



**FULLY WELDED  
BALL VALVES**

**DISTRICT  
HEATING AND  
STEAM**





# 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**





**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.





**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**

acc. to BS6755/API6FA

**PED 97/23/EC**

**BAM**

(structural component approvals)

**Type 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.







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<br>(on request up to DN1400)                       |
| Pressure levels:   | up to PN40   |
| Temperature range: | up to +250°C (on request)  |
| Body materials:    | Forged steel,<br>Stainless steel (V4A only)                          |
| Ball materials:    | Forged steel, stainless steel  |
| Stem materials:    | Stainless steel  |
| Seal materials:    | EPDM, PTFE and<br>special materials                                  |
| Actuators:         | Levers, gearboxes,<br>pneumatic, electric and<br>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   |
|                                     | 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     | 39   |
| 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







**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.

## FOR YOUR NOTES

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.

## My contacts

Here you can enter the name of your BÖHMER contacts.

You can find a complete list of contacts on our website under

**www.boehmer.de/worldwide** or simply scan the QR code here on the left.

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-Mail:

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-Mail:



**PRODUCTS & DATA**

# Ball Valve with Weld Ends for underground installation

**BBF/KSF-V-HE, DN20-125, PN25**

Full Bore



## Standard Materials:

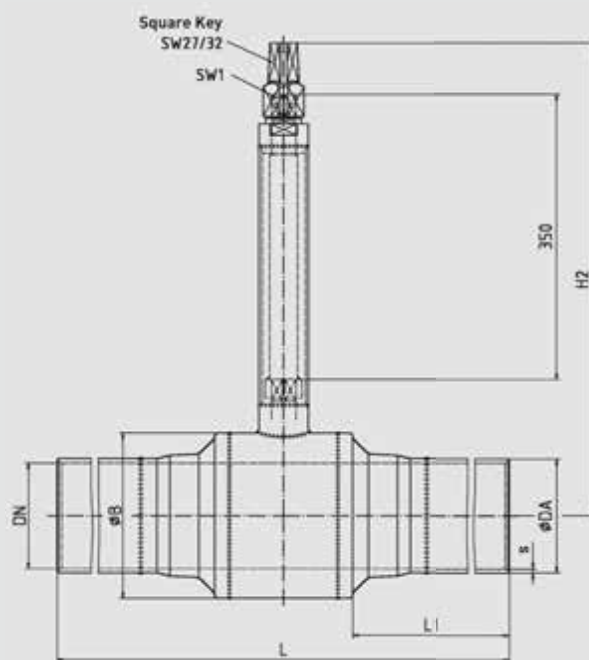
|                    |                      |
|--------------------|----------------------|
| <b>Body:</b>       | Forged Steel / Steel |
| <b>Ball:</b>       | Stainless Steel      |
| <b>Stem:</b>       | Stainless Steel      |
| <b>Ball seals:</b> | PTFE                 |
| <b>Stem seals:</b> | EPDM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

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

**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:

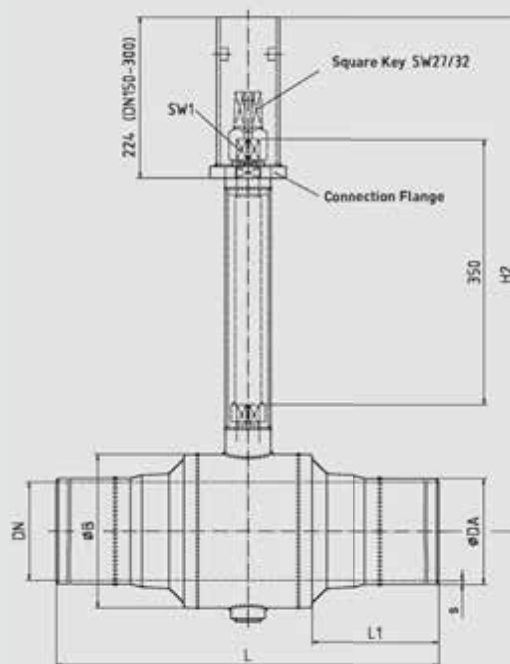
|                    |                      |
|--------------------|----------------------|
| <b>Body:</b>       | Forged Steel / Steel |
| <b>Ball:</b>       | Stainless Steel      |
| <b>Stem:</b>       | Stainless Steel      |
| <b>Ball seals:</b> | PTFE                 |
| <b>Stem seals:</b> | EPDM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

