

# K85

K85 111.769 class300 DN1/2"- 8"  
Ball valve flange ANSI



FIRE SAFE  
ISO 10497



NACE MR01-75



TÜVRheinland<sup>®</sup>

ISO 9001



TÜVRheinland<sup>®</sup>

PED/97/23/EC



Certificate 3.1

**Size :** DN 15 to 200 mm ( NPS 1/2" to 8" )  
**Ends :** Class 300 (PN50) R.F. Flanges  
**Min Temperature :** -50°C  
**Max Temperature :** + 230°C  
**Max Pressure :** 50 Bars  
**Specifications :** ISO 5211 mounting pad  
Fire safe ISO 10497 : 2004  
Fugitive emissions EN 15848-1 : 2006  
Atex

**Materials :** Stainless steel ASTM A351 CF8M

### SPECIFICATIONS :

- Full bore
- Anti blow-out stem
- Pure PTFE TFM1600 seat ( PMD FF )
- Locking device
- ISO 5211 mounting pad
- 2 pieces type ( Split body )
- Class 300 (PN50) R.F. Flanges
- Antistatic device
- Fire safe ISO 10497 : 2004
- Fugitive emissions EN 15848-1 : 2006
- Graphite packing + FKM O ring on stem
- With exhaust hole in the ball ( located in the top of the ball to avoid overpressure in it )

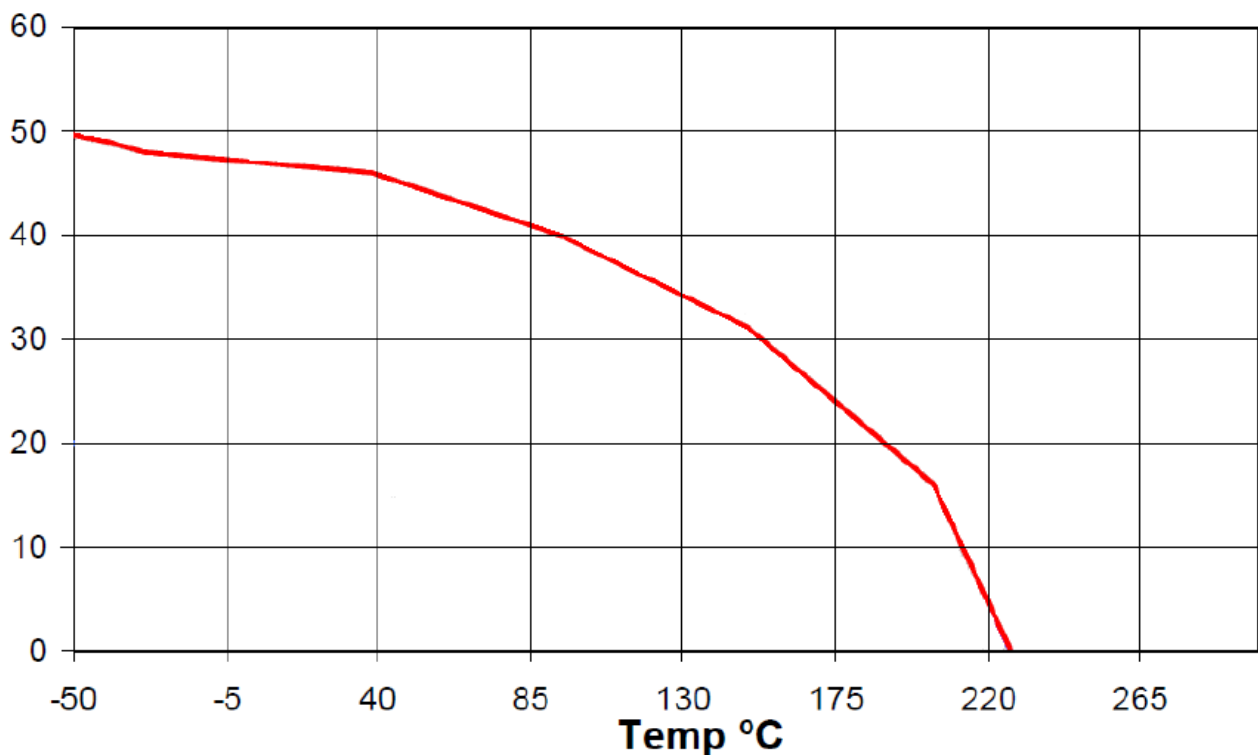
### USE :

