



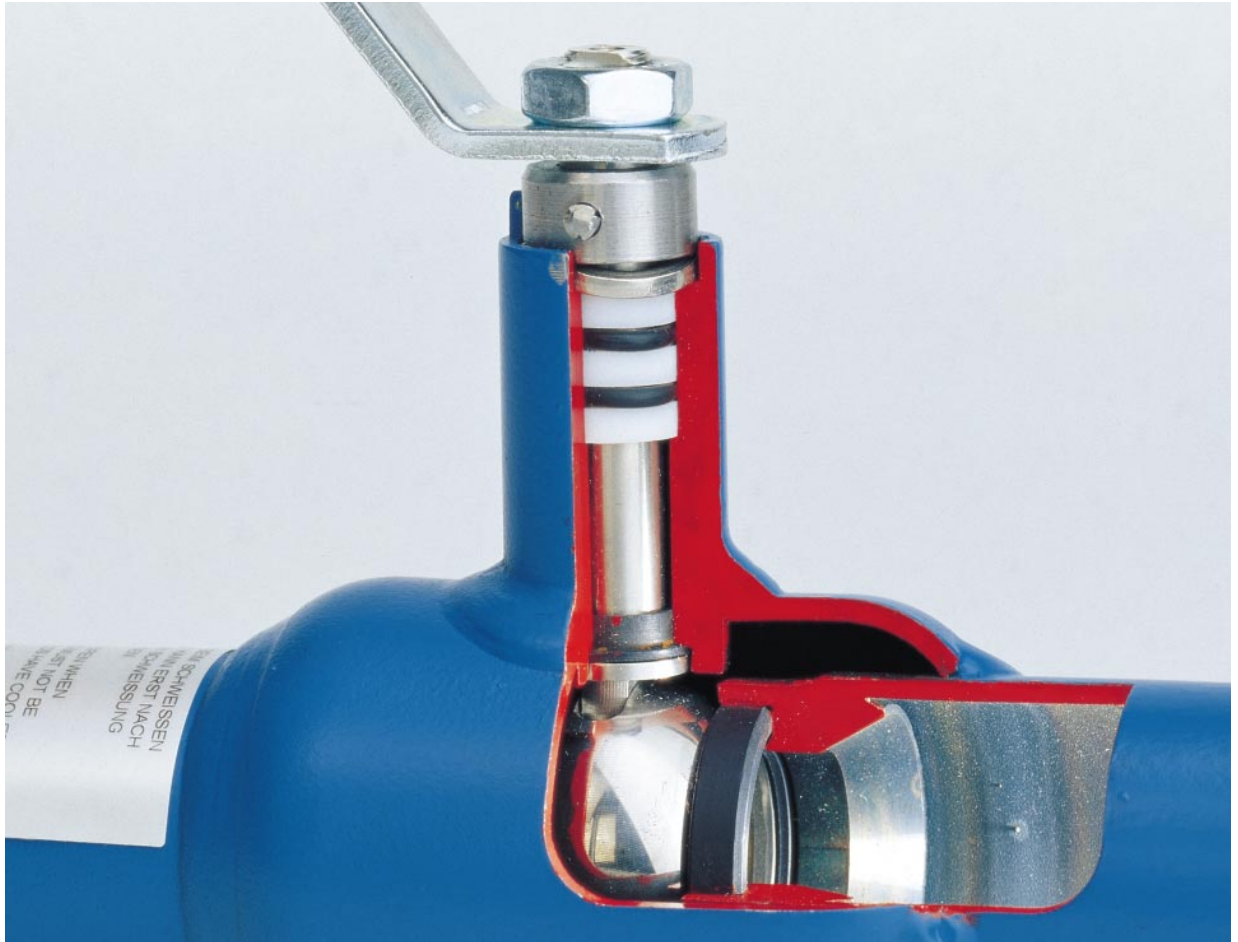
KLINGER Monoball® One-Piece ball valves

CE 0408
Conformity with Pressure
Equipment Directive 97/23/EC

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KLINGER Monoball Fully welded end ball valves



High demands

Pre-insulated pipeline systems as used e. g. in district heating and waste water networks, are well known all over the world. This technology of embedding pipes becomes increasingly demanding in terms of valves.

District heating

Valves which are used in district heating pipeline networks must be completely resistant to pipeline forces like pressure, tear, residual stress, etc., tight in the port and against the atmosphere. Economical insulation of the valve must as well be provided for pre-insulated installation.

KLINGER Monoball

The new generation of one-piece KLINGER Monoball ball valves follows these demands without compromise.

In cooperation with the user and based on the experience of many years each constructional detail has been optimized. The one-piece body and the design of the connection piece made of steel, make the

KLINGER Monoball resistant to pipeline forces and residual stress. In this way the perfect function in the long run of these valves is guaranteed.

Advantages at a glance

- Always safe in service and reliably tight
- Maintenance-free
- Application limit at PN 40 resp. PN 25 and temperatures till 200 °C
- Ball and spindle made of stainless steel
- A particularly shaped sealing ring achieves double sealing at the ball
- No creeping in of the medium under pressure
- Spindle sealing with O-rings made of high quality Elastomer
- A burst-proof and blow-off safe mounted spindle, placed in a PTFE+C-bush
- If necessary, the upper O-rings can be changed
- Selfinhibitive through specially placed spring washer
- Operating position of the ball can still be identified even when lever is removed
- CE-marking
- Type test acc. to EN 488

Monoball: one-piece, universal reliable, maintenance-free

KLINGER Monoball product range

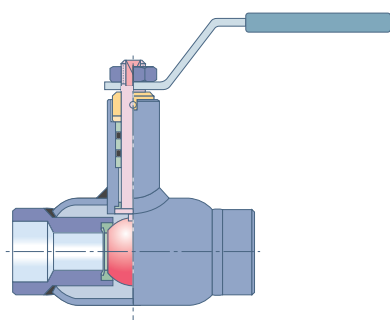
One-piece ball valve with reduced port
Steel, PN 40 / PN 25

| Type | DN | PN | Connection |
|---------------|---------|----|-----------------------|
| KHM-OE | 15-50 | 40 | Thread G 1/2" -G 2" |
| KHM-OE | 65-80 | 25 | Thread G 2 1/2" -G 3" |
| KHMS-OE | 15-50 | 40 | Weld end / thread |
| KHMS-OE | 65-80 | 25 | Weld end / thread |
| KHS-OE | 15-50 | 40 | Weld end |
| KHS-OE | 65-300 | 25 | Weld end |
| KHFS-OE | 15-50 | 40 | Flange/ weld end |
| KHFS-OE | 65-150 | 25 | Flange/ weld end |
| KHF-OE | 15-50 | 40 | Flange |
| KHF-OE | 65-300 | 25 | Flange |
| KHSU-OE short | 25-150 | 40 | Weld end |
| KHSU-OE | 25-100 | 40 | Weld end |
| KHSU-OE short | 200-300 | 25 | Weld end |

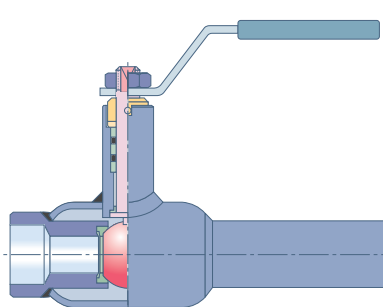
Abbreviations:

KH = ball valve
M = thread
S = weld end
F = flange
U = underground

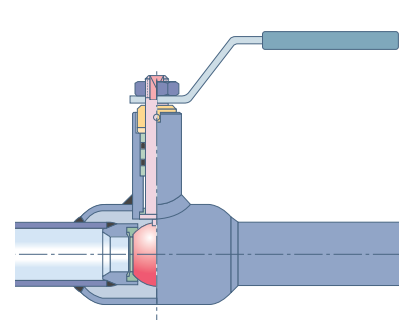
Design acc. to KLINGER material code VIII



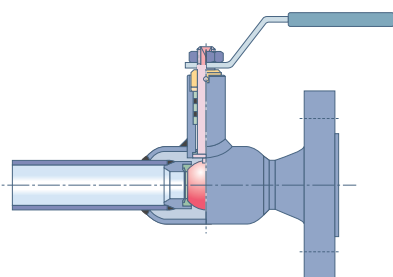
KHM-OE



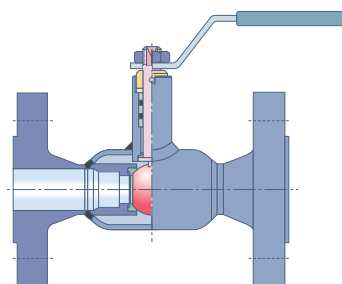
KHMS-OE



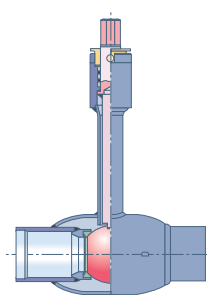
KHS-OE



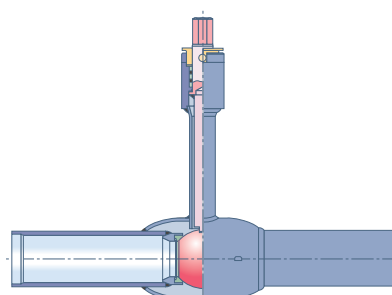
KHFS-OE



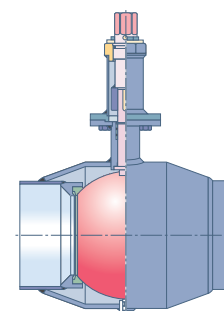
KHF-OE



KHSU-OE short



KHSU-OE



KHSU-OE short



Monoball sealing system competitively tight

The sealing system

Two sealing lips touching the ball provide double tightness. This is possible because of the particular shape of the PTFE-sealing ring. With the ball pressing the sealing ring into the holding device, the medium is stopped from creeping in.

