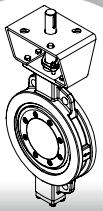


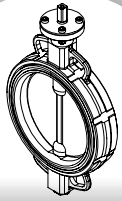
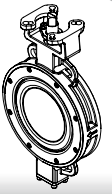


501M series  
Triple Eccentric Metal Seated  
Butterfly Valves



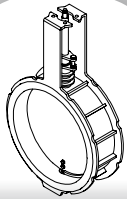
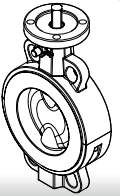
## S501M series Triple Eccentric Metal Seated Butterfly Valves

401N series - Double Eccentric Butterfly Valves



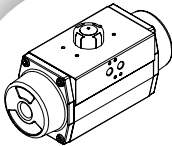
301 / 301E series - Butterfly Valves with rubber seat

301TSS 301TT series - Butterfly Valves with PTFE lined

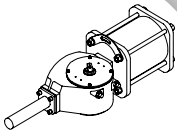


HT600 series - Damper valves for high temperature

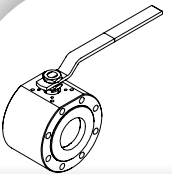
AP / APM series - Pneumatic Rotary Actuators



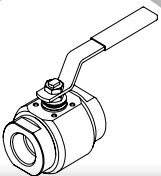
APG series - Schotch Yoke Pneumatic Actuators



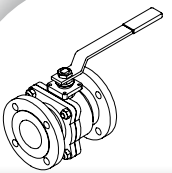
S10 series - Wafer Flat Body Ball Valves



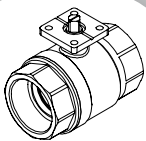
S20 series - Two-pieces 800 p.s.i. Ball Valves



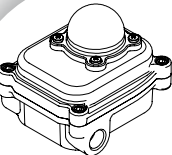
S30 series - Split Body Ball Valves



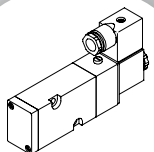
S40, S50, S60, S70, S80 series - Threaded actuated and manual ball valves



MBX Series - Limit Switch Box



SVS Series - Solenoid valve 5/2 or 3/2 way



## ACCESSORIES



Sirca International SpA was founded in the late seventies, and started doing business as a manufacturer of complete automation and pneumatic regulation systems.

Our flagship product is rotating pneumatic quarter-turn actuators which are compact, lightweight and highly reliable.

Subsequently, our company entered the Italian market with the production and sale of rubber-seated butterfly valves, double eccentric butterfly valves, ball valves and check valves.

In time at Sirca International we began marketing and producing accessories to actuate, control and regulate valves. These were installed on our own valves and actuators in order to offer our customers complete “assemblies” that are capable of meeting the most varied system requirements.

Beginning in the 1990s, our company began looking at foreign markets and in a short time we started exporting more than 60% of our production.

This type of market development requires continuous product innovation as well as continuous effort to maintain product competitiveness and quality.

With this motivation and these objectives, with the arrival of the new millenium we at Sirca International began designing and producing the triple eccentric butterfly valve metal-seated that are currently top of the range of the valves produced at Sirca.

The main strong points of Sirca International SpA lie in our product quality, competitive price, large warehouse stocks and in the reliability of our services. These confirm our status as a Leading Company on the national and international markets.

**METAL SEATED butterfly valve**

The metal seated butterfly valve, SIRCA series S501M, has been designed to support extreme operation conditions, either of pressures or temperatures, in the field of fluids interception and control as well as in the applications with corrosive media.

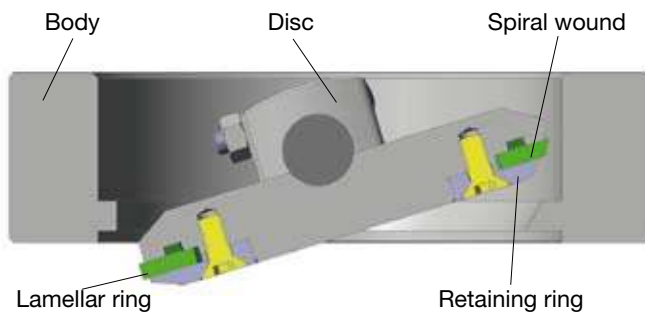
The main feature of this valve is the sealing, consisting in a lamellar ring package mounted on the disc (in the standard version) and held by a bolted shut-off ring. The lamellar ring is made of metal rings intercalated with sealing material (graphoil, AFM, or similar). Such a structure makes it resilient enough to optimize the contact against the seat, that's also made easier by the fact that the lamellar ring is positioned on the disc, in a proper house with wide rooms allowing its self-centering and adaptation to the seat.

This valve is triplecentric execution, which means that the disc rotation features and the seat cone generator are positioned on axis different from those of the sealing area.

In fact, we first find the shaft in double eccentric position vs. the sealing, while the third eccentricity is given by the cone axis generation of the sealing itself-tilted vs. the valve axis.

This triplecentricity allows the disc movement with no creeps between the seal ring and the seat which get in contact at shut-off only.

**OPEN position**



**CLOSED position**

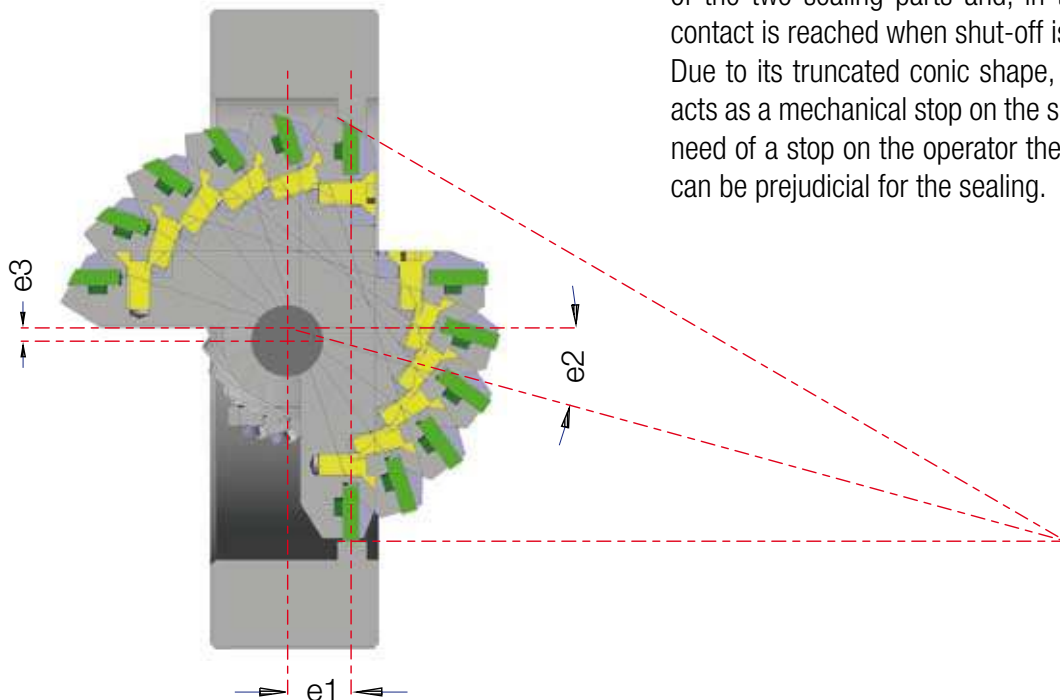


**Disc rotation**

Thanks to the double eccentricity of the rotation axis, the movement of the disc and, consequently, of the lamellar

ring happens without creep between the moving parts and the seat. In fact, during opening, it occurs a net detachment of the two sealing parts and, in the closing phase, the contact is reached when shut-off is completed.

Due to its truncated conic shape, the seat into the body acts as a mechanical stop on the shut-off, so avoiding the need of a stop on the operator that, on this type of valve, can be prejudicial for the sealing.



## Definition of tripleeccentric

The SIRCA metal seated butterfly valve is defined of tripleeccentric execution. But what do we mean for tripleeccentric?

As you can see from the above sketch, the eccentricities are referred to the sealing area; you have a double eccentricity of the shaft which is positioned out of axis vs. the sealing centre line (**e 1**) and vs. the valve axis (**e 2**);

the third eccentricity, less visible but not less important, is the elliptical seat, obtained like a cone portion, the axis of which is tilted vs. the valve axis (**e 3**).

These are the reasons because the valve is defined as tripleeccentric execution with the shaft in double eccentric position.

## Constructive versions

The **S501M** valve, is available in the following constructive versions: wafer, lug, flanged and butt welding.

The **wafer** version is much lighter than the previous two and, even if it has the same face-to-face dimensions of the lug, it only has four holes which are used for the valve centering when fixing it to the pipeline flanges.

The **lug** version, more compact and with face-to-face dimensions lower than the flanged one, can also be used as pipeline terminal with the difference that the holes in the body are threaded; such holes can be used for a half with semi rods for connection to the pipeline and for other half left free.

The double **flanged** version, having at the edges two flanges with through holes, can be used as pipeline terminal since everyone of its flanges can be fixed with separate rods to a piece of pipeline.

The **butt welding** version has face to face dimensions bigger than the other versions; it is presents at its edges two welding bevels made either in accordance with the regulating standard or as customer's request.

## Design standards:

**DESIGN:** ASMEB16.34 / EN12516-2 / EN593

### Face to Face DIMENSION

**Wafer** and **Lug** type - class ANSI150 and ANSI300:

3" ÷ 24" complying with API 609 tab 2 (B)

28" ÷ 40" complying with EN558 basic series 16

### Double Flanged type:

3" ÷ 40" Class ANSI150 complying with:

3" ÷ 24" Class ANSI300 complying with:

API std 609Table 3, Double Flanged Short Pattern Class ANSI150-300

### Double Flanged Long Pattern type:

3" ÷ 40" Class ANSI150 complying with EN558 basic series 3

3" ÷ 24" Class ANSI300 complying with EN558 basic series 4

### Butt-Weld type - class ANSI150 and ANSI300:

3" ÷ 24" complying with EN558 basic series 14

### FLANGEDRILLING:

ASMEB16.5 - ASMEB16.47 - EN1092-1

### TESTING:

API 598 -API 6D -EN12266-1 / 2

### FIRE TEST:

API 607 - ISO 10497M-5 - API 6FA

### MARKING:

MSS-SP-25 -EN19

### TEMPERATURERANGE:

From -196°C to +700°C (from -320 °F to +1292 °F) selectioning the suitable materials.

Upon request designs for temperatures different from those indicated can be carried out.

For employments at high and low temperatures valves can have the stem with extension.

### In compliance with the European directives:

Pressure Equipment Directive 97/23/CE - PED

Constructive features

**Body:**

It can be electrowelded to optimize the compactness and the execution versatility. The constructive versions are those mentioned on page 3.

**Seat in the body:**

The seat in the valve body is obtained executing a carryover of 21 degree Stellite, through welding. This carryover is executed both on the bodies of steel to the carbon and those of stainless steel. The place of business is worked at digital control machine with CAD-CAM technology to obtain his special elliptical form which marries exactly the estate ring.

This particular shape, together with the stem double eccentricity, allows it not to be subject to creeps, during the disc rotation, with the relevant sealing ring.

**Disc:**

It is compact and shaped in such a way to offer the lowest possible resistance to the medium passage as well as a low dynamic torque.

The construction is suitable for housing both the shaft in double eccentric position vs. the seat and the sealing ring with its retaining ring held on the disc by means of screws.

The fixing to the shaft is carried out using conic pins and keys; the first for small sizes, both for bigger sizes.

