



**butterfly valves  
with bonded liner  
wafer**

made in Abu Dhabi

 **advalco**

# MSJ

## Top Flange

The top flange accommodates all types of levers, gear operators, electric, hydraulic or pneumatic actuators. The dimensions are according to ISO 5211.

## Body

The one piece cast body has four alignment lugs in every size. These lugs also provide possibility for end of line service. Overall design in accordance to EN 588 and BS EN-593. An external coating provides corrosion protection.

## Shaft

The one piece shaft ensures dependability and positive disc positioning. The dimensions are according to ISO 5211. The shaft configuration ensures positive attachment for levers and actuators. The shaft is completely isolated from the media. The square groove indicates the disc orientation.

## Name plate

The name plate states brand name, valve type, year of manufacture, job number, size DN, body and liner material, max. operating pressure, min. and max. operating temperature, CE markings.

## Bearings

Two radial bearings reduce the operating torque and isolate the shaft from the body. (The bearings are fixed by the vulcanisation process of the liner. For type MSJ the bearing is secured by thermal expansion after cooling to -196°C.)

## Precision straight pins

The precision straight pins ensure, positive and vibration proof shaft to disc connection. From DN200 and up two or more pins are used.

## Disc

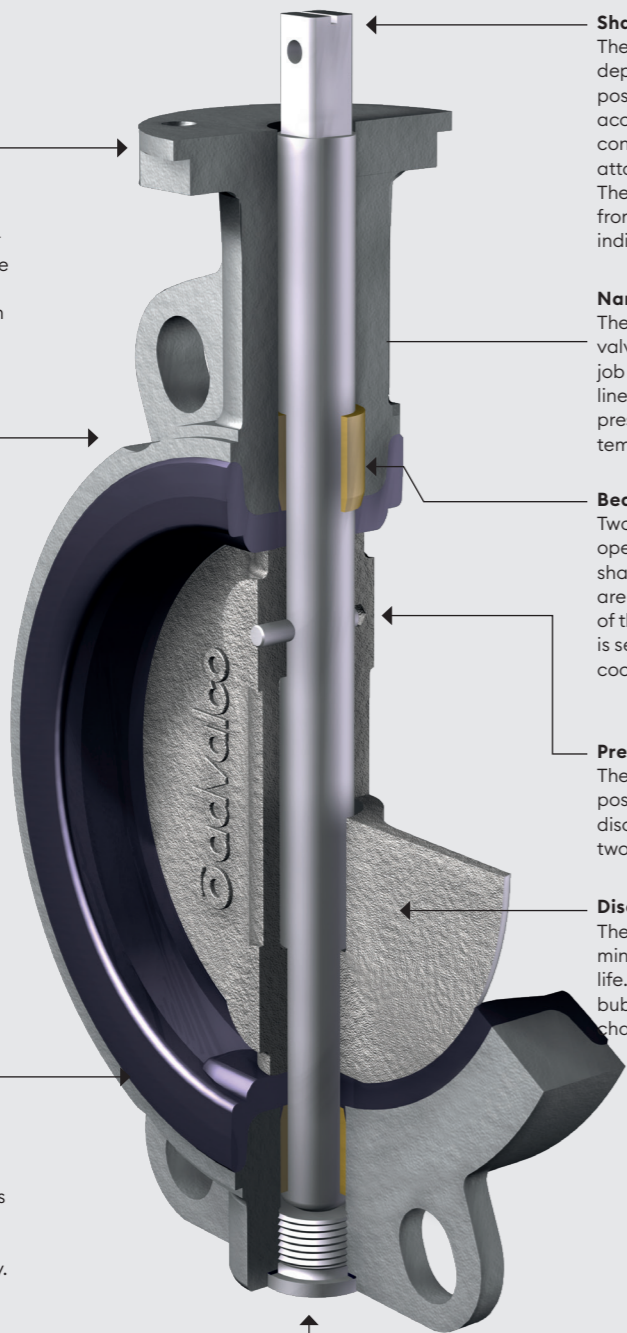
The precision profile disc ensures minimum torque and longer seat life. The disc provides bi-directional bubble tight shut-off and good flow characteristics.

