



Elettroidraulica Electrohydraulics 电子-液压 Elektrohydraulik Электрогидравлика



ELECTROHYDRAULICS PROJECT BOOK

Index:

1. Preface	3
<hr/>	
1.1 Components approval	3
<hr/>	
1.2 Atos hydraulic components	3
<hr/>	
2. Responsibilities	3
<hr/>	
3. Components	4
<hr/>	
• Vane pumps, variable displacement	5
• Axial piston pumps, variable displacement	5
• Hydraulic cylinder, square heads with tie-rods	5
• Hydraulic cylinder, square heads with tie-rods, double rod	5
• Pressure relief valves	5
• Pressure control valves, pressure reducing	6
• Flow control valves, pressure compensated	6
• Flow restrictor valves	6
• Modular relief valves	7
• Modular sequence valves	7
• Modular reducing valves	8
• Modular throttle valves	8
• Modular check valves, direct operated	8
• Modular check valves, pilot operated	8
• Solenoid directional valves, size 06	9
• Solenoid directional valves with low power consumption, size 06	9
• Solenoid directional valves, size 10	9
• Proportional directional valves	10
• Proportional pressure reducing valves, modular mounting	11
• Proportional relief valves, pilot operated	11
• Proportional relief valves, direct operated	11
• Digital axis motion controllers	11
• Mounting subplates, single	12
• Mounting subplates, multi-station	12
• Reduction plates	13
• Modular plates	13
• Cover plates	13
• Accumulators with PED Certification	13
• Accumulators with PED safety manifold	13
• PED safety manifold for accumulators	14
• Electronic pressure switches	14
• Temperature transducers	14
• Niveau control	14
• Pressure gauge - isolator valve	15
• Multi-circuit gauge isolator	15
• Pressure gauge	15
• Air breather	15
• Pressure filter with electrical clogging indicator	16
• Pressure filter element	16
• Return line filter with electrical clogging indicator	16
• Return line filter element	16
• Hydraulic power pack	16
• Cartridge pressure relief valves, PED option	17
• Cartridge pressure relief valves	17
• List of revisions	18

1. Preface

This document is a supplement to the FP specifications and defines the components to be used in order to build the machine according to them.

However, in any case of dispute the content of the FP specifications shall be considered the only valid documents.

For product application, careful attention should be paid to the technical specifications supplied by Atos.

Atos will not be responsible for damages to people or things caused by not standard use of its products. In case of doubt, always contact the technical department and follow exactly the instructions for dimensioning and assembling contained in the technical catalog. However the OEM must verify the adaptability of the sample applications to its project and it must guarantee the observance of laws and norms in force.

1.1 Components approval

Components to be used shall be indicated by the OEM into the Component List.

The Component List can be downloaded by the Atos web site and shall be sent via e-mail to FP for approval.

Component List shall be filled with:

- Quantity of each component used
- Quantity of the machine that is referred to
- References of the Atos sales or representative dealer who delivers the components.

Use of different components shall be agreed with FP by mean of a written deviation request which explains the technical reason.

1.2 Atos hydraulic components

Please select the hydraulic components you need from the enclosed "Atos Component List".

The Atos Hydraulic Component List is published:

<http://www.atos.com>

2. Responsibilities

Massimo Manavello

Marketing Department
Area Manager

Atos spa

Via Alla Piana, 57
I - 21018 Sesto Calende (VA)

