

**Forged Ball valve, Floating ball, Trunnion ball, Soft seal, Metal Seal  
1.0460, 1.4404  
PN16-160, DN15-300**



**TA-Luft 2021 acc. to ISO 15848-1 CO3 t (-60°C 200°C).  
ISO 15848-1 FE BH CO3 t (-60°C 200°C).**

**Range of application:**

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

**Temperature range:**

Max. working temperature :  
-200°C to +800°C

**Material [ according DIN EN (DIN) ]**

Body: —1.0460  
—1.4401,1.4404,1.4571  
—Hastelloy  
Ball: —1.4301,1.4401,1.4404,1.4571  
—1.4301+Coating  
—1.4401/1.4404/1.4571+Coating  
—Hastelloy  
Body Seal: PTFE /Graphite  
Seat: —PTFE / RPTFE /TFM1600 / VX1  
/ PEEK /PCTFE  
—1.4301+Coating  
—1.4401/1.4404/1.4571+Coating  
—Hastelloy

**Perform standard:**

Design:split body with full bore round port , floating ball, Trunnion ball.  
acc. DIN 3357 / DIN EN 1983 .

Design minimum wall thickness calculation acc. : EN12516-1 .

Face to face : DIN 558-1; Flange ends : DIN EN 1092-1.

Operating:with a two flat stem acc to the NAMUR-recommends.  
90° -rotary switch

Actuator mounting: mounting flange acc. to DIN ISO 5211  
for gear box , air- , electric-or hydraulic pattern actuator .

Fire test : API 607 & BS 6755 .

TA-Luft 2021 acc. to ISO 15848-1 CO3 t (-60°C 200°C).

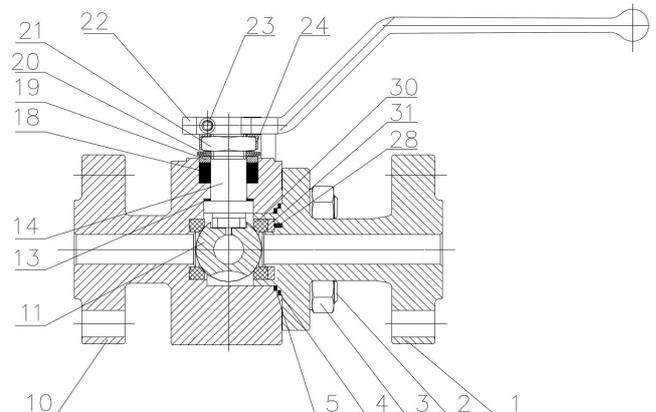
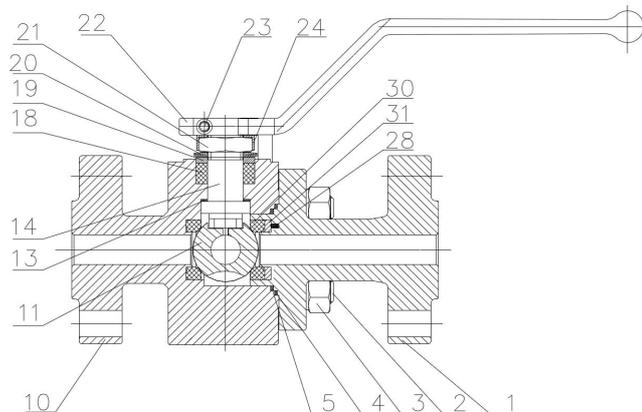
ISO 15848-1 FE BH CO3 t (-60°C 200°C).

Antistatic device acc.: BS 5351 .

Preloaded belleville spring design for stem sealing system,  
offers the possibility of adjustment of the sealing.

**Forged Ball valve, Flange, Floating ball, full bore, soft seat, PN16 to PN160, DN15-DN200**

| FIG.    | Pressure | Material  | RANGE      |
|---------|----------|-----------|------------|
| 143.711 | PN16     | 1.0460    | DN15-DN200 |
| 145.711 | PN40     |           |            |
| 146.711 | PN64     |           |            |
| 147.711 | PN100    |           |            |
| 148.711 | PN160    |           |            |
| 233.711 | PN16     | 1.4401    | DN15-DN200 |
| 235.711 | PN40     |           |            |
| 236.711 | PN64     |           |            |
| 237.711 | PN100    |           |            |
| 238.711 | PN160    |           |            |
| 243.711 | PN16     | 1.4404    | DN15-DN200 |
| 245.711 | PN40     |           |            |
| 246.711 | PN64     |           |            |
| 247.711 | PN100    |           |            |
| 248.711 | PN160    |           |            |
| 183.711 | PN16     | 1.4571    | DN15-DN200 |
| 185.711 | PN40     |           |            |
| 186.711 | PN64     |           |            |
| 187.711 | PN100    |           |            |
| 188.711 | PN160    |           |            |
| 543.711 | PN16     | Hastelloy | DN15-DN200 |
| 545.711 | PN40     |           |            |
| 546.711 | PN64     |           |            |
| 547.711 | PN100    |           |            |
| 548.711 | PN160    |           |            |



**DN15 - DN200 PTFE Packing**

**DN15 - DN200 Graphite Packing fire safe**

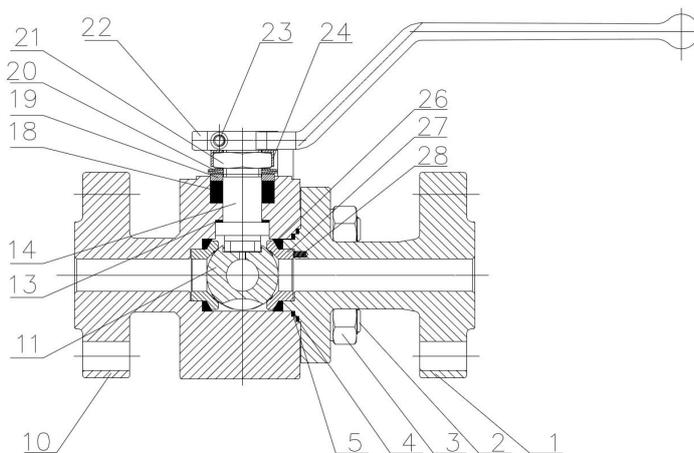
Ball valve with full bore and Flange. PN16 PN40 EN558-1 G1 , PN64 PN100 PN160 EN558-1 G2

**Material list**

| NO. | Part               | Material   |  |  |  |  |
|-----|--------------------|--|--|--|--|--|
|     |                    | FIG. 143.711/<br>145.711/ 146.711/<br>147.711/ 148.711 | FIG. 233.711<br>/235.711/236.711<br>/237.711/238.711 | FIG. 243.711<br>/245.711/246.711<br>/247.711/248.711 | FIG. 183.711<br>/185.711/186.711<br>/187.711/188.711 | FIG. 543.711<br>/545.711/546.711<br>/547.711/548.711 |
| 1   | Adapter            | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 2   | Bolts              | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 3   | Nut                | YK   | A4   | A4   | A4   | A4   |
| 4   | Body seal          | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 5   | Body seal          | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 10  | Body               | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 11  | Ball               | 1.4301   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 13  | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 14  | Stem               | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 18  | Packing            | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 19  | Packing ring       | 1.4401   | 1.4401   | 1.4401   | 1.4401   | 1.4401   |
| 20  | Belleville spring  | INCONEL X-750  |  |  |  |  |
| 21  | Nut                | A2   | A4   | A4   | A4   | A4   |
| 22  | Lever              | GGG40.3  | 1.4308   | 1.4308   | 1.4308   | 1.4308   |
| 23  | Bolt               | A2-70  | A4-70  | A4-70  | A4-70  | A4-70  |
| 24  | Retaining ring     | 1.4301   | 1.4301   | 1.4301   | 1.4301   | 1.4301   |
| 28  | Compression spring | INCONEL X-750  |  |  |  |  |
| 30  | Seat               | PTFE/RPTFE/TFM 1600/VX1/ PEEK/PCTFE                    |  |  |  |  |
| 31  | Seat retainer      | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |

**Forged Ball valve, Flange, Trunnion ball, full bore, metal seat, PN16 to PN160, DN15-DN200**

| FIG.    | Pressure | Material  | RANGE      |
|---------|----------|-----------|------------|
| 143.713 | PN16     | 1.0460    | DN15-DN200 |
| 145.713 | PN40     |           |            |
| 146.713 | PN64     |           |            |
| 147.713 | PN100    |           |            |
| 148.713 | PN160    |           |            |
| 233.713 | PN16     | 1.4401    | DN15-DN200 |
| 235.713 | PN40     |           |            |
| 236.713 | PN64     |           |            |
| 237.713 | PN100    |           |            |
| 238.713 | PN160    |           |            |
| 243.713 | PN16     | 1.4404    | DN15-DN200 |
| 245.713 | PN40     |           |            |
| 246.713 | PN64     |           |            |
| 247.713 | PN100    |           |            |
| 248.713 | PN160    |           |            |
| 183.713 | PN16     | 1.4571    | DN15-DN200 |
| 185.713 | PN40     |           |            |
| 186.713 | PN64     |           |            |
| 187.713 | PN100    |           |            |
| 188.713 | PN160    |           |            |
| 543.713 | PN16     | Hastelloy | DN15-DN200 |
| 545.713 | PN40     |           |            |
| 546.713 | PN64     |           |            |
| 547.713 | PN100    |           |            |
| 548.713 | PN160    |           |            |



**DN15 - DN200 Graphite Packing fire safe**

Ball valve with full bore and Flange. PN16 PN40 EN558-1 G1 , PN64 PN100 PN160 EN558-1 G2

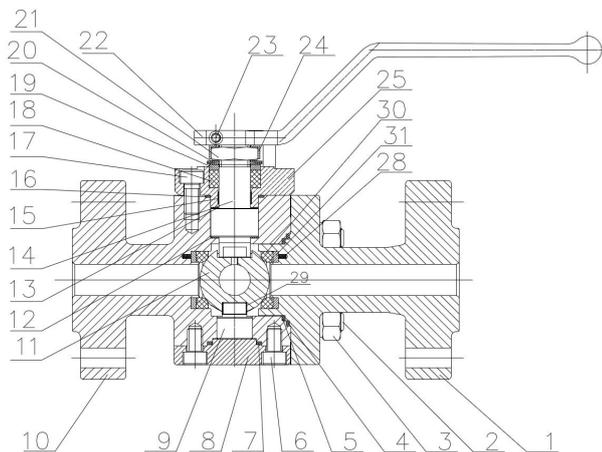
## Material list

| NO. | Part               | Material   |  |  |  |  |
|-----|--------------------|--|--|--|--|--|
|     |                    | FIG. 143.713/<br>145.713/ 146.713/<br>147.713/ 148.713 | FIG. 233.713<br>/235.713/236.713<br>/237.713/238.713 | FIG. 243.713<br>/245.713/246.713<br>/247.713/248.713 | FIG. 183.713<br>/185.713/186.713<br>/187.713/188.713 | FIG. 543.713<br>/545.713/546.713<br>/547.713/548.713 |
| 1   | Adapter            | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 2   | Bolts              | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 3   | Nut                | YK   | A4   | A4   | A4   | A4   |
| 4   | Body seal          | Graphite   |  |  |  |  |
| 5   | Body seal          | Graphite   |  |  |  |  |
| 10  | Body               | 1.4301   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 11  | Ball               | 1.4301+Coating*  | 1.4401+Coating*                                      | 1.4404+Coating*                                      | 1.4571+Coating*                                      | Hastelloy  |
| 13  | Gasket             | Graphite   |  |  |  |  |
| 14  | Stem               | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 18  | Packing            | Graphite   |  |  |  |  |
| 19  | Packing ring       | 1.4401   | 1.4401   | 1.4401   | 1.4401   | 1.4401   |
| 20  | Belleville spring  | INCONEL X-750  |  |  |  |  |
| 21  | Nut                | A2   | A4   | A4   | A4   | A4   |
| 22  | Lever              | GGG40.3  | 1.4308   | 1.4308   | 1.4308   | 1.4308   |
| 23  | Bolt               | A2-70  | A4-70  | A4-70  | A4-70  | A4-70  |
| 24  | Retaining ring     | 1.4301   | 1.4301   | 1.4301   | 1.4301   | 1.4301   |
| 26  | Gasket             | Graphite   |  |  |  |  |
| 27  | Seat               | 1.4301+Coating*  | 1.4401+Coating*                                      | 1.4404+Coating*                                      | 1.4571+Coating*                                      | Hastelloy  |
| 28  | Compression spring | INCONEL X-750  |  |  |  |  |

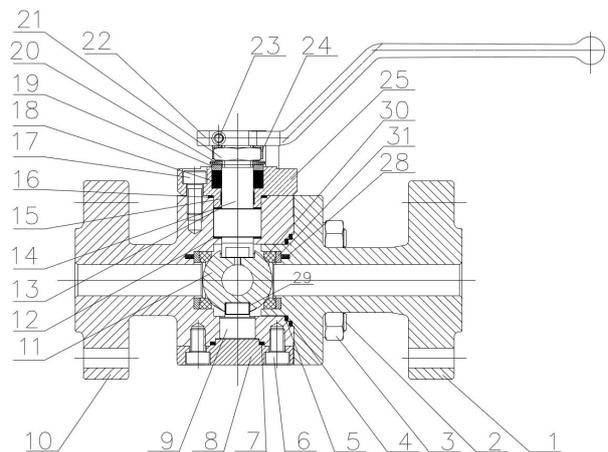
\* coating options: Electroplated Hard Chrome/ Tungsten carbide /Chrome carbide /Carbide HVOF /Nickel-based alloy

**Forged Ball valve, Flange, Trunnion ball, full bore, soft seat, PN16 to PN160, DN15-DN50**

| FIG.    | Pressure | Material  | RANGE     |
|---------|----------|-----------|-----------|
| 146.721 | PN64     | 1.0460    | DN15-DN50 |
| 147.721 | PN100    |           |           |
| 148.721 | PN160    |           |           |
| 236.721 | PN64     | 1.4401    | DN15-DN50 |
| 237.721 | PN100    |           |           |
| 238.721 | PN160    |           |           |
| 246.721 | PN64     | 1.4404    | DN15-DN50 |
| 247.721 | PN100    |           |           |
| 248.721 | PN160    |           |           |
| 186.721 | PN64     | 1.4571    | DN15-DN50 |
| 187.721 | PN100    |           |           |
| 188.721 | PN160    |           |           |
| 546.721 | PN64     | Hastelloy | DN15-DN50 |
| 547.721 | PN100    |           |           |
| 548.721 | PN160    |           |           |



