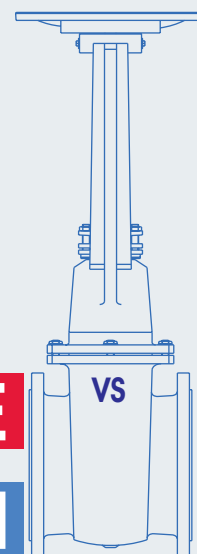


# VALVOSIDER

MANUFACTURER OF VALVES

GATE VALVES  
GLOBE VALVES  
CHECK VALVES  
STRAINERS  
CATALOGUE



**ASME**

**DIN**

**VALVOSIDER s.r.l.**

Via S. Rocco, 2 - P.O. BOX 76 - 13011 Borgosesia (VC) - Italy

Phone: +39 0163 22991 - Fax: +39 0163 21537

e-mail: [valvo@valvosider.com](mailto:valvo@valvosider.com) - <http://www.valvosider.com>



main location in Borgosesia town



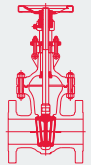
second location in Borgosesia  
loc. Baraggione  
- storage  
- gamma-ray bunker for  
radiographic tests

# 1 The Company

p. 4

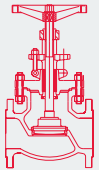
## 2 Gate valves

p. 7



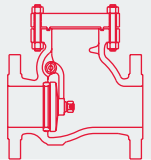
## 3 Globe valves

p. 19



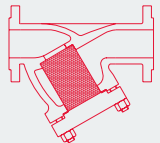
## 4 Check valves

p. 37



## 5 Strainers

p. 53



# ASME

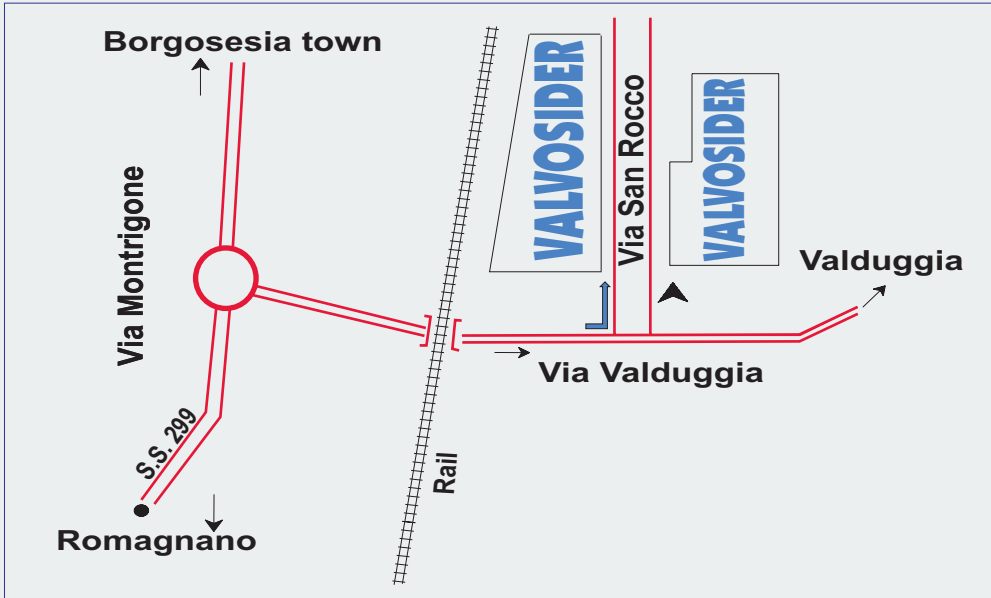
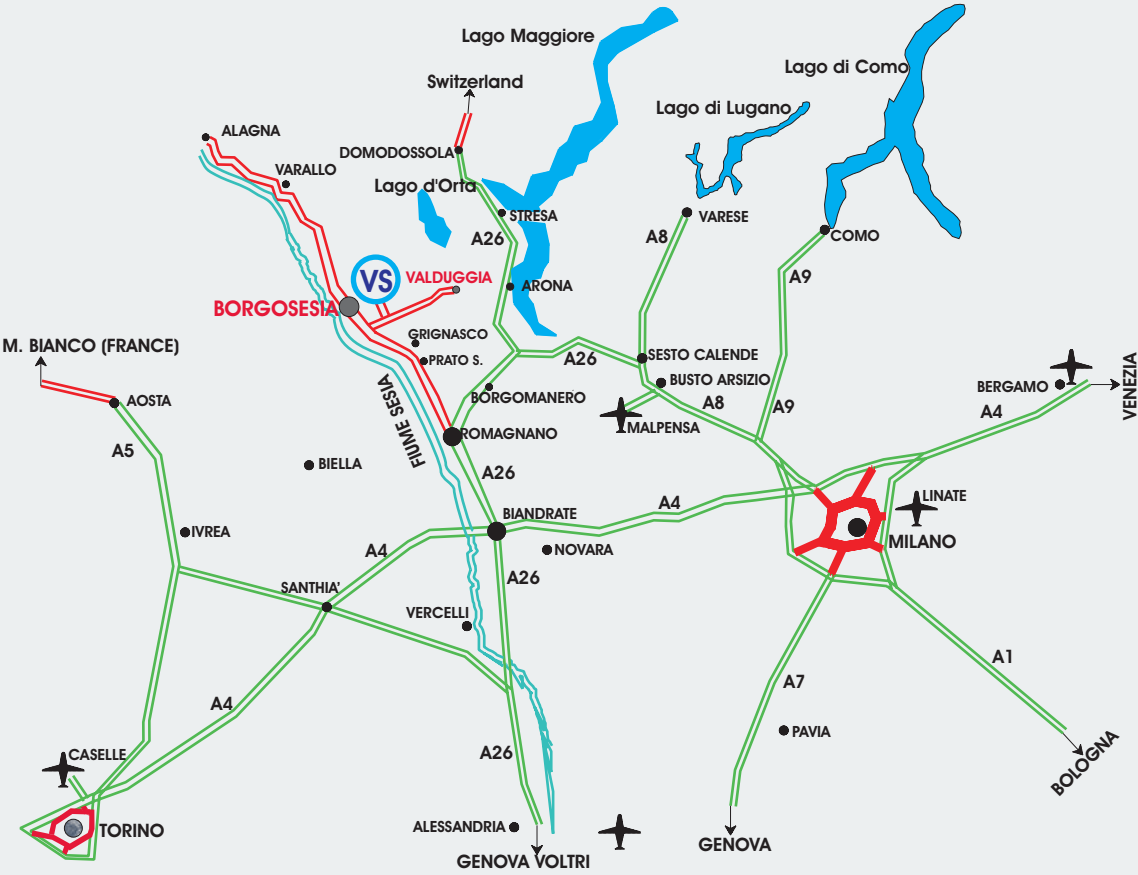
## PLANT LOCATION

Valvosider is located in Borgosesia, Northern Italy, between Milan and Turin, approximately one hour driving from both towns.

The international airport of Milano Malpensa is 45 minutes driving far from Borgosesia.

The nearest port is Genoa, some 150 kms from Borgosesia.

The total plant area is approximately 96,000 square metres with 20,500 square metres being under cover.



## VALVOSIDER'S HISTORY

Valvosider was formed in 1951 as a manufacturer of valves operating on oil & gas, petrochemical and chemical industries as well as on power-stations plants.

After more than 50 years of continuous growth, Valvosider has become a "VALVE MANUFACTURER" of international reputation.

Our many years of experience in producing top quality products, together with our policy of keeping our production facilities at the forefront of available technology, has enabled us to be certified by the following organizations:

**ISO 9001 IQNET® - CISQ / RINA (1992)**  
**API 6D-0166 AMERICAN PETROLEUM INSTITUTE (1993)**  
**HP 0 TÜV (1991)**  
**M0809V STOOMWEZEN (1995)**  
**API QUALITY REGISTRAR No. 0072 (1999)**  
**AD 2000 -A4 (TRB 801 Nr. 45 TÜV -1997)**  
**TA-LUFT (Low emission TÜV approval, 1999)**  
**CE PED (2001- Certificate No. DGR-0036-QS-111-01)**  
**GOST R SYSTEM CERTIFICATION (2001)**

## COMPANY'S POLICY

Valvosider S.r.l. is committed to provide its customers a product which conforms in every aspect: both to the requirements of the contract and the customer needs at a fair cost, within the contractual delivery time, with the highest possible safety standards, while at the same time protecting the well-being of the natural environment and the community where the materials are being produced.

To accomplish this goal the General Management has set up a Quality System which operates in conformity with ISO 9001 standards.

This system has been designed in such a way so that it may be modified and improved at any stage of the production cycle, whilst also ensuring the professional and technical development of our staff.

The Managing Director has the ultimate responsibility for the development and implementation of the Quality System.

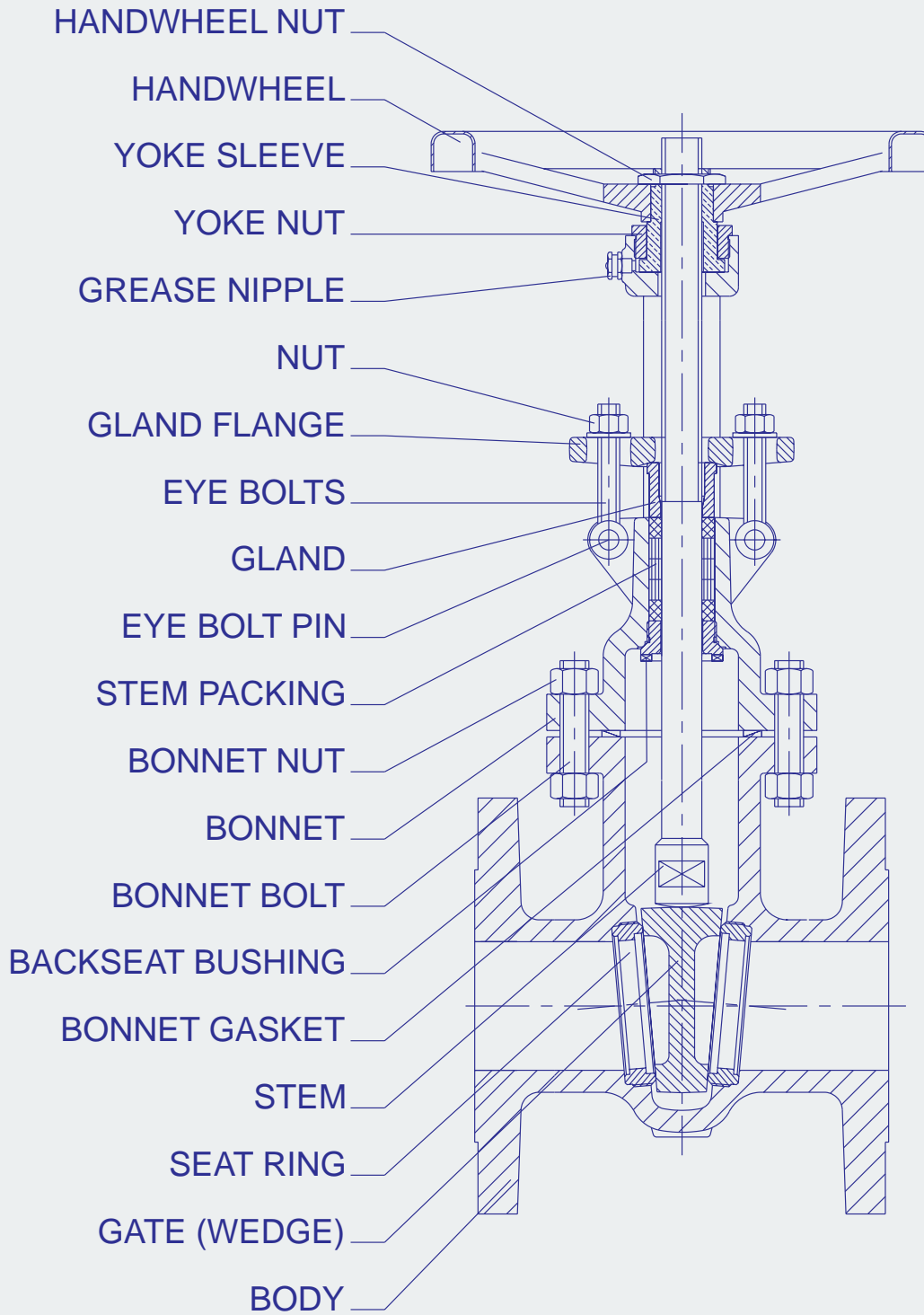
This responsibility has been delegated to the Quality Manager, who has full authority and autonomy to develop and maintain the Quality System.

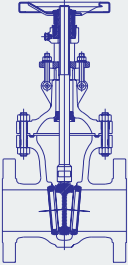
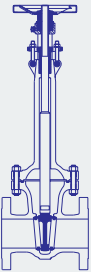

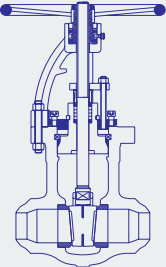
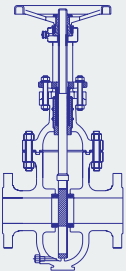
The Managing Director requires that all members of the company comply with the procedures laid down in the Quality System Manual.

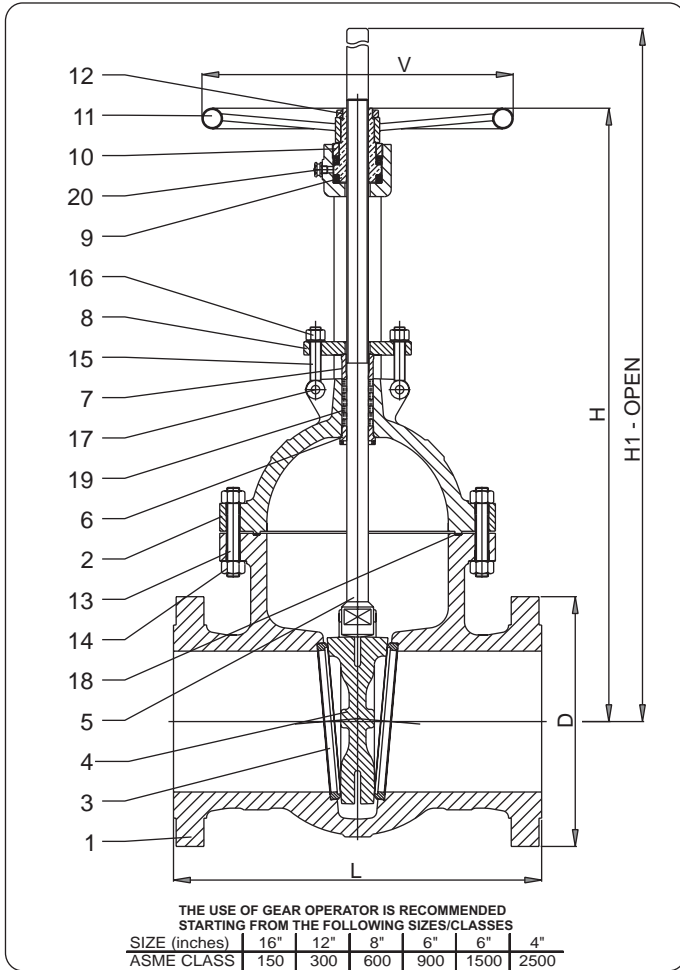
All management levels are responsible for ensuring that the requirements of the Quality System Manual are both understood and observed.

All employees engaged in the manufacture of goods in Valvosider's name are responsible for producing a quality product that meets the customer specified requirements.

## DESCRIPTION OF A TYPICAL GATE VALVE



	TYPE	CLASS	SIZES	FIG. N
	GATE VALVES	150	2" - 48"	<b>450</b>
	BOLTED BONNET	300	2" - 48"	<b>451</b>
		600	2" - 40"	<b>452</b>
		900	2" - 24"	<b>453</b>
		1500	2" - 24"	<b>454</b>
		2500	2" - 12"	<b>455</b>
page 8				
	GATE VALVES	150	2" - 40"	<b>450EB</b>
	CRYOGENIC EXTENDED BONNET	300	2" - 40"	<b>451EB</b>
		600	2" - 24"	<b>452EB</b>
		900	2" - 24"	<b>453EB</b>
		1500	2" - 24"	<b>454EB</b>
page 10				
	GATE VALVES	150	2" - 24"	<b>450SO</b>
	BELLOW SEAL	300	2" - 24"	<b>451SO</b>
		600	2" - 24"	<b>452SO</b>
		900	2" - 16"	<b>453SO</b>
		1500	2" - 16"	<b>454SO</b>
page 12				
	GATE VALVES	600	2" - 24"	<b>P52</b>
	PRESSURE SEAL	900	2" - 24"	<b>P53</b>
		1500	2" - 24"	<b>P54</b>
		2500	2" - 24"	<b>P55</b>
page 14				
	GATE VALVES	150	3" - 40"	<b>T50</b>
	THROUGH CONDUIT	300	3" - 40"	<b>T51</b>
		600	3" - 40"	<b>T52</b>
		900	3" - 24"	<b>T53</b>
		1500	3" - 24"	<b>T54</b>
page 16				



### standard features

- **Description** BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
RENEWABLE SEATS
- **Design** API 600  
BS 1414
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5 FROM 2" TO 24"  
ASME B16.47 FROM 26"  
BW TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 - 3.1 B

PART NAME	W45x	L45x	M45x	C45x	B45x	E45x	D45x	F45x	H45x
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Bonnet</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Seat ring surface</b>	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Wedge seat surfaces</b>	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
<b>5 Stem</b>	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
<b>6 Back seat</b>	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
<b>7 Gland</b>	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
<b>8 Gland flange</b>	A105	F316	F316	F316	F316	F316	F316	F316	F316L
<b>9 Yoke sleeve</b>	B148 9A (4)	B148 9A (4)	Nod.Iron	Nod.Iron	Nod.Iron	B148 9A (4)	B148 9A (4)	B148 9A (4)	B148 9A (4)
<b>10 Yoke nut</b>	A105	A350 LF2	A105	A105	A105	F316	F316	F316	F316
<b>11 Handwheel</b>			← Steel →						
<b>12 Handwheel nut</b>			← A105 →						
<b>13 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>14 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>15 Eye bolts</b>	B7	B7	B8	B8	B8	B8	B8	B8	B8
<b>16 Nuts</b>	2H	2H	2H	2H	2H	G8	G8	G8	G8
<b>17 Eye bolt pin</b>	B7	B7	B7	B7	B7	B8	B8	B8	B8
<b>18 Gasket (5)</b>	ANSI 150: S.S. reinforced graphite		ANSI 300 600 900 1500: S.S. Spiral wound reinf. graphite/RTJ				ANSI 2500: RTJ		
<b>19 Packing</b>			← Graphite rings & wiper rings (6) →						
<b>20 Grease nipple</b>			← A105 →						

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

All data, subject to technical changes, are only for information and not for official use.



