

**2 PIECES CARBON STEEL BALL VALVES FLANGED CLASS 150 PN20
PERFORMANCE RANGE**



Certificate 3.1

Size : DN 15 to 200 mm (NPS 1/2" to 8")
Ends : CLASS 150 PN20 R.F. Flanges
Min Temperature : - 20°C
Max Temperature : + 200°C
Max Pressure : 20 Bars
Specifications : ISO 5211 mounting pad
PTFE filled with 15% glass seat
Anti blow-out stem
Atex
Fire safe according to API607 up to DN200 (8")

Materials : Carbon steel ASTM A216 WCB

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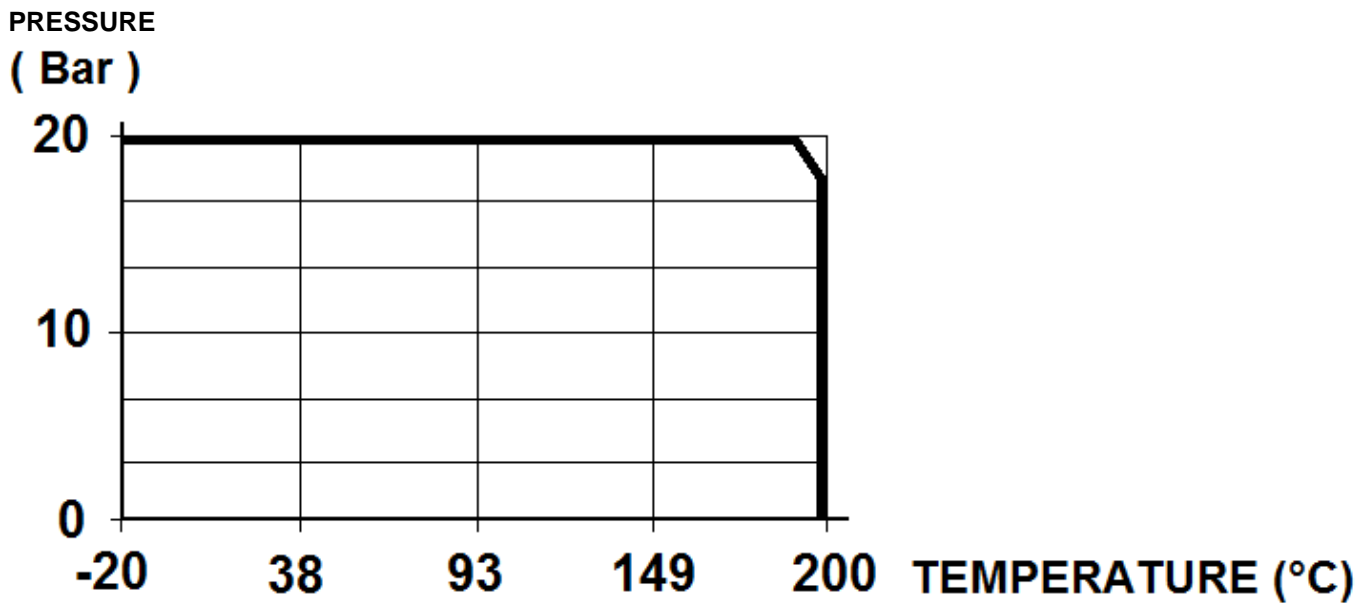
SPECIFICATIONS :

- Full bore
- Anti blow-out stem
- Double antistatic device
- PTFE filled with 15% glass seat
- Locking device
- ISO 5211 mounting pad
- 2 pieces type (Split body)
- Hollowed ball from DN125 to DN200
- With exhaust hole in the ball (located in the top of the ball to avoid overpressure in it)
- Primer coating for carbon steel valves

USE :

- Chemical industries, petrochemical industries, hydraulic installation, compressed air, heating and water distribution
- Steam : 11 bars maximum
- Min and max Temperatures Ts : -20°C to + 200°C
- Max Pressure Ps : 20 bars (see graph under)

PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :



RANGE :

