



OUR EXPERIENCE - YOUR SAFETY



FULLY WELDED  
BALL VALVES

DISTRICT  
HEATING AND  
STEAM



# **BÖHMER**

OUR EXPERIENCE - YOUR SAFETY

# PERFORMANCE FROM START TO FINISH

When nothing but the best is good enough, BÖHMER district heating ball valves perform to meet the most demanding requirements. Especially for underground operation a service life of at least 30 years is absolutely necessary for operational safety. Thanks to the design of our ball seal system, district heating ball valves from our factories are the perfect solution, not least because they require no maintenance.

These district heating ball valves can be deployed for numerous applications. Regardless of whether for underground district heating systems, transfer stations or in-house piping – BÖHMER district heating ball valves ensure such a high level of operational safety that they are almost indispensable.

Decades of experience mean that BÖHMER GmbH stands for top product quality. Our ball valves are certified according to current standards and regulations and they ensure extremely low losses of pressure.



# EXPERIENCE, EXPERTISE, PERFORMANCE. WE ARE BÖHMER!

We have been a reliable ball valve manufacturer since 1956. More than 300 highly-qualified employees and modern machinery are the components of our success.

The structure of our plant and equipment, as well as our production, which is based on the most modern economic and ecological requirements, guarantee our customers maximum performance, quality and cost-effectiveness.

Decades of research and development enable us to manufacture a wide variety of ball valves for diverse applications. Thanks to our modular design system, we can always react flexibly to market needs. Needless to say, we offer special designs for individual customer requirements.



Branch factory in Hattingen



Main factory in Sprockhövel




# BÖHMER



Branch factory in Kunshan, China



Branch factory in Karaganda, Kazakhstan



Today we are proud to have facilities located on 23,000 m<sup>2</sup> of production and administration floor-space in our main factory and 13,500 m<sup>2</sup> in our branch factory in Hattingen.

Furthermore, we run two manufacturing facilities outside of Europe. The Asian market is served by our factory in China and our factory in Kazakhstan delivers to that local market.

Our large warehousing capacity enables us to meet even short-term deadlines. On-time deliveries are standard for us.

Our regular customers are demanding and therefore appreciate our first-class service. They have relied on the quality and reliability of BÖHMER ball valves for decades. We are proud to be recognized as one of the leading valve manufacturers.



# THE BÖHMER PRODUCT LINE

Our ball valves set standards because our products are designed for the most demanding conditions. The various applications for which our ball valves were designed require maximum durability and performance.

Generally our ball valves can be used wherever gases, liquids and solids are transported. It goes without saying that our ball valves fulfill all requirements for certification and procedure approvals.

We can transport all media without difficulty up to the nominal size DN1400, even with pressures of up to 500 bar.

The standards that our ball valves now fulfill are the highest on the market. But we go a step further. Our team of highly-qualified engineers and designers takes special care to further develop our ball valves with maximum quality of design and material as well as cost-effectiveness.





# **BÖHMER**

DISTRICT HEATING  
CHEMICALS PETROCHEMICALS  
**GAS INDUSTRY**  
PIPELINE CONSTRUCTION  
SUBSEA APPLICATIONS  
**HYDRAULICS**  
**PNEUMATICS**  
PLANT ENGINEERING AND CONSTRUCTION

## **Certifications**

**DIN EN ISO 9001**                      **API 6D/API 6DSS**

**DIN-DVGW**                              **CS51 Canada**

**EN 13774**                                **GOST**

**EN 14141**                                **TA-Luft**

**ATEX 94/9/EG**                        **BS 5351**

**Fire Safe**                                **PED 97/23/EC**  
acc. to BS6755/API6FA

**BAM**                                        **Type approvals**  
(structural component approvals) (VdTÜV)

**Safety Shutoff Units** acc. to EN 14382

**and others**

# TEN ARGUMENTS IN FAVOUR OF BÖHMER BALL VALVES FOR DISTRICT HEATING

We know that our products deliver what they promise. To give you an idea of the numerous advantages of our ball valves, we have compiled the following list of some of the special features.

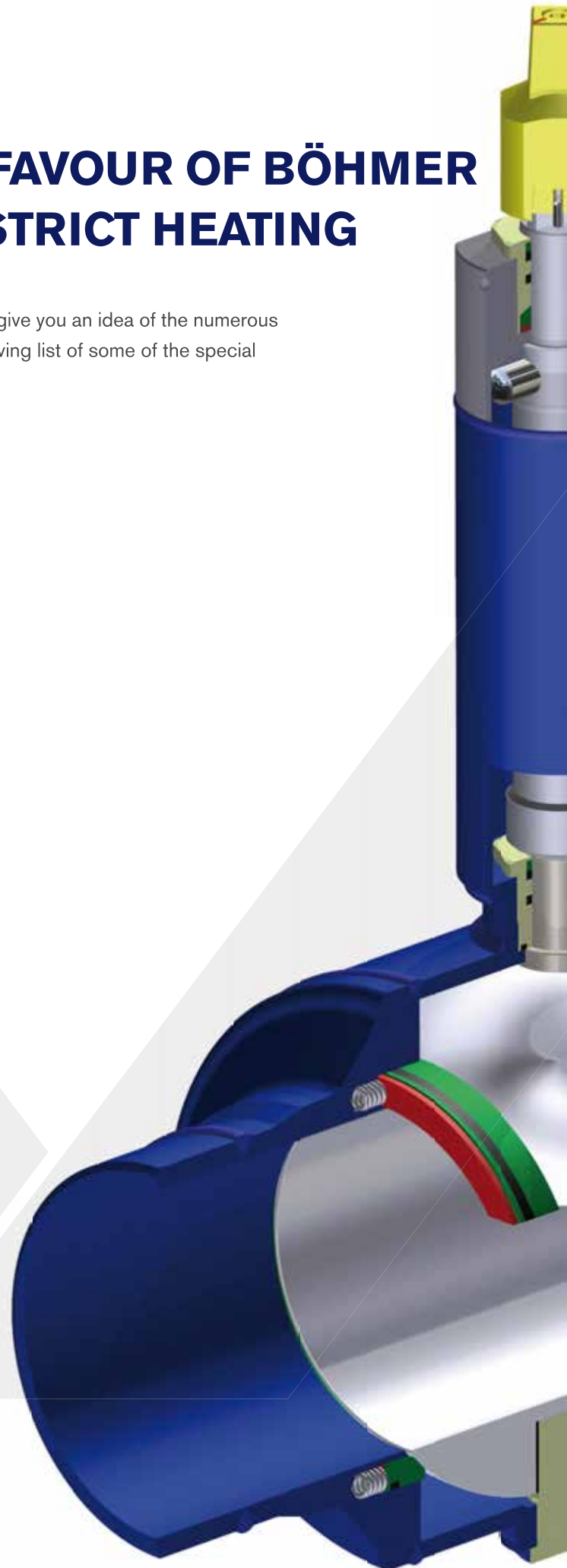
01 The solid **body components** ensure the highest level of operational safety even under extreme conditions.

02 The full **penetration of the weld seams** enables our ball valves to withstand even extreme stresses, thus ensuring safe operation of the valves.

03 The **elongated weld ends** fulfill more than the required standard, while machining operations ensure absolute roundness of the weld ends.

04 The **spring-supported ball seals** ensure longer service life and constitute the basis for fulfilling double block and bleed requirements.

05 The **trunnion-mounted ball** increases the service life of the valve by reducing stresses.







# BÖHMER

**06** The **solid ball** ensures top operational safety without the loss of flow.

**07** The **separation of the bonnet** from the flow of hot water / steam reduces the thermal stress on the insulation.

**08** The **enclosed limit stop** is not exposed to dirt and thus ensures exact positioning of the valve in its end positions.

**09** The **BÖHMER position indicator** is designed with a two-flat header and a red-colored direction notch showing the exact position of the ball even after assembly of BÖHMER accessories.

**10** The **redundant seal of the stem** ensures absolutely hermetic seal-off from the environment.

# THE BÖHMER DISTRICT HEATING PROGRAM



Thanks to our comprehensive product portfolio, we are able to fulfill almost all customer demands and requests. In contrast to other manufacturers, we manufacture all our district heating ball valves according to a modular system which has proved its worth for decades, regardless of whether the ball valve is destined for pre-insulated underground installation or for above-ground installation.

Our district heating ball valves are certified according to international standards currently in force throughout the world and they excel in their minimum loss of pressure and high operational safety.



## Specifications of our district heating ball valves

Nominal sizes:	DN 6 up to DN1200 (on request up to DN1400)
Pressure levels:	up to PN40
Temperature range:	up to +250°C (on request)
Body materials:	Forged steel, Stainless steel (V4A only)
Ball materials:	Forged steel, stainless steel
Stem materials:	Stainless steel
Seal materials:	EPDM, PTFE and special materials
Actuators:	Levers, gearboxes, pneumatic, electric and hydraulic actuators

BALL VALVES FOR INSTALLATION IN SHAFTS  
HOT-TAPPING BALL VALVES  
DRAIN AND VENTILATION BALL VALVES  
HOUSEHOLD CONNECTION UNITS  
PRE-INSULATED BALL VALVES  
FOR UNDERGROUND INSTALLATION  
BALL VALVES FOR ONE TIME OPERATION



## Ball Valves for underground installation

Description	Type	Connection	Bore	Nominal Size	Operation	Page
Underground Ball Valve for insulation (without insulation)	BBF/KSF V - HE	Weld Ends	full	20 - 125	square key	16
				150 - 300	square key	17
				350 - 1200	square key	18
	BBF/KSF R - HE	Weld Ends	reduced	25 - 150	square key	19
				200 - 400	square key	20
450 - 1200				square key	21	
Ball Valve for Venting and Draining	BBF/ELF/ESF V - HE	Flange / Weld End	full	25 - 80	lever	22
	BBF/EMG/ESF V - HE	Thread / Weld End		25 - 50	lever	23
Tie-in Ball Valve	BBF/KSF V - HE	Weld Ends	full	20 - 200	weldable stem	24
	BBF/KSF R - HE		reduced	20 - 200	weldable stem	25
Hot Tapping Ball Valve	BBF/KSF V - HE	Weld Ends	full	20 - 100	weldable stem	26

## Ball Valves for Indoor Applications



Descriptions	Type	Connection	Bore	Nominal Size	Operation	Page
Weld-In Ball Valve	BBF/KSF V - HS	Weld Ends	full	10 - 200	lever	28
				150 - 1200	gear box	29
	BBF/KSF R - HS		reduced	15 - 250	lever	30
				200 - 1000	gear box	31
Flange Ball Valve	BBF/FSK V - HS	Flanges	full	32 - 200	lever	32
				150 - 1000	gear box	33
	BBF/FSK R - HS		reduced	32 - 250	lever	34
				200 - 1000	gear box	35
BBF/FSL V - HS	full	10 - 100	lever	36		
Ball Valve for Venting and Draining	BBF/FSL/KSF V - HS	Flange / Weld End	full	15 - 25 / 65 - 100	lever	37
	BBF/FSK/KSF V - HS			32 - 50 / 125 - 150	lever	37
	BBF/FSL/KSF R - HS		reduced	25	lever	38
	BBF/FSK/KSF R - HS		32 - 50	lever	38	
	BBF/KSG/KSF V - HS		Thread / Weld End	full	16 - 50	lever
Thread Ball Valve	BBF/KSG V - HS	Threads	full	10 - 50	lever	40
Hot Tapping Ball Valve	BBF/KSF V - HS	Weld Ends	full	20 - 100	lever	41

## Nomenclature







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Technical information  
on the next page

# TECHNICAL INFORMATION FOR BÖHMER DISTRICT HEATING BALL VALVES

## Wall thicknesses for ball valves for underground installation

The pipe ends listed on pages 16 to 21 used for BÖHMER district heating ball valves for underground installation meet the requirements of the AD technical bulletin ("Merkblatt") B9 for extruding of pipes. Extrusion can be executed on the pipe ends for drain

and ventilation lines without falling short of the minimum wall thickness requirements according to EN488.