O-rings made from high quality Elastomer provide the seal for the spindle. This material is highly thermal resistant and is recommended for cold and hot water.

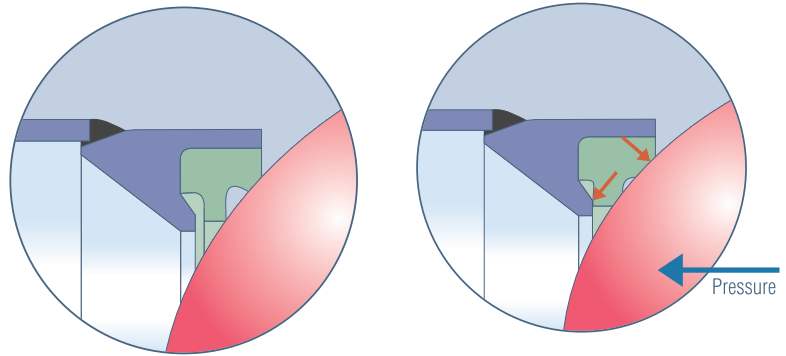
PTFE-bushes which are used for spindle bearings ensure an easy going operation. Because the spindle is installed from the inside of the valve body it is burst-proof and blow-off safe.

The operating angle of the spindle is limited to 90° by means of a stop bar and is independent from the lever. The operating position of the ball can still be identified by the position of the upper end of the spindle, even when the lever is removed.

KV and ξ values for KLINGER ball valves KHSU-OE

| DN | KV | ξ value |
|---------|------|-------------|
| 15/10 | 8 | 1.3 |
| 20/15 | 13 | 1.5 |
| 25/20 | 25 | 1.0 |
| 32/25 | 41 | 1.0 |
| 40/32 | 65 | 1.0 |
| 50/40 | 100 | 1.0 |
| 65/50 | 180 | 0.9 |
| 80/65 | 270 | 0.9 |
| 100/80 | 420 | 0.9 |
| 125/100 | 650 | 0.9 |
| 150/125 | 950 | 0.9 |
| 200/150 | 1700 | 0.9 |
| 250/200 | 2600 | 0.9 |
| 300/250 | 4500 | 0.6 |

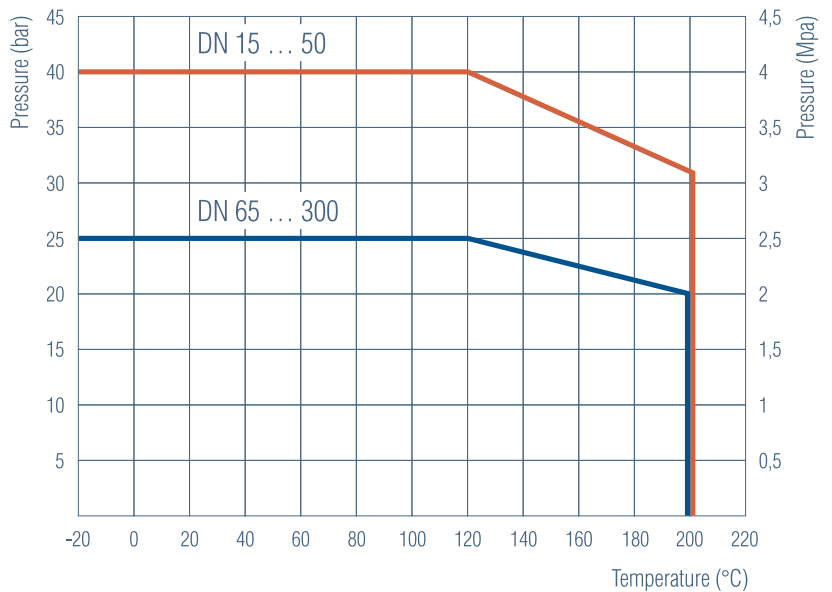
KLINGER Monoball sealing system



unloaded

under pressure

Pressure-temperature diagram



KV-value:

The KV-value indicates the amount of water in m³ that passes through the valve within one hour, at a temperature between 5 °C and 30 °C and a loss of pressure of 1 bar.

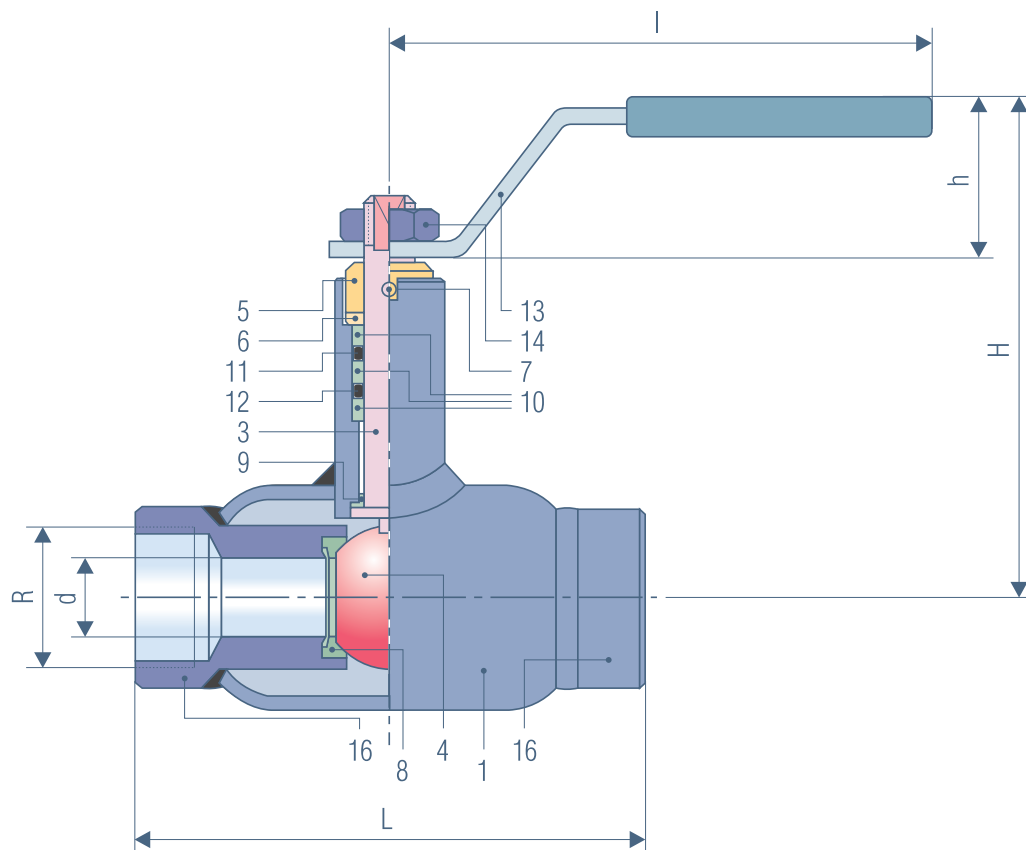
Medium: water-density 1000 kg/m³

Zeta-value ξ :

The Zeta-value of each valve has been determined by the producer through conducting various tests.