**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



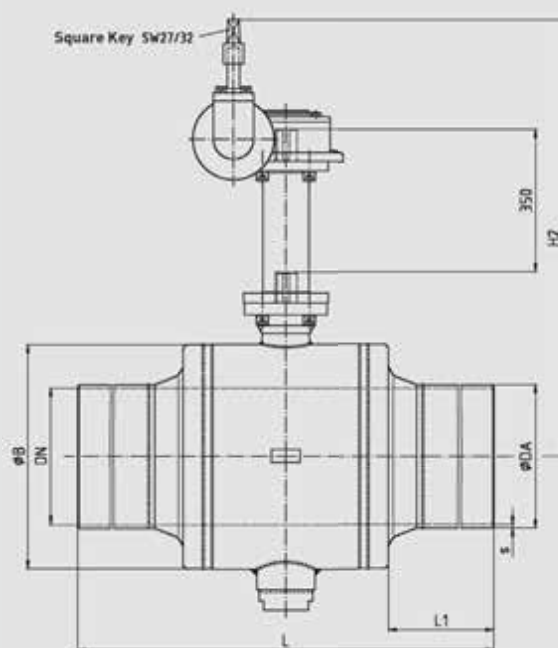
## Standard Materials:

|                               |   |
|-------------------------------|---|
| <b>Body:</b>                  | Forged Steel / Steel  |
| <b>Ball:</b>                  | up to DN 400: Stainless Steel<br>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   |

**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, DN25-150, 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                 |

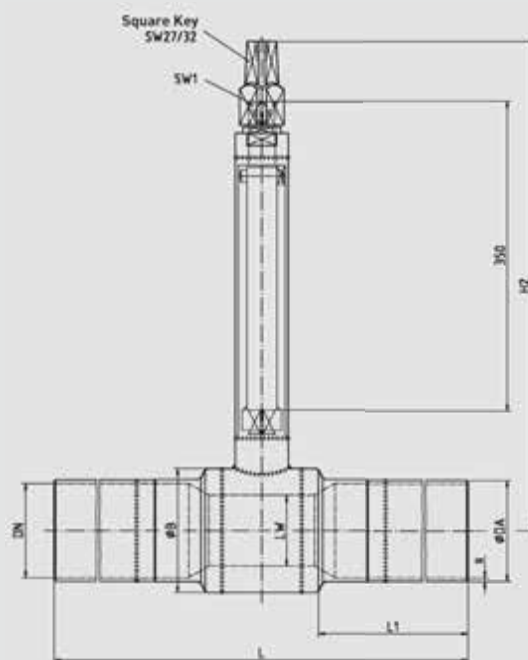
**Operating Temperature:** up to +150 °C

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:

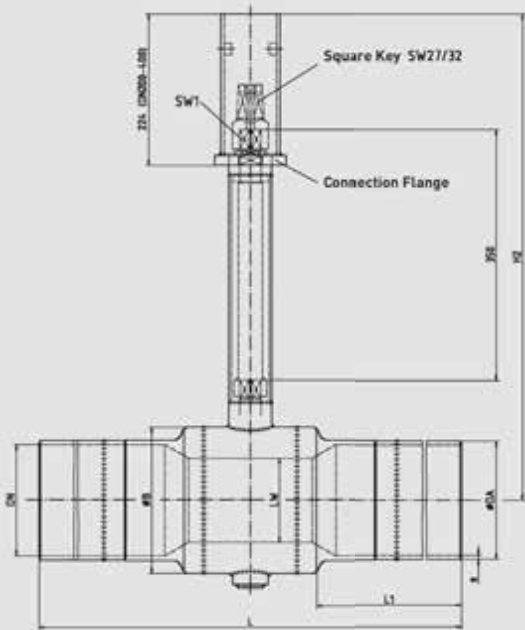
- Body:** Forged Steel / Steel
- Ball:** Stainless Steel
- Stem:** Stainless Steel
- Ball seals:** PTFE
- Stem seals:** EPDM

**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.
- 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:

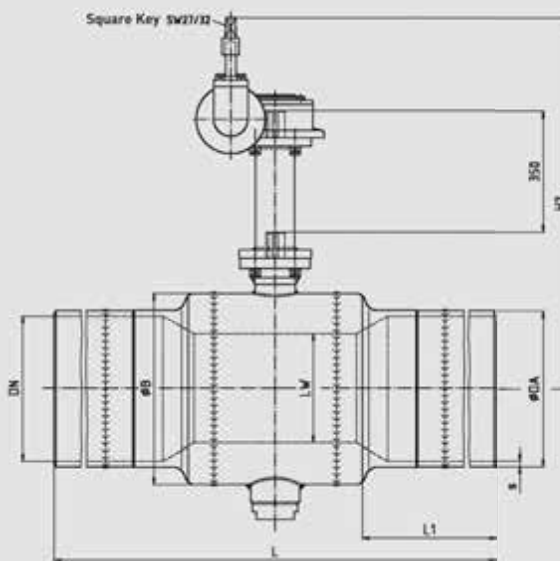
|                               |   |
|-------------------------------|---|
| <b>Body:</b>                  | Forged Steel / Steel  |
| <b>Ball:</b>                  | up to DN 500: Stainless Steel<br>from DN 600: Steel, chemically nickel plated (ENP) |
| <b>Stem:</b>                  | Stainless Steel   |
| <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