The following wall thicknesses are of the pipe material used. These thicknesses are machined at the weld joint to suit the adjoining wall thickness.

DN	20	25	32	40	50
Pipe dimensions	26,9 x 3,2	33,7 x 3,2	42,4 x 3,2	48,3 x 3,6	60,3 x 3,6
DN	65	80	100	125	150
Pipe dimensions	76,1 x 4,0	88,9 x 4,5	114,3 x 4,5	139,7 x 4,5	168,3 x 5,0
DN	200	250	300	350	400
Pipe dimensions	219,1 x 6,3	273,0 x 7,1	323,9 x 8,0	355,6 x 8,0	406,4 x 8,8

## Dimensions of the flange connections

All ball valves in this catalogue meet the Standard for Flange Connections EN1092.

The following table shows a summary of the flange connection dimensions for pressure levels PN10 – PN40

which, for reasons of clarity, are not listed in the data sheets. For production reasons, the thickness of the flanges can be larger than the dimension required by the standard.

DN	PN10	PN16	PN25	PN40	D	g	K	b	z	d
10	X	X	X	X	90	40	60	16	4	14
15	X	X	X	X	95	45	65	16	4	14
20	X	X	X	X	105	58	75	18	4	14
25	X	X	X	X	115	68	85	18	4	14
32	X	X	X	X	140	78	100	18	4	18
40	X	X	X	X	150	88	110	18	4	18
50	X	X	X	X	165	102	125	20	4	18
65	X	X			185	122	145	22	4	18
65			X	X	185	122	145	22	8	18
80	X	X	X	X	200	138	160	24	8	18
100	X	X			220	158	180	20	8	18
100			X	X	235	162	190	24	8	22
125	X	X			250	188	210	22	8	18
125			X	X	270	188	220	26	8	26
150	X	X			285	212	240	22	8	22
150			X	X	300	218	250	28	8	26
200	X				340	268	295	24	8	22
200		X			340	268	295	24	12	22
200			X		360	278	310	30	12	26
200				X	375	285	320	34	12	30
250	X				395	320	350	26	12	22
250		X			405	320	355	26	12	26
250			X		425	335	370	32	12	30
250				X	450	345	385	38	12	33
300	X				445	370	400	26	12	22
300		X			460	378	410	28	12	26
300			X		485	395	430	34	16	30
300				X	515	410	450	42	16	33
350	X				505	430	460	26	16	22
350		X			520	438	470	30	16	26
350			X		555	450	490	38	16	33
350				X	580	465	510	46	16	36
400	X				565	482	515	26	16	26
400		X			580	490	525	32	16	30
400			X		620	505	550	40	16	36
400				X	660	535	585	50	16	39

We will gladly provide you with further dimensions on request.





**PRODUCTS & DATA**

# Ball Valve with Weld Ends for underground installation

## BBF/KSF-V-HE, DN 20-125, PN 25

Full Bore



### Standard Materials:

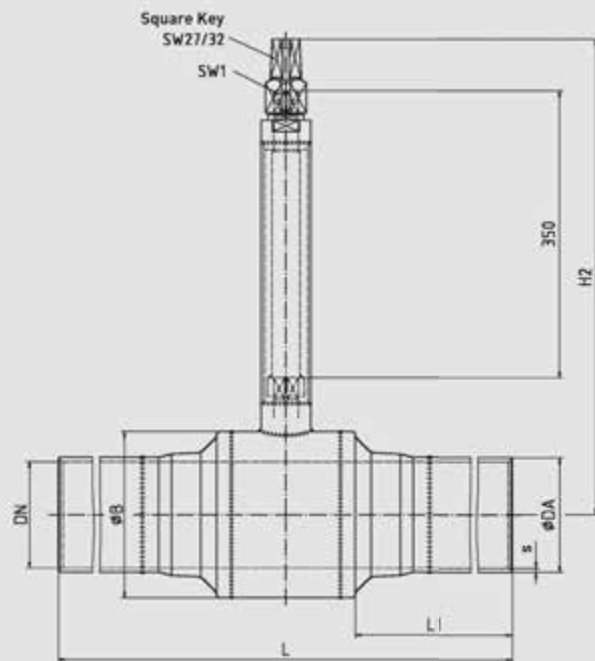
<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

**Ball Valves fulfill the requirements of EN 488 and are suitable for the cold laying method**

### Design Features:

- From DN125 a trunnion mounted ball is standard.
- The square key is included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	DA	s*	L	L1	B	H2	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	kg	
20	25	26,9	2,0	1500	715	44	462	16	7,5	076.0144
25	25	33,7	2,3	1500	717	54	465	16	8,0	076.0142
32	25	42,4	2,6	1500	708,5	64	488	16	9,3	076.0107
40	25	48,3	2,6	1500	706	76	493	16	11,0	076.0109
50	25	60,3	2,9	1500	705,5	89	501	16	14,0	076.0044
65	25	76,1	2,9	1500	691	121	515	16	19,0	076.0046
80	25	88,9	3,2	1500	688	140	549	22	25,0	076.0048
100	25	114,3	3,6	1500	680	171	562	22	34,0	076.0079
125	25	139,7	3,6	1500	665	203	581	22	45,0	076.0096

\* The alignment of the wall thickness of the pipe end is carried out according to measurement „s“. The actual wall thicknesses used can be found in the table on page 13 of this catalogue.

# Ball Valve with Weld Ends for underground installation

## BBF/KSF-V-HE, DN 150-300, PN 25

Full Bore



### Standard Materials:

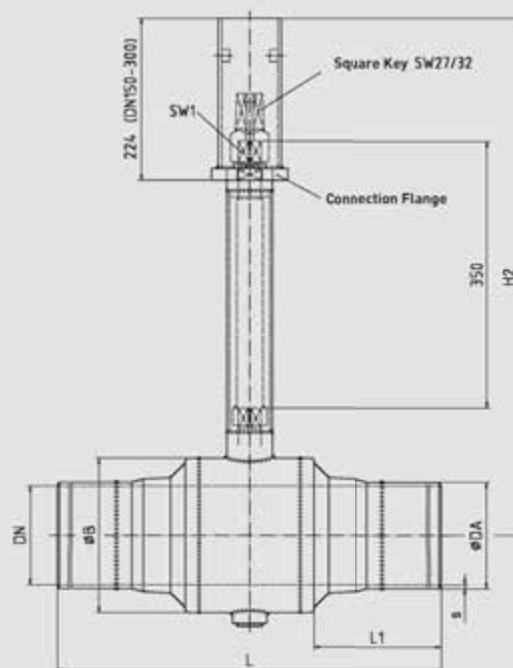
<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

**Ball Valves fulfill the requirements of EN 488 and are suitable for the cold laying method**

### Design Features:

- The trunnion mounted ball is standard.
- For the operation of valves DN150 and above we recommend the use of a plug in gear box. The flange connection required for the use of the plug in gear box, as well as the square key is included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	DA	s*	L	L1	B	H2	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	kg	
150	25	168,3	4,0	1500	640,5	254	725	32	85	076.0098
200	25	219,1	4,5	1500	616	324	760	32	129	076.0105
250	25	273,0	5,0	1500	567	407	900	32	285	076.0113
300	25	323,9	5,6	2000	771	508	942	32	510	076.0115

\* The alignment of the wall thickness of the pipe end is carried out according to measurement „s“. The actual wall thicknesses used can be found in the table on page 13 of this catalogue.



# Ball Valve with Weld Ends for underground installation

## BBF/KSF-V-HE, DN 350-1200, PN 25

Full Bore



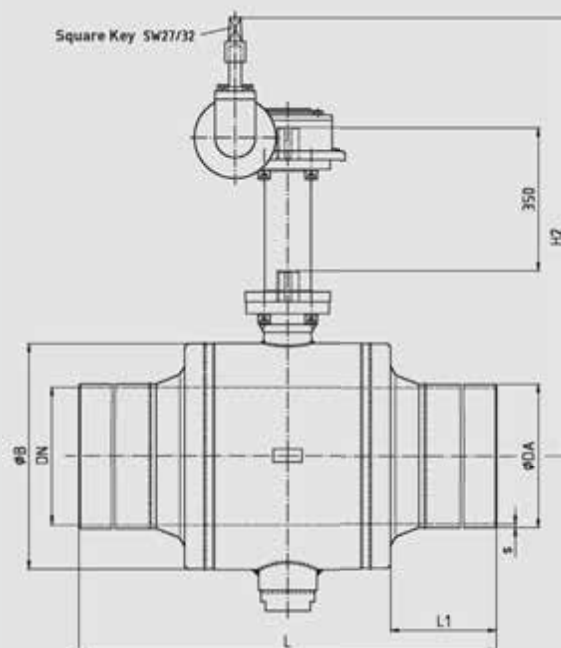
### Standard Materials:

- Body:** Forged Steel / Steel
- Ball:** up to DN 400: Stainless Steel  
from DN 450: Steel, chemically nickel plated (ENP)
- Stem:** Stainless Steel
- Ball seals:** PTFE
- Stem seals:** EPDM
- Operating Temperature:** up to +150 °C

**Ball Valves fulfill the requirements of EN 488 and are suitable for the cold laying method**

### Design Features:

- The trunnion mounted ball is standard.
- The angular gear and the square key are included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	DA	s*	L	L1	B	H2	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	kg	
350	25	355,6	5,6	2000	745	559	1086	750	076.0117
400	25	406,4	6,3	2000	818	660	1121	1030	076.0119
450	25	457	6,3	2000	684	720	1215	1700	076.0123
500	25	508,0	6,3	2500	890	814	1256	2200	076.0125
600	25	610	7,1	1143	158	955	1389	apx. 3000	on request
700	25	711	8,0	1295	187	1116	on request	apx. 4500	on request
800	25	813	8,8	1397	430	1261	on request	apx. 5700	on request
900	25	914	10	1499	422	1396	on request	apx. 7400	on request
1000	25	1016	11	1800	576	1561	on request	apx.11000	on request
1200	25	1220	12,5	2400	955	1890	on request	apx.19000	on request

Ball Valves DN600 and above will be custom designed to meet order specifications. Please take note of the drawings submitted in case of an order.