Ball valve KLINGER Monoball KHM-OE

One-piece ball valve with thread, reduced port thread connection on both sides acc. to ISO 228/1, PN 25, PN 40
Material: steel, temperature range: -20 °C to 200 °C



KHM-OE
15 – 80

PN 25

Material code number VIII

PN 40

Material code number VIII

| No. | Part names | Material | No. | Part names | Material |
|-----|----------------|-----------|-----|--------------|----------|
| 1 | Body | 1.0254 | 9 | Bearing ring | PTFE+C |
| 3 | Spindle | 1.4305 | 10 | Spindle bush | PTFE |
| 4 | Ball | 1.4301 | 11 | O-ring | FPM |
| 5 | Retaining bush | 1.0711 | 12 | O-ring | EPDM |
| 6 | Spring washer | HRC 44-51 | 13 | Lever | St |
| 7 | Bolt | 1.0718 | 14 | Hexagon nut | 8 Zn |
| 8 | Ball sealing | PTFE+C | 16 | Thread | St 37.0 |

Monoball ball valve PN 25 and PN 40

One-piece, with reduced port, maintenance-free spindle sealing with O-rings, pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel, body made of steel

Make: KLINGER

Type: KHM-OE for DN 15-80

Overall dimensions in mm

| DN | R | PN | Kv ₁₀₀ | d | L | H | h | l | Weight kg |
|----|----------|----|-------------------|----|-----|-----|----|-----|-----------|
| 15 | G 1/2" | 40 | 8 | 10 | 85 | 91 | 30 | 110 | 0,6 |
| 20 | G 3/4" | 40 | 13 | 15 | 100 | 95 | 30 | 110 | 0,7 |
| 25 | G 1" | 40 | 25 | 20 | 110 | 115 | 36 | 140 | 0,9 |
| 32 | G 1 1/4" | 40 | 41 | 24 | 130 | 119 | 36 | 140 | 1,3 |
| 40 | G 1 1/2" | 40 | 65 | 31 | 140 | 145 | 47 | 180 | 2,0 |
| 50 | G 2" | 40 | 100 | 39 | 170 | 151 | 47 | 180 | 2,5 |
| 65 | G 2 1/2" | 25 | 180 | 50 | 200 | 169 | 50 | 250 | 5,8 |
| 80 | G 3" | 25 | 270 | 65 | 230 | 180 | 50 | 250 | 7,2 |

Ordering example:

KHM-OE 32-VIII, PN 40

KHM-OE 65-VIII, PN 25

Operating torques see page 13

Pressure-temperature diagram see page 4



Ball valve KLINGER Monoball KHMS-OE

One-piece ball valve with thread and weld end, reduced port, thread connection acc. to ISO 228/1, weld end acc. to EN 12627, PN 25, PN 40
Material: steel, temperature range: -20 °C to 200 °C

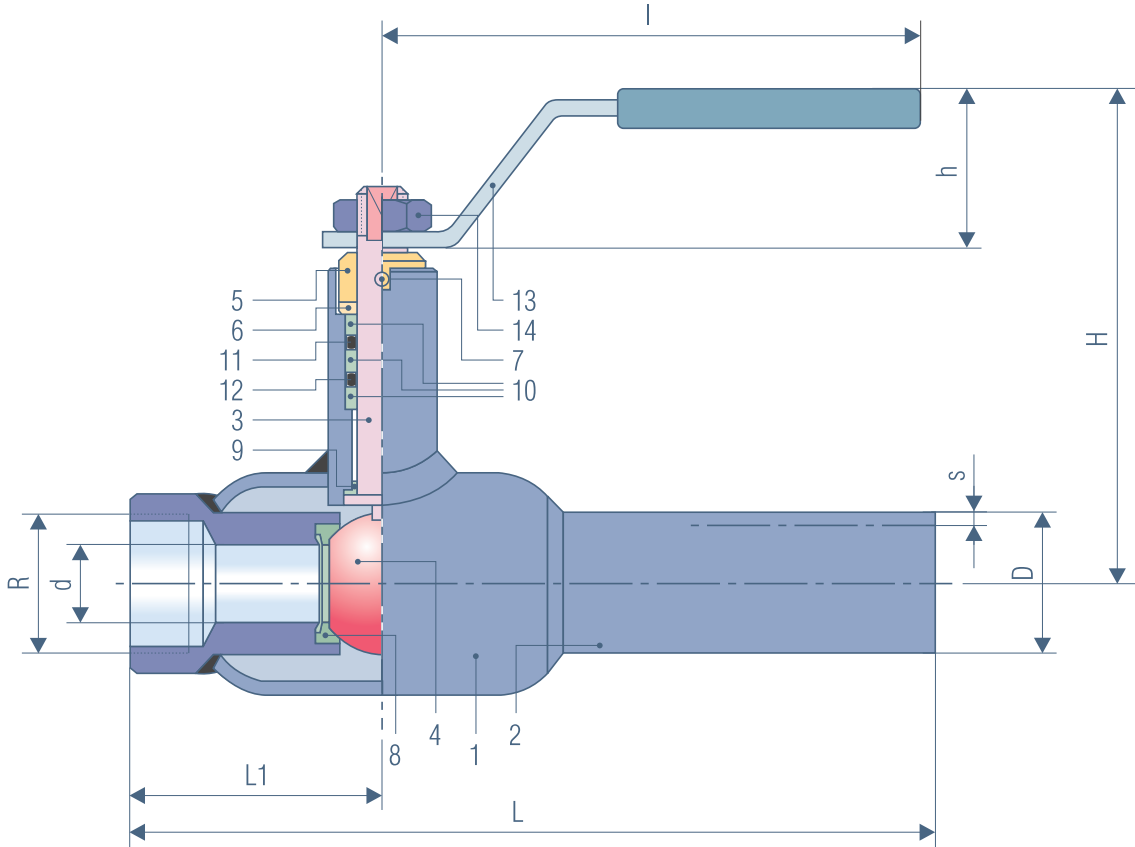
KHMS-OE
15 – 80

PN 25

Material code number VIII

PN 40

Material code number VIII



Monoball ball valve PN 25 and PN 40

One-piece, with reduced port, maintenance-free spindle sealing with O-rings, pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel, body made of steel,

Make: KLINGER

Type: KHMS-OE for DN 15–80

Ordering example:

KHMS-OE 32-VIII, PN 40

KHMS-OE 65-VIII, PN 25

Operating torques see page 13

Pressure-temperature diagram see page 4

| No. | Part name | Material |
|-----|-----------------|-----------|
| 1 | Body | 1.0254 |
| 2 | Connecting pipe | 1.0254 |
| 3 | Spindle | 1.4305 |
| 4 | Ball | 1.4301 |
| 5 | Retaining bush | 1.0711 |
| 6 | Spring washer | HRC 44–51 |
| 7 | Bolt | 1.0718 |

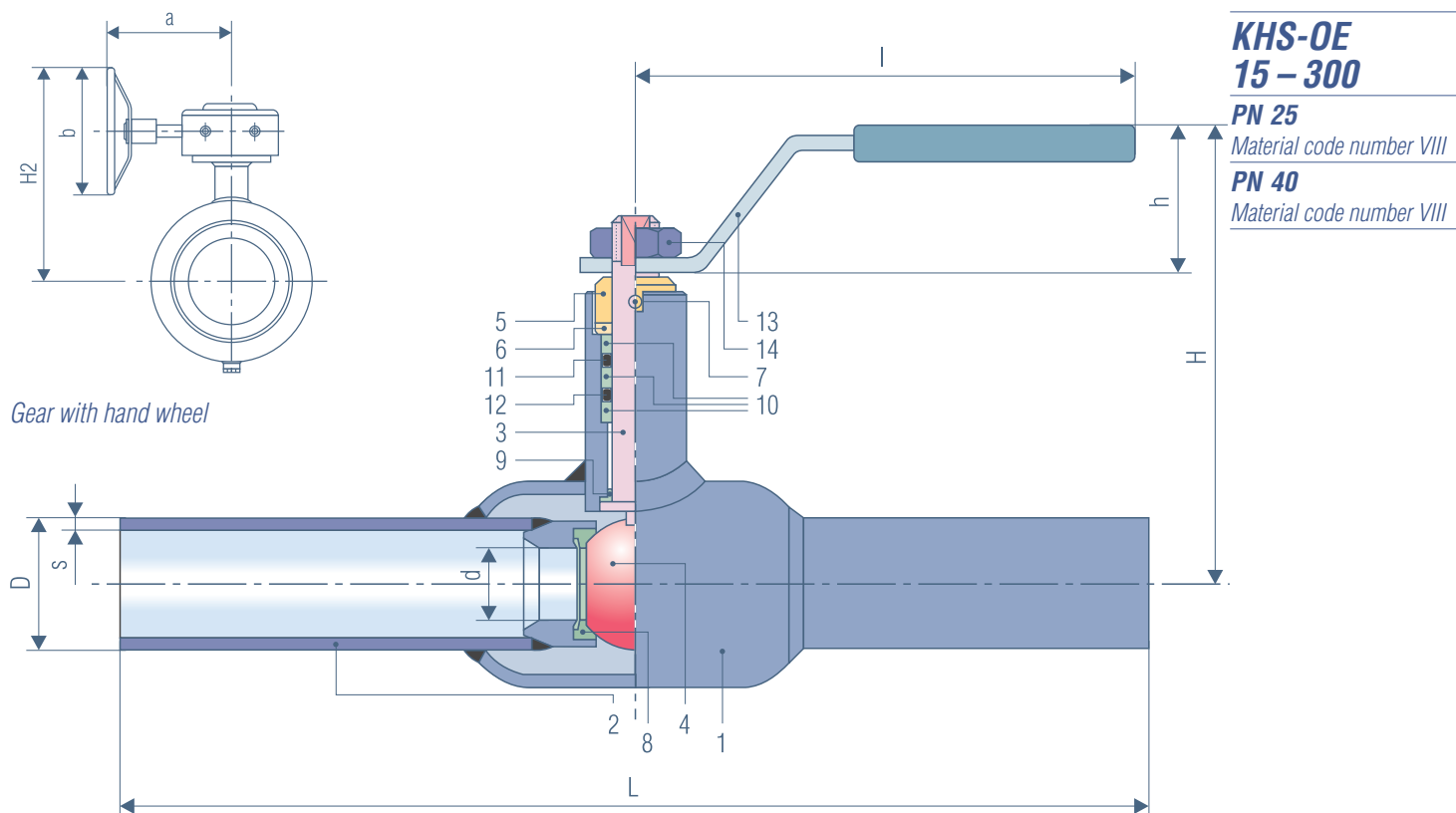
| No. | Part name | Material |
|-----|--------------|----------|
| 8 | Ball sealing | PTFE+C |
| 9 | Bearing ring | PTFE+C |
| 10 | Spindle bush | PTFE |
| 11 | O-ring | FPM |
| 12 | O-ring | EPDM |
| 13 | Lever | St |
| 14 | Hexagon nut | 8 Zn |

