

# K85

K85 131 063.743 DN1/4" – DN2"  
Ball valve threaded NPT



**Size :** DN 8 to 100 mm  
**Ends :** Threaded BSP, NPT, Socket or Butt Welding  
**Min Temperature :** -20°C  
**Max Temperature :** + 180°C  
**Max Pressure :** 63 Bars up to DN20  
**Specifications :** ISO 5211 mounting pad  
PTFE filled with 15% glass seat  
Anti blow-out stem

**Materials :** Stainless Steel

### SPECIFICATIONS :

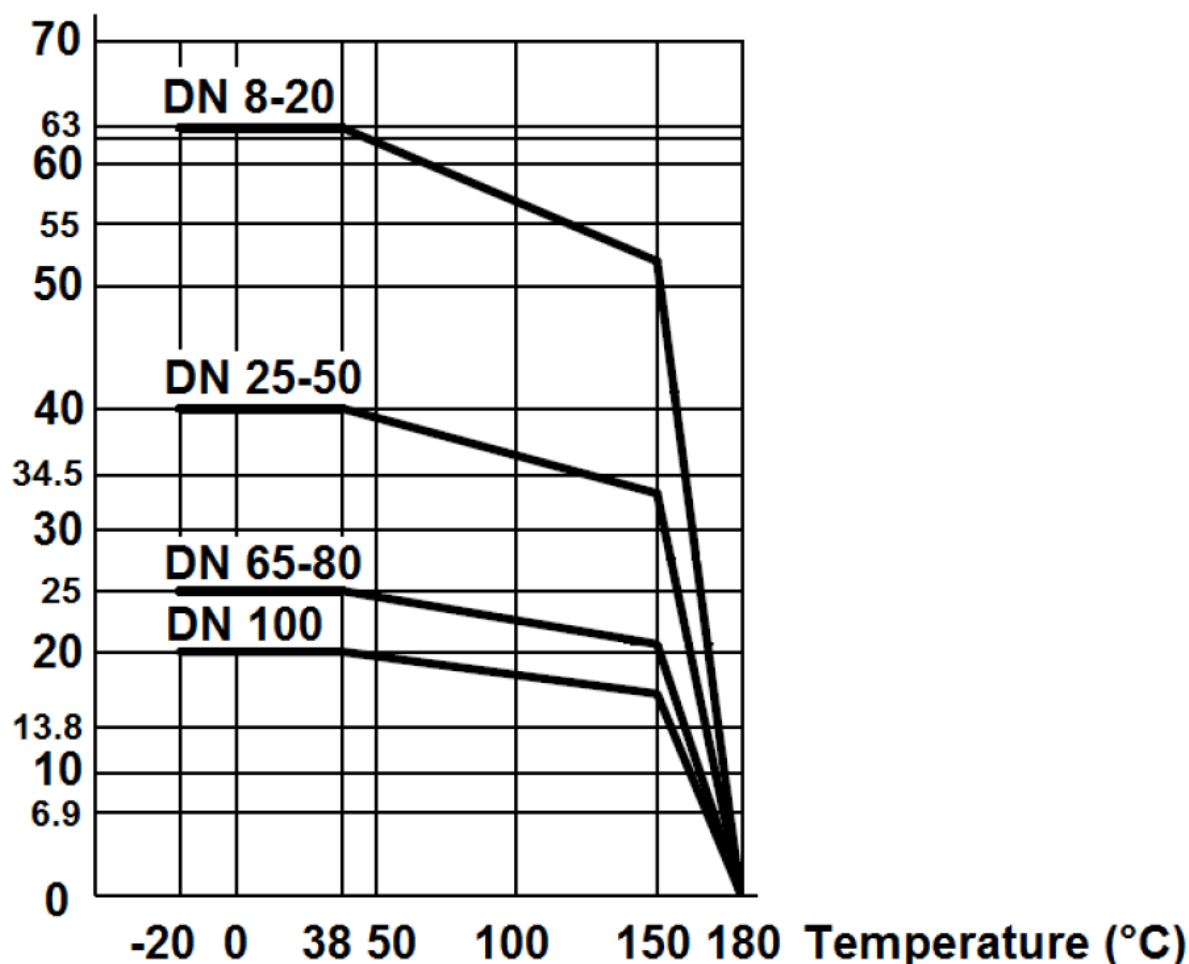
- Full bore
- Anti blow-out stem
- PTFE packing
- PTFE filled with 15% glass seat
- Locking device
- ISO 5211 mounting pad