**DN15 - DN50 PTFE Packing**



**DN15 - DN50 Graphite Packing fire safe**

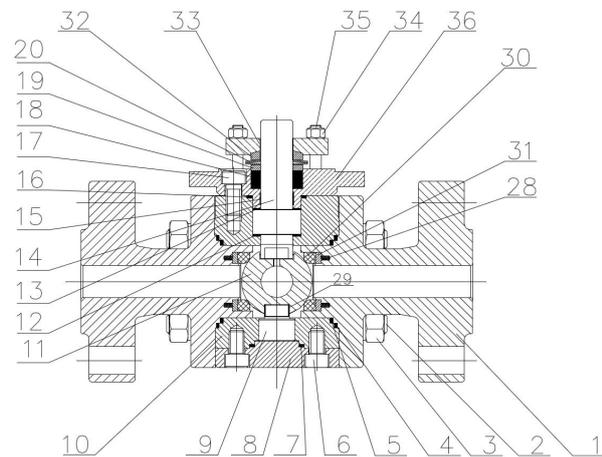
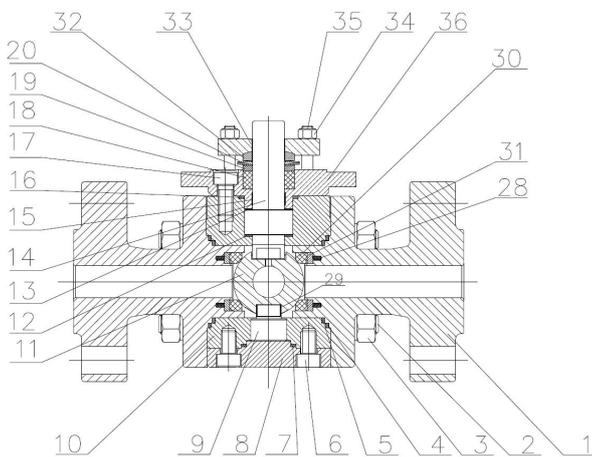
Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

**Material list**

| NO. | Part               | Material   |  |  |  |  |
|-----|--------------------|--|--|--|--|--|
|     |                    | FIG. 143.721/<br>145.721/ 146.721/<br>147.721/ 148.721 | FIG. 233.721<br>/235.721/236.721<br>/237.721/238.721 | FIG. 243.721<br>/245.721/246.721<br>/247.721/248.721 | FIG. 183.721<br>/185.721/186.721<br>/187.721/188.721 | FIG. 543.721<br>/545.721/546.721<br>/547.721/548.721 |
| 1   | Adapter            | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 2   | Bolts              | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 3   | Nut                | YK   | A4   | A4   | A4   | A4   |
| 4   | Body seal          | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 5   | Body seal          | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 6   | Bolts              | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 7   | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 8   | Cover              | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 9   | Trunnion           | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 10  | Body               | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 11  | Ball               | 1.4301   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 12  | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 13  | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 14  | Stem               | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 15  | Bearing            | PTFE+30%C  |  |  |  |  |
| 16  | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 17  | Bolt               | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 18  | Packing            | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 19  | Packing ring       | 1.4401   | 1.4401   | 1.4401   | 1.4401   | 1.4401   |
| 20  | Belleville spring  | INCONEL X-750  |  |  |  |  |
| 21  | Nut                | A2   | A4   | A4   | A4   | A4   |
| 22  | Lever              | GGG40.3  | 1.4308   | 1.4308   | 1.4308   | 1.4308   |
| 23  | Bolt               | A2-70  | A4-70  | A4-70  | A4-70  | A4-70  |
| 24  | Retaining ring     | 1.4301   | 1.4301   | 1.4301   | 1.4301   | 1.4301   |
| 25  | Cover              | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 28  | Compression spring | INCONEL X-750  |  |  |  |  |
| 29  | Bearing            | PTFE+30%C  |  |  |  |  |
| 30  | Seat               | PTFE/RPTFE/TFM 1600/VX1/ PEEK/PCTFE                    |  |  |  |  |
| 31  | Seat retainer      | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |

**Forged Ball valve, Flange, Trunnion ball, full bore, soft seat, PN16 to PN160, DN65-DN300**

| FIG.    | Pressure | Material  | RANGE      |
|---------|----------|-----------|------------|
| 146.712 | PN64     | 1.0460    | DN65-DN300 |
| 147.712 | PN100    |           |            |
| 148.712 | PN160    |           |            |
| 236.712 | PN64     | 1.4401    | DN65-DN300 |
| 237.712 | PN100    |           |            |
| 238.712 | PN160    |           |            |
| 246.712 | PN64     | 1.4404    | DN65-DN300 |
| 247.712 | PN100    |           |            |
| 248.712 | PN160    |           |            |
| 186.712 | PN64     | 1.4571    | DN65-DN300 |
| 187.712 | PN100    |           |            |
| 188.712 | PN160    |           |            |
| 546.712 | PN64     | Hastelloy | DN65-DN300 |
| 547.712 | PN100    |           |            |
| 548.712 | PN160    |           |            |



**DN65 - DN300 PTFE Packing**

**DN65 - DN300 Graphite Packing fire safe**

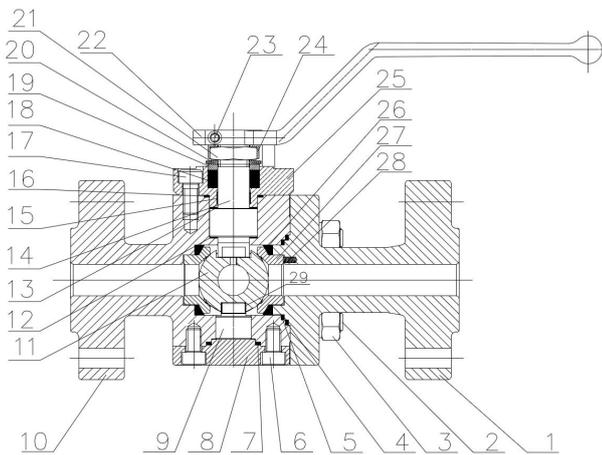
Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

## Material list

| NO. | Part               | Material   |  |  |  |  |
|-----|--------------------|--|--|--|--|--|
|     |                    | FIG. 143.712/<br>145.712/ 146.712/<br>147.712/ 148.712 | FIG. 233.712<br>/235.712/236.712<br>/237.712/238.712 | FIG. 243.712<br>/245.712/246.712<br>/247.712/248.712 | FIG. 183.712<br>/185.712/186.712<br>/187.712/188.712 | FIG. 543.712<br>/545.712/546.712<br>/547.712/548.712 |
| 1   | Adapter            | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 2   | Bolts              | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 3   | Nut                | YK   | A4   | A4   | A4   | A4   |
| 4   | Body seal          | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 5   | Body seal          | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 6   | Bolts              | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 7   | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 8   | Cover              | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 9   | Trunnion           | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 10  | Body               | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 11  | Ball               | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 12  | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 13  | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 14  | Stem               | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 15  | Bearing            | PTFE+30%C  |  |  |  |  |
| 16  | Gasket             | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 17  | Bolt               | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 18  | Packing            | PTFE   |  |  |  |  |
|     |                    | Graphite   |  |  |  |  |
| 19  | Packing ring       | 1.4401   | 1.4401   | 1.4401   | 1.4401   | 1.4401   |
| 20  | Belleville spring  | INCONEL X-750  |  |  |  |  |
| 28  | Compression spring | INCONEL X-750  |  |  |  |  |
| 29  | Bearing            | PEEK+30%C  |  |  |  |  |
| 30  | Seat               | PTFE/RPTFE/TFM 1600/VX1/ PEEK/PCTFE                    |  |  |  |  |
| 31  | Seat retainer      | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 32  | Packing bushing    | 45   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 33  | Packing gland      | 45   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 34  | Nut                | YK   | A4   | A4   | A4   | A4   |
| 35  | Bolt               | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 36  | Gland Flange       | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |

**Forged Ball valve, Flange, Trunnion ball, full bore, metal seat, PN16 to PN160, DN15 -DN50**

| FIG.    | Pressure | Material  | RANGE     |
|---------|----------|-----------|-----------|
| 146.713 | PN64     | 1.0460    | DN15-DN50 |
| 147.713 | PN100    |           |           |
| 148.713 | PN160    |           |           |
| 236.713 | PN64     | 1.4401    | DN15-DN50 |
| 237.713 | PN100    |           |           |
| 238.713 | PN160    |           |           |
| 246.713 | PN64     | 1.4404    | DN15-DN50 |
| 247.713 | PN100    |           |           |
| 248.713 | PN160    |           |           |
| 186.713 | PN64     | 1.4571    | DN15-DN50 |
| 187.713 | PN100    |           |           |
| 188.713 | PN160    |           |           |
| 546.713 | PN64     | Hastelloy | DN15-DN50 |
| 547.713 | PN100    |           |           |
| 548.713 | PN160    |           |           |



**DN15 - DN50**

Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

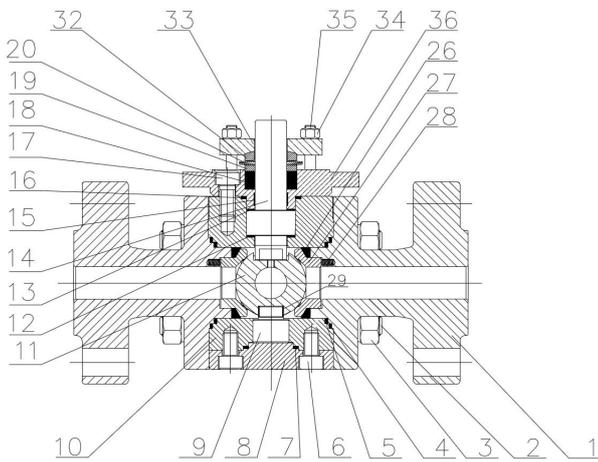
## Material list

| NO. | Part               | Material   |  |  |  |  |
|-----|--------------------|--|--|--|--|--|
|     |                    | FIG. 143.713/<br>145.713/ 146.713/<br>147.713/ 148.713 | FIG. 233.713<br>/235.713/236.713<br>/237.713/238.713 | FIG. 243.713<br>/245.713/246.713<br>/247.713/248.713 | FIG. 183.713<br>/185.713/186.713<br>/187.713/188.713 | FIG. 543.713<br>/545.713/546.713<br>/547.713/548.713 |
| 1   | Adapter            | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 2   | Bolts              | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 3   | Nut                | YK   | A4   | A4   | A4   | A4   |
| 4   | Body seal          | Graphite   |  |  |  |  |
| 5   | Body seal          | Graphite   |  |  |  |  |
| 6   | Bolt               | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 7   | Gasket             | Graphite   |  |  |  |  |
| 8   | Cover              | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 9   | Trunnion           | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 10  | Body               | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 11  | Ball               | 1.4301+Coating*  | 1.4401+Coating*                                      | 1.4404+Coating*                                      | 1.4571+Coating*                                      | Hastelloy  |
| 12  | Gasket             | Graphite   |  |  |  |  |
| 13  | Gasket             | Graphite   |  |  |  |  |
| 14  | Stem               | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 15  | Bearing            | PEEK+30%C  |  |  |  |  |
| 16  | Gasket             | Graphite   |  |  |  |  |
| 17  | Bolt               | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 18  | Packing            | Graphite   |  |  |  |  |
| 19  | Packing ring       | 1.4401   | 1.4401   | 1.4401   | 1.4401   | 1.4401   |
| 20  | Belleville spring  | INCONEL X-750  |  |  |  |  |
| 21  | Nut                | A2   | A4   | A4   | A4   | A4   |
| 22  | Lever              | GGG40.3  | 1.4308   | 1.4308   | 1.4308   | 1.4308   |
| 23  | Bolt               | A2-70  | A4-70  | A4-70  | A4-70  | A4-70  |
| 24  | Retaining ring     | 1.4301   | 1.4301   | 1.4301   | 1.4301   | 1.4301   |
| 25  | Cover              | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 26  | Gasket             | Graphite   |  |  |  |  |
| 27  | Seat               | 1.4301+Coating*  | 1.4401+Coating*                                      | 1.4404+Coating*                                      | 1.4571+Coating*                                      | Hastelloy  |
| 28  | Compression spring | INCONEL X-750  |  |  |  |  |
| 29  | Bearing            | PEEK+30%C  |  |  |  |  |

\* coating options: Electroplated Hard Chrome/ Tungsten carbide /Chrome carbide /Carbide HVOF /Nickel-based alloy

**Forged Ball valve, Flange, Trunnion ball, full bore, metal seat, PN16 to PN160, DN65 -DN300**

| FIG.    | Pressure | Material  | RANGE      |
|---------|----------|-----------|------------|
| 146.713 | PN64     | 1.0460    | DN65-DN300 |
| 147.713 | PN100    |           |            |
| 148.713 | PN160    |           |            |
| 236.713 | PN64     | 1.4401    | DN65-DN300 |
| 237.713 | PN100    |           |            |
| 238.713 | PN160    |           |            |
| 246.713 | PN64     | 1.4404    | DN65-DN300 |
| 247.713 | PN100    |           |            |
| 248.713 | PN160    |           |            |
| 186.713 | PN64     | 1.4571    | DN65-DN300 |
| 187.713 | PN100    |           |            |
| 188.713 | PN160    |           |            |
| 546.713 | PN64     | Hastelloy | DN65-DN300 |
| 547.713 | PN100    |           |            |
| 548.713 | PN160    |           |            |