QUALITY REGISTRAR  
ISO 9001 No. 0072



API 6 D - 0166

ISO 9001-2000  
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TUV  
SUDETSCHLAND  
97/23/CE



TUV  
AD-Merkblatt HP 0  
AD 2000 A4  
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 Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com



# GATE VALVES

## ASME 150 - 300 - 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 450 - GATE VALVES OVAL BODY ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"	42"	48"
L RF	178	191	203	229	254	267	292	330	356	381	406	432	457	508	610	610	660	711	711	762	787	864
L BW	216	241	282	305	381	403	419	457	502	571	610	660	711	813	914	914	965	1016	1016	1168	1397	1270
D	152	178	191	229	254	279	343	406	483	533	597	635	699	813	927	984	1060	1111	1168	1289	1346	1511
V	200	200	225	250	250	300	400	500	500	600	600	700	700	800	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
H	350	420	440	480	560	600	775	1050	1240	1300	1500	1650	1800	2200	2600	2600	2600	3000	3000	3200	3200	3500
H1	400	480	510	580	695	750	980	1300	1540	1650	1900	2100	2300	2800	3350	3400	3450	3900	3950	4200	4250	4500

**FIG. N. 451 - GATE VALVES ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"	42"	48"
L RF/BW	216	241	282	305	381	403	419	457	502	762	838	914	991	1143	1346	1397	1524	1626	1727	1930	1981	2235
L RTJ	232	257	298	321	397	419	435	473	518	778	854	930	1010	1165	1371	1422	1552	1654	1755	--	--	--
D	165	191	210	254	279	318	381	445	521	584	648	711	775	914	1035	1092	1149	1207	1270	1238	1289	1467
V	200	200	225	250	300	400	500	500	600	600	700	700	800	900	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
H	400	430	500	530	620	730	910	1110	1240	1400	1580	1700	1900	2150	2530	3000	3000	3360	3360	3890	3890	4330
H1	450	490	580	630	745	880	1110	1360	1540	1750	1980	2150	2400	2750	3350	3850	3900	4300	3950	4950	5110	5280

**FIG. N. 452 - GATE VALVES ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"	42"	48"
L RF/BW	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1549	1651	1778	1930	2082	2286	--	--
L RTJ	295	333	359	435	511	562	663	791	841	892	994	1095	1200	1407	1562	1664	1794	1946	2099	--	--	--
D	165	191	210	273	330	356	420	508	559	603	686	743	813	940	1073	1130	1194	1245	1314	1321	--	--
V	200	250	250	400	400	500	600	700	700	800	900	1000	1600	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--
H	450	500	540	670	686	810	970	1155	1330	1480	1680	1826	1930	2160	2390	2880	2950	3030	3090	3620	--	--
H1	500	570	620	770	810	960	1170	1410	1630	1830	2100	2280	2450	2800	3137	3680	3803	3937	4050	4687	--	--

**FIG. N. 453 - GATE VALVES ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"
L RF/BW	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	--
L RTJ	371	384	460	613	740	841	968	1038	1140	1232	1334	1568	--
D	216	241	292	381	470	546	610	641	705	787	857	1041	--
V	250	300	400	600	650	700	900	1000	G.O.	G.O.	G.O.	G.O.	--
H	450	600	670	890	1114	1255	1439	1585	1639	1835	1970	2230	--
H1	500	680	770	1050	1320	1520	1750	1950	2050	2300	2500	2850	--

**FIG. N. 454 - GATE VALVES ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"
L RF/BW	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943	--
L RTJ	371	473	549	711	842	1000	1146	1276	1407	1559	1686	1972	--
D	216	267	311	394	483	584	673	749	826	914	984	1168	--
V	250	400	500	600	700	900	1600	1600	G.O.	G.O.	G.O.	G.O.	--
H	450	620	760	930	1148	1336	1454	1645	1815	1835	1970	2230	--
H1	500	700	870	1090	1360	1520	1750	1950	2050	2300	2500	2850	--

**FIG. N. 455 - GATE VALVES ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"
L RF/BW	451	578	673	914	1022	1270	1422	--	--	--	--	--	--
L RTJ	454	584	683	927	1038	1292	1445	--	--	--	--	--	--
D	235	305	356	483	552	673	762	--	--	--	--	--	--
V	250	400	500	600	700	G.O.	G.O.	--	--	--	--	--	--
H	450	620	760	930	1148	1255	1439	--	--	--	--	--	--
H1	500	700	870	1090	1360	1520	1750	--	--	--	--	--	--

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.



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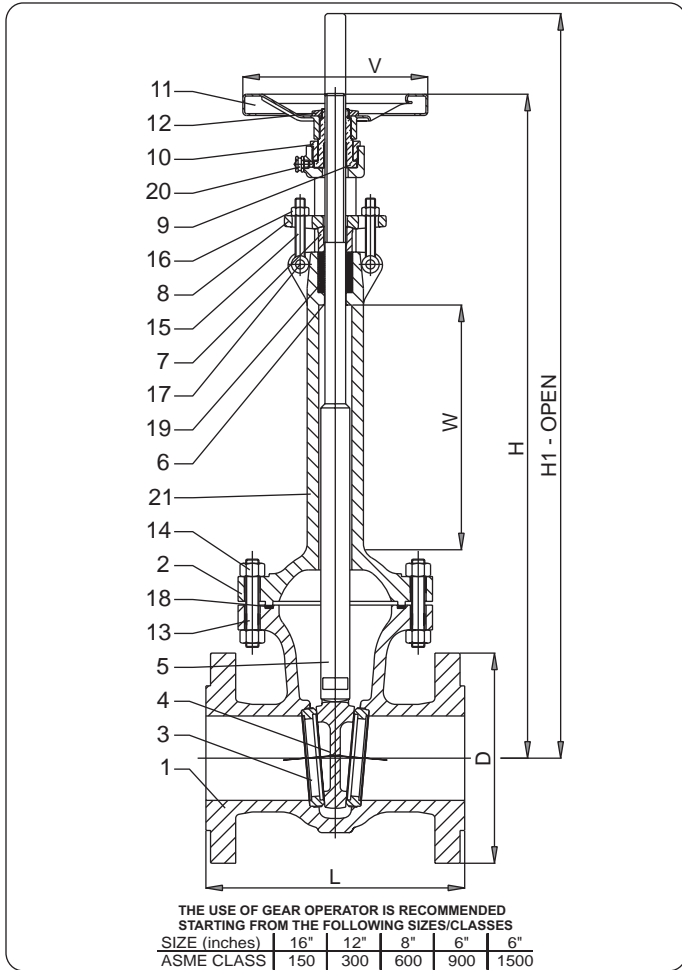
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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- PTFE SOFT SEATS
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS



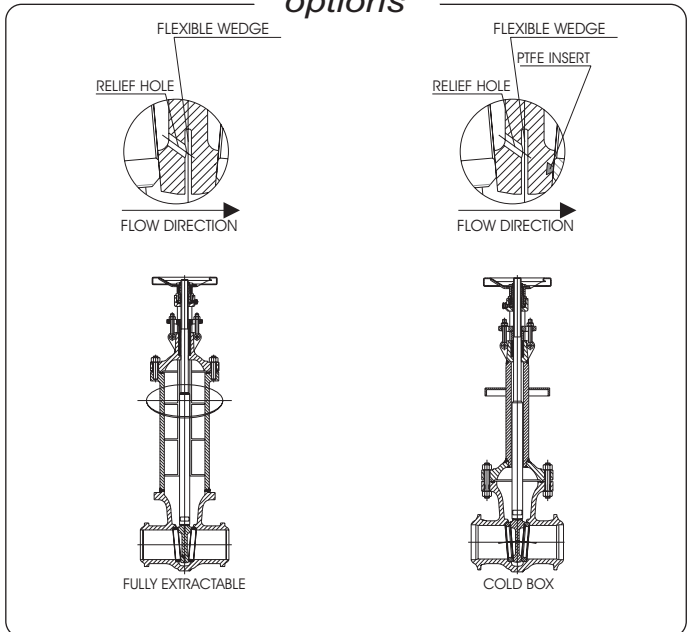
### standard features

- **Description** EXTENDED BONNET  
BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
RENEWABLE SEATS
- **Design** API 600  
BS 1414
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5 FROM 2" TO 24"  
ASME B16.47 FROM 26"
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	E45xEB	F45xEB
1 Body	CF8	CF8M
2 Bonnet	CF8	CF8M
3 Seat ring surface	F316 (1)	F316 (1)
4 Wedge seat surfaces	F316 (2)	F316 (2)
5 Stem	F316 (3)	F316 (3)
6 Back seat (integral)	CF8 (2)	CF8M (2)
7 Gland	F316 (3)	F316 (3)
8 Gland flange	F316	F316
9 Yoke sleeve	B148 9A (4)	B148 9A (4)
10 Yoke nut	F316	F316
11 Handwheel	Steel	Steel
12 Handwheel nut	A105	A105
13 Bolts	B8	B8
14 Nuts	G8	G8
15 Eye bolts	B8	B8
16 Nuts	G8	G8
17 Eye bolt pin	B8	B8
18 Gasket	PTFE (5)	PTFE (5)
19 Packing	PTFE (6)	PTFE (6)
20 Grease nipple	F316	F316
21 Extension	F304L	F316L

- (1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

### options



- (4) On request: Nodular Iron - Nitronic 60  
 (5) On request: Graphite - other materials  
 (6) On request: Graphite - other materials

All data, subject to technical changes, are only for information and not for official use.



ISO 9001 No. 0072



API 6 D - 0166

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 Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com

# CRYOGENIC GATE VALVES

## ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 450EB - CRYOGENIC GATE VALVES OVAL BODY ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"
L RF	178	191	203	229	254	267	292	330	356	381	406	432	457	508	610	610	660	711	711	762
L BW	216	241	282	305	381	403	419	457	502	571	610	660	711	813	914	914	965	1016	1016	1168
D	152	178	191	229	254	279	343	406	483	533	597	635	699	813	927	984	1060	1111	1168	1289
V	200	200	225	250	250	300	400	500	500	600	600	700	700	800	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
W	200	200	300	300	300	300	300	300	300	300	300	300	300	300	--	--	--	--	--	--
H	550	620	730	770	860	900	1075	1390	1540	1600	1800	1950	2100	2500	--	--	--	--	--	--
H1	600	690	810	870	990	1050	1280	1650	1850	1950	2200	2550	2800	3400	--	--	--	--	--	--

**FIG. N. 451EB - CRYOGENIC GATE VALVES ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"
L RF/BW	216	241	282	305	381	403	419	457	502	762	838	914	991	1143	1346	1397	1524	1626	1727	1930
L RTJ	232	257	298	321	397	419	435	473	518	778	854	930	1010	1165	1371	1422	1552	1654	1755	--
D	165	191	210	254	279	318	381	445	521	584	648	711	775	914	1035	1092	1149	1207	1270	1238
V	200	200	225	250	300	400	500	500	600	600	700	700	800	900	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
W	200	200	300	300	300	300	300	300	300	300	300	300	300	300	--	--	--	--	--	--
H	600	630	800	830	920	1030	1210	1410	1540	1700	1880	2000	2200	2600	--	--	--	--	--	--
H1	650	700	880	930	1045	1180	1280	1660	1840	2050	2280	2150	2400	2750	--	--	--	--	--	--

**FIG. N. 452EB - CRYOGENIC GATE VALVES ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L RF/BW	292	356	432	559	660	787	838	889	991	1092	1194	1397
L RTJ	295	359	435	562	663	791	841	892	994	1095	1200	1407
D	165	210	273	356	419	508	559	603	686	743	813	940
V	200	250	400	500	600	700	700	800	900	1000	1600	G.O.
W	200	300	300	300	300	300	300	300	300	300	300	300
H	640	840	850	1100	1260	1455	1620	1780	1980	2130	2230	2460
H1	700	920	950	1250	1460	1710	1930	2130	2400	2580	2730	3100

**FIG. N. 453EB - CRYOGENIC GATE VALVES ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L RF/BW	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
L RTJ	371	384	460	613	740	841	968	1038	1140	1232	1334	1568
D	216	241	292	381	470	546	610	641	705	787	857	1041
V	250	300	400	600	650	700	900	1000	G.O.	G.O.	G.O.	G.O.
W	200	300	300	300	300	300	300	300	300	300	300	300
H	650	900	970	1190	1414	1555	1739	1885	1939	2135	2270	2530
H1	700	980	1070	1350	1620	1820	2050	2250	2350	2600	2800	3150

**FIG. N. 454EB - CRYOGENIC GATE VALVES ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L RF/BW	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943
L RTJ	371	473	549	711	842	1000	1146	1276	1407	1559	1686	1972
D	216	267	311	394	483	584	673	749	826	914	984	1168
V	250	400	500	600	700	900	1600	1600	G.O.	G.O.	G.O.	G.O.
W	200	300	300	300	300	300	300	300	300	300	300	300
H	650	920	1060	1230	1448	1555	1739	1885	1939	2135	2270	2530
H1	700	1000	1170	1390	1660	1820	2050	2250	2350	2600	2800	3150

- features on request*
- TOP FLANGE TO ISO 5210
  - GEAR OPERATOR
  - CHAIN WHEEL OPERATOR
  - PNEUMATIC ACTUATOR
  - HYDRAULIC ACTUATOR
  - ELECTRIC ACTUATOR
  - POSITION INDICATOR
  - LIMIT SWITCHES
  - LOCKING / INTERLOCK SYSTEM
  - PTFE SOFT SEATS
  - STEM PROTECTION
  - STEM EXTENSION
  - LANTERN RING
  - EXTENDED STUFFING BOX
  - LIVE LOADED PACKING
  - DRAIN PLUG
  - BY PASS
  - BW ENDS
  - DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

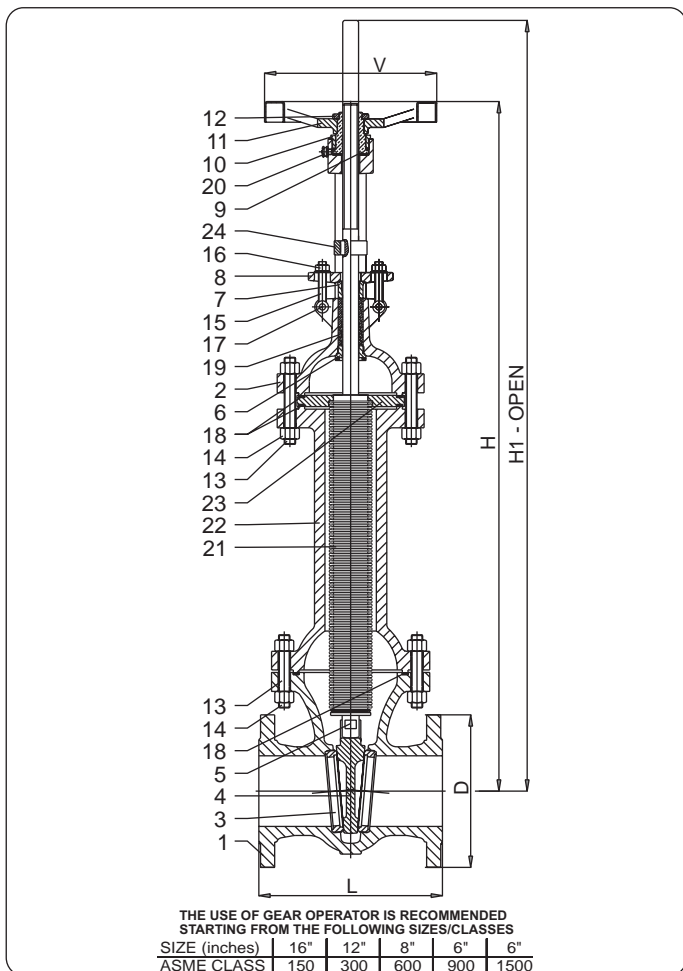


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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com



### standard features

- Description** BELLOW SEAL  
BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
RENEWABLE SEATS
- Design** API 600  
BS 1414
- Face to face** ASME B16.10
- Flanges** ASME B16.5  
BW TO ANSI B16.25
- Testing** API 598  
API 6D  
BS 6755
- Rating** ASME B16.34
- Marking** MSS-SP 25  
CE - PED
- Certificates** EN 10204 - 3.1 B

PART NAME	W45xSO	L45xSO	M45xSO	C45xSO	B45xSO	E45xSO	D45xSO	F45xSO	H45xSO
1 Body	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
2 Bonnet	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
3 Seat ring surface	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
4 Wedge seat surfaces	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
5 Stem	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
6 Back seat	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
7 Gland	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
8 Gland flange	A105	F316	F316	F316	F316	F316	F316	F316	F316L
9 Yoke sleeve	B148 9A (4)	B148 9A (4)	Nod.Iron	Nod.Iron	Nod.Iron	B148 9A (4)	B148 9A (4)	B148 9A (4)	B148 9A (4)
10 Yoke nut	A105	A105	A105	A105	A105	F316	F316	F316	F316L
11 Handwheel			← Steel →						
12 Handwheel nut			← A105 →						
13 Bolts	B7	L7	B16	B16	B16	B8	B8	B8	B8
14 Nuts	2H	G4	G4	G4	G4	G8	G8	G8	G8
15 Eye bolts	B7	B7	B8	B8	B8	B8	B8	B8	B8
16 Nuts	2H	2H	2H	2H	2H	G8	G8	G8	G8
17 Eye bolt pin	B7	B7	B7	B7	B7	B8	B8	B8	B8
18 Gasket			← S.S. reinforced graphite (5) →						
19 Packing			← Graphite rings & wiper rings (6) →						
20 Grease nipple			← A105 →						
21 Bellow			← A182 F321 →						
22 Extension	A105	LF2	F11	F5	F9	F304L	F347	F316L	F316L
23 Bellow flange			← A182 F321 →						
24 No rot. Device	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