### USE :

- Chemical and pharmaceutical industries, petrochemical industries
- Min and max Temperature Ts : -20°C to + 180°C
- Max Pressure Ps : 63 bars up to DN20, 40 bars from DN25 to 50, 25 bars from DN65 to 80 and 20 bars for DN100 (see graph under)

### PRESSURE / TEMPERATURE GRAPH ( STEAM AND COMPRESSED AIR EXCLUDED ) :

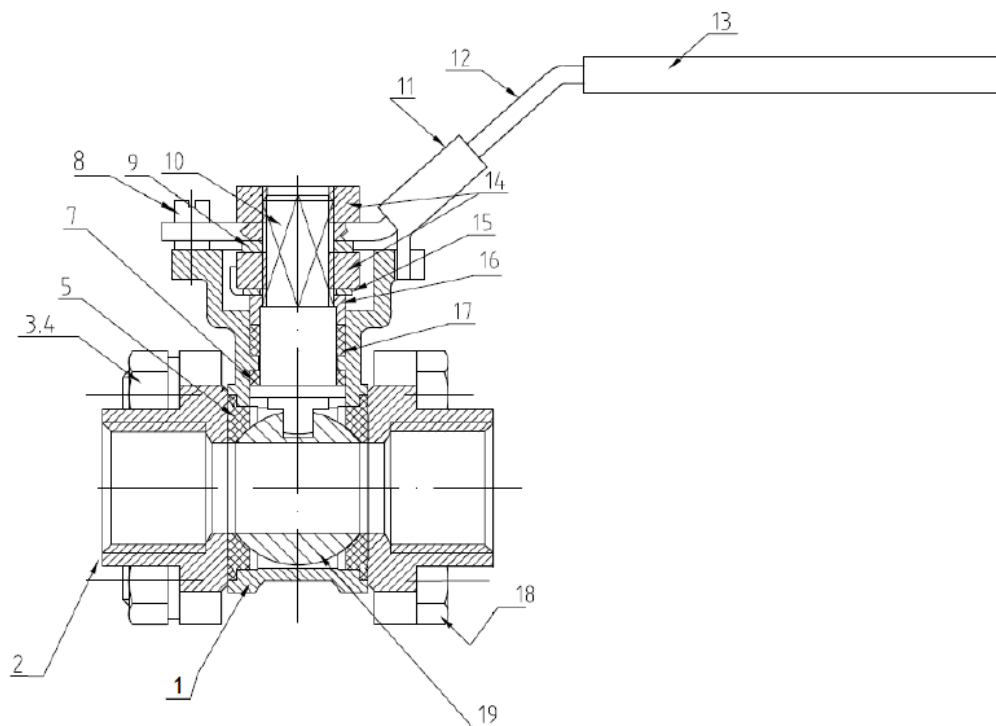
Pressure ( Bar )



### RANGE :

- 3 pieces ball valve with ISO mounting pad female / female threaded BSP ends **Ref. 740**
- 3 pieces ball valve with ISO mounting pad female / female threaded NPT ends **Ref. 743**
- 3 pieces ball valve with ISO mounting pad Butt Welding ends **Ref. 741**
- 3 pieces ball valve with ISO mounting pad Socket Welding ends **Ref. 742**

