

Soft seal
Ball valve
Float ball valve
Flange
PN16-40
DN15-200

Range of application:

In industrial facilities, oil and chemical industry and related manufacturing industries

Temperature range:

Max. working temperature :
 -10°C to +200°C (carbon steel)
 -10°C to +200°C (stainless steel)

Perform standard:

Design:split body with full bore round port , floating ball.
 acc. DIN3357 .
 Design minimum wall thickness calculation acc. : EN12516-1 .
 Face to face : DIN 558-1.
 Flange ends : DIN EN1092-1.
 Operating:with a two flat stem acc to the NAMUR
 -recommends.
 90° -rotary switch
 Actuator mounting: mounting flange acc. to DIN ISO5211
 for gear box , air- , electric-or hydraulic pattern actuator .
 Fire test : API 607 & BS 6755 .
 Antistatic device acc.: BS5351 .

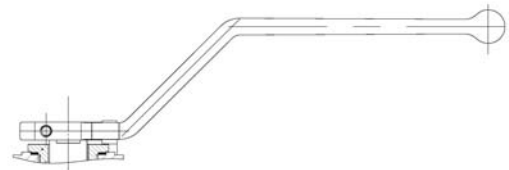
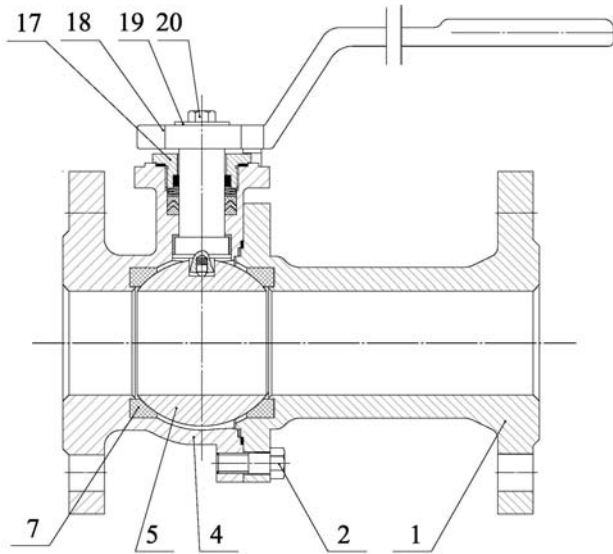
Material [cording DIN EN (DIN)]

Body: —1.0619N
 —1.4408
 Ball: —1.4301
 —1.4401
 Body Seal: PTFE / Graphite
 Seat: TFM1600 / RPTFE /
 PTFE with glassfibre / VX1

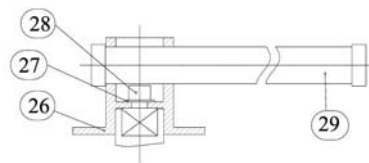
Order information:

Cylinder bore diameter
 Rated Pressure
 The working conditions
 Fluid
 Flange connection : DIN EN

| FIG. | Pressure | Material | RANGE |
|---------|----------|----------|------------|
| 133.751 | PN16 | 1.0619N | DN15-DN200 |
| 135.751 | PN40 | 1.0619N | DN15-DN200 |
| 153.751 | PN16 | 1.4408 | DN15-DN200 |
| 155.751 | PN40 | 1.4408 | DN15-DN200 |



For 1.4408 ball valves



DN125 - DN200

Ball valve with full bore and Flange .