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# GATE VALVES BELLOW SEAL ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 450SO - BELLOW GATE VALVES OVAL BODY ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF	178	191	203	229	254	267	292	330	356	381	406	432	457	508	---
L BW	216	241	282	305	381	403	419	457	502	571	610	660	711	813	---
D	152	178	191	229	254	279	343	406	483	533	597	635	699	813	---
V	200	200	225	250	250	300	400	500	500	600	600	700	700	800	---
H	610	675	820	940	1160	1530	1960	2350	2600	2980	3170	3550	4050	4650	---
H1	660	740	900	1040	1290	1680	2160	2600	2900	3350	3570	4000	4550	5250	---

**FIG. N. 451SO - BELLOW GATE VALVES ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF/BW	216	241	282	305	381	403	419	457	502	762	838	914	991	1143	---
L RTJ	232	257	298	321	397	419	435	473	518	778	854	930	1010	1165	---
D	165	191	210	254	279	318	381	445	521	584	648	711	775	914	---
V	200	200	225	250	300	400	500	500	600	600	700	700	800	900	---
H	600	685	765	920	1070	1315	1700	2035	2395	2760	3135	3600	4080	4795	---
H1	650	750	840	1020	1200	1465	1900	2285	2700	3110	4535	4050	4580	5350	---

**FIG. N. 452SO - BELLOW GATE VALVES ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF/BW	292	356	432	559	660	787	838	889	991	1092	1194	1397	---	---	---
L RTJ	295	359	435	562	663	791	841	892	994	1095	1200	1407	---	---	---
D	165	210	273	356	419	508	559	603	686	743	813	940	---	---	---
V	200	250	400	500	600	700	900	800	900	1000	1600	G.O.	---	---	---
H	640	805	905	1360	1720	2120	2500	---	---	---	---	---	---	---	---
H1	690	880	1010	1510	1920	2370	2800	---	---	---	---	---	---	---	---

**FIG. N. 453SO - BELLOW GATE VALVES ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
L RF/BW	368	381	457	610	737	838	965	1029	1130
L RTJ	371	384	460	613	740	841	968	1038	1140
D	216	241	292	381	470	546	610	641	705
V	250	300	400	600	650	700	900	1000	G.O.
H	---	---	---	---	---	---	---	---	---
H1	---	---	---	---	---	---	---	---	---

**FIG. N. 454SO - BELLOW GATE VALVES ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
L RF/BW	368	470	546	705	832	991	1130	1257	1384
L RTJ	371	473	549	711	842	1000	1146	1276	1407
D	216	267	311	394	483	584	673	749	826
V	250	400	500	600	700	900	1600	1600	1600
H	---	---	---	---	---	---	---	---	---
H1	---	---	---	---	---	---	---	---	---

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- PTFE SOFT SEATS
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

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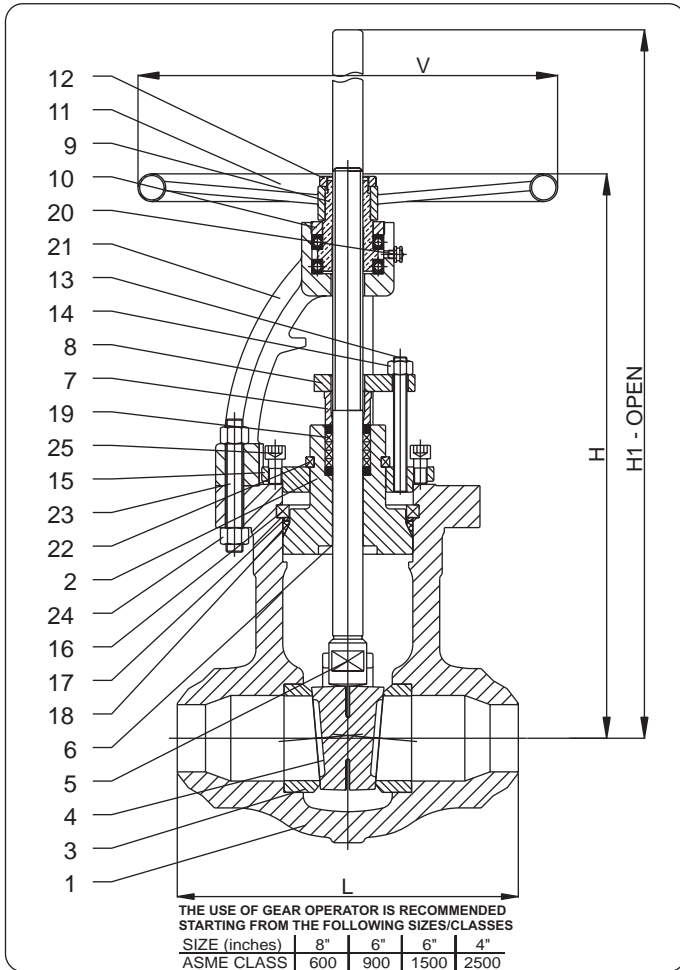


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### standard features

- **Description** ROUND BODY  
PRESSURE SEAL BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
INTEGRAL BACKSEAT  
WELDED IN SEATS  
FLEXIBLE WEDGE
- **Design** API 600 STYLE A  
ASME B16.34  
API 600 STYLE B on demand
- **Face to face** ASME B16.10
- **Ends** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 - 3.1 B

PART NAME	WP5x	IP5x	MP5x	WCP5x	FP5x
1 <b>Body</b>	WCB	WC1	WC6	WC9	CF8M
2 <b>Bonnet</b>	WCB	WC1	WC6	WC9	CF8M
3 <b>Seat - ring</b>	A105 + HF (1)	F6A + HF (1)	F6A + HF (1)	F6A + HF (1)	F316 + HF (1)
4 <b>Wedge seat surfaces</b>	WCB + HF (1)	WC1 + HF (1)	WC6 + HF (1)	WC9 + HF (1)	CF8M + HF (1)
5 <b>Stem</b>	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F316 (3)
6 <b>Back seat (integral)</b>		←	Stellite® (2)	→	
7 <b>Gland</b>	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F316 (3)
8 <b>Gland flange</b>	A105	F316	F316	F316	F316
9 <b>Yoke sleeve</b>		←	B148 9A (4)	→	
10 <b>Yoke nut</b>	A 105	A 105	A 105	A 105	F316
11 <b>Handwheel</b>		←	Steel	→	
12 <b>Handwheel nut</b>		←	A105	→	
13 <b>Bolts</b>	B7	B16	B16	B16	B8
14 <b>Nuts</b>	2H	G4	G4	G4	G8
15 <b>Retainer flange</b>	A 105	A 105	A 105	A 105	F316
16 <b>Segmented retainer ring</b>	F6A	F6A	F6A	F6A	F316
17 <b>Spacer ring</b>	F6A	F6A	F6A	F6A	F316
18 <b>Gasket</b>		←	S.S. Reinforced Graphite (5)	→	
19 <b>Packing</b>		←	Graphite rings & wiper rings	→	
20 <b>Grease nipple</b>		←	Steel	→	
21 <b>Yoke</b>	WCB	WC1	WC6	WC9	CF8M
22 <b>Segmented support ring</b>	F6	F6	F6	F6	F316
23 <b>Yoke / body bolt</b>	B7	B16	B16	B16	B8
24 <b>Yoke / body nut</b>	2H	G4	G4	G4	G8
25 <b>Bolts</b>	B7	B16	B16	B16	B8

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: Metal

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# PRESSURE SEAL GATE VALVES ASME 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. P52 - PRESSURE SEAL GATE VALVES ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L RF	292	356	432	559	660	787	838	889	991	1092	1194	1397
L RTJ	295	359	435	562	663	791	841	892	994	1095	1200	1407
L BW	178	254	305	457	584	711	813	889	991	1092	1194	1397
V	200	250	400	500	600	700	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
H	500	550	590	840	970	1160	1300	1500	1780	2000	2150	2400
H1	550	630	690	990	1170	1410	1600	1850	2180	2450	2650	3000

**FIG. N. P53 - PRESSURE SEAL GATE VALVES ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L RF	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
L RTJ	371	384	460	613	740	841	968	1038	1140	1232	1334	1568
L BW	216	305	356	508	660	787	914	991	1092	1143	1245	1397
V	250	300	400	500	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
H	500	550	590	840	970	1250	1350	1580	1900	2050	2200	2500
H1	550	620	690	990	1170	1500	1650	1930	2300	2600	2700	3100

**FIG. N. P54 - PRESSURE SEAL GATE VALVES ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L RF	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943
L RTJ	371	473	549	711	842	1000	1146	1276	1407	1559	1686	1972
L BW	216	305	406	559	711	864	991	1067	1194	1346	1473	1943
V	250	400	600	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
H	500	550	590	840	970	1250	1350	1780	2000	2200	2400	2600
H1	550	630	690	990	1170	1500	1700	2130	2400	2650	2900	3200

**FIG. N. P55 - PRESSURE SEAL GATE VALVES ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L RF	451	578	673	914	1022	1270	1422	-	-	-	-	-
L RTJ	454	584	683	927	1038	1292	1445	-	-	-	-	-
L BW	279	368	457	610	762	914	1041	1118	1245	1397	1524	1676
V	300	500	700	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.
H	500	550	600	860	1000	1330	1480	1860	2090	2350	2650	2800
H1	550	630	690	1010	1200	1580	1780	2210	2490	2800	3150	3400

*features on request*

- |  |  |
|--|--|
| <input type="checkbox"/> TOP FLANGE TO ISO 5210          | <input type="checkbox"/> TWO PIECE BODY GUIDED WEDGE |
| <input type="checkbox"/> GEAR OPERATOR                   | <input type="checkbox"/> STEM PROTECTION             |
| <input type="checkbox"/> CHAIN WHEEL OPERATOR            | <input type="checkbox"/> STEM EXTENSION              |
| <input type="checkbox"/> PNEUMATIC OR HYDRAULIC ACTUATOR | <input type="checkbox"/> LANTERN RING                |
| <input type="checkbox"/> ELECTRIC ACTUATOR               | <input type="checkbox"/> EXTENDED STUFFING BOX       |
| <input type="checkbox"/> POSITION INDICATOR              | <input type="checkbox"/> LIVE LOADED PACKING         |
| <input type="checkbox"/> LIMIT SWITCHES                  | <input type="checkbox"/> DRAIN PLUG                  |
| <input type="checkbox"/> LOCKING / INTERLOCK SYSTEM      | <input type="checkbox"/> BY PASS                     |
| <input type="checkbox"/> PTFE SOFT SEATS                 | <input type="checkbox"/> FLANGED ENDS                |
| <input type="checkbox"/> PARALLEL WEDGE                  | <input type="checkbox"/> DIN CONNECTIONS             |

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

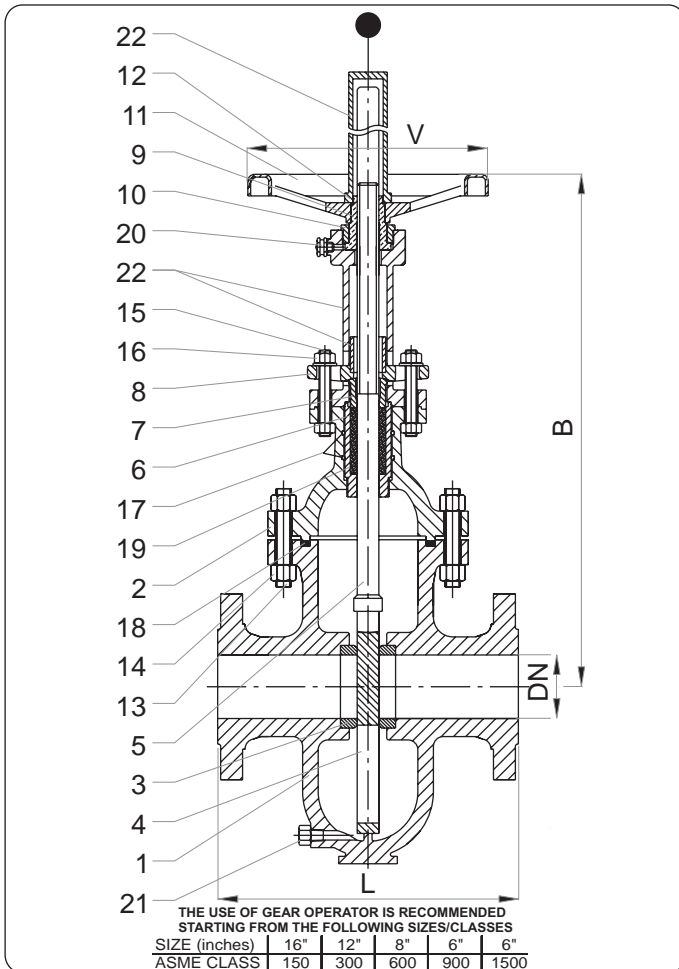


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### standard features

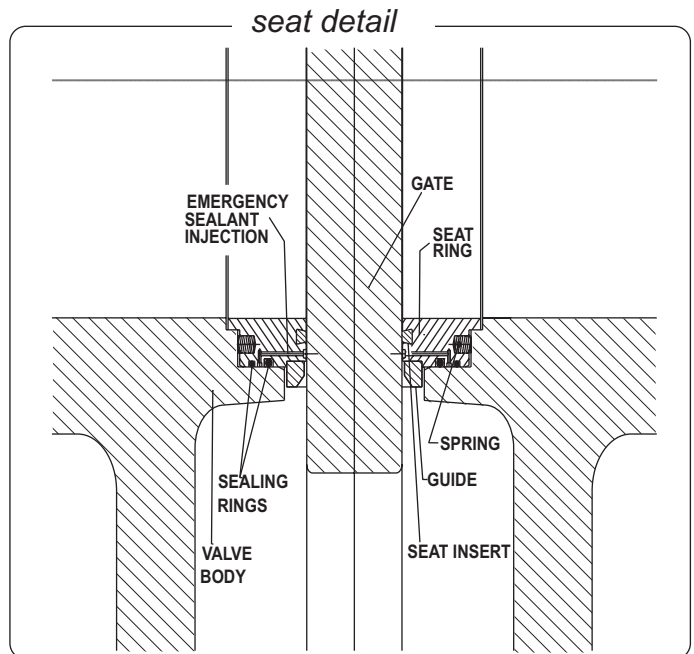
- **Description** ROUND OR FLAT BODY  
BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
RENEWABLE SOFT SEATS  
PARALLEL SLAB GATE
- **Design** API 6 D  
ASME B16.34  
ASME B31.3
- **Face to face** API 6D
- **Flanges** ASME B16.5 FROM 2" TO 24"  
ASME B16.47 FROM ≥ 26"  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** API 6D  
MSS-SP 25  
CE - PED
- **Certificates** EN 10204 - 3.1 B

PART NAME	WT5x	LCT5x
1 Body	A216 WCB	A352 LCC
2 Bonnet	A216 WCB	A352 LCC
3 Seat ring surface	A105 (1)	A350 LF2 (1)
4 Gate seat surfaces	A516 Gr70(2)	A537 CL1 (2)
5 Stem	AISI 410 (3)	AISI 410 (3)
6 Stuffing box	A105 (3)	A350 LF2 (3)
7 Gland	A105 (3)	A350 LF2 (3)
8 Gland flange	A105	A350 LF2
9 Yoke sleeve	B148 9A (4)	B148 9A (4)
10 Yoke nut	A105	A105
11 Handwheel	Steel	Steel
12 Handwheel nut	A105	A105
13 Bolts	B7	L7
14 Nuts	2H	G4
15 Eye bolts	B7	L7
16 Nuts	2H	G4
17 O rings	BUNA	BUNA / VITON
18 Gasket	BUNA (5)	BUNA / VITON (5)
19 Packing	VITON (6)	VITON (6)
20 Grease nipple	A105	A105
21 Plug	A105	A350 LF2
22 Stem protection	A105	A105

- (1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

- (4) On request: Nodular Iron - Nitronic 60  
 (5) On request: Graphite - other materials  
 (6) On request: Graphite - other materials

All data, subject to technical changes, are only for information and not for official use.