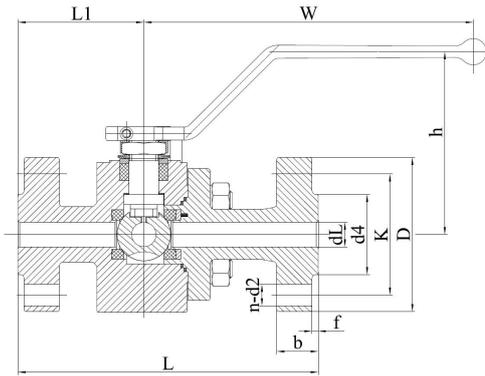
**DN65 - DN300**

Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

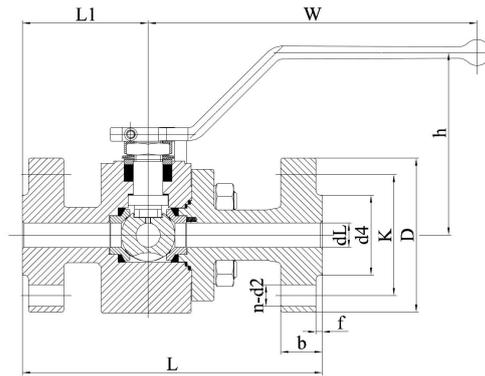
## Material list

| NO. | Part               | Material   |  |  |  |  |
|-----|--------------------|--|--|--|--|--|
|     |                    | FIG. 143.713/<br>145.713/ 146.713/<br>147.713/ 148.713 | FIG. 233.713<br>/235.713/236.713<br>/237.713/238.713 | FIG. 243.713<br>/245.713/246.713<br>/247.713/248.713 | FIG. 183.713<br>/185.713/186.713<br>/187.713/188.713 | FIG. 543.713<br>/545.713/546.713<br>/547.713/548.713 |
| 1   | Adapter            | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 2   | Bolts              | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 3   | Nut                | YK   | A4   | A4   | A4   | A4   |
| 4   | Body seal          | Graphite   |  |  |  |  |
| 5   | Body seal          | Graphite   |  |  |  |  |
| 6   | Bolt               | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 7   | Gasket             | Graphite   |  |  |  |  |
| 8   | Cover              | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 9   | Trunnion           | 1.4462   | 1.4462   | 1.4462   | 1.4462   | Hastelloy  |
| 10  | Body               | 1.0460   | 1.4401   | 1.4404   | 1.4571   | Hastelloy  |
| 11  | Ball               | 1.4301+Coating*  | 1.4401+Coating*                                      | 1.4404+Coating*                                      | 1.4571+Coating*                                      | Hastelloy  |
| 12  | Gasket             | Graphite   |  |  |  |  |
| 13  | Gasket             | Graphite   |  |  |  |  |
| 14  | Stem               | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 15  | Bearing            | PEEK+30%C  |  |  |  |  |
| 16  | Gasket             | Graphite   |  |  |  |  |
| 17  | Bolt               | A2   | A4-70  | A4-70  | A4-70  | A4-70  |
| 18  | Packing            | Graphite   |  |  |  |  |
| 19  | Packing ring       | 1.4401   | 1.4401   | 1.4401   | 1.4401   | 1.4401   |
| 20  | Belleville spring  | INCONEL X-750  |  |  |  |  |
| 26  | Gasket             | Graphite   |  |  |  |  |
| 27  | Seat               | 1.4301+Coating*  | 1.4401+Coating*                                      | 1.4404+Coating*                                      | 1.4571+Coating*                                      | Hastelloy  |
| 28  | Compression spring | INCONEL X-750  |  |  |  |  |
| 29  | Bearing            | PEEK+30%C  |  |  |  |  |
| 32  | Packing bushing    | 45   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 33  | Packing gland      | 45   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |
| 34  | Nut                | YK   | A4   | A4   | A4   | A4   |
| 35  | Bolt               | GC   | A4-70  | A4-70  | A4-70  | A4-70  |
| 36  | Gland Flange       | 1.4301   | 1.4401   | 1.4401   | 1.4401   | Hastelloy  |

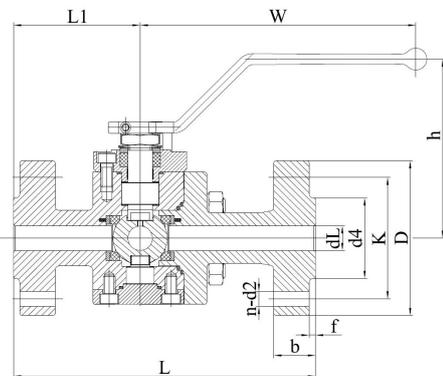
\* coating options: Electroplated Hard Chrome/ Tungsten carbide /Chrome carbide /Carbide HVOF /Nickel-based alloy



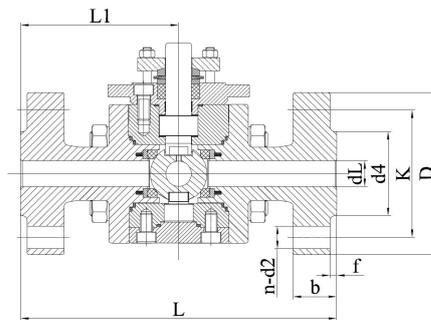
Ball valve with full bore and Flange .  
 Flange end: DIN EN 1092-1 Form B1;  
 Face to face: PN16 PN40 EN558-1 G1,  
 PN64 PN100 PN160 EN558-1 G2  
 DN15-DN200



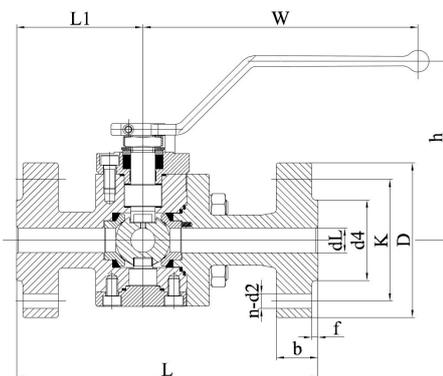
Ball valve with full bore and Flange .  
 Flange end: DIN EN 1092-1 Form B1 ;  
 Face to face: PN16 PN40 EN558-1 G1 ,  
 PN64 PN100 PN160 EN558-1 G2  
 DN15-DN200



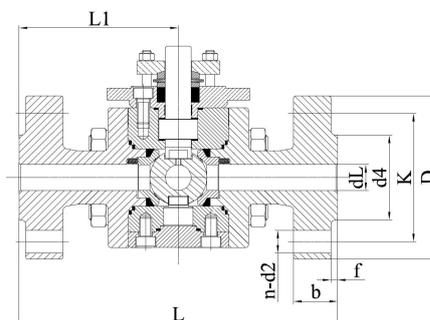
Ball valve with full bore and Flange .  
 Flange end: DIN EN 1092-1 Form B1;  
 Face to face: PN64 PN100 PN160 EN558-1 G2  
 DN15-DN50



Ball valve with full bore and Flange .  
 Flange end: DIN EN 1092-1 Form B1 ;  
 Face to face: PN64 PN100 PN160 EN558-1 G2  
 DN65-DN300



Ball valve with full bore and Flange .  
 Flange end: DIN EN 1092-1 Form B1;  
 Face to face: PN64 PN100 PN160 EN558-1 G2  
 DN15-DN50

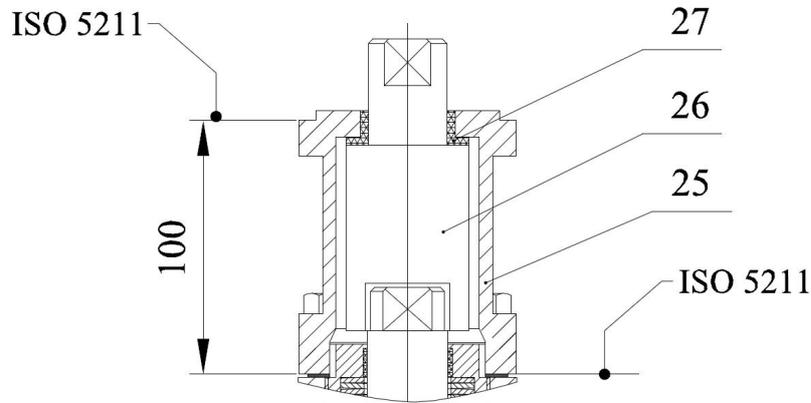


Ball valve with full bore and Flange .  
 Flange end: DIN EN 1092-1 Form B1 ;  
 Face to face: PN64 PN100 PN160 EN558-1 G2  
 DN65-DN300