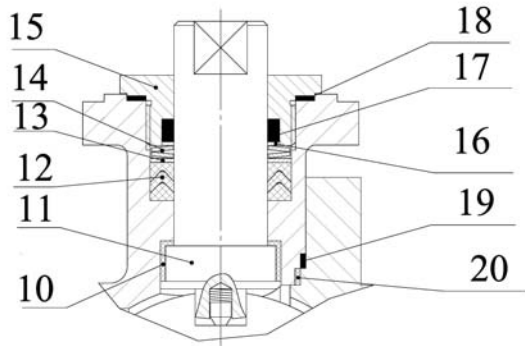
Material list

| NO. | Part | Material | |
|-----|---------|------------------------------------|------------------------------------|
| | | FIG. 153.751 / 155.751 | FIG. 133.751 / 135.751 |
| 1 | Adapter | 1.4408 | 1.0619N |
| 2 | Bolts | A4-70 | 1.7225 |
| 4 | Body | 1.4408 | 1.0619N |
| 5 | Ball | 1.4401 | 1.4301 |
| 7 | Seat | RPTFE / PTFE with glassfibre / VX1 | RPTFE / PTFE with glassfibre / VX1 |
| 17 | Nut | 1.4401 | CS |
| 18 | Lever | 1.4308 | GGG40 |
| 19 | Gasket | 1.4301 | 1.4301 |
| 20 | Bolts | A2-70 | 35 |
| 26 | Switch | 1.4408 | 1.0619N |
| 27 | Gasket | 1.4301 | 1.4301 |
| 28 | Bolt | A2-70 | 35 |
| 29 | Lever | C45 Galvanization | C45 |

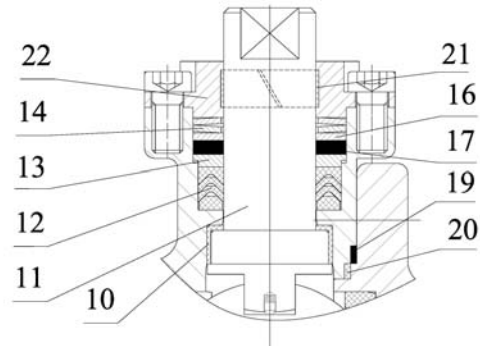
STUFFING BOX TYPE :

VGS :

PTFE + GRAPHITE + SPRING (TA AIR + FIRE SAFE)



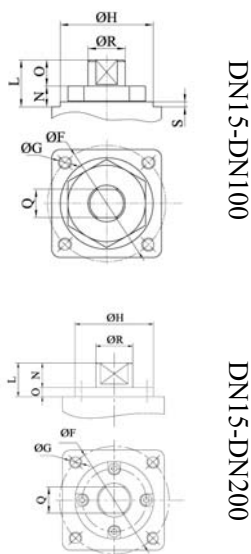
DN15 - DN100



DN15 - DN200

Material list

| NO. | Part | Material | |
|-----|-------------------|------------------------|------------------------|
| | | FIG. 153.751 / 155.751 | FIG. 133.751 / 135.751 |
| 10 | Thrust bearing | PTFE+25%glass | PTFE+25%glass |
| 11 | Stem | 17-4PH / 1.4401 | 17-4PH / 1.4401 |
| 12 | Packing | PTFE | PTFE |
| 13 | Gasket | 1.4401 | 1.4401 |
| 14 | Belleville spring | 17-7PH | 17-7PH |
| 15 | Nut | 1.4401 | CS |
| 16 | Metal-ring | 1.4401 | 1.4301 |
| 17 | Packing | Graphite | Graphite |
| 18 | Gasket | Graphite | Graphite |
| 19 | Body seal | Graphite | Graphite |
| 20 | Body seal | PTFE | PTFE |
| 21 | Bearing | PTFE+30%C | PTFE+30%C |
| 22 | Cover | 1.4401 | C22.8 |

