



# Ball Valves

## **Demands of clients**

We and our partner DKG-EAST have several decades of experience in manufacturing pipeline closing valves. Consequently, after examining special individual demands, our recommendations and offers are made according to function and clients' requirements. Our mission is to help clients to find the best solution, since our marketing philosophy is to increase clients' satisfaction.

## **Solutions**

Depending on purchasers' special requirements, we designs, manufactures and sells ball valves in several design variants, with standard or diverse built-in length, and making connecting surface acting on pressure rate, proper for the content and temperature of the transported medium, often satisfying the extreme demands with adequate quality of the material. The finishing of surface is made according to clients' specification including content and colour. Based on customers' demands many times executions include organizing and performing packaging and transport.

## **General parameters of ball valves**

The ball valves can be used to open and close the valves of pipelines conveying gas, fluid and their alloy, and can also be used as open-close valves for pressure vessels. Ball valves close securely within overall pressure rate, even at low pressure differences. It is easy to install, cost-effective to operate, simple to use, quick and cheap to renovate. Reliable construction with long life-time can be in use for 40-50 years depending on its utilization. The risk of failure is low and renovations made by changing the closing elements can raise lifetime.



## Scope

- thermal and nuclear power stations
- natural gas and thermal supply
- natural gas transmission
- crude oil and natural gas pipeline
- natural gas storage
- PB gas storage and drawer yards
- crude oil refinery
- offshore drilling points
- drinking water supply
- water well-springs
- sewage pipeline
- sewage farms
- food industries
- chemical and aluminum industries

## Design Characteristics

The ball valves are designed according to the relevant international industrial standards. The valves with forged or cast body are sized for the nominal pipeline pressure.

The design of the products complies with the following standards:

|                               |  |
|-------------------------------|--|
| Generally:                    | API6D, API6A, ISO 14313, PED                       |
| Fire-safe design:             | API6FA   |
| Basic material:               | ASTM, AISI, EN, GOSZT                              |
| Welding processes :           | ASME Code IX., EN ISO 15614-1                      |
| Welding preparation:          | ASME B 31.4 -31.8                                  |
| Welded connections:           | “C”-EN 12627, “WE”-ASME B 16.25                    |
| Flanges:                      | ASME B 16.5, 16.47 SERIE A, EN 1092-1, GOSZT 12821 |
| Sealing surface of flanges:   | ASME B 16.5 , 16.47 SERIE A, EN1092-1, GOSZT 12815 |
| End-to-End dimension:         | ASME B 16.10, API 6D                               |
| Marking:                      | API 6D -MSS SP 25                                  |
| Resistance to sour corrosion: | NACE MR 01. 75                                     |

The sealing system of ball valves manufactured by DKG-EAST - except the floating ball type GU ball valves - are spring assisted ones, which provide tightness at a low or high pressure range. The ball valves are manufactured with screwed and welded body.

|                      |   |
|----------------------|---|
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| Basic material:      | ASTM, AISI, EN, GOSZT                             |
| Welding processes :  | ASME Code IX., EN ISO 15614-1                     |
| Welding preparation: | ASME B 31.4 - 31.8                                |
| Welded connections:  | “C”-EN 12627, “WE”-ASME B 16.25                   |
| Flanges:             | ASME B 16.5, 16.47 SERIE A, EN 1092-1, GOSZT12821 |



Sealing surface of flanges: ASME B 16.5 , 16.47 SERIE A, EN1092-1, GOSZT12815  
 End-to-End dimension: ASME B 16.10, API 6D  
 Marking: API 6D - MSS SP 25  
 Resistance to sour corrosion: NACE MR 01. 75

## Type assortment

| Size |             | Pressure |       |        |                 |
|------|-------------|----------|-------|--------|-----------------|
| Ball | Valves Type | DN       | DN    | PN     | API             |
|      |             | [mm]     | [ " ] | [bar]  | Class           |
|      | GUB         | 15-40    | ½ -1½ | 16-250 | 150-1500        |
|      | GUBH        | 15-40    | ½ -1½ | 16-250 | 150-1500        |
|      | GTNA        | 50-150   | 2-6   | 16-40  | 150-300         |
|      | GTNN        | 50-100   | 2-4   |        | 64-250 400-1500 |
|      | GTNH        | 50-100   | 2-4   |        | 16-250 150-1500 |
|      | GTNG        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GTGH        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GTNK        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GTNH        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GTZG        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GZGH        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GTZK        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GTZH        | 150-1400 | 6-56  |        | 16-400 150-2500 |
|      | GTGF,GTNF   | 50-600   | 2-16  |        | 16-160 150-900  |

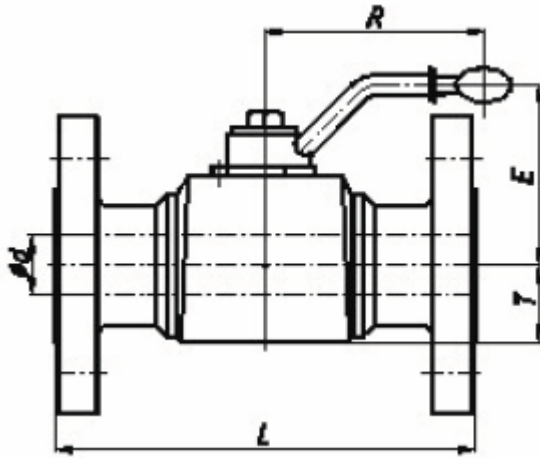


**Construction characteristics**

| Ball Valves Type                         | G<br>U<br>B | G<br>U<br>B<br>H | G<br>T<br>N<br>A | G<br>T<br>N<br>N | G* T N H G T<br>N G G T G H | G<br>T<br>N<br>K | G**<br>T<br>N<br>H | G<br>T<br>Z<br>G | G<br>Z<br>G<br>H | G<br>T<br>Z<br>K | G<br>T<br>Z<br>H | G<br>T<br>G<br>F |
|--|-------------|------------------|------------------|------------------|-----------------------------|------------------|--------------------|------------------|------------------|------------------|------------------|------------------|
| Temperature                              |             |                  |                  |                  | -60°C /<br>+150°C           |                  |                    |                  |                  |                  |                  |                  |
| Threated                                 | X           |                  | X                | X                | X                           | X                |                    | X                |                  | X                |                  | X                |
| Welded                                   |             | X                |                  |                  | X X                         |                  | X                  |                  | X                |                  | X                |                  |
| Floating ball                            | X           | X                |                  |                  |                             |                  |                    |                  |                  |                  |                  |                  |
| Trunnion<br>mounted ball                 |             |                  | X                | X                | X X X                       | X                | X                  | X                | X                | X                | X                | X                |
| Blow off<br>possibility<br>of body space |             |                  | X                | X                | X X X                       | X                | X                  | X                | X                | X                | X                | X                |
| Auto-discharge<br>of body space          | X           | X                | X                | X                | X X X                       |                  |                    | X                | X                |                  |                  | X                |
| By-pass pipe                             |             |                  |                  |                  |                             | X                | X                  |                  |                  | X                | X                |                  |
| Spring assisted<br>sealing               |             |                  | X                | X                | X X X                       | X                | X                  | X                | X                | X                | X                | X                |
| Bi-directional<br>sealing                |             |                  |                  |                  |                             | X                | X                  |                  |                  | X                | X                |                  |
| Secondary ball<br>sealing                |             |                  |                  |                  |                             |                  |                    | X                | X                | X                | X                |                  |
| Double stem<br>sealing                   |             |                  | X                | X                | X X X                       | X                | X                  | X                | X                | X                | X                | X                |
| Secondary stem<br>sealing                |             |                  |                  |                  | X X                         | X                | X                  | X                | X                | X                | X                | X                |
| Soft sealing                             | X           | X                | X                | X                | X X X                       | X                | X                  | X                | X                | X                | X                |                  |
| Metal to metal<br>sealing                |             |                  |                  |                  |                             |                  |                    |                  |                  |                  |                  | X                |