**Seal lamellar ring:**

It is built intercalating metal rings with gasket materials (graphoil, AFM, or similar) absolutely free of elastomers and PTFE.

It is positioned on the disc in a loose housing and held by a bolted ring; nevertheless it has the possibility to move for centering and fitting itself to the body seat.

Its elliptical shape, obtained by machining, perfectly fits the seat in the body and, joined to a suitable shut-off torque, the perfect sealing, also bi-directional, is reached.

**Shaft:**

The shaft is made of one-piece and passes across the whole valve.

This allows the better distribution, all over the disc, of the shut-off torque. It is mounted on wide-band bushings and has a bottom of an adjustable thrust bearing that the perfect disk centering allows in axial sense.

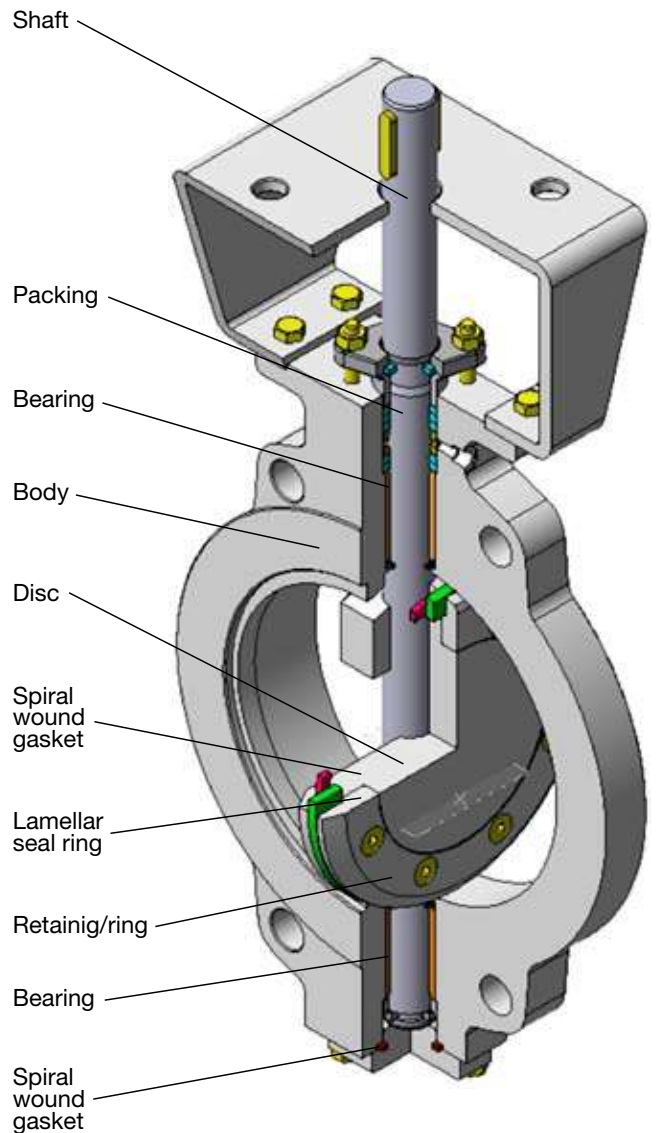
**Bushings:**

In standard version they are made of stainless steel with an surfacing anti-friction hardening; for more exacting applications they are made of high quality alloys.

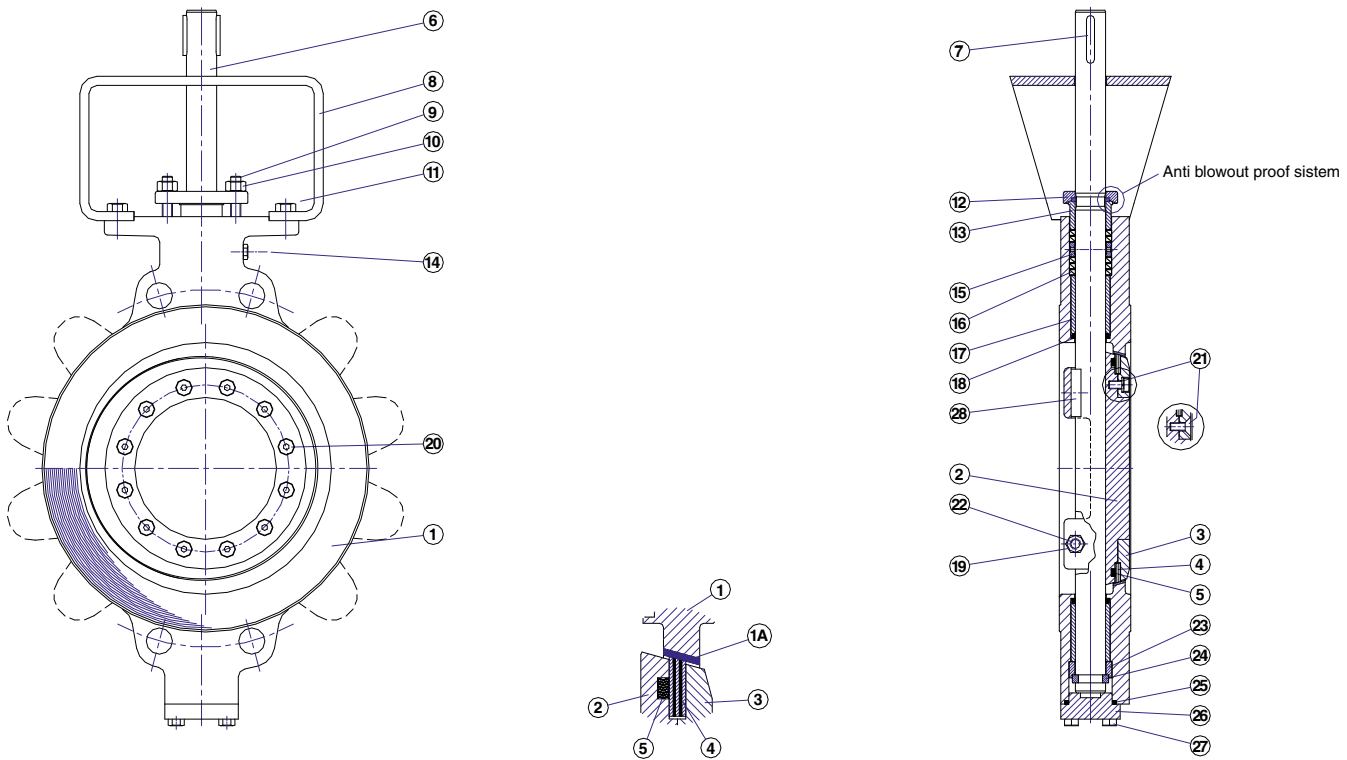
**Packing:**

In the most cases it is made of graphoil pre-compressed rings inserted into a stuffing box in the body and kept under compression by a gland with adjustment rods. For particular operating conditions other materials can be used.

Construction



Exploded view



Standard materials

| Item | Description                   | CONFIGURATION               |                             |                            | Q.ty |
|------|-------------------------------|-----------------------------|-----------------------------|----------------------------|------|
|      |                               | Carbon steel                | 316 Stainless steel         | Al / Bronze                |      |
| 1    | <b>Body</b>                   | P355 NH DIN EN10028-3       | ASTM A 182 Gr. F 316        | Br/AI ASTM B148 C95800     | 1    |
| 1A   | <b>Body seat</b>              | Stellite Gr.21 Weld Overlay | Stellite Gr.21 Weld Overlay | /                          |      |
| 2    | <b>Disc</b>                   | P355 NH DIN EN10028-3       | ASTM A 351 CF8M             | Br/AI ASTM B148 C95800     | 1    |
| 3    | <b>Ring</b>                   | P355 NH DIN EN10028-3       | ASTM A 182 Gr. F 316        | Br/AI ASTM B148 C95800     | 1    |
| • 4  | <b>Lamellar seal ring</b>     | DUPLEX + Graphite           | DUPLEX + Graphite           | DUPLEX + Graphite          | 1    |
| • 5  | <b>Spiral wound gasket</b>    | AISI 316 + Graphite         | AISI 316 + Graphite         | AISI 316 + Graphite        | 1    |
| 6    | <b>Shaft</b>                  | AISI 420                    | NITRONIC 50                 | G-CuAl11Fe4                | 1    |
| 7    | <b>Key</b>                    | AISI 410                    | NITRONIC 50                 | AISI 410                   | 2    |
| 8    | <b>Braking</b>                | CARBON Steel                | CARBON Steel                | CARBON Steel               | 1    |
| 9    | <b>Stud bolt</b>              | A2 (AISI 304)               | A2 (AISI 304)               | A2 (AISI 304)              | 2    |
| 10   | <b>Nut</b>                    | A2 (AISI 304)               | A2 (AISI 304)               | A2 (AISI 304)              | 2    |
| 11   | <b>Screw</b>                  | A2 (AISI 304)               | A2 (AISI 304)               | A2 (AISI 304)              | 4    |
| 12   | <b>Plate</b>                  | ASTM A 105 nickel plated    | ASTM A 182 Gr. F 316        | ASTM A 182 Gr. F 316       | 1    |
| 13   | <b>Ring</b>                   | AISI 420 nickel plated      | ASTM A 182 Gr. F 316        | ASTM A 182 Gr. F 316       | 1    |
| 14   | <b>Grease nipples</b>         | Stainless Steel             | Stainless Steel             | Stainless Steel            | 1    |
| 15   | <b>Lantern Ring</b>           | ASTM A 182 Gr. F 316        | ASTM A 182 Gr. F 316        | ASTM A 182 Gr. F 316       | 1    |
| • 16 | <b>Paking</b>                 | Graphoil                    | Graphoil                    | Graphoil                   | 5    |
| 17   | <b>Bearing</b>                | ASTM A 182 Gr. F 316 nitr.  | ASTM A 182 Gr. F 316 nitr.  | ASTM A 182 Gr. F 316 nitr. | 2    |
| 18   | <b>Bearing protector ring</b> | Graphite                    | Graphite                    | Graphite                   | 2    |
| 19   | <b>Nut</b>                    | A4 (AISI 316)               | A4 (AISI 316)               | A4 (AISI 316)              | 2    |
| 20   | <b>Screw</b>                  | A4 (AISI 316)               | A4 (AISI 316)               | A4 (AISI 316)              | 2    |
| 21   | <b>Spring lock washer</b>     | Stainless Steel             | Stainless Steel             | Stainless Steel            | 6÷16 |
| 22   | <b>Taper pin</b>              | AISI 420                    | NITRONIC 50                 | AISI 630                   | 2    |
| 23   | <b>Thrust bearing</b>         | ASTM A 182 Gr. F 316        | NITRONIC 50                 | ASTM A 182 Gr. F 316       | 1    |
| 24   | <b>Thrust washer</b>          | ASTM A 182 Gr. F 316        | AISI 316                    | ASTM A 182 Gr. F 316       | 1    |
| • 25 | <b>Spiral wound gasket</b>    | AISI 316 + Graphite         | AISI 316 + Graphite         | AISI 316 + Graphite        | 1    |
| 26   | <b>Bottom flange</b>          | ASTM A 105                  | ASTM A 182 Gr. F 316        | Br/AI ASTM B148 C95800     | 1    |
| 27   | <b>Screw</b>                  | A2 (AISI 304)               | A2 (AISI 304)               | A2 (AISI 304)              | 4    |
| 28   | <b>Disc Key</b>               | AISI 410                    | NITRONIC 50                 | AISI 410                   | 1    |

• Suggested spare parts list for maintenance.

