

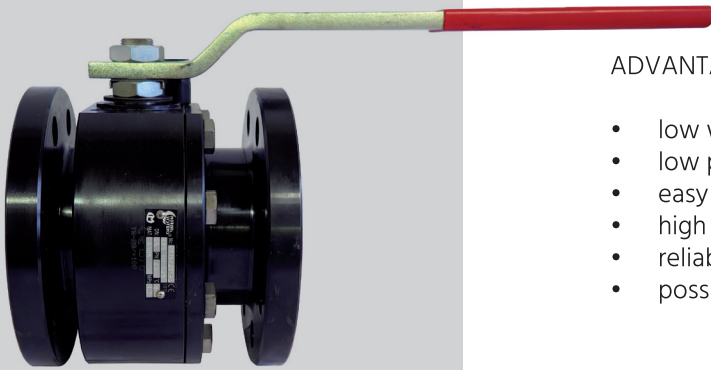
- design BS 5351
- full bore
- split body, floating ball, PTFE seats
- ISO 5211 top flange
- DN ≥ 25 antistatic device
- fire safe BS 6755, API 6FA, API 607

APPLICATION:

- piping systems for processing, treatment and transport of liquid and gaseous media

ADVANTAGES:

- low weight
- low pressure loss
- easy installation and maintenance
- high corrosion resistance
- reliability
- possibility of automatic operation


TECHNICAL DATA:

| | |
|-------------------------|---|
| Working fluid: | non-aggressive liquids and gases (water, steam, oil, air, fuel gases, oil and oil derivatives) depending on construction materials of valve |
| Working temperature: | from -10 °C to +180 °C |
| Max. working pressure: | more in Pressure/Temperature Diagram |
| Construction materials: | more in table of Materials of main construction parts |
| Face to face: | EN 558-1, serie 27 |
| Flanges: | EN 1092-1, B1/ PN 16/40 |

The ball valve is a two-way shut-off valve intended for installation in horizontal or vertical piping. The shut-off element is a ball with a through hole, which rotates through 90 ° and closes the working fluid flow in the seats. The ball valve is not suitable for abrasive working media and coagulating liquids. It is designed to operate either in the OPEN or CLOSED position.

| | |
|------------|---|
| Operating: | hand wheel |
| Option: | from DN 150 gearbox with hand wheel on request electric or pneumatic operating antistatic device for DN 15 – DN20 degreasing service delivery including counter-flanges, sealing and bolting material |

Testing: ach ball valve shall be tested in accordance with EN 12266 and supplied with accompanying documentation according to EN 10204