Overall dimensions in mm

| DN | R | PN | Kv ₁₀₀ | d | D | s | L | L1 | H | h | l | Weight kg |
|----|----------|----|-------------------|----|------|-----|-----|-----|-----|----|-----|-----------|
| 15 | G 1/2" | 40 | 8 | 10 | 21,3 | 2,0 | 157 | 42 | 91 | 30 | 110 | 0,6 |
| 20 | G 3/4" | 40 | 13 | 15 | 26,9 | 2,3 | 167 | 52 | 95 | 30 | 110 | 0,7 |
| 25 | G 1" | 40 | 25 | 20 | 33,7 | 2,6 | 170 | 55 | 115 | 36 | 140 | 1,0 |
| 32 | G 1 1/4" | 40 | 41 | 24 | 42,4 | 2,6 | 195 | 65 | 119 | 36 | 140 | 1,4 |
| 40 | G 1 1/2" | 40 | 65 | 31 | 48,3 | 2,9 | 200 | 70 | 145 | 47 | 180 | 2,1 |
| 50 | G 2" | 40 | 100 | 39 | 60,3 | 2,9 | 235 | 85 | 151 | 47 | 180 | 2,7 |
| 65 | G 2 1/2" | 25 | 180 | 50 | 76,1 | 2,9 | 250 | 100 | 169 | 50 | 250 | 4,9 |
| 80 | G 3" | 25 | 270 | 65 | 88,9 | 3,2 | 265 | 115 | 180 | 50 | 250 | 6,7 |

Ball valve KLINGER Monoball KHS-OE

One-piece ball valve with weld ends, reduced port
weld ends on both sides acc. to EN 12627, PN 25, PN 40
Material: steel, temperature range: - 20 °C to 200 °C



**KHS-OE
15 – 300**

PN 25
Material code number VIII

PN 40
Material code number VIII

| No. | Part names | Material |
|-----|-----------------|----------|
| 1 | Body | 1.0254 |
| 2 | Connecting pipe | 1.0254 |
| 3 | Spindle | 1.4305 |
| 4 | Ball | 1.4301 |
| 5 | Retaining bush | 1.0711 |

| No. | Part names | Material |
|-----|---------------|-----------|
| 6 | Spring washer | HRC 44–51 |
| 7 | Bolt | 1.0718 |
| 8 | Ball sealing | PTFE+C |
| 9 | Bearing ring | PTFE+C |
| 10 | Spindle bush | PTFE |

| No. | Part names | Material |
|-----|-------------|---------------|
| 11 | O-ring | FPM |
| 12 | O-ring | EPDM |
| 13 | Lever | St *) GRP **) |
| 14 | Hexagon nut | 8 Zn |

*) DN 15/10 – 80/65 **) DN 100/80 – 150/125

Overall dimensions in mm

| DN | PN | Kv ₁₀₀ | d | D | s | L | H | h | l | a | b | H2 | Flange ISO5211 | Weight kg |
|-----|----|-------------------|-----|-------|-----|-----|-----|----|-----|-----|-----|-----|----------------|-------------------|
| 15 | 40 | 8 | 10 | 21,3 | 2,0 | 230 | 91 | 30 | 110 | – | – | – | | 0,6 |
| 20 | 40 | 13 | 15 | 26,9 | 2,3 | 230 | 95 | 30 | 110 | – | – | – | | 0,8 |
| 25 | 40 | 25 | 20 | 33,7 | 2,6 | 230 | 115 | 36 | 140 | – | – | – | | 1,1 |
| 32 | 40 | 41 | 24 | 42,4 | 2,6 | 260 | 119 | 36 | 140 | – | – | – | | 1,5 |
| 40 | 40 | 65 | 31 | 48,3 | 2,9 | 260 | 145 | 47 | 180 | – | – | – | | 1,9 |
| 50 | 40 | 100 | 39 | 60,3 | 2,9 | 300 | 151 | 47 | 180 | – | – | – | | 2,4 |
| 65 | 25 | 180 | 50 | 76,1 | 2,9 | 300 | 169 | 50 | 250 | – | – | – | | 5,0 |
| 80 | 25 | 270 | 65 | 88,9 | 3,2 | 300 | 180 | 50 | 250 | – | – | – | | 6,0 |
| 100 | 25 | 420 | 80 | 114,3 | 3,6 | 325 | 218 | 55 | 320 | – | – | – | | 11,0 |
| 125 | 25 | 650 | 100 | 139,7 | 4,0 | 325 | 233 | 55 | 320 | – | – | – | | 15 |
| 150 | 25 | 950 | 125 | 168,3 | 4,5 | 350 | 297 | 56 | 600 | – | – | – | | 27 |
| 150 | 25 | 950 | 125 | 168,3 | 4,5 | 350 | – | – | – | 247 | 305 | 425 | F12 | 38 ¹⁾ |
| 200 | 25 | 1700 | 150 | 219,1 | 6,3 | 400 | – | – | – | 247 | 305 | 445 | F12 | 48 ¹⁾ |
| 250 | 25 | 2600 | 200 | 273,0 | 6,3 | 530 | – | – | – | 264 | 305 | 493 | F14 | 90 ¹⁾ |
| 300 | 25 | 4500 | 250 | 323,9 | 7,1 | 550 | – | – | – | 362 | 457 | 609 | F16 | 168 ¹⁾ |

1) with gear and hand wheel

Monoball ball valve PN 25 or PN 40

One-piece, with reduced port, maintenance-free spindle sealing with O-rings, pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel, body made of steel.

Make: KLINGER

Type: KHS-OE for DN 15–300

Ordering example:

KHS-OE 50-VIII, PN 40

KHS-OE 150-VIII, PN 25

Operating torques see page 13

Pressure-temperature diagram see page 4



Ball valve KLINGER Monoball KHFS-OE

One-piece ball valve, reduced port
 weld ends acc. to EN 12627 / Flange acc. to DIN 2635 (EN 1092-1)
 PN 25, PN 40
 Material: steel, temperature range: -20 °C to 200 °C