\* The alignment of the wall thickness of the pipe end is carried out according to measurement „s“. The actual wall thicknesses used can be found in the table on page 13 of this catalogue.

# Ball Valve with Weld Ends for underground installation

## BBF/KSF-R-HE, DN 25-150, PN 25



### Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

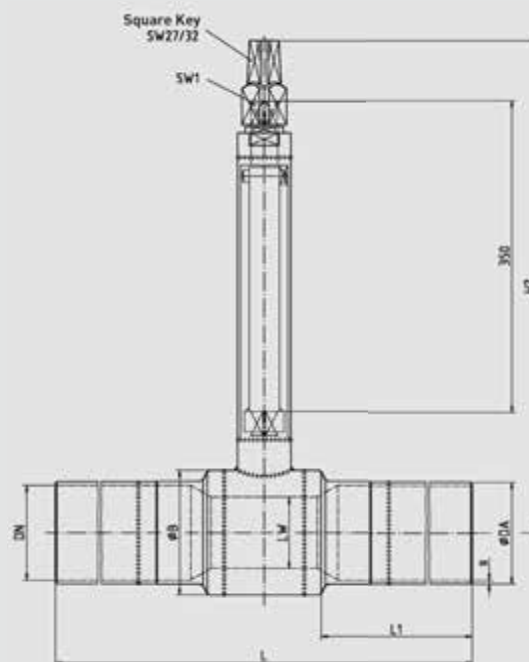
**Operating Temperature:** up to +150 °C

Reduced Bore

**Ball Valves fulfill the requirements of EN 488 and are suitable for the cold laying method**

### Design Features:

- From DN150 a trunnion mounted ball is standard.
- The square key is included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	DA	s*	L	L1	B	H2	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	kg	
25/20	25	33,7	2,3	1500	715	44	462	16	7,0	076.0143
32/25	25	42,4	2,6	1500	715	54	465	16	9,0	076.0108
40/32	25	48,3	2,6	1500	712	64	488	16	11,0	076.0112
50/40	25	60,3	2,9	1500	710	76	493	16	12,5	076.0045
65/50	25	76,1	2,9	1500	705	89	501	16	17,0	076.0047
80/65	25	88,9	3,2	1500	694	121	515	16	22,0	076.0049
100/80	25	114,3	3,6	1500	688	140	549	22	30,0	076.0080
125/100	25	139,7	3,6	1500	680	171	562	22	39,5	076.0097
150/125	25	168,3	4,0	1500	667	203	581	22	51,3	076.0104

\* The alignment of the wall thickness of the pipe end is carried out according to measurement „s“. The actual wall thicknesses used can be found in the table on page 13 of this catalogue.

# Ball Valve with Weld Ends for underground installation

## BBF/KSF-R-HE, DN200-400, PN25

Reduced Bore



### Standard Materials:

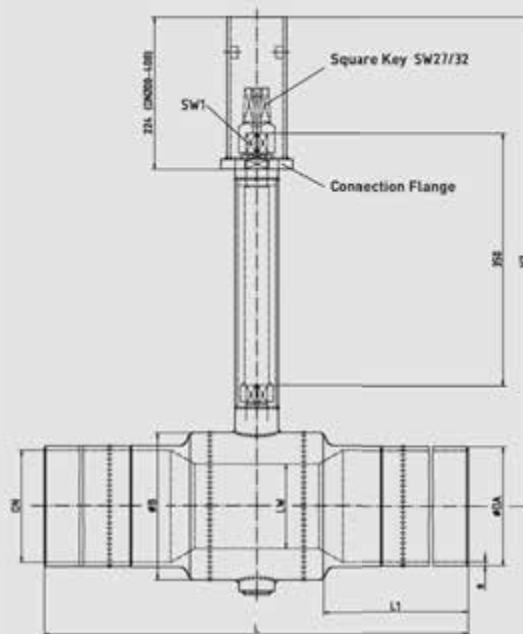
<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

**Ball Valves fulfill the requirements of EN 488 and are suitable for the cold laying method**

### Design features:

- The trunnion mounted ball is standard.
- For the operation of valves DN200 and above we recommend the use of a plug in gear box. The flange connection required for the use of the plug in gear box as well as the square key is included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	DA	s*	L	L1	B	H2	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	kg	
200/150	25	219,1	4,5	1500	648	254	725	32	100	076.0106
250/200	25	273,0	5,0	1500	625	324	760	32	140	076.0114
300/250	25	323,9	5,6	2000	817	407	900	32	380	076.0116
350/300	25	355,6	5,6	2000	769	508	942	32	645	076.0118
400/300	25	404,6	6,3	2000	770	508	942	32	680	076.0154

\* The alignment of the wall thickness of the pipe end is carried out according to measurement „s“. The actual wall thicknesses used can be found in the table on page 13 of this catalogue.



# Ball Valve with Weld Ends for underground installation

## BBF/KSF-R, DN 450-1200, PN 25



### Standard Materials:

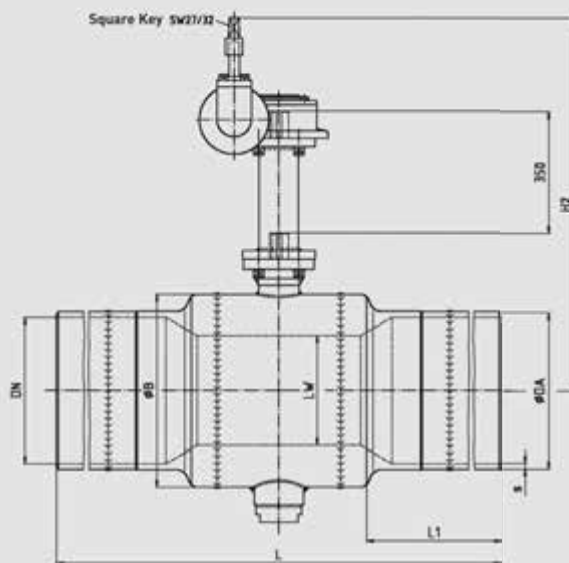
<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	up to DN 500: Stainless Steel from DN 600: Steel, chemically nickel plated (ENP)
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Operating Temperature:</b>	up to +150 °C

Reduced Bore

**Ball Valves fulfill the requirements of EN 488 and are suitable for the cold laying method**

### Design features:

- The trunnion mounted ball is standard.
- The angular gear and the square key are included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	DA	s*	L	L1	B	H2	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	kg	
450/400	25	457,0	6,3	2000	720	660	1122	1120	076.0124
500/400	25	508,0	6,3	2000	620	660	1122	1400	076.0126
600/500	25	610,0	7,1	2500	657	814	1280	2400	076.0128
700/600	25	711,0	8,0	1316	245	955	on request	ca. 3200	on request
800/700	25	813,0	8,8	1346	213	1116	on request	ca. 4700	on request
900/800	25	914,0	10,0	1727	595	1261	on request	ca. 6000	on request
1000/900	25	1016,0	11,0	1800	572	1396	on request	ca. 7700	on request
1200/1000	25	1220,0	12,5	2800	1076	1561	on request	ca. 12000	on request

Ball Valves DN700 and above will be custom designed to meet order specifications. Please take note of the drawings submitted in case of an order.

\* The alignment of the wall thickness of the pipe end is carried out according to measurement „s“. The actual wall thicknesses used can be found in the table on page 13 of this catalogue.

# Ball Valve for Venting and Draining with Flange and Weld End, Stainless Steel Design

## BBF/ELF/ESF-V-HE, DN 25-80, PN 25

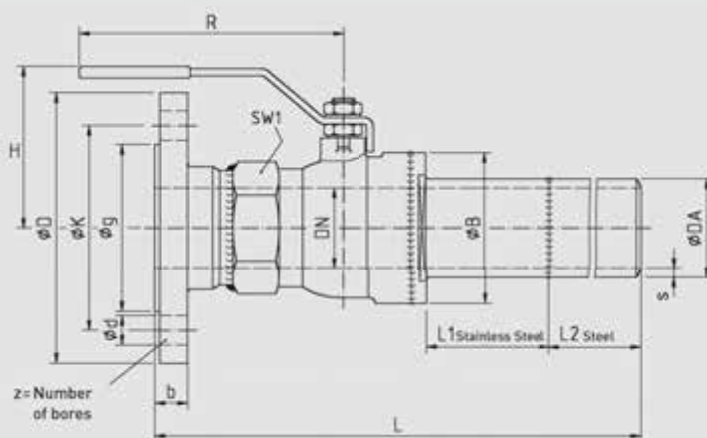
### Standard Materials:

<b>Body:</b>	Stainless Steel 1.4581
<b>Weld End:</b>	Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

### Design features:

- Suitable blind flanges and gaskets can be delivered on request.
- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	Da	s	L	L1	L2	D	B	H	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	
25	25	33,7	3,2	895	200	579	115	49	65	132	41	4,2	050.0004
32	25	42,4	3,2	1000	63	774	140	65	84	146	50	6,5	050.8241
40	25	48,3	3,2	963	50	771	150	75	85	146	55	8,5	050.0119
50	25	60,3	4,0	911	120	546	165	92	95	146	70	10,5	050.0120
80 <sup>1</sup>	25	88,9	4,0	1000	250	486	200	140	155	300	---	18,0	050.0198

<sup>1</sup>Deviating from the above, the body for this valve is made from stainless steel 1.4571.

