



BHDT

A Member of Dr. Aichhorn Group

**BEST HIGH PRESSURE
& DRILLING TECHNOLOGY**

OIL AND ENERGY





BHD Tube Works, Kapfenberg



BFT Pump Production and BHD Welding Center, Hoenigsberg



BHD Headquarters, Kapfenberg

OIL AND ENERGY

STRONG PARTNERSHIP

BHDT GMBH IS A QUALIFIED PRODUCER CERTIFIED ACCORDING TO ISO 9001 AND ISO 14001 STANDARDS

Design, calculation, production and testing of high pressure components all adhere to international standards and specifications is BHDT's core business. In accordance with ISO 9001 and ISO 14001, the company's quality and environmental management system is documented in a manual and certified by the TÜV Austria Institute. This manual includes all operations and areas of responsibilities within the company. Special processes and audits are described in additional work procedures. Decades of experience in the field of high pressure technology, the selection of appropriate materials, and accurate order management are the preconditions for a high degree of reliability and functioning of our products in compliance with the specifications given. Material certificates and test results of the finished components are documented in cooperation with TÜV, LLOYD'S or other international inspection and testing agencies and are available to our clients.

BHDT took its place as a world leader in the late 1950's. The company recognized the ever growing demand for high pressure valves, fittings and other system components for the booming chemical industry, thus getting an edge over other competitors.

TOP TECHNOLOGY FOR FUNCTIONALITY SAFETY AND LONG SERVICE LIFE.

Today, BHDT is in a position to handle pressure ranges up to 12.000 bar and is a leader in the field of high pressure systems for the chemical industry, including systems for highly corrosive media. Numerous innovative develop-

ments are covered by world-wide patents. State-of-the-art, 3-D CAD/FEA systems and high-precision computerized machining technologies are geared to further expand BHDT's leading position.

BHDT is not only producer of top-quality high pressure components but is also a supplier of complete customized high pressure systems for the Petrochemical Industry and contractor for large industrial plants, particularly in the field of low density polyethylene and Ethylen-Vinylacotat (LDPE-EVA). BHDT also fabricates specialized equipment for the chemical, aerospace and oilfield industry.

BHDT: A TOP PARTNER OF THE PETROCHEMICAL INDUSTRY. MAXIMUM RELIABILITY AND OPERATIONAL SAFETY – LONG LIFETIME – MINIMUM MAINTENANCE REQUIREMENTS

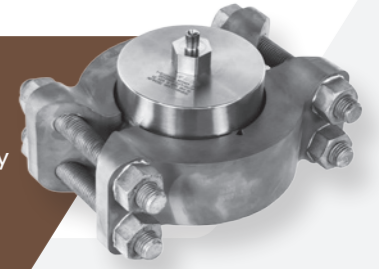
BHDT has an excellent expertise because of decades of experience on the world market and also performs the detailed engineering – according to the specific interface definitions – at the headquarters in Kapfenberg/Austria. Complex customer requirements are executed in the framework of an efficient, objective oriented project management.

By using special autofrettage methods for high pressure components, optimized stress distribution over the loaded cross section is achieved under real operating conditions. The result is an essential increase in operation safety and lifetime.

1

BESTLOC CLAMP CONNECTOR

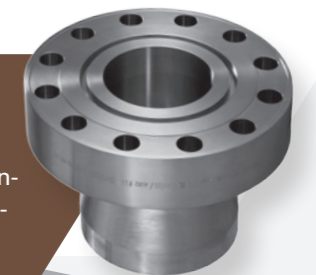
The BHDT BestLoc Clamp Connector is designed to offer the strength and sealing technology of a welded joint and the versatility of a mechanical joint. It serves the same purpose as a bolted flange assembly, with the advantages of being more easily installed (only 4 bolts) and save up to 75% weight and space by comparison to ANSI or API flanges.