NOTE:

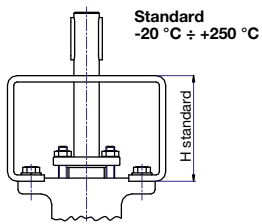
Standard valves are constructed with equal or equivalent materials to those indicated in the table.

In the case the valve is onerous particular job conditions (high temperatures, low temperatures, high pressure, particular fluid), could be uses other suitable materials for such applications.

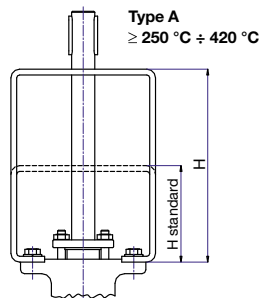
Temperature limits of constructive materials

| Description             | Materials                  | Temperature limits |      |      |      |
|-------------------------|----------------------------|--------------------|------|------|------|
|                         |                            | (°C)               |      | (°F) |      |
|                         |                            | min                | max  | min  | max  |
| Body - Disc             | ASTM A 216 WCB             | -30                | +427 | -22  | 800  |
|                         | ASTM A 217 WC6             | -30                | +539 | -22  | 1100 |
|                         | ASTM A 217 WC9             | -30                | +539 | -22  | 1100 |
|                         | ASTM A 352 LCB             | -45                | +350 | -50  | 662  |
|                         | ASTM A 351 CF8             | -196               | +538 | -320 | 1000 |
|                         | ASTM A 351 CF8M            | -196               | +538 | -320 | 1000 |
|                         | ASTM A 351 CF8C            | -196               | +538 | -320 | 1000 |
|                         | ASTM A 352 CA6NM           | -73                | +427 | -99  | 800  |
|                         | ASTM B 148 C9 5500 (Al-Bz) | -196               | +315 | -320 | 600  |
|                         | MONEL                      | -196               | +481 | -320 | 896  |
|                         | HASTELLOY                  | -30                | +538 | -22  | 1000 |
| Stem - Pins             | INCONEL 600                | -30                | +650 | -22  | 1202 |
|                         | ASTM A 182 F316 N          | -196               | +315 | -320 | 600  |
|                         | ASTM A 182 F316 L          | -196               | +315 | -320 | 600  |
|                         | ASTM A 564 type 630        |                    | +315 | -50  | 600  |
|                         | NITRONIC 50                | -196               | +505 | -320 | 941  |
|                         | ASTM 453 Gr. 660           |                    | +593 | -22  | 1100 |
|                         | MONEL K 500                | -196               | +481 | -320 | 896  |
|                         | ASTM B148 C6 3000 (Al-Br)  | -196               | +315 | -320 | 600  |
|                         | INCONEL 600                | -30                | +650 | -22  | 1202 |
|                         | Lamellar seal ring         | SS / ARAMIDIC      | -45  | +538 | -50  |
| SS / CHEMOTERM          |                            | -196               | +538 | -320 | 1000 |
| MONEL / CHEMOTERM       |                            | -196               | +481 | -320 | 896  |
| CUPRO NIKEL / CHEMOTERM |                            | -196               | +315 | -320 | 600  |
| Packing                 | ARAMIDIC / TEFLON          | -45                | +240 | -50  | 464  |
|                         | ARAMIDIC / GRAPHITE        | -45                | +538 | -50  | 1000 |
|                         | GRAFOIL                    | -196               | +650 | -320 | 1202 |

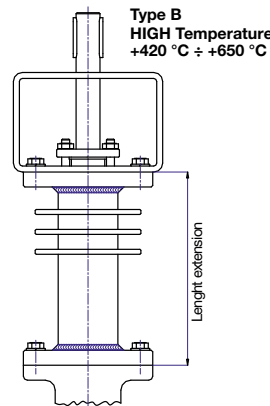
Stem extension



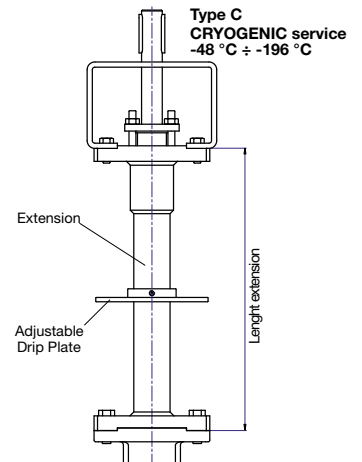
This standard configuration is used for temperature fields: -20 °C ÷ +250 °C



This configuration is provided for used valves at temperatures: +250 °C ÷ +420 °C.  
For valves DN80 ÷ DN200 dimension H= H standard +100 mm.  
For valves beyond the dimension DN200, H= H standard +150mm



This configuration is supplied for used valves at high temperature: +420 °C ÷ +650 °C.  
For valves DN80 ÷ DN300 the length of the extension is +150mm.  
For valves beyond DN300 the length of extension is +250mm.  
For such high temperature some lamellars are welded on the stem extension to disperse the heat (see above drawing).



This configuration is provided for valves used in cryogenic environment -48 °C ÷ -196 °C.  
The length of the extension is in according to BS6364 and MESCSPE77/200.

For the correct lengths of extensions, contact the technical department.



## Pressure -Temperature Ratings for Group 1.1 material ( A 216 gr. WCB ) - Standard Class

[ °C - bar ]

| Temperature (°C) | Working Pressure by Class (bar) |      |       |       |       |
|------------------|---------------------------------|------|-------|-------|-------|
|                  | 150                             | 300  | 600   | 900   | 1500  |
| -29 to 38        | 19,6                            | 51,1 | 102,1 | 153,2 | 255,3 |
| 50               | 19,2                            | 50,1 | 100,2 | 150,4 | 250,6 |
| 100              | 17,7                            | 46,6 | 93,2  | 139,8 | 233,0 |
| 150              | 15,8                            | 45,1 | 90,2  | 135,2 | 225,4 |
| 200              | 13,8                            | 43,8 | 87,6  | 131,4 | 219   |
| 250              | 12,1                            | 41,9 | 83,9  | 125,8 | 209,7 |
| 300              | 10,2                            | 39,8 | 79,6  | 119,5 | 199,1 |
| 325              | 9,3                             | 38,7 | 77,4  | 116,1 | 193,6 |
| 350              | 8,4                             | 37,6 | 75,1  | 112,7 | 187,8 |
| 375              | 7,4                             | 36,4 | 72,7  | 109,1 | 181,8 |
| 400              | 6,5                             | 34,7 | 69,4  | 104,2 | 173,6 |
| 425              | 5,5                             | 28,8 | 57,5  | 86,3  | 143,8 |
| 450              | 4,6                             | 23,0 | 46,0  | 69,0  | 115   |
| 475              | 3,7                             | 17,4 | 34,9  | 52,3  | 87,2  |
| 500              | 2,8                             | 11,8 | 23,5  | 35,3  | 58,8  |
| 538              | 1,4                             | 5,9  | 11,8  | 17,7  | 29,5  |

Important:

Upon prolonged exposure to temperatures above 425°C, the carbide phase of steel may be converted to graphite. Permissible, but not recommended for prolonged use above 425°C

Note:

The table shows the maximum pressure of use of the valve raising by the temperature, depending on the constructive class.  
The table is in compliance with ASME B16.34 (Table 2-1.1 ratings for group 1.1 materials).

[ °F - psi ]

| Temperature (°F) | Working Pressure by Class (psig) |     |      |      |      |
|------------------|----------------------------------|-----|------|------|------|
|                  | 150                              | 300 | 600  | 900  | 1500 |
| -20 to 100       | 285                              | 740 | 1480 | 2220 | 3705 |
| 200              | 260                              | 980 | 1360 | 2035 | 3395 |
| 300              | 230                              | 655 | 1310 | 1965 | 3270 |
| 400              | 200                              | 635 | 1265 | 1900 | 3170 |
| 500              | 170                              | 605 | 1205 | 1810 | 3015 |
| 600              | 140                              | 570 | 1135 | 1705 | 2840 |
| 650              | 125                              | 550 | 1100 | 1650 | 2745 |
| 700              | 110                              | 530 | 1060 | 1590 | 2665 |
| 750              | 95                               | 505 | 1015 | 1520 | 2535 |
| 800              | 80                               | 410 | 825  | 1235 | 2055 |
| 850              | 65                               | 320 | 640  | 955  | 1595 |
| 900              | 50                               | 230 | 460  | 690  | 1150 |
| 950              | 35                               | 135 | 275  | 410  | 685  |
| 1000             | 20                               | 85  | 170  | 2550 | 430  |

Important:

Upon prolonged exposure to temperatures above 800°F, the carbide phase of steel may be converted to graphite. Permissible, but not recommended for prolonged use above 800°F

## Pressure -Temperature Ratings for Group 2.2 material ( A 351 gr. CF8M ) - Standard Class

[ °C - bar ]

| Temperature (°C) | Working Pressure by Class (bar) |      |      |       |       |
|------------------|---------------------------------|------|------|-------|-------|
|                  | 150                             | 300  | 600  | 900   | 1500  |
| - 29 to 38       | 19,0                            | 49,6 | 99,3 | 148,9 | 248,2 |
| 50               | 18,4                            | 48,1 | 96,2 | 144,3 | 240,6 |
| 100              | 16,2                            | 42,2 | 84,4 | 126,6 | 211,0 |
| 150              | 14,8                            | 38,5 | 77,0 | 115,5 | 192,5 |
| 200              | 13,7                            | 35,7 | 71,3 | 107,0 | 178,3 |
| 250              | 12,1                            | 33,4 | 66,8 | 100,1 | 166,9 |
| 300              | 10,2                            | 31,6 | 63,2 | 94,9  | 158,1 |
| 325              | 9,3                             | 30,9 | 61,8 | 92,7  | 154,4 |
| 350              | 8,4                             | 30,3 | 60,7 | 91,0  | 151,6 |
| 375              | 7,4                             | 29,9 | 59,8 | 89,6  | 149,4 |
| 400              | 6,5                             | 29,4 | 58,9 | 88,3  | 147,2 |
| 425              | 5,5                             | 29,1 | 58,3 | 87,4  | 145,7 |
| 450              | 4,6                             | 28,8 | 57,7 | 86,5  | 144,2 |
| 475              | 3,7                             | 28,7 | 57,3 | 86,0  | 143,4 |
| 500              | 2,8                             | 28,2 | 56,5 | 84,7  | 140,9 |
| 538              | 1,4                             | 25,2 | 50,0 | 75,2  | 125,5 |
| 550              | 1,4                             | (a)  | 25,0 | 49,8  | 74,8  |
| 124,9            | 575                             | 1,4  | (a)  | 24,0  | 47,9  |
| 71,8             | 119,7                           | 600  | 1,4  | (a)   | 19,9  |
| 39,8             | 59,7                            | 99,5 | 625  | 1,4   | (a)   |
| 15,8             | 31,6                            | 47,4 | 79,1 | 650   | 1,4   |
| (a)              | 12,7                            | 25,3 | 38,0 | 63,3  | 675   |
| 1,4              | (a)                             | 10,3 | 20,6 | 31,0  | 51,6  |
| 700              | 1,4                             | (a)  | 8,4  | 16,8  | 25,1  |
| 41,9             | 725                             | 1,4  | (a)  | 7,0   | 14,0  |
| 21,0             | 34,9                            | 750  | 1,4  | (a)   | 5,9   |
| 11,7             | 17,6                            | 29,3 | 775  | 1,4   | (a)   |
| 4,6              | 9,0                             | 13,7 | 22,8 | 800   | 1,2   |
| (a)              | 3,5                             | 7,0  | 10,5 | 17,4  | 816   |
| 1,0              | (a)                             | 2,8  | 5,9  | 8,6   | 14,1  |

Important:

(a) Flanged end valve ratings terminate at 538 °C

At temperatures above 538°C, use only when the carbon content is 0,04% or higher.