Full Bore



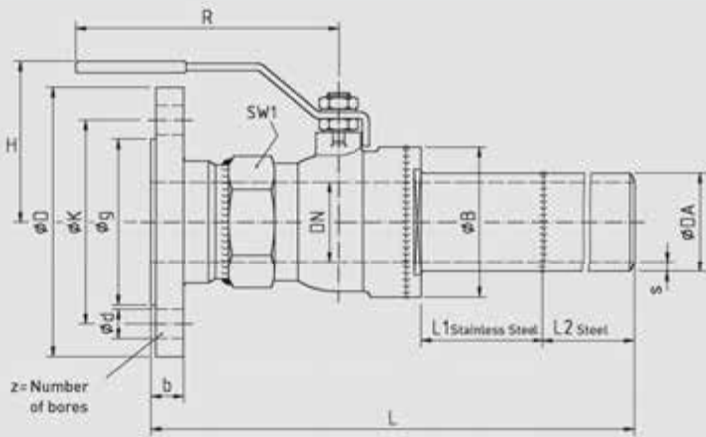
### Standard Materials:

|             |                        |
|-------------|------------------------|
| Body:       | Stainless Steel 1.4581 |
| Weld End:   | Steel                  |
| Ball:       | Stainless Steel        |
| Stem:       | Stainless Steel        |
| Ball seals: | PTFE                   |
| Stem seals: | 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**



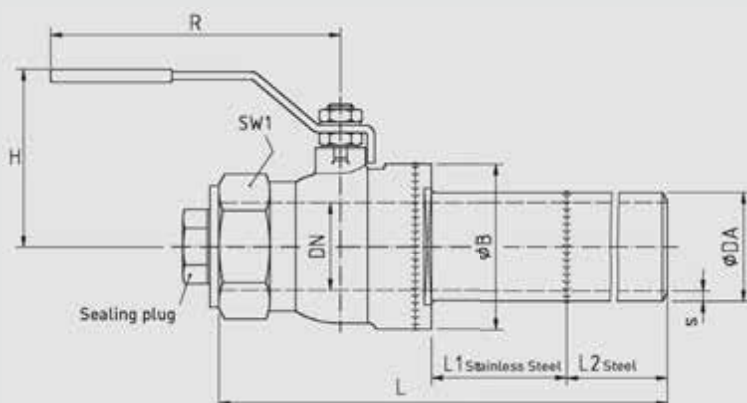
## Standard Materials:

|                               |                        |
|-------------------------------|------------------------|
| <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, DN20-200, PN25**

Full Bore

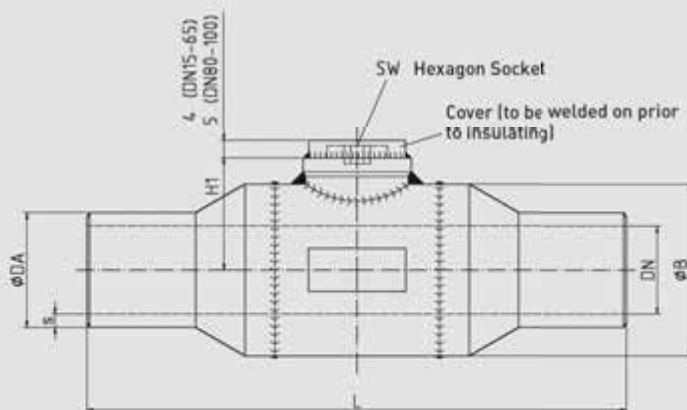


## Standard Materials:

|                               |                      |
|-------------------------------|----------------------|
| <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, DN 20-200, PN 25**



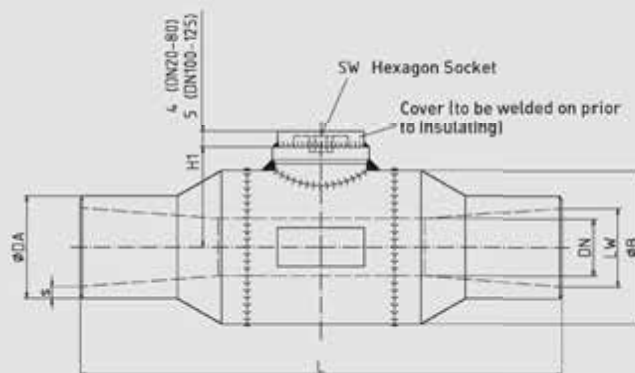
## Standard Materials:

|                               |                      |
|-------------------------------|----------------------|
| <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>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, DN20-100, PN25

Full Bore



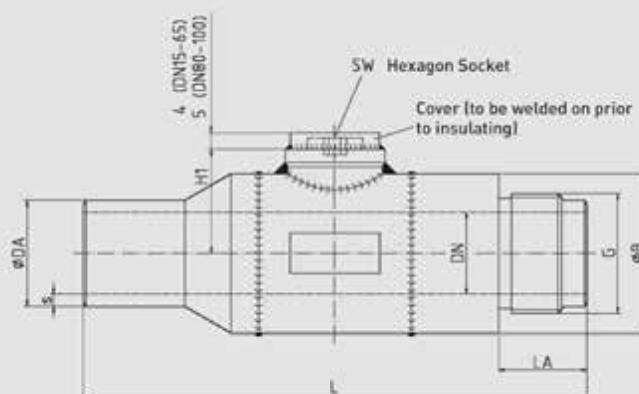
### Standard Materials:

|                    |                      |
|--------------------|----------------------|
| <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:

- 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, PN 25

Full Bore



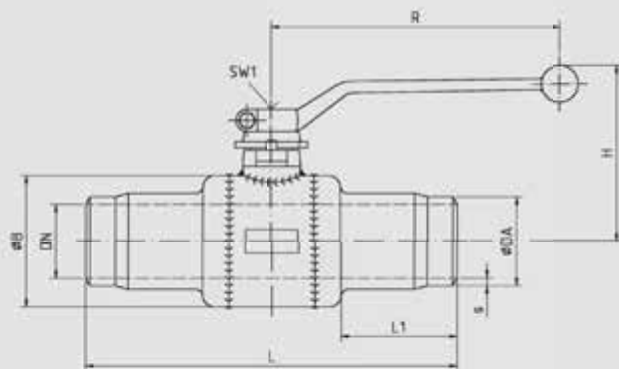
### Standard Materials:

|                    |                      |
|--------------------|----------------------|
| <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 29.



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   | 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 |

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



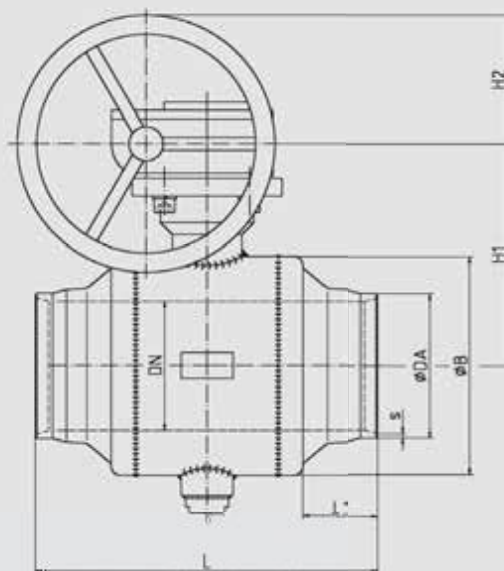
### Standard Materials:

|                    |   |
|--------------------|---|
| <b>Body:</b>       | Forged Steel / Steel  |
| <b>Ball:</b>       | up to DN 400: Stainless Steel<br>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

### 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



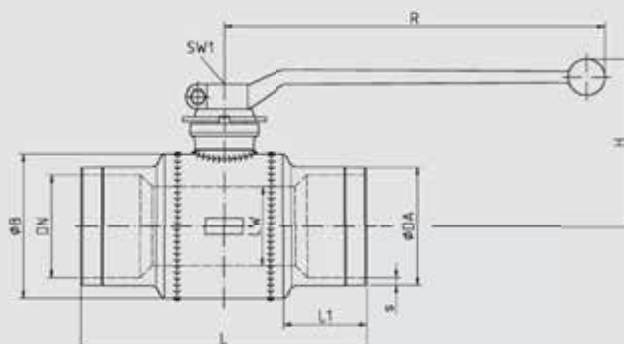
### Standard Materials:

|                    |                      |
|--------------------|----------------------|
| <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 31.



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   | 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 |

# Ball Valve with Weld Ends

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



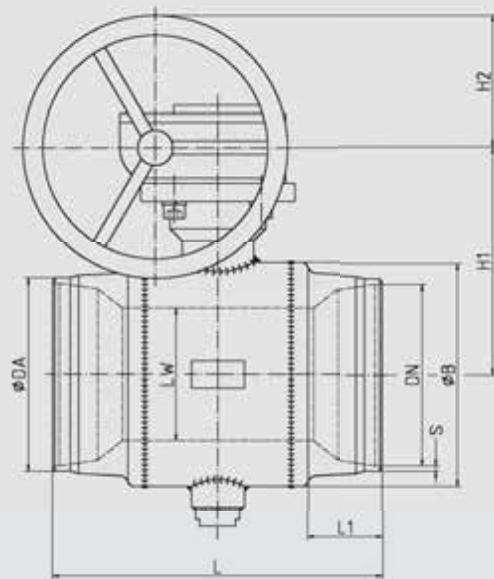
### Standard Materials:

|                               |   |
|-------------------------------|---|
| <b>Body:</b>                  | Forged Steel / Steel  |
| <b>Ball:</b>                  | up to DN 500: Stainless Steel<br>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, DN32-200, PN 25