Certification: PED 2014/68/ EU
ATEX 94/9/ CE

DESIGN AND CONSTRUCTION MATERIALS

Fig. 1

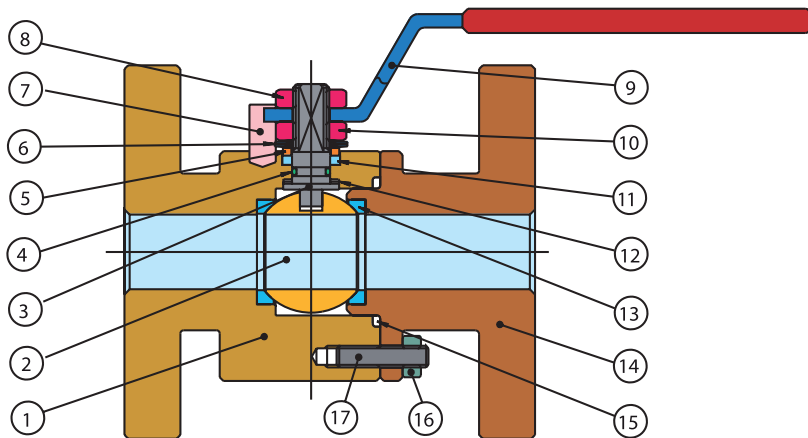


Table 1 Materials of main construction parts

| Pos. | Description | Material |
|------|------------------|--------------------------|
| 1 | Body | ASTM A 105 |
| 2 | Ball | AISI 304 (DIN 1.4301) |
| 3 | Stem | AISI 304 (DIN 1.4301) |
| 4 | O-ring | Viton |
| 5 | Washer | AISI 304 (DIN 1.4301) |
| 6 | Spring washer | 50 Cr V4 |
| 7 | Operation - stop | uhlíková ocel 8.8 |
| 8 | Fixing nut | A 105 Nickel-plated |
| 9 | Hand lever | A 105 Nickel-plated |
| 10 | Stem nut | A 105 Nickel-plated |
| 11 | Packing | PTFE |
| 12 | Thrust washers | PTFE |
| 13 | Seats | PTFE |
| 14 | Body flange | ASTM A 105* |
| 15 | Static gasket | PTFE |
| 16 | Locking nut | ASTM A 105 Nickel-plated |
| 17 | Stud bolt | A 193 B7 |

TECHNICAL DRAWING AND DIMENSIONS

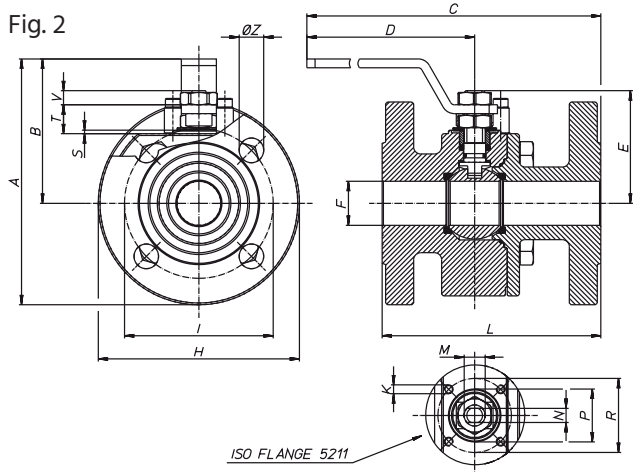
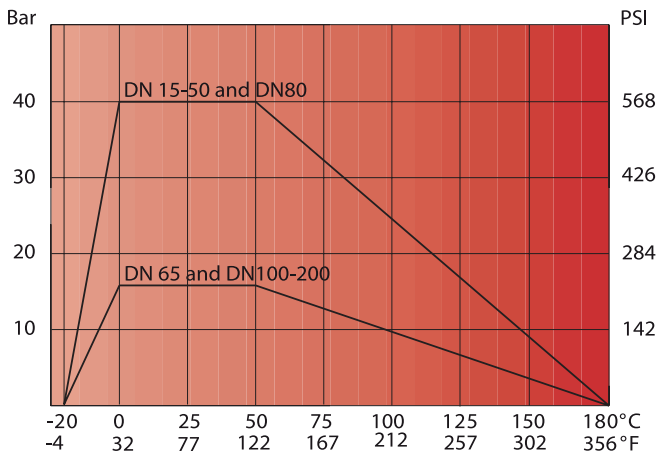


