CuZn, nickel-plated
Wetted parts materials:	
Fitting, sensor armature/ Seal	Brass, stainless steel, PVC, PP or PVDF / FKM (EPDM option)
Paddle-wheel / Axis, bearings	PVDF / Ceramics
Display	8-digit LCD with backlighting
Electrical connections	Cable plug acc. to EN 175301-803, free positionable male M12 connector, 5 pins or male M12 connector, 8 pins (included in delivery)
Voltage supply cable	0.5 mm ² max. cross section; max. 100 m long, shielded
Remote sensor connection	0.5 mm ² max. cross section; max. 50 m long, shielded
Complete device data (fitting S030 + electronic module SE32)	
Pipe diameter	DN06 to DN65
Measuring range	0.3 to 10 m/s
Medium temperature	0 to 50°C (with PVC fitting) / 0 to 80°C (with PP fitting) / -15 to 100°C (with stainless steel, brass or PVDF fitting)
Fluid pressure max.	PN10 (145.1 PSI) (with plastic fitting) PN16 (232.16 PSI) (with metal fitting)
Viscosity / Pollution	300 cSt. max. / 1% max. (particle size 0.5 mm max.)
Measurement error	
Teach-In	±1% of Reading ¹⁾ (at the teach flow rate value)
Standard K-factor	±3% of Reading ¹⁾
Operating mode	Threshold: window or hysteresis
Linearity¹⁾	±0.5% of F.S.*
Repeatability¹⁾	±0.4% of Reading

* F.S. = Full scale (10 m/s)

¹⁾ Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20°C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Envelope Dimensions [mm] (compact version)



Options

- Wall or cabinet mounting
- AS-i Connection (on request)
- Hygienic clamp and ASME weld end connections
- ANSI flange connection
- PVDF and PP fittings
- Various sealing materials
- Individual calibration certificate,

Technical Data (cont.)

Electric Data	
Operating voltage	Filtered and regulated
Compact version	12-36 V DC \pm 10%
Reversed polarity of DC	Protected
Current consumption	
Compact version	\leq 90 mA (without load)
Input	
Frequency (remote version)	Pulse signal: 2 to 400 Hz input impedance: 10 k Ω
Outputs	
Transistor	NPN and/or PNP (selectable), open collector, max. 700 mA, 500 mA max. per transistor if both transistor outputs are wired, 0 to 300 Hz NPN-output: 0.2 - 36 V DC PNP-output: Power supply protected against short circuit.
Relay (compact version)	3 A/250 V AC or 3 A/30 V DC; [3 A/48 V AC or 3 A/30 V DC]2.
Process value (compact version)	4 to 20 mA, galvanic insulation Loop resistance: 1300 Ω at 36 V DC, 1000 Ω at 30 V DC, 700 Ω at 24 V DC, 450 Ω at 18 V DC, 200 Ω at 12 V DC
4 to 20 mA measurement error	\pm 1%
Environment	
Ambient temperature	-10 to + 60 °C (operating and storage)
Relative humidity	\leq 80%, without condensation
Standards, directives and approvals	
Protection class	IP65 with connector plugged-in and tightened correctly
Standard, directives	
EMC	EN 610006-2, 610006-3
Security	EN 61010-1
Pressure (Fitting S030, DN06 to DN65, in PVC, PP, PVDF, stainless steel or brass)	Complying with article 3 of Chap. 3 from 97/23/CE directive.*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

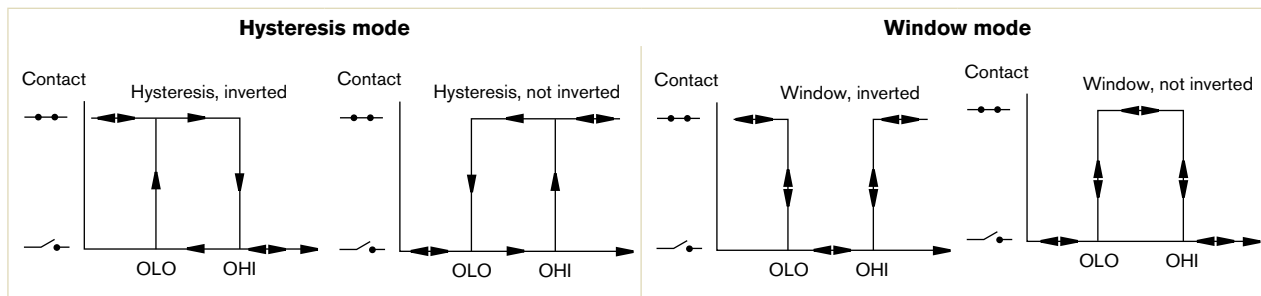
* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN \leq 25 only
Fluid group 2, §1.3.a	DN \leq 32 or DN > 32 and PN*DN \leq 1000
Fluid group 1, §1.3.b	PN*DN \leq 2000
Fluid group 2, §1.3.b	DN \leq 200

Main Features

8032 with standard On/Off output

- 2 switching modes for the output, either hysteresis or window, inverted or not



- Configurable delay before switching
- Possible outputs depending on the version: relay, transistor NPN, transistor PNP

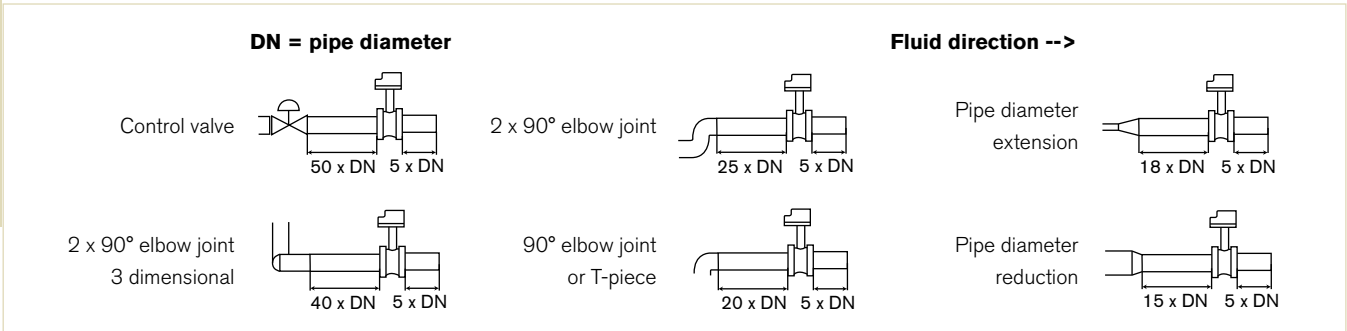
8032 with current output for the measurement value

