

# SPLIT-BODY BALL VALVES



# PERFORMANCE FROM START TO FINISH

Ensuring the safety of the entire pipeline system requires the valves for oil and gas applications to be able to meet the most challenging demands.

The design is optimised for each specific field of application and complies with the latest standards and regulations. BÖHMER-Ball Valves are a guarantee for long lasting reliability.

Renowned oil and gas companies trust in our quality.

# 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

Branch factory in Kunshan, China

Branch factory in Karaganda, Kazakhstan

HMER

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 are present outside of Europe with two production facilities. In China we produce split body ball valves for the local market. Our plant in Kazakhstan is delivering district heating ball valves to regional customers.

Our large warehousing capacity enables us to meet even short-term deadlines. Ontime 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 / 56", 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.





OIL; GAS AND PRODUCT **PIPELINES** COMPRESSOR; MEASURING AND REDUCTION STATIONS **GAS STORAGE** PLANTS AND VESSELS FOR THE OIL; CAS AND PETROCHEMICAL INDUSTRY **LIQUID GAS** ON- AND OFFSHORE PLATFORMS **SHIPBUILDING POWER STATIONS** DISTRICT HEATING / STEAM **SCRAPER LAUNCH AND RECEIVING STATIONS** SPECIAL APPLICATIONS / TAILOR MADE

## Certifications

DIN EN ISO 9001	API 6D/API 6DSS
DIN-DVGW	EN 13774
EAC	EN 14141
TA-Luft	ATEX 94/9/EG
BS 5351	Fire Safe acc. to BS6755/API6FA
PED 97/23/EC	BAM (structural component approvals)
<b>Type approvals</b> (VdTÜV)	Safety Shutoff Units (SAE) acc. to EN 14382
and others	

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## PRECISELY DESIGNED AND PROVEN IN THE FIELD

Böhmer ball valves with two- or three pieces split body fulfil the requirements of the most common national and international standards.

### **BASIC DESIGN FEATURES**

#### Seat Seal System

The Böhmer ball valves provide spring supported seats as a standard. The seats are pressed against the ball surface by the spring elements and ensure a tight shut-off at low line pressure. In addition the sealing effect is assisted by the pressure in line. So the total sealing force is the sum of the spring force and the force resulting from the pressure which increases proportionally with the line pressure. Depending on applications and customer requirements the below mentioned sealing systems can be delivered:

- soft seated
- primary metal seated / secondary soft seated
- metal to metal seated

#### **Stem Sealing**

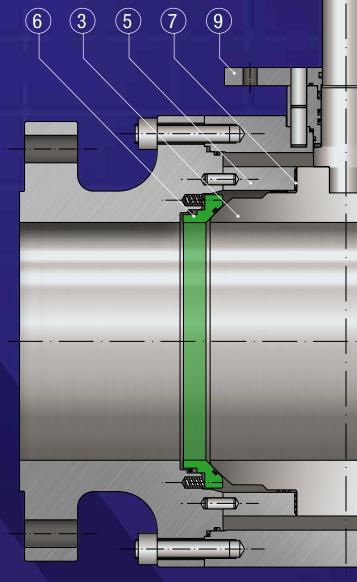
The sealing of the stem to the atmosphere is achieved by three independent sealing systems. The stem sealing design ensures the anti-blow-out function, too. Therefore, the three stem sealings are easily replaceable under full line pressure in open or closed position.

#### **Trunnion Mounted Ball**

The standard design of Böhmer ball valves provides a trunnion mounted ball for the nominal sizes 3 inch and higher. The maintenance-free bearings for stem and trunnion are self-lubricating, thus ensuring a lower torque especially for high pressure ratings.

#### **Anti-Static Device**

The ball valve design includes an electric conductive connection between the internal parts of the ball valve and the body, providing the anti-static function.

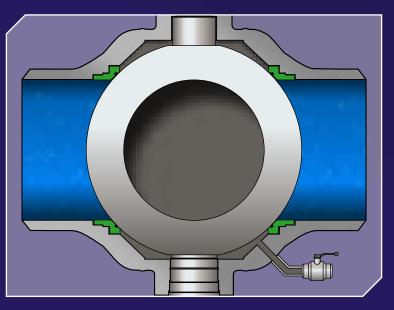


#### **Fire Protection**

The design ensures the fire safe requirements in accordance with the international standards as API 6FA, API 607, BS 6755 P 2 and ISO 10497.