2

BESTLOC COMPACT FLANGE (NORSOK L-005)

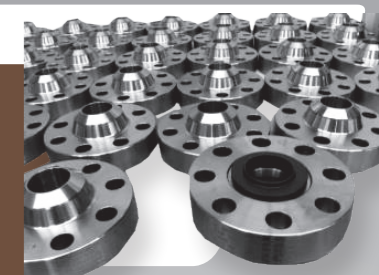
The BHDT BestLoc Compact Flange (Norsok L-005) has two independent metal to metal seals and offers an exceptionally strong mechanical connection. Considered a "leak free" connection it also saves up to 82% weight and space by comparison to ANSI or API flanges.



3

BESTLOC COMPACT FLANGE (ASME)

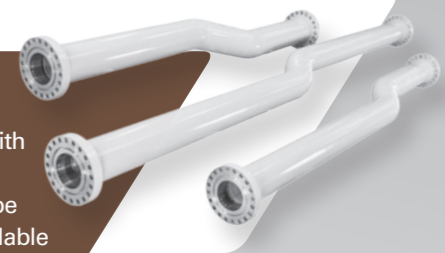
The BHDT BestLoc Compact Flange (ASME) is a popular and more reliable alternative to ANSI/API flanges. It utilizes the same metal seal design used in the clamp connector, but is ideal for those who prefer a bolted flange design in a smaller and lighter joint over ANSI/API.



4

PIPE SPOOLS AND MANIFOLDS

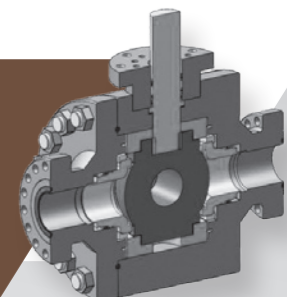
BHDT are experts in providing pre-fabricated piping packages with any end connection (including ANSI, API, lens ring and all types of compact connections). Welding, pipe bending and high pressure tube manufacturing for pressures up to 52,000 psi / 3,600 bar. Piping is available in duplex, super-duplex, stainless and carbon steel with clad flanges.



5

BESTLOC VALVE LINE

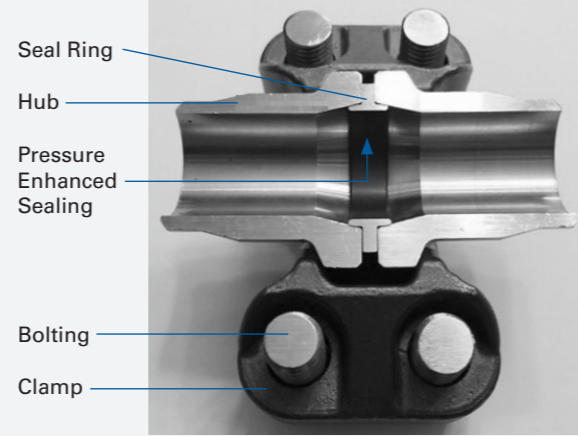
BHDT BestLoc Valve line includes angle, globe, check, sample and control valves in pressures up to 52,000 psi / 3,600 bar for petro-chemical / refinery. Subsea ball, gate and check valves for offshore usage in pressure ratings of 5K, 10K and 15K. (20K psi design upon project requirements).



BHDT BESTLOC CLAMP CONNECTOR

HARD FACTS

- Consists of (2) hubs, (1) seal ring, (1) clamp set with (4) bolts and (8) nuts
- Self energized, pressure enhanced metal seal ring
- Seal ring is designed to be reusable
- Clamp assembly is up to 75% lighter and requires less space compared to standard flanges
- Sizes from 1/2" to 36"
- Pressures up to 20,000 psi
- All materials available
- The BestLoc Clamp Connector is interchangeable with other clamp connectors in the market. Certified by DNV-GL