## Bonded liner

The elastomer liner is bonded integrally to body and bearings. It extends along the valve faces so flange gaskets are not necessary nor allowed. The liner is highly stable and eliminates potential leak paths and corrosion between liner and body. The vulcanisation principle provides excellent dimensional tolerances resulting in low torque, smooth flow, no maintenance and long life.

## Cover

The plug is sealed with a fiber ring and keeps out dust and dirt. From DN350 and up a plate is used. From DN450 and up a bronze bearing plate with O-ring sealing is used to center and support the shaft.



## wafer type butterfly valves

### Description

Wafer type butterfly valve with 4 guide lugs centric disc and bonded liner, 100% bi-directional and bubble tight shut-off.

### Industry application

Offshore/ Shipbuilding  
 Defense Industry  
 Petrochemical/Oil and Gas  
 Heavy Industry/Power and Desalination Plants  
 Water Treatment  
 Civil Engineering

### References

Overall design generally in accordance to BS EN-593 face dimensions in accordance to EN558 table 1 Series 20 (series 16 from DN700 and up).

Top flange and shaft end in accordance to ISO 5211.

### Size range

DN50 - DN1200

### Specifications

Working pressure from 0.1 bar absolute up to 16 bar, (to 17.6 bar)

Working pressure from up to 25 bar, test pressure 27.5 bar

Mounting between flanges DIN PN 10, DIN PN16, ASME cl-150 and JIS 5,10,16K standards

Coating color - Ral

#### ▶ VALVE BODIES

Ductile Cast Iron EN 1563-GJS 400-15

Cast Carbon Steel a 216 WCB

Ni/Al-Bronze AB-2 or to ASTM B148

Stainless Steel 316

▶ RUBBER LINERS NBR, EPDM VITON(FPM) VMQ Silicone rubber, CR(Chloroprene)

#### ▶ DISC MATERIALS

Ni/Al-Bronze C95800 ASTM B148

Stainless Steel A743 (CF8M)

Monel ASTM A494 M35

Ductile Cast Iron Rilsan Coated, Ebonite

Duplex and Super Duplex

#### ▶ SHAFTS AND PINS MATERIALS

Stainless Steel EN 10088-3 1.4122

Stainless Steel 316L (EN 10088-3 1.14404)