# Ball Valve for Venting and Draining with Thread and Weld End, Stainless Steel Design

## BBF/EMG/ESF-V-HE, DN 25-50, PN 40



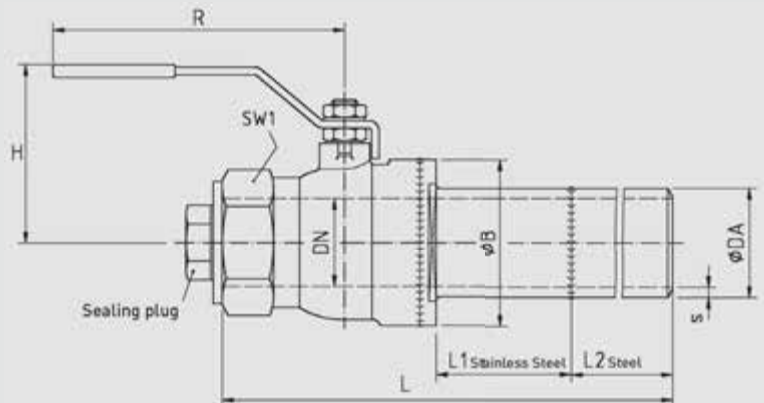
### Standard Materials:

<b>Body:</b>	Stainless Steel 1.4581
<b>Weld End:</b>	Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Sealing plug:</b>	Stainless Steel
<b>Operating Temperature:</b>	up to +150 °C

Full Bore

### Design features:

- The sealing plug is included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	Da	s	L	L1	L2	B	H	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	
25	40	33,7	3,2	1095	148	852	49	65	135	41	3,4	050.5617
32	40	42,4	3,2	1000	63	774	65	84	155	50	5,2	050.0065
40	40	48,3	3,2	1000	50	771	75	85	155	55	6,2	050.0140
50	40	60,3	3,6	850	151	561	92	95	155	70	7,4	050.2897

# Tie-in Ball Valve / Ball Valve for one time operation

## BBF/KSF-V-HE, DN 20-200, PN25

Full Bore

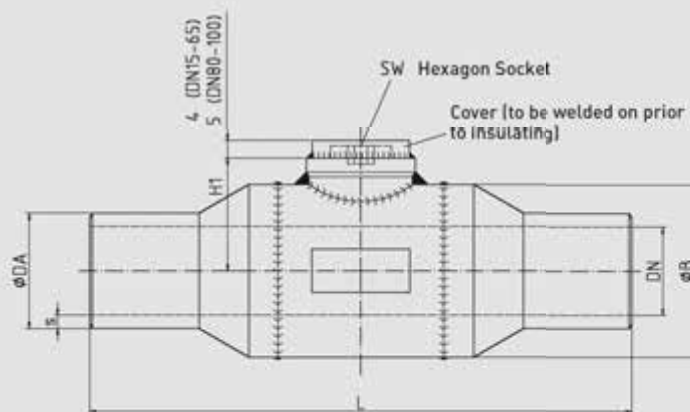


### Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Operating Temperature:</b>	up to +150 °C

### Design features:

- Delivery includes a cap for proper weld execution in accordance with "AGFW Arbeitsblatt FW401" (up to DN100).  
The installation instructions (included in the delivery) must be followed!
- Stem design with double o-ring seals.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	Da	s	L	B	H1	SW	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	kg	
20	25	26,9	3,2	160	44	31,6	6	1,0	010.2041
25	25	33,7	3,6	180	54	35	6	1,5	010.4421
32	25	42,4	3,6	200	63,5	49,5	10	2,0	010.4422
40	25	48,3	3,6	210	76	55	10	2,7	010.1111
50	25	60,3	3,6	250	89	62,5	10	4,2	010.1112
65	25	76,1	3,6	270	121	77,5	10	7,9	010.1113
80	25	88,9	4,0	280	140	100	12	9,7	010.1114
100	25	114,3	4,0	300	171	114	12	14,8	010.1147
125 <sup>1</sup>	25	139,7	4,5	350	203	149	22	26,5	010.9215
150 <sup>1</sup>	25	168,3	5,0	400	254	188	32	49,5	010.6078
200 <sup>1</sup>	25	219,1	6,3	460	324	223	32	84,0	010.2914

<sup>1</sup>This ball valve is operated with an external square adapter, a torospherical closure (not included in the delivery) should be welded on.

# Tie-in Ball Valve / Ball Valve for one time operation

## BBF/KSF-R-HE, DN20-200, PN25



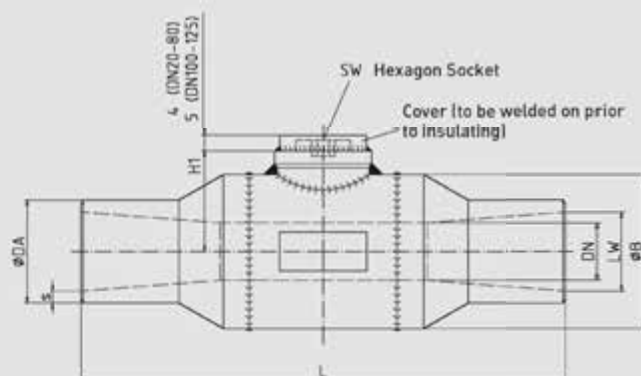
### Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Operating Temperature:</b>	up to +150 °C

Reduced Bore

### Design features:

- Delivery includes a cap for proper weld execution in accordance with "AGFW Arbeitsblatt FW401" (up to DN125). The installation instructions (included in the delivery) must be followed!
- Stem design with double o-ring seals.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	Da	s	L	B	H1	SW	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	kg	
20/15	25	26,9	3,2	270	39	29	6	1,0	010.4477
25/20	25	33,7	3,2	160	44	31,6	6	1,1	010.4478
32/25	25	42,4	3,2	180	54	35	6	1,8	010.4424
40/32	25	48,3	3,2	210	63,5	49,5	10	2,3	010.4170
50/40	25	60,3	3,6	220	76	55	10	2,9	010.4425
65/50	25	76,1	3,6	235	89	62,5	10	4,7	010.4196
80/65	25	88,9	4,0	265	121	77,5	10	7,9	010.4426
100/80	25	114,3	4,0	275	140	100	12	9,9	010.4427
125/100	25	139,7	4,5	300	171	114	12	17,5	010.5419
150/125 <sup>1</sup>	25	168,3	5,0	335	203	149	22	24,0	010.5425
200/150 <sup>1</sup>	25	219,1	6,3	375	254	188	32	48,0	010.2352

<sup>1</sup>This ball valve is operated with an external square adapter, a torospherical closure (not included in the delivery) should be welded on.



# Hot Tapping Ball Valve

## BBF/KSF-V-HE, DN 20-100, PN 25

Full Bore



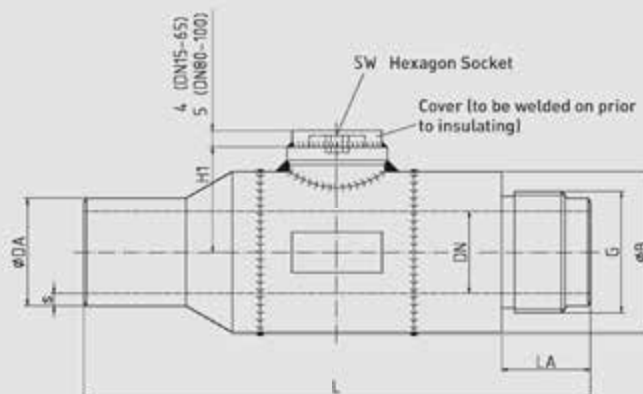
### Standard Materials:

- Body:** Forged Steel / Steel
- Ball:** Stainless Steel
- Stem:** Stainless Steel
- Ball seals:** PTFE
- Stem seals:** EPDM

**Operating Temperature:** up to +150 °C

### Design features:

- Delivery includes a cap for proper weld execution in accordance with "AGFW Arbeitsblatt FW401".  
The installation instructions (included in the delivery) must be followed!
- Stem design with double o-ring seals.
- A suitable drilling system can be purchased at [www.huetz-baumgarten.de](http://www.huetz-baumgarten.de). Further information is available on page 47 of this catalogue.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Larger diameters available on request.

Further options for these ball valves are listed on page 48.

DN	PN	Da	s	L	B	LA	G	H1	SW	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	kg	
20	25	26,9	3,2	170	44	35	G 1 A	31,6	6	1,1	010.2892
25	25	33,7	3,2	180	54	35	G 1 ½ A	35	6	1,7	010.4272
32	25	42,4	3,2	200	63,5	35	G 1 ½ A	49,5	10	2,4	010.4276
40	25	48,3	3,2	210	76	55	G 2 ½ A	55	10	3,4	010.4283
50	25	60,3	3,6	240	90	55	G 2 ½ A	62,5	10	4,9	010.4295
65	25	76,1	3,6	260	121	55	G 2 ¾ A	77,5	10	8,2	010.4297
80	25	88,9	4,0	280	140	30	G 3 A	100	12	10,7	010.4417
100	25	114,3	4,0	300	171	30	G 4 A	114	12	16,6	010.4420

**BÖHMER**



# Ball Valve with Weld Ends

## BBF/KSF-V-HS, DN 10-200, PN25

Full Bore



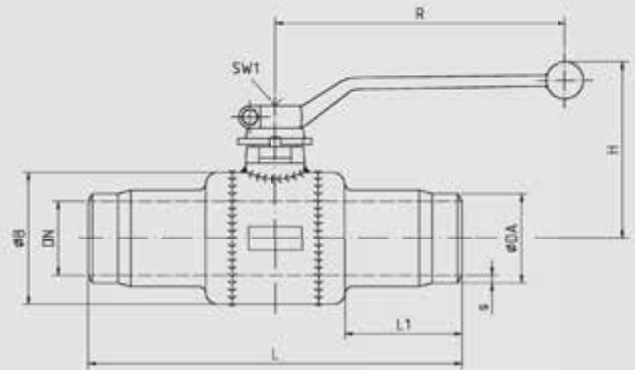
### Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

### Design features:

- From DN125 the trunnion mounted ball is standard.
- From DN150 operation with a gear box is recommended.  
Please use the products described on page 29.



DN	PN	DA	s	L	L1	B	H	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	kg	
10	25	17,2	2,3	270	102	39	66	130	10	0,9	010.6807
15	25	21,3	2,6	270	97	39	68	130	10	1,0	010.3233
20	25	26,9	3,2	270	97	44	70	130	10	1,3	010.2936
25	25	33,7	3,2	270	90	54	82	180	12	1,7	010.2955
32	25	42,4	3,2	270	95	64	110	205	16	2,6	010.3309
40	25	48,3	3,2	270	90	76	115	205	16	3,3	010.3431
50	25	60,3	3,6	250	80	89	125	205	16	4,6	010.7353
65	25	76,1	3,6	270	80	121	140	300	16	8,3	010.8514
80	25	88,9	4,0	280	78	140	160	350	22	11,5	010.3187
100	25	114,3	4,0	300	79	171	175	350	22	16,2	010.3188
125	25	139,7	4,5	350	90	203	195	500	22	27,0	010.3381
150	25	168,3	5,0	400	90	254	240	600	32	51,0	010.3348
200	25	219,1	6,3	460	96	324	275	600	32	82,5	010.2762



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

# Ball Valve with Weld Ends

## BBF/KSF-V-HS, DN 150-1200, PN 25



### Standard Materials:

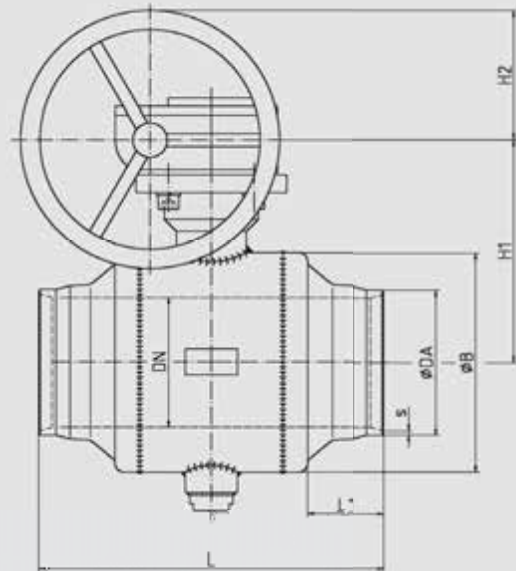
<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	up to DN 400: Stainless Steel from DN 450: Steel, chemically nickel plated (ENP)
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

Full Bore

### Design features:

- The trunnion mounted ball is standard.
- From DN150 we recommend the use of worm gears (or planetary gear units up to max. DN400).  
On request the ball valves can be delivered with electric or pneumatic actuators.
- For the valves listed below, the worm gear unit is included in the delivery.