## GUB

### Main Features:



- Floating ball
- Automatic compensation of body cavity pressure
- Flanged, threaded connection
- Butt welded connections

### Design variations:

- Full welded design(GUBH)
- Changeable sealing of stem
- Extended stem design
- Motor operated

## Dimensional Data for Ball Valves Type GUB, GUBH



**Dimensional Data for Ball Valves Type GUB, GUBH**

| Class150 | PN16 | d    | L [mm] |     |     |     | Other sizes [mm] |     |    |     | Weight[kg] |    |
|----------|------|------|--------|-----|-----|-----|------------------|-----|----|-----|------------|----|
| DN       |      | [mm] | RF     | WE  | RTJ | B   | H                | T   | E  | R   |            |    |
| ½"       |      | 15   | 13     | 108 | 140 | -   | 85               | 130 | 18 | 71  | 155        | 5  |
| ¾"       |      | 20   | 19     | 117 | 152 | -   | 95               | 175 | 25 | 85  | 165        | 7  |
| 1"       |      | 25   | 25     | 127 | 165 | 140 | 115              | 180 | 32 | 90  | 200        | 9  |
| 1½"      |      | 40   | 38     | 165 | 190 | 178 | 200              | 250 | 45 | 110 | 250        | 11 |

| Class300 | PN25-40 | d    | L [mm] |     |     |     | Other sizes [mm] |     |    |     | Weight[kg] |    |
|----------|---------|------|--------|-----|-----|-----|------------------|-----|----|-----|------------|----|
| DN       |         | [mm] | RF     | WE  | RTJ | B   | H                | T   | E  | R   |            |    |
| ½"       |         | 15   | 13     | 140 | 140 | 151 | 85               | 130 | 18 | 71  | 155        | 6  |
| ¾"       |         | 20   | 19     | 152 | 152 | 165 | 95               | 175 | 25 | 85  | 165        | 8  |
| 1"       |         | 25   | 25     | 165 | 165 | 178 | 115              | 180 | 32 | 90  | 200        | 10 |
| 1½"      |         | 40   | 38     | 190 | 190 | 203 | 200              | 250 | 45 | 110 | 250        | 12 |

| Class400 | PN64 | d    | L [mm] |     |     |     | Other sizes [mm] |     |    |     | Weight[kg] |    |
|----------|------|------|--------|-----|-----|-----|------------------|-----|----|-----|------------|----|
| DN       |      | [mm] | RF     | WE  | RTJ | B   | H                | T   | E  | R   |            |    |
| ½"       |      | 15   | 13     | 165 | 165 | 163 | 85               | 130 | 18 | 71  | 155        | 7  |
| ¾"       |      | 20   | 19     | 190 | 190 | 190 | 95               | 175 | 25 | 85  | 165        | 9  |
| 1"       |      | 25   | 25     | 216 | 216 | 216 | 115              | 180 | 32 | 90  | 200        | 11 |
| 1½"      |      | 40   | 38     | 241 | 241 | 241 | 200              | 250 | 45 | 110 | 250        | 13 |

| Class600 | PN100 | d    | L [mm] |     |     |     | Other sizes [mm] |     |    |     | Weight[kg] |    |
|----------|-------|------|--------|-----|-----|-----|------------------|-----|----|-----|------------|----|
| DN       |       | [mm] | RF     | WE  | RTJ | B   | H                | T   | E  | R   |            |    |
| ½"       |       | 15   | 13     | 165 | 165 | 163 | 85               | 130 | 18 | 71  | 155        | 7  |
| ¾"       |       | 20   | 19     | 190 | 190 | 190 | 95               | 175 | 25 | 85  | 200        | 9  |
| 1"       |       | 25   | 25     | 216 | 216 | 216 | 115              | 180 | 32 | 90  | 200        | 11 |
| 1½"      |       | 40   | 38     | 241 | 241 | 241 | 200              | 250 | 45 | 110 | 250        | 13 |

| Class900 | PN160 | d    | L [mm] |     |     |     | Other sizes [mm] |     |    |     | Weight[kg] |    |
|----------|-------|------|--------|-----|-----|-----|------------------|-----|----|-----|------------|----|
| DN       |       | [mm] | RF     | WE  | RTJ | B   | H                | T   | E  | R   |            |    |
| ½"       |       | 15   | 13     | 165 | 165 | 165 | 85               | 130 | 18 | 71  | 155        | 9  |
| ¾"       |       | 20   | 19     | 190 | 190 | 190 | 95               | 175 | 25 | 85  | 200        | 11 |
| 1"       |       | 25   | 25     | 254 | 254 | 254 | 115              | 180 | 32 | 90  | 200        | 13 |
| 1½"      |       | 40   | 38     | 305 | 305 | 305 | 200              | 250 | 45 | 110 | 250        | 18 |

| Class1500 | PN250 | d    | L [mm] |     |     |     | Other sizes [mm] |    |     |     | Weight[kg] |
|-----------|-------|------|--------|-----|-----|-----|------------------|----|-----|-----|------------|
| DN        |       | [mm] | RF     | WE  | RTJ | B   | H                | T  | E   | R   |            |
| ½"        | 15    | 13   | 165    | 165 | 165 | 85  | -                | 18 | 71  | 155 | 9          |
| ¾"        | 20    | 19   | 190    | 190 | 190 | 95  | -                | 25 | 85  | 200 | 11         |
| 1"        | 25    | 25   | 254    | 254 | 254 | 115 | -                | 32 | 90  | 200 | 13         |
| 1½"       | 40    | 38   | 305    | 305 | 305 | 215 | -                | 45 | 110 | 250 | 18         |

RTJ: in case of flanged joint with Ring Joint sealing surface (ASME B 16.5)

WE: in case of Butwelded joint (ASME B 16.25)

B: Threaded joint

RF: - Flanged joint with flat sealing surface (RF)(ASME B16.5)  
 - Flanged joint as per GOSZT 12815, GOSZT 12821

H: - Flanged joint as per EN 1092-1  
 - Butwelded joint as per EN 12627  
 - Butwelded joint as per ASME B 16.11

## GTNA

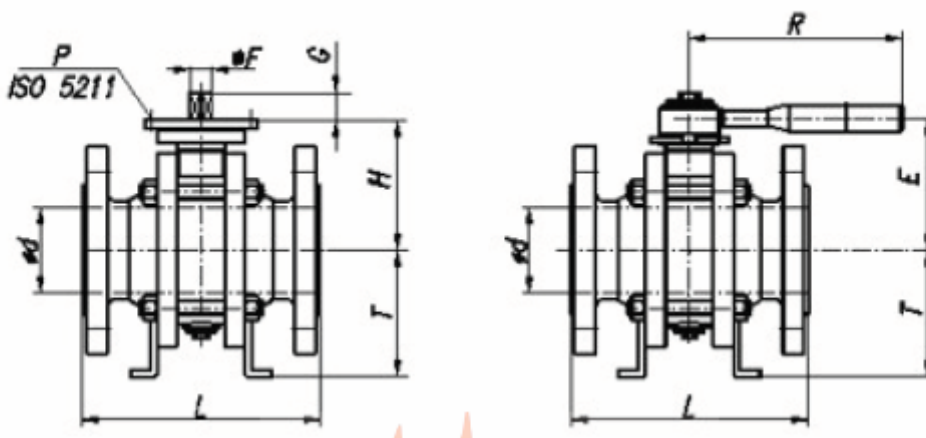
### Main features:

- Trunnion mounted ball
- Spring assisted sealing system
- Single and bi-directional blow-off possibility of body cavity pressure (in closed position)
- Automatic compensation of body cavity pressure
- Double sealing system of stem
- Flanged, threaded or butt welded connections

### Design variations:

- Reduced bore
- Extended stem design

### Dimensional Data for GTNA





| CLASS150 PN16 |    |                 | d    | L [mm] |     |     | Overall dimensions [mm] |     |                     |     |     |         |    | weight[kg] |         |
|---------------|----|-----------------|------|--------|-----|-----|-------------------------|-----|---------------------|-----|-----|---------|----|------------|---------|
|               | DN |                 | [mm] | RF     | WE  | RTJ | B                       | T   | H                   | E   | R   | P       | F  | G          | RF, RTJ |
| 2"            |    | 50              | 51   | 178    | 216 | 191 | 216                     | 82  | 120                 | 100 | 300 | F<br>10 | 22 | 26         | ~14     |
| 3"            |    | 80              | 76   | 203    | 283 | 216 | 283                     | 100 | 135                 | 140 | 400 | F<br>10 | 18 | 25         | ~24     |
| 4"            |    | 100             | 102  | 229    | 305 | 241 | 305                     | 160 | 165                 | 165 | 500 | F<br>12 | 22 | 30         | ~38     |
| 6"            |    | 150             | 152  | 394    | 457 | 406 | -                       | 210 | 220 220 800 F 14 30 |     |     |         |    | 40         | ~129    |
| CLASS300      |    | PN<br>25-<br>40 | d    | L [mm] |     |     | Overall dimensions [mm] |     |                     |     |     |         |    | weight[kg] |         |
|               | DN |                 | [mm] | RF     | WE  | RTJ | B                       | T   | H                   | E   | R   | P       | F  | G          | RF, RTJ |
| 2"            |    | 50              | 51   | 216    | 216 | 232 | 216                     | 82  | 120                 | 100 | 300 | F<br>10 | 22 | 26         | ~15     |
| 3"            |    | 80              | 76   | 283    | 283 | 298 | 283                     | 100 | 135                 | 140 | 400 | F<br>10 | 18 | 25         | ~27     |
| 4"            |    | 100             | 102  | 305    | 305 | 321 | 305                     | 160 | 165                 | 165 | 500 | F<br>12 | 22 | 30         | ~44     |

Note: 2", 3" without support.

RTJ: In case of Ring Joint sealing surface flanged connection (ASME B 16.5)

WE: In case of butt welded connection (ASME B 16.25, EN 12627)

B: In case of threaded connection (ASME B 1.20)

RF: - In case of grooved smooth sealing surface (RF) flanged connection (ASME B 16.5)

- Acc. to EN 1092-1 flanged connection

- Acc. to GOSZT 12821, GOSZT 12815 flanged connection

## GTNN

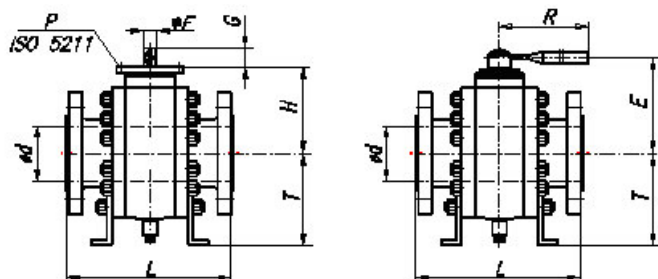
### Main features:

- Trunnion mounted ball
- Spring assisted sealing system
- Body cavity pressure (in opened and closed position)
- Automatic compensation of body cavity pressure
- Double sealing system of stem
- Flanged, threaded or butt weldwd connections

### Design variations:

- Reduced bore
- Extended stem design
- Complete welded system (GTNH)

Dimensional Data for GTNN



| Class400  |  | PN64  | d    | L [mm] |     |     |     | Overall dimensions [mm] |     |     |             |      |    |      | Weight[kg]  |  |
|-----------|--|-------|------|--------|-----|-----|-----|-------------------------|-----|-----|-------------|------|----|------|-------------|--|
| DN        |  |       | [mm] | RF     | WE  | RTJ | B   | T                       | H   | E   | R           | P    | F  | G    | RF, RTJ     |  |
| 2"        |  | 50    | 51   | 292    | 292 | 295 | 292 | 130                     | 130 | 150 | 400         | F 10 | 18 | 25   | ~34         |  |
| 2 1/2"    |  | 65    | 64   | 330    | 330 | 333 | 330 | 155                     | 155 | 180 | 500         | F 12 | 22 | 30   | ~44         |  |
| 3"        |  | 80    | 76   | 356    | 356 | 359 | 356 | 155                     | 155 | 180 | 600         | F 12 | 22 | 30   | ~66         |  |
| 4"        |  | 100   | 102  | 406    | 406 | 410 | 432 | 200                     | 190 | 220 | 800         | F 14 | 30 | 40   | ~105        |  |
| Class600  |  | PN100 | d    | L [mm] |     |     |     | Overall dimensions [mm] |     |     |             |      |    |      | Weight[kg]  |  |
| DN        |  |       | [mm] | RF     | WE  | RTJ | B   | T                       | H   | E   | R P F       |      |    | G    | RF, RTJ     |  |
| 2"        |  | 50    | 51   | 292    | 292 | 295 | 292 | 130                     | 130 | 150 | 400 F 10 18 |      |    | 25   | ~34         |  |
| 2 1/2"    |  | 65    | 64   | 330    | 330 | 333 | 330 | 155                     | 155 | 180 | 500 F 12 22 |      |    | 30   | ~45         |  |
| 3"        |  | 80    | 76   | 356    | 356 | 359 | 356 | 155                     | 155 | 180 | 600 F 12 22 |      |    | 30   | ~66         |  |
| 4"        |  | 100   | 102  | 432    | 432 | 435 | 432 | 200                     | 190 | 220 | 800         | F 14 | 30 | 40   | ~120        |  |
| Class900  |  | PN160 | d    | L [mm] |     |     |     | Overall dimensions [mm] |     |     |             |      |    |      | Weight[kg]  |  |
| DN        |  |       | [mm] | RF     | WE  | RTJ | B   | T                       | H   | E   | R           | P    | F  | G    | RF, RTJ     |  |
| 2"        |  | 50    | 51   | 368    | 368 | 371 | 292 | 130                     | 130 | 150 | 600         | F 10 | 18 | 25   | ~52         |  |
| 2 1/2"    |  | 65    | 64   | 419    | 419 | 422 | 330 | 155                     | 155 | 180 | 600         | F 12 | 22 | 30   | ~62         |  |
| 3"        |  | 80    | 76   | 381    | 381 | 384 | 356 | 155                     | 155 | 180 | 800         | F 12 | 22 | 30   | ~80         |  |
| 4"        |  | 100   | 102  | 457    | 457 | 460 | 432 | 200                     | 190 | *   | *           | F 14 | 30 | 40   | ~170        |  |
| Class1500 |  | PN250 | d    | L [mm] |     |     |     | Overall dimensions [mm] |     |     |             |      |    |      | Weight [kg] |  |
| DN        |  |       | [mm] | RF     | WE  | RTJ | B   | T                       | H   | E   | R           | P    | F  | G    | RF, RTJ     |  |
| 2"        |  | 50    | 51   | 368    | 368 | 371 | 292 | 130                     | 130 | 150 | 600         | F 10 | 18 | 25   | ~55         |  |
| 2 1/2"    |  | 65    | 64   | 419    | 419 | 422 | 330 | 155                     | 155 | 180 | 800         | F 12 | 22 | 30   | ~80         |  |
| 3"        |  | 80    | 76   | 470    | 470 | 473 | 356 | 155                     | 155 | **  | F 12        | 22   | 30 | ~105 |             |  |
| 4"        |  | 100   | 102  | 546    | 546 | 549 | 432 | 200                     | 190 | **  | F 14        | 30   | 40 | ~205 |             |  |

Note: 2", 2 1/2", 3" without support  
 \* Only gear operated design.