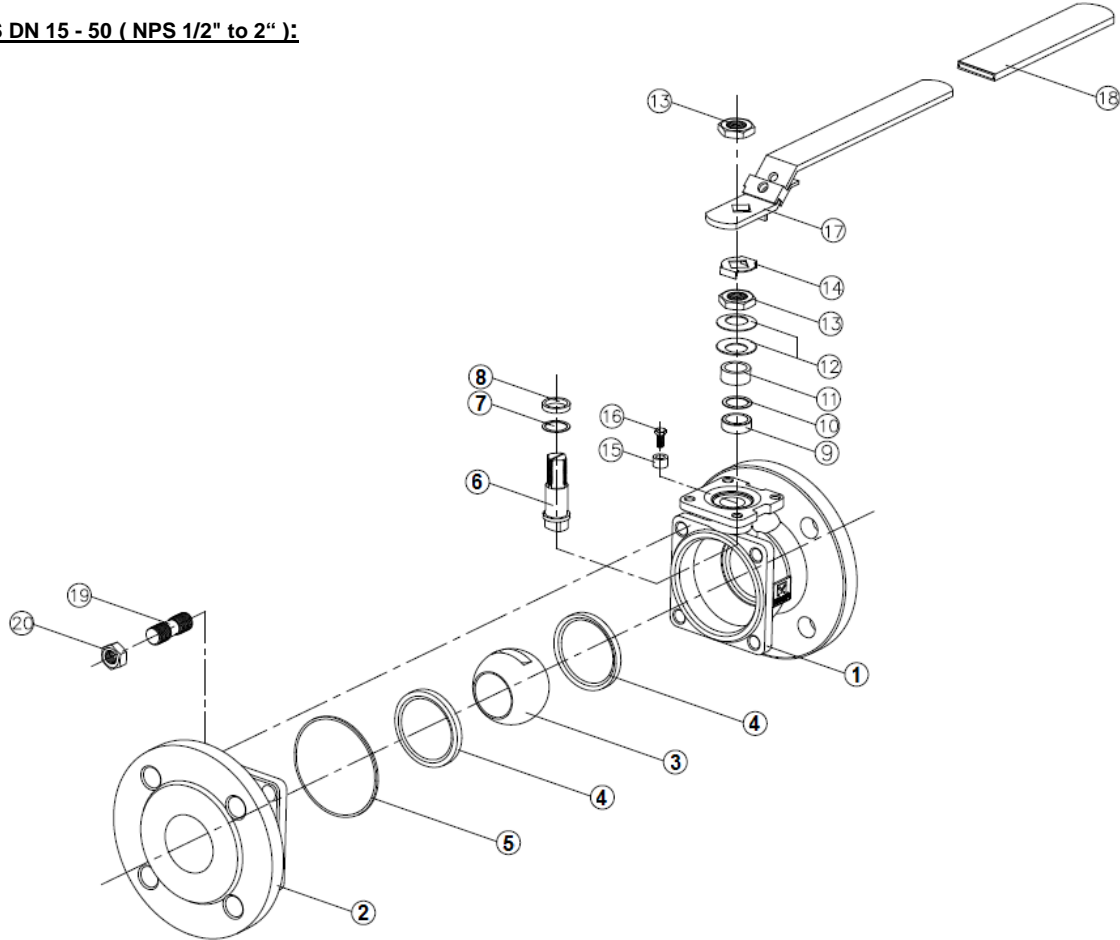
- 2 pieces carbon steel body valve Class 150 (PN20) **Ref. 778** from DN 15 to DN 200 (NPS 1/2" to 8")
- Gearbox possible **Ref. 9830296-9830297** from DN 150 to DN 200 (NPS 6" to 8")

ENDS :

- R.F. Flanged Class 150 (PN20)

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MATERIALS DN 15 - 50 (NPS 1/2" to 2"):

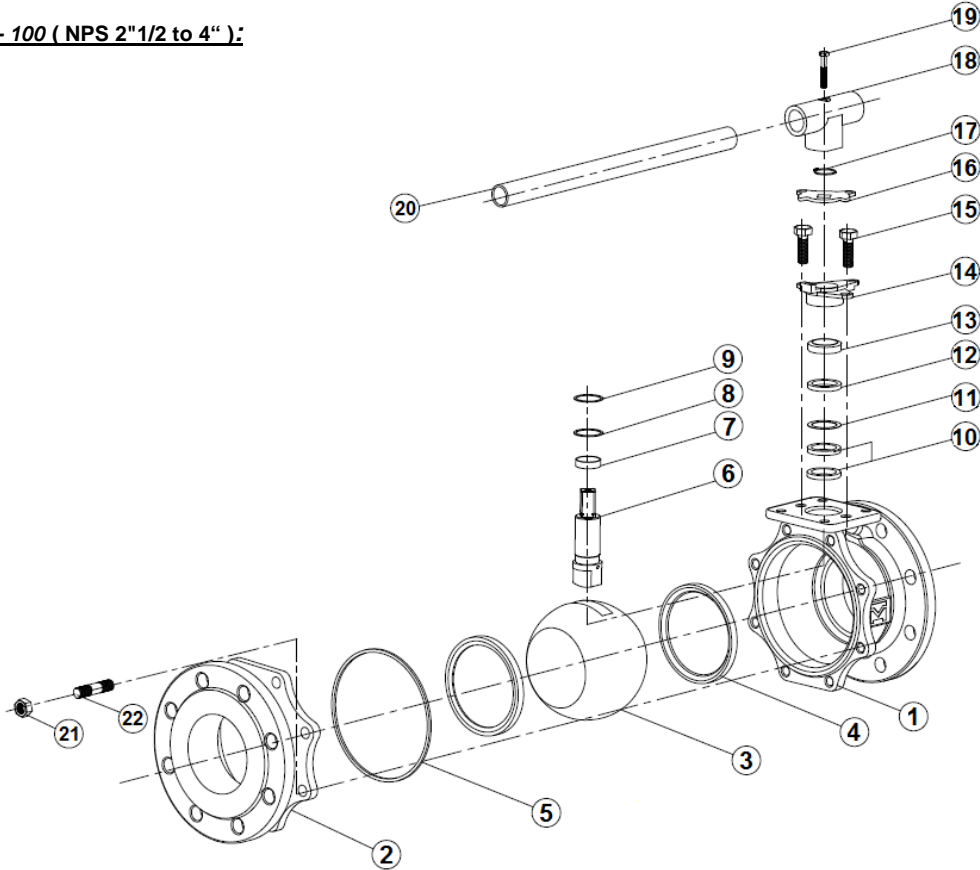


(* : included in gaskets kit)