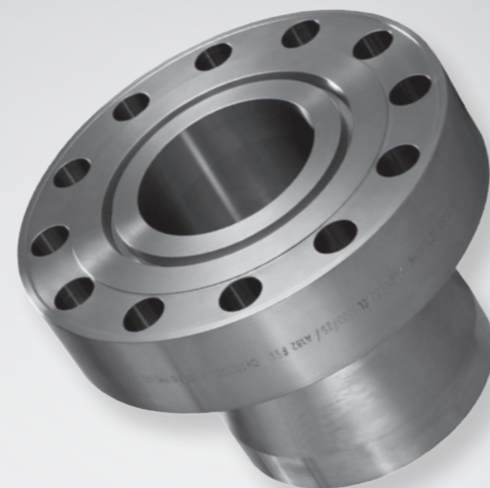
BESTLOC SEAL RING



BestLoc Compact Flange
160 kg

BestLoc Clamp Connector
109 kg

8 INCH - 2500# ANSI CLASS COMPARISON



BHDT BESTLOC COMPACT FLANGE (NORSOK L-005)

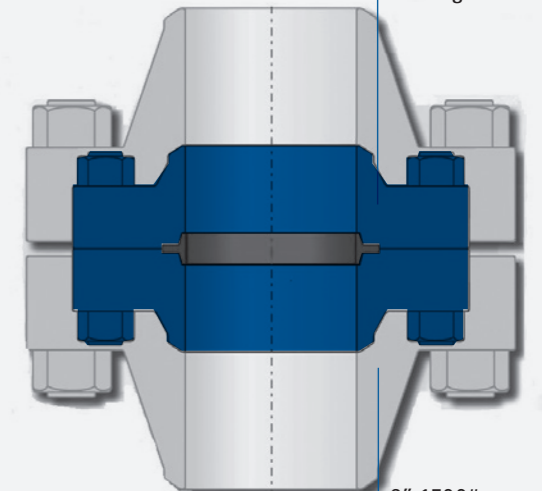
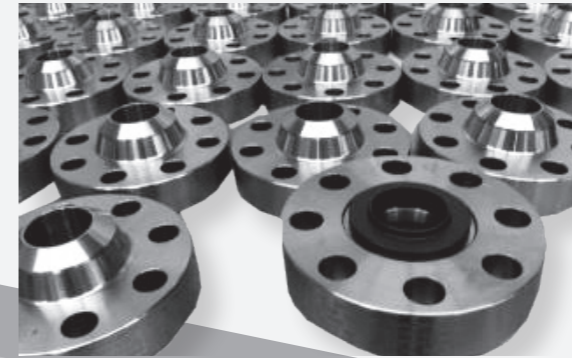
HARD FACTS

- The BestLoc Compact Flange (Norsok L-005) offers outstanding benefits whenever size, weight and stress are critical factors in pipe-design
- Compared to ANSI Flange connections, BestLoc Compact Flanges save up to 82% of weight withstanding high bending and tension loads without leaking
- No retightening of bolts required
- Two independent metal sealing surfaces (IX ring and heel seal) and static connection strength
- Design codes under ASME VIII Div.2 Appendix 4 and 6, ANSI/ASME B31.3, B31.8, BS 5500 and API
- In accordance with Norsok L-005 up to 2500# class. 5K, 10K and 15K psi pressure ratings available

BHDT BESTLOC COMPACT FLANGE (ASME)

HARD FACTS

- The BestLoc Compact Flange (ASME) is lighter, smaller and easier to install than ANSI raised face or ring joint flanges
- The BestLoc Compact Flange (ASME) is available in all sizes/pressure classes and designed to offer improved sealing integrity while saving weight, space and cost
- in accordance with IPED, ANSI, API, ASME, BS 5500 and customer's specific requirements
- It achieves extremely high levels of performance by incorporating the three most important concepts in piping connector design
 1. Seal at the smallest possible diameter (to reduce separation loads)
 2. Use the BestLoc pressure enhanced metal seal (to reduce make-up load requirements)
 3. Isolate the seal from piping loads (to maintain performance under changing conditions)