Tel. +39.335.5638687
mmanavello@atos.com

Angelo Giuliano

Manufacturing Engineering
Technical Support - Electronic & Fluidic Technologies

FIAT POWERTRAIN

Corso Settembrini, 167 - Porta 19 - Traversa 2
I - 10135 Torino

Tel.: +39.011.0035734
Fax: +39.011.0038155
angelo.giuliano@fptpowertrain.com

3. Components



Proportional valves



Digital axis motion controllers



Proportional valves



Proportional valves



Hydraulic cylinders



Axial piston pumps



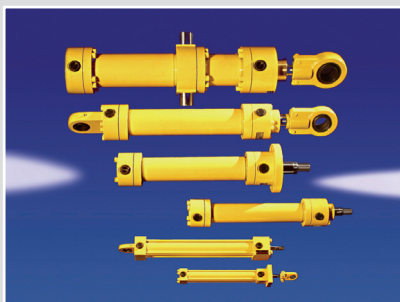
Modular valves



Solenoid valves



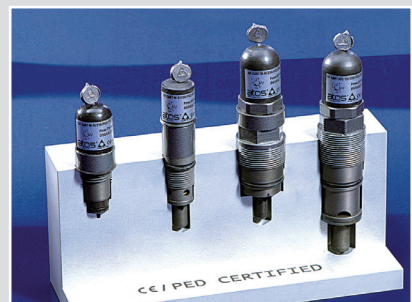
Solenoid valves



Hydraulic cylinders



Vane pumps



Pressure cartridges



Conventional valves

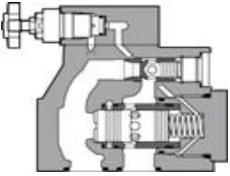
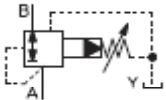
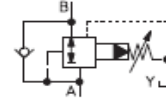
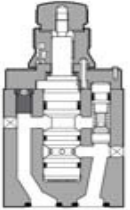
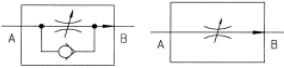
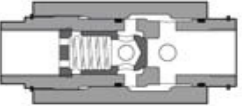
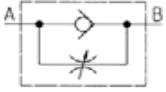



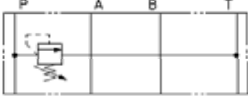



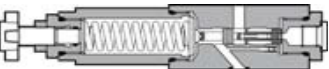
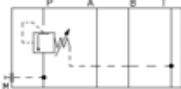
Hydraulic power packs

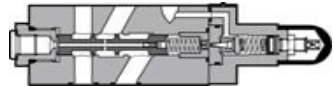
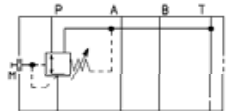
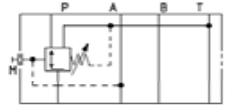
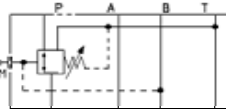
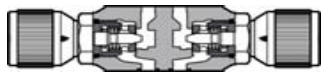
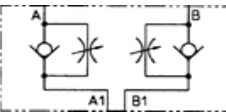
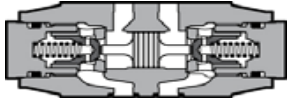
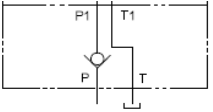
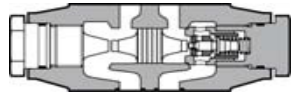
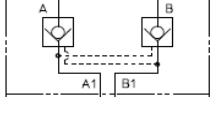


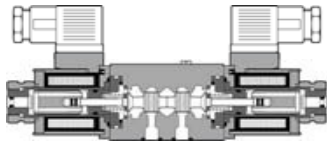
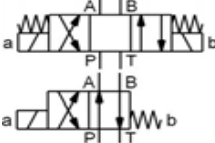
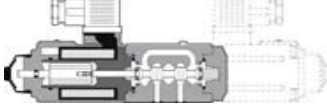
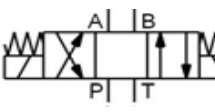
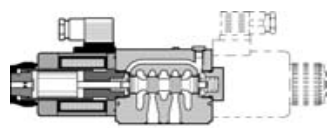
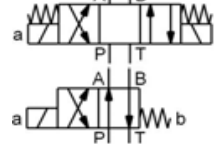
Hydraulic power packs