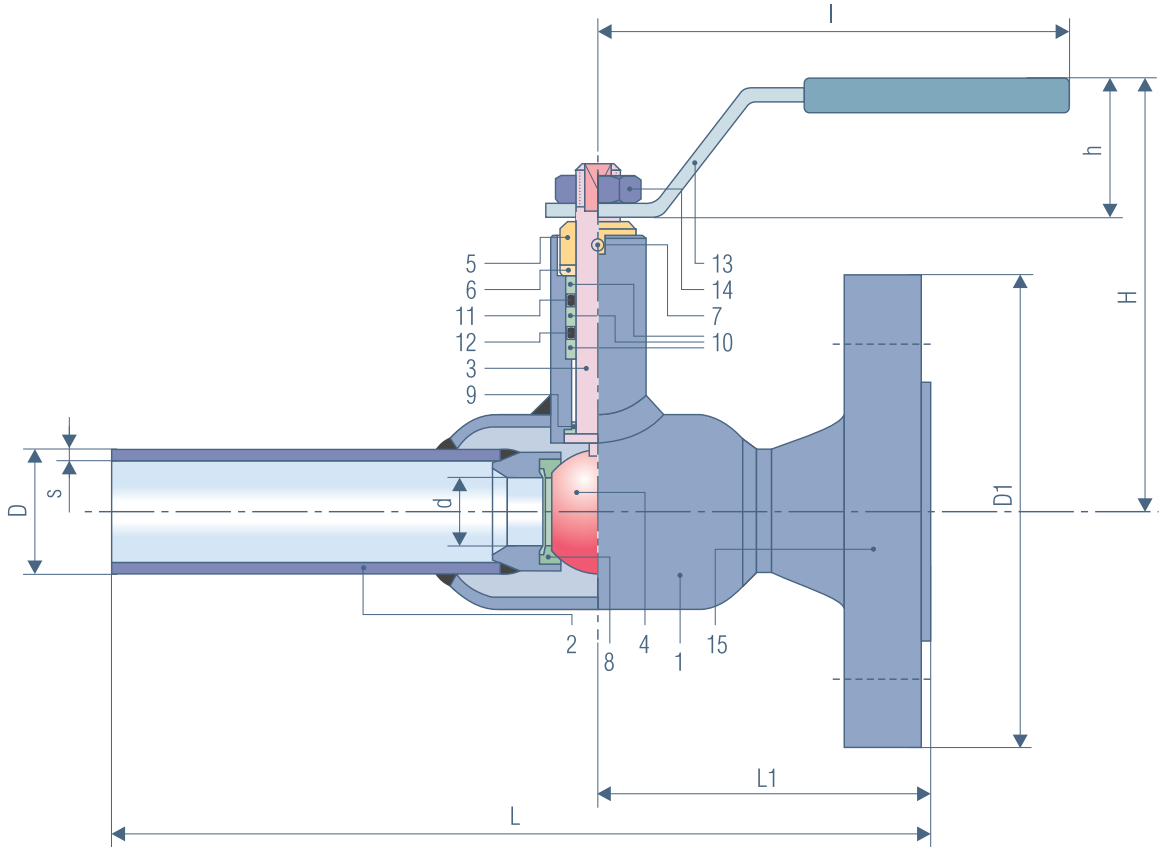
KHFS-OE
15 – 150

PN 25

Material code number VIII

PN 40

Material code number VIII



| No. | Part names | Material |
|-----|-----------------|----------|
| 1 | Body | 1.0254 |
| 2 | Connecting pipe | 1.0254 |
| 3 | Spindle | 1.4305 |
| 4 | Ball | 1.4301 |
| 5 | Retaining bush | 1.0711 |

| No. | Part names | Material |
|-----|---------------|-----------|
| 6 | Spring washer | HRC 44-51 |
| 7 | Bolt | 1.0718 |
| 8 | Ball sealing | PTFE+C |
| 9 | Bearing | PTFE+C |
| 10 | Spindle bush | PTFE |

| No. | Part names | Material |
|-----|-------------|----------|
| 11 | O-ring | FPM |
| 12 | O-ring | EPDM |
| 13 | Lever | St |
| 14 | Hexagon nut | 8 Zn |
| 15 | Flange | St |

Monoball ball valve PN 25 or PN 40

One-piece, with reduced port, maintenance-free spindle sealing with O-rings, pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel body made of steel.

Make: KLINGER

Type: KHFS-OE for DN 15–150

Ordering example:

KHFS-OE 50-VIII, PN 40

KHFS-OE 100-VIII, PN 25

Overall dimensions in mm

| DN | PN | Kv ₁₀₀ | d | D1 | D | s | L | L1 | H | h | l | Weight kg |
|-----|----|-------------------|-----|-----|-------|-----|-----|-----|-----|----|-----|-----------|
| 15 | 40 | 8 | 10 | 95 | 21,3 | 2,0 | 180 | 65 | 91 | 30 | 110 | 1,3 |
| 20 | 40 | 13 | 15 | 105 | 26,9 | 2,3 | 190 | 75 | 95 | 30 | 110 | 1,7 |
| 25 | 40 | 25 | 20 | 115 | 33,7 | 2,6 | 195 | 80 | 115 | 36 | 140 | 2,1 |
| 32 | 40 | 41 | 24 | 140 | 42,4 | 2,6 | 220 | 90 | 119 | 36 | 140 | 3,2 |
| 40 | 40 | 65 | 31 | 150 | 48,3 | 2,9 | 230 | 100 | 145 | 47 | 180 | 4,0 |
| 50 | 40 | 100 | 39 | 165 | 60,3 | 2,9 | 265 | 115 | 151 | 47 | 180 | 5,4 |
| 65 | 25 | 180 | 50 | 185 | 76,1 | 2,9 | 285 | 135 | 169 | 50 | 250 | 7,4 |
| 80 | 25 | 270 | 65 | 200 | 88,9 | 3,2 | 290 | 140 | 180 | 50 | 250 | 9,1 |
| 100 | 25 | 420 | 80 | 220 | 114,3 | 3,6 | 312 | 150 | 218 | 55 | 320 | 15,7 |
| 125 | 25 | 650 | 100 | 250 | 139,7 | 4,0 | 325 | 162 | 233 | 55 | 320 | 21 |
| 150 | 25 | 950 | 125 | 285 | 168,3 | 4,5 | 350 | 175 | 297 | 56 | 400 | 35 |

Operating torques see page 13

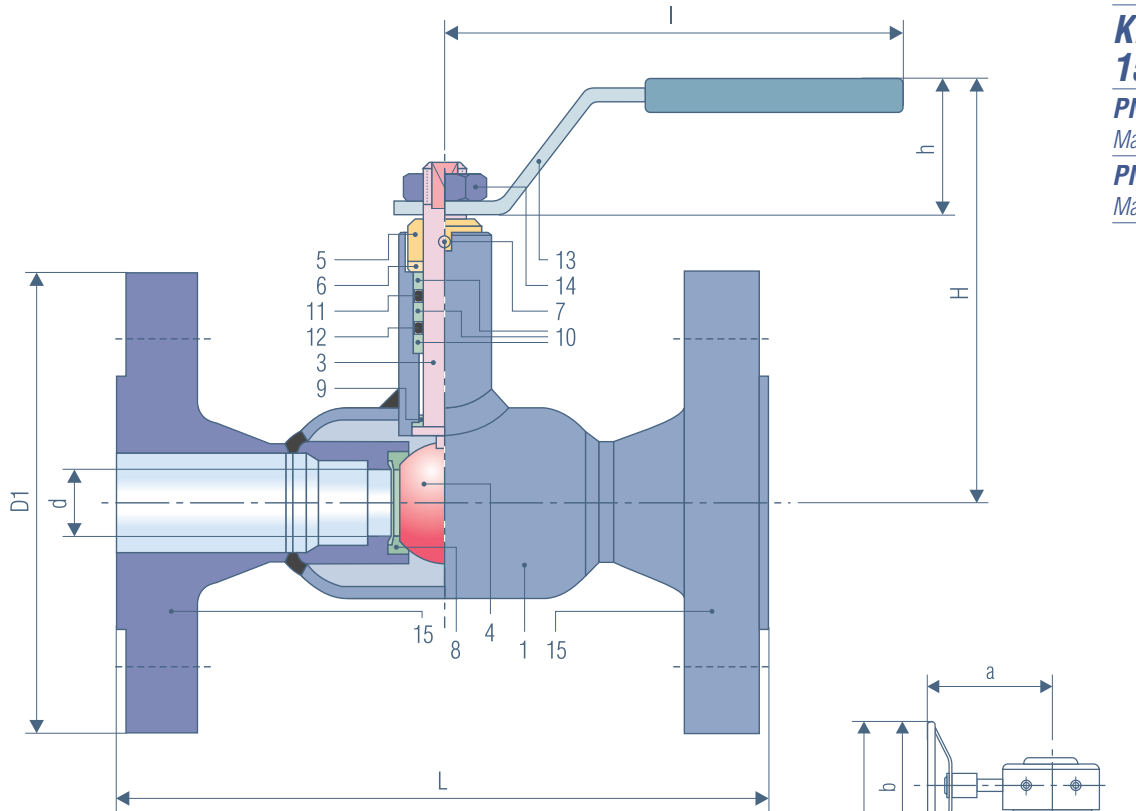
Pressure-temperature diagram see page 4

Ball valve KLINGER Monoball KHF-OE

One-piece ball valve with flange, reduced port
flange on both sides acc. to DIN 2635 (EN 1092-1)

PN 25, PN 40

Material: steel, temperature range: -20 °C to 200 °C



KHF-OE
15 – 300

PN 25

Material code number VIII

PN 40

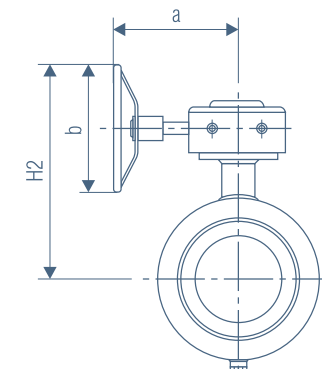
Material code number VIII

| No. | Part names | Material |
|-----|----------------|-----------|
| 1 | Body | 1.0254 |
| 3 | Spindle | 1.4305 |
| 4 | Ball | 1.4301 |
| 5 | Retaining bush | 1.0711 |
| 6 | Spring washer | HRC 44-51 |
| 7 | Bolt | 1.0718 |
| 8 | Ball sealing | PTFE+C |
| 9 | Bearing ring | PTFE+C |

| No. | Part names | Material |
|-----|--------------|---------------|
| 10 | Spindle bush | PTFE |
| 11 | O-ring | FPM |
| 12 | O-ring | EPDM |
| 13 | Lever | St *) GRP **) |
| 14 | Hexagon nut | 8 Zn |
| 15 | Flange | St |