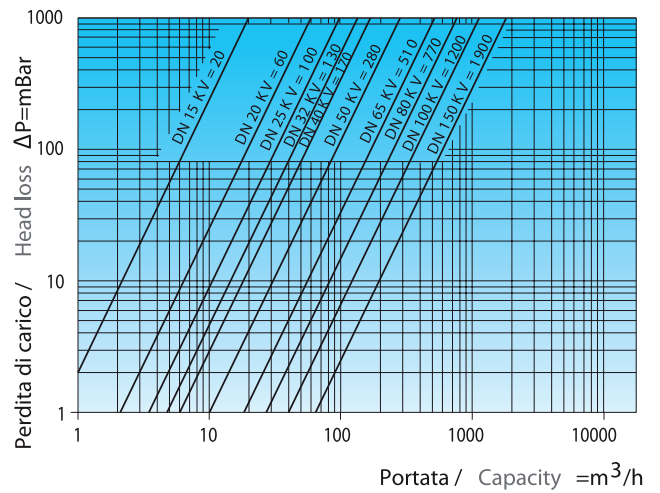
Table 2

| Size | Dimension (mm) | | | | | | | | | | | | | | | | | | | PN | ISO 5211 | kg |
|--------|----------------|-------|-----|-----|-----|-------|------|----|-----|-----|-----|-----|-----|----|----|-----|-----|------|------------------|----|----------|--------|
| | A | B | C | D | E | F | G | H | K | I | L | M | N | P | R | S | T | V | Number of wholes | | | |
| DN 15 | 40 | 113,5 | 66 | 207 | 140 | 48 | 15 | 14 | 95 | M5 | 65 | 115 | M10 | 6 | - | 36 | - | 5 | 9 | 4 | F03 | 3,60 |
| DN 20 | 40 | 121,5 | 69 | 210 | 140 | 51 | 20 | 14 | 105 | M5 | 75 | 120 | M10 | 6 | 25 | 36 | 2 | 8 | 9 | 4 | F03 | 4,64 |
| DN 25 | 40 | 139,5 | 82 | 252 | 180 | 62,3 | 25 | 14 | 115 | M5 | 85 | 125 | M12 | 8 | 30 | 42 | 2 | 11,5 | 11,5 | 4 | F04 | 5,75 |
| DN 32 | 40 | 157 | 87 | 257 | 180 | 67 | 32 | 18 | 140 | M5 | 100 | 130 | M12 | 8 | 30 | 42 | 2 | 10 | 11 | 4 | F04 | 8,32 |
| DN 40 | 40 | 183 | 108 | 312 | 230 | 87,3 | 40 | 18 | 150 | M6 | 110 | 140 | M16 | 10 | 35 | 50 | 2,5 | 14,5 | 15,5 | 4 | F05 | 11,16 |
| DN 50 | 40 | 197,5 | 115 | 317 | 230 | 94,5 | 49,5 | 18 | 165 | M6 | 125 | 150 | M22 | 10 | 35 | 50 | 2,5 | 14,5 | 15,5 | 4 | F05 | 14,90 |
| DN 65 | 40 | 231 | 139 | 418 | 320 | 119,5 | 65 | 18 | 185 | M8 | 145 | 185 | M22 | 14 | 55 | 70 | 3 | 18,7 | 20,8 | 4 | F07 | 23,75 |
| DN 80 | 40 | 250 | 150 | 425 | 320 | 130 | 78 | 18 | 200 | M8 | 160 | 180 | M22 | 14 | 55 | 70 | 3 | 18,7 | 20,8 | 8 | F07 | 28,53 |
| DN 100 | 40 | 281 | 163 | 484 | 370 | 148,5 | 96 | 22 | 235 | M10 | 190 | 190 | M27 | 16 | - | 102 | - | 1,5 | 26 | 8 | F10 | 35,56 |
| DN 100 | 16 | 273 | 163 | 484 | 370 | 148,5 | 96 | 18 | 220 | M10 | 190 | 190 | M27 | 16 | - | 102 | - | 1,5 | 26 | 8 | F10 | 35,56 |
| DN 125 | 16 | 309 | 181 | 603 | 370 | 166,5 | 118 | 18 | 250 | M10 | 210 | 325 | M27 | 16 | 70 | 102 | 3 | 22 | 26 | 8 | F10 | 65,50 |
| DN 150 | 16 | 392 | 249 | 771 | 584 | 200 | 144 | 22 | 285 | M12 | 240 | 350 | M42 | 26 | - | 125 | - | 4 | 31,5 | 8 | F12 | 108,90 |
| DN 200 | 16 | 460 | 288 | 784 | 584 | 235 | 192 | 22 | 343 | M12 | 295 | 400 | M42 | 26 | - | 125 | - | 4 | 27 | 12 | F12 | 194,65 |