Full Bore



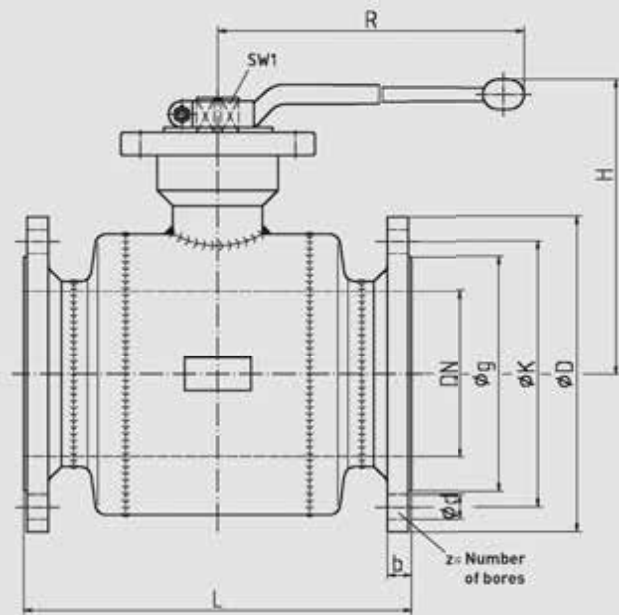
### Standard Materials:

|                    |                      |
|--------------------|----------------------|
| <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**



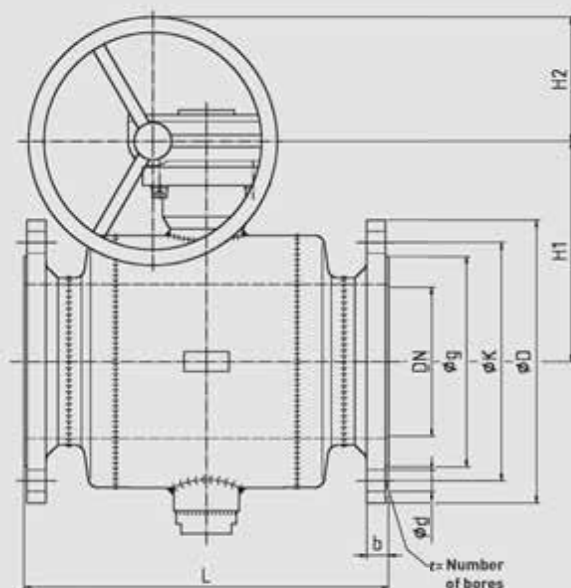
## Standard Materials:

|                               |   |
|-------------------------------|---|
| <b>Body:</b>                  | Forged Steel / Steel  |
| <b>Ball:</b>                  | up to DN 400: Stainless Steel<br>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

Reduced Bore



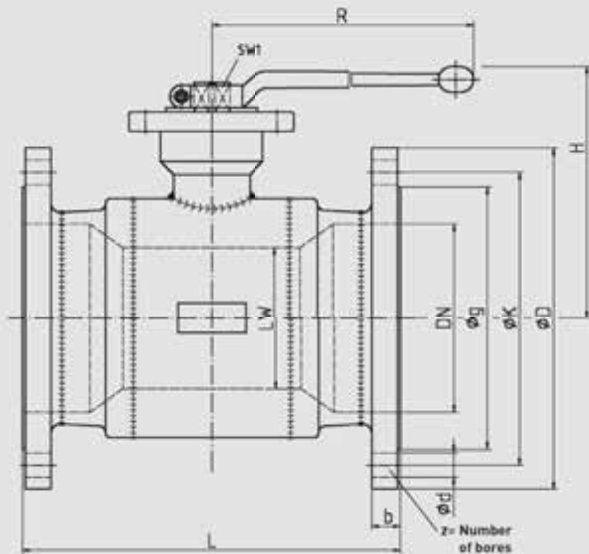
### Standard Materials:

|                    |                      |
|--------------------|----------------------|
| <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**



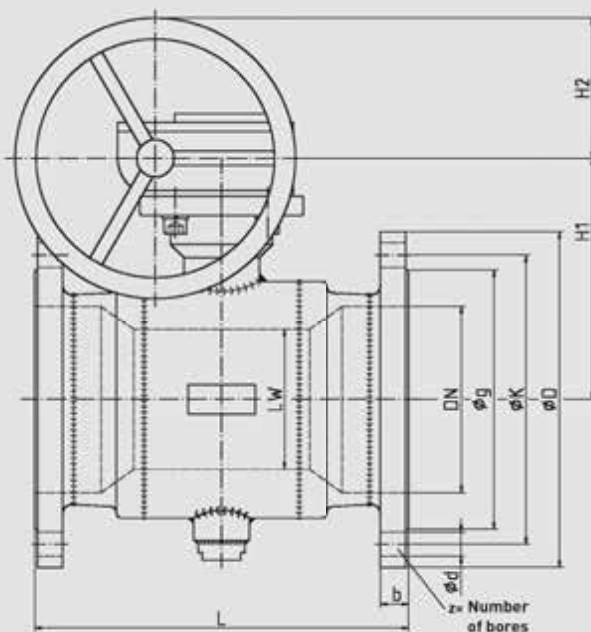
## Standard Materials:

|                               |   |
|-------------------------------|---|
| <b>Body:</b>                  | Forged Steel / Steel  |
| <b>Ball:</b>                  | up to DN 500: Stainless Steel<br>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