*) DN 15 – 80

**) DN 100 – 150



Gear with hand wheel

Overall dimensions in mm

| DN | PN | Kv ₁₀₀ | d | D1 | L | H | h | l | a | b | H2 | flange ISO5211 | Weight kg |
|-----|----|-------------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-------------------|-------------------|
| 15 | 40 | 8 | 10 | 95 | 130 | 91 | 30 | 110 | – | – | – | | 2,0 |
| 20 | 40 | 13 | 15 | 105 | 150 | 95 | 30 | 110 | – | – | – | | 2,6 |
| 25 | 40 | 25 | 20 | 115 | 160 | 115 | 36 | 140 | – | – | – | | 3,2 |
| 32 | 40 | 41 | 24 | 140 | 180 | 119 | 36 | 140 | – | – | – | | 4,9 |
| 40 | 40 | 65 | 31 | 150 | 200 | 145 | 47 | 180 | – | – | – | | 5,8 |
| 50 | 40 | 100 | 39 | 165 | 230 | 151 | 47 | 180 | – | – | – | | 7,5 |
| 65 | 25 | 180 | 50 | 185 | 270 | 169 | 50 | 250 | – | – | – | | 10,2 |
| 80 | 25 | 270 | 65 | 200 | 280 | 180 | 50 | 250 | – | – | – | | 13,3 |
| 100 | 25 | 420 | 80 | 220 | 300 | 218 | 55 | 320 | – | – | – | | 19 |
| 125 | 25 | 650 | 100 | 250 | 325 | 233 | 55 | 320 | – | – | – | | 27 |
| 150 | 25 | 950 | 125 | 285 | 350 | 297 | 56 | 600 | – | – | – | | 42 |
| 150 | 25 | 950 | 125 | 285 | 350 | – | – | – | 247 | 305 | 425 | F12 | 53 ¹⁾ |
| 200 | 25 | 1700 | 150 | 340 | 400 | – | – | – | 247 | 305 | 445 | F12 | 66 ¹⁾ |
| 250 | 25 | 2600 | 200 | 405 | 533 | – | – | – | 264 | 305 | 493 | F14 | 116 ¹⁾ |
| 300 | 25 | 4500 | 250 | 460 | 610 | – | – | – | 362 | 457 | 609 | F16 | |

1) with gear and hand wheel

Monoball ball valve PN 25 or PN 40

One-piece, with reduced port, maintenance-free spindle sealing with O-rings pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel, body made of steel

Make: KLINGER

Type: KHF-OE for DN 15–300

Ordering example:

KHF-OE 50-VIII, PN 40

KHF-OE 150-VIII, PN 25

Operating torques see page 13

Pressure-temperature diagram see page 4



Ball valve KLINGER Monoball KHSU-OE

One-piece ball valves with extended spindle, reduced port weld end on both sides acc. to EN 12627, PN 25, PN 40
material: steel, temperature range: -20 °C to 200 °C

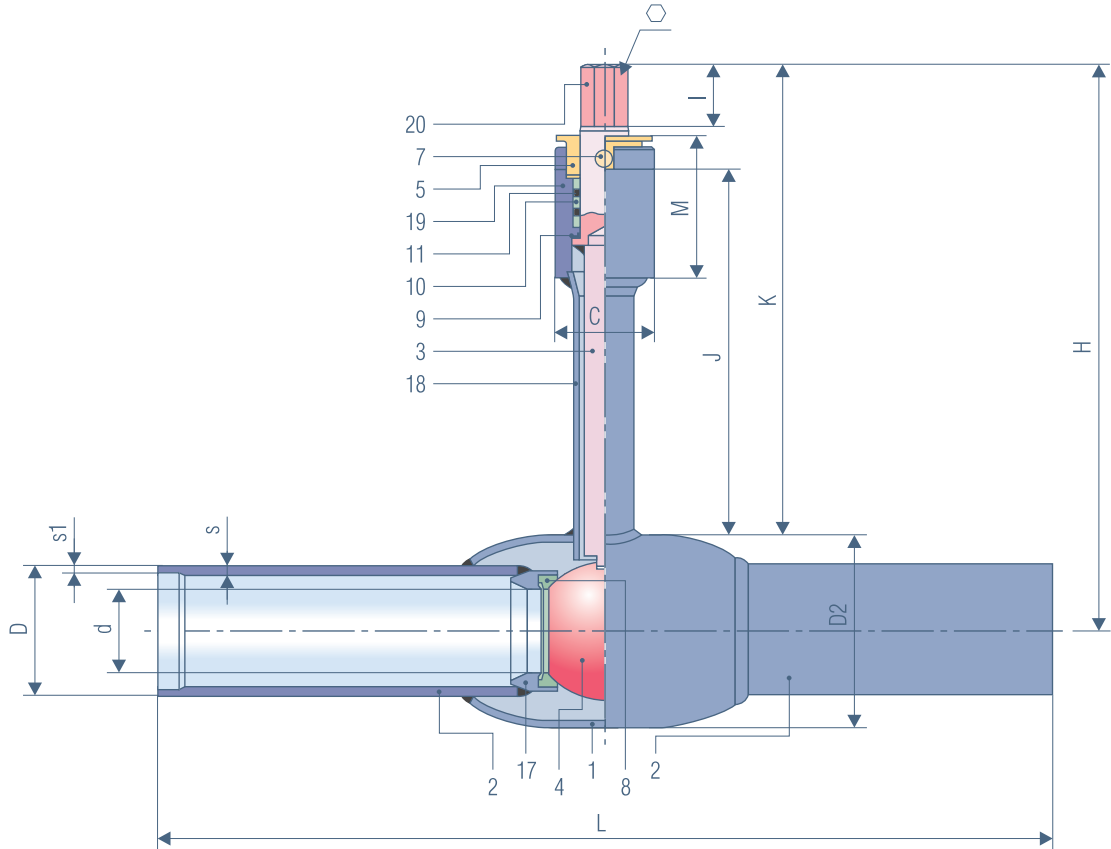
KHSU-OE
25 – 100

PN 25

Material code number VIII

PN 40

Material code number VIII



Monoball ball valve PN 25 or PN 40

One-piece, with reduced port, maintenance-free spindle sealing with O-rings, pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel, body made of steel

Make: KLINGER

Type: KHSU-OE for DN 25–100

| No. | Part names | Material |
|-----|-----------------|-----------|
| 1 | Body | 1.0254 |
| 2 | Connecting pipe | 1.0254 |
| 3 | Spindle | 1.4305 |
| 4 | Ball | 1.4301 |
| 5 | Retaining bush | 1.0711 |
| 6 | Spring washer | HRC 44–51 |
| 7 | Bolt | 1.0718 |
| 8 | Ball sealing | PTFE+C |

| No. | Part names | Material |
|-----|---------------|----------|
| 9 | Bearing ring | PTFE+C |
| 10 | Spindle bush | PTFE |
| 11 | O-ring | FPM |
| 12 | O-ring | EPDM |
| 17 | Sealing seat | 1.0254 |
| 18 | Extension | 1.0254 |
| 19 | Spindle bush | 1.4301 |
| 20 | Driving piece | 1.4305 |

Ordering example:

KHSU-OE 50-VIII, PN 40

KHSU-OE 100-VIII, PN 25

Overall dimensions in mm

| DN | PN | Kv ₁₀₀ | d | D | s | s1 | D2 | L | C | M | J | K | H | I | | Weight kg |
|-----|----|-------------------|----|-------|-----|-----|-------|------|----|----|-----|-----|-----|----|----|-----------|
| 25 | 40 | 25 | 20 | 33,7 | 3,2 | 3,2 | 48,3 | 1000 | 43 | 65 | 302 | 350 | 374 | 28 | 19 | 4,0 |
| 32 | 40 | 41 | 25 | 42,4 | 3,6 | 3,2 | 60,3 | 1000 | 43 | 65 | 299 | 350 | 376 | 28 | 19 | 5,4 |
| 40 | 40 | 65 | 31 | 48,3 | 3,6 | 3,2 | 76,1 | 1000 | 43 | 65 | 304 | 350 | 390 | 28 | 19 | 6,1 |
| 50 | 40 | 100 | 39 | 60,3 | 4,0 | 3,2 | 88,9 | 1000 | 43 | 65 | 306 | 350 | 396 | 28 | 19 | 7,9 |
| 65 | 25 | 180 | 50 | 76,1 | 4,5 | 3,2 | 101,6 | 1000 | 43 | 62 | 303 | 350 | 402 | 28 | 19 | 12,0 |
| 80 | 25 | 270 | 65 | 88,9 | 5,6 | 3,2 | 127,0 | 1000 | 43 | 62 | 302 | 350 | 413 | 28 | 19 | 13,8 |
| 100 | 25 | 420 | 80 | 114,3 | 6,3 | 3,6 | 159,0 | 1000 | 55 | 82 | 295 | 350 | 431 | 35 | 27 | 25,5 |

Pressure-temperature diagram see page 4

KLINGER Monoball KHSU-OE short

One piece ball valve with extended spindle, reduced port weld end on both sides acc. to EN 12627, PN 25, PN 40
Material : steel, temperature range : -20 °C to 200 °C