### MATERIALS :



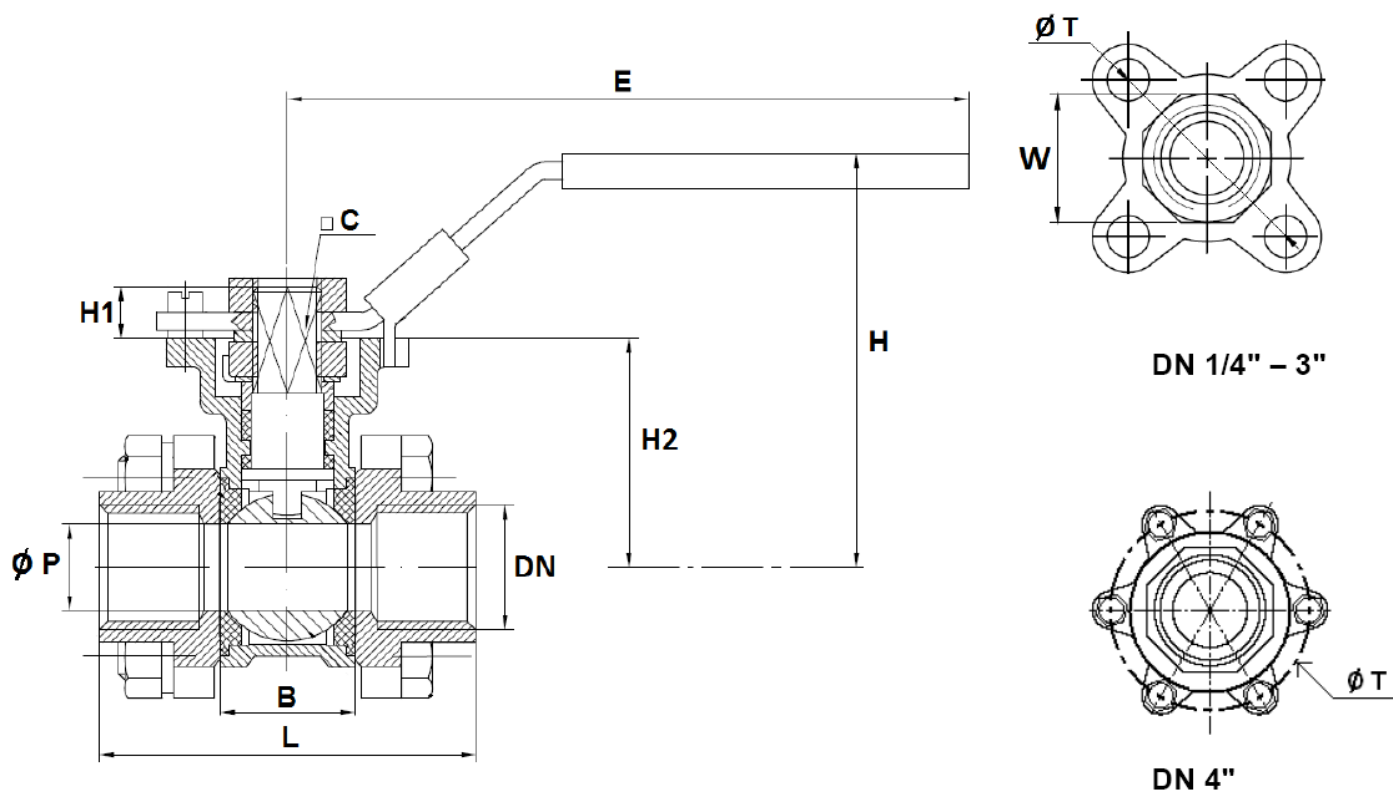
| Item | Designation    | Materials        |
|------|----------------|------------------|
| 1    | Body           | ASTM A351 CF8M   |
| 2    | End cap        | ASTM A351 CF8M   |
| 3    | Bolt nut       | AISI 304         |
| 4    | Bolt washer    | AISI 304         |
| 5*   | Seat           | PTFE + 15% glass |
| 7*   | Stem seal      | PTFE             |
| 8    | Screw          | AISI 304         |
| 9    | Thrust washer  | AISI 304         |
| 10   | Stem           | AISI 316         |
| 11   | Locking device | AISI 304         |
| 12   | Handle         | AISI 304         |
| 13   | Plastic cover  | Plastic          |
| 14   | Stem nut       | AISI 304         |
| 15   | Ring           | AISI 304         |
| 16   | Gland ring     | AISI 304         |
| 17*  | Packing        | PTFE             |
| 18   | Bolt           | AISI 304         |
| 19   | Ball           | ASTM A351 CF8M   |

( \* : included in gaskets kit )

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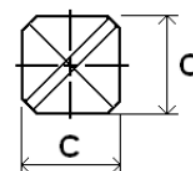
## K85 131 063.743 DN1/4" – DN2" Ball valve threaded NPT