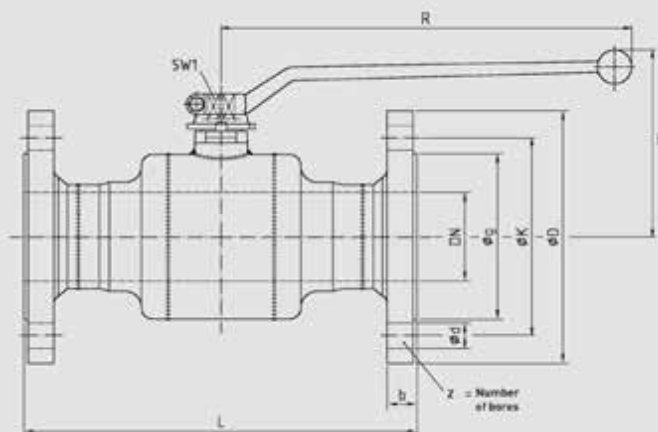
## Standard Materials:

|                    |                      |
|--------------------|----------------------|
| <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:

- 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:

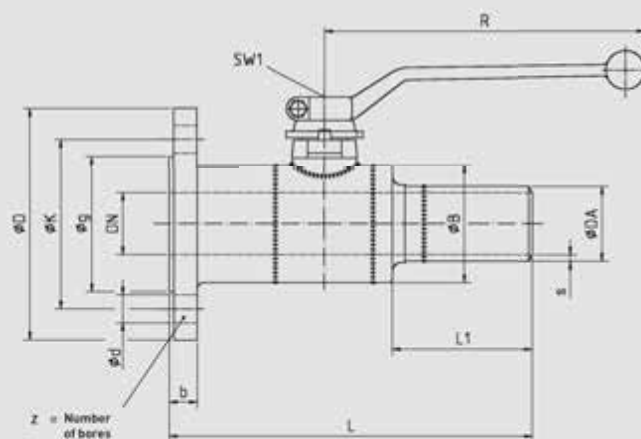
|                    |                      |
|--------------------|----------------------|
| <b>Body:</b>       | Forged Steel / Steel |
| <b>Ball:</b>       | Stainless Steel      |
| <b>Stem:</b>       | Stainless Steel      |
| <b>Ball seals:</b> | PTFE                 |
| <b>Stem seals:</b> | EPDM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

**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



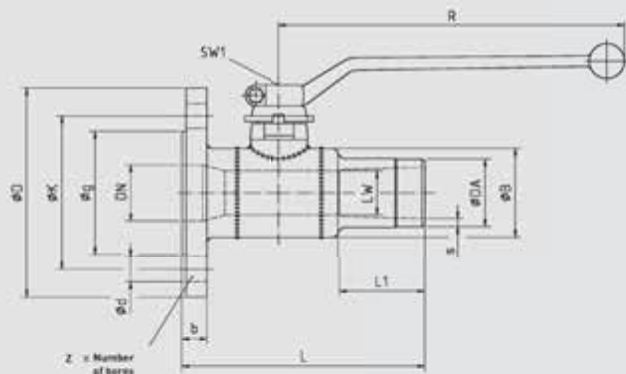
### Standard Materials:

|             |                      |
|-------------|----------------------|
| Body:       | Forged Steel / Steel |
| Ball:       | Stainless Steel      |
| Stem:       | Stainless Steel      |
| Ball seals: | PTFE                 |
| Stem seals: | 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, PN25**



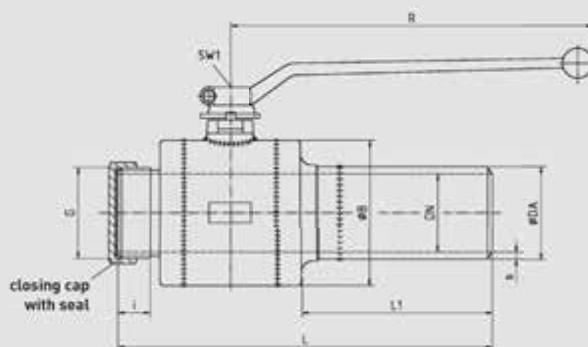
## Standard Materials:

|                     |                      |
|---------------------|----------------------|
| <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>Sealing Cap:</b> | brass                |

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

## 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

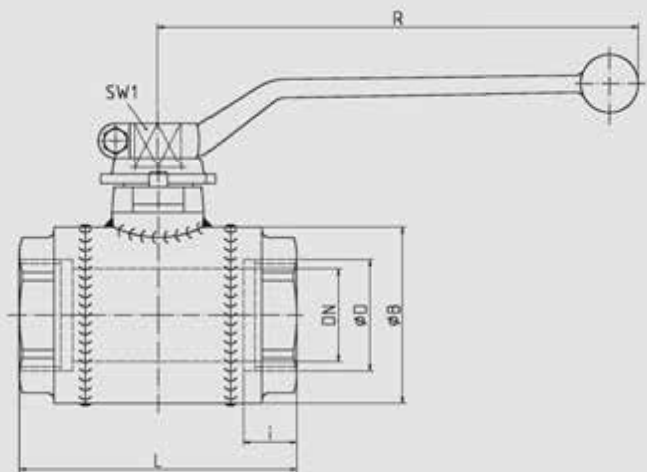
Full Bore



### Standard Materials:

- Body: Steel
- Ball: Stainless Steel
- Stem: Stainless Steel
- Ball seals: PTFE
- Stem seals: 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            |