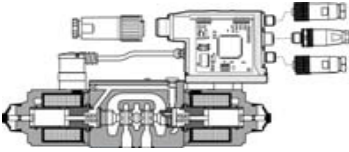
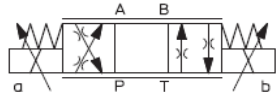
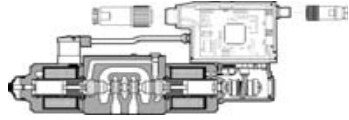
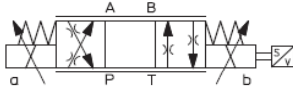
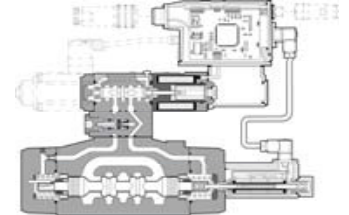
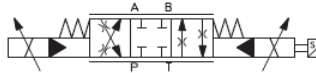
Drawing	Symbol	ATOS code	Data Sheet	Notes	
		Vane pumps, variable displacement	A082	Supplied by SCODA System division Atos Group	
		PVL-210/150			
		PVL-316/150			
		PVL-320/150			
		PVL-440/150			
		Axial piston pumps, variable displacement	A160		
		PVPC-3029 With mechanical control			
		PVPC-4046 With mechanical control			
		PVPC-5073 With mechanical control			
		PVPC-5090 With mechanical control			
		Hydraulic cylinder, square heads with tie-rods	B137	ME5 mounting style ME6 mounting style MP5 mounting style MS2 mounting style MT4 mounting style	
		CK-**/**-N			
		CK-**/**-P			
		CK-**/**-S			
		CK-**/**-E			
	CK-**/**-L				
			Hydraulic cylinder, square heads with tie-rods, double rod	B137	ME5 mounting style ME6 mounting style MP5 mounting style MS2 mounting style MT4 mounting style
			CK-**/**/**-N		
			CK-**/**/**-P		
			CK-**/**/**-S		
CK-**/**/**-E					
CK-**/**/**-L					
		Pressure relief valves	C066	(*)Pressure range 50/100/210 bar (*)Pressure range 50/100/210 bar (*)Pressure range 50/100/210 bar	
		AGAM-10/*			
		AGAM-20/*			
		AGAM-32/*			

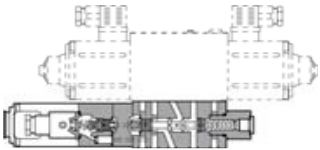
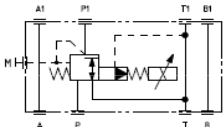
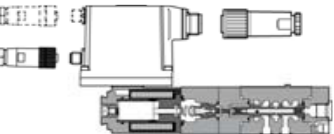
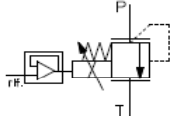
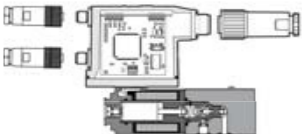
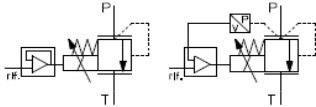
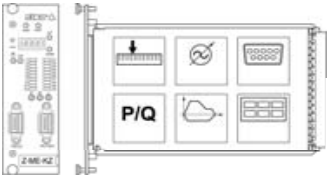
Drawing	Symbol	ATOS code	Data Sheet	Notes
		Pressure control valves, pressure reducing		
		AGIR-10/*	C070	(*)Pressure range 50/100/210 bar
		AGIR-20/*		(*)Pressure range 50/100/210 bar
		AGIR-32/*		(*)Pressure range 50/100/210 bar
		AGIRR-10/*		(*)Pressure range 50/100/210 bar
		AGIRR-20/*		(*)Pressure range 50/100/210 bar
		AGIRR-32/*		(*)Pressure range 50/100/210 bar
		Flow control valves pressure compensated		
		QV-06/1(*)	C210	(*)/V without ckeck valve
		QV-06/6(*)		(*)/V without ckeck valve
		QV-06/11(*)		(*)/V without ckeck valve
		QV-06/16(*)		(*)/V without ckeck valve
		QV-06/24(*)		(*)/V without ckeck valve
		Flow restrictor valves		
		AQFR-10	C280	
		AQFR-15		
		AQFR-20		
		AQFR-25		