SIZE THREADED TYPES 740 - 743 ( in mm ) :



| Ref.                      | DN            | 1/4"  | 3/8"  | 1/2"  | 3/4"  | 1"    | 1"1/4 | 1"1/2 | 2"    | 2"1/2 | 3"    | 4"    |
|---------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 740 / 743<br><br>Threaded | Ø P           | 9.2   | 12.8  | 15    | 20    | 25    | 32    | 38    | 50    | 65    | 80    | 100   |
|                           | L             | 60    | 60    | 75    | 76.5  | 86.2  | 103   | 118   | 131.5 | 164.6 | 182.7 | 217.7 |
|                           | B             | 22    | 22    | 25.5  | 30.8  | 37.8  | 47    | 57    | 68    | 88.1  | 100.2 | 119.1 |
|                           | E             | 128   | 128   | 128   | 128   | 150   | 150   | 184   | 184   | 260   | 260   | 335   |
|                           | H             | 63    | 64    | 71    | 76    | 90    | 95    | 108   | 117   | 148   | 155   | 180   |
|                           | H1            | 8.5   | 8.5   | 9.5   | 9.5   | 11    | 11    | 15    | 15    | 20    | 20    | 20    |
|                           | H2            | 31.3  | 31.3  | 38    | 43    | 48.5  | 54    | 67    | 76.2  | 105   | 111.5 | 136   |
|                           | C             | 9     | 9     | 9     | 9     | 9     | 9     | 14    | 14    | 17    | 17    | 17    |
|                           | Ø T           | 38.5  | 38.5  | 45    | 56.5  | 63.5  | 75    | 89.5  | 111.5 | 139   | 165   | 200.5 |
|                           | W (on flat)   | 18    | 22    | 26    | 33    | 40    | 48    | 55    | 67    | 84.5  | 101   | 127   |
|                           | Weight ( Kg ) | 0.435 | 0.435 | 0.650 | 0.846 | 1.155 | 1.66  | 3.025 | 4.48  | 8.59  | 11.51 | 21    |

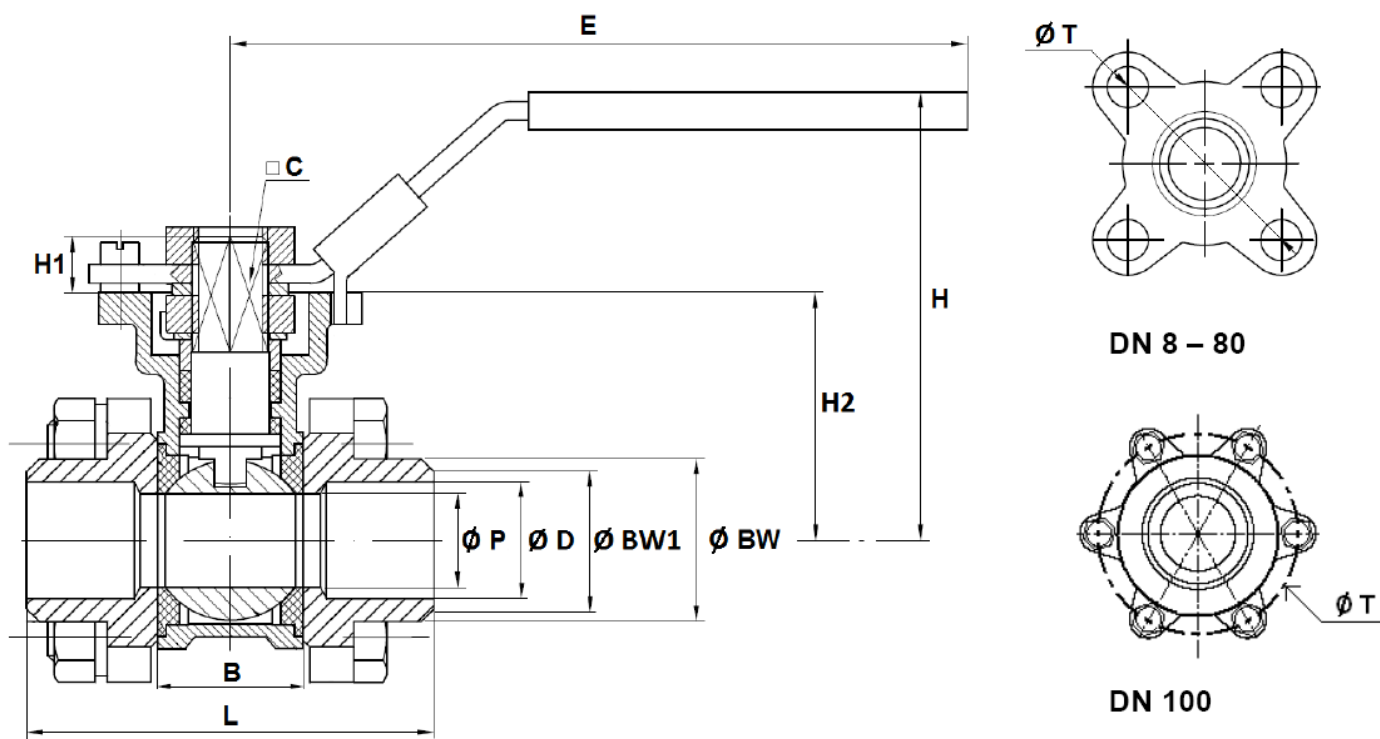
Stem size :