- 4 to 20 mA output
- 4 to 20 mA output + relay output

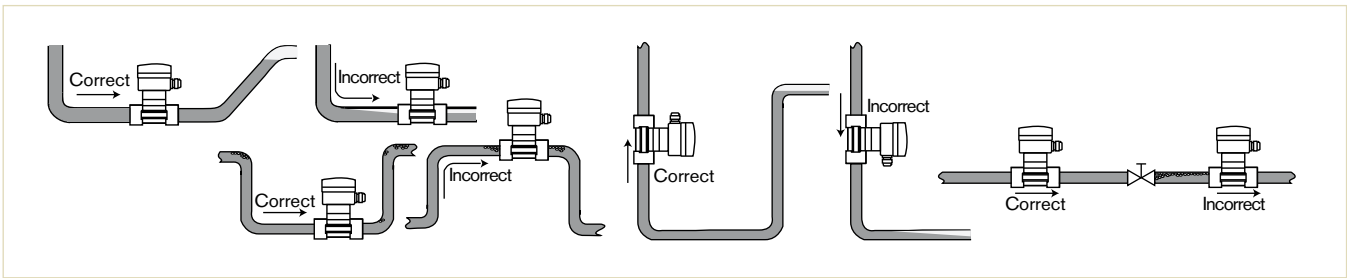
Installation



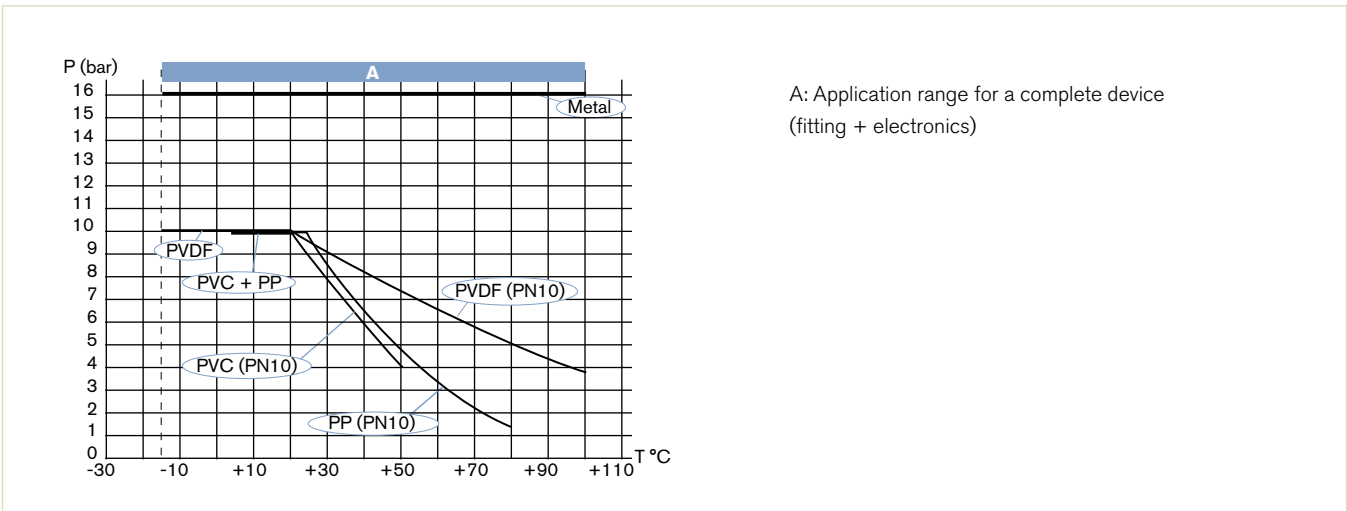
EN ISO 5167-1 specifies the straight inlet and outlet distances that must be complied with when installing fittings in pipelines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated minimum inlet and outlet distances. These ensure calm, problem-free measurement conditions at the measurement point.



The device can be installed into either horizontal or vertical pipes.



Pressure/temperature Chart



Ordering Charts

Output	Connection	Item No.
NPN	Cable plug	436 474
PNP	Cable plug	434 871
NPN & PNP	M12 connection	436 473
Relay	Cable plug & M12	436 475
4 - 20 mA & Relay	Cable plug & M12	560 547

Note: other cable lengths on request

The SE32 electronic module and the S030 fitting must be ordered separately.

Accessories

Connection	Type	Item No
5-pin M12 plug for NPN/PNP	Plug only	917 116
5-pin M12 plug for NPN/PNP	5 m, prewired	560 365
8-pin M12 plug for 4 - 20 mA	Plug only	444 799
8-pin M12 plug for 4 - 20 mA	10 m, prewired	555 675

INLINE Flow Transmitter for continuous flow measurement

SE35

For use with fitting DN15-50 mm

- Displays both flow rate and volume (with two totalizers)
- Automatic calibration: Teach-In
- Simulation: all output signals

See appropriate fittings S030



The flow transmitter is specially designed for use in neutral, slightly aggressive, solid free liquids. The transmitter is made up of a compact fitting with paddle-wheel (S030) and an electronic module (SE35) quickly and easily connected together by a Quarter-Turn