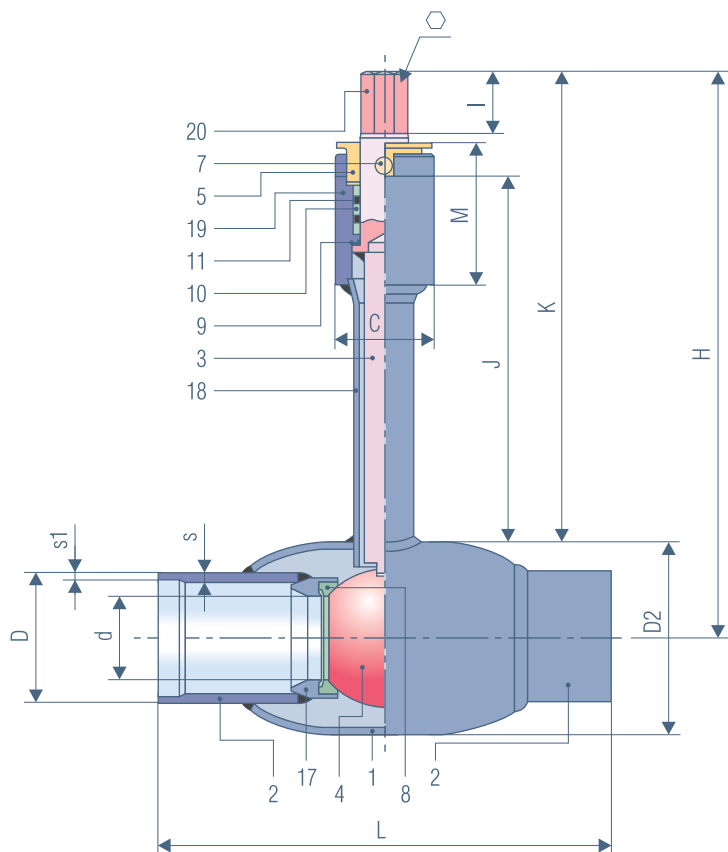
KHSU-OE short 25 – 150

PN 25

Material code number VIII

PN 40

Material code number VIII



| No. | Part names | Material |
|-----|-----------------|-----------|
| 1 | Body | 1.0254 |
| 2 | Connecting pipe | 1.0254 |
| 3 | Spindle | 1.4305 |
| 4 | Ball | 1.4301 |
| 5 | Retaining bush | 1.0711 |
| 6 | Spring washer | HRC 44-51 |
| 7 | Bolt | 1.0718 |
| 8 | Ball sealing | PTFE+C |
| 9 | Bearing ring | PTFE+C |
| 10 | Spindle bush | PTFE |
| 11 | O-ring | FPM |
| 12 | O-ring | EPDM |
| 17 | Sealing seat | 1.0254 |
| 18 | Extension | 1.0254 |
| 19 | Spindle bush | 1.4301 |
| 20 | Driving piece | 1.4305 |

Monoball ball valve PN 25 or PN 40

One piece, with reduced port, maintenance-free spindle sealing with O-ring, pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel, body made of steel

Material: KLINGER

Type: KHSU-OE for DN 25-150

Ordering example:

KHSU-OE short 50-VIII, PN 40

KHSU-OE short 100-VIII, PN 25

Overall dimensions in mm

| DN | PN | KV ₁₀₀ | d | D | s | s1 | D2 | L | C | M | J | K | H | I | Weight kg | |
|-----|----|-------------------|-----|-------|-----|-----|-------|-----|----|----|-----|-----|-----|----|-----------|------|
| 25 | 40 | 25 | 20 | 33,7 | 3,2 | 3,2 | 48,3 | 230 | 43 | 65 | 302 | 350 | 374 | 28 | 19 | 2,0 |
| 32 | 40 | 41 | 25 | 42,4 | 3,6 | 3,2 | 60,3 | 260 | 43 | 65 | 299 | 350 | 376 | 28 | 19 | 2,8 |
| 40 | 40 | 65 | 31 | 48,3 | 3,6 | 3,2 | 76,1 | 260 | 43 | 65 | 304 | 350 | 390 | 28 | 19 | 3,1 |
| 50 | 40 | 100 | 39 | 60,3 | 4,0 | 3,2 | 88,9 | 300 | 43 | 65 | 306 | 350 | 396 | 28 | 19 | 3,4 |
| 65 | 25 | 180 | 50 | 76,1 | 4,5 | 3,2 | 101,6 | 300 | 43 | 62 | 303 | 350 | 402 | 28 | 19 | 6,5 |
| 80 | 25 | 270 | 65 | 88,9 | 5,6 | 3,2 | 127,0 | 300 | 43 | 62 | 302 | 350 | 413 | 28 | 19 | 8,0 |
| 100 | 25 | 420 | 80 | 114,3 | 6,3 | 3,6 | 159,0 | 325 | 55 | 82 | 295 | 350 | 431 | 35 | 27 | 12,2 |
| 125 | 25 | 650 | 100 | 139,7 | 6,3 | 3,6 | 193,7 | 325 | 55 | 82 | 293 | 350 | 445 | 35 | 27 | 17,0 |
| 150 | 25 | 950 | 125 | 168,3 | 7,1 | 4,0 | 244,5 | 350 | 55 | 80 | 291 | 350 | 472 | 35 | 27 | 31,0 |

Pressure-temperature diagram see page 4



KLINGER Monoball KHSU-OE short

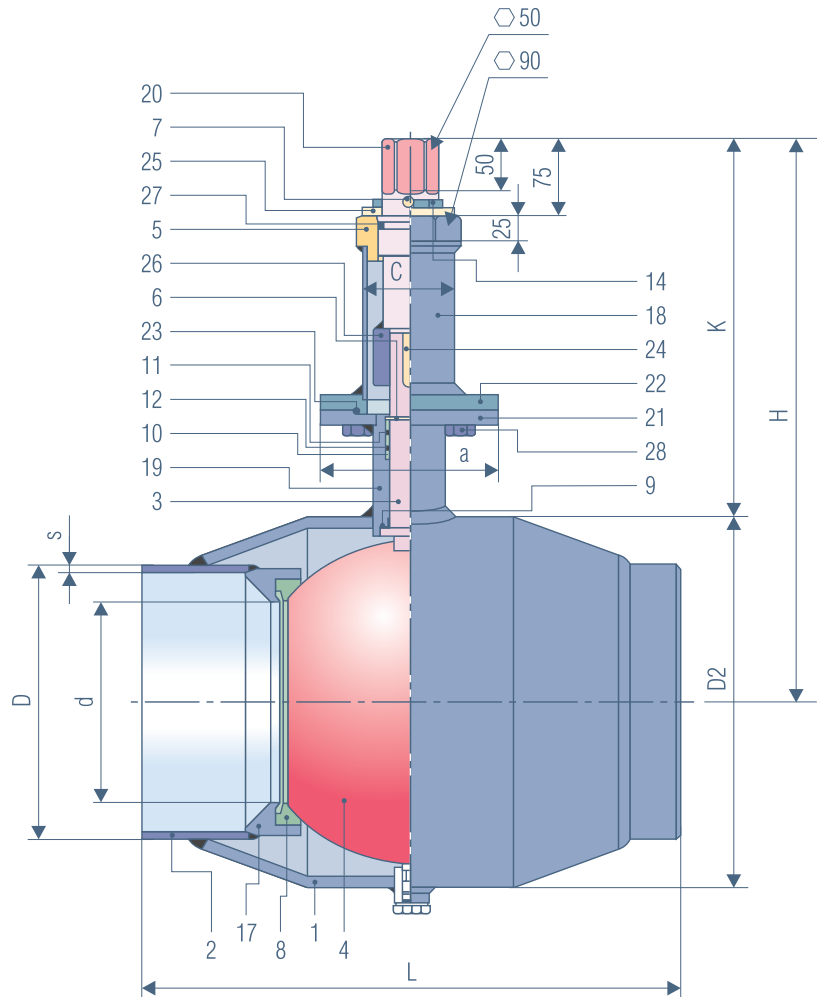
One-piece ball valve with extended spindle, reduced port weld end on both sides acc. to EN 12627, PN 25
Material: steel, temperature range: -20 °C to 200 °C

KHSU-OE short
200 – 300

PN 25

Material code number VIII

| No. | Part names | Material |
|-----|--------------------|-----------|
| 1 | Body | 1.0254 |
| 2 | Connecting pipe | 1.0254 |
| 3 | Spindle | 1.4305 |
| 4 | Ball | 1.4301 |
| 5 | Retaining bush | 1.0711 |
| 6 | Spring washer | HRC 44-51 |
| 7 | Bolt | 1.0718 |
| 8 | Ball sealing | PTFE+C |
| 9 | Bearing ring | PTFE+C |
| 10 | Spindle bush | PTFE |
| 11 | O-ring | FPM |
| 12 | O-ring | EPDM |
| 17 | Sealing seat | 1.0254 |
| 18 | Extension | 1.0254 |
| 19 | Spindle bush | 1.4301 |
| 20 | Gear piece | 1.4305 |
| 21 | Flange | 1.0254 |
| 22 | Flange | 1.0254 |
| 23 | O-ring | FPM |
| 24 | Feather key | 1.0052.07 |
| 25 | Chees headed screw | A4 |
| 26 | Coupling | 1.4301 |
| 27 | O-ring | FPM |
| 28 | Hexagon screw | 8 Zn |