RTJ: In case of Ring Joint sealing surface flanged connection (ASME B 16.5)

WE: In case of butt welded connection (ASME B 16.25, EN 12627)

B: In case of threaded connection (ASME B 1.20)

RF: - In case of grooved smooth sealing surface (RF) flanged connection (ASME B16.5)  
 - Acc. to EN 1092-1 flanged connection

## GTNG,GTNK,GTZG,GTZK

### Main features:

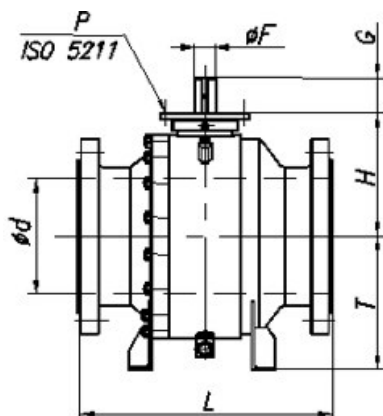
- Trunnion mounted ball
- Spiral spring assisted double sealing at the seat ring
- Body cavity pressure
- Secondary sealing
- Flanged or butt welded connections

### Design variations:

- Welded design
- Reduced bore
- Extended stem design

| Bolted design | Welded design |
|---------------|---------------|
| GTNG          | GTGH          |
| GTNK          | GTNH          |
| GTZG          | GZGH          |
| GTZK          | GTZH          |

### Dimensional Data for GTNG, GTNK, GTZG, GTZK





| Class150 | PN16 | d    | L [mm] |      |      | Other dimension[mm] |      |      |     |     | Weight[kg] |  |
|----------|------|------|--------|------|------|---------------------|------|------|-----|-----|------------|--|
| DN       |      | [mm] | RF     | WE   | RTJ  | T                   | H    | P    | F   | G   | RF, RTJ    |  |
| 6"       | 150  | 152  | 394    | 457  | 406  | 260                 | 250  | F 14 | 40  | 60  | ~195       |  |
| 8"       | 200  | 201  | 457    | 521  | 470  | 300                 | 285  | F 14 | 40  | 60  | ~240       |  |
| 10"      | 250  | 252  | 533    | 559  | 546  | 350                 | 333  | F 25 | 50  | 75  | ~320       |  |
| 12"      | 300  | 303  | 610    | 635  | 622  | 400                 | 375  | F 25 | 60  | 90  | ~590       |  |
| 14"      | 350  | 335  | 686    | 762  | 699  | 420                 | 395  | F 25 | 60  | 90  | ~765       |  |
| 16"      | 400  | 385  | 762    | 838  | 775  | 475                 | 450  | F 25 | 60  | 90  | ~1020      |  |
| 18"      | 450  | 436  | 864    | 914  | 876  | 510                 | 490  | F 25 | 70  | 105 | ~1400      |  |
| 20"      | 500  | 487  | 914    | 991  | 927  | 550                 | 530  | F 25 | 70  | 105 | ~1860      |  |
| 24"      | 600  | 589  | 1067   | 1143 | 1080 | 630                 | 615  | F 30 | 75  | 115 | ~2900      |  |
| 28"      | 700  | 684  | 1245   | 1346 | -    | 710                 | 690  | F 30 | 85  | 130 | ~3900      |  |
| 32"      | 800  | 779  | 1372   | 1524 | -    | 790                 | 765  | F 35 | 115 | 175 | ~5700      |  |
| 36"      | 900  | 874  | 1727   | 1727 | 1756 | 880                 | 860  | F 35 | 115 | 175 | ~8500      |  |
| 40"      | 1000 | 976  | 1900   | 1840 | -    | 980                 | 930  | F 35 | 130 | 195 | ~11000     |  |
| 42"      | 1050 | 1020 | 2050   | 1960 | -    | 990                 | 970  | F 35 | 130 | 195 | ~12000     |  |
| 48"      | 1200 | 1166 | 2180   | 2100 | -    | 1100                | 1080 | F 40 | 150 | 225 | ~15000     |  |

| Class300 | PN25-40 | D    | L [mm] |      |      | Other dimension [mm] |     |      |     |     | Weight [kg] |  |
|----------|---------|------|--------|------|------|----------------------|-----|------|-----|-----|-------------|--|
| DN       |         | [mm] | RF     | WE   | RTJ  | T                    | H   | P    | F   | G   | RF, RTJ     |  |
| 6"       | 150     | 152  | 403    | 457  | 419  | 260                  | 250 | F 14 | 40  | 60  | ~200        |  |
| 8"       | 200     | 201  | 502    | 521  | 518  | 300                  | 285 | F 14 | 40  | 60  | ~300        |  |
| 10"      | 250     | 252  | 568    | 559  | 584  | 350                  | 333 | F 25 | 50  | 75  | ~400        |  |
| 12"      | 300     | 303  | 648    | 635  | 664  | 400                  | 375 | F 25 | 60  | 90  | ~680        |  |
| 14"      | 350     | 335  | 762    | 762  | 778  | 420                  | 395 | F 25 | 60  | 90  | ~890        |  |
| 16"      | 400     | 385  | 838    | 838  | 854  | 475                  | 450 | F 25 | 60  | 90  | ~1165       |  |
| 18"      | 450     | 436  | 914    | 914  | 930  | 510                  | 490 | F 25 | 70  | 105 | ~1500       |  |
| 20"      | 500     | 487  | 991    | 991  | 1010 | 550                  | 530 | F 25 | 70  | 105 | ~2030       |  |
| 24"      | 600     | 589  | 1143   | 1143 | 1165 | 630                  | 615 | F 30 | 100 | 150 | ~3400       |  |
| 28"      | 700     | 684  | 1346   | 1346 | 1372 | 710                  | 690 | F 35 | 85  | 130 | ~4300       |  |
| 32"      | 800     | 779  | 1524   | 1524 | 1553 | 790                  | 765 | F 35 | 115 | 175 | ~6150       |  |
| 36"      | 900     | 874  | 1727   | 1727 | 1756 | 880                  | 875 | F 35 | 140 | 195 | ~8500       |  |
| 40"      | 1000    | 976  | 1900   | 1840 | -    | 980                  | 930 | F 35 | 130 | 195 | ~11000      |  |