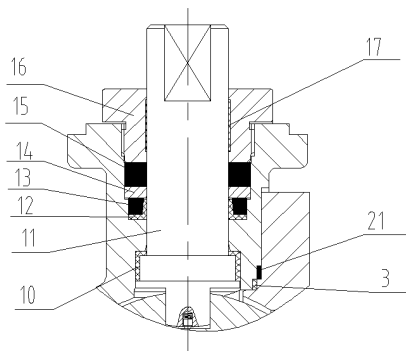


Dimension List

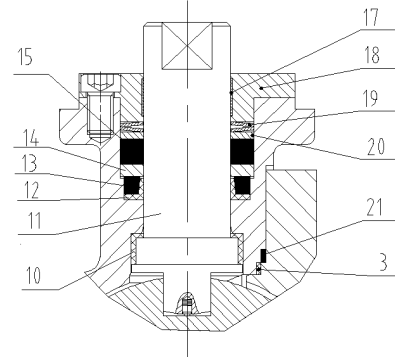
| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
|----------|-----|------|------|------|------|------|------|------|------|-----|-----|-----|
| ΦF | 50 | 50 | 50 | 50 | 70 | 70 | 70 | 102 | 102 | 125 | 125 | 125 |
| ΦG | M6 | M6 | M6 | M6 | M8 | M8 | M8 | M10 | M10 | M12 | M12 | M12 |
| ΦH | 35 | 35 | 35 | 35 | 55 | 55 | 55 | 70 | 70 | 85 | 85 | 85 |
| L | 19. | 25.6 | 34.5 | 34.5 | 38 | 38 | 44 | 50 | 50 | 37 | 37 | 37 |
| O | 10. | 12.8 | 20.7 | 20.7 | 23.8 | 23.8 | 30.3 | 32.8 | 32.8 | 23 | 23 | 23 |
| N | 8.8 | 12.8 | 13.8 | 13.8 | 14.2 | 14.2 | 13.7 | 17.2 | 17.2 | 14 | 14 | 14 |
| Q | 11 | 11 | 14 | 14 | 17 | 17 | 17 | 19 | 19 | 27 | 27 | 27 |
| ΦR | 14 | 14 | 18 | 18 | 22 | 22 | 22 | 26 | 30 | 40 | 40 | 40 |
| S | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | - | - | - |
| ISO 5211 | F05 | F05 | F05 | F05 | F07 | F07 | F07 | F10 | F10 | F12 | F12 | F12 |

WRG :

WEDGE RING + GRAPHITE + SPRING (TA AIR + FIRE SAFE)



DN15 - DN100

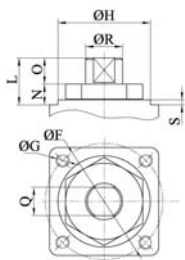


DN15 – DN200

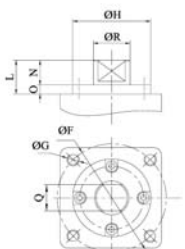
Material list

| NO. | Part | Material | |
|-----|-------------------|------------------------|------------------------|
| | | FIG. 153.751 / 155.751 | FIG. 133.751 / 135.751 |
| 3 | Body seal | PTFE | PTFE |
| 10 | Thrust bearing | PTFE+25%glass | PTFE+25%glass |
| 11 | Stem | 17-4PH / 1.4401 | 17-4PH / 1.4401 |
| 12 | Packing | PTFE | PTFE |
| 13 | Packing | Graphite | Graphite |
| 14 | Gasket | 1.4401 | 1.4401 |
| 15 | Packing | Graphite | Graphite |
| 16 | Nut | 1.4401 | CS |
| 17 | Bearing | PTFE+30%C | PTFE+30%C |
| 18 | Cover | 1.4401 | C22.8 |
| 19 | Belleville spring | 17-7PH | 17-7PH |
| 20 | Gasket | 1.4401 | 1.4401 |
| 21 | Body seal | Graphite | Graphite |