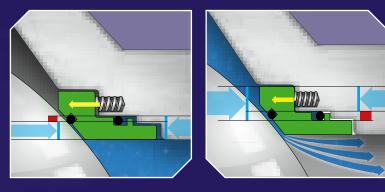
#### **Emergency Sealing**

As an option, Böhmer ball valves can be delivered with an additional emergency sealant injection for the seat-rings and stem sealing.



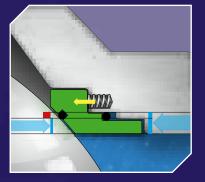
#### **Double Block and Bleed**

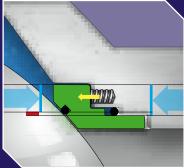
The cavity can be relieved via vent or drain connections at the cavity. The upstream and downstream seat rings ensure the tight shut off to the cavity in closed position (optional in open position as well). This enables the verification of the tightness of the ball valve under full working pressure.



### Single-Piston-Effect (Self-relieving Seat Design)

This seat system is designed to automatically vent any excessive build-up pressure in the body cavity. The floating seat design allows for relieving the overpressure into the pipeline.





#### Double-Piston-Effect (Bi-directional Seating System)

With this design the seat rings tighten independently of the actual pressure relations. A redundant sealing system is created. Self relieving of the cavity does not happen in closed position (optional in open position as well).



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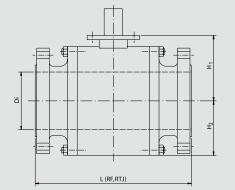
- 2 Body closure
- ③ Ball
- ④ Stem
- <sup>(5)</sup> Bearing retainer
- 6 Seals
- ⑦ Self lubricating bearings
- 8 Anti blow-out device of the stem
- 9 Top mounting flange for gearboxes or actuators
- 10 Bolts and nuts

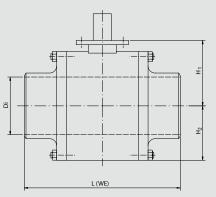
### DN 25 - 350, ANSI Class 150 | PN 16\*



Standard Materials:
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Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH; ASTM A216 WCB/GS C25
Ball:	ASTM A350 LF2; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; PTFE-filled; HNBR





## i

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

The materials which are mentioned in the table are the Böhmer standard materials. They comply with the most common national and international standards.

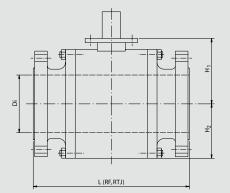
Other materials, which may be necessary due to special applications / conditions (such as corrosion / abrasion as well as temperature etc.) or customers' demands are deliverable on request.

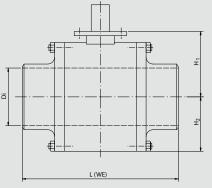
Nomin	nal size	Diameter	Face to face dimensions					W	eight	
D	N	Di	L(RF)	L(RF) L(RTJ)		L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	mm	kg	kg
25	1	25	127	-	-	216	80	60	7	5
50	2	51	178	191	150	241	155	105	17	13
80	3	78	203	216	180	283	195	130	31	24
100	4	102	229	241	190	305	230	164	52	45
150	6	152	394	406	350	400	251	189	145	125
200	8	203	457	470	400	460	274	221	270	230
250	10	254	533	546	650	540	321	259	460	420
300	12	305	600	622	750	640	359	297	750	700
350	14	336	686	699	850	800	392	326	1060	970



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH
Ball:	ASTM A350 LF2; ASTM A105; ASTM A182 ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ASTM A105; ASTM A182 ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; HNBR





# R

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Other materials, which may be necessary due to special applications / conditions (such as corrosion / abrasion as well as temperature etc.) or customers' demands are deliverable on request.