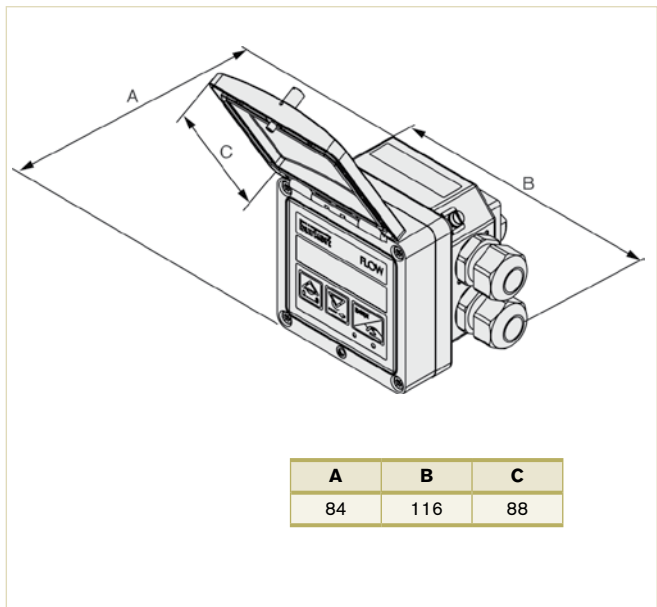
Technical data

General data	
Compatibility	with fittings S030 (see corresponding data sheet)
Materials	
Housing, cover, lid, nut	PC
Front panel foil / Screws	Polyester / Stainless steel
Cable plug or glands	PA
Wetted parts materials	
Fitting, sensor armature	Brass, stainless steel 1.4404/316L, PVC, PP or PVDF
Paddle-wheel	PVDF
Axis and bearing / Seal	Ceramics / FKM (EPDM included but non-mounted)
Display	15x60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high
Electrical connections	Cable plug EN175301-803 or cable glands M20x1.5 or none (for battery version) max. 50 m, shielded cable with 1.5 mm ² max. cross-section (cable plug included)
Complete device data (Fitting S030 + electronics)	
Pipe diameter	DN06 to DN65
Measuring range	0.5 m/s to 10 m/s (Battery ver. - Coil transducer) 0.3 m/s to 10 m/s (Hall transducer version)
Fluid temperature with fitting in	
PVC / PP	0°C to 50°C / 0°C to 80°C)
PVDF, brass or stainless steel	-15°C to 100°C
Fluid pressure max.	PN10 (145.1PSI) (with plastic fitting) - PN16 (232.16PSI) (with metal fitting - PN40 on request, see S030 data sheet) - see Pressure/Temperature diagram
Viscosity / Pollution	300 cSt. max. / 1% max. (size: 0.5 mm max.)
Measurement error	
Teach-In	±1% of Reading ¹⁾ (at the teach flow rate value)
Standard K-factor	±2.5% of Reading ¹⁾
Linearity	±0.5% of F.S.* ¹⁾
Repeatability	±0.4% of reading ¹⁾

¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20°C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions

* F.S.=Full scale (10 m/s)

Dimension [mm] (see datasheet for more details)



Options

- Electrical connection acc. to EN 75301-803 Type 2508 (Item no. 438 811) or Type 2509 (Item no. 162 673)
- PVDF or PP Fittings.
- High flow rates (8025) up to DN350 mm
- Various seal materials
- Special calibration certificate

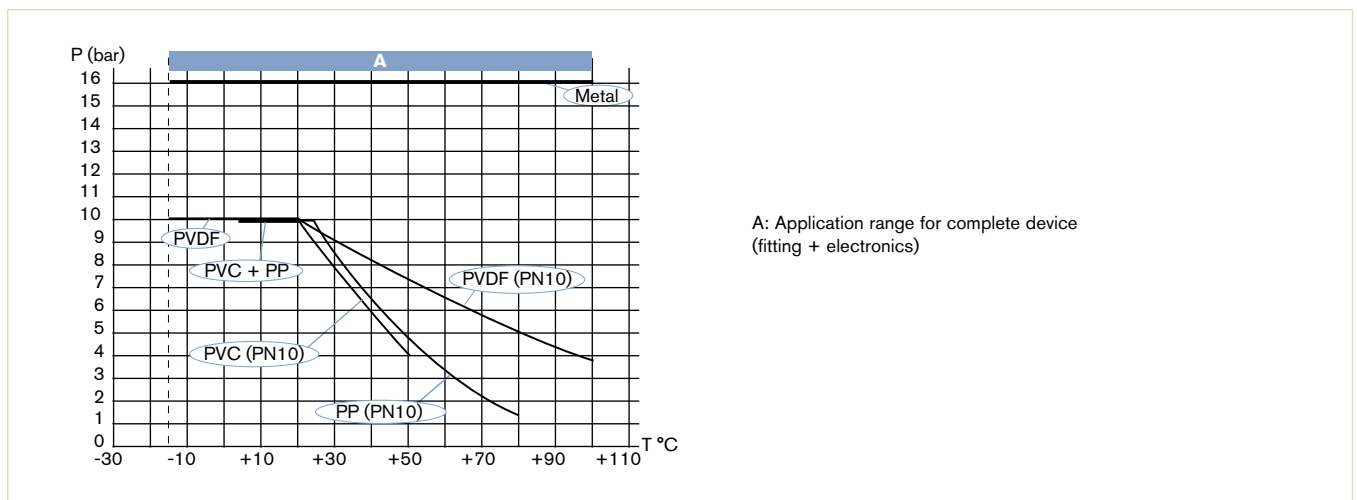
Technical data (continued)

Electrical data	
Power supply (V+)	
Standard signal version	12-36 V DC $\pm 10\%$, filtered and regulated, SELV (extra low safety voltage) circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see tech. spec. 115/230 V AC)
Battery indicator/totalizer version	2 x 9 V DC batteries, lifetime min. 1 year at 20°C
Reversed polarity of DC	
	protected
Current consumption with sensor (without consumption of pulse output)	
	≤ 70 mA at 12 V DC - transmitter with relays ≤ 25 mA at 12 V DC - transmitter without relay
Output	
Standard signal version	
Signal current	4-20 mA (3-wire with relays; 2-wire without relay) max. loop impedance: 900 Ω at 30 V DC; 600 Ω at 24 V DC; 50 Ω at 12 V DC; 800 Ω with a 115/230 V AC voltage supply
Pulse	Polarized, potential free, 5 to 36 V DC; 100 mA, protected, line drop at 100 mA: 2.5 V DC
Relay	2 relays, freely configurable, 3 A, 230 V AC
Battery indicator/totalizer version	
	None
4 to 20 mA measurement error	$\pm 1\%$
Environment	
Height above sea level	max. 2000 m
Ambient temperature (operation and storage)	0°C to +60°C (12-36 V DC or battery version) 0°C to +50°C (115/230 V AC version)
Relative humidity	$\leq 80\%$, without condensation
Technical specifications 115/230 V AC	
Voltage supply available inside the device	27 V DC regulated, max. current: 125 mA integrated protection: fuse 125 mA temporised power: 3 VA
Standard, directives and approvals	
Protection class	IP65 with cable plug or gland mounted and tightened or with obturator locked if not used.
Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1
Pressure (Fitting S030, DN06 to DN65, in PVC, PP, PVDF, stainless steel or brass)	Complying with article 3 of chp. 3 from 2006/95/CE directive*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