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NOTIFIED





# GATE VALVES - THROUGH CONDUIT ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. T50 - THROUGH CONDUIT GATE VALVES OVAL BODY ASME CLASS 150**

SIZE	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"
L RF	203	229	267	292	330	356	381	406	432	457	508	508	559	610	650	711	762	800	914	--	--
L BW	282	305	403	419	457	502	572	610	660	711	762	813	864	914	914	965	1016	1016	1118	--	--
DN	76	102	152	203	254	305	337	387	439	489	540	591	635	686	737	782	831	876	927	--	--
V	300	300	300	450	600	600	600	600	600	800	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--
A	215	270	345	433	520	584	630	722	785	860	974	1050	1160	1210	1295	1360	1480	1540	1700	--	--
B	505	530	665	820	975	1100	1190	1345	1480	1610	1800	1880	2110	2190	2330	2530	2660	2800	3160	--	--

**FIG. N. T51 - THROUGH CONDUIT GATE VALVES ASME CLASS 300**

SIZE	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"
L RF/BW	282	305	403	419	457	502	762	838	914	991	1092	1143	1245	1346	1397	1524	1626	1727	1930	--	--
L RTJ	298	321	419	435	473	518	778	854	930	1010	1114	1165	1270	1372	1422	1552	1654	1755	--	--	--
DN	76	102	152	203	254	305	337	389	439	489	540	591	635	686	737	782	831	876	978	--	--
V	300	300	300	300	600	600	600	800	800	1100	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--
A	260	299	355	430	507	580	661	747	817	897	982	1037	1142	1252	1335	1395	1490	1570	1700	--	--
B	490	533	655	920	980	1110	1200	1360	1480	1650	1810	1930	2160	2230	2400	2570	2710	2820	3200	--	--

**FIG. N. T52 - THROUGH CONDUIT GATE VALVES ASME CLASS 600**

SIZE	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"
L RF/BW	356	432	559	660	787	838	889	991	1092	1194	1295	1397	1448	1549	1651	1778	1930	2083	2286	--	--
L RTJ	359	435	562	663	791	841	892	994	1095	1200	1305	1407	1461	1562	1664	1794	1946	2099	--	--	--
DN	76	102	152	203	254	305	337	389	439	489	540	591	635	686	737	782	831	876	978	--	--
V	300	300	300	300	600	600	600	800	800	1100	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--
A	212	307	405	435	510	590	630	725	810	930	995	1085	1170	1280	1350	1400	1490	1580	1710	--	--
B	485	530	690	860	980	1160	1200	1375	1500	1700	1900	2100	2200	2300	2400	2650	2750	2900	3200	--	--

**FIG. N. T53 - THROUGH CONDUIT GATE VALVES ASME CLASS 900**

SIZE	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"
L RF/BW	381	457	610	737	838	965	1029	1130	1219	1321	--	1549	--
L RTJ	384	460	613	740	841	968	1038	1140	1232	1334	--	1568	--
DN	76	102	152	203	254	305	337	389	439	489	540	591	--
V	300	300	300	300	600	600	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--
A	207	252	337	422	514	590	637	727	917	987	--	1212	--
B	515	541	660	850	998	1200	1300	1400	1600	1800	--	2100	--

**FIG. N. T54 - THROUGH CONDUIT GATE VALVES ASME CLASS 1500**

SIZE	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"
L RF/BW	470	546	705	832	991	1130	1257	1384	1537	1664	--	1943	--
L RTJ	500	549	711	841	1000	1146	1276	1407	1559	1686	--	1972	--
DN	76	102	152	203	254	305	337	389	439	489	540	591	--
V	300	300	300	300	600	600	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--
A	254	271	357	437	520	532	661	747	817	897	--	1037	--
B	588	661	715	860	1010	1200	1400	1500	1600	1800	--	2200	--

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- PTFE SOFT SEATS
- STEM PROTECTION
- STEM EXTENSION
- SECONDARY SEAL
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

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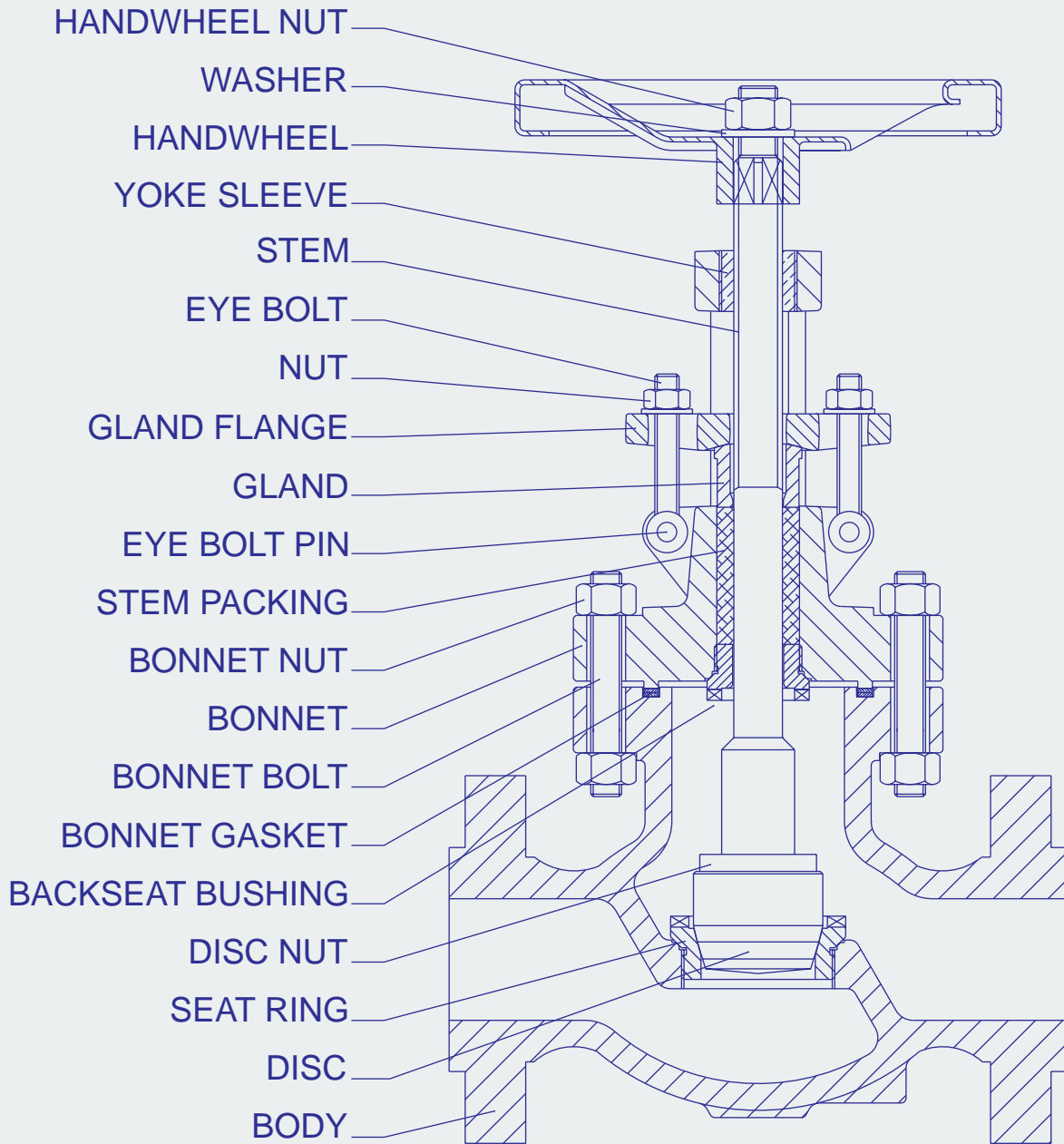
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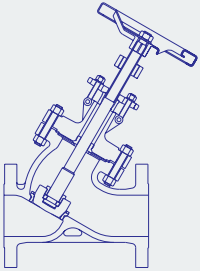
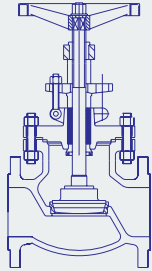
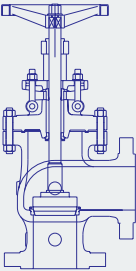
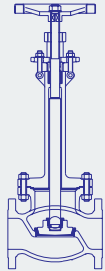
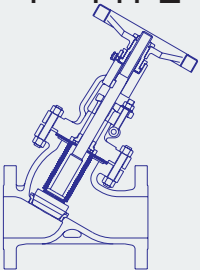
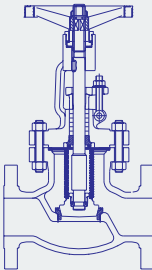
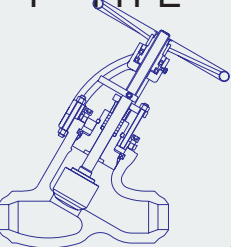
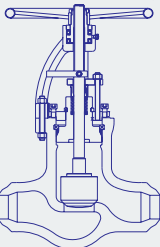
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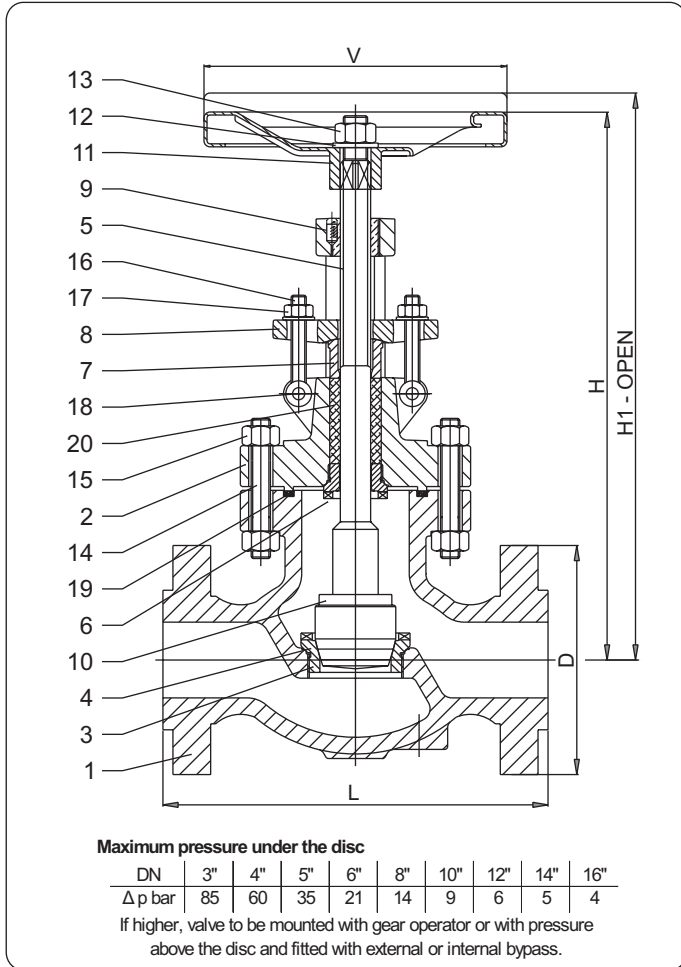
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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com

## DESCRIPTION OF A TYPICAL GLOBE VALVE



TYPE	CLASS	SIZES	FIG. N.	TYPE	CLASS	SIZES	FIG. N.
<b>GLOBE VALVES 'Y' TYPE</b>  	150	2" - 16"	<b>460Y</b>	<b>GLOBE VALVES BOLTED BONNET</b>  	150	2" - 16"	<b>460</b>
	300	2" - 16"	<b>461Y</b>		300	2" - 16"	<b>461</b>
	600	2" - 16"	<b>462Y</b>		600	2" - 16"	<b>462</b>
	900	2" - 12"	<b>463Y</b>		900	2" - 12"	<b>463</b>
	1500	2" - 12"	<b>464Y</b>		1500	2" - 12"	<b>464</b>
<b>page 22</b>				<b>page 20</b>			
<b>GLOBE VALVES ANGLE 90°</b>  	150	2" - 16"	<b>460A</b>	<b>GLOBE VALVES CRYOGENIC</b>  	150	2" - 16"	<b>460EB</b>
	300	2" - 16"	<b>461A</b>		300	2" - 16"	<b>461EB</b>
	600	2" - 16"	<b>462A</b>		600	2" - 16"	<b>462EB</b>
	900	2" - 12"	<b>463A</b>		900	2" - 12"	<b>463EB</b>
	1500	2" - 12"	<b>464A</b>		1500	2" - 12"	<b>464EB</b>
<b>page 24</b>				<b>page 26</b>			
<b>GLOBE VALVES BELLOW SEAL 'Y' TYPE</b>  	150	2" - 16"	<b>460YSO</b>	<b>GLOBE VALVES BELLOW SEAL</b>  	150	2" - 16"	<b>460SO</b>
	300	2" - 16"	<b>461YSO</b>		300	2" - 16"	<b>461SO</b>
	600	2" - 16"	<b>462YSO</b>		600	2" - 16"	<b>462SO</b>
	900	2" - 12"	<b>463YSO</b>		900	2" - 12"	<b>463SO</b>
	1500	2" - 12"	<b>464YSO</b>		1500	2" - 12"	<b>464SO</b>
<b>page 30</b>				<b>page 28</b>			
<b>GLOBE VALVES PRESSURE SEAL 'Y' TYPE</b>  	600	2" - 16"	<b>P82</b>	<b>GLOBE VALVES PRESSURE SEAL</b>  	600	2" - 16"	<b>P62</b>
	900	2" - 16"	<b>P83</b>		900	2" - 16"	<b>P63</b>
	1500	2" - 12"	<b>P84</b>		1500	2" - 12"	<b>P64</b>
	2500	2" - 12"	<b>P85</b>		2500	2" - 12"	<b>P65</b>
<b>page 34</b>				<b>page 32</b>			

### standard features



- **Description** BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
RISING HANDWHEEL  
SWIVEL PLUG DISC  
RENEWABLE SEATS
- **Design** BS 1873  
ASME B16.34  
WALL THICKNESS TO API 600
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W46x	L46x	M46x	C46x	B46x	E46x	D46x	F46x	H46x
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Bonnet</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Seat ring surface</b>	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Disc seat surface</b>	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
<b>5 Stem</b>	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
<b>6 Back seat</b>	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
<b>7 Gland</b>	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
<b>8 Gland flange</b>	A105	F316	F316	F316	F316	F316	F316	F316	F316L
<b>9 Yoke sleeve</b>	B148 9A (4)	B148 9A (4)	Nod.Iron	Nod.Iron	Nod.Iron	B148 9A (4)	B148 9A (4)	B148 9A (4)	B148 9A (4)
<b>10 Disc nut</b>	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
<b>11 Handwheel</b>					Steel				
<b>12 Plate</b>					A105				
<b>13 Handwheel nut</b>					A105				
<b>14 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>15 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>16 Eye bolts</b>	B7	B7	B8	B8	B8	B8	B8	B8	B8
<b>17 Nuts</b>	2H	2H	2H	2H	2H	G8	G8	G8	G8
<b>18 Eye bolt pin</b>	B7	B7	B7	B7	B7	B8	B8	B8	B8
<b>19 Gasket</b>						S.S spiral wound reinf. graphite / RTJ (5)			
<b>20 Packing</b>						Graphite rings & wiper rings (6)			

- (1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

- (4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

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QUALITY REGISTRAR  
ISO 9001 No. 0072



API 6 D - 0166

ISO 9001-2000  
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TUV  
SUDDETSCHLAND  
97/23/CE



TUV  
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# GLOBE VALVES

## ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 460 - GLOBE VALVES ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	203	216	241	292	356	406	495	622	699	787	914				
L RTJ	216	219	254	305	368	419	508	635	711	800	927				
D	152	178	191	229	254	279	343	406	483	533	597				
V	200	200	225	250	300	300	400 *	600 *	600 *	800 *	1000 *				
H	320	350	380	430	480	560	680	750	860	910	1240				
H1	335	370	404	460	518	605	740	825	950	1025	1375				

**FIG. N. 461 - GLOBE VALVES ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	267	292	318	356	400	445	559	622	711	838	864				
L RTJ	282	308	333	371	416	460	575	638	727	854	879				
D	165	191	210	254	279	318	381	445	521	584	648				
V	200	225	225	300	300	400 *	500 *	600 *	600 *	800 *	1000 *				
H	390	400	410	440	570	680	800	850	1010	1150	1380				
H1	405	420	434	470	608	725	860	925	1100	1255	1515				

**FIG. N. 462 - GLOBE VALVES ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	292	330	356	432	508	559	660	787	838	889	991				
L RTJ	295	333	359	435	511	562	663	790	841	892	994				
D	165	191	210	273	330	356	419	508	559	603	686				
V	200	250	250	300 *	500 *	600 *	600 *	700 *	800 *	800 *	1000 *				
H	350	515	545	600	686	780	840	1235	1311	1430	1670				
H1	365	535	569	630	724	825	900	1310	1401	1552	1805				

**FIG. N. 463 - GLOBE VALVES ASME CLASS 900**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	381	457	559	610	737	838	965
L RTJ	371	422	384	460	562	613	740	842	968
D	216	244	241	292	349	381	470	546	610
V	300	300	400 *	500 *	650 *	700 *	900 *	1000 *	1000 *
H	575	690	590	720	870	973	1140	1500	1680
H1	590	710	614	750	908	1018	1200	1575	1770

**FIG. N. 464 - GLOBE VALVES ASME CLASS 1500**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	470	546	673	705	832	991	1130
L RTJ	371	422	473	549	676	711	842	1000	1146
D	216	244	267	311	375	394	483	584	673
V	300 *	400 *	500 *	500 *	700 *	900 *	1000 *	1000 *	1000 *
H	575	690	770	840	902	973	1043	1670	1750
H1	590	710	794	870	940	1018	1103	1745	1860

\* Gear operator recommended

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- DISC WITH PTFE INSERT
- PARABOLIC DISC
- STOP CHECK DISC
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

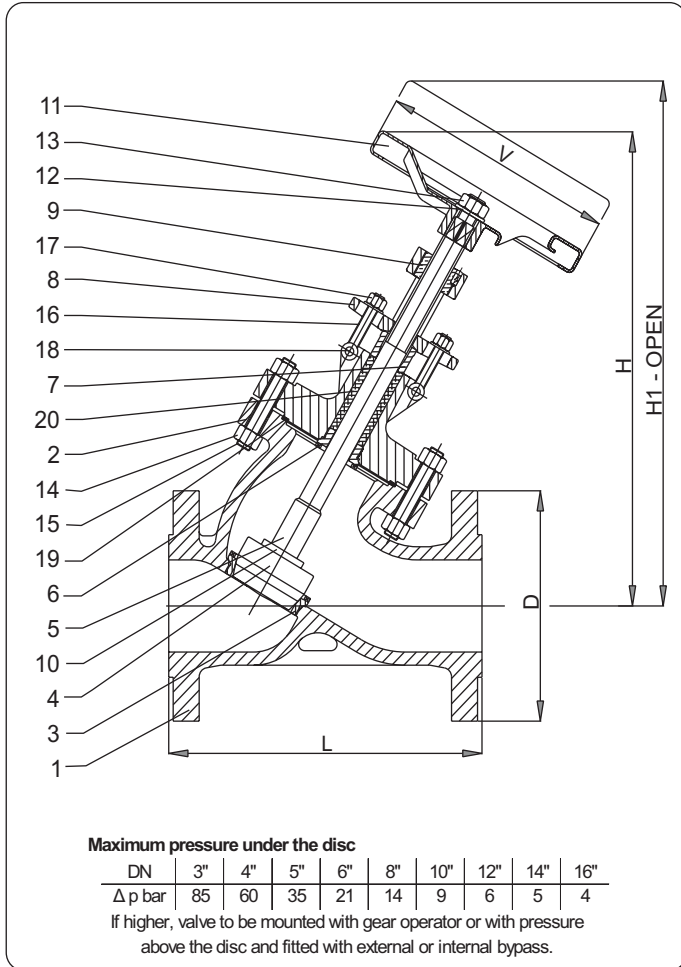
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*standard features*



- **Description** BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
RISING HANDWHEEL  
SWIVEL PLUG DISC  
RENEWABLE SEATS
- **Design** BS 1873  
ASME B16.34  
WALL THICKNESS TO API 600
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W46xY	L46xY	M46xY	C46xY	B46xY	E46xY	D46xY	F46xY	H46xY
1 Body	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
2 Bonnet	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
3 Seat ring surface	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
4 Disc seat surface	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
5 Stem	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
6 Back seat	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316
7 Gland	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316
8 Gland flange	A105	F316	F316	F316	F316	F316	F316	F316	F316
9 Yoke sleeve	B148 9A (4)	B148 9A (4)	Nod.Iron	Nod.Iron	Nod.Iron	B148 9A (4)	B148 9A (4)	B148 9A (4)	B148 9A (4)
10 Disc nut	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
11 Handwheel					Steel				
12 Plate					A105				
13 Handwheel nut					A105				B8
14 Bolts	B7	L7	B16	B16	B16	B8	B8	B8	B8
15 Nuts	2H	G4	G4	G4	G4	G8	G8	G8	G8
16 Eye bolts	B7	B7	B8	B8	B8	B8	B8	B8	B8
17 Nuts	2H	2H	2H	2H	2H	G8	G8	G8	G8
18 Eye bolt pin	B7	B7	B7	B7	B7	B8	B8	B8	B8
19 Gasket (5)					S.S. spiral wound reinf. graphite / RTJ (5)				
20 Packing (6)					Graphite rings & wiper rings (6)				

(1) On request: faced with Stellite® - Mone® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Mone® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

All data, subject to technical changes, are only for information and not for official use.