Monel K 500 BS 3076 NA18

Aluminium Bronze EN 1265

Duplex and Super duplex

#### ▶ COATINGS

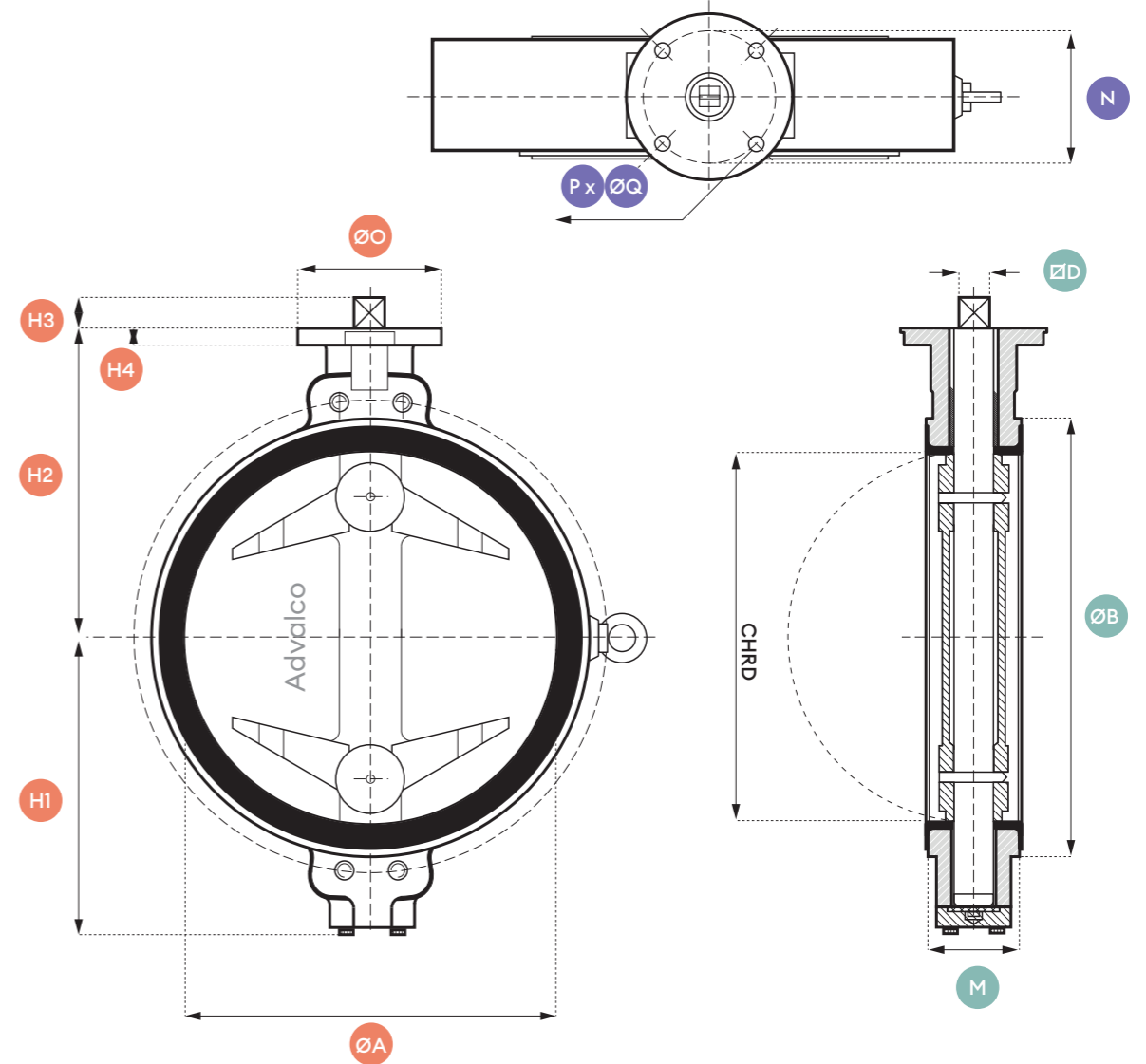
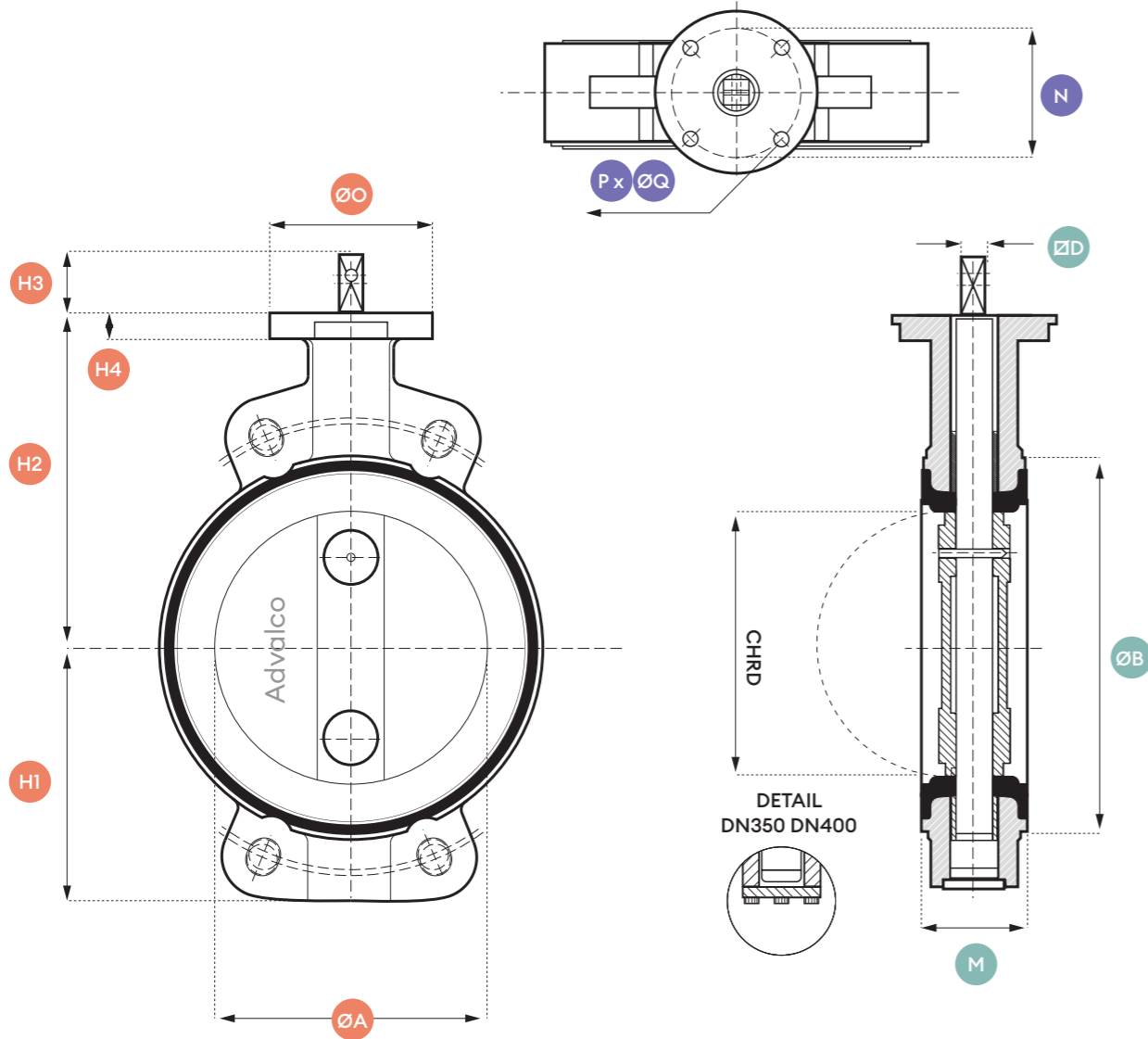
Standard shoppaint Alkyd Primer 60 Mu Ral