DN	PN	Da	s	L	L1	B	H1	H2	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	kg	
150	25	168,3	5,0	400	90	254	349	150	90	075.0267
200	25	219,1	6,3	460	96	324	384	150	136	075.0268
250	25	273,0	7,1	540	90	407	355	200	290	075.0269
300	25	323,9	8,0	640	91	508	404	200	458	075.0270
350	25	355,6	8,0	680	86	559	431	200	608	075.0271
400	25	406,4	8,8	1000	319	660	490	250	770	075.0272
450	25	457,0	6,3	950	158	720	567	200	ca. 1300	on request
500	25	508,0	6,3	991	136	814	608	250	ca. 1800	on request
600	25	610,0	7,1	1143	158	955	737	300	ca. 2500	on request
700	25	711,0	8,0	1295	187	1116	870	300	ca. 4000	on request
800	25	813,0	8,8	1397	430	1261	942	400	ca. 4900	on request
900	25	914,0	10,0	1499	422	1396	1051	400	ca. 7000	on request
1000	25	1016,0	11,0	1800	576	1561	1180	400	ca. 9900	on request
1200	25	1220,0	12,5	2800	955	1890	1512	500	ca. 18500	on request

Ball valves DN500 and above will be custom designed to meet order specifications.  
Please take note of the drawings submitted in case of an order.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

# Ball Valve with Weld Ends

## BBF/KSF-R-HS, DN 15-250, PN 25

Reduced Bore



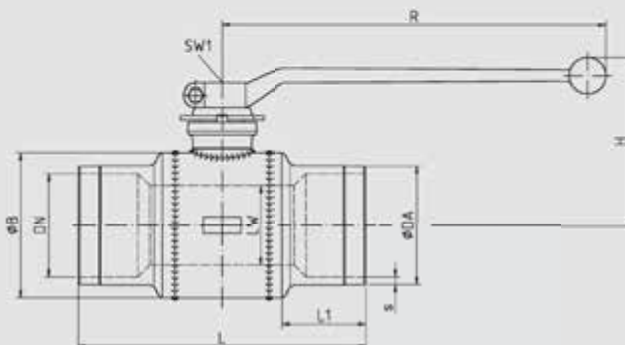
### Standard Materials:

- Body:** Forged Steel / Steel
- Ball:** Stainless Steel
- Stem:** Stainless Steel
- Ball seals:** PTFE
- Stem seals:** EPDM

**Operating Temperature:** up to +150 °C

### Design features:

- From DN150 the trunnion mounted ball is standard.
- From DN200 operation with a gear box is recommended. Please use the products described on page 31.



DN/LW	PN	DA	s	L	L1	B	H	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	kg	
15/12	25	21,3	2,6	270	102	39	66	130	10	1,0	010.3941
20/15	25	26,9	3,2	270	100	39	68	130	10	1,1	010.3942
25/20	25	33,7	3,2	270	102	44	70	130	10	1,3	010.3944
32/25	25	42,4	3,2	210	70	54	82	180	12	2,1	010.6811
40/32	25	48,3	3,2	210	65	64	110	205	16	2,8	010.3973
50/40	25	60,3	3,6	220	70	76	115	205	16	3,6	010.3566
65/50	25	76,1	3,6	235	70	89	125	205	16	5,2	010.3565
80/65	25	88,9	4,0	265	75	121	140	300	16	8,5	010.3563
100/80	25	114,3	4,0	275	80	140	160	350	22	12,1	010.9764
125/100	25	139,7	4,5	300	80	171	175	350	22	18,3	010.3564
150/125	25	168,3	5,0	335	85	203	195	500	22	28,0	010.6812
200/150	25	219,1	6,3	375	85	254	240	600	32	50,0	010.2349
250/200	25	273,0	7,1	450	100	324	275	600	32	83,0	010.6373

**i** For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.



# Ball Valve with Weld Ends

## BBF/KSF-R-HS, DN 200-1200, PN 25



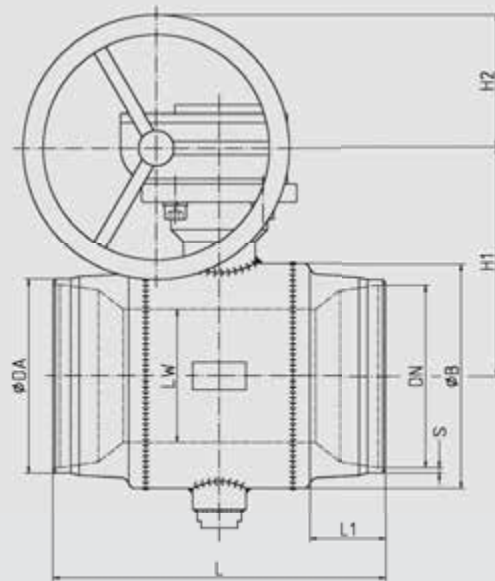
### Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	up to DN 500: Stainless Steel from DN 600: Steel, chemically nickel plated (ENP)
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Operating Temperature:</b>	up to +150 °C

Reduced Bore

### Design features:

- The trunnion mounted ball is standard.
- From DN200 we recommend the use of worm gears (or planetary gear units up to max. DN500).  
On request the ball valves can be delivered with electric or pneumatic actuators.
- For the valves listed below, the worm gear unit is included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	DA	s	L	L1	B	H1	H2	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	kg	
200/150	25	219,1	6,3	375	85	254	349	150	81	075.0260
250/200	25	273,0	7,1	450	98	324	384	150	101	075.0261
300/250	25	323,9	8,0	700	166	407	355	200	318	075.0262
350/300	25	355,6	8,0	800	170	508	404	200	513	075.0263
400/300	25	406,4	8,8	900	218	508	404	200	610	075.0264
450/400	25	457,0	10,0	950	195	660	490	200	833	075.0265
500/400	25	508,0	11,0	1000	318	660	490	200	885	075.0266
600/500	25	610,0	7,1	1143	212	820	608	250	2000	on request
700/600	25	711,0	8,0	1316	245	955	737	300	2700	on request
800/700	25	813,0	8,8	1346	213	1116	870	300	4300	on request
900/800	25	914,0	10,0	1727	596	1261	942	400	5200	on request
1000/900	25	1016,0	11,0	1800	572	1396	1051	400	7300	on request
1200/1000	25	1220,0	12,5	2800	1076	1561	1180	400	11400	on request

Ball valves DN600 and above will be custom designed to meet order specifications.  
Please take note of the drawings submitted in case of an order.

# Ball Valve with Flanged Ends Short Pattern

**BBF/FSK-V-HS, DN 32-200, PN 25**

Full Bore



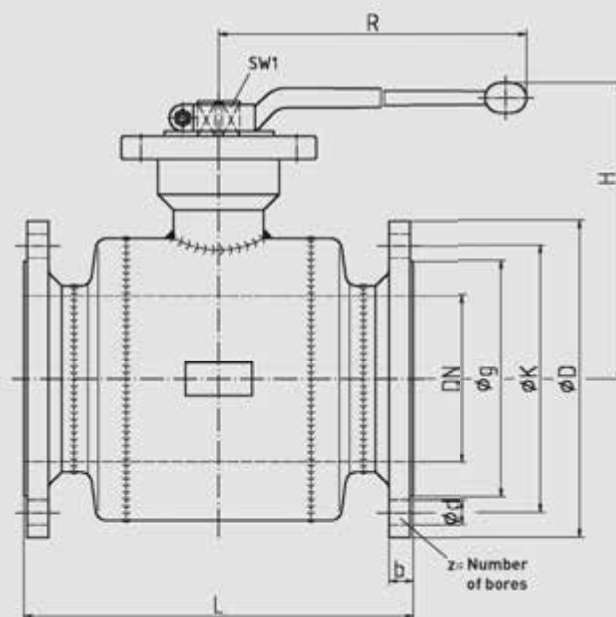
## Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

## Design features:

- From DN125 the trunnion mounted ball is standard.
- From DN150 operation with a gear box is recommended. Please use the products described on page 33.
- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25.



The Measurements of the flanges can be found on page 13 of this catalogue.

For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	L	D	SW1	R	H	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	kg	
32	25	130	140	16	205	120	5,6	056.4686
40	25	140	150	16	205	125	6,9	056.9744
50	25	150	165	16	205	133	9,2	056.9450
65	25	170	185	16	300	137	12,2	056.1092
80	25	180	200	22	350	156	16,2	056.1094
100	25	190	235	22	350	170	21,1	056.2779
125	25	325	270	22	500	189	38,2	056.6910
150	25	350	300	32	600	229	61,5	056.4687
200	25	400	360	32	600	264	93,0	056.0465

# Ball Valve with Flanged Ends Short Pattern

## BBF/FSK-V-HS, DN 150-1000, PN 25



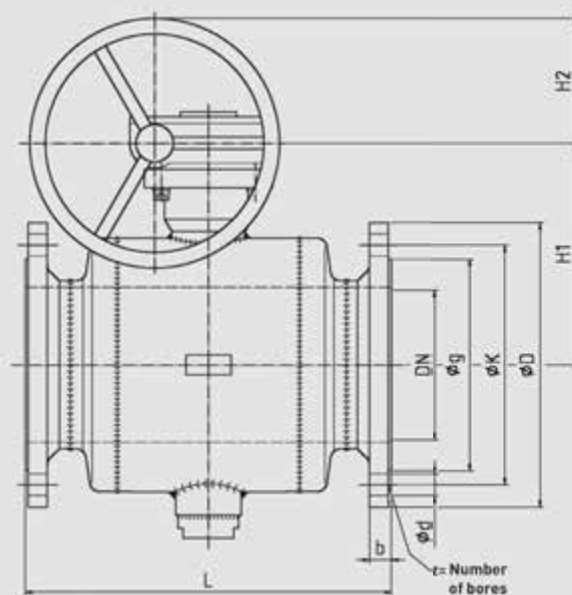
### Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	up to DN 400: Stainless Steel from DN 450: Steel, chemically nickel plated (ENP)
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Operating Temperature:</b>	up to +150 °C

Full Bore

### Design features:

- The trunnion mounted ball is standard.
- From DN150 we recommend the use of worm gears (or planetary gear units up to max. DN400).  
On request the ball valves can be delivered with electric or pneumatic actuators.
- For the valves listed below, the worm gear unit is included in the delivery.
- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25.



The Measurements of the flanges can be found on page 13 of this catalogue.