Monoball ball valve PN 25

One-piece ball valve, with reduced port, maintenance-free spindle sealing with O-rings, pressure possible from both sides, ball sealing PTFE+C with two sealing lips, ball and spindle made of stainless steel, body made of steel

Make: KLINGER

Type: KHSU-OE short for DN 200-300

Ordering example:

KHSU-OE short 200-VIII, PN 25

Overall dimensions in mm

| DN | PN | Kv ₁₀₀ | d | D | s | D2 | L | C | K | H | a | Weight kg |
|-----|----|-------------------|-----|-------|-----|-----|-----|------|-----|-----|-----|-----------|
| 200 | 25 | 1700 | 150 | 219,1 | 6,3 | 273 | 400 | 76,1 | 395 | 532 | 150 | 48 |
| 250 | 25 | 2600 | 200 | 273,0 | 6,3 | 368 | 530 | 88,9 | 373 | 557 | 175 | 89 |
| 300 | 25 | 4500 | 250 | 323,9 | 7,1 | 445 | 550 | 88,9 | 510 | 733 | 210 | 148 |

Pressure-temperature diagram see page 4

Ball valve KLINGER Monoball Operating variations

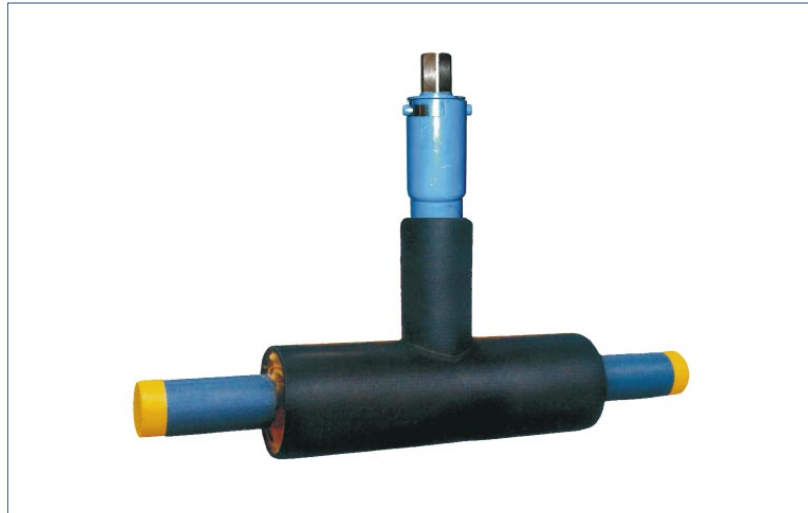
Operating variations

KLINGER Monoball is available with hand lever or mounting flange for mechanical gear.

From size DN 200 on the Monoball is offered inclusive gear.

The valves are available with operating-stem extension (350 mm) or suitable for underground installation (acc. to AGFW-guide lines).

The constructional design with extended shaft for underground installation allows easy and economical pre-insulation. If it is necessary to increase the layer of soil that covers the valve, an extension can be obtained, mounted to the existing, pre-insulated valve and adapted to the thickness of the soil layer.



Klinger Monoball KHSU-OE fully insulated with operating-stem extension, overall dimension 1000 mm

Torques for KLINGER Monoball

| DN in mm | Nm |
|----------|------|
| 15 | 5 |
| 20 | 5 |
| 25 | 10 |
| 32 | 15 |
| 40 | 35 |
| 50 | 60 |
| 65 | 80 |
| 80 | 130 |
| 100 | 180 |
| 125 | 250 |
| 150 | 360 |
| 200 | 600 |
| 250 | 1300 |



KLINGER KHS-OE with operating-stem extension ready for shipment



KLINGER Monoball KHS-OE



KLINGER KHS-OE with mounted operating-stem extension



Ball valve KLINGER Monoball Quality assurance



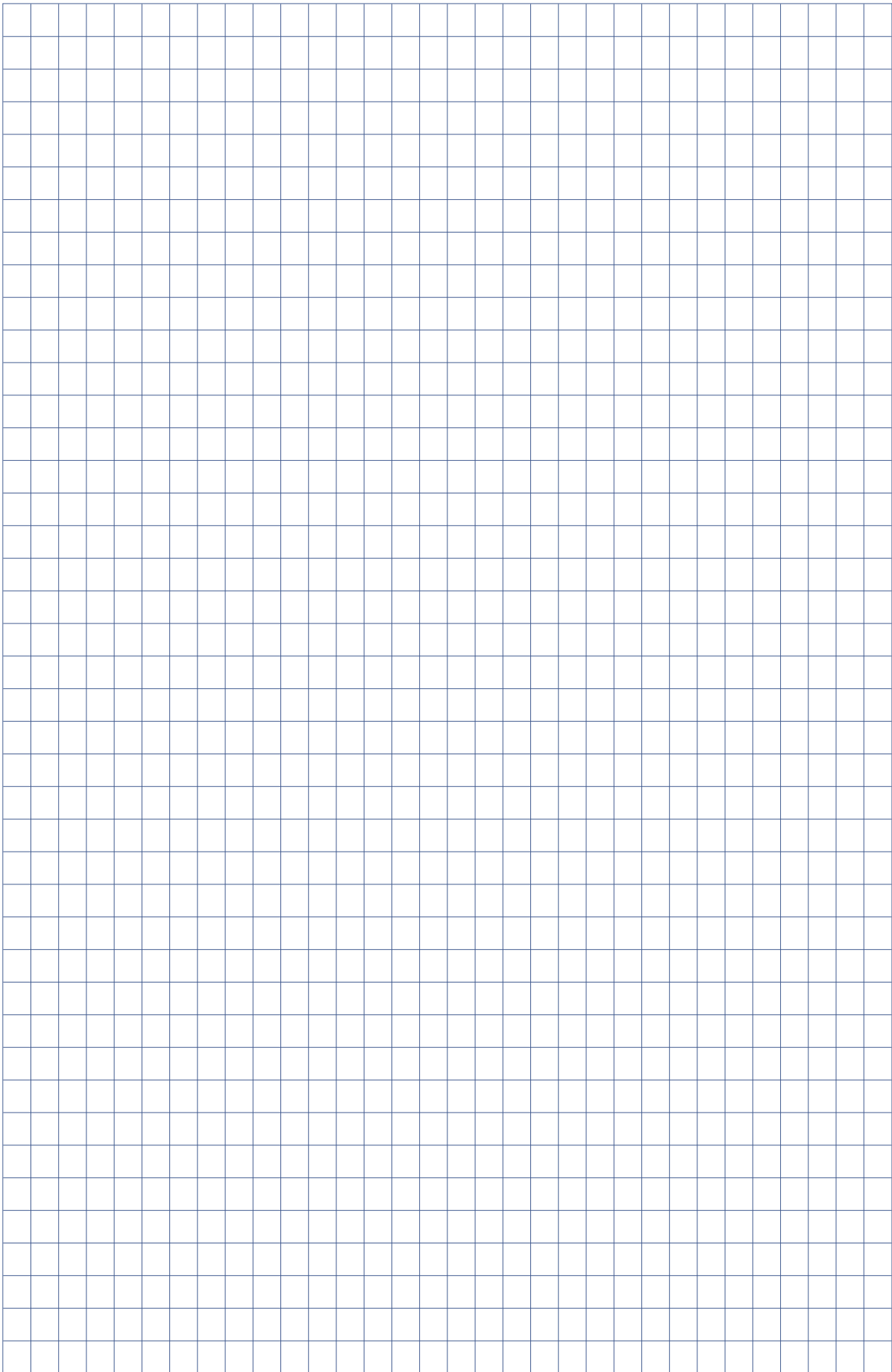
Quality assurance

Testing stand for proof of suitability of valves acc. to EN 488 (underground district heating pipelines)



Certificates

Type test acc. to EN 488 proof of suitability for valves installed in underground district heating-pipelines. Authorized to mark acc. to European pressure-vessel guide lines 97/23/EG (CE-marking)





KLINGER Product range

Product range

Ballostar®KHA

3-piece ball valve made of grey cast iron, steel and stainless cast steel

Ballostar®KHI

2-piece ball valve made of grey cast iron, steel and stainless cast steel

Piston valves

made of grey cast iron, nodular cast iron, steel and stainless cast steel

KLINGER Monoball®

One-piece ball valve made of steel and stainless cast steel

KLINGERMATIC®

Actuator for piston valves and ball valves

Liquid level gauges

for steam boiler and process application

Reflex and transparent gauges

Circular sight-glasses

AB cocks

Packing-sleeve cocks and pressure-gauge cocks in brass, steel and stainless steel

KLINGER Ball-o-top

Brass ball valves