**Dimension List**

| PN     | DN   | dL    | L     | L1    | h      | W     | D    | b    | K      | n-d2   | d4×f   | Weight |
|--------|------|-------|-------|-------|--------|-------|------|------|--------|--------|--------|--------|
| 16(40) | 15   | Φ15   | 130.0 | 45.5  | 115.0  | 200.0 | Φ95  | 16.0 | Φ65    | 4-Φ14  | Φ45×2  | 3.5    |
|        | 20   | Φ20   | 150.0 | 50.5  | 121.0  | 200.0 | Φ105 | 18.0 | Φ75    | 4-Φ14  | Φ58×2  | 4.4    |
|        | 25   | Φ25   | 160.0 | 57.0  | 127.0  | 200.0 | Φ115 | 18.0 | Φ85    | 4-Φ14  | Φ68×2  | 5.3    |
|        | 32   | Φ31   | 180.0 | 58.0  | 142.0  | 200.0 | Φ140 | 18.0 | Φ100   | 4-Φ18  | Φ78×2  | 7.2    |
|        | 40   | Φ40   | 200.0 | 63.5  | 151.0  | 270.0 | Φ150 | 18.0 | Φ110   | 4-Φ18  | Φ88×3  | 9.3    |
|        | 50   | Φ50   | 230.0 | 67.0  | 157.0  | 270.0 | Φ165 | 20.0 | Φ125   | 4-Φ18  | Φ102×3 | 13.0   |
| 16     | 65   | Φ65   | 290.0 | 71.0  | 191.0  | 270.0 | Φ185 | 18.0 | Φ145   | 4-Φ18  | Φ122×3 | 16.5   |
|        | 80   | Φ77   | 310.0 | 83.0  | 201.0  | 360.0 | Φ200 | 20.0 | Φ160   | 8-Φ18  | Φ138×3 | 22.5   |
|        | 100  | Φ100  | 350.0 | 87.0  | 218.0  | 360.0 | Φ220 | 20.0 | Φ180   | 8-Φ18  | Φ158×3 | 30.5   |
|        | 125  | Φ125  | 400.0 | 122.0 | 241.5  | 500.0 | Φ250 | 22.0 | Φ210   | 8-Φ18  | Φ188×3 | 55.0   |
|        | 150  | Φ150  | 480.0 | 124.0 | 256.0  | 650.0 | Φ285 | 22.0 | Φ240   | 8-Φ22  | Φ212×3 | 82.0   |
|        | 200  | Φ200  | 600.0 | 168.0 | 315.0  | 760.0 | Φ340 | 24.0 | Φ295   | 12-Φ22 | Φ268×3 | 190.0  |
| 40     | 65   | Φ65   | 290.0 | 71.0  | 191.0  | 270.0 | Φ185 | 22.0 | Φ145   | 8-Φ18  | Φ122×3 | 18.7   |
|        | 80   | Φ77   | 310.0 | 83.0  | 201.0  | 360.0 | Φ200 | 24.0 | Φ160   | 8-Φ18  | Φ138×3 | 23.6   |
|        | 100  | Φ100  | 350.0 | 87.0  | 218.0  | 360.0 | Φ235 | 24.0 | Φ190   | 8-Φ22  | Φ162×3 | 34.0   |
|        | 125  | Φ125  | 400.0 | 122.0 | 241.5  | 500.0 | Φ270 | 26.0 | Φ220   | 8-Φ26  | Φ188×3 | 60.5   |
|        | 150  | Φ150  | 480.0 | 124.0 | 256.0  | 650.0 | Φ300 | 28.0 | Φ250   | 8-Φ26  | Φ218×3 | 89.0   |
|        | 200  | Φ200  | 600.0 | 168.0 | 315.0  | 760.0 | Φ375 | 34.0 | Φ320   | 12-Φ30 | Φ285×3 | 201.0  |
| 64     | 15   | Φ15   | 210.0 | 45.5  | 115.0  | 200.0 | Φ105 | 20.0 | Ø75    | 4-Φ14  | Φ45×2  | 3.8    |
|        | 20   | Φ20   | 230.0 | 50.5  | 121.0  | 200.0 | Φ130 | 22.0 | Ø90    | 4-Φ18  | Φ58×2  | 5.0    |
|        | 25   | Φ25   | 230.0 | 57.0  | 127.0  | 200.0 | Φ140 | 24.0 | Ø100   | 4-Φ18  | Φ68×2  | 5.6    |
|        | 32   | Φ31   | 260.0 | 58.0  | 142.0  | 200.0 | Φ155 | 26.0 | Ø110   | 4-Φ22  | Φ78×2  | 7.9    |
|        | 40   | Φ40   | 260.0 | 63.5  | 151.0  | 270.0 | Φ170 | 28.0 | Ø125   | 4-Φ22  | Φ88×3  | 12.1   |
|        | 50   | Φ50   | 300.0 | 67.0  | 157.0  | 270.0 | Φ180 | 26.0 | Ø135   | 4-Φ22  | Φ102×3 | 17.5   |
|        | 65   | Φ65   | 340.0 | 71.0  | 191.0  | 270.0 | Φ205 | 26.0 | Ø160   | 8-Φ22  | Φ122×3 | 25.0   |
|        | 80   | Φ77   | 380.0 | 83.0  | 201.0  | 360.0 | Φ215 | 28.0 | Ø170   | 8-Φ22  | Φ138×3 | 38.0   |
|        | 100  | Φ100  | 430.0 | 87.0  | 218.0  | 360.0 | Φ250 | 30.0 | Ø200   | 8-Φ26  | Φ162×3 | 61.9   |
|        | 125  | Φ125  | 500.0 | 122.0 | 241.5  | 500.0 | Φ295 | 34.0 | Ø240   | 8-Φ30  | Φ188×3 | 108.9  |
|        | 150  | Φ150  | 550.0 | 124.0 | 256.0  | 650.0 | Φ345 | 36.0 | Ø280   | 8-Φ33  | Φ218×3 | 150.3  |
|        | 200  | Φ200  | 650.0 | 168.0 | 315.0  | 760.0 | Φ415 | 42.0 | Ø345   | 12-Φ36 | Φ285×3 | 258.1  |
|        | 250  | Φ250  | 775.0 | 185.0 | 347.0  | 988.0 | Φ470 | 46.0 | Ø400   | 12-Φ36 | Φ345×3 | 456.0  |
| 300    | Φ300 | 900.0 | 203.0 | 381.0 | 1284.0 | Φ530  | 52.0 | Φ460 | 16-Φ36 | Φ410×4 | 654.8  |        |
| 100    | 15   | Φ15   | 210.0 | 45.5  | 115.0  | 200.0 | Φ105 | 20.0 | Φ75    | 4-Φ14  | Φ45×2  | 5.2    |
|        | 20   | Φ20   | 230.0 | 50.5  | 121.0  | 200.0 | Φ130 | 22.0 | Φ90    | 4-Φ18  | Φ58×2  | 8.4    |
|        | 25   | Φ25   | 230.0 | 57.0  | 127.0  | 200.0 | Φ140 | 24.0 | Φ100   | 4-Φ18  | Φ68×2  | 9.8    |
|        | 32   | Φ31   | 260.0 | 58.0  | 142.0  | 200.0 | Φ155 | 26.0 | Φ110   | 4-Φ22  | Φ78×2  | 14.5   |
|        | 40   | Φ40   | 260.0 | 63.5  | 151.0  | 270.0 | Φ170 | 28.0 | Φ125   | 4-Φ22  | Φ88×3  | 20.9   |
|        | 50   | Φ50   | 300.0 | 67.0  | 157.0  | 270.0 | Φ195 | 30.0 | Φ145   | 4-Φ26  | Φ102×3 | 32.5   |
|        | 65   | Φ65   | 340.0 | 71.0  | 191.0  | 270.0 | Φ220 | 34.0 | Φ170   | 8-Φ26  | Φ122×3 | 45.0   |
|        | 80   | Φ77   | 380.0 | 83.0  | 201.0  | 360.0 | Φ230 | 36.0 | Φ180   | 8-Φ26  | Φ138×3 | 69.4   |
|        | 100  | Φ100  | 430.0 | 87.0  | 218.0  | 360.0 | Φ265 | 40.0 | Φ210   | 8-Φ30  | Φ162×3 | 104.0  |
|        | 125  | Φ125  | 500.0 | 122.0 | 241.5  | 500.0 | Φ315 | 40.0 | Φ250   | 8-Φ33  | Φ188×3 | 185.1  |
|        | 150  | Φ150  | 550.0 | 124.0 | 256.0  | 650.0 | Φ355 | 44.0 | Φ290   | 12-Φ33 | Φ218×3 | 244.1  |
|        | 200  | Φ200  | 650.0 | 168.0 | 315.0  | 760.0 | Φ430 | 52.0 | Φ360   | 12-Φ36 | Φ285×3 | 418.0  |
|        | 250  | Φ250  | 775.0 | 185.0 | 347.0  | 988.0 | Φ505 | 60.0 | Φ430   | 12-Φ39 | Φ345×3 | 683.9  |
| 300    | Φ300 | 900.0 | 203.0 | 381.0 | 1284.0 | Φ585  | 68.0 | Φ500 | 16-Φ42 | Φ410×4 | 931.3  |        |