* For the 2006/95/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN25 only
Fluid group 2, §1.3.a	DN ≤ 32 , or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

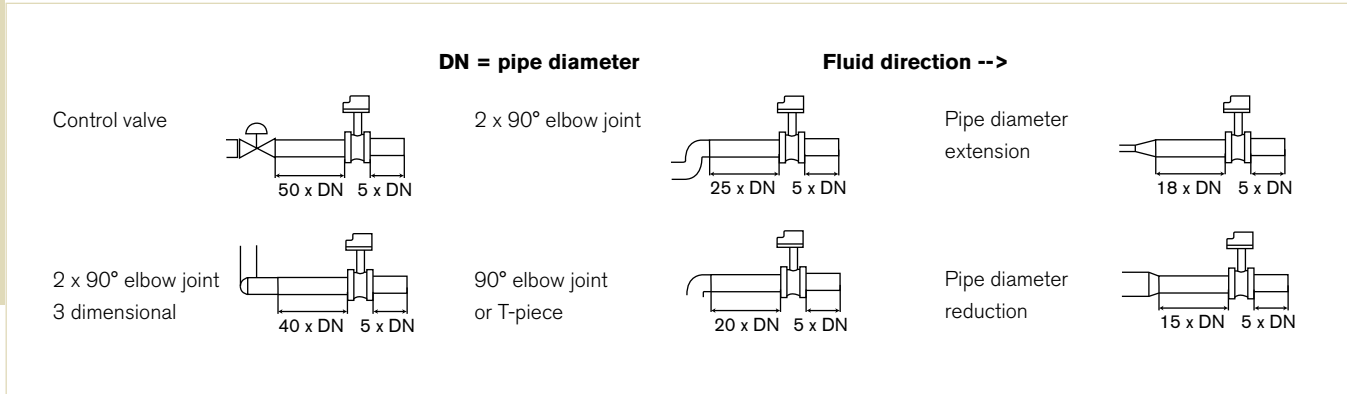
Pressure/Temperature diagram



Installation



EN ISO 5167-1 specifies the straight inlet and outlet distances that must be complied with when installing fittings in pipelines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated minimum inlet and outlet distances. These ensure calm, problem-free measurement conditions at the measurement point.



Ordering chart

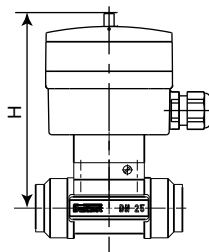
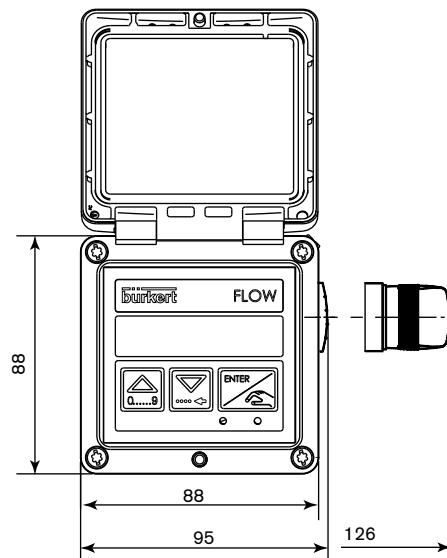
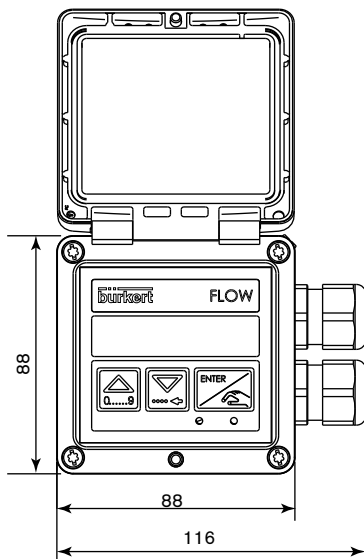
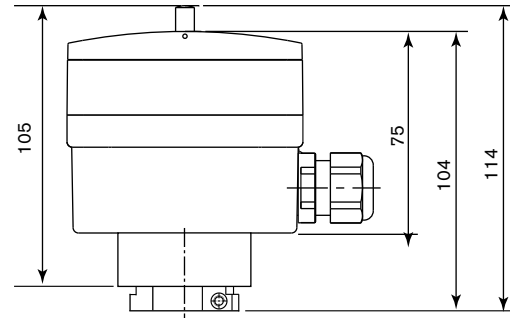
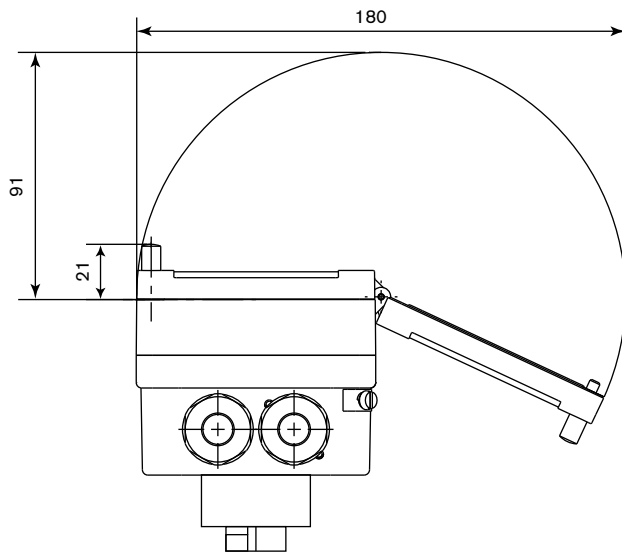
Supply voltage	Outputs	Electrical connection	Item no.
12 - 36 V/DC	4 - 20 mA (2-wire) + Pulse	Cable plug	444 005
		2 cable glands	444 006
	4 - 20 mA (3-wire) + Pulse + Relays	2 cable glands	444 007
115 - 230 V/50 Hz	4 - 20 mA (2-wire) + Pulse	2 cable glands	423 922
	4 - 20 mA (3-wire) + Pulse + Relays	2 cable glands	423 924
2 x 9 V/ DC Batteries	-	None	423 921