- Chemical industries, petrochemical industries, hydraulic installation, compressed air, hot and cold water
- Min and max Temperature Ts : -50°C to + 230°C
- Max pressure Ps : 50 bars ( see graph )
- Vacuum  $10^{-2}$  torr
- Compressed air (ambient temperature) : 8 bars maximum
- Steam : 12 bars maximum

### PRESSURE / TEMPERATURE GRAPH ( STEAM EXCLUDED ) :

#### PRESSURE

P Bar



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

|                            |      |      |    |       |     |      |      |      |      |
|----------------------------|------|------|----|-------|-----|------|------|------|------|
| DN ( mm )                  | 15   | 20   | 25 | 40    | 50  | 80   | 100  | 150  | 200  |
| NPS ( " )                  | 1/2" | 3/4" | 1" | 1"1/2 | 2"  | 3"   | 4"   | 6"   | 8"   |
| Kvs ( m <sup>3</sup> / h ) | 20   | 40   | 75 | 170   | 270 | 1000 | 1650 | 4200 | 9000 |

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

|               |      |      |    |       |    |     |     |     |     |
|---------------|------|------|----|-------|----|-----|-----|-----|-----|
| DN ( mm )     | 15   | 20   | 25 | 40    | 50 | 80  | 100 | 150 | 200 |
| NPS ( " )     | 1/2" | 3/4" | 1" | 1"1/2 | 2" | 3"  | 4"  | 6"  | 8"  |
| Torque ( Nm ) | 10   | 13   | 17 | 30    | 49 | 135 | 170 | 308 | 780 |

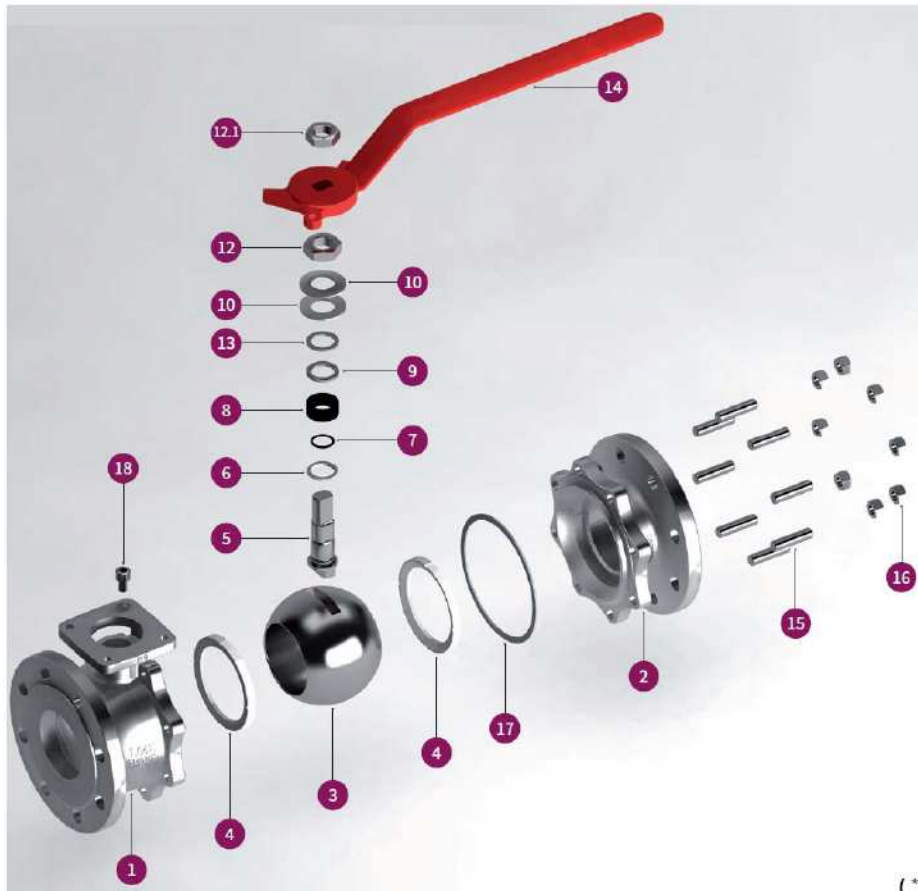
### RANGE :