For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	L	D	H1	H2	Weight	Item No.
mm	bar	mm	mm	mm	mm	kg	
150	25	350	300	349	150	76	075.0295
200	25	400	360	384	150	115	075.0298
250	25	650	425	355	200	286	075.0301
300	25	750	485	404	200	495	075.0304
350	25	850	555	431	200	660	075.0307
400	25	950	620	531	200	960	075.0310
450	25	on request	670	567	200	on request	on request
500	25	on request	730	608	250	on request	on request
600	25	on request	845	737	300	on request	on request
700	25	on request	960	870	300	on request	on request
800	25	on request	1085	942	400	on request	on request
900	25	on request	1185	1051	400	on request	on request
1000	25	on request	1320	1180	400	on request	on request

# Ball Valve with Flanged Ends Short Pattern

**BBF/FSK-R-HS, DN 32-250, PN 25**

Reduced Bore



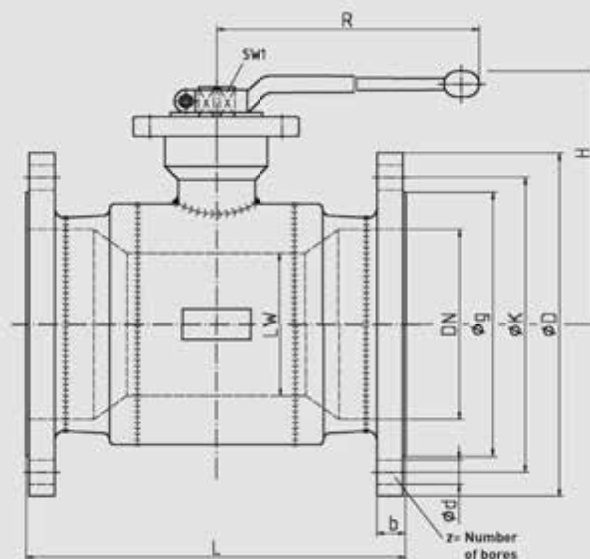
## Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

## Design features:

- From DN150 the trunnion mounted ball is standard.
- From DN200 operation with a gear box is recommended. Please use the products described on page 35.
- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25.



The Measurements of the flanges can be found on page 13 of this catalogue.

For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	L	D	SW1	R	H	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	kg	
32/25	25	130	140	12	180	103	5,2	056.7021
40/32	25	140	150	16	205	120	6,2	056.7020
50/40	25	150	165	16	205	125	8,2	056.7019
65/50	25	170	185	16	205	133	11,1	056.7018
80/65	25	180	200	16	300	137	14,5	056.7017
100/80	25	190	235	22	350	156	19,7	056.7016
125/100	25	325	270	22	350	170	31,5	056.7015
150/125	25	350	300	22	500	189	45,0	056.7014
200/150	25	400	360	32	600	229	74,5	056.7013
250/200	25	450	425	32	600	264	117,0	056.7012

# Ball Valve with Flanged Ends Short Pattern

## BBF/FSK-R-HS, DN 200-1000, PN 25



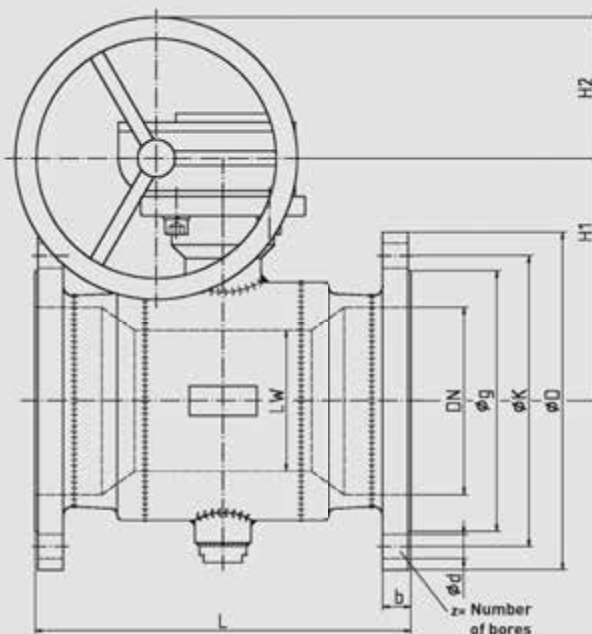
### Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	up to DN 500: Stainless Steel from DN 600: Steel, chemically nickel plated (ENP)
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Operating Temperature:</b>	up to +150 °C

Reduced Bore

### Design features:

- The trunnion mounted ball is standard.
- From DN200 we recommend the use of worm gears (or planetary gear units up to max. DN500). On request the ball valves can be delivered with electric or pneumatic actuators.
- For the valves listed below, the worm gear unit is included in the delivery.
- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25.



The Measurements of the flanges can be found on page 13 of this catalogue.

For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	L	D	H1	H2	Weight	Item No.
mm	bar	mm	mm	mm	mm	kg	
200/150	25	400	360	349	100	95	075.0274
250/200	25	450	425	384	150	148	075.0277
300/250	25	750	485	355	200	380	075.0280
350/300	25	850	555	404	200	610	075.0283
400/300	25	950	620	404	200	665	075.0286
450/400	25	1050	670	531	200	1010	075.0289
500/400	25	1150	730	531	200	1065	075.0292
600/500	25	on request	845	608	250	on request	on request
700/600	25	on request	960	737	300	on request	on request
800/700	25	on request	1085	870	300	on request	on request
900/800	25	on request	1185	946	400	on request	on request
1000/900	25	on request	1320	1051	400	on request	on request



# Ball Valve with Flanged Ends long pattern

**BBF/FSL-V-HS, DN 10-100, PN 25**

Full Bore



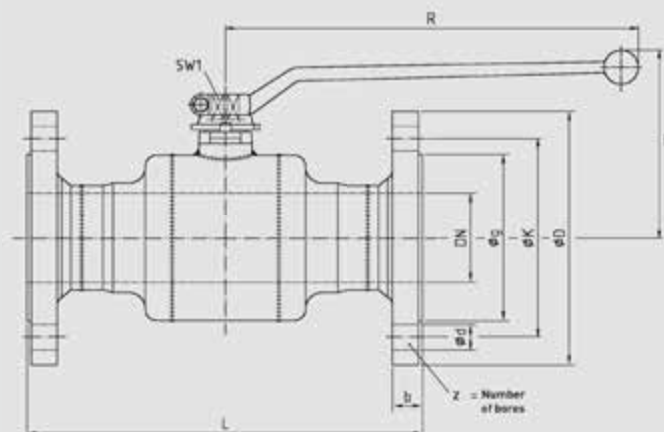
## Standard Materials:

- Body:** Forged Steel / Steel
- Ball:** Stainless Steel
- Stem:** Stainless Steel
- Ball seals:** PTFE
- Stem seals:** EPDM

**Operating Temperature:** up to +150 °C

## Design features:

- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25.



The Measurements of the flanges can be found on page 13 of this catalogue.

For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	L	D	SW1	R	H	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	kg	
10	25	130	90	10	160	97	2,0	017.6875
15	25	130	95	10	160	99	2,2	017.6145
20	25	150	105	10	160	102	3,0	017.3007
25	25	160	115	12	180	103	3,5	017.2924
32	25	180	140	16	205	120	7,0	017.2925
40	25	200	150	16	205	125	7,5	017.3238
50	25	230	165	16	205	133	11,0	017.3522
65	25	290	185	16	300	137	18,5	017.3645
80	25	310	200	22	350	156	27,0	017.0742
100	25	350	220	22	350	170	35,0	017.2803

# Ball Valve for Venting and Draining with Flange and Weld End

**BBF/FSL/KSF-V-HS | BBF/FSK/KSF-V-HS, DN 15-150, PN25**



## Standard Materials:

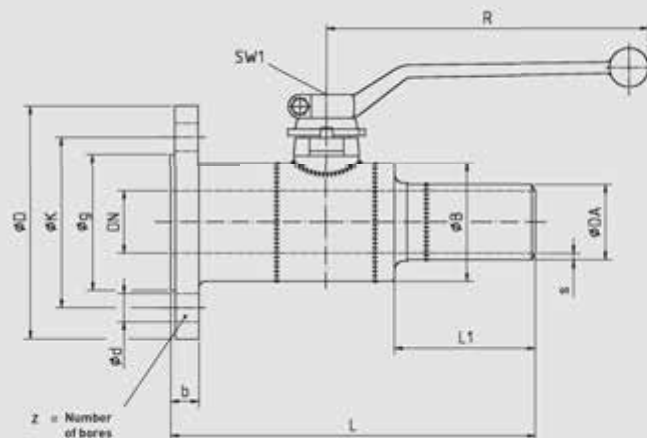
<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

Full Bore

## Design features:

- From DN125 the trunnion mounted ball is standard.
- Suitable blind flanges and gaskets can be delivered on request.
- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25.



The Measurements of the flanges can be found on page 13 of this catalogue.

For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	Da	s	L	L1	B	D	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	kg	
15	25	21,3	2,6	200	104	39	95	130	10	1,7	050.0724
20	25	26,9	3,2	210	103	44	105	130	10	2,3	050.6489
25	25	33,7	3,2	215	100	54	115	180	12	3,1	050.9847
32	25	42,4	3,2	200	94	64	140	205	16	4,2	050.0141
40	25	48,3	3,2	205	91	76	150	205	16	5,2	050.0142
50	25	60,3	3,6	200	78	89	165	205	16	7,8	050.0143
65	25	76,1	3,6	280	80	121	185	300	16	11,6	050.0773
80	25	88,9	4,0	295	78	140	200	350	22	14,2	050.0732
100	25	114,3	4,0	325	80	171	235	350	22	21,9	050.0743
125	25	139,7	4,5	338	90	203	270	500	22	33,0	050.0753
150	25	168,3	5,0	375	90	254	300	600	32	58,0	050.1501

# Ball Valve for Venting and Draining with Flange and Weld End

**BBF/FSL/KSF-R-HS | BBF/FSK/KSF-R-HS, DN25-50, PN25**

Reduced Bore



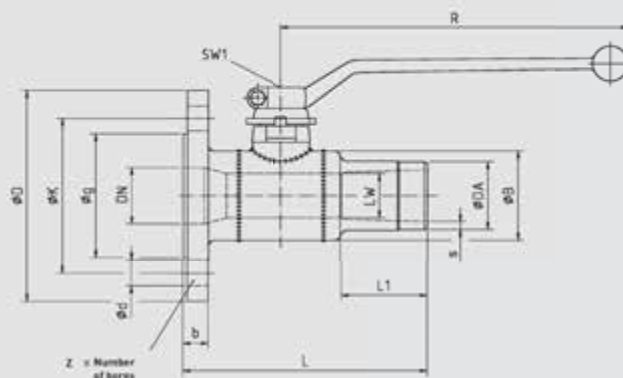
## Standard Materials:

<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

## Design features:

- Suitable blind flanges and gaskets can be delivered on request.
- Flanges drilled and sized in accordance with EN 1092 – Nominal Pressure PN25.



The Measurements of the flanges can be found on page 13 of this catalogue.