| Item | Designation | Materials |
|------|---------------|-----------------------------|
| 1 | Body | ASTM A216 WCB |
| 2 | Ends | |
| 3 | Ball | ASTM A351 CF8M |
| 4* | Seat | PTFE filled with 15% glass |
| 5* | Body seal | Graphite |
| 6 | Stem | ASTM A276 316 |
| 7* | Ring | PTFE filled with 25% carbon |
| 8* | Ring | |
| 9* | Packing | Graphite |
| 10* | Packing | PTFE filled with 25% carbon |
| 11 | Packing gland | AISI 304 |
| 12 | Elastic ring | AISI 301 |
| 13 | Nut | AISI 304 |
| 14 | Washer | |
| 15 | Pin | |
| 16 | Pin screw | |
| 17 | Handle | |
| 18 | Handle cover | PVC |
| 19 | Stud | AISI 304 |
| 20 | Nut | |

**2 PIECES CARBON STEEL BALL VALVES FLANGED CLASS 150 PN20
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MATERIALS DN 65 - 100 (NPS 2"1/2 to 4"):

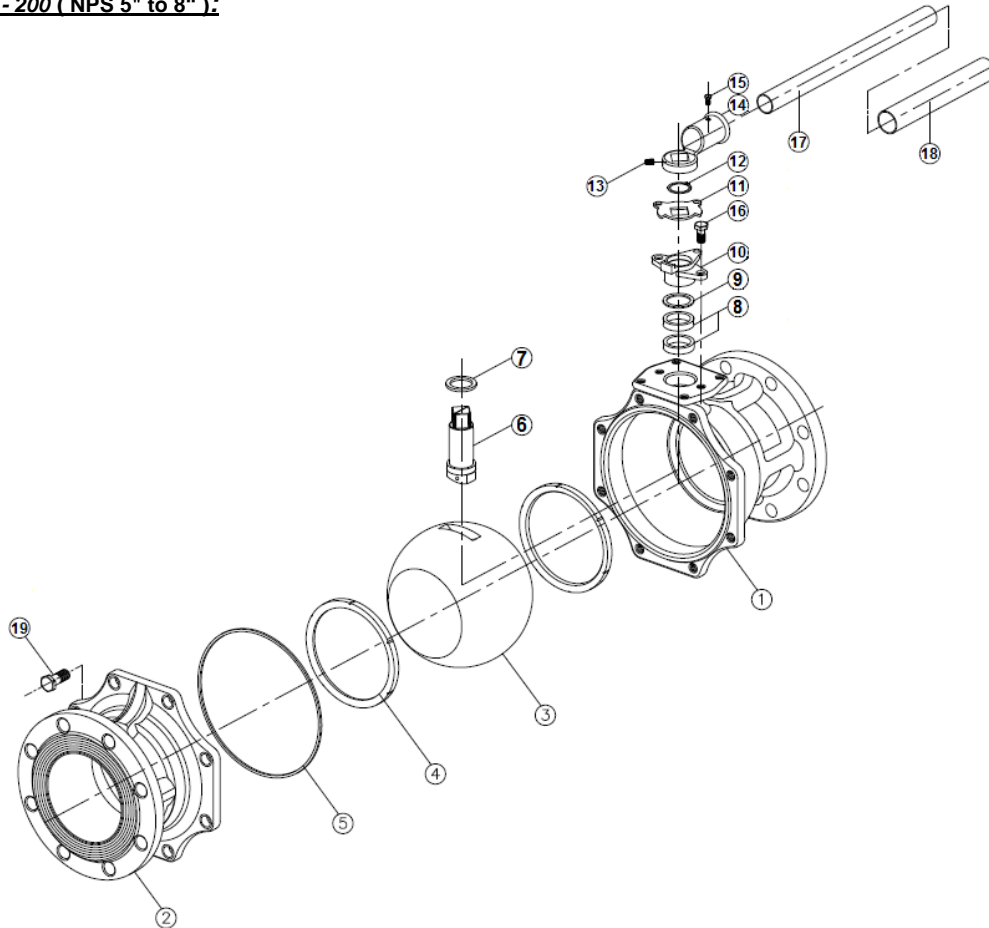


| Item | Designation | Materials |
|------|---------------------|-----------------------------|
| 1 | Body | ASTM A216 WCB |
| 2 | Ends | |
| 3 | Ball | ASTM A351 CF8M |
| 4* | Seat | PTFE filled with 15% glass |
| 5* | Body seal | Graphite |
| 6 | Stem | ASTM A276 316 |
| 7* | Ring | PTFE filled with 25% carbon |
| 8* | Ring | |
| 9* | Ring | |
| 10* | Packing | Graphite |
| 11* | Packing | PTFE filled with 25% carbon |
| 12 | Ring | AISI 304 |
| 13 | Ring | |
| 14 | Packing gland | ASTM A351 CF8 |
| 15 | Packing gland screw | AISI 304 |
| 16 | Pin | |
| 17 | Circlips | |
| 18 | Handle adaptor | ASTM A351 CF8 |
| 19 | Screw | AISI 304 |
| 20 | Handle | |
| 21 | Nut | |
| 22 | Stud | |