- Stainless steel ball valve **Ref. 769** DN 15 to DN 200 ( NPS 1/2" to 8" )
- Possible with gearbox **Ref. 9830221 and 9830266-267** from DN 100 to 200 ( NPS 4" to 8" )
- Possible with ASTM A351 CF8M handle **Ref. 9812090-9812097** from DN 15 to DN 200 ( NPS 1/2" to 8" )

### ENDS :

- Class 300 (PN50) R.F. Flanges

VALVE MATERIALS :



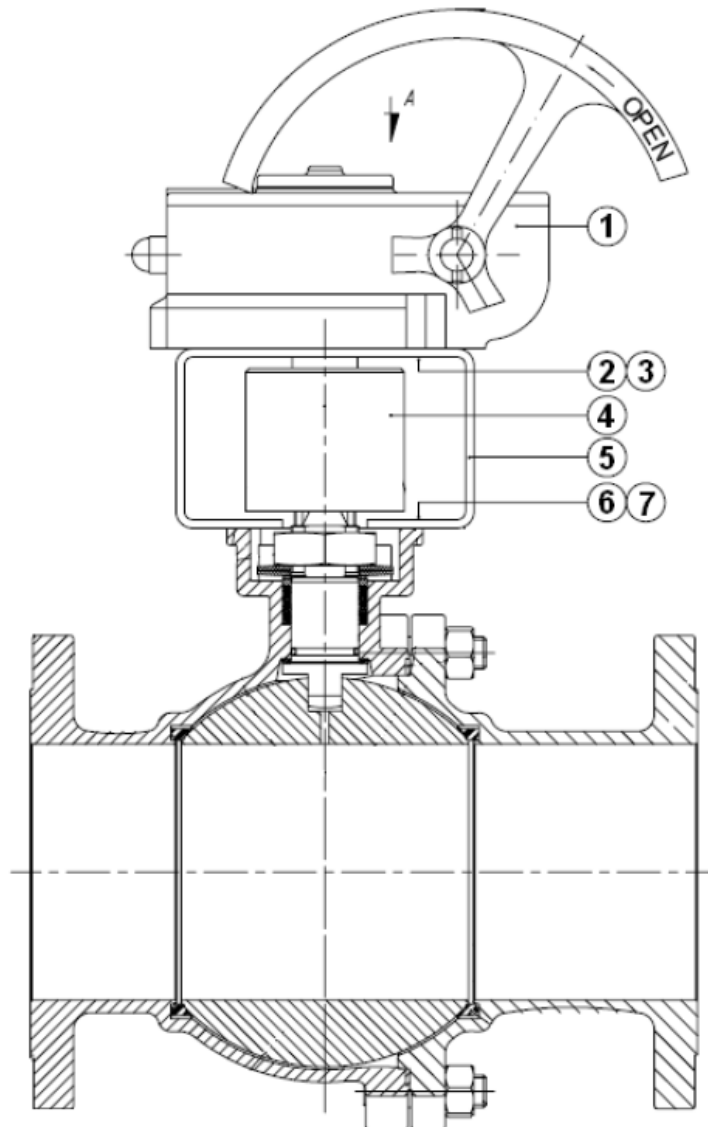
(\* : Included in gaskets kit )

| Item | Designation         | Materials                     |
|------|---------------------|-------------------------------|
| 1    | Body                | ASTM A351 CF8M                |
| 2    | Ends                |                               |
| 3    | Ball                |                               |
| 4*   | Seat                | Pure PTFE TFM 1600 ( PMD FF ) |
| 5    | Stem                | ASTM A479 type 316            |
| 6*   | Stem thrust seal    | PTFE filled with 25% Glass    |
| 7*   | Stem O ring         | FKM                           |
| 8*   | Gland Packing       | Graphite                      |
| 9    | Gland               | AISI 303                      |
| 10   | Elastic ring        | Inconel 718                   |
| 12   | Gland nut           | AISI 303                      |
| 12.1 | Handle nut          | AISI 303                      |
| 13   | Antifriction washer | PTFE filled with 25% Glass    |
| 14   | Handle              | Nodular iron                  |
| 15   | Stud                | A 193 Gr. B8M                 |
| 16   | Nut                 | A 194 Gr. 8M                  |
| 17*  | Spiralwound gasket  | SS 316L + PTFE + Graphite     |
| 18   | Bolt                | A2                            |