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# GLOBE VALVES - 'Y' TYPE

## ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 460Y - GLOBE VALVES - 'Y' TYPE ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	203	216	241	292	356	406	495	622	699	787	914				
L RTJ	216	219	254	305	368	419	508	635	711	800	927				
D	152	178	191	229	254	279	343	406	483	533	597				
V	200	200	225	250	300	300	400 *	500 *	500 *	800 *	800 *				
H	320	350	380	440	480	560	680	750	860	930	1250				
H1	380	430	470	550	615	720	890	1010	1170	1040	1380				

**FIG. N. 461Y - GLOBE VALVES - 'Y' TYPE ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	267	292	318	356	400	445	559	622	711	838	864				
L RTJ	282	308	333	371	416	460	575	638	727	854	879				
D	165	191	210	254	279	318	381	445	521	584	648				
V	200	225	225	300	300	400 *	500 *	600 *	800 *	1000 *	1000 *				
H	390	400	410	430	570	680	800	850	1010	1150	1390				
H1	410	420	435	520	615	735	860	930	1110	1270	1512				

**FIG. N. 462Y - GLOBE VALVES - 'Y' TYPE ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	292	330	356	432	508	559	660	787	838	889	991				
L RTJ	295	333	359	435	511	562	663	790	841	892	994				
D	165	191	210	273	330	356	419	508	559	603	686				
V	200	250	250	300 *	500 *	600 *	600 *	900 *	1000 *	1000 *	1000 *				
H	350	515	545	600	686	780	840	1235	1311	1430	1660				
H1	370	535	570	630	726	830	910	1315	1411	1550	1800				

**FIG. N. 463Y - GLOBE VALVES - 'Y' TYPE ASME CLASS 900**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	381	457	559	610	737	838	965
L RTJ	371	422	384	460	562	613	740	842	968
D	216	244	241	292	349	381	470	546	610
V	250	250	350*	500*	650*	700*	900*	1000*	1000*
H	575	690	590	720	870	973	1140	1500	1680
H1	605	730	634	780	928	1045	1230	1615	1810

**FIG. N. 464Y - GLOBE VALVES - 'Y' TYPE ASME CLASS 1500**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	470	546	673	705	832	991	1130
L RTJ	371	422	473	549	676	711	842	1000	1146
D	216	244	267	311	375	394	483	584	673
V	250*	250*	400*	500*	700*	900*	1000*	1000*	1000*
H	575	690	770	840	902	973	1043	1670	1750
H1	615	740	826	915	980	1080	1190	1760	1855

\* Gear operator recommended

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- DISC WITH PTFE INSERT
- PARABOLIC DISC
- STOP CHECK DISC
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.



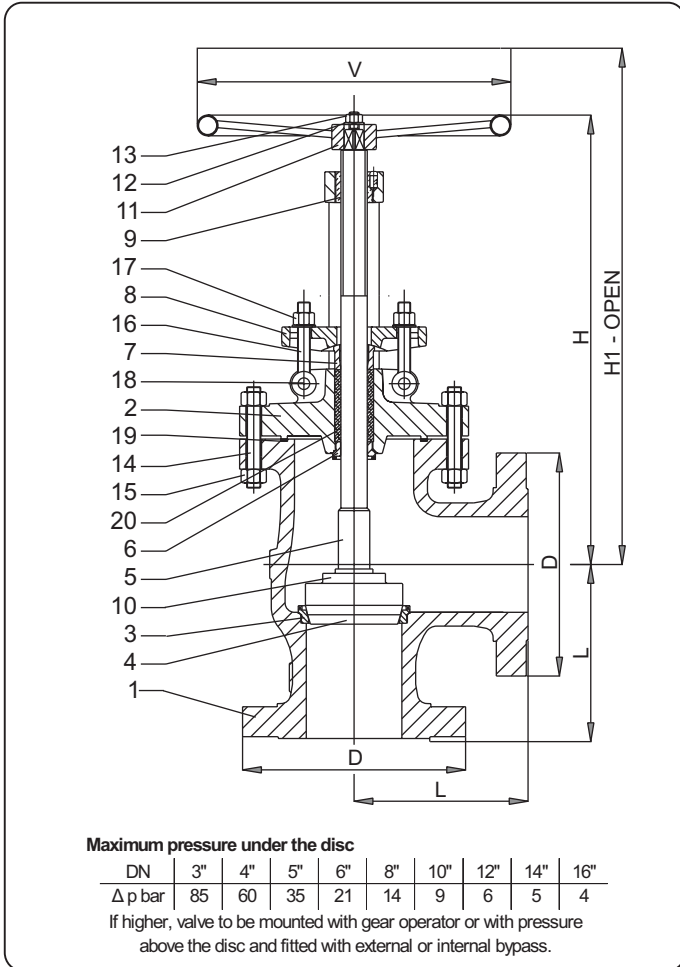
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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com

*standard features*



- **Description** BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
RISING HANDWHEEL  
SWIVEL PLUG DISC  
RENEWABLE SEATS
- **Design** BS 1873  
ASME B16.34  
WALL THICKNESS TO API 600
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W46xA	L46xA	M46xA	C46xA	B46xA	E46xA	D46xA	F46xA	H46xA
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Bonnet</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Seat ring surface</b>	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Disc seat surface</b>	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
<b>5 Stem</b>	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
<b>6 Back seat</b>	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
<b>7 Gland</b>	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
<b>8 Gland flange</b>	A105	F316	F316	F316	F316	F316	F316	F316	F316L
<b>9 Yoke sleeve</b>	B148 9A (4)	B148 9A (4)	Nod.Iron	Nod.Iron	Nod.Iron	B148 9A (4)	B148 9A (4)	B148 9A (4)	B148 9A (4)
<b>10 Disc nut</b>	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
<b>11 Handwheel</b>						Steel			
<b>12 Plate</b>						A105			
<b>13 Handwheel nut</b>						A105			
<b>14 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>15 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>16 Eye bolts</b>	B7	B7	B8	B8	B8	B8	B8	B8	B8
<b>17 Nuts</b>	2H	2H	2H	2H	2H	G8	G8	G8	G8
<b>18 Eye bolt pin</b>	B7	B7	B7	B7	B7	B8	B8	B8	B8
<b>19 Gasket</b>						S.S. spiral wound reinf. graphite / RTJ (5)			
<b>20 Packing</b>						Graphite rings & wiper rings (6)			

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

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ISO 9001 No. 0072



API 6 D - 0166

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# GLOBE VALVES - ANGLE TYPE

## ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 460A - GLOBE VALVES - ANGLE TYPE ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	102	108	121	146	178	203	248	311	349	394	457				
L RTJ	114	121	133	159	191	216	260	324	362	406	470				
D	152	178	191	229	254	279	343	406	483	533	597				
V	200	200	225	250	300	300	400 *	500 *	500 *	800 *	800 *				
H	384	420	456	516	576	672	816	900	1032	1092	1488				
H1	399	440	480	546	614	717	876	975	1122	1197	1608				

**FIG. N. 461A - GLOBE VALVES - ANGLE TYPE ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	133	146	159	178	200	222	279	311	356	(419)	(432)				
L RTJ	149	162	174	194	216	238	287	327	371	(427)	(440)				
D	165	191	210	254	279	318	381	445	521	584	648				
V	200	225	225	300	300	400 *	500 *	600 *	800 *	1000 *	1000 *				
H	468	480	492	528	684	816	960	1020	1212	1380	1656				
H1	483	500	516	558	722	861	1020	1095	1302	1485	1776				

**FIG. N. 462A - GLOBE VALVES - ANGLE TYPE ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	146	165	178	216	254	279	330	394	419	(444)	(496)				
L RTJ	149	168	181	219	257	282	333	397	422	(496)	(497)				
D	165	191	210	273	330	356	419	508	559	603	686				
V	200	250	250	300*	500*	600*	600*	900*	1000*	1000*	1000*				
H	420	618	654	720	823	936	1008	1482	1573	1716	2004				
H1	435	638	678	750	861	981	1068	1557	1663	1821	2124				

**FIG. N. 463A - GLOBE VALVES - ANGLE TYPE ASME CLASS 900**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	184	210	191	229	279	305	368	419	483
L RTJ	187	213	194	232	282	308	371	422	486
D	216	244	241	292	349	381	470	546	610
V	250	250	350*	500*	650*	700*	900*	1000*	1000*
H	690	828	708	864	1044	1168	1368	1800	2016
H1	705	848	732	894	1082	1213	1428	1875	2106

**FIG. N. 464A - GLOBE VALVES - ANGLE TYPE ASME CLASS 1500**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	216	254	305	406	483	559	711	864	991
L RTJ	219	257	308	409	486	565	721	873	1006
D	216	244	267	311	375	394	483	584	673
V	250*	250*	400*	500*	700*	900*	1000*	1000*	1000*
H	690	828	924	1008	1082	1168	1252	2004	2100
H1	705	848	948	1038	1120	1213	1312	2079	2190

\* Gear operator recommended

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- DISC WITH PTFE INSERT
- PARABOLIC DISC
- STOP CHECK DISC
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

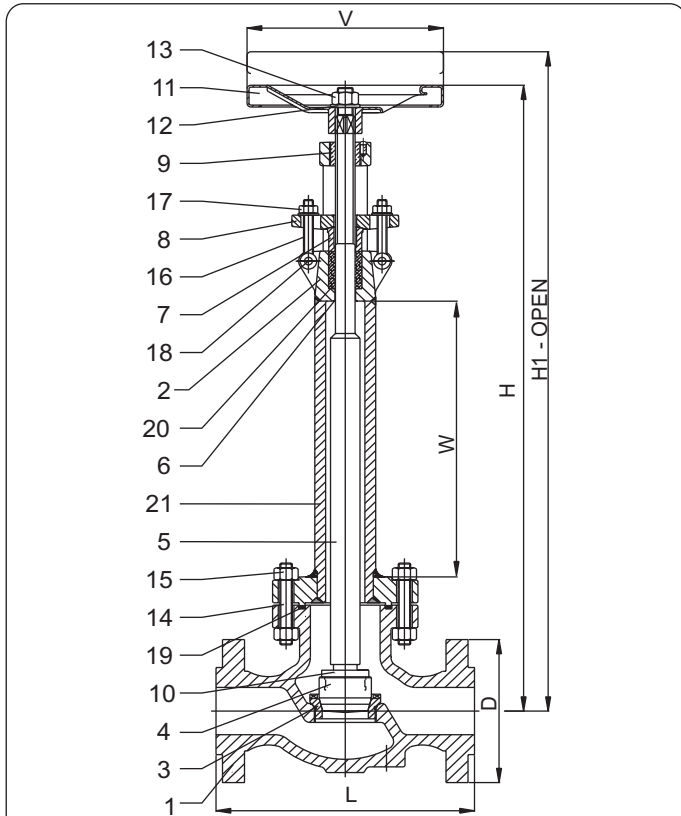


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Maximum pressure under the disc

DN	3"	4"	5"	6"	8"	10"	12"	14"	16"
$\Delta p$ bar	85	60	35	21	14	9	6	5	4

If higher, valve to be mounted with gear operator or with pressure above the disc and fitted with external or internal bypass.

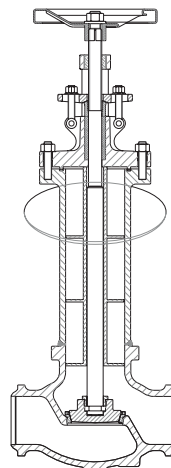
*standard features*

- **Description** BOLTED BONNET  
EXTENDED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
RISING HANDWHEEL  
SWIVEL PLUG DISC  
RENEWABLE SEATS
- **Design** BS 1873  
ASME B16.34  
WALL THICKNESS TO API 600
- **Face to face** ASME B16.10
- **Ends** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

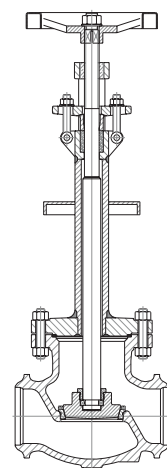
PART NAME	E46xEB	F46xEB
1 Body	CF8	CF8M
2 Bonnet	CF8	CF8M
3 Seat ring surface	F316 (1)	F316 (1)
4 Disc seat surface	F316 (2)	F316 (2)
5 Stem	F316 (3)	F316 (3)
6 Back seat (integral)	CF8	CF8M
7 Gland	F316	F316
8 Gland flange	F316	F316
9 Yoke sleeve	B148 9A (4)	B148 9A (4)
10 Disc nut	F316	F316
11 Handwheel	Steel	Steel
12 Plate	A105	A105
13 Handwheel nut	A105	A105
14 Bolts	B8	B8
15 Nuts	G8	G8
16 Eye bolts	B8	B8
17 Nuts	G8	G8
18 Eye bolt pin	B8	B8
19 Gasket	PTFE (5)	PTFE (5)
20 Packing	PTFE (6)	PTFE (6)
21 Extension	F316L	F316L

- (1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials
- (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials
- (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

*options*



FULLY EXTRACTABLE



COLD BOX

- (4) On request: Nodular Iron - Nitronic 60
- (5) On request: PTFE - other materials
- (6) On request: PTFE - other materials

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# GLOBE VALVES - CRYOGENIC

## ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 460EB - CRYOGENIC GLOBE VALVES ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	203	216	241	292	356	406	495	622	699	787	914				
L RTJ	216	219	254	305	368	419	508	635	711	800	927				
D	152	178	191	229	254	279	343	406	483	533	597				
V	200	200	225	250	300	300	400 *	500 *	500 *	800 *	800 *				
W	200	200	300	300	300	300	300	300	300	300	300				
H	520	550	680	740	780	860	980	1050	1160	1240	1320				
H1	535	570	704	770	818	905	1040	1125	1250	1360	1490				

**FIG. N. 461EB - CRYOGENIC GLOBE VALVES ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	267	292	318	356	400	445	559	622	711	838	864				
L RTJ	282	308	333	371	416	460	575	638	727	854	879				
D	165	191	210	254	279	318	381	445	521	584	648				
V	200	225	225	300	300	400 *	500 *	600 *	800 *	1000 *	1000 *				
W	200	200	300	300	300	300	300	300	300	300	300				
H	590	600	710	730	870	980	1100	1150	1310	1450	1530				
H1	605	620	734	760	908	1025	1160	1225	1400	1555	1660				

**FIG. N. 462EB - CRYOGENIC GLOBE VALVES ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	292	330	356	432	508	559	660	787	838	889	991				
L RTJ	295	333	359	435	511	562	663	790	841	892	994				
D	165	191	210	273	330	356	419	508	559	603	686				
V	200	250	250	300*	500*	600*	600*	900*	1000*	1000*	1000*				
W	200	200	300	300	300	300	300	300	300	300	300				
H	550	715	845	900	986	1080	1140	1535	1611	1700	1820				
H1	565	735	869	930	1024	1125	1200	1610	1701	1800	1930				

**FIG. N. 463EB - CRYOGENIC GLOBE VALVES ASME CLASS 900**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	381	457	559	610	737	838	965
L RTJ	371	422	384	460	562	613	740	842	968
D	216	244	241	292	349	381	470	546	610
V	250	250	350*	500*	650*	700*	900*	1000*	1000*
W	200	200	300	300	300	300	300	300	300
H	775	890	890	1020	1170	1273	1440	1800	1980
H1	790	910	914	1050	1208	1318	1500	1875	2070

**FIG. N. 464EB - CRYOGENIC GLOBE VALVES ASME CLASS 1500**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	470	546	673	705	832	991	1130
L RTJ	371	422	473	549	676	711	842	1000	1146
D	216	244	267	311	375	394	483	584	673
V	250*	250*	400*	500*	700*	900*	1000*	1000*	1000*
W	200	200	300	300	300	300	300	300	300
H	775	890	1070	1140	1202	1273	1343	1970	2050
H1	790	910	1094	1170	1240	1318	1403	2045	2160

\* Gear operator recommended

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- DISC WITH PTFE INSERT
- PARABOLIC DISC
- STOP CHECK DISC
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