Nomin	al size	Diameter	Face to face dimensions					We	eight	
D	N	Di	L(RF)	L(RTJ)	L(PN*)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	mm	kg	kg
400	16	387	762	775	950	900	400	363	1380	1250
450	18	438	864	876	1050	950	438	403	2000	1850
500	20	489	914	927	1150	1000	478	444	2500	2200
550	22	540	1016	1029	1225	1219	520	487	3180	2530
600	24	591	1067	1080	1350	1245	573	353	3430	2980
700	28	686	1245	1260	1550	1295	595	633	3800	3460
750	30	736	1295	-	-	1346	-	-	4635	4000
800	32	781	1372	-	-	1397	-	-	6450	5200
900	36	876	1524	-	-	1499	-	-	8000	7100

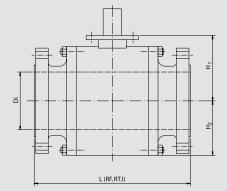
Larger diameters are available on request.

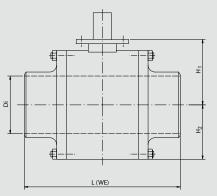
### DN 25 - 350, ANSI Class 300 | PN 25/40\*



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH; ASTM A216 WCB/GS C25
Ball:	ASTM A350 LF2; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; PTFE-filled; HNBR





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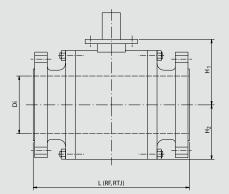
Nomir	nal size	Diameter	Face to face dimensions					We	eight	
C	<b>N</b>	Di	L(RF) L(RTJ) I		L(PN*)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	mm	kg	kg
25	1	25	140	-	-	216	90	70	8	5
50	2	51	216	232	150	241	155	105	23	13
80	3	78	283	298	180	283	195	130	43	24
100	4	102	305	321	190	305	230	164	70	45
150	6	152	403	419	350	400	251	189	165	125
200	8	203	502	518	400	460	274	221	280	230
250	10	254	568	584	650	540	332	268	500	420
300	12	305	648	664	750	640	378	314	810	700
350	14	336	762	778	850	800	380	342	1150	970

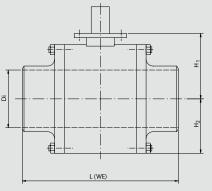
### DN 400 - 900, ANSI Class 300 | PN 25/40\*



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH
Ball:	ASTM A350 LF2; ASTM A105; ASTM A182 ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ASTM A105; ASTM A182 ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; HNBR





# f

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Other materials, which may be necessary due to special applications / conditions (such as corrosion / abrasion as well as temperature etc.) or customers' demands are deliverable on request.

DN				Face to face dimensions						eight
		Di	L(RF)	L(RF) L(RTJ) L(PN*) L(WE)		H1	H2	Flange	Weld Ends	
mm ir	nch	mm	mm	mm	mm	mm	mm	mm	kg	kg
400	16	387	838	854	950	900	428	395	1500	1250
450	18	438	914	930	1050	950	440	480	2300	1850
500 2	20	489	991	1010	1150	1000	498	522	2700	2200
550 2	22	540	1092	1114	1225	1219	524	562	3600	3060
600	24	591	1143	1165	1350	1245	584	602	4800	4100
700	28	686	1346	1372	1550	1295	633	654	5920	5200
750 3	30	736	1397	1422	-	1346	673	682	7500	6410
800 3	32	781	1524	1553	-	1397	711	719	8330	7900
900 3	36	876	1727	1756	-	1499	751	754	10280	9470

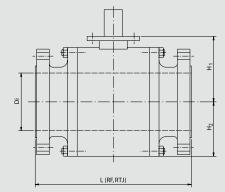
Larger diameters are available on request.

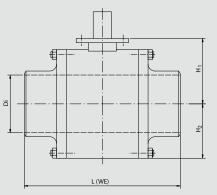
## DN 25 - 350, ANSI Class 600 | PN 100\*



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH; ASTM A694
Ball:	ASTM A350 LF2; ASTM A694; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; PTFE-filled; HNBR