|          |       |   |       |      |      |      |      |      |                 |      |     |             |
|----------|-------|---|-------|------|------|------|------|------|-----------------|------|-----|-------------|
| 42"      | 1050  |   | 1020  | 2050 | 1960 | -    | 990  | 970  | F<br>35         | 130  | 210 | ~12000      |
| 48"      | 1200  |   | 1166  | 2180 | 2100 | -    | 1100 | 1080 | F<br>40         | 150  | 225 | ~15000      |
| Class400 | PN63  |   | d     |      | L    | [mm] |      |      | Other dimension | [mm] |     | Weight [kg] |
|          | DN    |   | [ mm] | RF   | WE   | RTJ  | T    | H    | P               | F    | G   | RF, RTJ     |
| 6"       | 150   |   | 152   | 495  | 495  | 498  | 260  | 250  | F<br>14         | 40   | 60  | ~225        |
| 8"       | 200   |   | 201   | 597  | 597  | 600  | 300  | 290  | F<br>16         | 50   | 75  | ~355        |
| 10"      | 250   |   | 252   | 673  | 673  | 676  | 350  | 333  | F<br>25         | 60   | 90  | ~470        |
| 12"      | 300   |   | 303   | 762  | 762  | 765  | 400  | 375  | F<br>25         | 70   | 105 | ~855        |
| 14"      | 350   |   | 335   | 826  | 826  | 829  | 420  | 395  | F<br>25         | 70   | 105 | ~1050       |
| 16"      | 400   |   | 385   | 902  | 902  | 905  | 475  | 450  | F<br>25         | 75   | 115 | ~1330       |
| 18"      | 450   |   | 436   | 978  | 978  | 981  | 510  | 490  | F<br>25         | 75   | 115 | ~1620       |
| 20"      | 500   |   | 487   | 1054 | 1054 | 1060 | 550  | 530  | F<br>30         | 85   | 130 | ~2180       |
| 24"      | 600   |   | 589   | 1232 | 1232 | 1241 | 630  | 615  | F<br>35         | 100  | 150 | ~3800       |
| 28"      | 700   |   | 684   | 1397 | 1397 | 1410 | 710  | 690  | F<br>35         | 115  | 175 | ~4900       |
| 32"      | 800   |   | 779   | 1651 | 1651 | 1667 | 790  | 770  | F<br>35         | 130  | 195 | ~6950       |
| 36"      | 900   |   | 874   | 1880 | 1880 | 1896 | 880  | 875  | F<br>35         | 140  | 210 | ~9500       |
| 40"      | 1000  |   | 976   | 1960 | 1900 | -    | 980  | 970  | F<br>40         | 150  | 225 | ~12000      |
| 42"      | 1050  | 1 | 1020  | 2100 | 2000 | -    | 1020 | 1000 | F<br>40         | 140  | 210 | ~13000      |
| 48"      | 1200  | 1 | 1166  | 2400 | 2180 | -    | 1150 | 1130 | F<br>40         | 175  | 265 | ~16500      |
| Class600 | PN100 |   | D     |      | L    | [mm] |      |      | Other dimension | [mm] |     | Weight [kg] |
|          | DN    |   | [mm]  | RF   | WE   | RTJ  | T    | H    | P               | F    | G   | RF, RTJ     |
| 6"       | 150   |   | 152   | 559  | 559  | 562  | 260  | 250  | F<br>14         | 40   | 60  | ~245        |
| 8"       | 200   |   | 201   | 660  | 660  | 664  | 300  | 290  | F<br>16         | 50   | 75  | ~390        |
| 10"      | 250   |   | 252   | 787  | 787  | 791  | 350  | 333  | F<br>25         | 60   | 90  | ~565        |
| 12"      | 300   |   | 303   | 838  | 838  | 841  | 400  | 375  | F<br>25         | 70   | 105 | ~970        |
| 14"      | 350   |   | 335   | 889  | 889  | 892  | 420  | 395  | F<br>25         | 70   | 105 | ~1200       |
| 16"      | 400   |   | 385   | 991  | 991  | 994  | 475  | 450  | F<br>25         | 75   | 115 | ~1460       |
| 18"      | 450   |   | 436   | 1092 | 1092 | 1095 | 510  | 490  | F<br>30         | 75   | 115 | ~1780       |
| 20"      | 500   |   | 487   | 1194 | 1194 | 1200 | 550  | 530  | F               | 85   | 130 | ~2420       |



|     |      |      |      |      |      |      |      |         |     |     |        |
|-----|------|------|------|------|------|------|------|---------|-----|-----|--------|
|     |      |      |      |      |      |      |      | 30      |     |     |        |
| 24" | 600  | 589  | 1397 | 1397 | 1407 | 630  | 615  | F<br>35 | 100 | 150 | ~4150  |
| 28" | 700  | 684  | 1549 | 1549 | 1562 | 710  | 690  | F<br>35 | 115 | 175 | ~5300  |
| 32" | 800  | 779  | 1778 | 1778 | 1794 | 790  | 770  | F<br>35 | 130 | 195 | ~7450  |
| 36" | 900  | 874  | 2083 | 2083 | 2099 | 880  | 875  | F<br>35 | 140 | 210 | ~10000 |
| 40" | 1000 | 976  | 1960 | 1900 | -    | 980  | 970  | F<br>40 | 150 | 225 | ~12500 |
| 42" | 1050 | 1020 | 2100 | 2000 | -    | 1020 | 1000 | F<br>40 | 150 | 225 | ~13700 |
| 48" | 1200 | 1166 | 2400 | 2180 | -    | 1150 | 1130 | F<br>48 | 175 | 265 | ~17500 |

| Class900 |  | PN160 | d   | L [mm] |      | Other dimension [mm] |     |     |         |     | Weight [kg] |        |
|----------|--|-------|-----|--------|------|----------------------|-----|-----|---------|-----|-------------|--------|
| DN       |  | [mm]  | RF  | WE     | RTJ  | T                    | H   | P   | F       | G   | RF, RTJ     |        |
| 6"       |  | 150   | 152 | 610    | 610  | 613                  | 260 | 250 | F<br>14 | 40  | 60          | ~295   |
| 8"       |  | 200   | 201 | 737    | 737  | 740                  | 300 | 290 | F<br>16 | 50  | 75          | ~470   |
| 10"      |  | 250   | 252 | 838    | 838  | 841                  | 350 | 333 | F<br>25 | 60  | 90          | ~725   |
| 12"      |  | 300   | 303 | 965    | 965  | 968                  | 400 | 375 | F<br>25 | 70  | 105         | ~1110  |
| 14"      |  | 350   | 322 | 1029   | 1029 | 1038                 | 430 | 410 | F<br>30 | 75  | 115         | ~1650  |
| 16"      |  | 400   | 373 | 1130   | 1130 | 1140                 | 485 | 450 | F<br>30 | 85  | 130         | ~2050  |
| 18"      |  | 450   | 423 | 1219   | 1219 | 1232                 | 525 | 525 | F30     | 85  | 130         | ~2650  |
| 20"      |  | 500   | 471 | 1321   | 1321 | 1334                 | 570 | 550 | F35     | 100 | 150         | ~3550  |
| 24"      |  | 600   | 570 | 1549   | 1549 | 1568                 | 670 | 645 | F35     | 115 | 175         | ~5450  |
| 30"      |  | 750   | 712 | 1780   | 1700 | -                    | 800 | 805 | F40     | 140 | 210         | ~9500  |
| 36"      |  | 900   | 855 | 2050   | 1980 | -                    | 950 | 937 | F40     | 150 | 225         | ~14500 |

| Class1500 |  | PN250 | d   | L [mm] |      | Other dimension [mm] |     |     |     |     | Weight [kg] |       |
|-----------|--|-------|-----|--------|------|----------------------|-----|-----|-----|-----|-------------|-------|
| DN        |  | [mm]  | RF  | WE     | RTJ  | T                    | H   | P   | F   | G   | RF, RTJ     |       |
| 6"        |  | 150   | 144 | 705    | 705  | 711                  | 270 | 265 | F16 | 50  | 75          | ~370  |
| 8"        |  | 200   | 192 | 832    | 832  | 841                  | 315 | 300 | F25 | 60  | 90          | ~620  |
| 10"       |  | 250   | 239 | 991    | 991  | 1000                 | 370 | 355 | F25 | 70  | 105         | ~940  |
| 12"       |  | 300   | 287 | 1130   | 1130 | 1146                 | 430 | 415 | F30 | 75  | 115         | ~1450 |
| 14"       |  | 350   | 315 | 1257   | 1257 | 1276                 | 475 | 455 | F30 | 85  | 130         | ~1810 |
| 16"       |  | 400   | 260 | 1384   | 1384 | 1406                 | 530 | 500 | F30 | 100 | 150         | ~2400 |
| 18"       |  | 450   | 413 | 1537   | 1537 | 1559                 | 550 | 550 | F35 | 100 | 150         | ~3300 |
| 20"       |  | 500   | 457 | 1664   | 1664 | 1686                 | 620 | 610 | F35 | 115 | 175         | ~4400 |
| 24"       |  | 600   | 549 | 1943   | 1943 | 1972                 | 730 | 720 | F40 | 130 | 195         | ~6550 |