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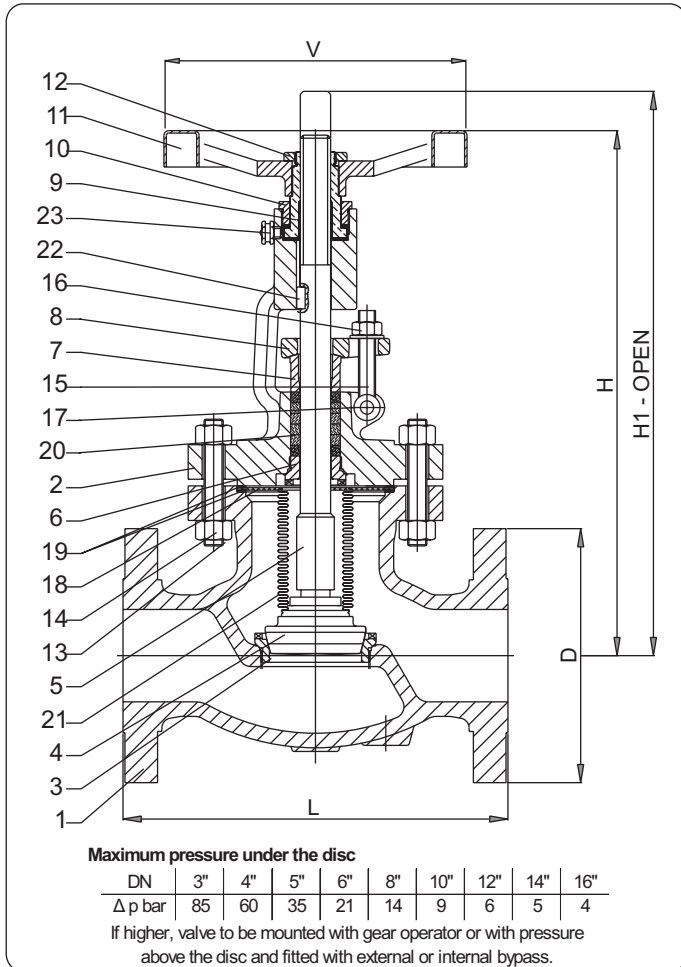
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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com

*standard features*



- Description** BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
RENEWABLE SEATS
- Design** BS 1873  
ASME B16.34  
WALL THICKNESS TO API 600
- Face to face** ASME B16.10
- Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- Testing** API 598  
API 6D  
BS 6755
- Rating** ASME B16.34
- Marking** MSS-SP 25  
CE - PED
- Certificates** EN 10204 – 3.1 B

PART NAME	W46xSO	L46xSO	M46xSO	C46xSO	B46xSO	E46xSO	D46xSO	F46xSO	H46xSO
1 Body	W CB	LCB	WC 6	C 5	C 12	CF 8	CF 8C	CF 8M	CF 3M
2 Bonnet	W CB	LCB	WC 6	C 5	C 12	CF 8	CF 8C	CF 8M	CF 3M
3 Seat ring surface	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
4 Disc seat surface	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
5 Stem	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
6 Back seat	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
7 Gland	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
8 Gland flange	A105	F316	F316	F316	F316	F316	F316	F316	F316L
9 Yoke sleeve	B148 9A (4)	B148 9A (4)	Nod.Iron	Nod.Iron	Nod.Iron	B148 9A (4)	B148 9A (4)	B148 9A (4)	B148 9A (4)
10 Yoke nut	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
11 Handwheel					Steel				
12 Handwheel nut					A105				
13 Bolts	B7	L7	B16	B16	B16	B8	B8	B8	B8
14 Nuts	2H	G4	G4	G4	G4	G8	G8	G8	G8
15 Eye bolts	B7	B7	B8	B8	B8	B8	B8	B8	B8
16 Nuts	2H	2H	2H	2H	2H	G8	G8	G8	G8
17 Eye bolt pin	B7	B7	B7	B7	B7	B8	B8	B8	B8
18 Bellow flange					A182 F321				
19 Gasket					S.S. spiral wound reinf. graphite / RTJ (5)				
20 Packing					Graphite rings & wiper rings (6)				
21 Bellow					A182 F321				
22 No rot. Device	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
23 Grease nipple					Steel				

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

All data, subject to technical changes, are only for information and not for official use.

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# GLOBE VALVES - BELLOW SEAL ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 460SO - GLOBE VALVES BELLOW SEAL ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	203	216	241	292	356	406	495	622	699	787	914				
L RTJ	216	219	254	305	368	419	508	635	711	800	927				
D	152	178	191	229	254	279	343	406	483	533	597				
V	200	200	225	250	300	300	400*	500*	500*	800*	800*				
H	340	370	400	440	500	580	700	800	900	970	1270				
H1	355	390	424	470	538	625	760	875	990	1090	1410				

**FIG. N. 461SO - GLOBE VALVES BELLOW SEAL ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	267	292	318	356	400	445	559	622	711	838	864				
L RTJ	282	308	333	371	416	460	575	638	727	854	879				
D	165	191	210	254	279	318	381	445	521	584	648				
V	200	225	225	300	300	400*	500*	600*	800*	1000*	1000*				
H	410	420	430	480	590	700	820	900	1050	1200	1440				
H1	425	440	454	504	628	745	880	975	1140	1320	1800				

**FIG. N. 462SO - GLOBE VALVES BELLOW SEAL ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	292	330	356	432	508	559	660	787	838	889	991				
L RTJ	295	333	359	435	511	562	663	790	841	892	994				
D	165	191	210	273	330	356	419	508	559	603	686				
V	200	250	250	300*	500*	600*	600*	900*	1000*	1000*	1000*				
H	370	525	565	620	700	800	860	1280	1350	1490	1720				
H1	385	545	589	650	738	845	920	1355	1440	1630	2100				

**FIG. N. 463SO - GLOBE VALVES BELLOW SEAL ASME CLASS 900**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	381	457	559	610	737	838	965
L RTJ	371	422	384	460	562	613	740	842	968
D	216	244	241	292	349	381	470	546	610
V	250	250	350*	500*	650*	700*	900*	1000*	1000*
H	590	710	610	750	890	1000	1170	1540	1720
H1	605	730	634	780	928	1045	1230	1615	1810

**FIG. N. 464SO - GLOBE VALVES BELLOW SEAL ASME CLASS 1500**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	470	546	673	705	832	991	1130
L RTJ	371	422	473	549	676	711	842	1000	1146
D	216	244	267	311	375	394	483	584	673
V	250*	250*	400*	500*	700*	900*	1000*	1000*	1000*
H	590	710	790	860	930	1000	1100	1720	1810
H1	605	730	814	890	968	1045	1160	1795	1950

\* Gear operator recommended

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- DISC WITH PTFE INSERT
- PARABOLIC DISC
- STOP CHECK DISC
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

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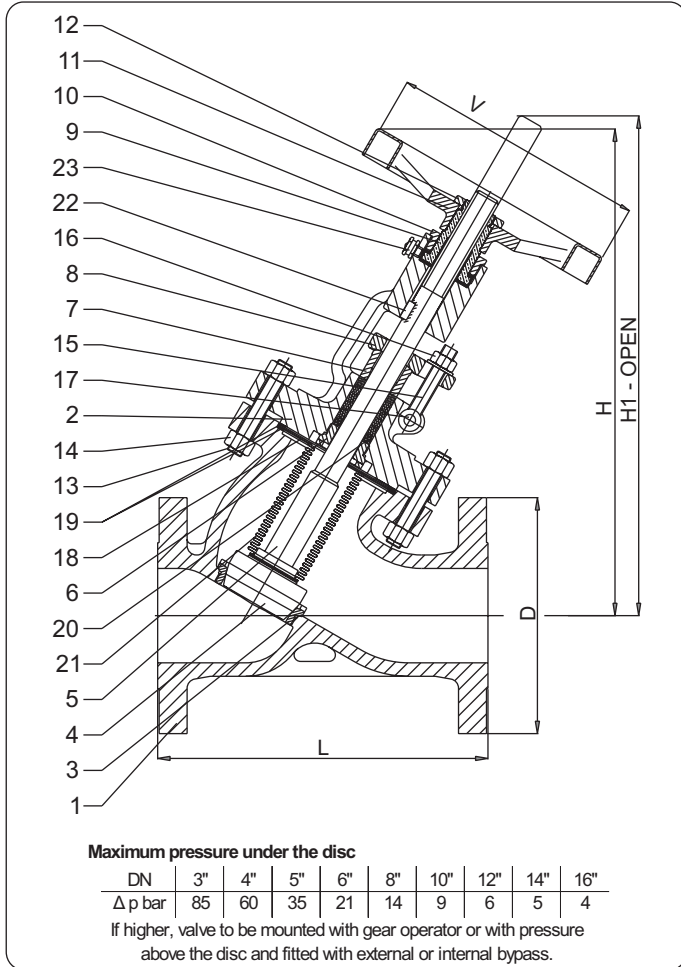


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### standard features

- **Description** BOLTED BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
RENEWABLE SEATS
- **Design** BS 1873  
ASME B16.34  
WALL THICKNESS TO API 600
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W46xYSO	L46xYSO	M46xYSO	C46xYSO	B46xYSO	E46xYSO	D46xYSO	F46xYSO	H46xYSO
1 Body	W CB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
2 Bonnet	W CB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
3 Seat ring surface	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
4 Disc seat surface	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
5 Stem	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
6 Back seat	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
7 Gland	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
8 Gland flange	A105	F316	F316	F316	F316	F316	F316	F316	F316L
9 Yoke sleeve	B148 9A (4)	B148 9A (4)	Nod.Iron	Nod.Iron	Nod.Iron	B148 9A (4)	B148 9A (4)	B148 9A (4)	B148 9A (4)
10 Yoke nut	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
11 Handwheel			← Steel →						
12 Handwheel nut			← A105 →						
13 Bolts	B7	L7	B16	B16	B16	B8	B8	B8	B8
14 Nuts	2H	G4	G4	G4	G4	G8	G8	G8	G8
15 Eye bolts	B7	B7	B8	B8	B8	B8	B8	B8	B8
16 Nuts	2H	2H	2H	2H	2H	G8	G8	G8	G8
17 Eye bolt pin	B7	B7	B7	B7	B7	B8	B8	B8	B8
18 Bellow flange			← A182 F321 →						
19 Gasket			← S.S. spiral wound reinf. graphite / RTJ (5) →						
20 Packing			← Graphite rings & wiper rings (6) →						
21 Bellow			← A182 F321 →						
22 No rot. Device	F6A	F6A	F6A	F6A	F6A	F304	F321	F316	F316L
23 Grease nipple			← Steel →						

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

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# GLOBE VALVES - BELLOW SEAL 'Y' TYPE ANSI 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 460YSO - GLOBE V. BELLOW SEAL Y TYPE ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	203	216	241	292	356	406	495	622	699	787	914				
L RTJ	216	219	254	305	368	419	508	635	711	800	927				
D	152	178	191	229	254	279	343	406	483	533	597				
V	200	200	225	250	300	300	400*	500*	500*	800*	800*				
H	320	350	380	440	480	560	680	750	860	930	1250				
H1	380	430	470	550	615	720	890	1010	1170	1040	1380				

**FIG. N. 461YSO - GLOBE V. BELLOW SEAL Y TYPE ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	267	292	318	356	400	445	559	622	711	838	864				
L RTJ	282	308	333	371	416	460	575	638	727	854	879				
D	165	191	210	254	279	318	381	445	521	584	648				
V	200	225	225	300	300	400*	500*	600*	800*	1000*	1000*				
H	390	400	410	430	570	680	800	850	1010	1150	1390				
H1	410	420	435	520	615	735	860	930	1110	1270	1512				

**FIG. N. 462YSO - GLOBE V. BELLOW SEAL Y TYPE ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF/BW	292	330	356	432	508	559	660	787	838	889	991				
L RTJ	295	333	359	435	511	562	663	790	841	892	994				
D	165	191	210	273	330	356	419	508	559	603	686				
V	200	250	250	300*	500*	600*	600*	900*	1000*	1000*	1000*				
H	350	515	545	600	686	780	840	1235	1311	1430	1660				
H1	370	535	570	630	726	830	910	1315	1411	1550	1800				

**FIG. N. 463YSO - GLOBE V. BELLOW SEAL Y TYPE ASME CLASS 900**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	381	457	559	610	737	838	965
L RTJ	371	422	384	460	562	613	740	842	968
D	216	244	241	292	349	381	470	546	610
V	250	250	350*	500*	650*	700*	900*	1000*	1000*
H	575	690	590	720	870	973	1140	1500	1680
H1	605	730	634	780	928	1045	1230	1615	1810

**FIG. N. 464YSO - GLOBE V. BELLOW SEAL Y TYPE ASME CLASS 1500**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L RF/BW	368	419	470	546	673	705	832	991	1130
L RTJ	371	422	473	549	676	711	842	1000	1146
D	216	244	267	311	375	394	483	584	673
V	250*	250*	400*	500*	700*	900*	1000*	1000*	1000*
H	575	690	770	840	902	973	1043	1670	1750
H1	615	740	826	915	980	1080	1190	1760	1855

\* Gear operator recommended

*features on request*

- TOP FLANGE TO ISO 5210
- GEAR OPERATOR
- CHAIN WHEEL OPERATOR
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- ELECTRIC ACTUATOR
- POSITION INDICATOR
- LIMIT SWITCHES
- LOCKING / INTERLOCK SYSTEM
- DISC WITH PTFE INSERT
- PARABOLIC DISC
- STOP CHECK DISC
- STEM PROTECTION
- STEM EXTENSION
- LANTERN RING
- EXTENDED STUFFING BOX
- LIVE LOADED PACKING
- DRAIN PLUG
- BY PASS
- BW ENDS
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

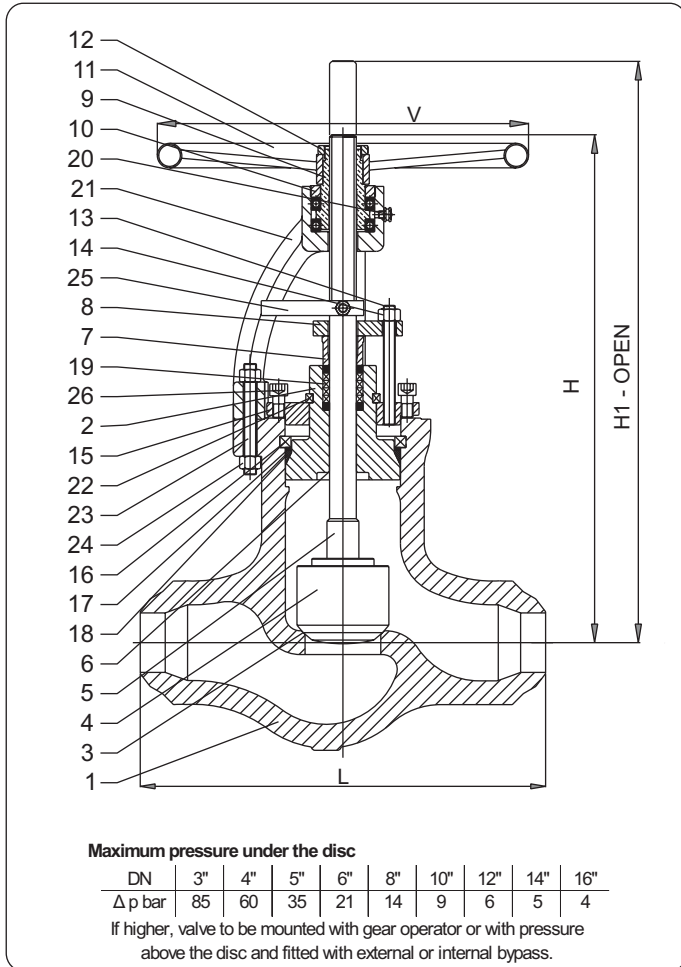


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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com



### standard features

- **Description** PRESSURE SEAL BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
INTEGRAL BACKSEAT  
INTEGRAL SEAT  
LOOSE DISC
- **Design** BS 1873  
ASME B16.34
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5 FOR 2" TO 24"  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 - 3.1 B

PART NAME	WP6x	IP6x	MP6x	WCP6x	FP6x
1 Body	WCB	WC1	WC6	WC9	CF8M
2 Bonnet	WCB	WC1	WC6	WC9	CF8M
3 Seat (integral)		←	Stellite® (2)	→	
4 Disc seat surface	WCB + HF (1)	WC1 + HF (1)	WC6 + HF (1)	WC9 + HF (1)	CF8M + HF (1)
5 Stem	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F316 (3)
6 Back seat (integral)		←	Stellite® (2)	→	
7 Gland	F6A	F6A	F6A	F6A	F316
8 Gland flange	A105	F316	F316	F316	F316
9 Yoke sleeve		←	B148 9A (4)	→	
10 Yoke nut	A 105	A 105	A 105	A 105	F316
11 Handwheel		←	Steel	→	
12 Handwheel nut		←	A105	→	
13 Bolts	B7	B16	B16	B16	B8
14 Nuts	2H	G4	G4	G4	G8
15 Retaining ring	A105	F6A	F6A	F6A	F316
16 Segmental retaining ring	F6A	F6A	F6A	F6A	F316
17 Spacer ring	F6A	F6A	F6A	F6A	F316
18 Gasket		←	S.S. reinforced graphite (5)	→	
19 Packing		←	Graphite rings & wiper rings	→	
20 Grease nipple		←	Steel	→	
21 Yoke	WCB	WC1	WC6	WC9	CF8M
22 Segmental ring	F6A	F6A	F6A	F6A	F316
23 Yoke / body bolt	B7	B16	B16	B16	B8
24 Yoke / body nut	2H	G4	G4	G4	G8
25 No rotation device	2H	G4	G4	G4	G8
26 Bolts	B7	B16	B16	B16	B8

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: Metal

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# GLOBE VALVES - PRESSURE SEAL ASME 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. P62 - GLOBE VALVES PRESSURE SEAL ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF	292	356	432	559	660	787	838	889	991	--	--	--	--
L RTJ	295	359	435	562	663	790	841	892	994	--	--	--	--
L BW	292	356	432	559	660	787	838	889	991	--	--	--	--
V	200	250	300	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--
H	500	550	590	840	970	1160	1300	1480	1680	--	--	--	--
H1	540	600	670	930	1120	1350	1525	1750	1980	--	--	--	--

**FIG. N. P63 - GLOBE VALVES PRESSURE SEAL ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF	368	381	457	610	737	838	965	1029	1130	--	--	--	--
L RTJ	371	384	460	613	740	842	968	1038	1140	--	--	--	--
L BW	368	381	457	610	737	838	965	1029	1130	--	--	--	--
V	250	300	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--
H	500	550	590	840	970	1160	1300	1585	1639	--	--	--	--
H1	540	600	670	930	1120	1350	1525	1850	1940	--	--	--	--