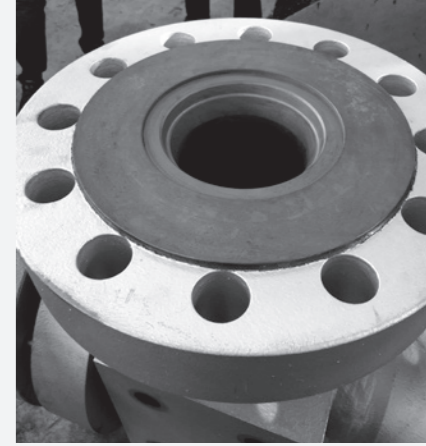
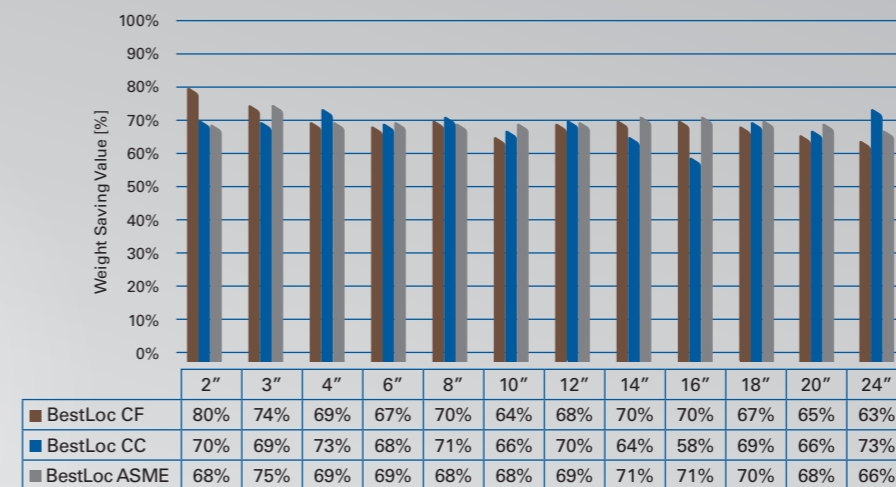


6" 1500#
BestLoc CF (ASME)
52.5 Kg

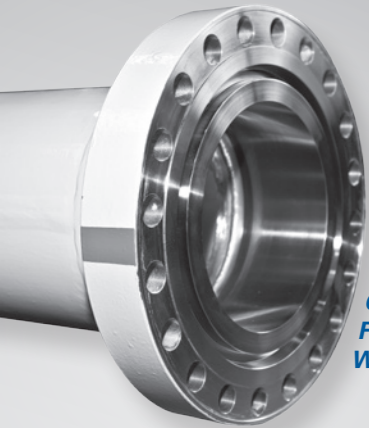
6" 1500#
ANSI
181 Kg

WEIGHT COMPARISON TABLE

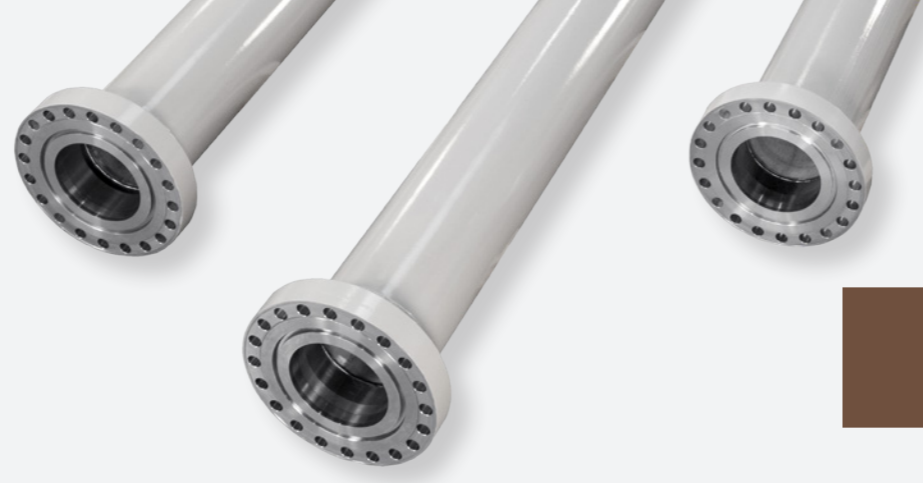
WEIGHT SAVING POTENTIAL OF BESTLOC COMPACT CONNECTORS IN COMPARISON TO STANDARD ASME FLANGES SHOWN ON 1500# CLASS