- RTJ: Flanged joint with Ring Joint sealing surface (ASME B 16.5 , ASME B 16.47 SERIA A)  
WE: Buttwelded joint (ASME B 16.25, EN 12627)  
RF: - Flanged joint with flat sealing surface (RF)(ASME B 16.5, ASME B 16.47 SERIA A)  
- Flanged joint as per EN 1092-1  
- Flanged joint as per GOSZT 12821, GOSZT 12815

## GTGF, GTNF

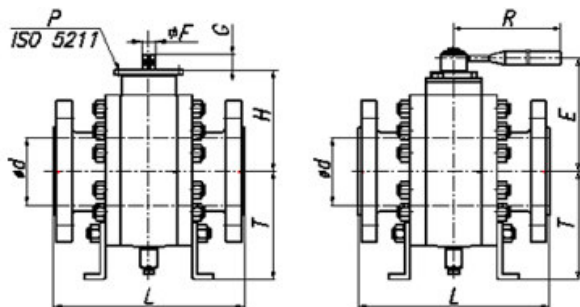
### Main features:

- Metal to metal sealing (hard-metal facing)
- Trunnion mounted ball
- Spiral spring assisted double sealing at the seat ring
- Single blow-off possibility of body cavity pressure
- Automatic compensation of body cavity pressure
- Secondary sealing of stem "plastic" energised
- Flanged, threaded or butt welded connections

### Design variations:

- Reduced bore
- Extended stem design

### Dimensional Data for GTGF (2"-4")





|  |            |                 |            |                             |            |            |  |            |            |                    |          |          |            |          |                                     |
|--|------------|-----------------|------------|-----------------------------|------------|------------|--|------------|------------|--------------------|----------|----------|------------|----------|-------------------------------------|
| Class150<br>DN 2"                      | PN16<br>50 | d<br>[mm]<br>51 | RF<br>178  | L [mm]<br>WE RTJ<br>216 191 | B<br>216   | T<br>82    | Overall dimensions [mm] H E<br>R P F 120 100 300 F 10 18 |            |            |                    |          |          |            | G<br>25  | Weight<br>[kg]<br>RF,<br>RTJ<br>~28 |
| 2 1/2" 3"                              | 65 80      | 76<br>76        | 241<br>203 | 241 257<br>283 216          | 241<br>283 | 100<br>100 | 135 140 400 F 10 22 135 140<br>400 F 10 22               |            |            |                    |          |          |            | 30<br>30 | ~40<br>~43                          |
| 4"                                     | 100        | 102             | 229        | 305 241                     | 305        | 160        | 165 165 500 F 12 30                                      |            |            |                    |          |          |            | 40       | ~74                                 |
|  |            |                 |            |                             |            | 3          |  |            |            |                    |          |          |            |          |                                     |
| Class300 PN25-40 d DN<br>[mm] 2" 50 51 |            |                 | RF<br>216  | L [mm]<br>WE RTJ<br>216 232 | B<br>216   | T<br>82    | Overall dimensions [mm] H E<br>R P F 120 100 300 F 10 18 |            |            |                    |          |          |            | G<br>25  | Weight<br>[kg]<br>RF,<br>RTJ<br>~30 |
| 2<br>1/2"<br>3"                        | 65 80      | 76 76           | 241<br>283 | 241 257<br>283 298          | 241<br>283 | 100<br>100 | 135<br>135   | 140<br>140 | 500<br>400 | F<br>10<br>F<br>10 | 22<br>22 | 30<br>30 | ~41<br>~46 |          |                                     |
| 4"                                     | 100        | 102             | 305        | 305 321                     | 305        | 160        | 165  | 165        | 500        | F<br>12            | 30       | 40       | ~84        |          |                                     |
| Class400<br>DN 2"                      |            |                 | RF<br>292  | L [mm]<br>WE RTJ<br>292 295 | B<br>292   | T<br>130   | Overall dimensions [mm] H E<br>R P F 130 150 400 F 10 18 |            |            |                    |          |          |            | G<br>25  | Weight<br>[kg]<br>RF,<br>RTJ<br>~34 |
| 2 1/2" 3"                              | 65 80      | 64 76           | 330<br>356 | 330 333<br>356 359          | 330<br>356 | 155<br>155 | 155<br>155   | 180<br>180 | 500<br>600 | F<br>12<br>F<br>12 | 22<br>22 | 30<br>30 | ~44<br>~66 |          |                                     |
| 4"                                     | 100        | 102             | 406        | 406 410                     | 432        | 200        | 190  | 220        | 800        | F<br>14            | 30       | 40       | ~105       |          |                                     |
| Class600<br>DN 2"                      |            |                 | RF<br>292  | L [mm]<br>WE RTJ<br>292 295 | B<br>292   | T<br>130   | Overall dimensions [mm] H E<br>R P F 130 150 400 F 10 18 |            |            |                    |          |          |            | G<br>25  | Weight<br>[kg]<br>RF,<br>RTJ<br>~34 |
| 2 1/2" 3"                              | 65 80      | 64 76           | 330<br>356 | 330 333<br>356 359          | 330<br>356 | 155<br>155 | 155 180 500 F 12 22 155 180<br>600 F 12 22               |            |            |                    |          | 30<br>30 | ~45<br>~66 |          |                                     |
| 4"                                     | 100        | 102             | 432        | 432 435                     | 432        | 200        | 190 220 800 F 14 30                                      |            |            |                    |          |          |            | 40       | ~120                                |



| Class900 | PN160 | d    | L [mm] |     |     |     | Overall dimensions [mm] |     |     |     |      |    |    | Weight [kg] |
|----------|-------|------|--------|-----|-----|-----|-------------------------|-----|-----|-----|------|----|----|-------------|
| DN       |       | [mm] | RF     | WE  | RTJ | B   | T                       | H   | E   | R   | P    | F  | G  | RF, RTJ     |
| 2"       | 50    | 51   | 368    | 368 | 371 | 292 | 130                     | 130 | 150 | 600 | F 10 | 18 | 25 | ~52         |
| 2 1/2"   | 65    | 64   | 419    | 419 | 422 | 330 | 155                     | 155 | 180 | 600 | F 12 | 22 | 30 | ~62         |
| 3"       | 80    | 76   | 381    | 381 | 384 | 356 | 155                     | 155 | 180 | 800 | F 12 | 22 | 30 | ~80         |
| 4"       | 100   | 102  | 457    | 457 | 460 | 432 | 200                     | 190 | *   | *   | F 14 | 30 | 40 | ~170        |

| Class1500 | PN250 | d    | L [mm] |     |     |     | Overall dimensions [mm] |     |     |     |      |    |    | Weight [kg] |
|-----------|-------|------|--------|-----|-----|-----|-------------------------|-----|-----|-----|------|----|----|-------------|
| DN        |       | [mm] | RF     | WE  | RTJ | B   | T                       | H   | E   | R   | P    | F  | G  | RF, RTJ     |
| 2"        | 50    | 51   | 368    | 368 | 371 | 292 | 130                     | 130 | 150 | 600 | F 10 | 18 | 25 | ~55         |
| 2 1/2"    | 65    | 64   | 419    | 419 | 422 | 330 | 155                     | 155 | 180 | 800 | F 12 | 22 | 30 | ~80         |
| 3"        | 80    | 76   | 470    | 470 | 473 | 356 | 155                     | 155 | *   | *   | F 12 | 22 | 30 | ~105        |
| 4"        | 100   | 102  | 546    | 546 | 549 | 432 | 200                     | 190 | *   | *   | F 14 | 30 | 40 | ~205        |