**FIG. N. P64 - GLOBE VALVES PRESSURE SEAL ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	--	--	--	--	--	--
L RF	368	470	546	705	832	991	1130	--	--	--	--	--	--
L RTJ	371	473	549	711	842	1000	1146	--	--	--	--	--	--
L BW	368	470	546	705	832	991	1130	--	--	--	--	--	--
V	250	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--	--	--
H	500	550	590	840	970	1250	1400	--	--	--	--	--	--
H1	540	600	670	930	1120	1350	1525	--	--	--	--	--	--

**FIG. N. P65 - GLOBE VALVES PRESSURE SEAL ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	--	--	--	--	--	--
L RF	451	578	673	914	1022	1270	1422	--	--	--	--	--	--
L RTJ	454	584	683	927	1038	1292	1445	--	--	--	--	--	--
L BW	451	578	673	914	1022	1270	1422	--	--	--	--	--	--
V	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--	--	--
H	500	550	600	860	1000	1330	1700	--	--	--	--	--	--
H1	540	600	680	950	1150	1430	1825	--	--	--	--	--	--

*features on request*

- |  |  |
|--|--|
| <input type="checkbox"/> TOP FLANGE TO ISO 5210          | <input type="checkbox"/> STEM PROTECTION       |
| <input type="checkbox"/> GEAR OPERATOR                   | <input type="checkbox"/> STEM EXTENSION        |
| <input type="checkbox"/> CHAIN WHEEL OPERATOR            | <input type="checkbox"/> LANTERN RING          |
| <input type="checkbox"/> PNEUMATIC OR HYDRAULIC ACTUATOR | <input type="checkbox"/> EXTENDED STUFFING BOX |
| <input type="checkbox"/> ELECTRIC ACTUATOR               | <input type="checkbox"/> LIVE LOADED PACKING   |
| <input type="checkbox"/> POSITION INDICATOR              | <input type="checkbox"/> DRAIN PLUG            |
| <input type="checkbox"/> LIMIT SWITCHES                  | <input type="checkbox"/> BY PASS               |
| <input type="checkbox"/> LOCKING / INTERLOCK SYSTEM      | <input type="checkbox"/> FLANGED ENDS          |
| <input type="checkbox"/> PTFE SOFT SEATS                 | <input type="checkbox"/> DIN CONNECTIONS       |

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

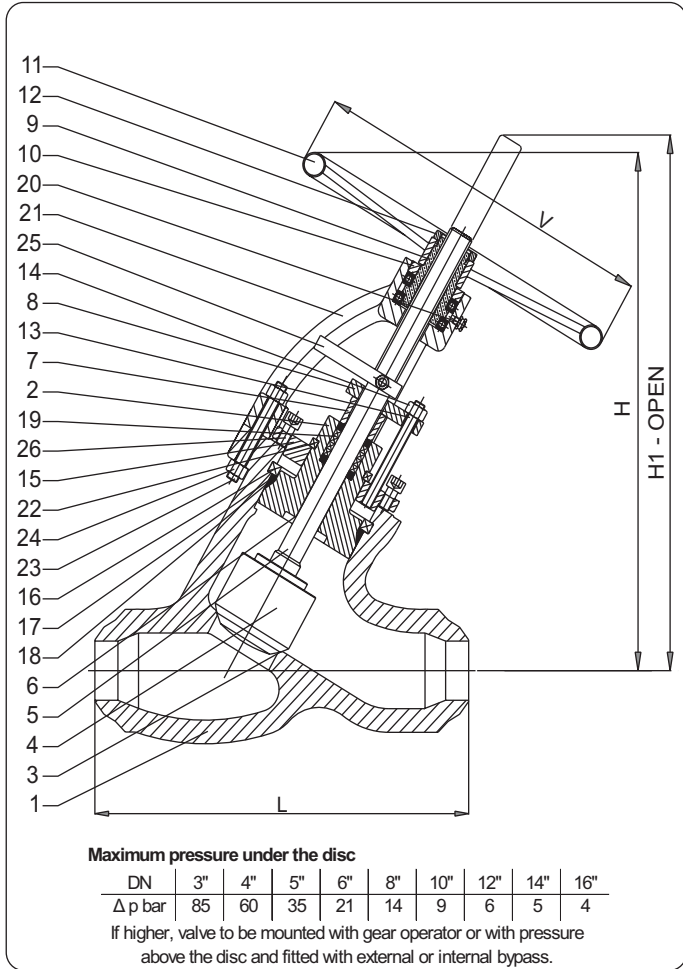


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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com



*standard features*

- **Description** PRESSURE SEAL BONNET  
OUTSIDE SCREW AND YOKE  
RISING STEM  
NON RISING HANDWHEEL  
INTEGRAL BACKSEAT  
INTEGRAL SEAT  
LOOSE DISC
- **Design** BS 1873  
ASME B16.34
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5 FOR 2" TO 24"  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 - 3.1 B

PART NAME	WP8x	IP8x	MP8x	WCP8x	FP8x
1 Body	WCB	WC1	WC6	WC9	CF8M
2 Bonnet	WCB	WC1	WC6	WC9	CF8M
3 Seat (integral)		← <i>Stellite® (2)</i> →			
4 Disc seat surface	WCB + HF (1)	WC1 + HF (1)	WC6 + HF (1)	WC9 + HF (1)	CF8M + HF (1)
5 Stem	F6A (3)	F6A (3)	F6A (3)	F6A (3)	F316 (3)
6 Back seat (integral)		← <i>Stellite® (2)</i> →			
7 Gland	F6A	F6A	F6A	F6A	F316
8 Gland flange	A105	F316	F316	F316	F316
9 Yoke sleeve		← <i>B148 9A (4)</i> →			
10 Yoke nut	A 105	A 105	A 105	A 105	F316
11 Handwheel		← <i>Steel</i> →			
12 Handwheel nut		← <i>A105</i> →			
13 Bolts	B7	B16	B16	B16	B8
14 Nuts	2H	G4	G4	G4	G8
15 Retaining ring	A105	F6A	F6A	F6A	F316
16 Segmental retaining ring	F6A	F6A	F6A	F6A	F316
17 Spacer ring	F6A	F6A	F6A	F6A	F316
18 Gasket		← <i>S.S. reinforced graphite (5)</i> →			
19 Packing		← <i>Graphite rings &amp; wiper rings</i> →			
20 Grease nipple		← <i>Steel</i> →			
21 Yoke	WCB	WC1	WC6	WC9	CF8M
22 Segmental ring	F6A	F6A	F6A	F6A	F316
23 Yoke / body bolt	B7	B16	B16	B16	B8
24 Yoke / body nut	2H	G4	G4	G4	G8
25 No rotation device	2H	G4	G4	G4	G8
26 Bolts	B7	B16	B16	B16	B8

(1) On request: faced with Stellite® Monel® Hastelloy® other materials  
 (2) On request: faced with Stellite® Monel® Hastelloy® other materials  
 (3) On request: 17 Cr - Monel® Hastelloy® other materials

(4) On request: Nodular Iron - Nitronic 60  
 (5) On request: PTFE - other materials  
 (6) On request: PTFE - other materials

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# GLOBE VALVES PRESSURE SEAL - Y TYPE

## ASME 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. P82 - GLOBE VALVES PRESSURE SEAL - Y TYPE - ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF	292	356	432	559	660	787	838	889	991	--	--	--	--
L RTJ	295	359	435	562	663	790	841	892	994	--	--	--	--
L BW	292	356	432	559	660	787	838	889	991	--	--	--	--
V	200	250	300	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--
H	500	550	590	840	970	1080	1200	1360	1540	--	--	--	--
H1	540	600	670	930	1120	1270	1425	1620	1840	--	--	--	--

**FIG. N. P83 - GLOBE VALVES PRESSURE SEAL - Y TYPE - ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	--	--	--	--
L RF	368	381	457	610	737	838	965	1029	1130	--	--	--	--
L RTJ	371	384	460	613	740	842	968	1038	1140	--	--	--	--
L BW	368	381	457	610	737	838	965	1029	1130	--	--	--	--
V	250	300	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--
H	500	550	640	900	960	1080	1200	1380	1585	--	--	--	--
H1	540	600	715	995	1110	1380	1425	1643	1885	--	--	--	--

**FIG. N. P84 - GLOBE VALVES PRESSURE SEAL - Y TYPE - ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	--	--	--	--	--	--
L RF	368	470	546	705	832	991	1130	--	--	--	--	--	--
L RTJ	371	473	549	711	842	1000	1146	--	--	--	--	--	--
L BW	368	470	546	705	832	991	1130	--	--	--	--	--	--
V	250	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--	--	--
H	520	550	640	900	1165	1210	1575	--	--	--	--	--	--
H1	560	600	715	995	1315	1400	1800	--	--	--	--	--	--

**FIG. N. P85 - PRESSURE SEAL GLOBE VALVES - Y TYPE - ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	--	--	--	--	--	--
L RF	451	578	673	914	1022	1270	1422	--	--	--	--	--	--
L RTJ	454	584	683	927	1038	1292	1445	--	--	--	--	--	--
L BW	451	578	673	914	1022	1270	1422	--	--	--	--	--	--
V	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	G.O.	--	--	--	--	--	--
H	550	550	670	1145	1235	1435	1610	--	--	--	--	--	--
H1	590	600	750	1240	1385	1625	1835	--	--	--	--	--	--

*features on request*

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> TOP FLANGE TO ISO 5210</li> <li><input type="checkbox"/> GEAR OPERATOR</li> <li><input type="checkbox"/> CHAIN WHEEL OPERATOR</li> <li><input type="checkbox"/> PNEUMATIC OR HYDRAULIC ACTUATOR</li> <li><input type="checkbox"/> ELECTRIC ACTUATOR</li> <li><input type="checkbox"/> POSITION INDICATOR</li> <li><input type="checkbox"/> LIMIT SWITCHES</li> <li><input type="checkbox"/> LOCKING / INTERLOCK SYSTEM</li> <li><input type="checkbox"/> PTFE SOFT SEATS</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> STEM PROTECTION</li> <li><input type="checkbox"/> STEM EXTENSION</li> <li><input type="checkbox"/> LANTERN RING</li> <li><input type="checkbox"/> EXTENDED STUFFING BOX</li> <li><input type="checkbox"/> LIVE LOADED PACKING</li> <li><input type="checkbox"/> DRAIN PLUG</li> <li><input type="checkbox"/> BY PASS</li> <li><input type="checkbox"/> FLANGED ENDS</li> <li><input type="checkbox"/> DIN CONNECTIONS</li> </ul> |
|---|--|

All dimensions in mm (except where differently indicated)

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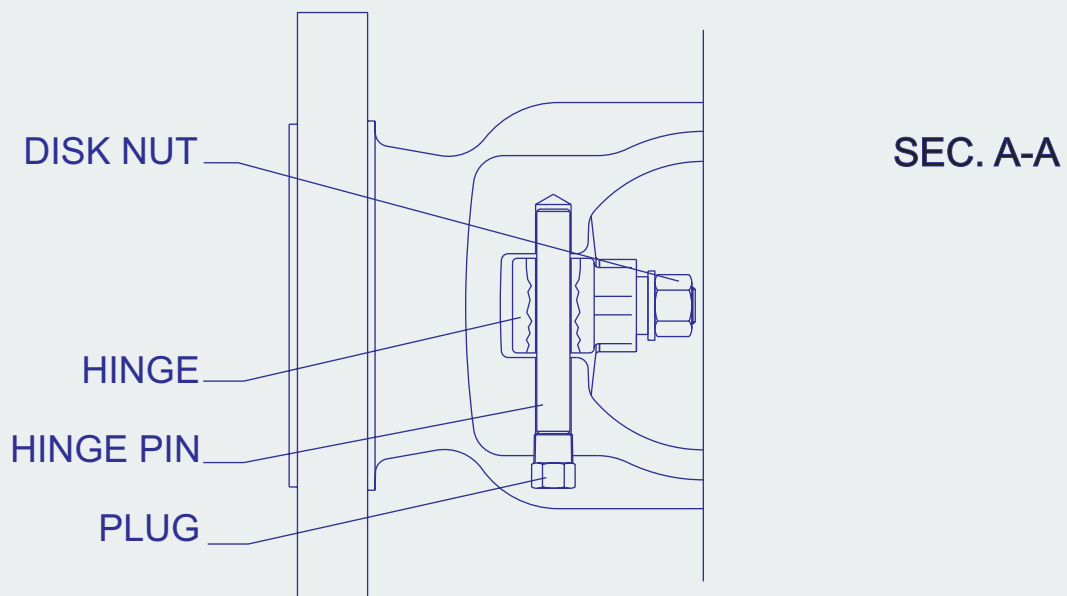
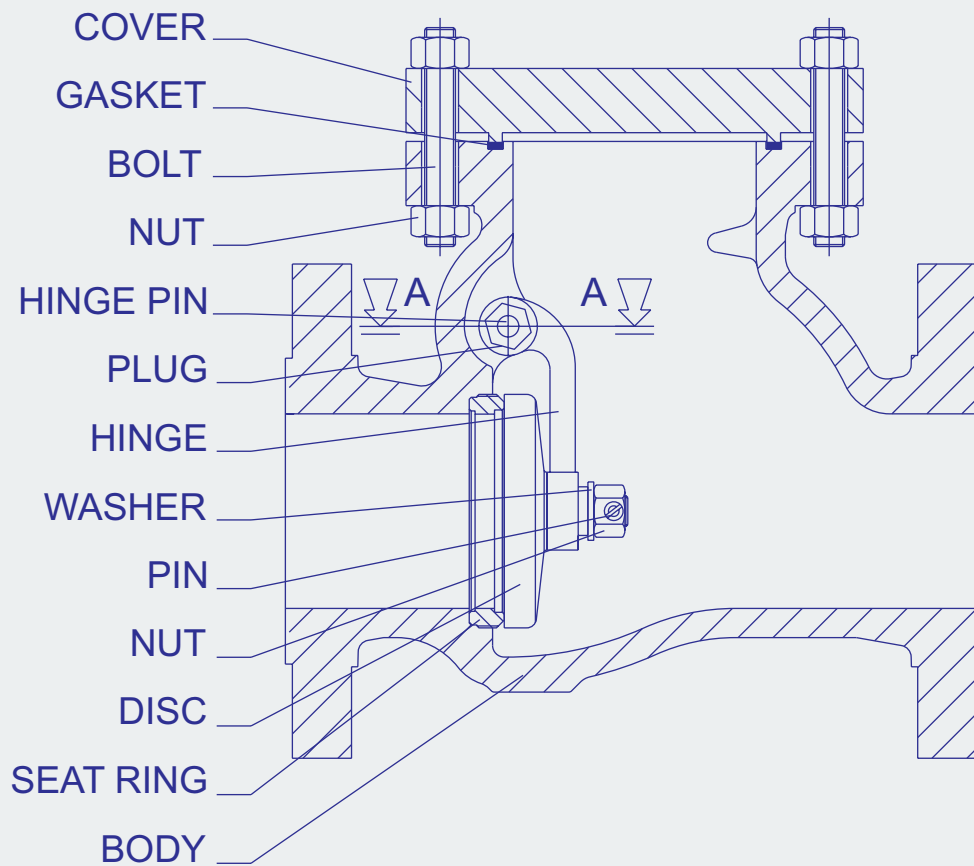
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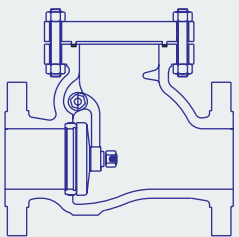
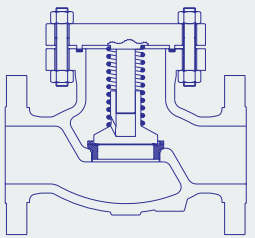
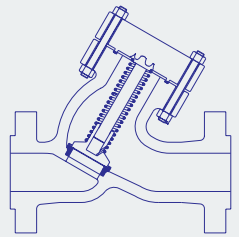
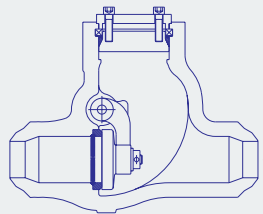
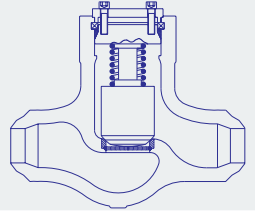
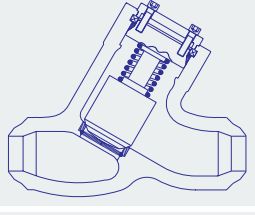
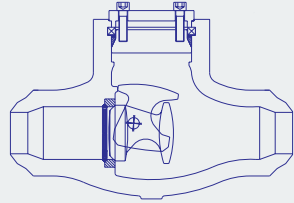
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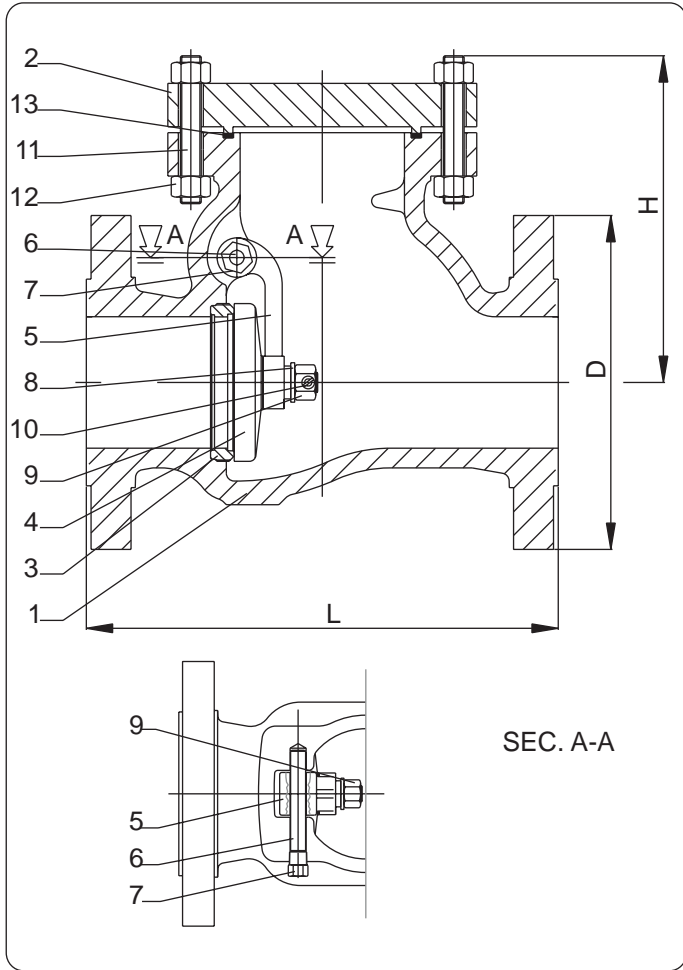