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GEARBOX MATERIALS :

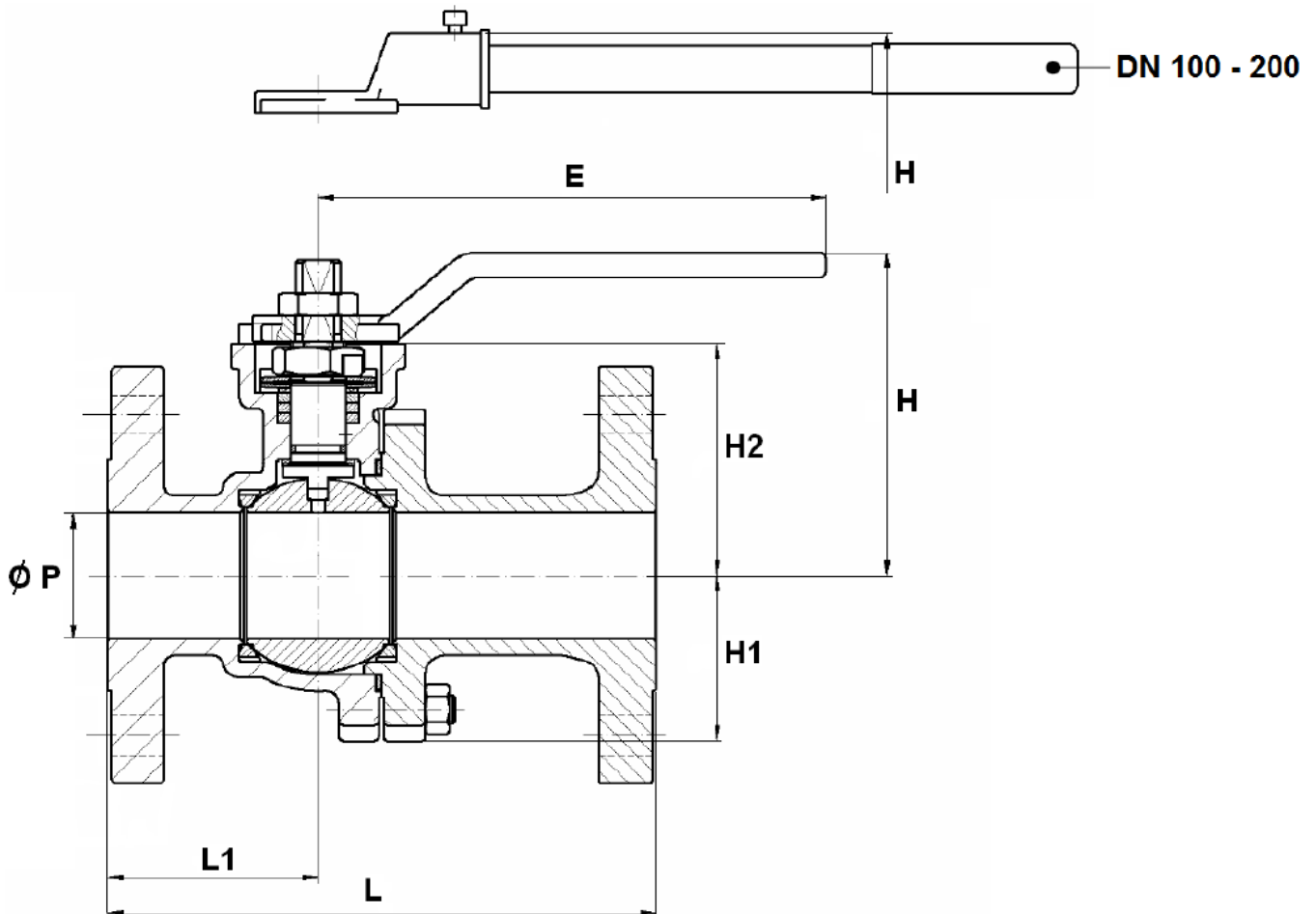


| Item | Designation      | Materials       |
|------|------------------|-----------------|
| 1    | Gearbox          | Painted steel   |
| 2    | Screw            | DIN 912 A2      |
| 3    | Washer           | DIN 912 A2      |
| 4    | Coupling         | Stainless steel |
| 5    | Mounting bracket | Stainless steel |
| 6    | Screw            | DIN 912 A2      |
| 7    | Washer           | DIN 912 A2      |