- Note: 2", 2 1/2", 3" without support.  
 \* Only gear actuation.
- RTJ: Flanged joint with Ring Joint sealing surface (ASME B 16.5)  
 WE: Butwelded joint (ASME B 16.25, EN 12627)  
 B: Threaded joint (ASME B 1.20)  
 RF: - Flanged joint with flat sealing surface (RF)(ASME B 16.5)  
 - Flanged joint as per EN 1092-1  
 - Flanged joint as per GOSZT 12821, GOSZT 12815



**Dimensional Data for GTNF (6"-16") ball valves**

| Class150 |    | PN16    | d    | L [mm] |     |     | Overall dimensions      |             |      | [mm]        |     |         | Weight [kg] |
|----------|----|---------|------|--------|-----|-----|-------------------------|-------------|------|-------------|-----|---------|-------------|
|          | DN |         | [mm] | RF     | WE  | RTJ | T                       | H           | P    | F           | G   | RF, RTJ |             |
| 6"       |    | 150     | 152  | 394    | 457 | 406 | 260                     | 250         | F 14 | 40          | 60  | ~195    |             |
| 8"       |    | 200     | 201  | 502    | 521 | 518 | 300                     | 290         | F 16 | 50          | 75  | ~290    |             |
| 10"      |    | 250     | 252  | 568    | 559 | 584 | 350                     | 333         | F 25 | 60          | 90  | ~390    |             |
| 12"      |    | 300     | 303  | 648    | 635 | 664 | 400                     | 375         | F 25 | 70          | 105 | ~665    |             |
| 14"      |    | 350     | 335  | 762    | 762 | 778 | 420                     | 395         | F 25 | 70          | 105 | ~860    |             |
| 16"      |    | 400     | 385  | 838    | 838 | 854 | 475                     | 450         | F 25 | 75          | 115 | ~1150   |             |
| Class300 |    | PN25-40 | d    | L [mm] |     |     | Overall dimensions [mm] |             |      | Weight [kg] |     |         |             |
|          | DN |         | [mm] | RF     | WE  | RTJ | T                       | H           | P    | F           | G   | RF, RTJ |             |
| 6"       |    | 150     | 152  | 403    | 457 | 419 | 260                     | 250         | F 14 | 40          | 60  | ~141    |             |
| 8"       |    | 200     | 201  | 502    | 521 | 518 | 300                     | 290         | F 16 | 50          | 75  | ~290    |             |
| 10"      |    | 250     | 252  | 568    | 559 | 584 | 350                     | 333         | F 25 | 60          | 90  | ~390    |             |
| 12"      |    | 300     | 303  | 648    | 635 | 664 | 400                     | 375         | F 25 | 70          | 105 | ~665    |             |
| 14"      |    | 350     | 335  | 762    | 762 | 778 | 420                     | 395         | F 25 | 70          | 105 | ~860    |             |
| 16"      |    | 400     | 385  | 838    | 838 | 854 | 475                     | 450         | F 25 | 75          | 115 | ~1150   |             |
| Class600 |    | PN100   | d    | L [mm] |     |     | Overall dimensions [mm] |             |      | Weight [kg] |     |         |             |
| DN       |    |         | [mm] | RF     | WE  | RTJ | T                       | H P F       |      |             | G   | RF, RTJ |             |
| 6" 150   |    |         | 152  | 559    | 559 | 562 | 260                     | 250 F 14 40 |      |             | 60  | ~240    |             |
| 8" 200   |    |         | 201  | 660    | 660 | 664 | 300                     | 290 F 16 50 |      |             | 75  | ~380    |             |
| 10" 250  |    |         | 252  | 787    | 787 | 791 | 350                     | 333 F 25 60 |      |             | 90  | ~550    |             |
| 12" 300  |    |         | 303  | 838    | 838 | 841 | 400                     | 375 F 25 70 |      |             | 105 | ~950    |             |

| Class400 | PN64 | d    | L [mm] |     |     | Overall dimensions [mm] |     |      |    |     | Weight [kg] |
|----------|------|------|--------|-----|-----|-------------------------|-----|------|----|-----|-------------|
|          | DN   | [mm] | RF     | WE  | RTJ | T                       | H   | P    | F  | G   | RF, RTJ     |
| 6"       | 150  | 152  | 495    | 495 | 498 | 260                     | 250 | F 14 | 40 | 60  | ~220        |
| 8"       | 200  | 201  | 597    | 597 | 600 | 300                     | 290 | F 16 | 50 | 75  | ~345        |
| 10"      | 250  | 252  | 673    | 673 | 676 | 350                     | 333 | F 25 | 60 | 90  | ~460        |
| 12"      | 300  | 303  | 762    | 762 | 765 | 400                     | 375 | F 25 | 70 | 105 | ~840        |
| 14"      | 350  | 335  | 826    | 826 | 829 | 420                     | 395 | F 25 | 70 | 105 | ~1020       |
| 16"      | 400  | 385  | 902    | 902 | 905 | 475                     | 450 | F 30 | 75 | 115 | ~1300       |



- RTJ: Flanged joint with Ring Joint sealing surface (ASME B 16.5)
- WE: Butwelded joint (ASME B 16.25, EN 12627)
- RF: - Flanged joint with flat sealing surface (RF)(ASME B 16.5)  
 - Flanged joint as per EN 1092-1  
 - Flanged joint as per GOSZT 12821, GOSZT 12815

## Identification system

### The notation of Ball valve product line:

|   |
|---|
| <b>Code:</b> X X X X -X X -X X -X X -X X X / X          |
| <b>Character:</b> 1 2 3 4 -5 6 -7 8 -9 10 -11 12 13 / V |
| <b>Sample:</b> G T N K -2 A -H X -G K -E 2 2 / V        |

Identifying characters:

**1st- 4th characters:** Ball valve identifier

| Code: | Type:  |
|-------|--|
| GUB   | ½", ¾", 1", 1 ¼", 1 ½" with floating ball  |
| GUBH  | GUB welded design  |
| GTNA  | 2"-6" screwed, for only low pressure (2"-4": 16-40 bar, 6": 16-25 bar)                 |
| GTNN  | 2"-4" screwed  |
| GTNH  | GTNN welded design   |
| GTNG  | 6"-56", screwed, auto-discharge of body space  |
| GTGH  | GTNG welded design   |
| GTNK  | 6"-56" screwed, bi-directional sealing system  |
| GTNH  | GTNK welded design   |
| GTZG  | 6"-56", screwed, auto-discharge of body space, secondary sealing with grease injection |
| GZGH  | GTZG welded design   |
| GTZK  | 6"-56", screwed, bi-directional sealing system, sec. sealing with grease injection     |
| GTZH  | GTZK welded design   |
| GTGF  | 2"-16" metal to metal sealing, automatic compensation of body space pressure           |