Note:

The table shows the maximum pressure of use of the valve raising by the temperature, depending on the constructive class.  
The table is in compliance with ASME B16.34 (Table 2-2.2 ratings for group 2.2 materials).

[ °F - psi ]

| Temperature (°F) | Working Pressure by Class (psig) |     |      |      |      |
|------------------|----------------------------------|-----|------|------|------|
|                  | 150                              | 300 | 600  | 900  | 1500 |
| - 20 to 100      | 275                              | 720 | 1440 | 2160 | 3600 |
| 200              | 235                              | 620 | 1240 | 1860 | 3095 |
| 300              | 215                              | 560 | 1120 | 1680 | 2795 |
| 400              | 195                              | 515 | 1025 | 1540 | 2570 |
| 500              | 170                              | 480 | 955  | 1435 | 2390 |
| 600              | 140                              | 450 | 900  | 1355 | 2255 |
| 650              | 125                              | 440 | 885  | 1325 | 2210 |
| 700              | 110                              | 435 | 870  | 1305 | 2170 |
| 750              | 95                               | 425 | 855  | 1280 | 2135 |
| 800              | 80                               | 420 | 845  | 1265 | 2110 |
| 850              | 65                               | 420 | 835  | 1255 | 2090 |
| 900              | 50                               | 415 | 830  | 1245 | 2075 |
| 950              | 35                               | 385 | 775  | 1160 | 1930 |
| 1000             | 20                               | 365 | 725  | 1090 | 1820 |
| 1050             | 20                               | 360 | 720  | 1080 | 1800 |
| 1100             | 20                               | 305 | 610  | 915  | 1525 |
| 1150             | 20                               | 235 | 475  | 710  | 1185 |
| 1200             | 20                               | 185 | 370  | 555  | 925  |
| 1250             | 20                               | 145 | 295  | 440  | 735  |
| 1300             | 20                               | 115 | 235  | 350  | 585  |
| 1350             | 20                               | 95  | 190  | 290  | 480  |
| 1400             | 20                               | 75  | 150  | 225  | 380  |
| 1450             | 20                               | 60  | 115  | 175  | 290  |
| 1500             | 15                               | 40  | 85   | 125  | 205  |

Important:

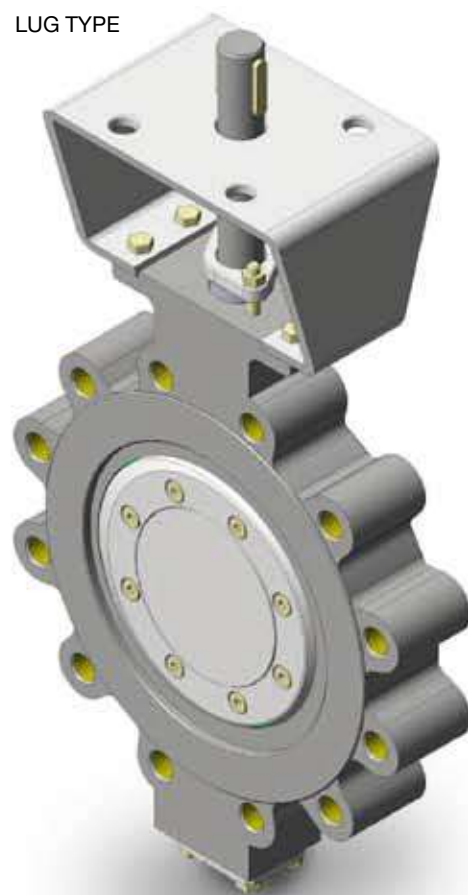
(a) Flanged end valve ratings terminate at 1000 °F

At temperatures above 1000°F, use only when the carbon content is 0,04% or higher.

WAFER TYPE



LUG TYPE



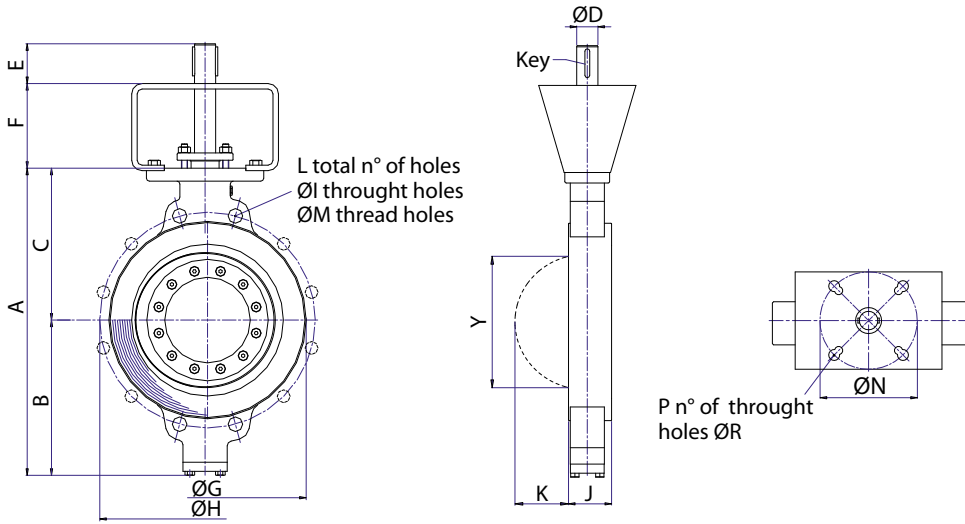
FLANGED TYPE



BUT-WELD TYPE



# Wafer type valve



Note:  
The stem and adaptor dimension are according to service and to valve working conditions.

## Overall dimensions

### WAFER TYPE - Class ANSI 150

| DN  | A    | B   | C   | ØD | Key (2x)  | E   | F   | ØG  | ANSI 150 ASME B16.5 |      |    |        | ISO 5211 |   |       |     | Kg  |     |     |
|-----|------|-----|-----|----|-----------|-----|-----|-----|---------------------|------|----|--------|----------|---|-------|-----|-----|-----|-----|
|     |      |     |     |    |           |     |     |     | ØH                  | ØI   | L  | M      | ØN       | P | ØR    | J   |     | K   | Y   |
| 65  | 252  | 125 | 127 | 18 | 6x6x40    | 45  | 100 | 105 | 139,7               | 19   | 4  | /      | 70-102   | 4 | 9-11  | 46  | 14  | 50  | 9,5 |
| 80  | 270  | 133 | 137 | 18 | 6x6x40    | 45  | 100 | 127 | 152,4               | 19   | 4  | /      | 70-102   | 4 | 9-11  | 48  | 16  | 57  | 15  |
| 100 | 313  | 156 | 157 | 20 | 6x6x40    | 60  | 100 | 157 | 190,5               | 19   | 8  | /      | 70-102   | 4 | 9-11  | 54  | 28  | 84  | 22  |
| 125 | 340  | 170 | 170 | 20 | 6x6x40    | 60  | 100 | 186 | 215,9               | 22,2 | 8  | /      | 70-102   | 4 | 9-11  | 57  | 38  | 108 | 25  |
| 150 | 374  | 188 | 186 | 24 | 8x7x40    | 60  | 100 | 216 | 241,3               | 22,2 | 8  | /      | 102-125  | 4 | 9-11  | 57  | 52  | 134 | 28  |
| 200 | 416  | 209 | 207 | 28 | 8x7x40    | 60  | 120 | 270 | 298,5               | 22,2 | 8  | /      | 125-140  | 4 | 13-17 | 64  | 71  | 179 | 35  |
| 250 | 502  | 255 | 247 | 30 | 8x7x40    | 60  | 120 | 325 | 362,0               | 25,4 | 12 | /      | 125-140  | 4 | 13-17 | 71  | 96  | 225 | 56  |
| 300 | 583  | 298 | 285 | 35 | 10x8x40   | 60  | 120 | 376 | 431,8               | 25,4 | 12 | /      | 125-140  | 4 | 13-17 | 81  | 113 | 274 | 80  |
| 350 | 677  | 344 | 333 | 40 | 12x8x50   | 70  | 150 | 414 | 476,3               | /    | 12 | 1"     | 140-165  | 4 | 17-21 | 92  | 138 | 316 | 92  |
| 400 | 762  | 382 | 380 | 45 | 14x9x63   | 80  | 150 | 470 | 539,8               | /    | 16 | 1"     | 140-165  | 4 | 17-21 | 102 | 156 | 363 | 130 |
| 450 | 837  | 426 | 411 | 50 | 14x9x63   | 80  | 150 | 532 | 577,9               | /    | 16 | 1.1/8" | 140-165  | 4 | 17-21 | 114 | 174 | 404 | 178 |
| 500 | 911  | 461 | 450 | 50 | 14x9x63   | 80  | 150 | 584 | 635,0               | /    | 20 | 1.1/8" | 254      | 8 | 17    | 127 | 198 | 460 | 225 |
| 600 | 1077 | 538 | 539 | 60 | 18x11x90  | 120 | 150 | 692 | 749,3               | /    | 20 | 1.1/4" | 254      | 8 | 17    | 154 | 228 | 538 | 356 |
| 700 | 1200 | 605 | 595 | 75 | 20x12x110 | 140 | 150 | 800 | 836,6               | /    | 28 | 1.1/4" | 254      | 8 | 21    | 229 | 238 | 614 | 626 |

### WAFER TYPE - Class ANSI 300

| DN  | A    | B   | C     | ØD | Key (2x) | E   | F   | ØG  | ANSI 300 ASME B16.5 |    |    |        | ISO 5211 |   |       |     | Kg  |     |     |
|-----|------|-----|-------|----|----------|-----|-----|-----|---------------------|----|----|--------|----------|---|-------|-----|-----|-----|-----|
|     |      |     |       |    |          |     |     |     | ØH                  | ØI | L  | M      | ØN       | P | ØR    | J   |     | K   | Y   |
| 80  | 279  | 142 | 137   | 18 | 6x6x40   | 45  | 100 | 127 | 168,3               | /  | 8  | 3/4"   | 70-102   | 4 | 9-11  | 48  | 16  | 57  | 15  |
| 100 | 317  | 160 | 157   | 20 | 6x6x50   | 60  | 100 | 157 | 200                 | /  | 8  | 3/4"   | 70-102   | 4 | 9-11  | 54  | 28  | 84  | 24  |
| 125 | 350  | 175 | 175   | 24 | 8x7x50   | 60  | 100 | 186 | 234,9               | /  | 8  | 3/4"   | 102-125  | 4 | 11-13 | 59  | 38  | 108 | 30  |
| 150 | 382  | 192 | 190,6 | 28 | 8x7x50   | 60  | 100 | 216 | 269,9               | /  | 12 | 3/4"   | 102-125  | 4 | 11-13 | 59  | 50  | 132 | 32  |
| 200 | 457  | 232 | 225   | 30 | 8x7x50   | 60  | 120 | 270 | 330,2               | /  | 12 | 7/8"   | 125-140  | 4 | 13-17 | 73  | 68  | 174 | 50  |
| 250 | 513  | 265 | 248   | 35 | 10x8x50  | 60  | 120 | 324 | 387,3               | /  | 16 | 1"     | 125-140  | 4 | 13-17 | 83  | 92  | 224 | 82  |
| 300 | 600  | 310 | 290   | 45 | 14x9x50  | 60  | 150 | 381 | 450,8               | /  | 16 | 1.1/8" | 125-140  | 4 | 13-17 | 92  | 112 | 272 | 98  |
| 350 | 688  | 348 | 340   | 50 | 14x9x63  | 70  | 150 | 413 | 514,3               | /  | 20 | 1.1/8" | 140-165  | 4 | 17-21 | 117 | 122 | 305 | 125 |
| 400 | 763  | 388 | 375   | 60 | 18x11x70 | 80  | 150 | 470 | 571,5               | /  | 20 | 1.1/4" | 140-165  | 4 | 17-21 | 133 | 142 | 346 | 210 |
| 450 | 830  | 430 | 400   | 65 | 18x11x70 | 80  | 150 | 533 | 628,6               | /  | 24 | 1.1/4" | 140-165  | 4 | 17-21 | 149 | 161 | 388 | 275 |
| 500 | 926  | 468 | 458   | 70 | 20x12x70 | 80  | 150 | 584 | 685,8               | /  | 24 | 1.1/4" | 254      | 8 | 21    | 159 | 181 | 448 | 322 |
| 600 | 1062 | 552 | 510   | 80 | 22x14x90 | 120 | 150 | 692 | 812,8               | /  | 24 | 1.1/2" | 254      | 8 | 21    | 181 | 212 | 519 | 524 |