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VALVES SIZE ( in mm ) :

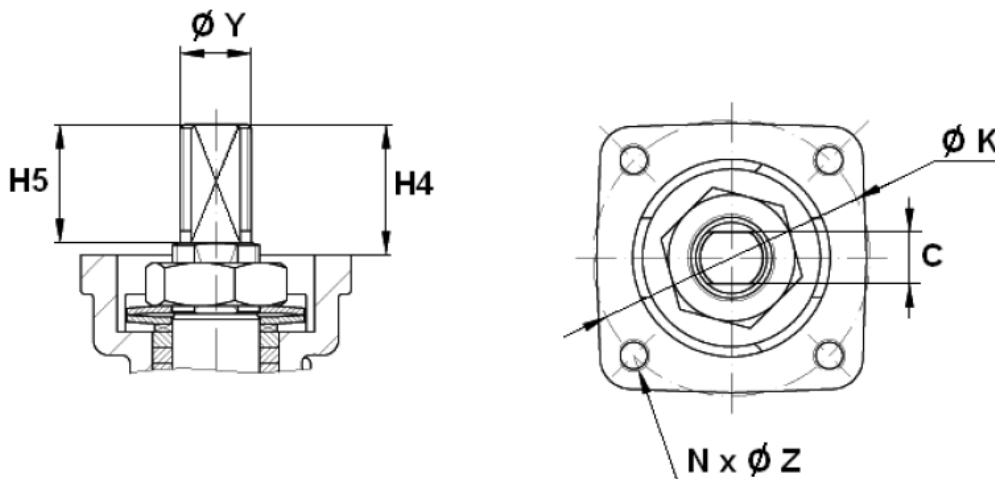


| Ref. | DN (mm)       | 15   | 20   | 25   | 40     | 50    | 80    | 100   | 150  | 200  |
|------|---------------|------|------|------|--------|-------|-------|-------|------|------|
|      | NPS ( " )     | 1/2" | 3/4" | 1"   | 1 1/2" | 2"    | 3"    | 4"    | 6"   | 8"   |
| 769  | Ø P           | 15   | 20   | 25   | 40     | 50    | 78    | 100   | 151  | 203  |
|      | L             | 140  | 152  | 165  | 190    | 216   | 283   | 305   | 403  | 502  |
|      | L1            | 60   | 65   | 70   | 80     | 83    | 118   | 133   | 160  | 239  |
|      | E             | 170  | 170  | 170  | 215    | 215   | 430   | 466   | 680  | 845  |
|      | H             | 68   | 70   | 86   | 122.5  | 127.5 | 190   | 192.5 | 259  | 319  |
|      | H1            | 31   | 33   | 39   | 48     | 63    | 87    | 108   | 152  | 202  |
|      | H2            | 41   | 43   | 58.5 | 86.5   | 91.5  | 118.5 | 144   | 203  | 250  |
|      | Weight ( Kg ) |      | 2.5  | 3.7  | 4.7    | 9.4   | 12.2  | 25    | 39.5 | 88.1 |

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ISO MOUNTING PAD AND STEM SIZE ( in mm ) :