Dimension List



DN15-DN100



DN15-DN200

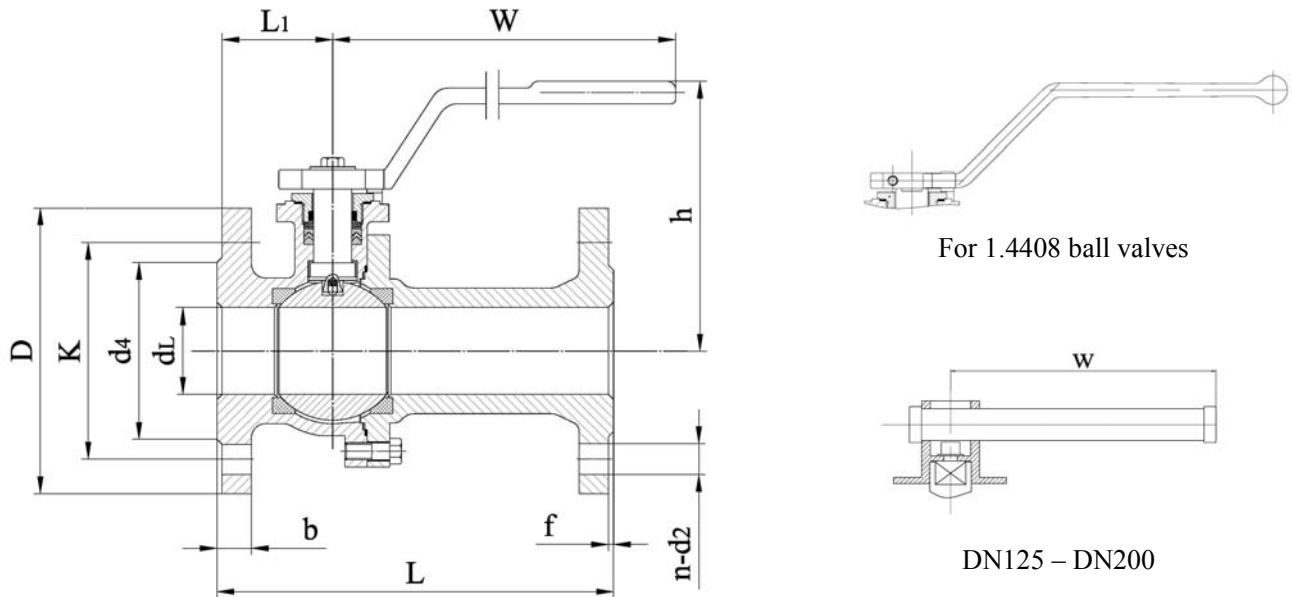
| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
|----------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| ΦF | 50 | 50 | 50 | 50 | 70 | 70 | 70 | 102 | 102 | 125 | 125 | 125 |
| ΦG | M6 | M6 | M6 | M6 | M8 | M8 | M8 | M10 | M10 | M12 | M12 | M12 |
| ΦH | 35 | 35 | 35 | 35 | 55 | 55 | 55 | 70 | 70 | 85 | 85 | 85 |
| L | 19.5 | 25.6 | 34.5 | 34.5 | 38 | 38 | 44 | 50 | 50 | 37 | 37 | 37 |
| O | 10.7 | 12.8 | 20.7 | 20.7 | 23.8 | 23.8 | 30.3 | 32.8 | 32.8 | 23 | 23 | 23 |
| N | 8.8 | 12.8 | 13.8 | 13.8 | 14.2 | 14.2 | 13.7 | 17.2 | 17.2 | 14 | 14 | 14 |
| Q | 11 | 11 | 14 | 14 | 17 | 17 | 17 | 19 | 19 | 27 | 27 | 27 |
| ΦR | 14 | 14 | 18 | 18 | 22 | 22 | 22 | 26 | 30 | 40 | 40 | 40 |
| S | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | - | - | - |
| ISO 5211 | F05 | F05 | F05 | F05 | F07 | F07 | F07 | F10 | F10 | F12 | F12 | F12 |

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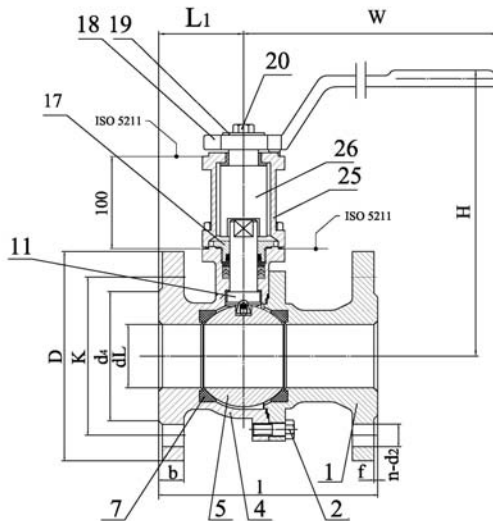
| FIG. | Pressure | Material | RANGE |
|---------|----------|----------|------------|
| 133.751 | PN16 | 1.0619N | DN15-DN200 |
| 135.751 | PN40 | 1.0619N | DN15-DN200 |
| 153.751 | PN16 | 1.4408 | DN15-DN200 |
| 155.751 | PN40 | 1.4408 | DN15-DN200 |



Ball valve with full bore and Flange . Flange end: DIN EN 1092-1 Form B ; Face to face: EN558-1 , G27 / G28 .