### WAFER TYPE - Class ANSI 600

| DN  | A    | B   | C   | ØD  | Key (2x)  | E   | F   | ØG  | ANSI 600 ASME B16.5 |    |    |        | ISO 5211 |     |       |     | Kg  |     |     |
|-----|------|-----|-----|-----|-----------|-----|-----|-----|---------------------|----|----|--------|----------|-----|-------|-----|-----|-----|-----|
|     |      |     |     |     |           |     |     |     | ØH                  | ØI | L  | M      | ØN       | P   | ØR    | J   |     | K   | Y   |
| 80  | 289  | 152 | 137 | 20  | 6x6x40    | 50  | 100 | 127 | 168,3               | /  | 8  | 3/4"   | F10-F12  | 4   | 9-11  | 54  | 14  | 58  | 25  |
| 100 | 345  | 188 | 157 | 30  | 8x7x40    | 50  | 100 | 157 | 215,9               | /  | 8  | 7/8"   | F12-F14  | 4   | 9-11  | 64  | 22  | 77  | 30  |
| 125 | 390  | 215 | 175 | 35  | 10x8x50   | 60  | 100 | 186 | 266,7               | /  | 8  | 1"     | F14-F16  | 4   | 11-13 | 78  | 36  | 103 | 46  |
| 150 | 477  | 244 | 233 | 40  | 12x8x63   | 70  | 100 | 216 | 292,1               | /  | 12 | 1"     | F14-F16  | 4   | 11-13 | 78  | 40  | 122 | 63  |
| 200 | 515  | 290 | 225 | 45  | 14x9x70   | 90  | 120 | 270 | 349,2               | /  | 12 | 1.1/8" | F14-F16  | 4   | 13-17 | 102 | 53  | 165 | 108 |
| 250 | 659  | 324 | 335 | 50  | 14x9x80   | 100 | 120 | 324 | 431,8               | /  | 16 | 1.1/4" | F16-F25  | 4-8 | 13-17 | 117 | 76  | 210 | 175 |
| 300 | 714  | 350 | 364 | 60  | 18x11x90  | 110 | 150 | 381 | 489                 | /  | 20 | 1.1/4" | F25-F30  | 8   | 13-17 | 140 | 88  | 258 | 221 |
| 350 | 785  | 395 | 390 | 70  | 20x12x100 | 120 | 150 | 413 | 527                 | /  | 20 | 1.3/8" | F25-F30  | 8   | 17-21 | 155 | 103 | 294 | 265 |
| 400 | 890  | 450 | 440 | 75  | 20x12x120 | 140 | 150 | 470 | 603,2               | /  | 20 | 1.1/2" | F30-F35  | 8   | 17-21 | 178 | 127 | 346 | 342 |
| 450 | 977  | 492 | 485 | 90  | 25x14x125 | 160 | 150 | 533 | 654                 | /  | 20 | 1.5/8" | F30-F35  | 8   | 17-21 | 200 | 135 | 382 | 435 |
| 500 | 1052 | 524 | 528 | 95  | 25x14x130 | 180 | 150 | 584 | 723,9               | /  | 24 | 1.5/8" | F35-F40  | 8   | 17-21 | 216 | 145 | 418 | 532 |
| 600 | 1295 | 665 | 630 | 120 | 32x18x180 | 200 | 150 | 692 | 838,2               | /  | 24 | 1.7/8" | F35-F40  | 8   | 17-21 | 232 | 228 | 538 | 940 |

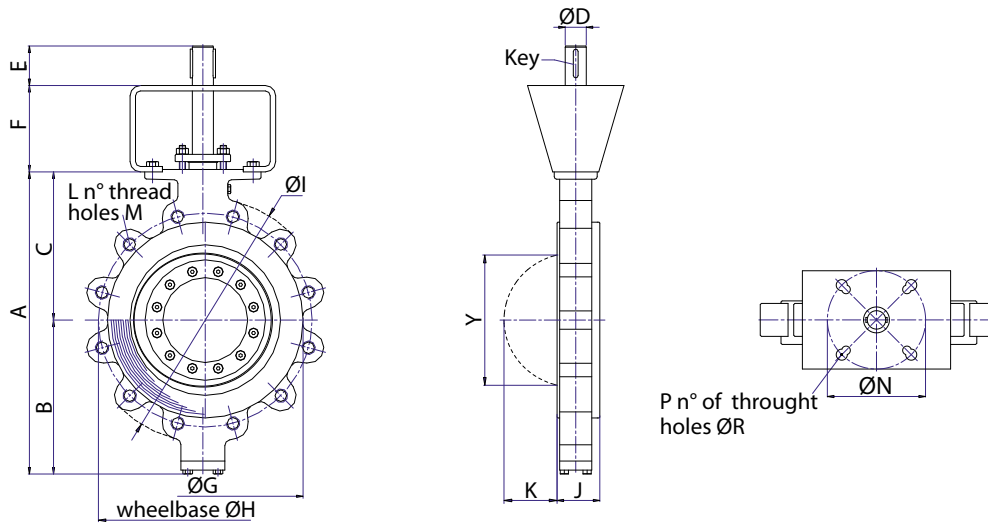
Note:

- Dimensions "J" complying with API 609 Tab 2
- Dimensions "øH, øI, L, M" complying with ASME B16.5 flanged ANSI150 and ANSI300

- "M" thread is in accordance to UNC thread ANSI B1.1, >1" use 8-UN thread pitch
- Only on request is possible to have METRIC thread (as shown in the table)
- Pressure/temperature class complying with ASME B16.34

All data in this sheet can be modified without prior notice. For dimensions of valves majors of DN600, contact our Technical Department

## Lug type valve



Note:  
The stem and adaptor dimension are according to service and to valve working conditions.

## Overall dimensions

### LUG TYPE - Class ANSI 150

| DN  | A    | B   | C   | ØD | Key (2x)  | E   | F   | ØG  | ANSI 150 ASME B16.5 |     |    |        | ISO 5211 |   |       |     | Kg  |     |     |
|-----|------|-----|-----|----|-----------|-----|-----|-----|---------------------|-----|----|--------|----------|---|-------|-----|-----|-----|-----|
|     |      |     |     |    |           |     |     |     | ØH                  | ØI  | L  | M      | ØN       | P | ØR    | J   |     | K   | Y   |
| 65  | 252  | 125 | 127 | 18 | 6x6x40    | 45  | 100 | 105 | 139,7               | 184 | 4  | 5/8"   | 70-102   | 4 | 9-11  | 46  | 14  | 50  | 11  |
| 80  | 270  | 133 | 137 | 18 | 6x6x40    | 45  | 100 | 127 | 152,4               | 190 | 4  | 5/8"   | 70-102   | 4 | 9-11  | 48  | 16  | 57  | 18  |
| 100 | 313  | 156 | 157 | 20 | 6x6x40    | 60  | 100 | 157 | 190,5               | 230 | 8  | 5/8"   | 70-102   | 4 | 9-11  | 54  | 28  | 84  | 24  |
| 125 | 340  | 170 | 170 | 20 | 6x6x40    | 60  | 100 | 186 | 215,9               | 255 | 8  | 3/4"   | 70-102   | 4 | 9-11  | 57  | 38  | 108 | 28  |
| 150 | 374  | 188 | 186 | 24 | 8x7x40    | 60  | 100 | 216 | 241,3               | 280 | 8  | 3/4"   | 102-125  | 4 | 9-11  | 57  | 52  | 134 | 30  |
| 200 | 416  | 209 | 207 | 28 | 8x7x40    | 60  | 120 | 270 | 298,5               | 345 | 8  | 3/4"   | 125-140  | 4 | 13-17 | 64  | 71  | 179 | 40  |
| 250 | 502  | 255 | 247 | 30 | 8x7x40    | 60  | 120 | 325 | 362,0               | 405 | 12 | 7/8"   | 125-140  | 4 | 13-17 | 71  | 96  | 225 | 65  |
| 300 | 583  | 298 | 285 | 35 | 10x8x40   | 60  | 120 | 376 | 431,8               | 485 | 12 | 7/8"   | 125-140  | 4 | 13-17 | 81  | 113 | 274 | 96  |
| 350 | 677  | 344 | 333 | 40 | 12x8x50   | 70  | 150 | 414 | 476,3               | 535 | 12 | 1"     | 140-165  | 4 | 17-21 | 92  | 138 | 316 | 106 |
| 400 | 762  | 382 | 380 | 45 | 14x9x63   | 80  | 150 | 470 | 539,8               | 595 | 16 | 1"     | 140-165  | 4 | 17-21 | 102 | 156 | 363 | 160 |
| 450 | 837  | 426 | 411 | 50 | 14x9x63   | 80  | 150 | 532 | 577,9               | 635 | 16 | 1.1/8" | 140-165  | 4 | 17-21 | 114 | 174 | 404 | 205 |
| 500 | 911  | 461 | 450 | 50 | 14x9x63   | 80  | 150 | 584 | 635,0               | 700 | 20 | 1.1/8" | 254      | 8 | 17    | 127 | 198 | 460 | 268 |
| 600 | 1077 | 538 | 539 | 60 | 18x11x90  | 120 | 150 | 692 | 749,3               | 815 | 20 | 1.1/4" | 254      | 8 | 17    | 154 | 228 | 538 | 412 |
| 700 | 1200 | 605 | 595 | 75 | 20x12x110 | 140 | 150 | 800 | 836,6               | 925 | 28 | 1.1/4" | 298      | 8 | 21    | 229 | 238 | 614 | 728 |