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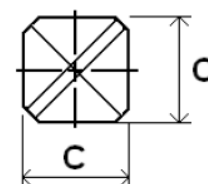
K85 131 063.743 DN1/4" – DN2"  
Ball valve threaded NPT

SIZE WELDING B.W.TYPES 741 ( in mm ) :



| Ref. | DN            | 8     | 10    | 15    | 20    | 25    | 32    | 40    | 50    | 65    | 80    | 100   |
|------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 741  | Ø P           | 9.2   | 12.8  | 15    | 20    | 25    | 32    | 38    | 50    | 65    | 800   | 100   |
|      | Ø D           | 9.2   | 12.8  | 15    | 20    | 25    | 32    | 39.8  | 50    | 65    | 80    | 100   |
|      | L             | 60    | 60    | 67.7  | 76.5  | 86.2  | 103.1 | 118   | 131.5 | 162.6 | 180.7 | 221.7 |
|      | B             | 22    | 22    | 25.5  | 30.8  | 37.8  | 47    | 57    | 68    | 88.1  | 100.2 | 119.1 |
|      | E             | 128   | 128   | 128   | 128   | 150   | 150   | 184   | 184   | 260   | 260   | 335   |
|      | H             | 63    | 64    | 71    | 76    | 90    | 95    | 108   | 117   | 148   | 155   | 180   |
|      | H1            | 8.5   | 8.5   | 9.5   | 9.5   | 11    | 11    | 15    | 15    | 20    | 20    | 20    |
|      | H2            | 31.3  | 31.3  | 38    | 43    | 48.5  | 54    | 67    | 76.2  | 105   | 111.5 | 136   |
|      | C             | 9     | 9     | 9     | 9     | 9     | 9     | 14    | 14    | 17    | 17    | 17    |
| BW   | Ø T           | 38.5  | 38.5  | 45    | 56.5  | 63.5  | 75    | 89.5  | 111.5 | 139   | 165   | 200.5 |
|      | Ø BW          | 14    | 17.5  | 22    | 27.5  | 34    | 43    | 49    | 61    | 76.5  | 90    | 115   |
|      | Ø BW1         | 12    | 14.5  | 17    | 22.5  | 28.6  | 36    | 43    | 54    | 68    | 84    | 104   |
|      | Weight ( Kg ) | 0.435 | 0.435 | 0.650 | 0.846 | 1.155 | 1.66  | 3.025 | 4.48  | 8.59  | 11.51 | 21    |