(* : included in gaskets kit)

**2 PIECES CARBON STEEL BALL VALVES FLANGED CLASS 150 PN20
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MATERIALS DN 125 - 200 (NPS 5" to 8"):



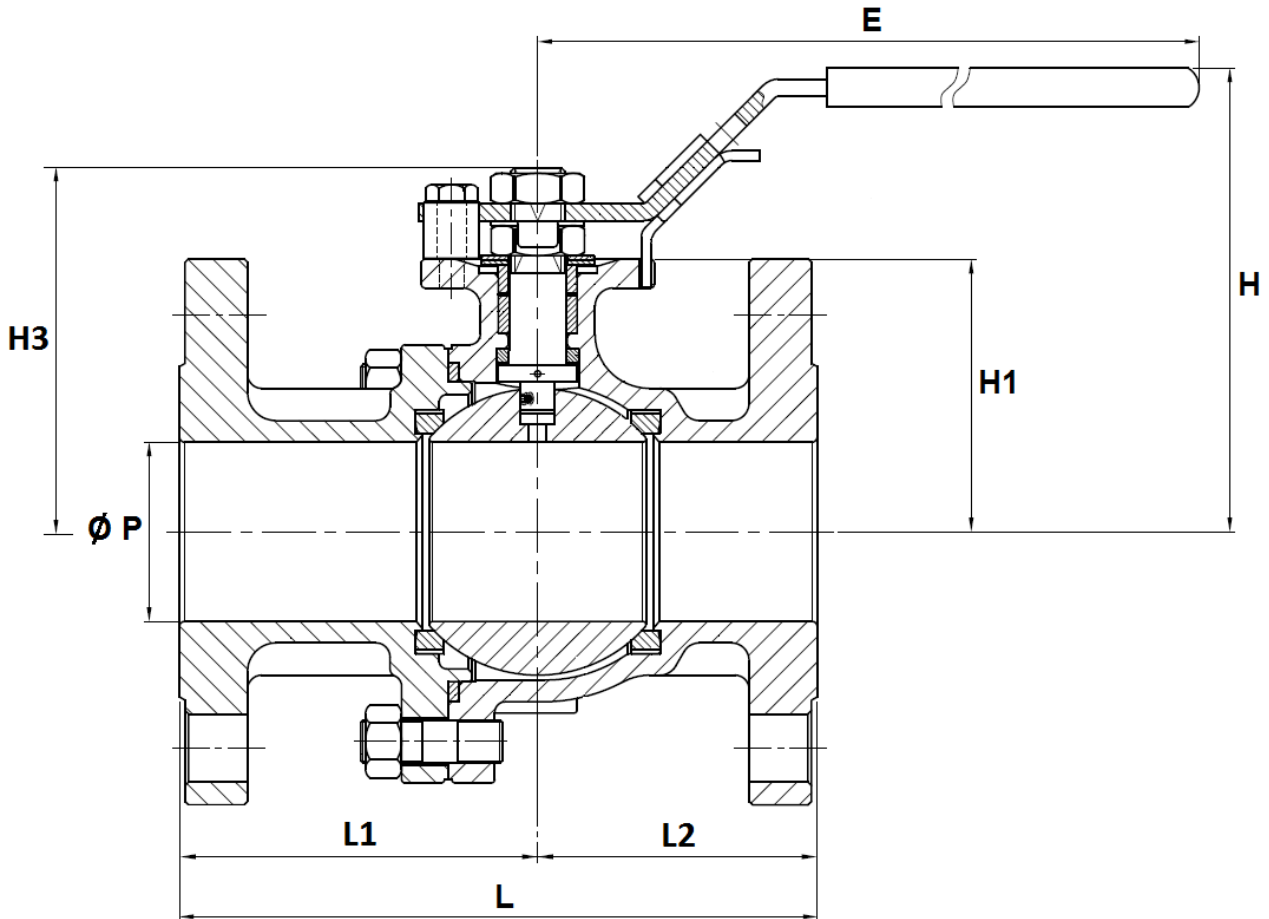
| Item | Designation | Materials |
|------|---------------------|-----------------------------|
| 1 | Body | ASTM A216 WCB |
| 2 | Ends | |
| 3 | Ball | AISI 316 |
| 4* | Seat | PTFE filled with 15% glass |
| 5* | Body seal | Graphite |
| 6 | Stem | ASTM A276 316 |
| 7* | Ring | PTFE filled with 25% carbon |
| 8* | Packing | Graphite |
| 9* | Packing | PTFE filled with 25% carbon |
| 10* | Packing gland | ASTM A351 CF8 |
| 11 | Pin | AISI 304 |
| 12 | Circlips | |
| 13 | Screw | |
| 14 | Handle adaptor | |
| 15 | Screw | |
| 16 | Packing gland screw | |
| 17 | Handle | PVC |
| 18 | Handle cover | |
| 19 | Body screw | AISI 304 |