Dimension List

| PN | DN | dL | L | L1 | h | W | D | b | K | n-d2 | d4×f | Weight |
|--------|-----|------|---------|------|-------|-----|------|----|------|--------|--------|--------|
| 16(40) | 15 | Φ15 | 115/130 | 45.5 | 115 | 200 | Φ95 | 16 | Φ65 | 4-Φ14 | Φ45×2 | 3.5 |
| | 20 | Φ20 | 120/150 | 50.5 | 121 | 200 | Φ105 | 18 | Φ75 | 4-Φ14 | Φ58×2 | 4.4 |
| | 25 | Φ25 | 125/160 | 57 | 127 | 220 | Φ115 | 18 | Φ85 | 4-Φ14 | Φ68×2 | 5.3 |
| | 32 | Φ31 | 130/180 | 58 | 142 | 220 | Φ140 | 18 | Φ100 | 4-Φ18 | Φ78×2 | 7.2 |
| | 40 | Φ40 | 140/200 | 63.5 | 151 | 270 | Φ150 | 18 | Φ110 | 4-Φ18 | Φ88×3 | 9.3 |
| | 50 | Φ50 | 150/230 | 67 | 157 | 270 | Φ165 | 20 | Φ125 | 4-Φ18 | Φ102×3 | 13 |
| 16 | 65 | Φ65 | 170/290 | 71 | 191 | 360 | Φ185 | 18 | Φ145 | 4-Φ18 | Φ122×3 | 16.5 |
| | 80 | Φ77 | 180/310 | 83 | 201 | 360 | Φ200 | 20 | Φ160 | 8-Φ18 | Φ138×3 | 22.5 |
| | 100 | Φ100 | 190/350 | 87 | 218 | 360 | Φ220 | 20 | Φ180 | 8-Φ18 | Φ158×3 | 30.5 |
| | 125 | Φ125 | 325 | 122 | 241.5 | 500 | Φ250 | 22 | Φ210 | 8-Φ18 | Φ188×3 | 55 |
| | 150 | Φ150 | 350 | 124 | 256 | 650 | Φ285 | 22 | Φ240 | 8-Φ22 | Φ212×3 | 82 |
| | 200 | Φ200 | 400 | 168 | 315 | 760 | Φ340 | 24 | Φ295 | 12-Φ22 | Φ268×3 | 190 |
| 40 | 65 | Φ65 | 170/290 | 71 | 191 | 360 | Φ185 | 22 | Φ145 | 8-Φ18 | Φ122×3 | 18.7 |
| | 80 | Φ77 | 180/310 | 83 | 201 | 360 | Φ200 | 24 | Φ160 | 8-Φ18 | Φ138×3 | 23.6 |
| | 100 | Φ100 | 190/350 | 87 | 218 | 360 | Φ235 | 24 | Φ190 | 8-Φ22 | Φ162×3 | 34 |
| | 125 | Φ125 | 325 | 122 | 241.5 | 500 | Φ270 | 26 | Φ220 | 8-Φ26 | Φ188×3 | 60.5 |
| | 150 | Φ150 | 350 | 124 | 256 | 650 | Φ300 | 28 | Φ250 | 8-Φ26 | Φ218×3 | 89 |
| | 200 | Φ200 | 400 | 168 | 315 | 760 | Φ375 | 34 | Φ320 | 12-Φ30 | Φ285×3 | 201 |



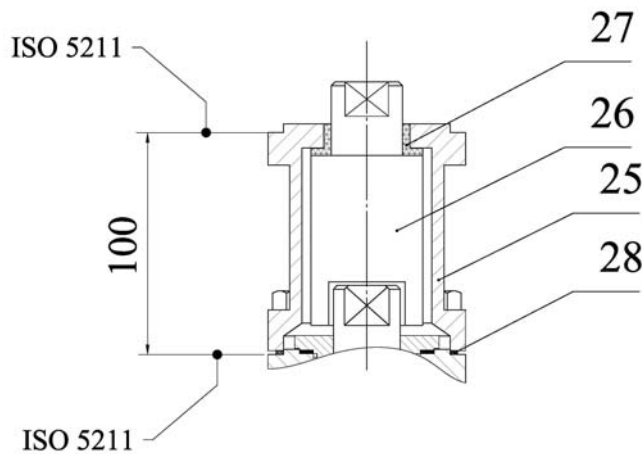
Long stem ball valve with full bore and Flange .
 Flange end: DIN EN 1092-1 Form B ;
 Face to face: EN558-1 .