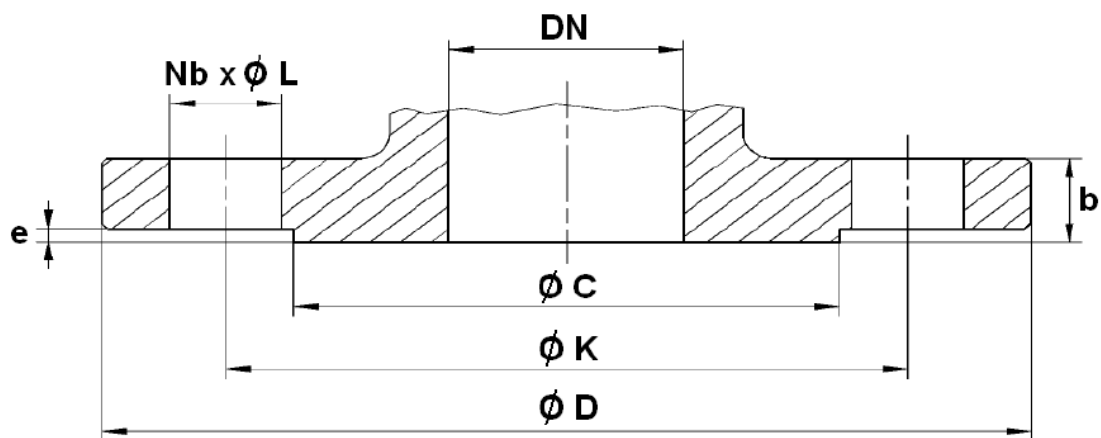


| Ref. | DN (mm)             | 15     | 20     | 25     | 40     | 50     | 80      | 100     | 150     | 200     |
|------|---------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
|      | NPS ( " )           | 1/2"   | 3/4"   | 1"     | 1 1/2" | 2"     | 3"      | 4"      | 6"      | 8"      |
| 769  | H4                  | 18     | 18     | 22     | 33     | 33     | 34      | 45      | 56      | 69      |
|      | H5                  | 11     | 11     | 21     | 32     | 32     | 33      | 43.5    | 54.5    | 67      |
|      | C                   | 7      | 7      | 8      | 12     | 12     | 15      | 19      | 24      | 32      |
|      | $\varnothing Y$     | M10    | M10    | M12    | M18    | M18    | M22     | M28     | M36     | M48     |
|      | $\varnothing K$     | 50     | 50     | 50     | 70     | 70     | 102     | 102     | 125     | 140     |
|      | ISO                 | F05    | F05    | F05    | F07    | F07    | F10     | F10     | F12     | F14     |
|      | N x $\varnothing Z$ | 4 x M6 | 4 x M6 | 4 x M6 | 4 x M8 | 4 x M8 | 4 x M10 | 4 x M10 | 4 x M12 | 4 x M16 |

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FLANGES SIZE ( in mm ) :