(* : included in gaskets kit)

**2 PIECES CARBON STEEL BALL VALVES FLANGED CLASS 150 PN20
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SIZE DN 15 – 50 (NPS 1/2" to 2") (in mm) :

DN 15 – 50 (NPS 1/2" to 2")

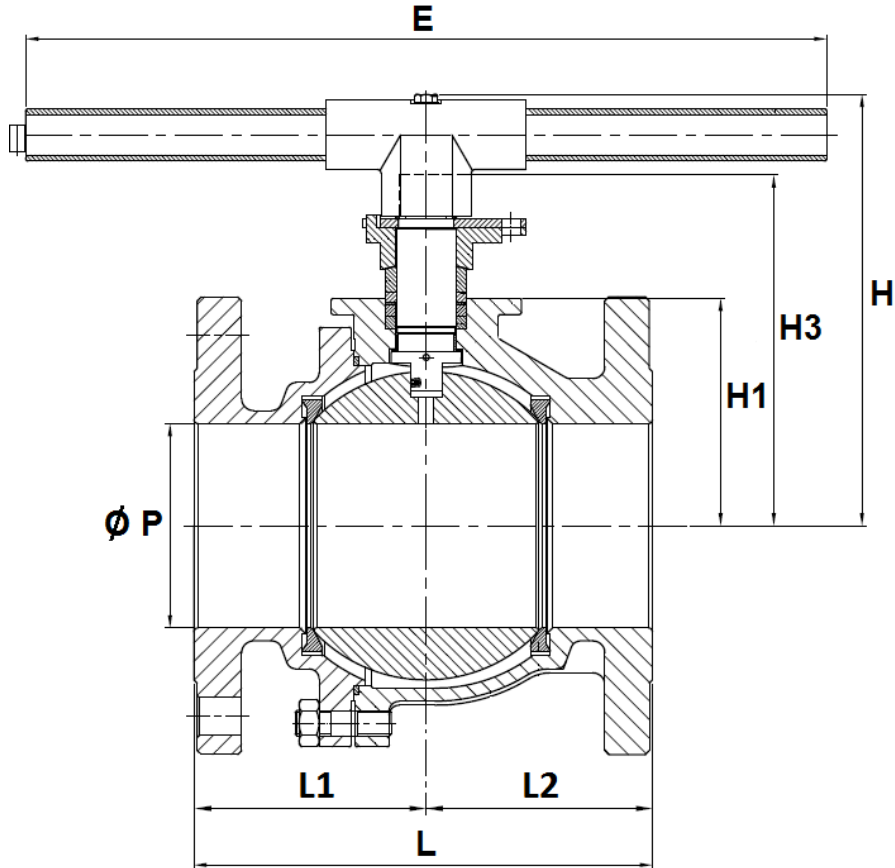


| Ref. | DN (mm) | 15 | 20 | 25 | 32 | 40 | 50 |
|------------|-------------|------|------|------|-------|-------|-------|
| | NPS (") | 1/2" | 3/4" | 1" | 1"1/4 | 1"1/2 | 2" |
| 778 | Ø P | 15 | 20 | 24 | 30 | 38 | 50 |
| | L | 108 | 117 | 127 | 140.2 | 165 | 178 |
| | L1 | 61 | 65 | 72.5 | 78.2 | 90.8 | 98 |
| | L2 | 47 | 52 | 54.5 | 62 | 74.2 | 80 |
| | E | 158 | 158 | 196 | 196 | 245 | 261 |
| | H | 76.6 | 79.1 | 92 | 96 | 121.1 | 127.6 |
| | H1 | 39 | 42.5 | 52 | 56 | 66 | 73 |
| | H3 | 53.5 | 56.5 | 70 | 73 | 88 | 94.5 |
| | Weight (Kg) | 1.9 | 2.4 | 3.4 | 4.2 | 6.1 | 8.8 |

**2 PIECES CARBON STEEL BALL VALVES FLANGED CLASS 150 PN20
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SIZE DN 65 - 100 (NPS 2"1/2 to 4") (in mm) :

DN 65 – 100 (NPS 2"1/2 to 4")