Material list

| NO. | Part | Material | |
|-----|-----------|------------------------------------|------------------------------------|
| 1 | Adapter | 1.4408 | 1.0619N |
| 2 | Bolts | A4-70 | 1.7225 |
| 4 | Body | 1.4408 | 1.0619N |
| 5 | Ball | 1.4401 | 1.4301 |
| 7 | Seat | RPTFE / PTFE with glassfibre / VX1 | RPTFE / PTFE with glassfibre / VX1 |
| 11 | Stem | 17-4PH / 1.4401 | 17-4PH / 1.4401 |
| 17 | Nut | 1.4401 | CS |
| 18 | Lever | 1.4308 | GGG-40 |
| 19 | Gasket | 1.4401 | 1.4301 |
| 20 | Bolts | A2-70 | 35 |
| 25 | Case | 1.4408 | 1.0619N |
| 26 | Long stem | 17-4PH / 1.4401 | 17-4PH / 1.4401 |

Dimension list

| PN | DN | dL | l | l1 | H | W | D | b | K | n-d2 | d4×f | Weight |
|--------|-----|------|---------|------|-------|-----|------|----|-------|--------|--------|--------|
| 16(40) | 15 | Φ15 | 115/130 | 45.5 | 215 | 200 | Φ95 | 16 | Φ65 | 4-Φ14 | Φ45×2 | 3.5 |
| | 20 | Φ20 | 120/150 | 50.5 | 221 | 200 | Φ105 | 18 | Φ75 | 4-Φ14 | Φ58×2 | 4.4 |
| | 25 | Φ25 | 125/160 | 57 | 227 | 220 | Φ115 | 18 | Φ85 | 4-Φ14 | Φ68×2 | 5.3 |
| | 32 | Φ31 | 130/180 | 58 | 242 | 220 | Φ140 | 18 | Φ100 | 4-Φ18 | Φ78×2 | 7.2 |
| | 40 | Φ40 | 140/200 | 63.5 | 251 | 270 | Φ150 | 18 | Φ110 | 4-Φ18 | Φ88×3 | 9.3 |
| | 50 | Φ50 | 150/230 | 67 | 257 | 270 | Φ165 | 20 | Φ125 | 4-Φ18 | Φ102×3 | 13 |
| 16 | 65 | Φ65 | 170/290 | 71 | 291 | 360 | Φ185 | 18 | Φ145 | 4-Φ18 | Φ122×3 | 16.5 |
| | 80 | Φ77 | 180/310 | 83 | 301 | 360 | Φ200 | 20 | Φ160 | 8-Φ18 | Φ138×3 | 22.5 |
| | 100 | Φ100 | 190/350 | 87 | 318 | 360 | Φ220 | 20 | Φ180 | 8-Φ18 | Φ158×3 | 30.5 |
| | 125 | Φ125 | 325 | 122 | 341.5 | 500 | Φ250 | 22 | Φ210 | 8-Φ18 | Φ188×3 | 55 |
| | 150 | Φ150 | 350 | 124 | 356 | 650 | Φ285 | 22 | Φ240 | 8-Φ22 | Φ212×3 | 82 |
| | 200 | Φ200 | 400 | 168 | 415 | 760 | Φ340 | 24 | Φ295 | 12-Φ22 | Φ268×3 | 190 |
| 40 | 65 | Φ65 | 170/290 | 71 | 291 | 360 | Φ185 | 22 | Φ145 | 8-Φ18 | Φ122×3 | 18.7 |
| | 80 | Φ77 | 180/310 | 83 | 301 | 360 | Φ200 | 24 | Φ160 | 8-Φ18 | Φ138×3 | 23.6 |
| | 100 | Φ100 | 190/350 | 87 | 318 | 360 | Φ235 | 24 | Φ190 | 8-Φ22 | Φ162×3 | 34 |
| | 125 | Φ125 | 325 | 122 | 341.5 | 500 | Φ270 | 26 | Φ220 | 8-Φ26 | Φ188×3 | 60.5 |
| | 150 | Φ150 | 350 | 124 | 356 | 650 | Φ300 | 28 | Φ250 | 8-Φ26 | Φ218×3 | 89 |
| | 200 | Φ200 | 400 | 168 | 415 | 760 | Φ375 | 34 | Φ3203 | 12-Φ30 | Φ285×3 | 201 |