Coating No 2 1 layer high solid epoxy 80-100 Mu

Coating No 3 1 layer high solid epoxy 80-100 Mu,  
 1 layer high solid polyurethane 60 Mu

Coating No 3 1 layer high solid epoxy 80-100 Mu,  
 2 layers high solid high build polyurethane 140 Mu

# wafer type, MSJ DIN PN10, PN16 ASME Class 150 A



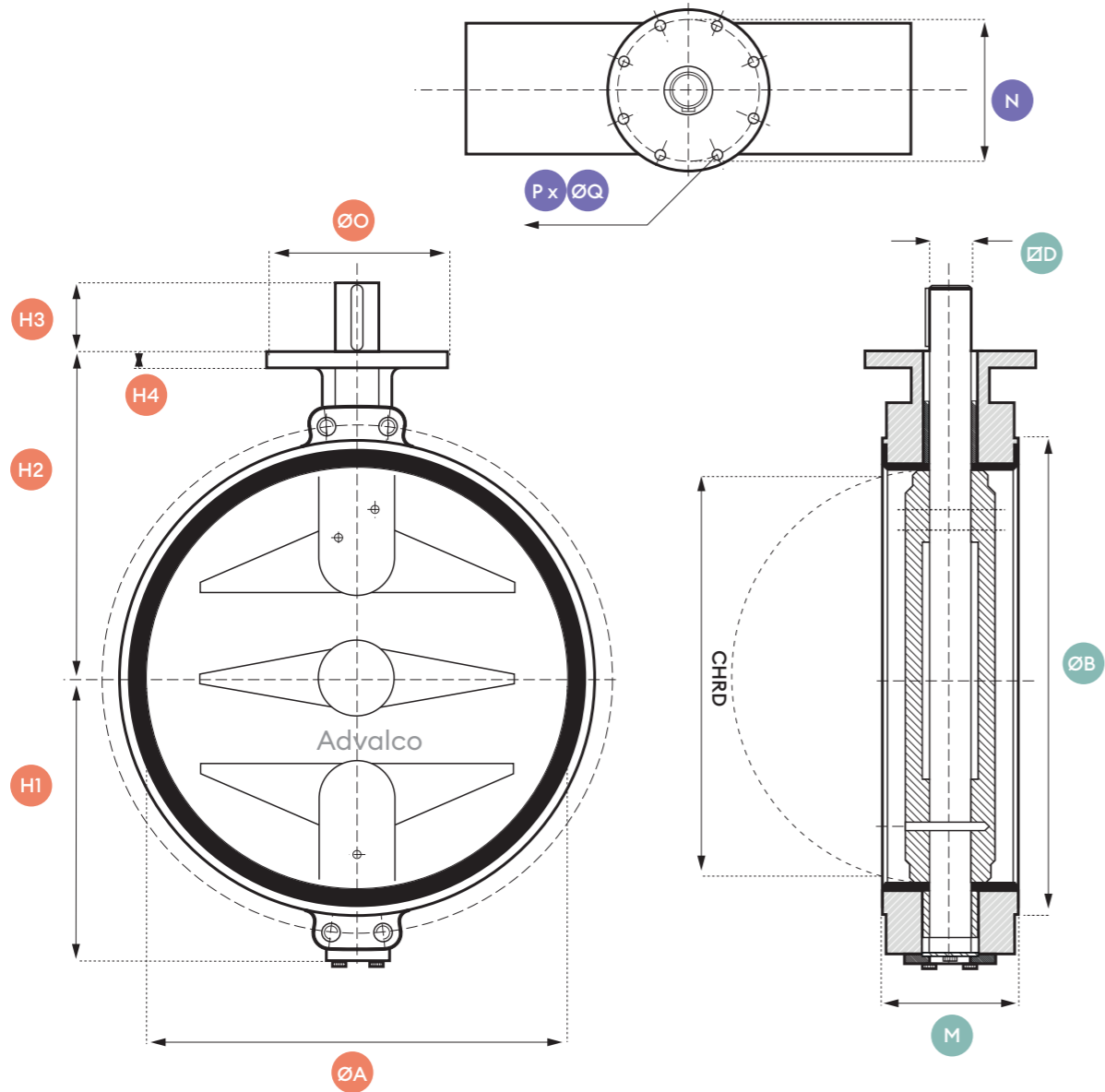
| Size | Front view |     |     |     |    |    | Side view |      |     |    | Top view |    |     | Kg  |
|------|------------|-----|-----|-----|----|----|-----------|------|-----|----|----------|----|-----|-----|
|      | ØA         | ØO  | H1  | H2  | H3 | H4 | M         | Chrd | ØB  | ØD | P        | ØQ | N   |     |
| 450  | 450        | 175 | 352 | 375 | 38 | 20 | 114       | 434  | 536 | 36 | 4        | 18 | 140 | 110 |
| 500  | 500        | 175 | 387 | 415 | 38 | 20 | 127       | 483  | 590 | 36 | 4        | 18 | 140 | 138 |
| 600  | 600        | 210 | 452 | 465 | 48 | 25 | 154       | 579  | 685 | 46 | 4        | 22 | 165 | 190 |