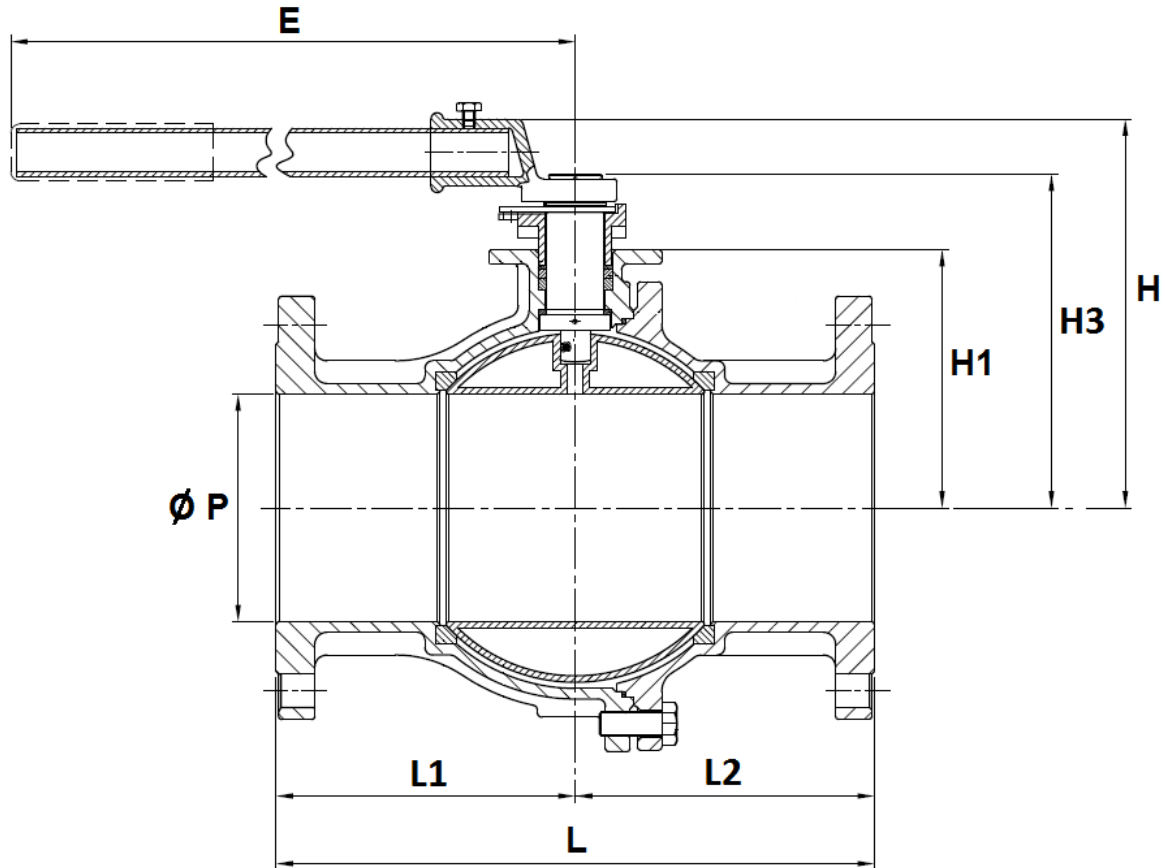


| Ref. | DN (mm) | 65 | 80 | 100 |
|------|----------------|-------|-------|-------|
| | NPS (") | 2"1/2 | 3" | 4" |
| 778 | Ø P | 64 | 76 | 98 |
| | L | 190 | 203 | 229 |
| | L1 | 100.3 | 109.2 | 119.3 |
| | L2 | 89.7 | 93.8 | 109.7 |
| | E | 400 | 400 | 400 |
| | H | 188 | 194 | 215 |
| | H1 | 86.5 | 91.5 | 113.5 |
| | H3 | 152 | 158 | 179 |
| | Weight (in Kg) | 16.4 | 19.5 | 28.1 |

**2 PIECES CARBON STEEL BALL VALVES FLANGED CLASS 150 PN20
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SIZE DN 125 - 200 (NPS 5" to 8") (in mm) :

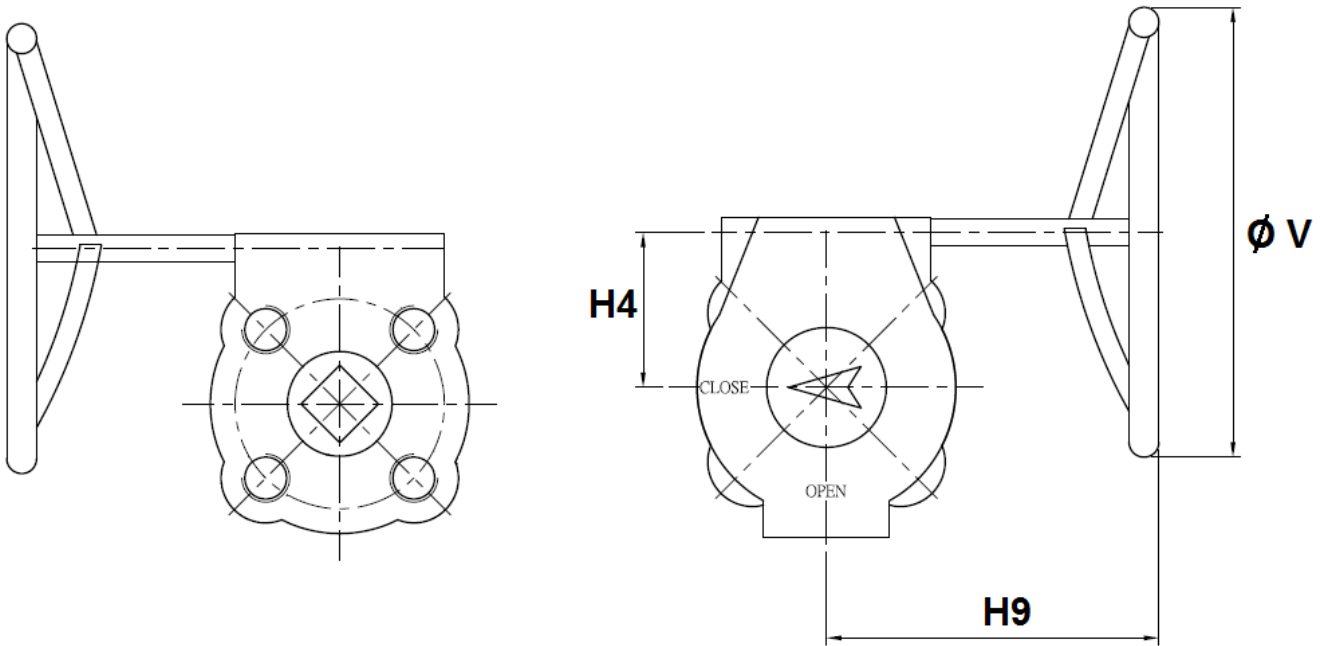
DN 125 – 200 (NPS 5" to 8")