### LUG TYPE - Class ANSI 300

| DN  | A    | B   | C     | ØD | Key (2x) | E   | F   | ØG  | ANSI 300 ASME B16.5 |     |    |        | ISO 5211 |   |       |     | Kg  |     |     |
|-----|------|-----|-------|----|----------|-----|-----|-----|---------------------|-----|----|--------|----------|---|-------|-----|-----|-----|-----|
|     |      |     |       |    |          |     |     |     | ØH                  | ØI  | L  | M      | ØN       | P | ØR    | J   |     | K   | Y   |
| 80  | 279  | 142 | 137   | 18 | 6x6x40   | 45  | 100 | 127 | 168,3               | 210 | 8  | 3/4"   | 70-102   | 4 | 9-11  | 48  | 16  | 57  | 19  |
| 100 | 317  | 160 | 157   | 20 | 6x6x50   | 60  | 100 | 157 | 200                 | 254 | 8  | 3/4"   | 70-102   | 4 | 9-11  | 54  | 28  | 84  | 25  |
| 125 | 350  | 175 | 175   | 24 | 8x7x50   | 60  | 100 | 186 | 234,9               | 280 | 8  | 3/4"   | 102-125  | 4 | 11-13 | 59  | 38  | 108 | 36  |
| 150 | 382  | 192 | 190,6 | 28 | 8x7x50   | 60  | 100 | 216 | 269,9               | 317 | 12 | 3/4"   | 102-125  | 4 | 11-13 | 59  | 50  | 132 | 40  |
| 200 | 457  | 232 | 225   | 30 | 8x7x50   | 60  | 120 | 270 | 330,2               | 381 | 12 | 7/8"   | 125-140  | 4 | 13-17 | 73  | 68  | 174 | 68  |
| 250 | 513  | 265 | 248   | 35 | 10x8x50  | 60  | 120 | 324 | 387,3               | 444 | 16 | 1"     | 125-140  | 4 | 13-17 | 83  | 92  | 224 | 114 |
| 300 | 600  | 310 | 290   | 45 | 14x9x50  | 60  | 150 | 381 | 450,8               | 521 | 16 | 1.1/8" | 125-140  | 4 | 13-17 | 92  | 112 | 272 | 125 |
| 350 | 688  | 348 | 340   | 50 | 14x9x63  | 70  | 150 | 413 | 514,3               | 584 | 20 | 1.1/8" | 140-165  | 4 | 17-21 | 117 | 122 | 305 | 210 |
| 400 | 763  | 388 | 375   | 60 | 18x11x70 | 80  | 150 | 470 | 571,5               | 648 | 20 | 1.1/4" | 140-165  | 4 | 17-21 | 133 | 142 | 346 | 316 |
| 450 | 830  | 430 | 400   | 65 | 18x11x70 | 80  | 150 | 533 | 628,6               | 710 | 24 | 1.1/4" | 140-165  | 4 | 17-21 | 149 | 161 | 388 | 420 |
| 500 | 926  | 468 | 458   | 70 | 20x12x70 | 80  | 150 | 584 | 685,8               | 775 | 24 | 1.1/4" | 254      | 8 | 21    | 159 | 181 | 448 | 502 |
| 600 | 1062 | 552 | 510   | 80 | 22x14x90 | 120 | 150 | 692 | 812,8               | 914 | 24 | 1.1/2" | 254      | 8 | 21    | 181 | 212 | 519 | 795 |

### LUG TYPE - Class ANSI 600

| DN  | A    | B   | C   | ØD  | Key (2x)  | E   | F   | ØG  | ANSI 600 ASME B16.5 |     |    |        | ISO 5211 |     |       |     | Kg  |     |     |
|-----|------|-----|-----|-----|-----------|-----|-----|-----|---------------------|-----|----|--------|----------|-----|-------|-----|-----|-----|-----|
|     |      |     |     |     |           |     |     |     | ØH                  | ØI  | L  | M      | ØN       | P   | ØR    | J   |     | K   | Y   |
| 80  | 289  | 152 | 137 | 20  | 6x6x40    | 50  | 100 | 127 | 168,3               | 210 | 8  | 3/4"   | F10-F12  | 4   | 9-11  | 54  | 14  | 58  | 28  |
| 100 | 345  | 188 | 157 | 30  | 8x7x40    | 50  | 100 | 157 | 215,9               | 275 | 8  | 7/8"   | F12-F14  | 4   | 9-11  | 64  | 22  | 77  | 32  |
| 125 | 390  | 215 | 175 | 35  | 10x8x50   | 60  | 100 | 186 | 266,7               | 330 | 8  | 1"     | F14-F16  | 4   | 11-13 | 78  | 36  | 103 | 53  |
| 150 | 477  | 244 | 233 | 40  | 12x8x63   | 70  | 100 | 216 | 292,1               | 355 | 12 | 1"     | F14-F16  | 4   | 11-13 | 78  | 40  | 122 | 74  |
| 200 | 515  | 290 | 225 | 45  | 14x9x70   | 90  | 120 | 270 | 349,2               | 420 | 12 | 1.1/8" | F14-F16  | 4   | 13-17 | 102 | 53  | 165 | 114 |
| 250 | 659  | 324 | 335 | 50  | 14x9x80   | 100 | 120 | 324 | 431,8               | 510 | 16 | 1.1/4" | F16-F25  | 4-8 | 13-17 | 117 | 76  | 210 | 182 |
| 300 | 714  | 350 | 364 | 60  | 18x11x90  | 110 | 150 | 381 | 489                 | 560 | 20 | 1.1/4" | F25-F30  | 8   | 13-17 | 140 | 88  | 258 | 264 |
| 350 | 785  | 395 | 390 | 70  | 20x12x100 | 120 | 150 | 413 | 527                 | 605 | 20 | 1.3/8" | F25-F30  | 8   | 17-21 | 155 | 103 | 294 | 320 |
| 400 | 890  | 450 | 440 | 75  | 20x12x120 | 140 | 150 | 470 | 603,2               | 685 | 20 | 1.1/2" | F30-F35  | 8   | 17-21 | 178 | 127 | 346 | 410 |
| 450 | 977  | 492 | 485 | 90  | 25x14x125 | 160 | 150 | 533 | 654                 | 745 | 20 | 1.5/8" | F30-F35  | 8   | 17-21 | 200 | 135 | 382 | 615 |
| 500 | 1052 | 524 | 528 | 95  | 25x14x130 | 180 | 150 | 584 | 723,9               | 815 | 24 | 1.5/8" | F35-F40  | 8   | 17-21 | 216 | 145 | 418 | 748 |
| 600 | 1295 | 665 | 630 | 120 | 32x18x180 | 200 | 150 | 692 | 838,2               | 940 | 24 | 1.7/8" | F35-F40  | 8   | 17-21 | 232 | 228 | 538 | 995 |

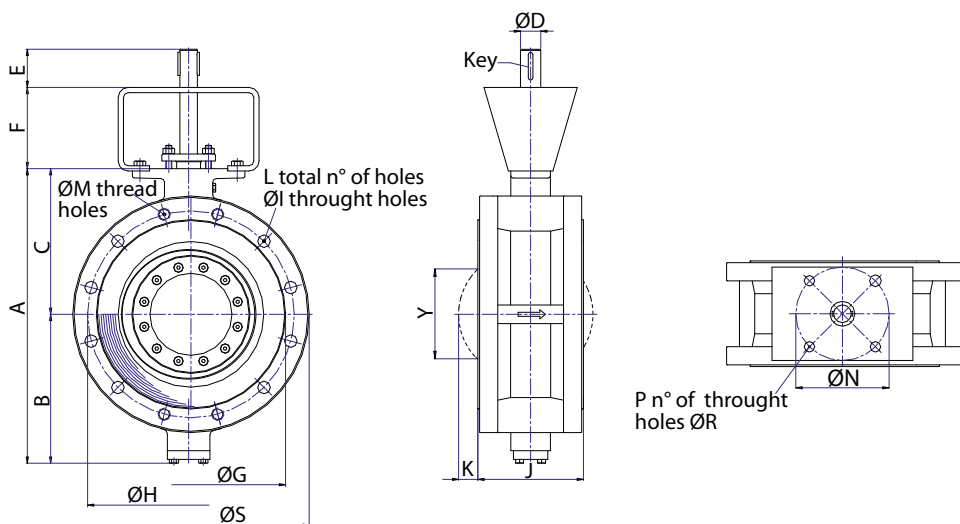
Note:

- Dimensions "J" complying with API 609 Tab 2
- Dimensions "øH, øI, L, M" complying with ASME B16.5 flanged ANSI150 and ANSI300

- "M" thread is in accordance to UNC thread ANSI B1.1, >1" use 8-UN thread pitch
- Only on request is possible to have METRIC thread (as shown in the table)
- Pressure/temperature class complying with ASME B16.34

All data in this sheet can be modified without prior notice. For dimensions of valves majors of DN600, contact our Technical Department

## Flanged type valve



Note:  
The stem and adaptor dimension are according to service and to valve working conditions.

## Overall dimensions

### FLANGED TYPE - Class ANSI 150

| DN  | A    | B   | C   | ØD | Key (2x) | E   | F   | ØG  | ØH    | ØI   | L  | M      | ISO 5211 |   |       | ØS  | J   | K   | Y   | Kg  |
|-----|------|-----|-----|----|----------|-----|-----|-----|-------|------|----|--------|----------|---|-------|-----|-----|-----|-----|-----|
|     |      |     |     |    |          |     |     |     |       |      |    |        | ØN       | P | ØR    |     |     |     |     |     |
| 80  | 270  | 133 | 137 | 18 | 6x6x40   | 45  | 100 | 127 | 152,4 | 19   | 4  | /      | 70-102   | 4 | 9-11  | 190 | 114 | -   | -   | 19  |
| 100 | 313  | 156 | 157 | 20 | 6x6x40   | 60  | 100 | 157 | 190,5 | 19   | 8  | 5/8"   | 70-102   | 4 | 9-11  | 230 | 127 | -   | -   | 32  |
| 125 | 340  | 170 | 170 | 20 | 6x6x40   | 60  | 100 | 186 | 215,9 | 22,2 | 8  | 3/4"   | 70-102   | 4 | 9-11  | 255 | 140 | -   | -   | 34  |
| 150 | 374  | 188 | 186 | 24 | 8x7x40   | 60  | 100 | 216 | 241,3 | 22,2 | 8  | 3/4"   | 102-125  | 4 | 9-11  | 280 | 140 | -   | -   | 40  |
| 200 | 416  | 209 | 207 | 28 | 8x7x40   | 60  | 120 | 270 | 298,5 | 22,2 | 8  | 3/4"   | 125-140  | 4 | 13-17 | 345 | 152 | 18  | 103 | 55  |
| 250 | 502  | 255 | 247 | 30 | 8x7x40   | 60  | 120 | 325 | 362,0 | 25,4 | 12 | 7/8"   | 125-140  | 4 | 13-17 | 405 | 165 | 31  | 158 | 88  |
| 300 | 583  | 298 | 285 | 35 | 10x8x40  | 60  | 120 | 376 | 431,8 | 25,4 | 12 | 7/8"   | 125-140  | 4 | 13-17 | 485 | 178 | 50  | 214 | 130 |
| 350 | 677  | 344 | 333 | 40 | 12x8x50  | 70  | 150 | 414 | 476,3 | 28,6 | 12 | 1"     | 140-165  | 4 | 17-21 | 535 | 190 | 61  | 248 | 156 |
| 400 | 762  | 382 | 380 | 45 | 14x9x63  | 80  | 150 | 470 | 539,8 | 28,6 | 16 | 1"     | 140-165  | 4 | 17-21 | 595 | 216 | 72  | 282 | 202 |
| 450 | 837  | 426 | 411 | 50 | 14x9x63  | 80  | 150 | 532 | 577,9 | 31,7 | 16 | 1.1/8" | 140-165  | 4 | 17-21 | 635 | 222 | 95  | 344 | 265 |
| 500 | 911  | 461 | 450 | 50 | 14x9x63  | 80  | 150 | 584 | 635,0 | 31,7 | 20 | 1.1/8" | 254      | 8 | 17    | 700 | 229 | 113 | 396 | 298 |
| 600 | 1077 | 538 | 539 | 60 | 18x11x90 | 120 | 150 | 692 | 749,3 | 34,9 | 20 | 1.1/4" | 254      | 8 | 17    | 815 | 267 | 141 | 476 | 484 |