## F

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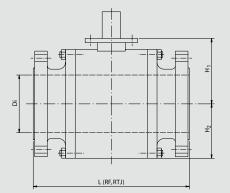
Nomin	al size	Diameter	Face to face dimensions					We	eight
D	N	Di	L(RF)	L(RTJ)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	kg	kg
25	1	25	216	216	216	145	95	10	6
50	2	51	292	295	292	155	105	30	20
80	3	78	356	359	356	195	130	65	45
100	4	102	432	435	432	230	164	125	85
150	6	152	559	562	559	251	189	280	200
200	8	203	660	663	660	311	245	500	380
250	10	254	787	791	787	325	290	750	540
300	12	305	838	841	838	378	343	1150	900
350	14	336	889	892	889	359	403	1650	1400

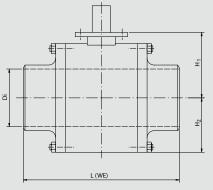
### DN 400 - 900, ANSI Class 600 | PN 100\*



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH; ASTM A694
Ball:	ASTM A350 LF2; ASTM A105; ASTM A694; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ASTM A105; ASTM A694; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; HNBR





# i

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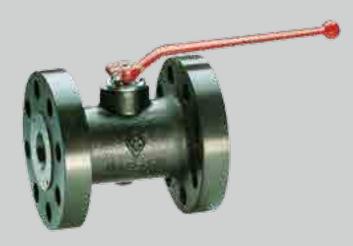
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Other materials, which may be necessary due to special applications / conditions (such as corrosion / abrasion as well as temperature etc.) or customers' demands are deliverable on request.

Nomin	al size	Diameter	Face to	Face to face dimensions				We	eight
D	N	Di	L(RF)	L(RTJ)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	kg	kg
400	16	387	991	994	991	397	443	2150	1700
450	18	438	1092	1095	1092	483	488	2850	2250
500	20	489	1194	1200	1194	503	525	3200	2700
550	22	540	1295	1305	1219	565	574	3900	3300
600	24	591	1397	1407	1245	604	612	4000	4100
700	28	686	1549	1562	1295	687	686	5830	5070
750	30	736	1651	1664	1346	727	726	6940	6160
800	32	781	1778	1794	1397	760	767	10560	9620
900	36	876	2083	2099	1499	832	838	11570	10080

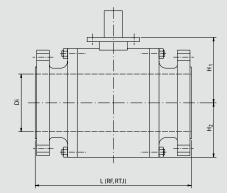
Larger diameters are available on request.

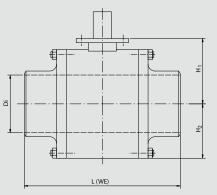
## DN 25 - 350, ANSI Class 900 | PN 160\*



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH
Ball:	ASTM A350 LF2; ASTM A105; ASTM A182; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ASTM A105; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; PTFE-filled; HNBR





## F

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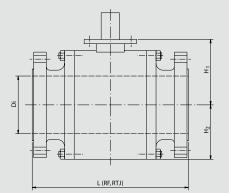
Nomin	al size	Diameter	Face to face dimensions				We	eight	
D	N	Di	L(RF)	L(RTJ)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	kg	kg
25	1	25	216	216	216	145	95	18	9
50	2	51	368	372	292	155	105	45	20
80	3	78	381	384	356	195	130	70	45
100	4	102	457	460	432	200	164	135	85
150	6	152	610	613	559	270	203	310	200
200	8	203	737	740	660	295	260	580	380
250	10	254	838	841	787	390	321	900	700
300	12	305	965	968	838	446	377	1700	1350
350	14	324	1029	1038	889	377	420	2100	1650

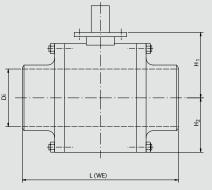
### DN 400 - 900, ANSI Class 900 | PN 160\*



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH; ASTM A694
Ball:	ASTM A350 LF2; ASTM A105; ASTM A694; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ASTM A105; ASTM A694; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; HNBR





# R

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Nomin	al size	Diameter	Face to	o face dime	ensions			W	eight
D	N	Di	L(RF)	L(RTJ)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	kg	kg
400	16	375	1130	1140	991	459	44705	2600	2000
450	18	425	1219	1232	1092	504	511	3700	3000
500	20	473	1321	1334	1194	556	562	4800	4000
550	22	524	1422	1435	1245	640	650	6540	5670
600	24	572	1549	1568	1295	680	688	7030	6800
700	28	667	1549	1562	1359	725	735	10200	9200
750	30	714	1651	1664	1422	775	789	12440	11000
800	32	762	1778	1794	1486	820	824	15000	14200
900	36	857	2083	2099	1625	900	900	20160	18400

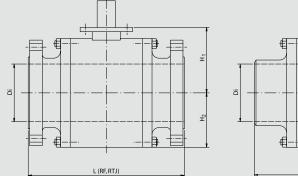
Larger diameters are available on request.