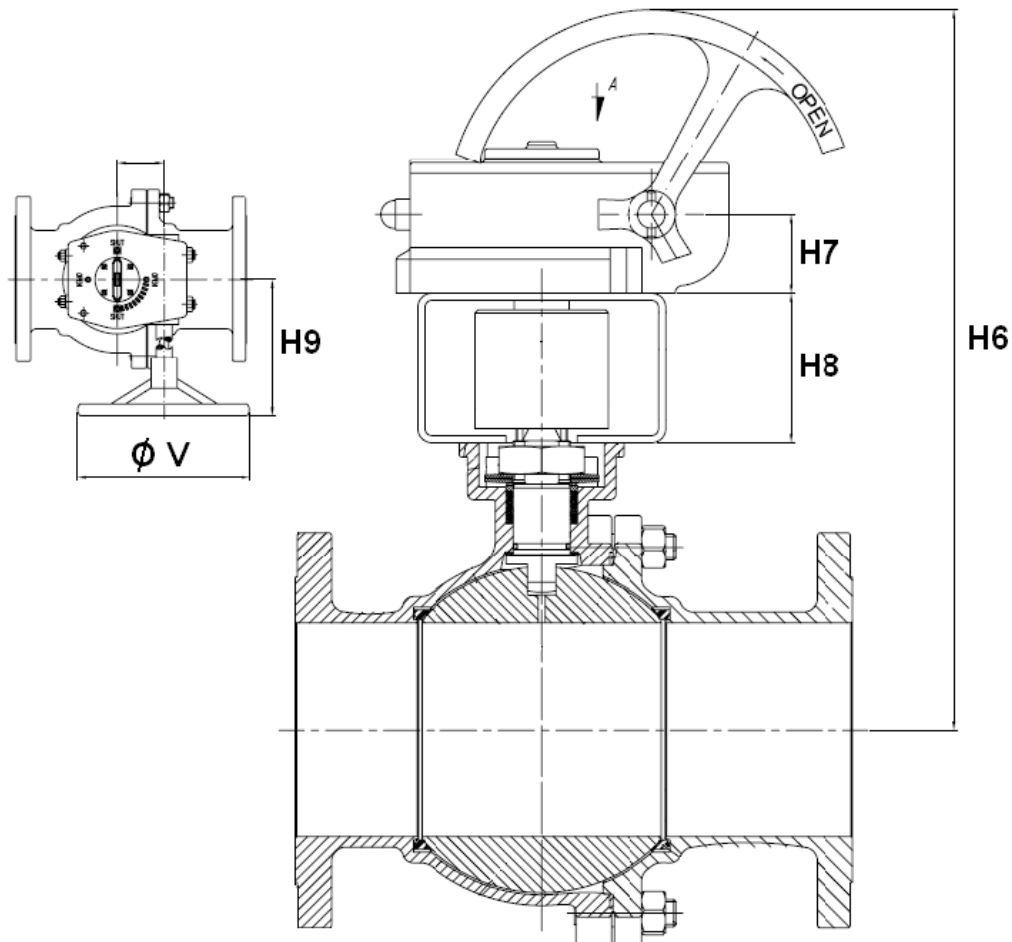
| Ref. | DN (mm)              | 15        | 20     | 25     | 40       | 50     | 80       | 100      | 150       | 200       |
|------|----------------------|-----------|--------|--------|----------|--------|----------|----------|-----------|-----------|
|      | NPS ( " )            | 1/2"      | 3/4"   | 1"     | 1 1/2"   | 2"     | 3"       | 4"       | 6"        | 8"        |
| 769  | $\varnothing C$      | 35        | 43     | 51     | 73       | 92     | 127      | 157      | 216       | 270       |
|      | $\varnothing D$      | 95        | 117.5  | 124    | 155.5    | 165    | 210      | 254      | 318       | 381       |
|      | $\varnothing K$      | 66.55     | 82.55  | 88.9   | 114.3    | 127    | 168.1    | 200.15   | 269.75    | 330.2     |
|      | Nb x $\varnothing L$ | 4 x 15.74 | 4 x 19 | 4 x 19 | 4 x 22.2 | 8 x 19 | 8 x 22.2 | 8 x 22.2 | 12 x 22.2 | 12 x 25.4 |
|      | b                    | 14.3      | 15.8   | 17.6   | 20.6     | 22.4   | 28.5     | 31.8     | 36.6      | 41.2      |
|      | e                    | 1.6       | 1.6    | 1.6    | 1.6      | 1.6    | 1.6      | 1.6      | 1.6       | 1.6       |