### FLANGED TYPE - Class ANSI 300

| DN  | A    | B   | C   | ØD | Key (2x) | E   | F   | ØG  | ØH    | ØI   | L  | M      | ISO 5211 |   |       | ØS  | J   | K   | Y   | Kg  |
|-----|------|-----|-----|----|----------|-----|-----|-----|-------|------|----|--------|----------|---|-------|-----|-----|-----|-----|-----|
|     |      |     |     |    |          |     |     |     |       |      |    |        | ØN       | P | ØR    |     |     |     |     |     |
| 80  | 279  | 142 | 137 | 18 | 6x6x40   | 45  | 100 | 127 | 168,3 | 22,2 | 8  | 3/4"   | 70-102   | 4 | 9-11  | 210 | 114 | -   | -   | 26  |
| 100 | 317  | 160 | 157 | 20 | 6x6x50   | 60  | 100 | 157 | 200   | 22,2 | 8  | 3/4"   | 70-102   | 4 | 9-11  | 254 | 127 | -   | -   | 36  |
| 125 | 350  | 175 | 175 | 24 | 8x7x50   | 60  | 100 | 186 | 234,9 | 22,2 | 8  | 3/4"   | 102-125  | 4 | 11-13 | 280 | 140 | -   | -   | 48  |
| 150 | 382  | 192 | 190 | 28 | 8x7x50   | 60  | 100 | 216 | 269,9 | 22,2 | 12 | 3/4"   | 102-125  | 4 | 11-13 | 317 | 140 | -   | -   | 53  |
| 200 | 457  | 232 | 225 | 30 | 8x7x50   | 60  | 120 | 270 | 330,2 | 25,4 | 12 | 7/8"   | 125-140  | 4 | 13-17 | 380 | 152 | 18  | 103 | 95  |
| 250 | 513  | 265 | 248 | 35 | 10x8x50  | 60  | 120 | 325 | 387,3 | 28,6 | 16 | 1"     | 125-140  | 4 | 13-17 | 444 | 165 | 31  | 158 | 155 |
| 300 | 600  | 310 | 290 | 45 | 14x9x50  | 60  | 120 | 376 | 450,8 | 31,7 | 16 | 1.1/8" | 125-140  | 4 | 13-17 | 520 | 178 | 50  | 214 | 254 |
| 350 | 688  | 348 | 340 | 50 | 14x8x63  | 70  | 150 | 414 | 514,3 | 31,7 | 20 | 1.1/8" | 140-165  | 4 | 17-21 | 584 | 190 | 61  | 248 | 312 |
| 400 | 763  | 388 | 375 | 60 | 18x11x70 | 80  | 150 | 470 | 571,5 | 34,9 | 20 | 1.1/4" | 140-165  | 4 | 17-21 | 648 | 216 | 72  | 282 | 380 |
| 450 | 830  | 430 | 400 | 65 | 18x11x70 | 80  | 150 | 532 | 628,6 | 34,9 | 24 | 1.1/4" | 140-165  | 4 | 17-21 | 710 | 222 | 95  | 344 | 550 |
| 500 | 926  | 468 | 458 | 70 | 20x12x70 | 80  | 150 | 584 | 685,8 | 34,9 | 24 | 1.1/4" | 254      | 8 | 21    | 775 | 229 | 113 | 396 | 598 |
| 600 | 1062 | 552 | 510 | 80 | 22x14x90 | 120 | 150 | 692 | 812,8 | 41,3 | 24 | 1.1/2" | 254      | 8 | 21    | 914 | 267 | 141 | 476 | 902 |

### FLANGED TYPE - Class ANSI 600

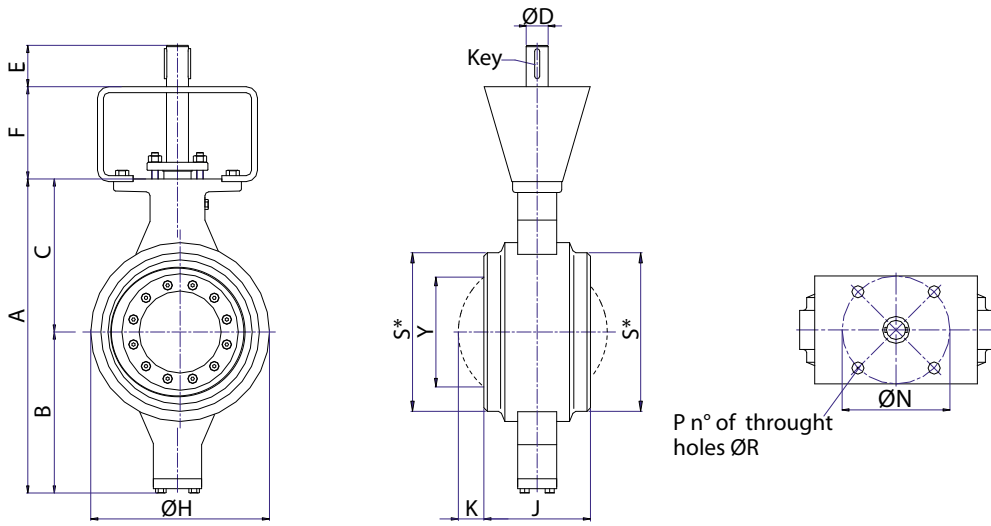
| DN  | A    | B   | C   | ØD  | Key (2x)  | E   | F   | ØG  | ØH    | ØI  | L  | M      | ISO 5211 |     |       | J   | K   | Y   | Kg   |
|-----|------|-----|-----|-----|-----------|-----|-----|-----|-------|-----|----|--------|----------|-----|-------|-----|-----|-----|------|
|     |      |     |     |     |           |     |     |     |       |     |    |        | ØN       | P   | ØR    |     |     |     |      |
| 80  | 289  | 152 | 137 | 20  | 6x6x40    | 50  | 100 | 127 | 168,3 | 210 | 8  | 3/4"   | F10-F12  | 4   | 9-11  | 180 | -   | -   | 36   |
| 100 | 345  | 188 | 157 | 30  | 8x7x40    | 50  | 100 | 157 | 215,9 | 275 | 8  | 7/8"   | F12-F14  | 4   | 9-11  | 190 | -   | -   | 63   |
| 125 | 390  | 215 | 175 | 35  | 10x8x50   | 60  | 100 | 186 | 266,7 | 330 | 8  | 1"     | F14-F16  | 4   | 11-13 | 200 | -   | -   | 90   |
| 150 | 477  | 244 | 233 | 40  | 12x8x63   | 70  | 100 | 216 | 292,1 | 355 | 12 | 1"     | F14-F16  | 4   | 11-13 | 210 | -   | -   | 115  |
| 200 | 515  | 290 | 225 | 45  | 14x9x70   | 90  | 120 | 270 | 349,2 | 420 | 12 | 1.1/8" | F14-F16  | 4   | 13-17 | 230 | 53  | 165 | 190  |
| 250 | 659  | 324 | 335 | 50  | 14x9x80   | 100 | 120 | 324 | 431,8 | 510 | 16 | 1.1/4" | F16-F25  | 4-8 | 13-17 | 250 | 76  | 210 | 320  |
| 300 | 714  | 350 | 364 | 60  | 18x11x90  | 110 | 150 | 381 | 489   | 560 | 20 | 1.1/4" | F25-F30  | 8   | 13-17 | 270 | 88  | 258 | 392  |
| 350 | 785  | 395 | 390 | 70  | 20x12x100 | 120 | 150 | 413 | 527   | 605 | 20 | 1.3/8" | F25-F30  | 8   | 17-21 | 290 | 103 | 294 | 493  |
| 400 | 890  | 450 | 440 | 75  | 20x12x120 | 140 | 150 | 470 | 603,2 | 685 | 20 | 1.1/2" | F30-F35  | 8   | 17-21 | 310 | 127 | 346 | 630  |
| 450 | 977  | 492 | 485 | 90  | 25x14x125 | 160 | 150 | 533 | 654   | 745 | 20 | 1.5/8" | F30-F35  | 8   | 17-21 | 330 | 135 | 382 | 765  |
| 500 | 1052 | 524 | 528 | 95  | 25x14x130 | 180 | 150 | 584 | 723,9 | 815 | 24 | 1.5/8" | F35-F40  | 8   | 17-21 | 350 | 145 | 418 | 995  |
| 600 | 1295 | 665 | 630 | 120 | 32x18x180 | 200 | 150 | 692 | 838,2 | 940 | 24 | 1.7/8" | F35-F40  | 8   | 17-21 | 390 | 228 | 538 | 1440 |

Note:

- Dimensions "J" complying with API 609 Tab 3, FTF Double Flanged Short Pattern class A150-300
- Dimensions "øH, øI, L, M" complying with ASME B16.5 flanged ANSI150 and ANSI300
- "M" thread is in accordance to UNC thread ANSI B1.1, >1" use 8-UN thread pitch
- Only on request is possible to have METRIC thread (as shown in the table)
- Pressure/temperature class complying with ASME B16.34

All data in this sheet can be modified without prior notice. For dimensions of valves majors of DN600, contact our Technical Department

Butt-Weld type valve



Note:  
The stem and adaptor dimension are according to service and to valve working conditions.

Overall dimensions

**BUTT-WELD TYPE - Class ANSI 150**

| DN  | A    | B   | C   | ØD | Key (2x) | E   | F   | ØH  | ØS*                                    | ISO 5211 |   |       |     |    |     |     |
|-----|------|-----|-----|----|----------|-----|-----|-----|--|----------|---|-------|-----|----|-----|-----|
|     |      |     |     |    |          |     |     |     |  | ØN       | P | ØR    | J   | K  | Y   | Kg  |
| 80  | 270  | 133 | 137 | 18 | 6x6x40   | 45  | 100 | 120 | Dimensions complying with ASME B 36.10 | 70-102   | 4 | 9-11  | 180 | -  | -   | 15  |
| 100 | 313  | 156 | 157 | 20 | 6x6x40   | 60  | 100 | 148 |  | 70-102   | 4 | 9-11  | 190 | -  | -   | 22  |
| 125 | 340  | 170 | 170 | 20 | 6x6x40   | 60  | 100 | 176 |  | 70-102   | 4 | 9-11  | 200 | -  | -   | 25  |
| 150 | 374  | 188 | 186 | 24 | 8x7x40   | 60  | 100 | 206 |  | 102-125  | 4 | 9-11  | 210 | -  | -   | 32  |
| 200 | 416  | 209 | 207 | 28 | 8x7x40   | 60  | 120 | 362 |  | 125-140  | 4 | 13-17 | 260 | -  | -   | 42  |
| 250 | 502  | 255 | 247 | 30 | 8x7x40   | 60  | 120 | 312 |  | 125-140  | 4 | 13-17 | 250 | -  | -   | 56  |
| 300 | 583  | 298 | 285 | 35 | 10x8x40  | 60  | 120 | 366 |  | 125-140  | 4 | 13-17 | 270 | 6  | 77  | 90  |
| 350 | 677  | 344 | 333 | 40 | 12x8x50  | 70  | 150 | 398 |  | 140-165  | 4 | 17-21 | 290 | 11 | 116 | 102 |
| 400 | 762  | 382 | 380 | 45 | 14x9x63  | 80  | 150 | 458 |  | 140-165  | 4 | 17-21 | 310 | 25 | 178 | 138 |
| 450 | 837  | 426 | 411 | 50 | 14x9x63  | 80  | 150 | 520 |  | 140-165  | 4 | 17-21 | 330 | 42 | 244 | 188 |
| 500 | 911  | 461 | 450 | 50 | 14x9x63  | 80  | 150 | 568 |  | 254      | 8 | 17    | 350 | 54 | 293 | 212 |
| 600 | 1077 | 538 | 539 | 60 | 18x11x90 | 120 | 150 | 675 |  | 254      | 8 | 17    | 390 | 80 | 385 | 365 |