COMPACT FLANGE ASME ON BHDT BESTLOC VALVE



BESTLOC COMPACT FLANGE - WELDNECK



BHDT PIPE SPOOLS AND MANIFOLDS

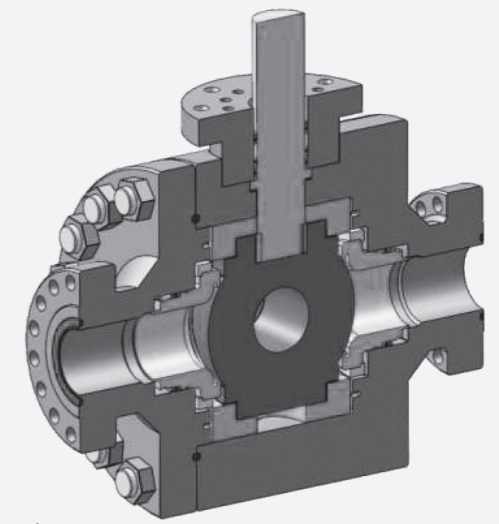
HARD FACTS

- BHDT Piping in carbon steel, stainless, duplex and super-duplex, using any pipe end connection
- Pre-fabricated piping packages including spools, tees, manifolds and steel support structures.
- Pipe supply with special wall thicknesses up to 68 ft. / 21m in length using in house deep hole drilling and honing machines
- Inner pipes for FPSO swivel stacks
- High pressure tubes for pressures up to 52,000 psi / 3,600 bar
- Jacketed pipe for critical services

BHDT BESTLOC VALVE LINE

HARD FACTS

- BHDT BestLoc Valves excel under long design life, less maintenance and excellent sealing requirements
- BHDT BestLoc Valves include angle, globe, check, sample and control valves for pressures up to 52,000 psi / 3,600 bar for petro-chemical / refinery. Subsea/Topsides ball, gate and check valves for offshore use from 5K, 10K, 15K and possible to 20K psi
- Temperatures up to 700 Deg C
- Sizes up to 20" bore
- All common and special materials (e.g. carbon steel, ss, duplex, superduplex, superaustenite, Ni-base alloys, titanium, zirconium)
- Hydraulic, electric, manual or ROV actuators
- Seals include metal, chevron packing and lip seals
- Design standards include API 6A, API 6D, API 6DSS, API 17D, API 6AV1
- Testing of subsea ball valves according to API 6A-PR2 and API 17D