Note: The SE35 electronic module and the S030 fitting must be ordered separately

Accessories

Specifications	Item no.
Set with 2 cable glands M20x1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20x1.5 + 2 multiway seals 2x6 mm	449 755
Set with 1 stopper for unused cable gland M20x1.5 + 1 multiway seal 2x6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551 775

Dimensions [mm]



DN	H
06	134
08	134
15	139
20	137
25	137
32	140
40	144
50	151
65	151

In-Line Flow Transmitter for continuous measurement

SE36

For use with fitting S030, DN15-50 mm

- Up and download of the data through removable display
- Automatic calibration: TEACH-IN
- All output signals without presence of flow

Please see fitting S030

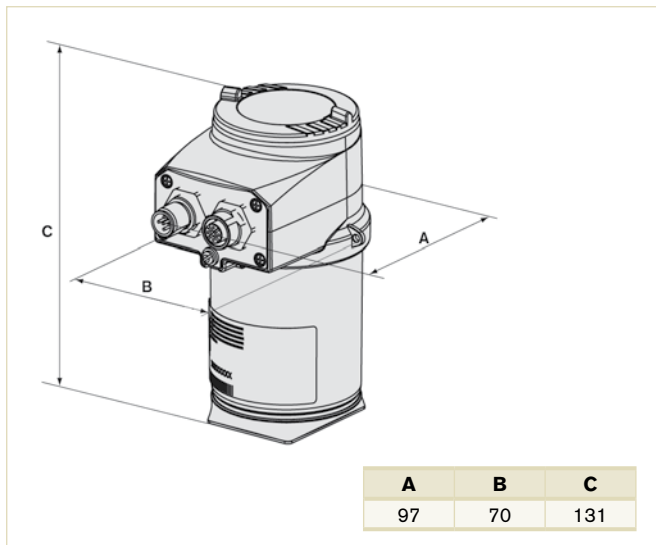


Unique bayonet style flow meter constructed from an SE36 sensor and any of the S030 fittings. This two-wire 4-20 mA INLINE flow meter is manufactured to provide true, reliable flow for neutral, solid free liquids. A backlit removable display allows the system to be flexible and adds more value.

Technical Data

General data	
Compatibility	Any pipe from DN06 to 65 which are fitted out with Bürkert INLINE Fitting S030 (see corresponding data sheet)
Materials	See exploded view, on next page
Housing cover	Stainless steel 1.4561, PPS
Gaskets	PC
Screws	EPDM
Fixed connector mounting plate	Stainless steel
Fixed connector	Stainless steel 1.4404 (316L)
Display	Brass nickel plated
Navigation key	PC
Quarter-Turn system	PBT
Display (accessories)	Grey dot matrix 128 x 64 with backlighting
Electrical connections	
2 or 3 outputs transmitter	1 x 5-pin M12 male fixed connector,
4 outputs transmitters	1 x 5-pin M12 male and 1 x 5-pin M12 female fixed connectors
Connection cable	Shielded cable
Environment	
Ambient temperature	-10 up to +60°C (operating and storage)
Relative humidity	≤ 85%, without condensation
Complete device data (Pipe + transmitter)	
Pipe diameter	DN06 to 65
Measuring range	0.3 up to 10 m/s
Medium temperature with fitting in	
PVC	0 up to 50°C
PP	0 up to 80°C
PVDF, brass or stainless steel	-15 up to 100°C
Medium pressure max.	PN10 (145 PSI) (with plastic fitting) - PN16 (232 PSI) (with metal fitting) - (PN40 on request, see S030 datasheet) - see pressure/temperature chart
Viscosity / Particles rate	300 cSt max. / 1% max.
Measurement error	
Teach-In	±1% of Reading (at Teach-In flow rate value) ¹⁾
Standard K-factor	±2.5% of Reading ¹⁾
Linearity	±0.5% of F.S.* ¹⁾
Repeatability	±0.4% of Reading ¹⁾

Envelope Dimensions [mm] (see datasheet for details)




Options

- High flow rate (8026) to DN350 mm
- Hygienic clamp and weld end connections
- ANSI/DIN flange connection
- Various sealing materials
- Individual calibration certificate

¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20°C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

* F.S.=Full scale (10 m/s)

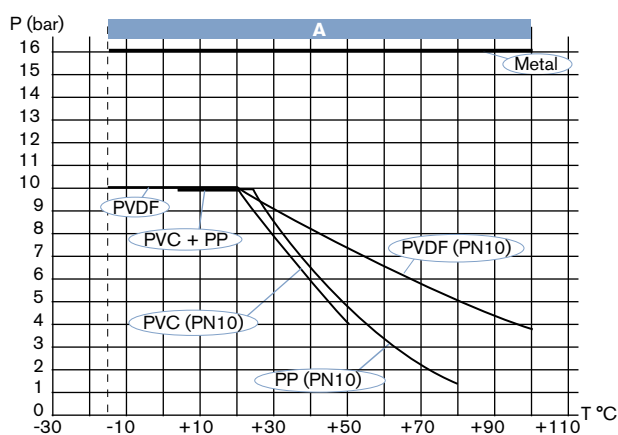
Technical Data (continued)