| PN  | DN  | dL   | L     | L1    | h     | W      | D    | b    | K    | n-d2   | d4×f   | Weight |
|-----|-----|------|-------|-------|-------|--------|------|------|------|--------|--------|--------|
| 160 | 15  | Φ15  | 210.0 | 45.5  | 115.0 | 200.0  | Φ105 | 20.0 | Φ75  | 4-Φ14  | Φ45×2  | 9.2    |
|     | 25  | Φ25  | 230.0 | 57.0  | 127.0 | 200.0  | Φ140 | 24.0 | Φ100 | 4-Φ18  | Φ68×2  | 16.0   |
|     | 40  | Φ40  | 260.0 | 63.5  | 151.0 | 270.0  | Φ170 | 28.0 | Φ125 | 4-Φ22  | Φ88×3  | 29.8   |
|     | 50  | Φ50  | 300.0 | 67.0  | 157.0 | 270.0  | Φ195 | 30.0 | Φ145 | 4-Φ26  | Φ102×3 | 49.2   |
|     | 65  | Φ65  | 340.0 | 71.0  | 191.0 | 270.0  | Φ220 | 34.0 | Φ170 | 8-Φ26  | Φ122×3 | 67.5   |
|     | 80  | Φ77  | 380.0 | 83.0  | 201.0 | 360.0  | Φ230 | 36.0 | Φ180 | 8-Φ26  | Φ138×3 | 85.1   |
|     | 100 | Φ100 | 430.0 | 87.0  | 218.0 | 360.0  | Φ265 | 40.0 | Φ210 | 8-Φ30  | Φ162×3 | 148.6  |
|     | 125 | Φ125 | 500.0 | 122.0 | 241.5 | 500.0  | Φ315 | 44.0 | Φ250 | 8-Φ33  | Φ188×3 | 259.0  |
|     | 150 | Φ150 | 550.0 | 124.0 | 256.0 | 650.0  | Φ355 | 50.0 | Φ290 | 12-Φ33 | Φ218×3 | 302.5  |
|     | 200 | Φ200 | 650.0 | 168.0 | 315.0 | 760.0  | Φ430 | 60.0 | Φ360 | 12-Φ36 | Φ285×3 | 554.3  |
|     | 250 | Φ250 | 775.0 | 185.0 | 347.0 | 988.0  | Φ515 | 68.0 | Φ430 | 12-Φ42 | Φ345×3 | 882.4  |
|     | 300 | Φ300 | 900.0 | 203.0 | 381.0 | 1284.0 | Φ585 | 78.0 | Φ500 | 16-Φ42 | Φ410×4 | 1306.0 |



**Extended stem type**

**Material list**

| NO. | Part           | Material        |                 |                 |                 |                 |
|-----|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|     |                | 1.0460          | 1.4401          | 1.4404          | 1.4571          | Hastelloy       |
| 25  | Case           | 1.0460          | 1.4401          | 1.4404          | 1.4571          | Hastelloy       |
| 26  | Long stem      | 1.4548 / 1.4401 | 1.4548 / 1.4401 | 1.4548 / 1.4401 | 1.4548 / 1.4401 | 1.4548 / 1.4401 |
| 27  | Thrust bearing | PTFE+25%glass   | PTFE+25%glass   | PTFE+25%glass   | PTFE+25%glass   | PTFE+25%glass   |

**Dimension List**

| PN \ DN | 16  | 40  | 64  | 100 | 160 |
|---------|-----|-----|-----|-----|-----|
| 15      | F05 | F05 | F05 | F05 | F05 |
| 20      | F05 | F05 | F05 | F05 | F05 |
| 25      | F05 | F05 | F05 | F07 | F07 |
| 32      | F05 | F05 | F05 | F07 | F07 |
| 40      | F07 | F07 | F07 | F10 | F10 |
| 50      | F07 | F07 | F10 | F12 | F12 |
| 65      | F07 | F07 | F10 | F12 | F12 |
| 80      | F10 | F10 | F14 | F16 | F16 |
| 100     | F10 | F10 | F14 | F16 | F25 |
| 125     | F12 | F12 | F14 | F16 | F25 |
| 150     | F12 | F12 | F16 | F25 | F25 |
| 200     | F12 | F12 | F16 | F25 | F30 |
| 250     | F12 | F12 | F25 | F30 | F30 |
| 300     | F16 | F25 | F25 | F30 | F35 |

Stem extension: 100 mm or 200 mm, or as required.

**Connecting format**

|  |                  |  |
|--|------------------|--|
| Flanged                                |                  |  |
| Pressure rating                        | Flange dimension | Sealing form   |
| PN16<br>PN40<br>PN64<br>PN100<br>PN160 | DIN EN 1092-1    | DIN EN 1092-1 Form B 1<br>Ra max : 12.5 μm<br>Rz max : 50 μm |

**Installation instructions**

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

Details please consult.