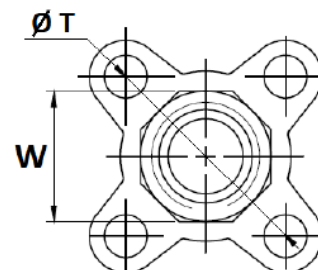
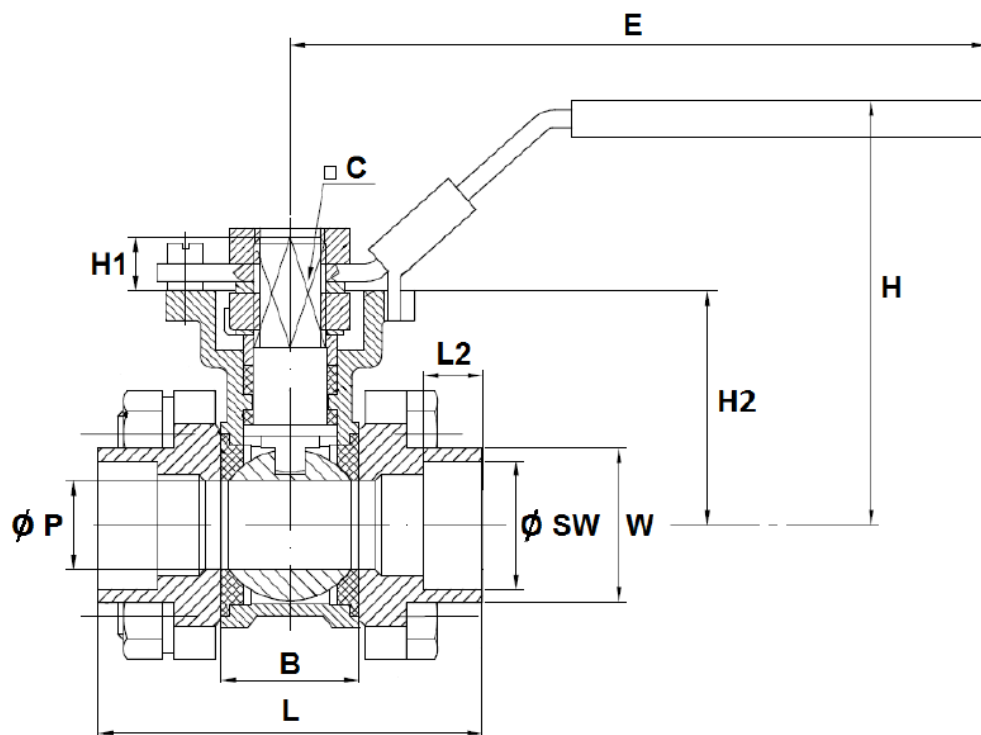
Stem size :



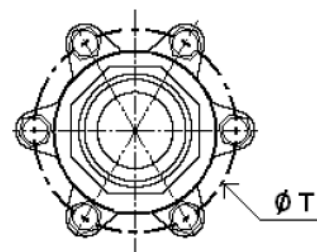
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## K85 131 063.743 DN1/4" – DN2" Ball valve threaded NPT

SIZE WELDING S.W. TYPES 742 ( in mm ) :