Electrical data	
Power supply	
2 or 3 outputs transmitter (2-wire)	14-36 V DC, filtered and regulated
4 outputs transmitter (3-wire)	12-36 V DC, filtered and regulated
Characteristics of the power source (not provided) of UL recognized devices	
Current consumption with sensor	≤ 1 A (with transistors load)
2 or 3 outputs transmitter (2-wire)	≤ 25 mA (at 14 V DC without transistors load, with current loop)
4 outputs transmitter (3-wire)	≤ 5 mA (at 12 V DC without transistors load, without current loop)
Power consumption	40 W max.
Reversed polarity of DC	Protected
Voltage peak	Protected
Short circuit	Protected for transistor outputs
Output	
Transistor	
1 Transistor output (Transmitter 2-wire)	NPN, open collector, 1 - 36 V DC, max. 700 mA
2 Transistor outputs (Transmitter 2 or 3-wire)	Configurable as sourcing or sinking (respectively both as PNP or NPN), open collector, max. 700 mA, 500 mA max. per transistor if the 2 transistor outputs are wired NPN-output: 1 - 36 V DC PNP-output: Power supply
Current	
1 Current output (Transmitter 2-wire)	4-20 mA programmable as sourcing or sinking (in transistor mode), max. loop impedance: 1100 Ω at 36 V DC ; 610 Ω at 24 V DC; 180 Ω at 14 V DC
2 Current outputs (Transmitter 3-wire)	max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 100 Ω at 12 V DC
4 to 20 mA measurement error	± 1%
Standards, directives and approvals	
Protection class	IP65, IP67, NEMA 4X and NEMA 6P with M12 cable plug mounted and tightened and cover fully screwed down
Standard and directives 	
EMC	EN 61000-6-2 (2005), EN 61000-6-3 (2001)
Pressure	Complying with article 3 of §3 from 97/23/CE. directive*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

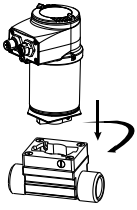
Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32 DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.a	PN*DN ≤ 2000
Fluid group 2, §1.3.a	DN ≤ 200

Pressure / Temperature Chart

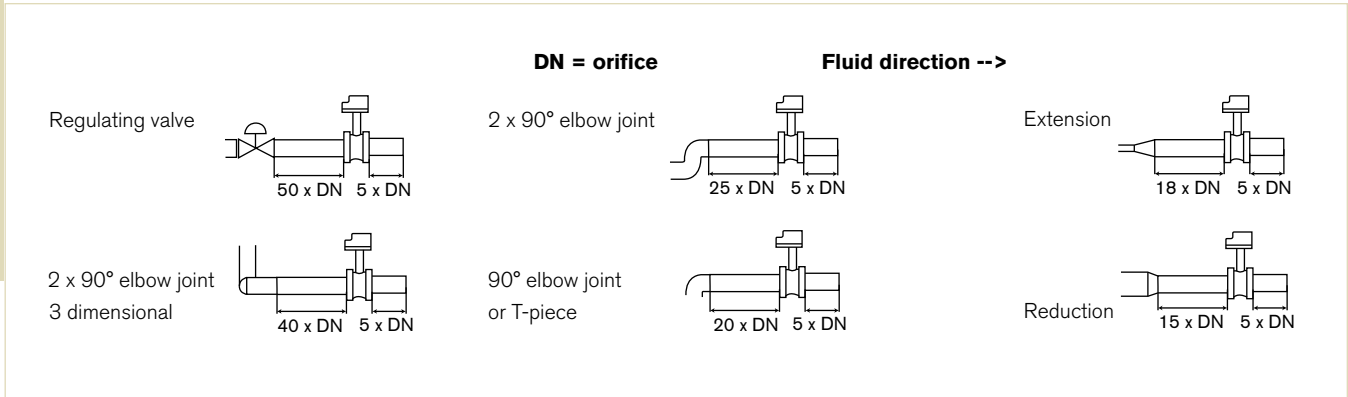


A : application range for complete device
(Fitting + transmitter)

Installation



EN ISO 5167-1 prescribes the straight inlet and outlet distances that must be complied with when installing fittings in pipe lines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated prescribed minimum inlet and outlet distances. These ensure calm, problem-free measurement conditions at the measurement point.



Dimensions [mm]

DN	H with S030 Fitting
06	160
08	160
15	165
20	163
25	163
32	166
40	170
50	177
65	177

Ordering Chart

Specifications	Output	Electrical connection	Item no.	
			without display	with display
2 outputs	1 x transistor + 1 x 4 - 20 mA (2 wire)	5-pin M12 male fixed connector	560 880	561 880
3 outputs	2 x transistor + 1 x 4 - 20 mA (2 wire)	5-pin M12 male fixed connector	560 881	561 881
4 outputs	2 x transistor + 2 x 4 -20 mA (3 wire)	5-pin M12 male and 5-pin M12 female	560 882	561 882

Note:

The following items must be ordered separately

- The SE36 electronic module and the S030 fitting
- M12 cable plugs (only female for single 4-20 mA, 1 male + 1 female for dual 4-20 mA transmitter)

Accessories

Description	Item No
Display/programming module	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m prewired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m prewired	438 680

Electronics for electromagnetic flowmeters

SE56

- Must be equipped with sensor fitting S051, S055 or S056 (see Type 8051, 8055 and 8056)
- Continuous measurement or batch control
- High accuracy
- Data logger, PROFIBUS DP, HART available



SE56 standard with display, housing in stainless steel



SE56 blind

The SE56 electronics (blind in compact version or with display in compact or remote version) connected to the magnetic flow sensor fitting, Type S051, S055 or S056, is designed for applications with liquids with a minimum conductivity of 5 mS/cm.

The device can be parameterize either with 3 keypads (version with display) or by computer via a serial interface.

As standard, the equipment is supplied with one or two transistor outputs and one digital input. As options, other features are available: such as high frequency output, current output, data logger 2 MB, PROFIBUS DP, HART.