All dimensions are in mm

| Size | Front view |     |     |     |    |    | Side view |      |     |    | Top view |    |     | Kg  |
|------|------------|-----|-----|-----|----|----|-----------|------|-----|----|----------|----|-----|-----|
|      | ØA         | ØO  | H1  | H2  | H3 | H4 | M         | Chrd | ØB  | ØD | P        | ØQ | N   |     |
| 50   | 50         | 90  | 67  | 118 | 25 | 12 | 43        | 26   | 90  | 11 | 4        | 9  | 70  | 3.0 |
| 65   | 65         | 90  | 74  | 126 | 25 | 12 | 46        | 46   | 105 | 11 | 4        | 9  | 70  | 3.5 |
| 80   | 80         | 90  | 82  | 133 | 25 | 14 | 46        | 65   | 124 | 11 | 4        | 9  | 70  | 4.0 |
| 100  | 100        | 90  | 100 | 147 | 25 | 14 | 52        | 85   | 150 | 11 | 4        | 9  | 70  | 5.5 |
| 125  | 125        | 90  | 112 | 160 | 28 | 14 | 56        | 112  | 182 | 14 | 4        | 9  | 70  | 8.0 |
| 150  | 150        | 90  | 134 | 180 | 28 | 14 | 56        | 139  | 210 | 14 | 4        | 9  | 70  | 11  |
| 200  | 200        | 90  | 159 | 204 | 28 | 14 | 60        | 191  | 265 | 17 | 4        | 9  | 70  | 15  |
| 250  | 250        | 125 | 195 | 245 | 30 | 15 | 68        | 241  | 315 | 22 | 4        | 11 | 102 | 23  |
| 300  | 300        | 125 | 220 | 270 | 30 | 15 | 78        | 290  | 371 | 22 | 4        | 11 | 102 | 32  |
| 350  | 335        | 150 | 282 | 315 | 29 | 20 | 78        | 325  | 434 | 27 | 4        | 14 | 125 | 60  |
| 400  | 400        | 150 | 307 | 350 | 29 | 20 | 102       | 386  | 488 | 27 | 4        | 14 | 125 | 100 |

All dimensions are in mm

# wafer type, MSJ DIN PN10, PN16 ASME Class 150 A



## Wafer Type MSJ DIN PN10

| Size | Key No-size | Front view |     |     |     |     |    | Side view |      |      |     | Top view |    |     | Kg  |
|------|-------------|------------|-----|-----|-----|-----|----|-----------|------|------|-----|----------|----|-----|-----|
|      |             | ØA         | ØC  | H1  | H2  | H3  | H4 | M         | Chrd | ØB   | ØD  | P        | ØQ | N   |     |
| 550  | 1-16x10x100 | 535        | 210 | 395 | 470 | 110 | 25 | 154       | 512  | 635  | SS  | 4        | 22 | 165 | 190 |
| 650  | 1-18x11x100 | 640        | 210 | 460 | 530 | 110 | 25 | 229       | 597  | 745  | 60  | 4        | 22 | 165 | 350 |
| 700  | 1-20x12x100 | 690        | 210 | 490 | 555 | 110 | 25 | 229       | 650  | 805  | 70  | 4        | 22 | 165 | 380 |
| 750  | 1-20x12x100 | 740        | 300 | 520 | 585 | 110 | 30 | 229       | 703  | 860  | 70  | 8        | 18 | 254 | 410 |
| 800  | 1-22x14x110 | 790        | 300 | 555 | 620 | 120 | 30 | 241       | 752  | 910  | 80  | 8        | 18 | 254 | 430 |
| 900  | 2-25x14x110 | 890        | 300 | 625 | 675 | 120 | 30 | 241       | es6  | 1010 | 90  | 8        | 18 | 254 | 620 |
| 1000 | 2-25x14x110 | 985        | 300 | 660 | 740 | 120 | 30 | 300       | 938  | 1110 | 90  | 8        | 18 | 254 | 675 |
| 1100 | 2-28x16x110 | 1085       | 350 | 790 | 850 | 120 | 40 | 300       | 1043 | 1220 | 105 | 8        | 22 | 298 | 885 |
| 1200 | 2-28x16x140 | 1185       | 350 | 805 | 875 | 160 | 40 | 350       | 1132 | 1325 | 110 | 8        | 22 | 298 | 950 |