For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN/LW	PN	Da	s	L	L1	B	D	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	kg	
25/20	25	33,7	2,3	212	102	44	115	130	10	2,6	050.5397
32/25	25	42,4	3,2	170	70	54	140	180	12	3,7	050.5010
40/32	25	48,3	3,2	175	65	64	150	205	16	4,5	050.5011
50/40	25	60,3	3,6	185	70	76	165	205	16	5,9	050.5012

# Ball Valve for Venting and Draining with Thread and Weld End

## BBF/KSG/KSF-V-HS, DN16-50, PN 25



### Standard Materials:

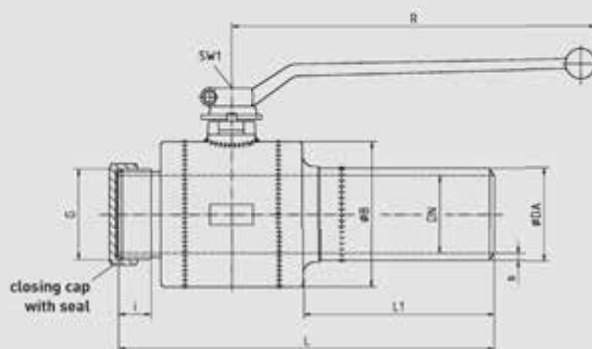
<b>Body:</b>	Forged Steel / Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM
<b>Sealing Cap:</b>	brass

**Operating Temperature:** up to +150 °C

Full Bore

### Design features:

- The sealing cap is included in the delivery.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	Da	s	L	L1	i	G	B	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	
16	25	21,3	2,6	291	200	14	G 3/4 A	39	130	10	1,1	050.5387
20	25	26,9	3,2	294	200	16	G 1 A	44	130	10	1,4	050.7214
25	25	33,7	3,2	195	100	18	G 1 1/4 A	54	180	12	1,7	050.8179
32	25	42,4	3,2	304	200	21	G 1 1/4 A	64	205	16	2,7	050.7360
40	25	48,3	3,2	310	200	22	G 1 1/2 A	76	205	16	3,5	050.6075
50	25	60,3	3,6	324	200	24	G 2 A	89	205	16	5,3	050.0214

# Ball Valve with Threaded Ends

## BBF/KSG-V-HS, DN 10-50, PN 25

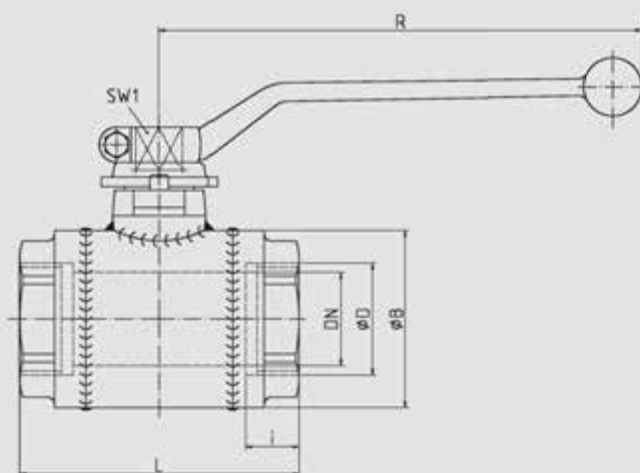
Full Bore



### Standard Materials:

<b>Body:</b>	Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	D	i	L	B	SW1	R	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	kg	
10	25	G 3/8	12,5	75	39	10	100	0,7	005.0013
16	25	G 1/2	15	75	39	10	130	0,8	005.0003
20	25	G 3/4	18	80	44	10	130	0,9	005.0004
25	25	G 1	20	90	54	12	180	1,3	005.2782
32	25	G 1 1/4	21	110	64	16	205	2,2	005.2078
40	25	G 1 1/2	23	120	76	16	205	2,5	005.0060
50	25	G 2	24	140	89	16	205	3,5	005.3843



# Hot Tapping Ball Valve for indoor installation

## BBF/KSF-V-HS, DN 20-100, PN 25



### Standard Materials:

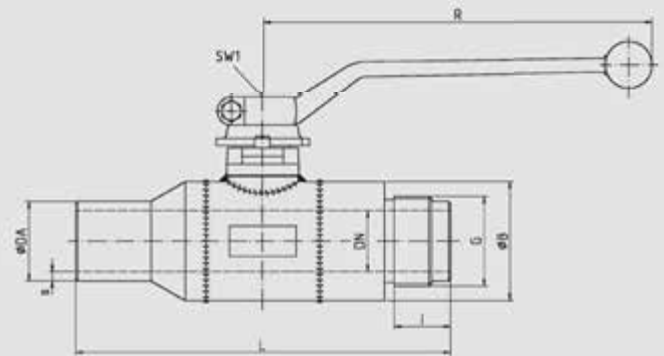
<b>Body:</b>	Steel
<b>Ball:</b>	Stainless Steel
<b>Stem:</b>	Stainless Steel
<b>Ball seals:</b>	PTFE
<b>Stem seals:</b>	EPDM

**Operating Temperature:** up to +150 °C

Full Bore

### Design features:

- A suitable drilling system can be purchased at [www.huetz-baumgarten.de](http://www.huetz-baumgarten.de). Further information is available on page 47 of this catalogue.



For deviating operating conditions please send us a written request stating the fluids, as well as the pressure and temperature range.

Further options for these ball valves are listed on page 48.

DN	PN	Da	s	L	i	G	B	R	SW1	Weight	Item No.
mm	bar	mm	mm	mm	mm	mm	mm	mm	mm	kg	
20	25	26,9	3,2	170	35	G 1 A	44	130	10	1,2	010.0690
25	25	33,7	3,2	180	35	G 1½ A	54	180	12	1,8	010.0691
32	25	42,4	3,2	200	35	G 1½ A	64	205	16	2,6	010.0692
40	25	48,3	3,2	210	55	G 2½ A	76	205	16	3,6	010.0693
50	25	60,3	3,6	240	55	G 2½ A	90	205	16	5,1	010.0694
65	25	76,1	3,6	260	55	G 2¾ A	121	300	16	8,4	010.0695
80	25	88,9	4,0	280	30	G 3 A	140	350	22	10,9	010.0696
100	25	114,3	4,0	300	30	G 4 A	171	350	22	16,8	010.0697



Our Experience - Your Safety



# **OPTIONS & ACCESSORIES**

# OPERATING ACCESSORIES FOR BALL VALVES FOR UNDERGROUND INSTALLATION

The accessories for Böhmer ball valves for underground installation are of modular design.

These accessories can only be assembled in one position. The two-flat connector serves as the base for additional extensions and attachable flanges and is always parallel to the axis of the pipeline. Thanks also to the notch for the alignment pin in the square adapter, the position of the ball in every Böhmer ball valve for underground installation is always clearly visible on the top of the valve.



## Plug-in gear unit

with 800 mm extension (standard)  
Gear ratio 17:1

## Attachable flange

Standard lengths 200 mm and 500 mm

## Square key

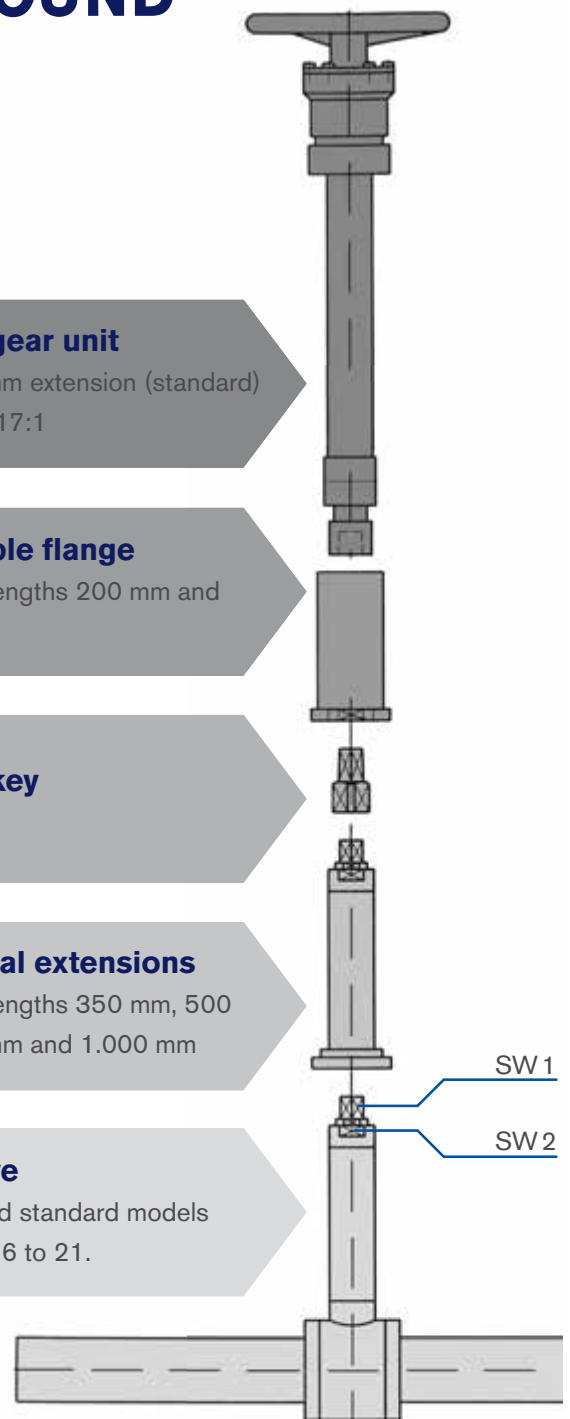
SW 27/32

## Additional extensions

Standard lengths 350 mm, 500 mm, 750 mm and 1.000 mm

## Ball Valve

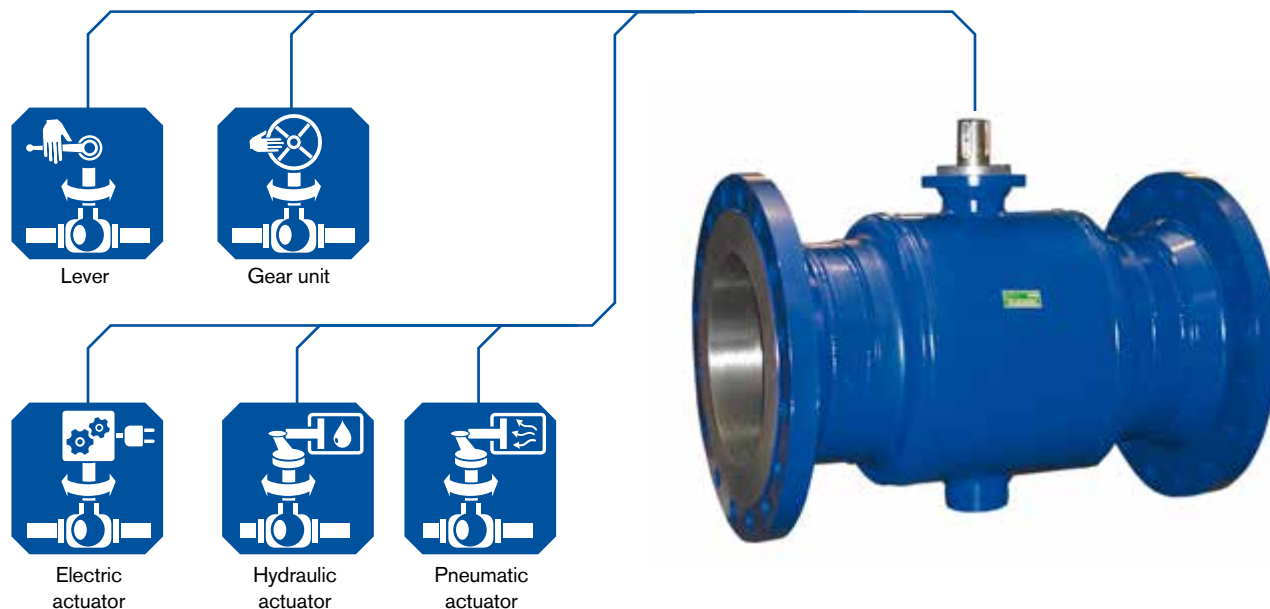
You can find standard models on pages 16 to 21.