Technical Data

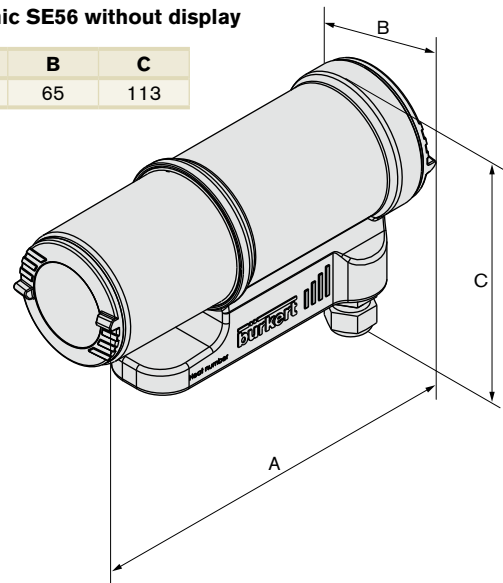
Electronics SE56 standard with display	
Housing materials	Die casting aluminium or stainless steel 304 electro-polish
Display	Graphic display 8 lines x 16 Characters, 128 x 64 pixels with back light
Keyboard	3 membrane keys
Electrical connection	6 cable glands PG11
Environment	
Ambient temperature	
Operating and storage	-20 to +60°C
Relative humidity	≤ 85%, without condensation
Height above sea level	-200 to 6000 m
Standard	
Protection	Class I, IP67, category of installation II
Standard	
EMC	EN 61326-1
Emission	EN 55011 (Group1, Class B)
Immunity	IEC 1000-4-2/3/4/5/6/11
Safety	EN 61010
Electrical data	
Power supply	90 to 265 V AC - 44 Hz to 66 Hz
Power consumption	max. 25 VA
Cable length	max. 20 m (distance between sensor fitting and electronics)
Input circuit	1 digital, selectable function
Outputs	
Transistor	2 outputs, selectable open collector as pulse/frequency (1250 Hz, 100 mA, 40 V DC) or alarm (adjustable usage)
Current	1 output, 4 to 20 mA - RL = 1000 Ω (+ a second output)*
Serial interface*	RS 485, RS232, PROFIBUS DP or HART
Datalogger*	2 MB, 32 values + 64 alarm events
Velocity range	0.4 to 10 m/s

* on request.

Envelope Dimensions [mm] (see datasheet for details)

Electronic SE56 without display

A	B	C
184	65	113



Technical Data (continued)

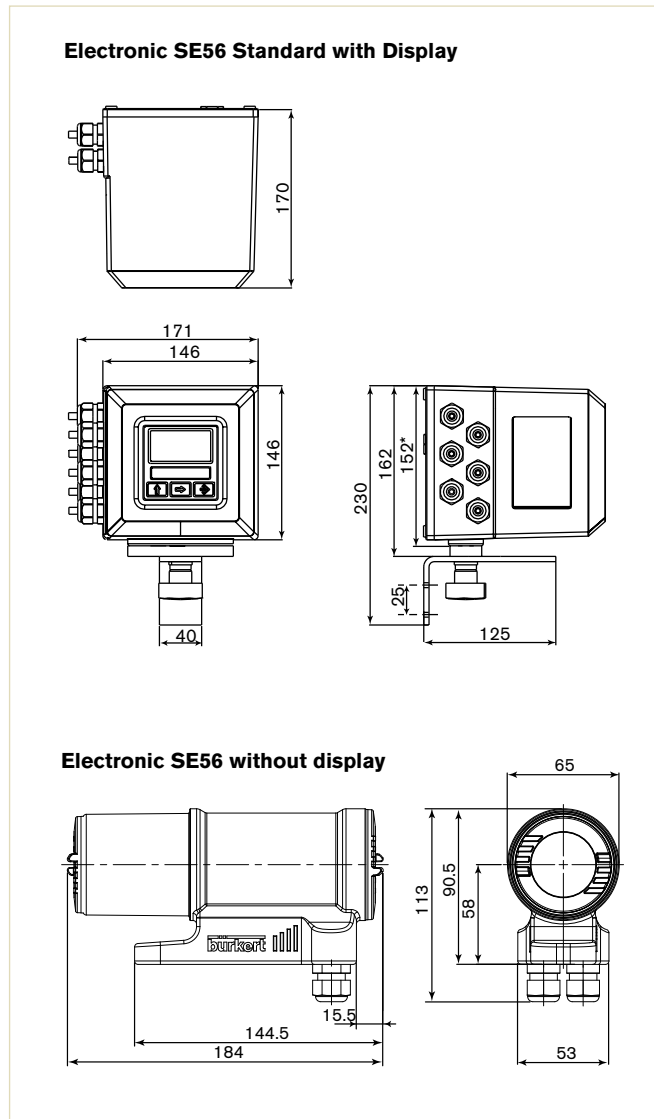
Electronics SE56 standard with display (Fort)	
Measurements tolerance	Flow rate (volume) = $\pm 0.05\%$ of reading Out 4/20 mA = $\pm 0.08\%$ of reading Frequency out = $\pm 0.08\%$ of reading
Accuracy ¹⁾	$\pm 0.2\%$ of reading (see diagram)
Repeatability	$\pm 0.1\%$ of reading
Galvanic isolation	All the input/outputs are galvanically isolated from power supply
Data storage	An EEPROM stores the measured values (in case of power failure)
Special functions	Bidirectional measure Dual measurement range Diagnostic function Empty pipe detection Remote configuration (for connection to PC or hand terminal through remote configuration tool kit) Batch function

¹⁾ under reference conditions: water temperature = 20°C, ambient temperature = 25°C, constant flow rate during the test, liquid speed > 1 m/s

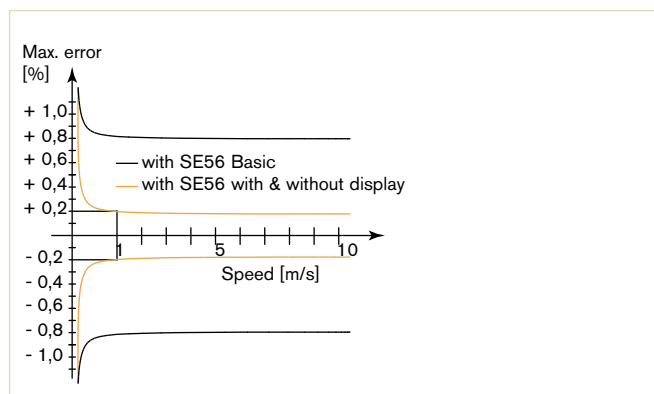
Technical data (electronics SE56 blind)	
Materials	Housing: Stainless steel Cover: PPS Seal: EPDM
Display	None
Parameterization	Through remote configuration tool kit (accessories Item No. 559 374)
Electrical connection	2 cable glands PG9
Electrical data	
Power supply	20 - 30 V DC
Power consumption	max. 10 W
Input	1 digital, selectable function
Outputs	Transistor: 2 outputs, selectable open collector as pulse/frequency (1250 Hz, 100 mA, 40 V DC) or alarm (adjustable usage) Current: 1 output, 4 to 20 mA - RL = 800 Ω passive Serial interface*: RS 485 or PROFIBUS DP
Accuracy ¹⁾	$\pm 0.2\%$ of reading (see diagram)
Repeatability	$\pm 0.1\%$ of reading
Galvanic isolation	All the input/outputs are galvanically isolated from power supply
Data storage	An EEPROM stores the measured values (in case of power failure)
Special functions	Bidirectional measure Diagnostic function Empty pipe detection Remote configuration (for connection to PC or hand terminal) Batch function
Velocity range	0.4 to 10 m/s
Environment	
Ambient temperature	Operating and storage: -20 to 40°C (-4 to 104°F)
Relative humidity	$\leq 85\%$, without condensation
Height above sea level	-200 to 6000 m
Standard	
Protection	Class I, IP67, category of installation II
Standard	
EMC	EN 61326-1
Emission	EN 55011 (Group 1, Class B)
Immunity	IEC 1000-4-2/3/4/5/6/11
Safety	EN 61010