| Ref. | DN | 125 | 150 | 200 |
|------|----------------|-------|-------|-------|
| | NPS (") | 5" | 6" | 8" |
| 778 | Ø P | 125 | 150 | 200 |
| | L | 356 | 394 | 457 |
| | L1 | 176.7 | 197 | 226 |
| | L2 | 179.3 | 197 | 231 |
| | E | 743 | 743 | 840 |
| | H | 239.6 | 256.5 | 334 |
| | H1 | 147 | 170 | 215 |
| | H3 | 199 | 220 | 300.5 |
| | Weight (in Kg) | 40 | 54 | 88 |

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GEARBOX SIZE (in mm) :



| DN (mm) | 150 | 200 |
|---------------|---------|---------|
| NPS (") | 6" | 8" |
| H4 | 63 | 78 |
| H9 | 238 | 226 |
| Ø V | 300 | 300 |
| Weight (Kg) | 12.5 | 15 |
| Ref. | 9830296 | 9830297 |

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ISO MOUNTING PAD AND STEM SIZE (in mm) :

DN 15 – 50

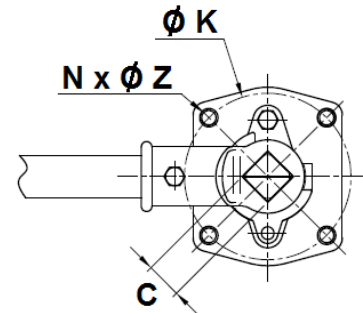
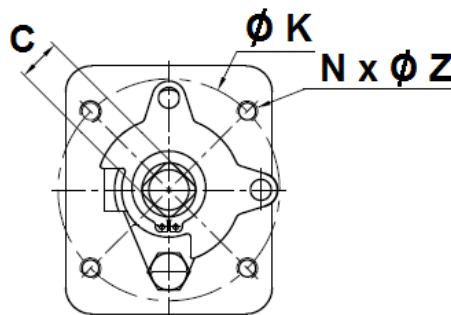
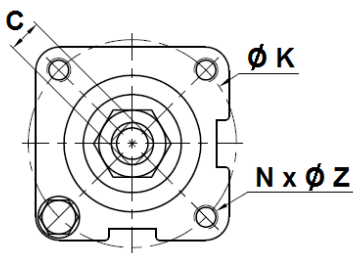
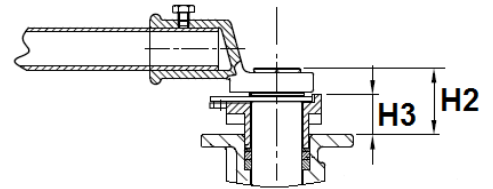
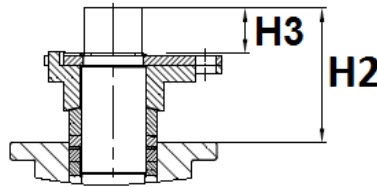
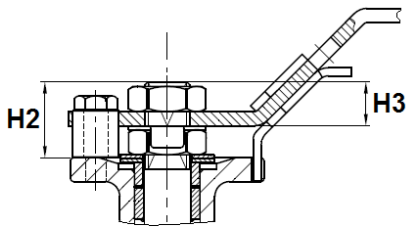
DN 65 – 100

DN 125 - 200

NPS (1/2" - 2")

NPS (2"1/2 - 4")