**5th character:** Temperature identifier

By API Spec. 6D (Certificate of quality number: 6D-0227)

| Code: | Temperature range | Code: | Temperature range |
|-------|-------------------|-------|-------------------|
| 2     | -29 °C ~ + 120 °C | 21    | -29 °C ~ + 200 °C |
| 22    | -29 °C ~ + 150 °C | 23    | -29 °C ~ + 230 °C |
| 5     | -46 °C ~ + 120 °C | 51    | -46 °C ~ + 200 °C |
| 52    | -46 °C ~ + 150 °C | 53    | -46 °C ~ + 230 °C |
| 7     | -60 °C ~ + 80 °C  | 71    | -60 °C ~ + 200 °C |
| 72    | -60 °C ~ + 150 °C | 73    | -60 °C ~ + 230 °C |
| 8     | -70 °C ~ + 80 °C  | 9     | -80 °C ~ + 80 °C  |

By API Spec. 6A (if determined in Psi or non-standard class)

| Code: | Temperature range: | Code: | Temperature range: |
|-------|--------------------|-------|--------------------|
| P     | -29 °C ~ + 82 °C   | U     | -18 °C ~ + 120 °C  |
| PU    | -29 °C ~ + 120 °C  | other |                    |

**6th character:** Medium, TRIM identifier (can be more than one character)

By API Spec.6D (Certificate of quality number: 6A-0403)

| Code: | Medium:                           |
|-------|-----------------------------------|
| A     | Non-corrosive agent               |
| A1,A2 | Low corrosive agent               |
| S     | Middling corrosive agent          |
| K     | Hard corrosive agent              |
| D     | Non-corrosive agent + "NACE"      |
| E     | Middling corrosive agent + "NACE" |
| F     | Hard corrosive agent + "NACE"     |
| G     | Steam, hot water                  |
| CO    | CO <sub>2</sub>                   |
| PB    | Propane-butane                    |



By API Spec. 6A (if determined in Psi or non-standard class)

| Code: | Medium, TRIM:                             |
|-------|---|
| AA    | Non-corrosive agent                       |
| BB    | Low corrosive agent                       |
| CC    | Middling or hard corrosive agent          |
| DD    | Non-corrosive agent + "NACE"              |
| EE    | Low corrosive agent + "NACE"              |
| FF    | Middling or hard corrosive agent + "NACE" |
| other |   |

**7th character:** Connection identifier (can be more than one character)

| Code: | Connection type:  |
|-------|---|
| A     | Flange with raised sealing surface (16-40 Bar) by EN 1092 type B1                               |
| E     | Flange with raised sealing surface (63-250 Bar ) by EN 1092-1 type B2                           |
| H     | Flange with groove sealing surface (16-160 Bar) by EN 1092-1 type D                             |
| K     | Flange with spigot sealing surface by EN 1092-by 1 type E                                       |
| U     | Flange with recess sealing surface by EN 1092-1 type F  |
| SZ    | Flange with tongue sealing surface by (16-160 Bar), EN 1092-1 type C                            |
| C     | Butt welding end (by standard or order) EN 12627  |
| CP    | Butt welding end with welded pipe (after 'CP' length of pipe in mm)                             |
| F     | Flange (RF type) with raised sealing surface by ASME B16.5, ASME B16.47 SERIE A                 |
| J     | Flange (RTJ type) with Ring Joint sealing surface by ASME B16.5, ASME B16.47 SERIE A            |
| W     | Butt welding end (WE type) (by standard or order) ASME B16.25                                   |
| WP    | Butt welding end with welded pipe (after 'WP' length of pipe in mm)                             |
| R     | Flange (RTJ type) with Ring Joint sealing surface by API Sp. 6A                                 |
| S     | Socket-welded by (SW) ASME B16.11, DIN 3239   |
| M     | External thread (up to 4") by (LP -API Std. 5L)   |
| B     | Internal thread (up to 4") by (LP -API Std. 5B)   |
| GA    | Flange with raised sealing surface by GOSZT 12815-80 1. design (up to 40 bar) + GOSZT 12821-80  |
| GB    | Flange with recess sealing surface by GOSZT 12815-80 3. design (up to 40 bar) + GOSZT 12821-80  |
| GJ    | Flange with ovalring sealing surface by GOSZT 12815-80 7.design (up to 64 bar) + GOSZT 12821-80 |



**8th character:** Connection design identifier (can be omitted or more than one character):

| Code: | Connection design:  |
|-------|---|
| X     | Counterflange (both sides) (by standard or order)                 |
| Y     | Counterflange (one side) (by standard or order)                   |
| V     | Blank flange (one side)   |
| XS    | Socket-welded counterflange (mindkét oldal)                       |
| X/B   | Counterflange (one side), threaded counterflange (the other side) |
| other |   |

**9-10th character:** Actuator identifier (the type of actuator should be determined exactly. It can be two characters)

**Code: Actuator type:** Free end of stem

**O** Hand lever

**K** Manually operated gear

**GK** Electro-motor operated gear

**GM** Electric actuator

**H HE** Hydraulic actuator Electro-hydraulic actuator

**P** Pneumatic actuator

The type of actuator is defined by the customer or recommended by the valve producer.

**11th character:** Other design identifier (can be omitted or more than one character)

**Code: Other design:**

**v** Greasing pipe (GTZG, GTZK, GTGH, GTZH)

**L** Extended length

**E** Buriable design

**12-13th character:** burying or extending size identifier (can be omitted)

Code: Size in mm/100



**14th character:** Other special design identifier:

| Code: | After sign " / ",uniquely given identifier:                       |
|-------|---|
| / G   | Blow-off system (GTNN types)                                      |
| / V   | Limit Switch  |
| / L   | Locking device  |
| / SZ  | Insulated   |
| / SM  | Seawater resistant paint (SUBMARINE)                              |
| / R   | Different lenght from ANSI/ASME B16.10 ex.: by DIN 3202 or EN 558 |
| / D   | Different diameter of bore from API 6D                            |
| / BP  | By-pass system  |
| / F   | Different size of gear connection rim from basic design           |
| other |   |

**Example 1 for notation:**

|                         |                                    |
|-------------------------|------------------------------------|
| Nominal diameter        | DN 300                             |
| Nominal pressure        | PN 64                              |
| Ball valve type         | GTNK                               |
| Temperature range       | -29°C ~ +120°C                     |
| Medium                  | Non-corrosive agent                |
| Connection              | Flange with groove sealing surface |
| Connection design       | Counterflanges on the both sides   |
| Actuator type           | Manually operated gear             |
| Other design            | Buriable valve                     |
| Lenght of extended stem | 2200 mm                            |

**Short notation:** DN 300; PN 64 GTNK-2A-HX-GK-E22

**Example 2 for notation**

|                         |   |
|-------------------------|---|
| Nominal diameter        | DN 8"   |
| Nominal pressure        | ANSI/ASME CLASS 400   |
| Ball valve type         | GTZK  |
| Temperature range       | -60°C ~ +80°C   |
| Medium                  | NACE Non-corrosive agent                                      |
| Connection              | DN 10" Flange with ANSI/ASME RTJ sealing surface              |
| Connection design       | Counterflange on one side with butt welding end, Blank flange |
| Actuator type           | Electro-motor operated gear                                   |
| Other design            | Greasing pipe   |
| Length of extended stem | 1600 mm   |
| <b>Short notation:</b>  | DN 10"/8"/10"; CLASS 400 GTZK-7D-JYV-                         |
| GM-VL16                 |   |