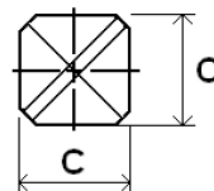
DN 8 – 80



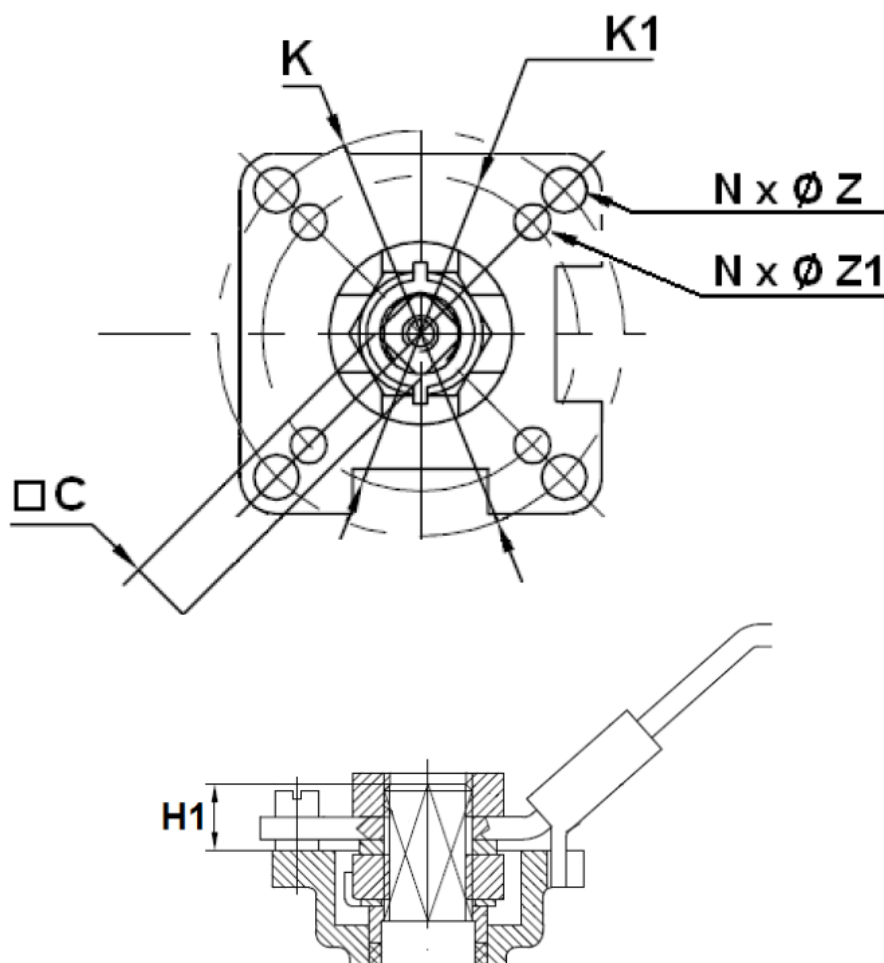
DN 100

| Ref. | DN            | 8     | 10    | 15    | 20    | 25    | 32    | 40    | 50    | 65    | 80    | 100   |
|------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 742  | Ø P           | 9.2   | 12.8  | 15    | 20    | 25    | 32    | 38    | 50    | 65    | 80    | 100   |
|      | L             | 60    | 60    | 67.7  | 76.5  | 86.2  | 103.1 | 118   | 131.5 | 164.6 | 182.7 | 217.7 |
|      | B             | 22    | 22    | 25.5  | 30.8  | 37.8  | 47    | 57    | 68    | 88.1  | 100.2 | 119.1 |
|      | L2            | 10    | 10    | 10    | 13    | 13    | 13    | 13    | 16    | 16    | 16    | 19    |
|      | E             | 128   | 128   | 128   | 128   | 150   | 150   | 184   | 184   | 260   | 260   | 335   |
|      | H             | 63    | 64    | 71    | 76    | 90    | 95    | 108   | 117   | 148   | 155   | 180   |
|      | H1            | 8.5   | 8.5   | 9.5   | 9.5   | 11    | 11    | 15    | 15    | 20    | 20    | 20    |
|      | H2            | 31.3  | 31.3  | 38    | 43    | 48.5  | 54    | 67    | 76.2  | 105   | 111.5 | 136   |
| SW   | C             | 9     | 9     | 9     | 9     | 9     | 9     | 14    | 14    | 17    | 17    | 17    |
|      | Ø T           | 38.5  | 38.5  | 45    | 56.5  | 63.5  | 75    | 89.5  | 111.5 | 139   | 165   | 200.5 |
|      | W ( on flat ) | 18    | 22    | 26    | 33    | 40    | 48    | 55    | 67    | 84.5  | 101   | 127   |
|      | Ø SW          | 14.1  | 17.6  | 21.9  | 27.4  | 34.2  | 42.8  | 48.8  | 61.1  | 77    | 89.9  | 115.4 |
|      | Weight( Kg )  | 0.435 | 0.435 | 0.650 | 0.846 | 1.155 | 1.66  | 3.025 | 4.48  | 8.59  | 11.51 | 21    |

Stem size :



ISO MOUNTING PAD AND STEM SIZE ( in mm ) :



| DN       | 8     | 10    | 15    | 20    | 25    | 32    | 40    | 50    | 65     | 80     | 100    |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| C        | 9     | 9     | 9     | 9     | 9     | 9     | 14    | 14    | 17     | 17     | 17     |
| H1       | 8.5   | 8.5   | 9.5   | 9.5   | 11    | 11    | 15    | 15    | 20     | 20     | 20     |
| Ø K      | 50    | 50    | 50    | 50    | 50    | 50    | 70    | 70    | 102    | 102    | 102    |
| ISO      | F05   | F05   | F05   | F05   | F05   | F05   | F07   | F07   | F10    | F10    | F10    |
| N x Ø Z  | 4 x 7 | 4 x 7 | 4 x 7 | 4 x 7 | 4 x 7 | 4 x 7 | 4 x 9 | 4 x 9 | 4 x 11 | 4 x 11 | 4 x 11 |
| Ø K1     | 36    | 36    | 36    | 36    | 36    | 36    | 50    | 50    | 70     | 70     | 70     |
| ISO 1    | F03   | F03   | F03   | F03   | F03   | F03   | F05   | F05   | F07    | F07    | F07    |
| N x Ø Z1 | 4 x 6 | 4 x 6 | 4 x 6 | 4 x 6 | 4 x 6 | 4 x 6 | 4 x 7 | 4 x 7 | 4 x 9  | 4 x 9  | 4 x 9  |