Long stem V - seal (PTFE) + Graphite

Material list

| NO. | Part | Material | |
|-----|----------------|-----------------|-----------------|
| 25 | Case | 1.4408 | 1.0619N |
| 26 | Long stem | 17-4PH / 1.4401 | 17-4PH / 1.4401 |
| 27 | Thrust bearing | PTFE+25%glass | PTFE+25%glass |
| 28 | Gasket | PTFE | PTFE |

Dimension List

| PN | DN | H | ISO5211 |
|--------|-----|-----|---------|
| 16(40) | 15 | 100 | F05 |
| | 20 | 100 | F05 |
| | 25 | 100 | F05 |
| | 32 | 100 | F05 |
| | 40 | 100 | F07 |
| | 50 | 100 | F07 |
| 16 | 65 | 100 | F07 |
| | 80 | 100 | F10 |
| | 100 | 100 | F10 |
| | 125 | 100 | F12 |
| | 150 | 100 | F12 |
| | 200 | 100 | F12 |
| 40 | 65 | 100 | F07 |
| | 80 | 100 | F10 |
| | 100 | 100 | F10 |
| | 125 | 100 | F12 |
| | 150 | 100 | F12 |
| | 200 | 100 | F12 |

Connecting format

| | | |
|-----------------|------------------|---|
| Flanged | | |
| Pressure rating | Flange dimension | Sealing form |
| PN16 PN40 | DIN EN 1092-1 | DIN EN 1092-1 Form B 1 ¹ Ra max : 12.5 μm Rz max : 50 μm |

Installation instructions

Installation site is not prescribed.
Regardless of the flow direction.

Details please consult.

Technical parameters

Flow characteristics - Kv (m³/h)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 150 | 200 |
|----|----|----|----|----|-----|-----|-----|-----|------|------|-------|
| Kv | 12 | 23 | 60 | 72 | 175 | 360 | 620 | 930 | 1900 | 3500 | ----- |

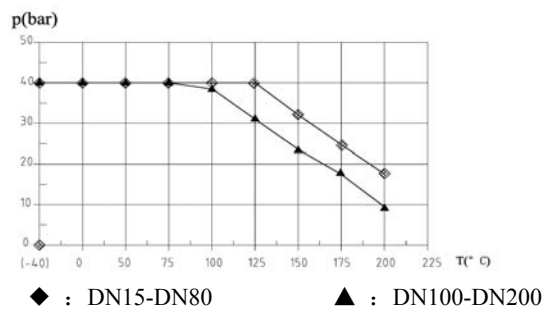
Open torque - Nm

| ΔP (bar) | DN | | | | | | | | | | |
|-------------|----|-----|----|----|----|----|-----|-----|-----|-----|------|
| | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 150 | 200 |
| 0 | 3 | 3.5 | 6 | 9 | 14 | 17 | 39 | 59 | 75 | 130 | 198 |
| 10 | 4 | 6 | 10 | 15 | 24 | 27 | 55 | 80 | 105 | 220 | 350 |
| 16 | 5 | 8 | 16 | 21 | 31 | 36 | 70 | 100 | 132 | 306 | 495 |
| 25 | 7 | 11 | 20 | 30 | 39 | 55 | 95 | 130 | 180 | 500 | 510 |
| 40 | 9 | 15 | 26 | 41 | 50 | 72 | 130 | 190 | 265 | 670 | 1100 |

Maximum and minimum

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 150 | 200 |
|--------------------|----|----|-----|-----|-----|-----|-----|------|------|------|------|
| M _{d max} | 50 | 50 | 336 | 336 | 600 | 600 | 600 | 1000 | 1000 | 3500 | 4000 |
| M _{d min} | 2 | 2 | 3 | 5 | 8 | 9 | 21 | 32 | 41 | 70 | 99 |

Allowable pressure in dependence of the temperature



Details please consult.