PRESSURE/ TEMPERATURE DIAGRAM - TOPAZ PN16/40



HEAD LOSS DIAGRAM - TOPAZ PN16/40

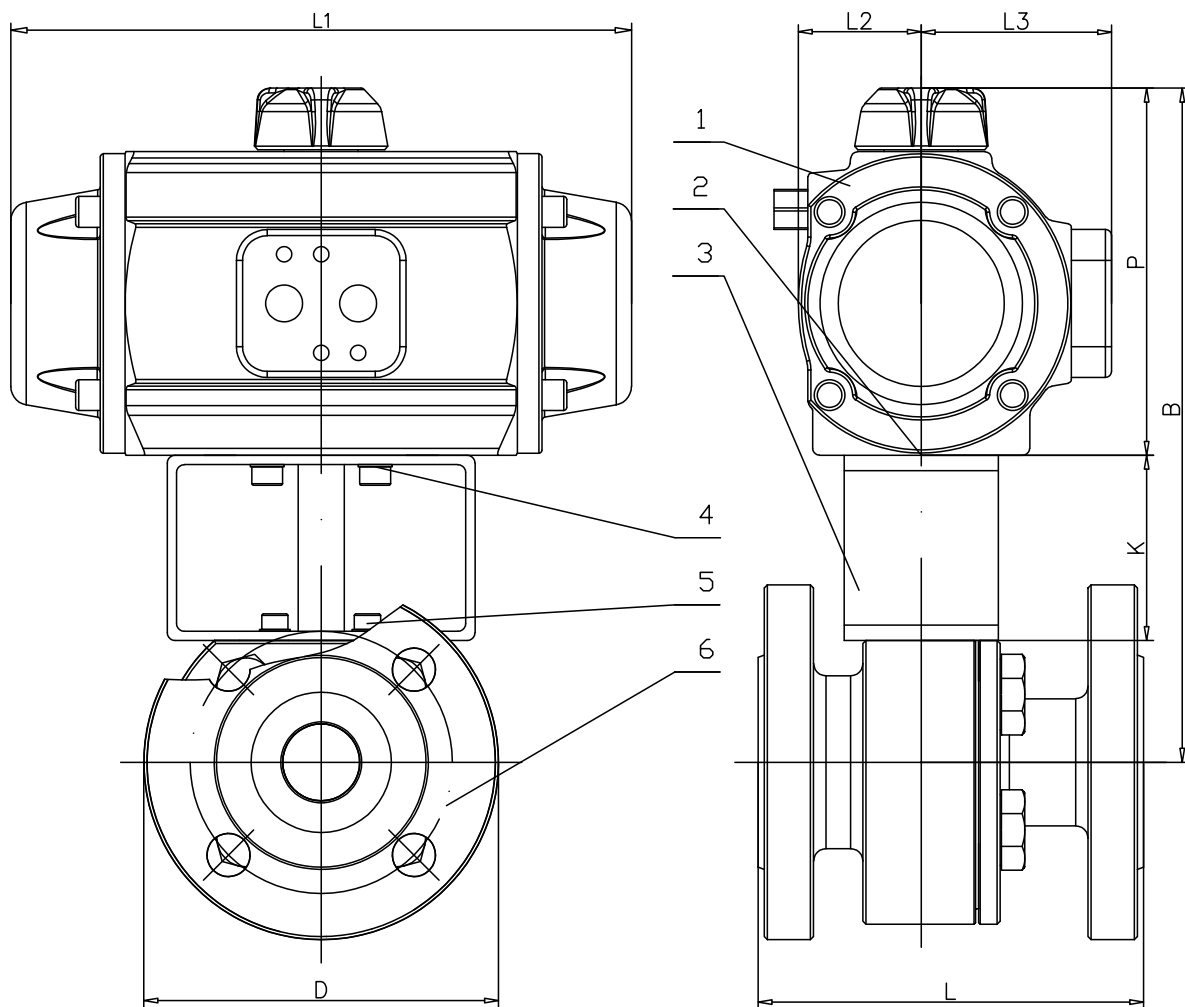


BREAKING TORQUES - TOPAZ PN 16/40

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
|----------|----|----|----|----|----|----------------------|----|-----|-----|-----|-----|------|
| PN (bar) | | | | | | Breaking torque (Nm) | | | | | | |
| 0 | 4 | 7 | 15 | 21 | 26 | 36 | 51 | 81 | 130 | 240 | 310 | 600 |
| 16 | 5 | 8 | 17 | 23 | 28 | 39 | 54 | 86 | 150 | 300 | 400 | 800 |
| 40 | 6 | 10 | 22 | 28 | 32 | 45 | 62 | 120 | 200 | 475 | 900 | 1800 |