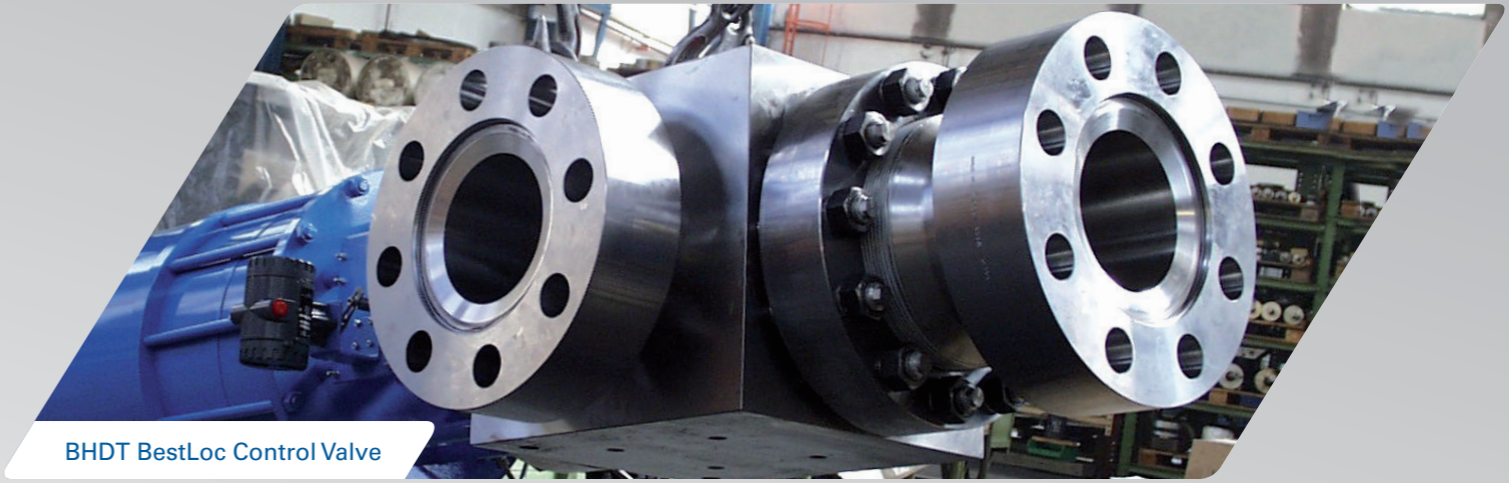


BHDT BESTLOC BALL VALVE
TRUNNION MOUNTED, SPLIT BODY, SIDE ENTRY DESIGN WITH FULL BORE OR REDUCED BORE AVAILABLE



BHDT BestLoc Angle Valves with Clamp Connector ends

BHDT BestLoc Blow Off Valves



BHDT BestLoc Control Valve

BHDT PRODUCTS



EQUIPMENT FOR FERTILIZER PLANTS 20 - 70 MPa

- Angle valves
- Globe valves
- Safety relief valves
- Check valves
- Control valves
- Sampling valves
- Prefabricated piping isometrics
- Vessels
- Fittings



HIGH PRESSURE SYSTEMS 32,5 - 360 MPa

- Tubular reactors
- Interstage coolers
- Product Coolers
- Preheaters
- Angle valves
- Control valves
- Safety relief valves
- Check valves
- Vessels
- Fittings
- Bolt tensioning devices
- Isometrics, distribution blocks
- High pressure tubes
- Autoclave Reactors



OIL & ENERGY 20-140 MPa

- Prefabricated spools and manifolds
- Special flanges and connections
- Compact flanges
- Clamp connectors
- Special valves
- High pressure tubes
- Custom made solutions
- Dedicated design and calculation support



BHDT SERVICE

- Engineering services
- Installation services
- Corrosion Inspection services
- Troubleshooting services
- Emergency Repair services
- Spare parts management
- Training services

CERTIFICATES



EN ISO 9001
20 100 82002851
EN ISO 14001
20 104 141362198



SZA
Österreich

AD 2000-
Merkblatt
HP 0 / HP 100 R
and EN ISO 3834-2



according to
PED 97/23/EC



DNV Certificate
Compact Flanges Swivel type



ASME-Stampholder



Korea Gas Safety (KGS)



Chinas Manufacture
Licence for Pressure Vessels
and Safety Valves

BHDT is certified in accordance with multiple standards and by many recognized companies and societies for the quality and safety of our services. You can find a detailed list of our certificates on our website – www.bhdt.at



A Member of Dr. Aichhorn Group

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