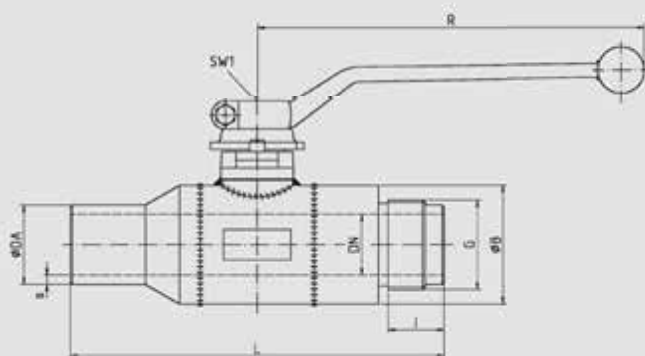
**Operating Temperature:** up to +150 °C



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 |





# **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

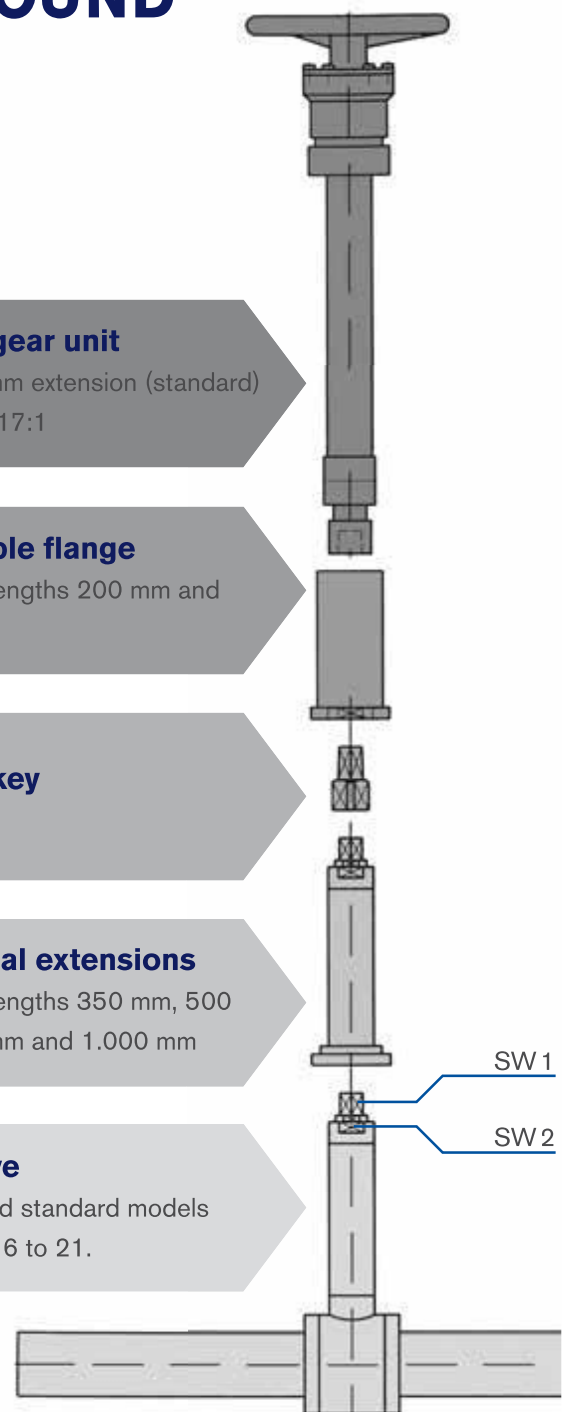
SW 27/32

## Additional extensions

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

## Ball Valve

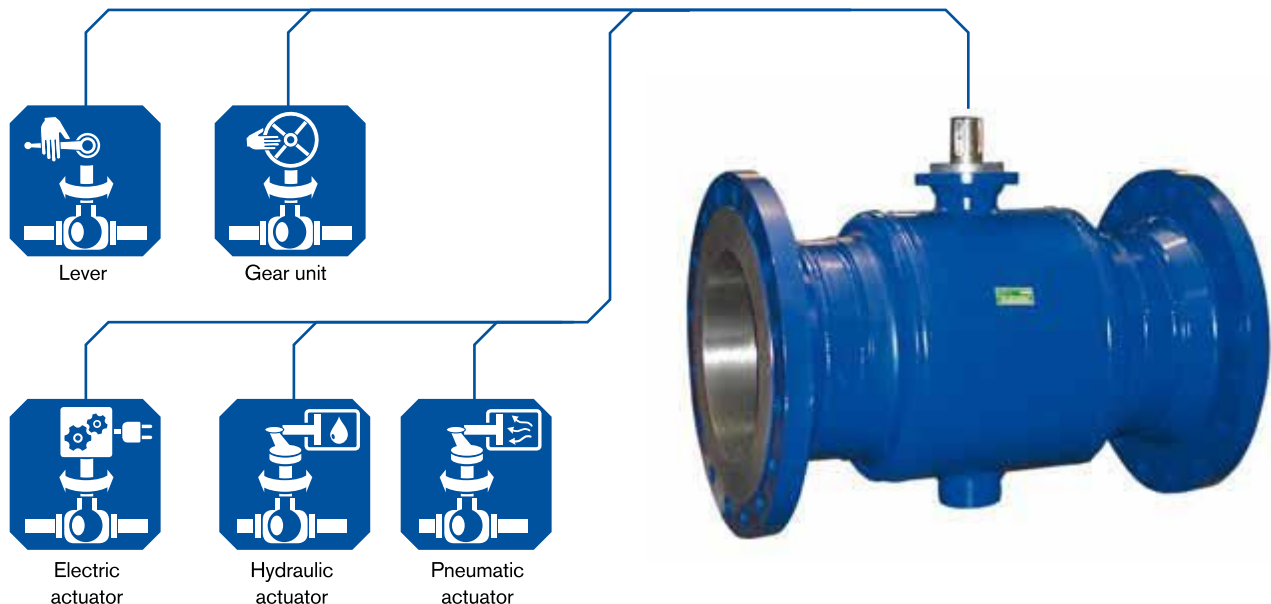
You can find standard models on pages 16 to 21.



| DN        | DN           | SW 1 | SW 2 | Attachable flange<br>L 200 mm | Attachable flange<br>L 500 mm | Yellow square key | Additional extension<br>L 350 mm | Additional extension<br>L 500 mm | Additional extension<br>L 750 mm | Additional extension<br>L 1000 mm | Plug-in gear unit<br>MDS 3000<br>length 800 mm | T-key           |
|-----------|--------------|------|------|-------------------------------|-------------------------------|-------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|--|-----------------|
| full bore | reduced bore | mm   | mm   | Item No.<br>kg                | Item No.<br>/kg               | Item No.<br>/kg   | Item No.<br>/kg                  | Item No.<br>/kg                  | Item No.<br>/kg                  | Item No.<br>/kg                   | Item No.<br>/kg                                | Item No.<br>/kg |
| 20 – 65   | 25 – 80      | 16   | 40   | 075.7200<br>1,9               | 075.7201<br>4,8               | 628.2496<br>0,5   | 076.0736<br>2,5                  | 076.0737<br>3,3                  | 076.729<br>4,7                   | 076.0947<br>6,2                   |  |                 |
| 80 – 125  | 100 – 150    | 22   | 50   | 075.7202<br>2,3               | 075.7203<br>4,9               | 628.2497<br>0,8   | 076.0682<br>4,5                  | 076.0738<br>5,4                  | 076.0739<br>7,5                  | 076.0805<br>9,1                   | 075.9999<br>18,4                               | 316.9999<br>6,0 |