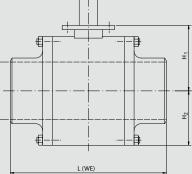
### DN 25 - 150, ANSI Class 1500 / PN 250



#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH
Ball:	ASTM A350 LF2; ASTM A182; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; PTFE-filled; HNBR





## i

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

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Other materials, which may be necessary due to special applications / conditions (such as corrosion / abrasion as well as temperature etc.) or customers' demands are deliverable on request.

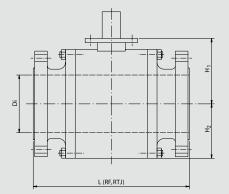
Nomin	al size	Diameter	Face to face dimensions				We	eight	
D	N	Di	L(RF)	L(RTJ)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	kg	kg
25	1	25	254	257	254	145	75	18	9
50	2	51	368	372	368	190	95	54	30
80	3	78	470	473	410	215	110	120	75
100	4	102	546	549	470	270	140	185	125
150	6	146	705	711	580	275	241	450	340

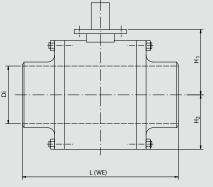


### DN 200 - 400, ANSI Class 1500 / PN 250

#### **Standard Materials:**

Body:	ASTM A350 LF2; TSTE 355/P355 NL1; ASTM A105; P250 GH ; ASTM A694
Ball:	ASTM A350 LF2; ASTM A182; ASTM A694; ENP or hard chrome; stainless steel on request
Seat Rings:	ASTM A350 LF2; ASTM A182; ASTM A694; ENP or hard chrome; stainless steel on request
O-Rings:	FPM; EPDM; NBR; HNBR
Seat Insert:	Polyamide; FPM; PTFE; HNBR





# R

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

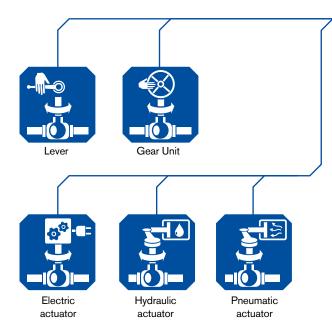
The materials which are mentioned in the table are the Böhmer standard materials. They comply with the most common national and international standards.

Other materials, which may be necessary due to special applications / conditions (such as corrosion / abrasion as well as temperature etc.) or customers' demands are deliverable on request.

Nomin	al size	Diameter	Face to face dimensions				We	eight	
D	N	Di	L(RF)	L(RTJ)	L(WE)	H1	H2	Flange	Weld Ends
mm	inch	mm	mm	mm	mm	mm	mm	kg	kg
200	8	194	832	841	710	340	270	850	650
250	10	241	991	1000	820	395	330	1550	1200
300	12	289	1130	1146	940	460	380	2300	1750
350	14	318	1257	1276	1075	490	432	3300	2650
400	16	362	1384	1407	1200	540	475	4500	3700

Larger diameters are available on request.

# ACTUATORS FOR BÖHMER BALL VALVES





### Ball valves with gear units

An economical solution for actuating large ball valves.

# **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.

The actuating torque is defined by the range of application, the operating conditions and the design of the ball valve. Our technical engineers will be at your service in order to select the best suitable actuator for your ball valve.



# **OPTIONAL EQUIPMENT**

**Emergency sealing injection** 

**Stem extension** 

Extended lines for drain, vent and emergency sealing injection

Bypass directly at the valve

Locking device

**Underground installation** 

Other design features on request

Our product range includes more than 100.000 different kinds of ball valves.

# **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, 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



Gedulderweg 95 45549 Sprockhövel / Germany

Phone:	+49 2324 7001-0
Fax:	+49 2324 7001-79
E-Mail:	boehmer@boehmer.de

### www.boehmer.de