**BUTT-WELD TYPE - Class ANSI 300**

| DN  | A    | B   | C   | ØD | Key (2x) | E   | F   | ØH  | ØS*                                    | ISO 5211 |   |      |     |    |     |     |
|-----|------|-----|-----|----|----------|-----|-----|-----|--|----------|---|------|-----|----|-----|-----|
|     |      |     |     |    |          |     |     |     |  | ØN       | P | ØR   | J   | K  | Y   | Kg  |
| 80  | 279  | 142 | 137 | 18 | 6x6x40   | 45  | 100 | 120 | Dimensions complying with ASME B 36.10 | 70-102   | 4 | 9-11 | 180 | -  | -   | 15  |
| 100 | 317  | 160 | 157 | 20 | 6x6x50   | 60  | 100 | 148 |  | 70-102   | 4 | 9-11 | 190 | -  | -   | 22  |
| 125 | 350  | 175 | 175 | 24 | 8x7x50   | 60  | 100 | 176 |  | 102      | 4 | 11   | 200 | -  | -   | 31  |
| 150 | 382  | 192 | 190 | 28 | 8x7x50   | 60  | 100 | 206 |  | 102      | 4 | 11   | 210 | -  | -   | 35  |
| 200 | 457  | 232 | 225 | 30 | 8x7x50   | 60  | 120 | 362 |  | 140      | 4 | 17   | 230 | -  | -   | 64  |
| 250 | 513  | 265 | 248 | 35 | 10x8x50  | 60  | 120 | 312 |  | 140      | 4 | 17   | 250 | -  | -   | 101 |
| 300 | 600  | 310 | 290 | 45 | 14x9x50  | 60  | 120 | 366 |  | 140      | 4 | 17   | 270 | 6  | 77  | 115 |
| 350 | 688  | 348 | 340 | 50 | 14x9x63  | 70  | 150 | 398 |  | 165      | 4 | 21   | 290 | 11 | 116 | 164 |
| 400 | 763  | 388 | 375 | 60 | 18x11x70 | 80  | 150 | 458 |  | 165      | 4 | 21   | 310 | 25 | 178 | 248 |
| 450 | 830  | 430 | 400 | 65 | 18x11x70 | 80  | 150 | 520 |  | 165      | 4 | 21   | 330 | 42 | 244 | 318 |
| 500 | 926  | 468 | 458 | 70 | 20x12x70 | 80  | 150 | 568 |  | 254      | 8 | 17   | 350 | 54 | 293 | 402 |
| 600 | 1062 | 552 | 552 | 80 | 22x14x90 | 120 | 150 | 675 |  | 254      | 8 | 17   | 390 | 80 | 385 | 672 |

**BUTT-WELD TYPE - Class ANSI 600**

| DN  | A    | B   | C   | ØD  | Key (2x)  | E   | F   | ØH  | ØS*                                    | ISO 5211 |     |       |     |    |     |     |
|-----|------|-----|-----|-----|-----------|-----|-----|-----|--|----------|-----|-------|-----|----|-----|-----|
|     |      |     |     |     |           |     |     |     |  | ØN       | P   | ØR    | J   | K  | Y   | Kg  |
| 80  | 289  | 152 | 137 | 20  | 6x6x40    | 50  | 100 | 120 | Dimensions complying with ASME B 36.10 | F10-F12  | 4   | 9-11  | 180 | -  | -   | 31  |
| 100 | 345  | 188 | 157 | 30  | 8x7x40    | 50  | 100 | 148 |  | F12-F14  | 4   | 9-11  | 190 | -  | -   | 48  |
| 125 | 390  | 215 | 175 | 35  | 10x8x50   | 60  | 100 | 176 |  | F14-F16  | 4   | 11-13 | 200 | -  | -   | 75  |
| 150 | 477  | 244 | 233 | 40  | 12x8x63   | 70  | 100 | 206 |  | F14-F16  | 4   | 11-13 | 210 | -  | -   | 80  |
| 200 | 515  | 290 | 225 | 45  | 14x9x70   | 90  | 120 | 362 |  | F14-F16  | 4   | 13-17 | 230 | -  | -   | 105 |
| 250 | 659  | 324 | 335 | 50  | 14x9x80   | 100 | 120 | 312 |  | F16-F25  | 4-8 | 13-17 | 250 | -  | -   | 202 |
| 300 | 714  | 350 | 364 | 60  | 18x11x90  | 110 | 150 | 366 |  | F25-F30  | 8   | 13-17 | 270 | 6  | 77  | 305 |
| 350 | 785  | 395 | 390 | 70  | 20x12x100 | 120 | 150 | 398 |  | F25-F30  | 8   | 17-21 | 290 | 11 | 116 | 400 |
| 400 | 890  | 450 | 440 | 75  | 20x12x120 | 140 | 150 | 458 |  | F30-F35  | 8   | 17-21 | 310 | 25 | 178 | 504 |
| 450 | 977  | 492 | 485 | 90  | 25x14x125 | 160 | 150 | 520 |  | F30-F35  | 8   | 17-21 | 330 | 42 | 244 | 600 |
| 500 | 1052 | 524 | 528 | 95  | 25x14x130 | 180 | 150 | 568 |  | F35-F40  | 8   | 17-21 | 350 | 54 | 293 | 740 |
| 600 | 1295 | 665 | 630 | 120 | 32x18x180 | 200 | 150 | 675 |  | F35-F40  | 8   | 17-21 | 390 | 80 | 385 | 980 |

Note:

- Dimensions "J" complying with UNI EN 558 basic series 14

- Pressure/temperature class complying with ASME B16.34

All data in this sheet can be modified without prior notice. For dimensions of valves majors of DN600, contact our Technical Department

## Valve selection based on Flow Coefficient

To select the butterfly S501/M to be used valve correctly, it is necessary to hold in consideration, besides to operation conditions (pressure, temperature, type of fluid) also condition of passage offered by the valve itself, towards the considered fluid, to optimize the process conditions.

This passage is defined by the coefficient of flow (CV or KV) which is a pure number and allows to calculate the range which can cross the valve and/or the load loss depending on the operation conditions and on the used fluids.

CV represents, the water range, in American units in U.S gallons. At the minute that the valve crosses causing the loss of 1 p.s.i. load at the temperature of 68th F.

KV represents, the range, in metrical units in m<sup>3</sup>/h which crosses the valve causing the loss of load of 1 bar at the 20 degreeCtemperature.

### American unit

$$Q = Cv \sqrt{\frac{\Delta p}{\gamma}}$$

Q = valve flow rate in (gpm)

$\Delta p$  = pressure drop through the valve (psi)

$\gamma$  = specific gravity in (kg/dm<sup>3</sup>) - for water = 1 at 68° F

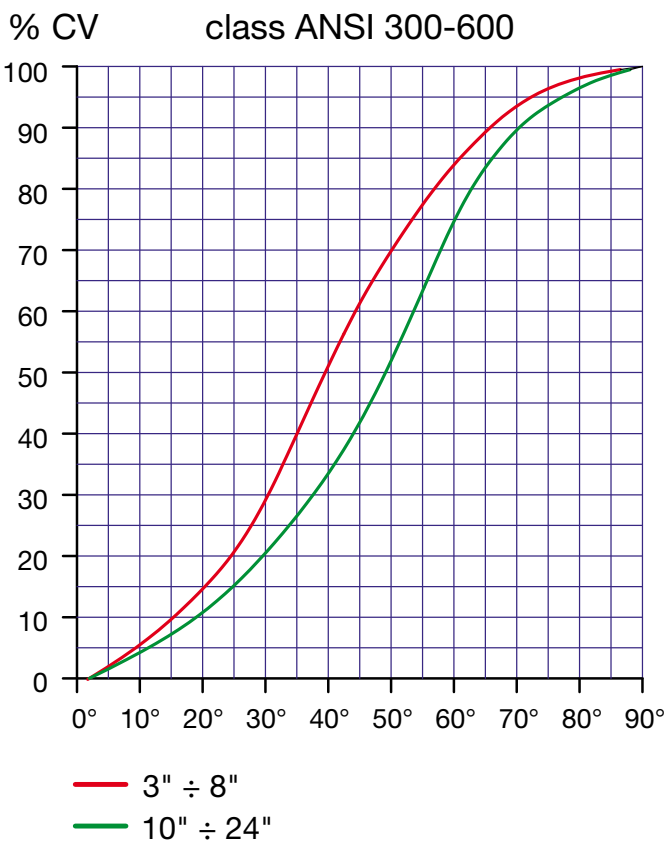
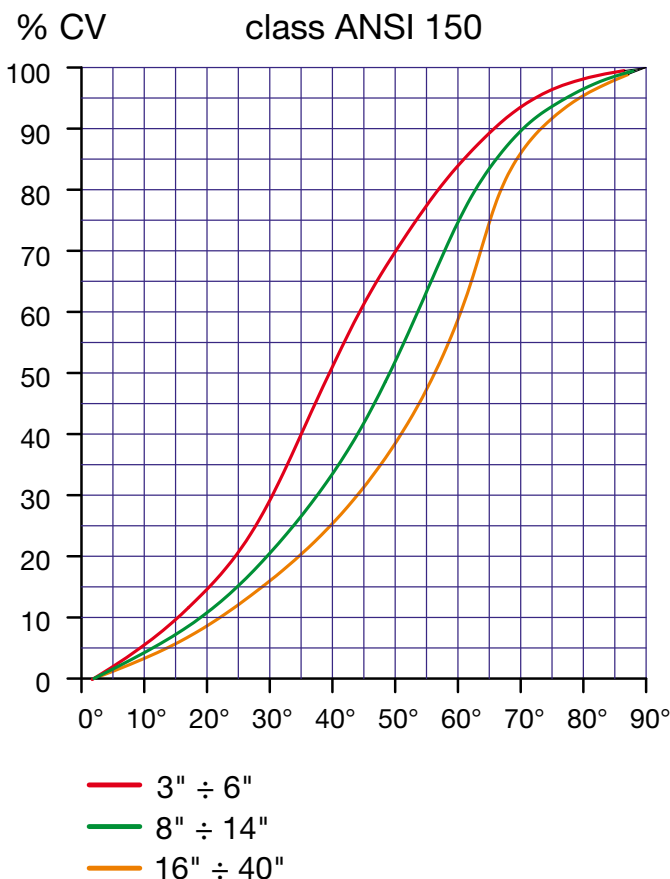
### Metric unit

$$Q = Kv \sqrt{\frac{\Delta p}{\gamma}}$$

Q = valve flow rate (m<sup>3</sup>/h)

$\Delta p$  = pressure drop through the valve (bar)

$\gamma$  = specific gravity in (kg/dm<sup>3</sup>) - for water at 20°C = 1



### “CV” flow coefficient with valve open at 90°

| CLASS    | VALVE SIZE |     |     |     |      |      |      |      |      |      |       |       |       |       |       |       |
|----------|------------|-----|-----|-----|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
|          | 3"         | 4"  | 5"  | 6"  | 8"   | 10"  | 12"  | 14"  | 16"  | 18"  | 20"   | 24"   | 28"   | 32"   | 36"   | 40"   |
| ANSI 150 | 152        | 285 | 535 | 760 | 1490 | 2520 | 4010 | 5390 | 7250 | 9740 | 12650 | 19050 | 28000 | 36000 | 45000 | 56000 |
| ANSI 300 | 152        | 285 | 484 | 690 | 1410 | 2390 | 3850 | 4840 | 6340 | 8810 | 11050 | 17100 | /     | /     | /     | /     |
| ANSI 600 | 152        | 240 | 400 | 620 | 1015 | 1790 | 2780 | 3760 | 5400 | 7500 | 9800  | 15000 | /     | /     | /     | /     |



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