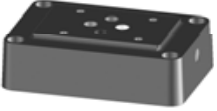

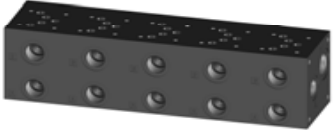
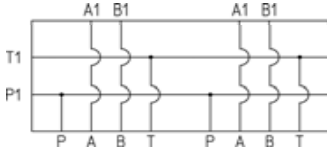
Drawing	Symbol	ATOS code	Data Sheet	Notes
		Modular relief valves	D120	
		HM-011/50		
		HM-011/100		
		HM-011/210		
		KM-011/50		
		KM-011/100		
	KM-011/210			
		HM-013/50		
		HM-013/100		
		HM-013/210		
		KM-013/50		
		KM-013/100		
		KM-013/210		
		HM-014/50		
		HM-014/100		
		HM-014/210		
KM-014/50				
KM-014/100				
KM-014/210				
	HM-012/100			
		Modular sequence valves	D130	
		HS-011/210		

Drawing	Symbol	ATOS code	Data Sheet	Notes
		Modular reducing valves	D140	
		HG-031/32		
		HG-031/75		
		HG-031/210		
		KG-031/100		
		KG-031/210		
		HG-033/32		
		HG-033/75		
		HG-033/210		
		KG-033/100		
		KG-033/210		
	HG-034/32			
	HG-034/75			
	HG-034/210			
	KG-034/100			
	KG-034/210			
		Modular throttle valves	D160	
		HQ-012 / HQ-022		
		HQ-013 / HQ-023		
		HQ-014 / HQ-024		
		KQ-012 / KQ-022		
		KQ-013 / KQ-023		
		KQ-014 / KQ-024		
		Modular check valves, direct operated	D180	
		HR-011		
		HR-016		
		KR-011		
		KR-016		
		Modular check valves, pilot operated	D180	
		HR-012		
		HR-013		
		HR-014		
		KR-012		
		KR-013		


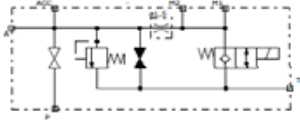


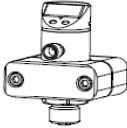



Drawing	Symbol	ATOS code	Data Sheet	Notes						
		Solenoid directional valves, size 06 DHE-0713-X24DC + SP-666/M12 DHE-0631/2-X24DC + SP-666/M12 DHE-0713/1-X24DC + SP-666/M12 DHE-0751/2-X24DC + SP-666/M12 DHE-0611/A-X24DC + SP-666/M12 DHE-0610/A-X24DC + SP-666/M12 DHE-0717-X24DC + SP-666/M12 DHE-0714/8-X24DC + SP-666/M12 DHE-0711-X24DC + SP-666/M12	E010							
					Solenoid directional valves with low power consumption, size 06 DHO-0713/8W-X24DC + SP-666/M12 DHO-0631/2/8W-X24DC + SP-666/M12 DHO-0713/1/8W-X24DC + SP-666/M12 DHO-0751/2/8W-X24DC + SP-666/M12 DHO-0611/A/8W-X24DC + SP-666/M12 DHO-0610/A/8W-X24DC + SP-666/M12 DHO-0773/8W-X24DC + SP-666/M12 DHO-0714/8/8W-X24DC + SP-666/M12 DHO-0711/8W-X24DC + SP-666/M12	TE015				
								Solenoid directional valves, size 10 DKE-1713-X24DC DKE-1631/2-X24DC DKE-1713/1-X24DC DKE-1751/2-X24DC DKE-1611/A-X24DC DKE-1610/A-X24DC DKE-1717-X24DC DKE-1714/8-X24DC DKE-1711-X24DC	E025	