| 150 – 300 | 200 – 400    | 32   | 80   | 075.7204<br>3,1               | 075.7205<br>5,6               | 628.2498<br>1,4   | 076.0623<br>10,5                 | 076.0740<br>12,5                 | 076.0640<br>17,5                 | 076.0720<br>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        | $K_v$ [m³/h] | $\zeta$ (-) | DN/LW        | $K_v$ [m³/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 (m³/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<br>KSF R                              | ELF/ESF V | EMG/ESF V | KSF V / KSF R<br>Tie-in Ball Valve /<br>Ball valve for one time operation | KSF V<br>Hot-tapping ball valve | KSF V<br>KSF R          | FSK V<br>FSK R | FSL V | FSL/KSF V + FSK/KSF V<br>FSL/KSF R + FSK/KSF R | KSG/KSF V | KSG V | KSF V<br>Hot-tapping ball valve |
| Page   | 16<br>to<br>21                              | 22        | 23        | 24<br>and<br>25   | 26                              | 28<br>to<br>31          | 32<br>to<br>35 | 36    | 37<br>to<br>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



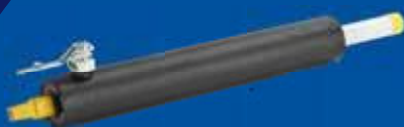
**Ball valve with insulation**  
Flange and weld  
end up to DN 200



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



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



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



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



**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

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

**Many thousands  
of district heating  
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, chemicals, petrochemicals and subsea applications.



**District heating**


**Oil, gas, petrochemicals**

A photograph of a large cargo ship sailing on the ocean at sunset, with a crane visible on the right side of the ship.

Shipbuilding

A photograph of several large industrial cooling towers at a power plant, with steam rising from them against a sunset sky.

Power plants

A photograph of an industrial refinery or chemical plant at night, with numerous tall distillation columns and complex piping illuminated by artificial lights, reflected in a body of water in the foreground.

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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