* on request.

Envelope Dimensions [mm] (see datasheet for details)



Accuracy Diagram



Ordering Chart

Description	Power supply	Output	Body material	Electrical connection	Item no.
Standard compact version with display	90 - 265 V AC	2 Transistors	Aluminium	6 cable glands	558 745
			Stainless steel	6 cable glands	559 780
Standard wall-mounting version with display	90 - 265 V AC	2 Transistors	Aluminium	6 cable glands	559 781
			Stainless steel	6 cable glands	558 310
		2 Transistors + 4 - 20 mA	Aluminium	6 cable glands	558 750
			Stainless steel	6 cable glands	558 308
Blind compact version	20 - 30 V DC	up to 4 Transistors	Stainless steel	2 cable glands	559 132
		up to 4 Transistors + 4 - 20 mA	Stainless steel	2 cable glands	559 133
		up to 4 Transistors + Profibus DP	Stainless steel	2 cable glands	559 134

Note:

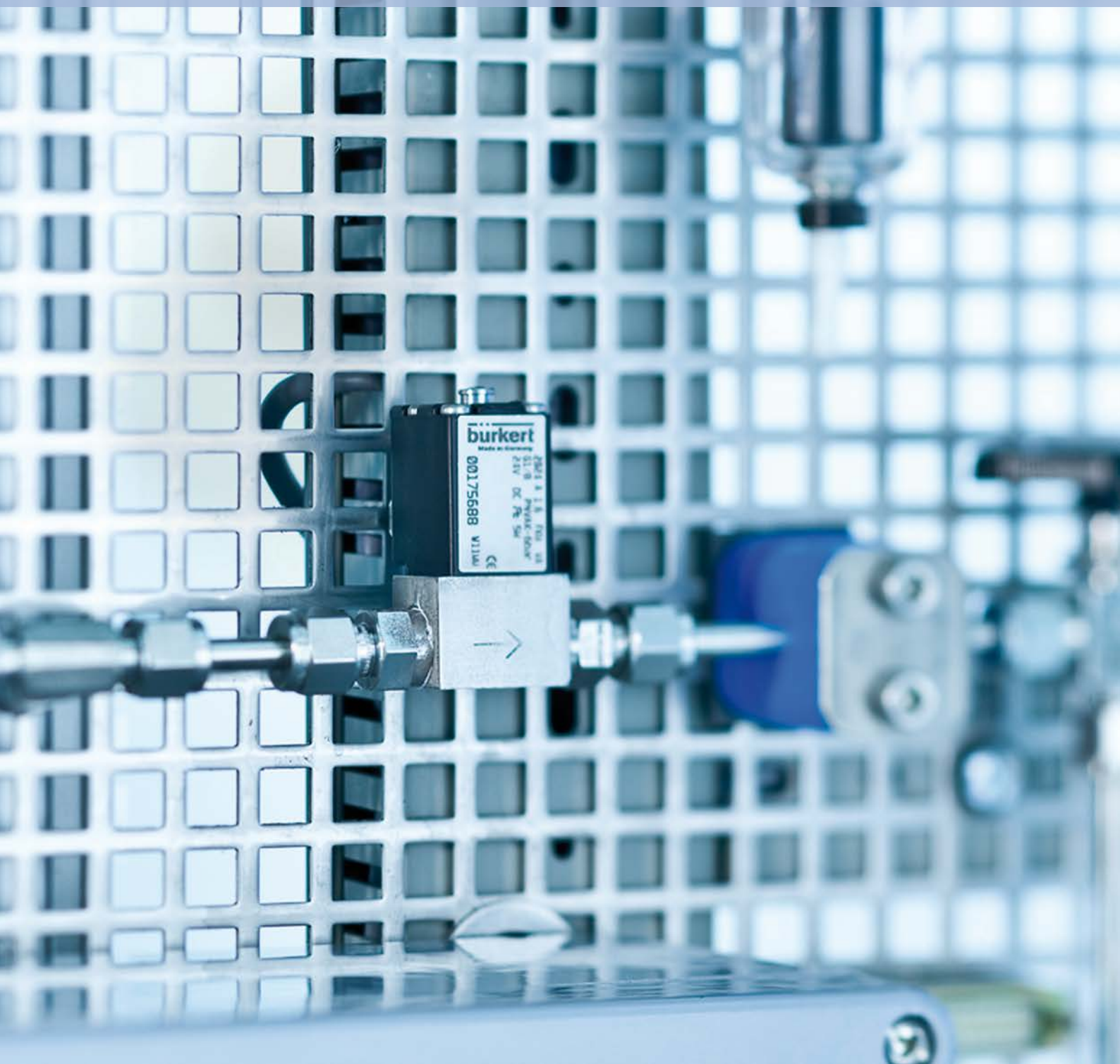
The SE35 electronic module and the S030 fitting must be ordered separately

Accessories

Description	Item no.
USB interface cable + software for programming the flow transmitter electronics without display with PC	559 374
Kit for converting a compact design to a remote version (only transmitter electronics with display)	560 153

Gas provides reliable.

The compact Bürkert solenoid control valves are very fine and thus provide a more stable fuel gas or air control. With an extremely low electrical energy they are extremely efficient.



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Notes

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