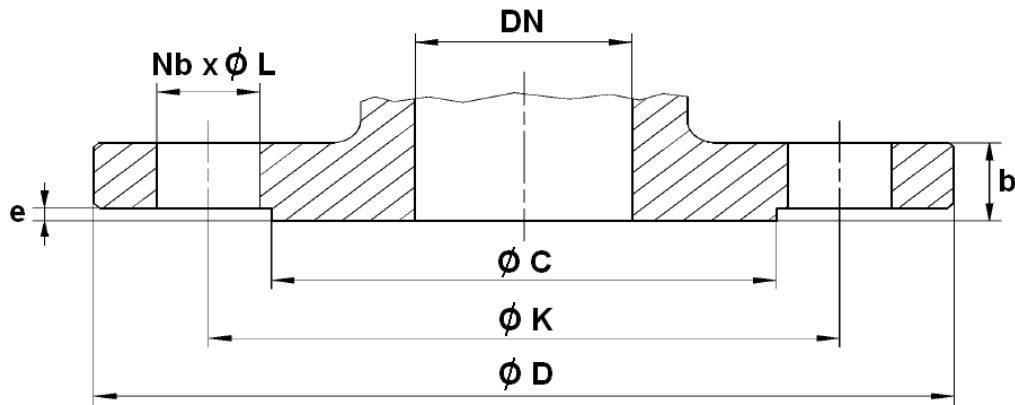
NPS (5" - 8")



| Ref. | DN (mm) | 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" |
| 778 | C | 9 | 9 | 11 | 11 | 14 | 14 | 17 | 17 | 17 | 27 | 27 | 36 |
| | Ø K | 42 | 42 | 50 | 50 | 70 | 70 | 102 | 102 | 102 | 125 | 125 | 140 |
| | ISO | F04 | F04 | F05 | F05 | F07 | F07 | F10 | F10 | F10 | F12 | F12 | F14 |
| | N x Ø Z | 4xM5 | 4xM5 | 4xM6 | 4xM6 | 4xM8 | 4xM8 | 4xM10 | 4xM10 | 4xM10 | 4xM12 | 4xM12 | 4xM16 |
| | H2 | 14.5 | 14 | 18 | 17 | 22 | 21.5 | 65.5 | 66.5 | 65.5 | 52 | 50 | 85.5 |
| | H3 | 8.5 | 8.5 | 12 | 12 | 14 | 14 | 27 | 27 | 27 | 19 | 19 | 43.5 |

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CLASS 150 (PN20) FLANGES SIZE (in mm) :



| Ref. | DN (mm) | 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" |
| 778 | Ø C | 35 | 42.9 | 50.8 | 63.5 | 73 | 92.1 | 104.8 | 127 | 157.2 | 186 | 216 | 270 |
| | Ø D | 90 | 100 | 110 | 115 | 125 | 150 | 180 | 190 | 230 | 254 | 279 | 343 |
| | Ø K | 60.3 | 69.9 | 79.4 | 88.9 | 98.4 | 120.7 | 139.7 | 152.4 | 190.5 | 216 | 241.5 | 298.5 |
| | Nb x Ø L | 4 x 15.8 | 4 x 15.8 | 4 x 15.8 | 4 x 15.8 | 4 x 15.8 | 4 x 19 | 4 x 19 | 4 x 19 | 8 x 19 | 8 x 22 | 8 x 22 | 8 x 22.5 |
| | b | 11.2 | 12.7 | 14.3 | 15.9 | 17.5 | 19 | 22.3 | 23.9 | 23.9 | 23.9 | 25.4 | 28.6 |
| | e | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |

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FLOW COEFFICIENT Kvs (M3 / h) :

| | | | | | | | | | | | | |
|---------------------|------|------|----|-------|-------|-----|-------|-----|------|------|------|------|
| 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" |
| Kvs (m3/h) | 31 | 58 | 86 | 139 | 229 | 415 | 698 | 983 | 1686 | 2824 | 3953 | 7225 |

TORQUE VALUES (in Nm without safety coefficient) :

| | | | | | | | | | | | | |
|----------------------|------|------|----|-------|-------|----|-------|----|-----|-----|-----|-----|
| DN (mm) | 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" |
| Torque (Nm) | 8 | 10 | 12 | 20 | 30 | 40 | 60 | 90 | 130 | 160 | 250 | 500 |

GEARBOX SPECIFICATIONS :

| | | |
|-----------------------------|---------|---------|
| DN (mm) | 150 | 200 |
| NPS (") | 6" | 8" |
| Ref. | 9830296 | 9830297 |
| Ratio factor | 30 :1 | 50 :1 |
| Output torque (Nm) | 700 | 1200 |

STANDARDS :

- Fabrication according to ISO 9001 : 2015
- DIRECTIVE 2014/68/EU : CE N° 0035
Risk Category III Module H
- Certificate 3.1 on request
- Construction according to ASME B16.34
- Pressure tests according to API 598, table 6
- Class 150 (PN20) R.F. flanges according to ASME B16.5
- ISO 5211 mounting pad
- Length according to ASME B16.10 (EN 558 series 3 up to DN100, series 12 from DN125 to 200)
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 & 22 (optional marking)
- Fire safe according to API 607 6th Edition 2010 up to DN200 (8")

**2 PIECES CARBON STEEL BALL VALVES FLANGED CLASS 150 PN20
PERFORMANCE RANGE****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