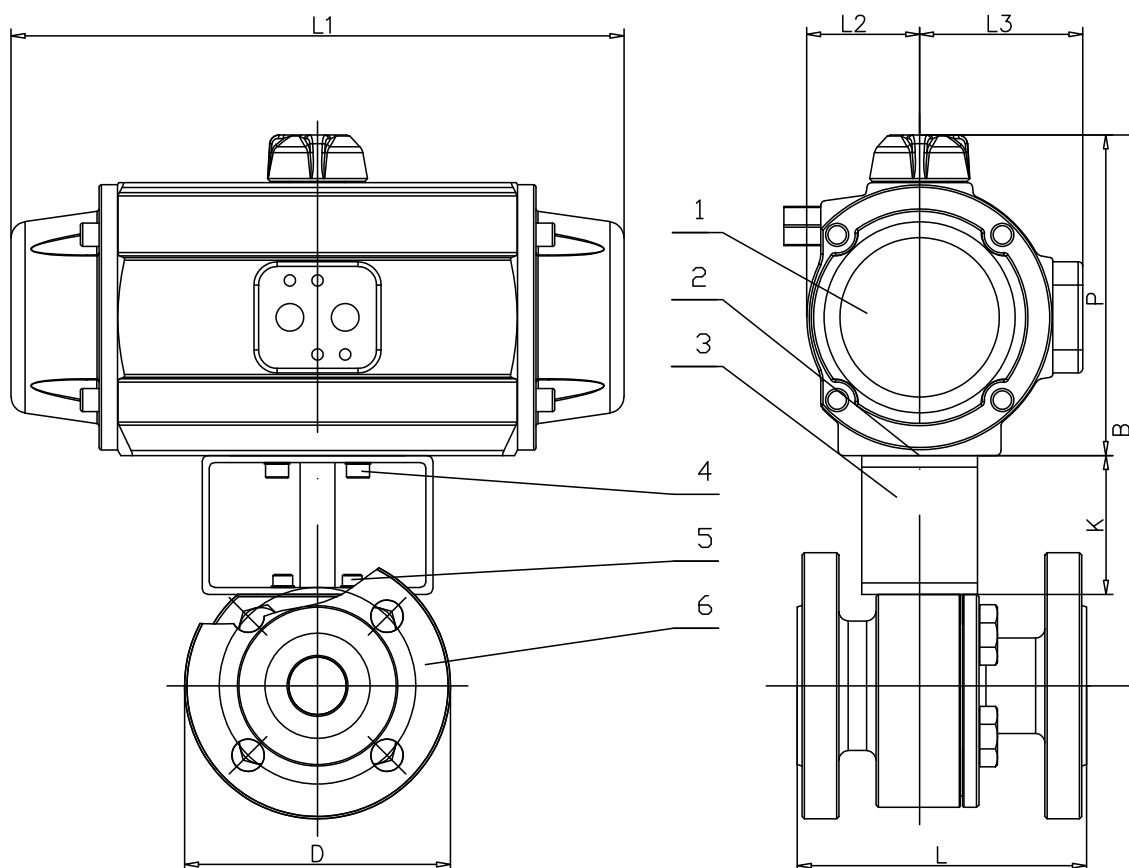
Note:
 For safe operation of valves with pneumatic or electric control, the relevant safety factor must be taken into account when dimensioning the actuator.

TECHNICAL DRAWING AND DIMENSIONS OF BALL VALVE TOPAZ PN16 DN 100 ÷ 200 AND PN40 DN 15 ÷ 100 WITH DOUBLE-ACTING PNEUMATIC ACTUATOR