## Wafer Type MSJ DIN PN16

| Size | Key No-size | Front view |     |     |     |     |    | Side view |      |      |     | Top view |    |     | Kg   |
|------|-------------|------------|-----|-----|-----|-----|----|-----------|------|------|-----|----------|----|-----|------|
|      |             | ØA         | ØC  | H1  | H2  | H3  | H4 | M         | Chrd | ØB   | ØD  | P        | ØQ | N   |      |
| 550  | 1-16x10x100 | 535        | 210 | 395 | 470 | 110 | 25 | 154       | 512  | 635  | SS  | 4        | 22 | 165 | 190  |
| 650  | 1-20x12x100 | 640        | 300 | 460 | 525 | 110 | 30 | 229       | 597  | 745  | 70  | 8        | 18 | 254 | 440  |
| 700  | 1-22x14x110 | 690        | 300 | 505 | 550 | 120 | 30 | 229       | 650  | 805  | 80  | 8        | 18 | 254 | 565  |
| 750  | 1-25x14x110 | 740        | 300 | 540 | 580 | 120 | 30 | 229       | 703  | 860  | 90  | 8        | 18 | 254 | 625  |
| 800  | 1-28x16x110 | 790        | 300 | 565 | 610 | 120 | 30 | 241       | 752  | 910  | 100 | 8        | 18 | 254 | 680  |
| 900  | 2-28x16x110 | 890        | 300 | 625 | 675 | 120 | 30 | 241       | 856  | 1010 | 110 | 8        | 18 | 254 | 900  |
| 1000 | 2-32x18x140 | 985        | 300 | 695 | 725 | 160 | 30 | 300       | 938  | 1110 | 120 | 8        | 18 | 254 | 1150 |
| 1100 | 2-32x18x140 | 1085       | 350 | 790 | 850 | 160 | 40 | 300       | 1043 | 1220 | 125 | 8        | 22 | 298 | 1335 |
| 1200 | 2-32x18x140 | 1185       | 350 | 805 | 875 | 160 | 40 | 350       | 1132 | 1325 | 130 | 8        | 22 | 298 | 1483 |

## Wafer Type MSJ ASME B16.47 class 150 series A

| Size | Key No-size | Front view |     |     |     |     |    | Side view |      |      |     | Top view |    |     | Kg  |
|------|-------------|------------|-----|-----|-----|-----|----|-----------|------|------|-----|----------|----|-----|-----|
|      |             | ØA         | ØC  | H1  | H2  | H3  | H4 | M         | Chrd | ØB   | ØD* | P        | ØQ | N   |     |
| 550  | 1-16x10x100 | 535        | 210 | 395 | 470 | 110 | 25 | 154       | 512  | 635  | SS  | 4        | 22 | 165 | 190 |
| 650  | 1-18x11x100 | 640        | 210 | 460 | 530 | 110 | 25 | 229       | 597  | 745  | 60  | 4        | 22 | 165 | 350 |
| 700  | 1-20x12x100 | 690        | 210 | 490 | 555 | 110 | 25 | 229       | 650  | 805  | 70  | 4        | 22 | 165 | 380 |
| 750  | 1-20x12x100 | 740        | 300 | 520 | 585 | 110 | 30 | 229       | 703  | 860  | 70  | 8        | 18 | 254 | 410 |
| 800  | 1-22x14x110 | 790        | 300 | 555 | 620 | 120 | 30 | 241       | 752  | 910  | 80  | 8        | 18 | 254 | 430 |
| 900  | 2-25x14x110 | 890        | 300 | 625 | 675 | 120 | 30 | 241       | 856  | 1010 | 90  | 8        | 18 | 254 | 620 |
| 1000 | 2-25x14x110 | 985        | 300 | 660 | 740 | 120 | 30 | 300       | 938  | 1110 | 90  | 8        | 18 | 254 | 675 |
| 1050 | 2-28x16x110 | 1035       | 300 | 710 | 770 | 120 | 30 | 300       | 990  | 1194 | 100 | 8        | 18 | 254 | 830 |
| 1100 | 2-28x16x140 | 1085       | 350 | 790 | 850 | 160 | 40 | 300       | 1043 | 1220 | 110 | 8        | 22 | 298 | 885 |
| 1200 | 2-28x16x140 | 1185       | 350 | 805 | 875 | 160 | 40 | 350       | 1132 | 1325 | 110 | 8        | 22 | 298 | 950 |

\* Shaft diameter for working pressure 10 bar



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