### FLOW COEFFICIENT Kvs ( m<sup>3</sup> / h ) :

| DN                         | 8    | 10   | 15    | 20    | 25    | 32  | 40  | 50    | 65     | 80  | 100     |
|----------------------------|------|------|-------|-------|-------|-----|-----|-------|--------|-----|---------|
| Kvs ( m <sup>3</sup> / h ) | 10.7 | 20.7 | 28.46 | 50.70 | 79.20 | 128 | 183 | 316.6 | 535.60 | 811 | 1267.70 |

### TORQUE VALUES ( in Nm without safety coefficient ) :

| DN            | 8 | 10 | 15 | 20 | 25   | 32 | 40 | 50 | 65 | 80 | 100 |
|---------------|---|----|----|----|------|----|----|----|----|----|-----|
| Torque ( Nm ) | 5 | 5  | 5  | 8  | 12.5 | 17 | 21 | 30 | 45 | 70 | 100 |

### BOLT TIGHTENING TABLE ( in Nm):

| DN            | 8 | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---------------|---|----|----|----|----|----|----|----|----|----|-----|
| Torque ( Nm ) | 4 | 4  | 8  | 8  | 10 | 13 | 20 | 20 | 35 | 45 | 65  |

### STANDARDS :

- Fabrication according to ISO 9001 : 2008
- DIRECTIVE 97/23/CE : CE N° 0035  
Risk category III Module H
- Construction according EN 12516-2
- Pressure tests according to API 598-04, Table 2-3
- Threaded BSP cylindrical ends according to ISO 228-1
- Threaded NPT ends according to ASME B1.20.1
- ISO 5211 mounting pad



### INSTALLATION AND MAINTENANCE

#### BEFORE INSTALLATION :

Pipe-line must be cleaned and free from residual of weldings, rubbish, shaving and every kind of extraneous materials.  
Pipe-line must be perfectly aligned and their support properly dimensioned so that there's no external constraint.

Check to use a produce compatible to the services conditions for the sealing of the threaded types.  
To tighten the ends, use the appropriate tool.  
Use the right bolt tightening so that the ends won't be damaged.

The welding of the ends for the SW and the BW types, must be done with the central part removed.  
A gauge can be used to have the good length and alignment between the ends.

#### INSTALLATION OF THE CENTRAL PART

During the installation of the central part, tighten bolts according to the table below. Tighten bolts in cross.

#### BOLT TIGHTENING TABLE ( in Nm) :

| DN            | 8 | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---------------|---|----|----|----|----|----|----|----|----|----|-----|
| Torque ( Nm ) | 4 | 4  | 8  | 8  | 10 | 13 | 20 | 20 | 35 | 45 | 65  |

#### CLEANING AND TESTS

Keep closed the valves during the cleaning operation so that there's no impurities between the ball and the body.

Tests under pressure must be done with a cleaned pipe-line.

Open partially the valve for tests. Pressure test do not exceed the valve specifications according to EN 12266-1.

#### MAINTENANCE

It's recommended to operate the valve twice ( open and close ) 1 to 2 times per year.

When intervention on the valve, be sure there's no pressure in the pipe-line, there's no fluid in it, and that it is isolated.  
The temperature must be low enough to operate without risks.  
If there's a corrosive fluid, inert installation before intervention.

When the valve is under pressure :  
If there's a leakage between the body and the ends, tighten bolts according to the above table

If there's a leakage at the packing, tighten it slightly so that the leakage disappears.

#### MAINTENANCE OPERATION IN WORKSHOP

##### REPLACEMENT OF SEAT GASKETS AND PACKING.

The central part must be removed.

Turn the ball at 45° and removed the seat gaskets.

Operate the valve in closed position to removed the ball. Verify the surface of the ball has no impacts and no scores.

If there are important scores or impacts, replace the ball.

Clean inside the body valve and remove the impurities.

To replace the packing, remove the handle, unscrew the gland nut, extract the stem by the inside of the valve.

Clean the packing seat.

Reassemble thrust washer on stem, introduce stem by the inside of the valve, reassemble packing with packing nut, reassemble hand washer, hand nut and the handle.

Turn stem in closed position and insert the ball.

Then turn the ball in opened position and reassemble the seat.

Place the valve on the installation, tighten bolts according to the above table.

Then proceed to the tests in the same way that the first installation.