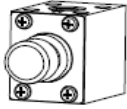
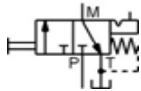

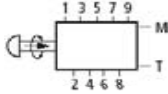




Drawing	Symbol	ATOS code	Data Sheet	Notes		
		Proportional directional valves DHZO-AE(S)* DKZOR-AE(S)*	F160	(S) digital electronics; approved serial and profibus version		
		DHZO-TE(S)* DKZOR-TE(S)*			F165	(S) digital electronics; approved serial and profibus version
		DPZO-AE(S)*				
		DPZO-TE(S)*	F172	(S) digital electronics; approved serial and profibus version		
		DPZO-TE(S)*			F172	(S) digital electronics; approved serial and profibus version
		DPZO-TE(S)*				
		DPZO-TE(S)*	F172	(S) digital electronics; approved serial and profibus version		
		DPZO-TE(S)*			F172	(S) digital electronics; approved serial and profibus version
		DPZO-TE(S)*				

Drawing	Symbol	ATOS code	Data Sheet	Notes
		Proportional pressure reducing valves, modular mounting		
		HZGO-A	F070	To use after agreement with FP
		KZGO-A		
		Proportional relief valves, pilot operated		
		RZMO-AE(S)*-030	F065	(S) digital electronics; approved serial and profibus version
		Proportional relief valves, direct operated		
		RZMO-AE(S)*-010	F007	(S) digital electronics; approved serial and profibus version
		RZMO-TERS-PS-010		
		Digital axis motion controllers		
		Z-ME-KZ	G003	To use after agreement with FP
		Z-BM-HZ1		

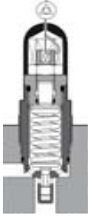
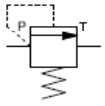
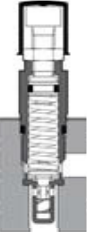
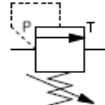
Drawing	Symbol	ATOS code	Data Sheet	Notes
		Mounting subplates, single	K280	
		BA-202		NG 6
		BA-302		NG 6
		BA-308		NG 10
		BA-428		NG 10
		Mounting subplates, multi-station	K290	
		BA-214/2		NG 6
		BA-214/3		NG 6
		BA-214/4		NG 6
		BA-214/5		NG 6
		BA-214/6		NG 6
		BA-214/7		NG 6
		BA-214/8		NG 6
		BA-214/2/P		NG 6 with A e B rear ports
		BA-214/3/P		NG 6 with A e B rear ports
		BA-214/4/P		NG 6 with A e B rear ports
		BA-214/5/P		NG 6 with A e B rear ports
		BA-214/6/P		NG 6 with A e B rear ports
		BA-214/7/P		NG 6 with A e B rear ports
		BA-214/8/P		NG 6 with A e B rear ports
		BA-314/2		NG 10
		BA-314/3		NG 10
		BA-314/4		NG 10
		BA-314/5		NG 10
		BA-314/6		NG 10
		BA-314/2/P		NG 10 with A e B rear ports
		BA-314/3/P		NG 10 with A e B rear ports
		BA-314/4/P		NG 10 with A e B rear ports
		BA-314/5/P		NG 10 with A e B rear ports
		BA-314/6/P		NG 10 with A e B rear ports

Drawing	Symbol	ATOS code	Data Sheet	Notes
		Reduction plates		
		BA-115		From NG 10 to NG 6
		Modular plates		
		BA-210/A		extract port A
		BA-210/B		extract port B
		BA-210/P		extract port P
		BA-210/T		extract port T
		Cover plates		
		SP-6-BA-402051		NG 6
		SP-10-BA-108051		NG 10
		Accumulators with PED certification		
		Y-SB330-1.0A1/112U-330A	SK 130	Supplied by SCODA System division Atos Group
		Y-SB330-2.5A1/112U-330A		
		Y-SB330-4A1/112U-330A		
		Y-SB330-10A1/112U-330A		
		Y-SB330-20A1/112U-330A		
		Y-SB330-32A1/112U-330A		
Y-SB330-50A1/112U-330A				
		Accumulators with PED safety manifold		
		0B0818 ACCUMULATOR GROUP	SK 130 + SK 135	Supplied by SCODA System division Atos Group
		0B0819 ACCUMULATOR GROUP		
		0B0820 ACCUMULATOR GROUP		
		0B0821 ACCUMULATOR GROUP		
		0B0822 ACCUMULATOR GROUP		
		0B0823 ACCUMULATOR GROUP		
		0B0824 ACCUMULATOR GROUP		