| 1 | Dvojčinný pneumatický pohon / Double acting pneumatic actuator | | | | | | | | | | |
|--|--|------------------|-----|-----|----|-----|-----|-----|-----|-----|------|
| 2 | Vložka / Connection | | | | | | | | | | |
| 3 | Montážní sada / Mounting Kit | | | | | | | | | | |
| 4 | Šrouby / Bolts A | | | | | | | | | | |
| 5 | Šrouby / Bolts B | | | | | | | | | | |
| 6 | Kulový kohout / Ball valve TOPAZ | | | | | | | | | | |
| Kohout kulový přírubový s dvojčinným pneumatickým pohonem TOPAZ | | | | | | | | | | | |
| Flanged ball valve with doubleacting pneumatic actuator TOPAZ | | | | | | | | | | | |
| DN | PN | Pohon / Actuator | D | L | K | P | L1 | L2 | L3 | B | Kg |
| 15 | 40 | PAW | 95 | 115 | 60 | 89 | 141 | 28 | 48 | 183 | 5,4 |
| 20 | 40 | PAW | 105 | 120 | 60 | 89 | 141 | 28 | 48 | 183 | 6,4 |
| 25 | 40 | PA05 | 115 | 125 | 60 | 119 | 201 | 40 | 62 | 219 | 9,3 |
| 32 | 40 | PA05 | 140 | 130 | 60 | 119 | 201 | 40 | 62 | 225 | 12 |
| 40 | 40 | PA05 | 150 | 140 | 60 | 119 | 201 | 40 | 62 | 237 | 14,9 |
| 50 | 40 | PA10 | 165 | 150 | 60 | 123 | 226 | 41 | 63 | 248 | 19,3 |
| 65 | 40 | PA15 | 185 | 170 | 80 | 139 | 265 | 48 | 71 | 299 | 30,2 |
| 80 | 40 | PA20 | 200 | 180 | 80 | 147 | 312 | 52 | 75 | 318 | 37 |
| 100 | 40 | PA25 | 235 | 190 | 80 | 175 | 358 | 64 | 89 | 376 | 49,5 |
| 100 | 16 | PA25 | 220 | 190 | 80 | 175 | 358 | 64 | 89 | 376 | 48 |
| 125 | 16 | PA30 | 250 | 325 | 80 | 191 | 429 | 72 | 97 | 391 | 80 |
| 150 | 16 | P40 | 285 | 350 | 80 | 272 | 444 | 106 | 120 | 517 | 132 |
| 200 | 16 | P40 | 343 | 400 | 80 | 272 | 444 | 106 | 120 | 557 | 218 |

TECHNICAL DRAWING AND DIMENSIONS OF BALL VALVE TOPAZ PN16 DN 100 ÷ 200 AND PN40 DN 15 ÷ 100 WITH SINGLE-ACTING PNEUMATIC ACTUATOR



| 1 | Jednočinný pneumatický pohon / Single acting pneumatic actuator | | | | | | | | | | |
|---|---|------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 2 | Vložka / Connection | | | | | | | | | | |
| 3 | Montážní sada / Mounting Kit | | | | | | | | | | |
| 4 | Šrouby / Bolts A | | | | | | | | | | |
| 5 | Šrouby / Bolts B | | | | | | | | | | |
| 6 | Kulový kohout / Ball valve TOPAZ | | | | | | | | | | |
| Kohout kulový přírubový s jednočinným pneumatickým pohonem TOPAZ | | | | | | | | | | | |
| Flanged ball valve with single acting pneumatic actuator TOPAZ | | | | | | | | | | | |
| DN | PN | Pohon / Actuator | D | L | K | P | L1 | L2 | L3 | B | Kg |
| 15 | 40 | PA00S | 95 | 115 | 60 | 102 | 155 | 32 | 52 | 196 | 6,1 |
| 20 | 40 | PA05S | 105 | 120 | 60 | 119 | 201 | 40 | 62 | 213 | 8,5 |
| 25 | 40 | PA15S | 115 | 125 | 60 | 139 | 265 | 48 | 71 | 239 | 12,2 |
| 32 | 40 | PA15S | 140 | 130 | 60 | 139 | 265 | 48 | 71 | 245 | 14,7 |
| 40 | 40 | PA15S | 150 | 140 | 60 | 139 | 265 | 48 | 71 | 257 | 14,9 |
| 50 | 40 | PA20S | 165 | 150 | 60 | 147 | 312 | 52 | 75 | 272 | 23,3 |
| 65 | 40 | PA25S | 185 | 170 | 80 | 175 | 358 | 64 | 89 | 335 | 38 |
| 80 | 40 | PA30S | 200 | 180 | 80 | 191 | 429 | 72 | 97 | 362 | 47 |
| 100 | 40 | P40S | 235 | 190 | 80 | 272 | 598 | 106 | 120 | 473 | 77 |
| 100 | 16 | P40S | 220 | 190 | 80 | 272 | 598 | 106 | 120 | 473 | 75 |
| 125 | 16 | P40S | 250 | 325 | 80 | 272 | 598 | 106 | 120 | 472 | 105 |
| 150 | 16 | PA50S | 285 | 350 | 90 | 309 | 694 | 128 | 141 | 564 | 171 |
| 200 | 16 | PA60S | 343 | 400 | 120 | 368 | 672 | 160 | 185 | 693 | 283 |

The data given in the catalog are informative and the manufacturer reserves the right to make technical changes.