**Technical parameters**

**Flow characteristics - Kv ( m<sup>3</sup>/h )**

|    |    |    |    |    |     |     |     |     |      |      |       |       |       |
|----|----|----|----|----|-----|-----|-----|-----|------|------|-------|-------|-------|
| DN | 15 | 20 | 25 | 32 | 40  | 50  | 65  | 80  | 100  | 150  | 200   | 250   | 300   |
| Kv | 12 | 23 | 60 | 72 | 175 | 360 | 620 | 930 | 1900 | 3500 | ----- | ----- | ----- |

**Open torque - Nm**

| ΔP<br>(bar) | DN  |      |      |      |      |      |       |       |       |       |        |     |     |
|-------------|-----|------|------|------|------|------|-------|-------|-------|-------|--------|-----|-----|
|             | 15  | 20   | 25   | 32   | 40   | 50   | 65    | 80    | 100   | 150   | 200    | 250 | 300 |
| 0           | 3.0 | 3.5  | 6.0  | 9.0  | 14.0 | 17.0 | 39.0  | 59.0  | 75.0  | 130.0 | 198.0  |     |     |
| 10          | 4.0 | 6.0  | 10.0 | 15.0 | 24.0 | 27.0 | 55.0  | 80.0  | 105.0 | 220.0 | 350.0  |     |     |
| 16          | 5.0 | 8.0  | 16.0 | 21.0 | 31.0 | 36.0 | 70.0  | 100.0 | 132.0 | 306.0 | 495.0  |     |     |
| 25          | 7.0 | 11.0 | 20.0 | 30.0 | 39.0 | 55.0 | 95.0  | 130.0 | 180.0 | 500.0 | 510.0  |     |     |
| 40          | 9.0 | 15.0 | 26.0 | 41.0 | 50.0 | 72.0 | 130.0 | 190.0 | 265.0 | 670.0 | 1100.0 |     |     |
| 64          |     |      |      |      |      |      |       |       |       |       |        |     |     |
| 100         |     |      |      |      |      |      |       |       |       |       |        |     |     |
| 160         |     |      |      |      |      |      |       |       |       |       |        |     |     |

**Maximum and minimum**

|                    |    |    |     |     |     |     |     |      |      |      |      |     |     |
|--------------------|----|----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|
| DN                 | 15 | 20 | 25  | 32  | 40  | 50  | 65  | 80   | 100  | 150  | 200  | 250 | 300 |
| M <sub>d max</sub> | 50 | 50 | 336 | 336 | 600 | 600 | 600 | 1000 | 1000 | 3500 | 4000 |     |     |
| M <sub>d min</sub> | 2  | 2  | 3   | 5   | 8   | 9   | 21  | 32   | 41   | 70   | 99   |     |     |

**Allowable pressure in dependence of the temperature**

| DN      | PN   | -60°C | -10°C | 50°C | 100°C | 150°C | 200°C |
|---------|------|-------|-------|------|-------|-------|-------|
| 15~25   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 34.0  | 22.0  |
| 32~50   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 33.0  | 17.0  |
| 65~80   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 29.5  | 13.5  |
| 100     | 16.0 | 12.0  | 16.0  | 16.0 | 16.0  | 15.5  | 11.5  |
| 100     | 40.0 | 30.0  | 40.0  | 40.0 | 32.0  | 26.5  | 12.0  |
| 125~200 | 16.0 | 12.0  | 16.0  | 16.0 | 16.0  | 15.5  | 7.5   |
| 125~200 | 40.0 | 30.0  | 40.0  | 40.0 | 26.0  | 23.5  | 8.0   |
| 15~300  | 64   |       |       |      |       |       |       |
| 15~300  | 100  |       |       |      |       |       |       |
| 15~300  | 160  |       |       |      |       |       |       |

Seat material: TFM

| DN      | PN   | -60°C | -10°C | 50°C | 100°C | 150°C | 200°C |
|---------|------|-------|-------|------|-------|-------|-------|
| 15~25   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 35.0  | 23.0  |
| 32~50   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 34.0  | 17.5  |
| 65~80   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 30.0  | 14.0  |
| 100     | 16.0 | 12.0  | 16.0  | 16.0 | 16.0  | 15.9  | 11.8  |
| 100     | 40.0 | 30.0  | 40.0  | 40.0 | 33.0  | 27.0  | 12.3  |
| 125~200 | 16.0 | 12.0  | 16.0  | 16.0 | 16.0  | 16.0  | 8.7   |
| 125~200 | 40.0 | 30.0  | 40.0  | 40.0 | 27.0  | 24.0  | 8.3   |
| 15~300  | 64   |       |       |      |       |       |       |
| 15~300  | 100  |       |       |      |       |       |       |
| 15~300  | 160  |       |       |      |       |       |       |

Seat material: PTFE+25%glass

| DN      | PN   | -60°C | -10°C | 50°C | 100°C | 150°C | 200°C |
|---------|------|-------|-------|------|-------|-------|-------|
| 15~25   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 35.7  | 23.0  |
| 32~50   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 34.5  | 18.0  |
| 65~80   | 40.0 | 30.0  | 40.0  | 40.0 | 40.0  | 31.0  | 14.0  |
| 100     | 16.0 | 12.0  | 16.0  | 16.0 | 16.0  | 16.0  | 12.0  |
| 100     | 40.0 | 30.0  | 40.0  | 40.0 | 32.0  | 28.0  | 12.5  |
| 125~200 | 16.0 | 12.0  | 16.0  | 16.0 | 16.0  | 16.0  | 9.0   |
| 125~200 | 40.0 | 30.0  | 40.0  | 40.0 | 26.0  | 24.5  | 8.5   |
| 15~300  | 64   |       |       |      |       |       |       |
| 15~300  | 100  |       |       |      |       |       |       |
| 15~300  | 160  |       |       |      |       |       |       |

Seat material: PTFE+15%carbon

| DN      | PN   | -60℃ | -10℃ | 50℃  | 100℃ | 150℃ | 200℃ |
|---------|------|------|------|------|------|------|------|
| 15~25   | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 32.5 |
| 32~50   | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 32.0 |
| 65~80   | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 30.5 |
| 100     | 16.0 | 12.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.5 |
| 100     | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 30.0 |
| 125~200 | 16.0 | 12.0 | 16.0 | 16.0 | 16.0 | 16.0 | 9.5  |
| 125~200 | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 27.5 |
| 15~300  | 64   |      |      |      |      |      |      |
| 15~300  | 100  |      |      |      |      |      |      |
| 15~300  | 160  |      |      |      |      |      |      |

Seat material: PTFE+20%PEEK

| DN      | PN   | -60℃ | -10℃ | 50℃  | 100℃ | 150℃ | 200℃ |
|---------|------|------|------|------|------|------|------|
| 15~25   | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 37.5 |
| 32~50   | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 37.0 |
| 65~80   | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 36.5 |
| 100     | 16.0 | 12.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.5 |
| 100     | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 36.0 |
| 125~200 | 16.0 | 12.0 | 16.0 | 16.0 | 16.0 | 16.0 | 10.0 |
| 125~200 | 40.0 | 30.0 | 40.0 | 40.0 | 40.0 | 40.0 | 34.0 |
| 15~300  | 64   |      |      |      |      |      |      |
| 15~300  | 100  |      |      |      |      |      |      |
| 15~300  | 160  |      |      |      |      |      |      |

Seat material: PEEK

The shown values refer to austenitic stainless steel 1.4401. More details please consult.