Drawing	Symbol	ATOS code	Data Sheet	Notes
		PED safety manifold for accumulators BSA-05-EM-NO-24DC/210/PED + W-NID-SB-G3/4-G1/2 BSA-10-EM-NO-24DC/210/PED + W-NID-SB-G11/4-G1 BSA-10-EM-NO-24DC/210/PED + W-NID-SB-G2-G1 Y-9-SAF32E12Y1T210A-S309	SK 135	Supplied by SCODA System division Atos Group
		Electronic pressure switches (ATOS) E-DAP-100/2 E-DAP-250/2	G 470	Supplied by SCODA System division Atos Group
		Temperature transducers (IFM) Y-9-TT3050+E35030+TR7430+E30016+E30017		Supplied by SCODA System division Atos Group
		Niveau control (IFM) Y-9-LK7022+E43003		Supplied by SCODA System division Atos Group

Drawing	Symbol	ATOS code	Data Sheet	Notes
		Pressure gauge - isolator valve (MP)		Supplied by SCODA System division Atos Group
		X-AQP-6		
		Multi-circuit gauge isolator (MP)		Supplied by SCODA System division Atos Group
		Y-SPM-606		
		Pressure gauge (NUOVA FIMA)		Radial connection Rear connection, flanged Supplied by SCODA System division Atos Group
		Y-9-01.10.3.A.C.0/***BAR/MPA.21M		
		Y-9-01.10.3.E.C.0/***BAR/MPA.21M		
		Air breather (MP)		Supplied by SCODA System division Atos Group
		Y-SAS-075/003		
		Y-SAS-115/003		
		Y-SAS-145/003		

Drawing	Symbol	ATOS code	Data Sheet	Notes
		Pressure filter with electrical clogging indicator (HYDAC) Y-9-DFN-BN/HC*** + Y-9-VD5D.X/L24		Supplied by SCODA System division Atos Group According to DIN 24550
		Pressure filter element Y-9-***-DN-***-BN/HC		Supplied by SCODA System division Atos Group
		Return line filter with electrical clogging indicator (HYDAC) Y-9-RFN-BN/HC*** + Y-9-VMF2C.X		Supplied by SCODA System division Atos Group According to DIN 24550
		Return line filter element Y-9-***-DN-***-BN/HC		Supplied by SCODA System division Atos Group
		Hydraulic power pack ASVR-100/* ASVR-160/* ASVR-250/* ASVR-400/* ASVR-630/* ASVR-800/* ASVR-1000/*		Supplied by SCODA System division Atos Group According to DIN24339 Type BN Detail X Config. A. (*) Pump type to define

Drawing	Symbol	ATOS code	Data Sheet	Notes
		Cartridge pressure relief valves, PED option	C010	To use after agreement with FP
		SP-CART M-6/210/PED/280		
		SP-CART ARE-20/210/PED/280		
		SP-CART M-6/350/PED/400		
		Cartridge pressure relief valves	C010	To use after agreement with FP
		SP-CART M-6/100/RS		
		SP-CART M-6/210/RS		
		SP-CART M-6/50		
		SP-CART M-6/100		
		SP-CART M-6/210		
		SP-CART ARE-20/50/R		
		SP-CART ARE-20/100/R		
SP-CART ARE-20/210/R				

List of revisions

Rel. 1.0	First issue	21/11/2011
Rel. 2.0	Second issue	20/06/2013