DN	DN	SW 1	SW 2	Attachable flange L 200 mm	Attachable flange L 500 mm	Yellow square key	Additional extension L 350 mm	Additional extension L 500 mm	Additional extension L 750 mm	Additional extension L 1000 mm	Plug-in gear unit MDS 3000 length 800 mm	T-key
full bore	reduced bore	mm	mm	Item No. /kg	Item No. /kg	Item No. /kg	Item No. /kg	Item No. /kg	Item No. /kg	Item No. /kg	Item No. /kg	Item No. /kg
20 - 65	25 - 80	16	40	075.7200 1,9	075.7201 4,8	628.2496 0,5	076.0736 2,5	076.0737 3,3	076.729 4,7	076.0947 6,2		
80 - 125	100 - 150	22	50	075.7202 2,3	075.7203 4,9	628.2497 0,8	076.0682 4,5	076.0738 5,4	076.0739 7,5	076.0805 9,1	075.9999 18,4	316.9999 6,0
150 - 300	200 - 400	32	80	075.7204 3,1	075.7205 5,6	628.2498 1,4	076.0623 10,5	076.0740 12,5	076.0640 17,5	076.0720 22,0		

Other lengths and designs are available on written request.

# ACTUATORS FOR BÖHMER DISTRICT HEATING BALL VALVES



## Ball valves with screwed-on planetary gears

This ball valve actuator is distinguished by its compact design. Due to its minimal space requirement this model is perfectly suitable for demanding installation positions.



## Ball valves with worm gears

An economical solution for actuating large ball valves. You can find the available standard models on pages 29, 31, 33 and 35 in this catalogue.



## Pneumatic, hydraulic and electric ball valve actuators

BÖHMER ball valves can be combined with actuators made by all established actuator manufacturers. We look forward to receiving your technical inquiries.

# TENSILE AND COMPRESSIVE FORCES, DRAG COEFFICIENTS

Diameter of the connecting pipe		Examples of pre-heated pipes and "cold-laid" pipes	
Full bore DN [mm]	Reduced bore DN/LW [mm]	Tensile force at 130 K cooling [kN]	Compressive force at 130 K heating [kN]
20	20/16	26	41
25	25/20	37	60
32	32/25	53	86
40	40/32	61	99
50	50/40	85	139
65	65/50	109	177
80	80/65	140	228
100	100/80	204	332
125	125/100	251	480
150	150/125	337	547
200	200/150	495	804
250	250/200	686	1.116
300	300/250	913	1.484
350	350/300	1.004	1.632
400	400/300	1.291	2.098
450	450/400	1.454	2.364
500	500/400	1.619	2.423
600	600/500	2.192	3.087
700	700/600	2.880	3.926
800	800/700	3.624	4.761
900	900/800	4.629	6.144
1000	1000/900	5.661	7.439
1200	1200/1000	7.729	9.636

## Permissible tensile and compressive forces for BÖHMER ball valves

The permissible tensile and compressive forces in the adjacent table correspond to the figures required by EN 488. The permissible tensile and compression forces listed here are valid for all fully-welded BÖHMER district heating ball valves.

**Ball valves for greater forces are also available on written request.**

## Drag coefficients for BÖHMER ball valves

The drag coefficients were determined for ball valves with solid balls.

Hollow balls cause more resistance and thus result in higher drag coefficients. In order to determine the exact losses, it is necessary to distinguish between trunnion-mounted and floating hollow balls.

Since the use of trunnion-mounted balls depends partly on the operating pressure, it is not possible to determine generally-valid drag coefficients for hollow balls as a function of nominal sizes.

The following are drag coefficients of butterfly valves based on approximate figures according to Dubbel:

DN 50:  $\zeta=1.4$   $K_v=85$

DN 200:  $\zeta=0.8$   $K_v=1.790$

DN 500:  $\zeta=0.63$   $K_v=12.613$

Full bore			Reduced bore		
DN	$K_v$ [m <sup>3</sup> /h]	$\zeta$ (-)	DN/LW	$K_v$ [m <sup>3</sup> /h]	$\zeta$ (-)
10-16	25	0.17	20/16	15	1.14
20	52	0.09	20/16	15	1.14
25	83	0.09	25/20	32	0.60
32	119	0.12	32/25	50	0.67
40	203	0.10	40/32	98	0.43
50	334	0.09	50/40	139	0.51
65	603	0.08	65/50	242	0.49
80	978	0.07	80/65	359	0.51
100	1.510	0.06	100/80	604	0.44
125	2.558	0.06	125/100	932	0.45
150	4.181	0.05	150/125	1.411	0.41
200	7.983	0.05	200/150	2.547	0.40
250	13.580	0.04	250/200	4.228	0.35
300	20.917	0.03	300/250	6.189	0.34
350	28.897	0.03	350/300	-	-
400	38.319	0.03	400/300	10.963	0.34
450	43.914	0.03	450/400	-	-
500	60.542	0.03	500/400	17.981	0.31
600	93.059	0.02	600/500	26.771	0.29
700	129.351	0.02	700/600	38.483	0.26
800	196.170	0.02	800/700	45.020	0.25
900	223.513	0.02	900/800	60.739	0.22
1000	283.612	0.02	1000/900	80.175	0.20
1200	439.598	0.01	1200/1000	82.375	0.22

$\zeta$  Drag coefficient [-]  
 $K_v$  Volume flow rate (m<sup>3</sup>/h) water (15°C) with 1 bar loss of pressure  
 DN Nominal size [mm]  
 LW Clear diameter [mm]



# DRILLING SYSTEM FOR BÖHMER DISTRICT HEATING BALL VALVES

**BÖHMER and Hütz+Baumgarten – A strong partnership for maximum security when drilling ball valves into district heating pipelines.**

## **Drilling system for BÖHMER district heating ball valves from DN 20 to DN 100.**

This drilling system is optimally suited to our district heating ball valves and provides convincing proof of its absolute operational safety. This system is part of the professional production program of Hütz+Baumgarten.

The TÜV has tested the safety of this system and confirmed it by issuing type approval.

The drilling device is used to drill pipelines with a drilling dimension of up to DN 100 for BÖHMER district heating ball valves.

- type approval TÜV A 297-13
- for screwing on, including seals
- for bore diameters from 17 mm up to 95 mm
- for smooth boring rods with 13 mm diameter and 11 mm external square
- maximum operating pressure = 20 bar
- maximum operating temperature = 200°C
- for manual and motor actuation

**Further information available under [www.huetz-baumgarten.de](http://www.huetz-baumgarten.de)**



# OPTIONS FOR BÖHMER DISTRICT HEATING AND STEAM BALL VALVES

Type BBF	Ball valves for underground installation HE					Standard ball valves HS						
	KSF V KSF R	ELF/ESF V	EMG/ESF V	KSF V / KSF R Tie-in Ball Valve / Ball valve for one time operation	KSF V Hot-tapping ball valve	KSF V KSF R	FSK V FSK R	FSL V	FSL/KSF V + FSK/KSF V FSL/KSF R + FSK/KSF R	KSG/KSF V	KSG V	KSF V Hot-tapping ball valve
Page	16 to 21	22	23	24 and 25	26	28 to 31	32 to 35	36	37 to 38	39	40	41
<b>FTF lengths (Face to Face)</b>												
Variable lengths for underground installation <sup>1</sup>	×											
Special lengths		×	×		×	×		×	×	×		
<b>Stem extensions</b>												
Variable stem extensions for underground installation <sup>2</sup>	×											
Stem extension 60 mm or 100 mm						×	×	×	×	×	×	×
<b>Control and drain connectors</b>												
Adapter pipes for drain and vent ball valves	×											
Control connector for DN150 and larger (with plug or ball valve)						×	×	×				
<b>Other options:</b>												
Greater wall thicknesses for extreme axial stresses or allowance for corrosion	×											
Design with flange / weld end for diameters ≥ DN125					×							
Design for steam	×			×	×	×	×	×			×	

## <sup>1</sup>Variable lengths for underground installation:

The lengths indicated in the catalogue are standard lengths. Other lengths can be delivered on request as custom lengths.

## <sup>2</sup>Variable stem lengths for underground installation:

The 350 mm height of the upper flange indicated in the catalogue is the standard length.

Other heights of 500 mm, 750 mm and 1000 mm can also be manufactured.

We recommend that differences in height be compensated by additional extensions shown in our list of accessories on page 44.

# FURTHER DESIGNS OF BALL VALVES AND ACTUATORS



**Ball valve with insulation**  
Flange and weld end up to DN 200

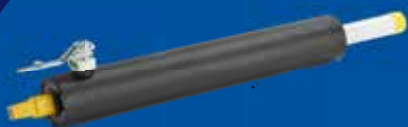


**Ball valve with stem extension**  
Standard 60 and 100 mm  
DN 10-250



**Drain ball valve**  
Special surface coating for outdoor service

**More than 100,000 different kinds of ball valves in our total program**



**Ball valve for venting and draining**  
Made of steel, fully insulated



**Ball valves for insulation in shafts**  
with drain and vent connectors

**Many thousands of district heating ball valves**



**Ball valve for installation in shafts**  
with mounted planetary gear



**Ball valve for installation in shafts**  
with electric actuator



**Ball valve for underground installation**  
with adapter for mountable T-key

# BÖHMER BALL VALVES IN OPERATION

## We keep in step with time!

Thanks to our comprehensive product line, we are already able to fulfill almost every customer demand.

But we do not rest on our laurels!

In order to be able to satisfy all customers' wishes in the future, our highly qualified engineers and designers take meticulous care to develop the next generations of ball valves. As a result, we develop innovative solutions which are successful in fields such as district heating, the gas industry, pipeline construction, hydraulics, pneumatics, plant engineering and construction, chemicals, petrochemicals and subsea applications.



District heating



Oil, gas, petrochemicals



Shipbuilding



Power plants



As one of the world's leading manufacturers of ball valves, we are always conscious of our responsibilities to our customers.

Now and in the future, the name BÖHMER will continue to be a distinguished synonym for our comprehensive promise to perform.

**BÖHMER**  
**OUR EXPERIENCE – YOUR SAFETY**



OUR EXPERIENCE - YOUR SAFETY

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