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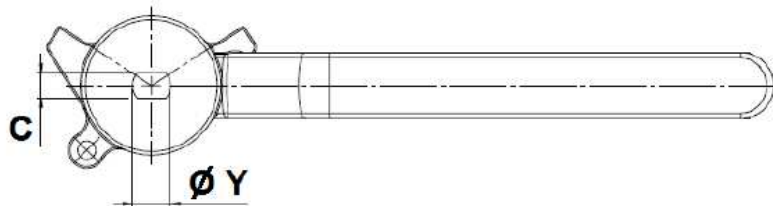
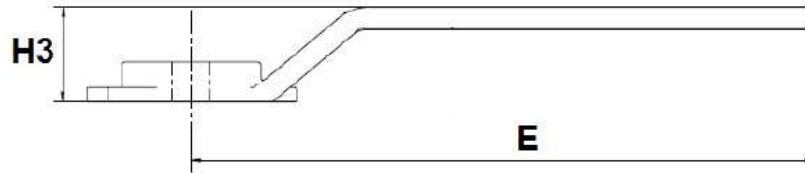
GEARBOX SIZE ( in mm ) :



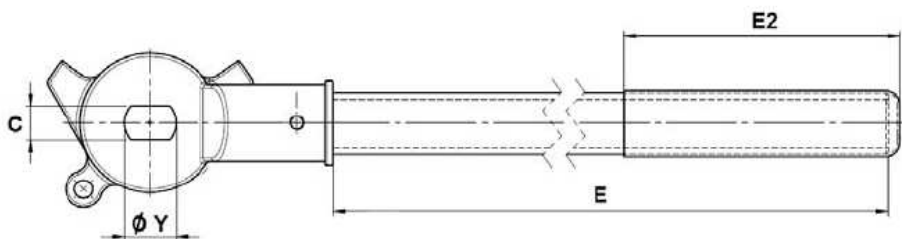
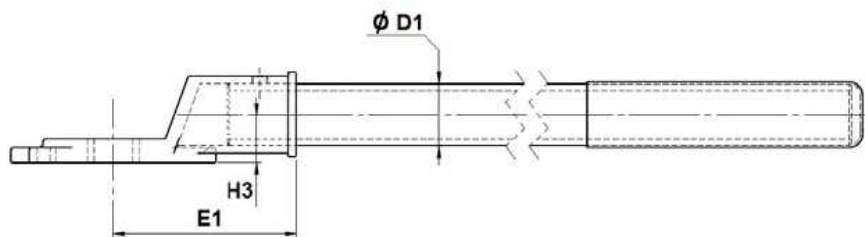
| DN (mm)                     | 100     | 150     | 200     |
|-----------------------------|---------|---------|---------|
| NPS (")                     | 4"      | 6"      | 8"      |
| H6                          | 521.5   | 596.5   | 643.5   |
| H7                          | 55      | 55      | 55      |
| H8                          | 90      | 106     | 106     |
| H9                          | 229     | 229     | 229     |
| Ø V                         | 465     | 465     | 465     |
| Ref. gearbox                | 9830221 | 9830266 | 9830267 |
| Weight gearbox (Kg)         | 17.8    | 19.5    | 19.7    |
| Weight gearbox + valve (Kg) | 57.3    | 107.6   | 180.2   |

STAINLESS STEEL HANDLE SIZE ( in mm ) :

**DN 15 - 80**



**DN 100 - 200**



| DN        | 15-20     | 25-32     | 40-50     | 65      | 80      | 100     | 125-150 | 200     |
|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|
| NPS ( " ) | 1/2"-3/4" | 1"-1 1/4" | 1 1/2"-2" | 2 1/2"  | 3"      | 4"      | 5"-6"   | 8"      |
| E         | 170       | 170       | 215       | 335     | 430     | 375     | 578     | 730     |
| E1        | -         | -         | -         | -       | -       | 100     | 115     | 140     |
| E2        | -         | -         | -         | -       | -       | 120     | 200     | 200     |
| H3        | 26        | 26        | 35        | 35      | 71      | 26      | 30      | 36      |
| Ø D1      | -         | -         | -         | -       | -       | 26.8    | 33      | 42      |
| C         | 7         | 8         | 12        | 15      | 15      | 19      | 24      | 32      |
| Ø Y       | 10.5      | 12.5      | 18.5      | 22.5    | 22.5    | 28.5    | 36.5    | 48.5    |
| Ref.      | 9812090   | 9812091   | 9812092   | 9812093 | 9812094 | 9812095 | 9812096 | 9812097 |

### STANDARDS :

- Fabrication according to ISO 9001:2008
- DIRECTIVE 97/23/EC : CE N° 0035  
Risk Category III module H
- Certificate 3.1 on request
- Valve designing according to EN 1983 – ISO 17292 and ASME B16.34
- Materials according to NACE MR 01-75
- Pressure Tests according to EN 12266-1, Rate A and API 598
- Marking according to EN 19
- Fire safe according to ISO 10497 : 2004
- Fugitive Emissions according to EN 15848-1 : 2006
- Class 300 (PN50) Flanges R.F. according to ASME B16.5
- ISO 5211 mounting pad and stem size according to EN 15081
- Long length according to ASME B16.10 ( EN 558 series 4 up to DN150 )
- ATEX Group II Category 2 G/2Dc Zone 1 & 21 Zone 2 & 22 ( optional marking ) up to DN200 according to directive 2014/34/EU

## **INSTALLATION INSTRUCTIONS**

### **GENERAL GUIDELINES :**

- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid, pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strength to be able to support the capacity of their usage.
- **Installation of all circuits should ensure that their function can be automatically tested on a regular basis (at least two times a year).**

### **INSTALLATION INSTRUCTIONS :**

- **Before installing the valves, clean and remove any objects from the pipes (in particular bits of sealing and metal) which could obstruct and block the valves.**
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not, the valves may not work correctly).**
- **Make sure that the two sections of the pipe (upstream and downstream) match, the valve unit will not absorb any gaps. Any distortions in the pipes may affect the tightness of the connection, the working of the valve and can even cause a rupture. To be sure, place the kit in position to ensure the assembling will work.**
- **If sections of piping do not have their final support in place, they should be temporarily fixed. This is to avoid unnecessary strain on the valve.**
- Tighten the bolts in cross.
- It's recommended to operate the valve ( open and close ) 1 to 2 times per year