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Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com

## DESCRIPTION OF A TYPICAL SWING CHECK VALVE



	<b>TYPE</b>	<b>CLASS</b>	<b>SIZES</b>	<b>FIG. N.</b>
	SWING CHECK VALVES	150	2" - 48"	<b>470</b>
		300	2" - 48"	<b>471</b>
	REGULAR TYPE OR FULL OPENING	600	2" - 40"	<b>472</b>
		900	2" - 24"	<b>473</b>
		1500	2" - 24"	<b>474</b>
		2500	2" - 12"	<b>475</b>
	<b>page 38</b>			
	PISTON CHECK VALVES	150	2" - 16"	<b>460PC</b>
		300	2" - 16"	<b>461PC</b>
		600	2" - 12"	<b>462PC</b>
		900	2" - 12"	<b>463PC</b>
		1500	2" - 12"	<b>464PC</b>
	<b>page 40</b>			
	PISTON CHECK VALVES	150	2" - 24"	<b>490PC</b>
		300	2" - 24"	<b>491PC</b>
	'Y' TYPE	600	2" - 24"	<b>492PC</b>
		900	2" - 16"	<b>493PC</b>
		1500	2" - 16"	<b>494PC</b>
		2500	2" - 12"	<b>495PC</b>
	<b>page 42</b>			
	SWING CHECK VALVES	600	2" - 24"	<b>P72</b>
		900	2" - 24"	<b>P73</b>
	PRESSURE SEAL	1500	2" - 24"	<b>P74</b>
		2500	2" - 12"	<b>P75</b>
	<b>page 44</b>			
	LIFT CHECK VALVES	600	2" - 16"	<b>P62PC</b>
	PRESSURE SEAL	900	2" - 16"	<b>P63PC</b>
	'STRAIGHT'	1500	2" - 12"	<b>P64PC</b>
		2500	2" - 12"	<b>P65PC</b>
	<b>page 46</b>			
	LIFT CHECK VALVES	600	2" - 16"	<b>P82PC</b>
	PRESSURE SEAL	900	2" - 16"	<b>P83PC</b>
	'Y' PATTERN	1500	2" - 12"	<b>P84PC</b>
		2500	2" - 12"	<b>P85PC</b>
	<b>page 48</b>			
	TILTING DISC CHECK VALVES	600	2" - 24"	<b>P72T</b>
	PRESSURE SEAL	900	2" - 24"	<b>P73T</b>
		1500	2" - 24"	<b>P74T</b>
		2500	2" - 12"	<b>P75T</b>
	<b>page 50</b>			



*standard features*

- **Description** REGULAR TYPE OR FULL OPENING  
BOLTED COVER  
LAPPED DISC AND SEAT  
WALL THICKNESS TO API 600  
RENEWABLE SEAT
- **Design** BS 1868  
API 6D  
ASME B16.34
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5 FOR 2" TO 24"  
ASME B16.47 FOR 26"  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W47x	L47x	M47x	C47x	B47x	E47x	D47x	F47x	H47x
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Cover</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Seat ring surface</b>	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Disc seat surface</b>	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
<b>5 Hinge</b>	A105 (3)	LF2 (3)	F316 (3)	F316 (3)	F316 (3)	F304 (3)	F321 (3)	F316 (3)	F316L (3)
<b>6 Hinge pin</b>	F6A	F6A	F6A	F6A	F6A	F316L	F321	F316	F316L
<b>7 Plug</b>	A105	F316	F316	F316	F316	F316	F316	F316	F316L
<b>8 Washer</b>	A105	F316	F316	F316	F316	F316	F316	F316	F316
<b>9 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>10 Pin</b>									
<b>11 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>12 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>13 Gasket</b>	ANSI 150 300 600 900 1500: S.S. spiral wound reinf. graphite / RTJ ANSI 2500: RTJ (4)								

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: 17 Cr - Monel® - Hastelloy® - other materials

(4) On request: PTFE - other materials

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# SWING CHECK VALVES

## ASME 150 - 300 - 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 470 - SWING CHECK VALVES ANSI 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"	42"	48"
L RF/BW	203	216	241	292	330	356	495	622	699	787	864	978	978	1295	1448	1524	---	---	1956	---	---	---
L RTJ	216	229	254	305	343	368	508	635	711	800	876	991	991	1308	---	---	---	---	---	---	---	---
D	152	178	191	229	254	279	343	406	483	533	597	635	699	813	927	984	1060	1111	1168	1289	1346	1511
H	150	180	195	220	230	270	330	350	400	440	490	550	620	740	800	840	900	960	1040	1150	1280	1350

**FIG. N. 471 - SWING CHECK VALVES ANSI 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"	42"	48"
L RF/BW	267	292	318	356	400	445	533	622	711	838	864	978	1016	1346	1499	1594	---	---	2083	---	---	---
L RTJ	282	308	333	371	416	460	549	638	727	854	879	994	1035	1369	1524	1619	---	---	2111	---	---	---
D	165	191	210	254	279	318	381	445	521	584	648	711	775	914	1035	1092	1149	1207	1270	1238	1289	1467
H	150	180	200	225	270	300	355	390	445	495	530	610	660	750	---	---	---	---	---	---	---	---

**FIG. N. 472 - SWING CHECK VALVES ANSI 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	34"	36"	40"	42"	48"
L RF/BW	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1549	1651	---	---	2083	---	---	---
L RTJ	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1560	1664	---	---	2099	---	---	---
D	165	191	210	273	330	356	419	508	559	603	686	743	813	940	1073	1130	1194	1245	1315	1321	---	---
H	194	211	230	292	306	368	408	468	516	564	666	740	838	---	---	---	---	---	---	---	---	---

**FIG. N. 473 - SWING CHECK VALVES ANSI 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"
L RF/BW	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	---
L RTJ	371	384	460	613	740	842	968	1038	1140	1232	1334	1568	---
D	216	241	292	381	470	546	610	641	705	787	857	1041	---
H	263	265	326	352	409	536	600	700	762	822	885	1000	---

**FIG. N. 474 - SWING CHECK VALVES ANSI 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"
L RF/BW	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943	---
L RTJ	371	473	549	711	842	1000	1146	1276	1407	1559	1686	1972	---
D	216	267	311	394	483	584	673	749	826	914	984	1168	---
H	263	304	423	506	716	762	818	---	---	---	---	---	---

**FIG. N. 475 - SWING CHECK VALVES ANSI 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"
L RF/BW	451	578	673	914	1022	1270	1422	---	---	---	---	---	---
L RTJ	454	584	683	927	1038	1292	1445	---	---	---	---	---	---
D	235	305	356	483	552	673	762	---	---	---	---	---	---
H	---	---	---	---	---	---	---	---	---	---	---	---	---

*features on request*

- DISC WITH PTFE OR RUBBER
- LEVER AND WEIGHT
- SHOCK ABSORBER
- LOCKING DEVICE
- INTEGRAL SEAT
- DRAIN PLUG
- BY PASS
- BW ENDS
- RTJ FLANGES
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

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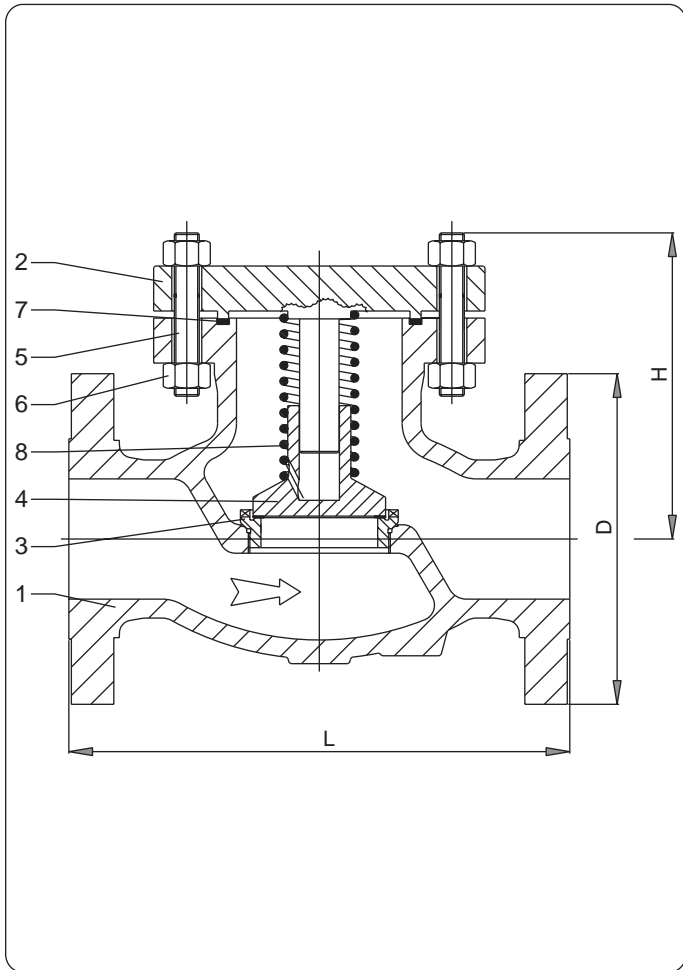


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*standard features*

- **Description** BOLTED COVER  
RETURN SPRING  
WALL THICKNESS TO API 600  
RENEWABLE SEAT
- **Design** BS 1873  
API 600  
ASME B16.34
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W46xPC	L46xPC	M46xPC	C46xPC	B46xPC	E46xPC	D46xPC	F46xPC	H46xPC
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Cover</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Seat ring surface</b>	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Disc seat surface</b>	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
<b>5 Spring</b>			← F316 →						
<b>6 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>7 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>8 Gasket</b>			← S.S. spiral wound reinf. graphite / RTJ (3) →						

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: PTFE - other materials

All data, subject to technical changes, are only for information and not for official use.



ISO 9001 No. 0072



API 6 D - 0166

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# PISTON CHECK VALVES

## ASME 150 - 300 - 600 - 900 - 1500

**VALVOSIDER**  
MANUFACTURER OF VALVES

### FIG. N. 460PC - PISTON CHECK VALVES ASME CLASS 150

SIZE	2"	2 1/2"	3	4	5	6	8	10	12	14	16	---	---	---	---
L RF/BW	203	216	241	292	356	406	495	622	699	787	914	---	---	---	---
L RTJ	216	219	254	305	368	419	508	635	711	800	927	---	---	---	---
D	152	178	191	229	254	279	343	406	483	533	597	---	---	---	---
H	155	180	185	195	215	250	295	330	380	420	500	---	---	---	---

### FIG. N. 461PC - PISTON CHECK VALVES ASME CLASS 300

SIZE	2"	2 1/2"	3	4	5	6	8	10	12	14	16	---	---	---	---
L RF/BW	267	292	318	356	400	445	559	622	711	838	864	---	---	---	---
L RTJ	282	308	333	371	416	460	575	638	727	854	879	---	---	---	---
D	165	191	210	254	279	318	381	445	521	584	648	---	---	---	---
H	155	180	195	220	255	285	335	350	430	495	500	---	---	---	---

### FIG. N. 462PC - PISTON CHECK VALVES ASME CL. 600

SIZE	2"	2 1/2"	3	4	5	6	8	10	12
L RF/BW	292	330	356	432	508	559	660	787	838
L RTJ	295	333	359	435	511	562	663	790	841
D	165	191	210	273	330	356	419	508	559
H	155	180	195	220	306	320	380	480	505

### FIG. N. 463PC - PISTON CHECK VALVES ASME CL. 900

SIZE	2"	2 1/2"	3	4	5	6	8	10	12
L RF/BW	368	419	381	457	559	610	737	838	965
L RTJ	371	422	384	460	562	613	740	842	968
D	216	244	241	292	349	381	470	546	610
H	220	230	240	280	330	365	409	536	600

### FIG. N. 464PC - PISTON CHECK VALVES ASME CL.1500

SIZE	2"	2 1/2"	3	4	5	6	8	10	12
L RF/BW	368	419	470	546	673	705	832	991	1130
L RTJ	371	422	473	549	676	711	842	1000	1146
D	216	244	267	311	375	394	483	584	673
H	220	230	280	325	400	430	716	762	818

*features on request*

- DISC WITH PTFE OR RUBBER
- INTEGRAL SEAT
- DRAIN PLUG
- BY PASS
- BW ENDS
- RTJ FLANGES
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

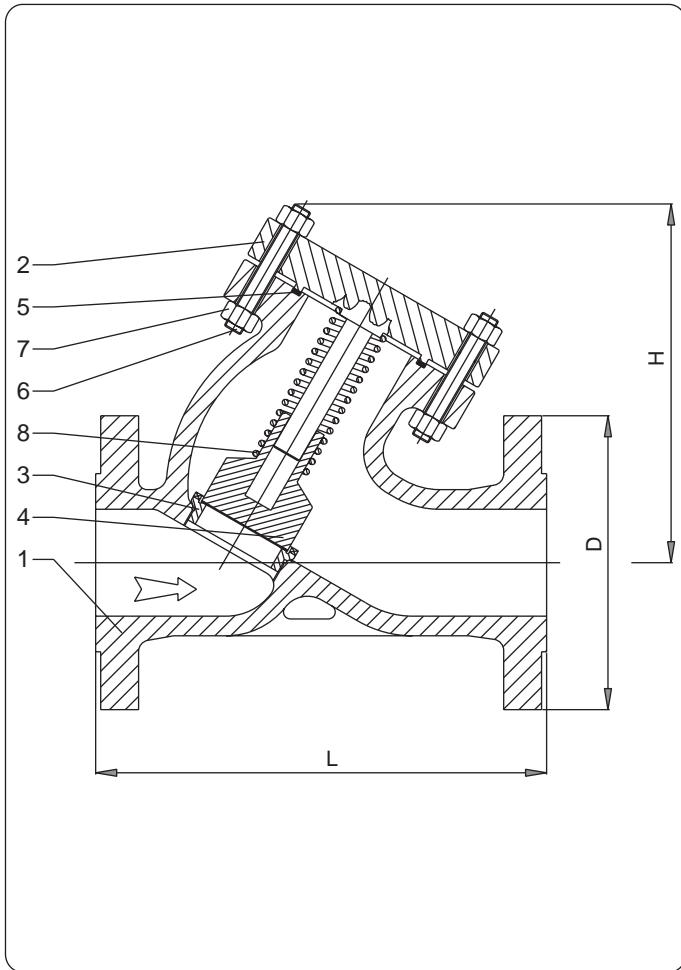


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*standard features*

- **Description** BOLTED COVER  
RETURN SPRING  
WALL THICKNESS TO API 600  
RENEWABLE SEAT
- **Design** BS 1873  
API 600  
ASME B16.34
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W49xPC	L49xPC	M49xPC	C49xPC	B49xPC	E49xPC	D49xPC	F49xPC	H49xPC
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Cover</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Seat ring surface</b>	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F6A (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Disc seat surface</b>	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F6A (2)	F304 (2)	F321 (2)	F316 (2)	F316L (2)
<b>5 Spring</b>			← F316 →						
<b>6 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>7 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>8 Gasket</b>			← S.S. spiral wound reinf. graphite / RTJ (3) →						

(1) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: PTFE - other materials

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# PISTON CHECK VALVES - 'Y' TYPE ASME 150 - 300 - 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 490PC - PISTON CHECK VALVES 'Y' TYPE ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF/BW	203	216	241	292	356	406	495	622	699	787	914	978	978	1295	---
L RTJ	216	219	254	305	368	419	508	635	711	800	927	991	991	1308	---
D	152	178	191	229	254	279	343	406	483	533	597	635	699	813	---
H	146	185	195	235	301	366	530	530	665	---	---	---	---	---	---

**FIG. N. 491PC - PISTON CHECK VALVES 'Y' TYPE ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF/BW	267	292	318	356	400	445	559	622	711	838	864	978	1016	1346	---
L RTJ	282	308	333	371	416	460	575	638	727	854	879	994	1035	1368	---
D	165	191	210	254	279	318	381	445	521	584	648	711	775	914	---
H	145	190	223	235	300	330	365	570	740	---	---	---	---	---	---

**FIG. N. 492PC - PISTON CHECK VALVES 'Y' TYPE ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF/BW	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	---
L RTJ	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	---
D	165	191	210	273	330	356	419	508	559	603	686	743	813	940	---
H	185	210	230	290	370	425	470	---	---	---	---	---	---	---	---

**FIG. N. 493PC - PISTON CHECK V. 'Y' TYPE ASME CL.900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
L RF/BW	368	381	457	610	737	838	965	1029	1130
L RTJ	371	384	460	613	740	842	968	1038	1140
D	216	241	292	381	470	546	610	641	705
H	---	---	---	---	---	---	---	---	---

**FIG. N. 494PC - PISTON CHECK V. 'Y' TYPE ASME CL.1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
L RF/BW	368	470	546	705	832	991	1130	1257	1384
L RTJ	371	473	549	711	842	1000	1146	1276	1407
D	216	267	311	394	483	584	673	749	826
H	---	---	---	---	---	---	---	---	---

**FIG. N. 495PC - PISTON CHECK V. 'Y' TYPE ASME CL.2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---
L RF/BW	451	578	673	914	1022	1270	1422	---	---
L RTJ	454	584	683	927	1038	1292	1445	---	---
D	235	305	356	483	552	673	762	---	---
H	---	---	---	---	---	---	---	---	---

*features on request*

- DISC WITH PTFE OR RUBBER
- INTEGRAL SEAT
- DRAIN PLUG
- BY PASS
- BW ENDS
- RTJ FLANGES
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.



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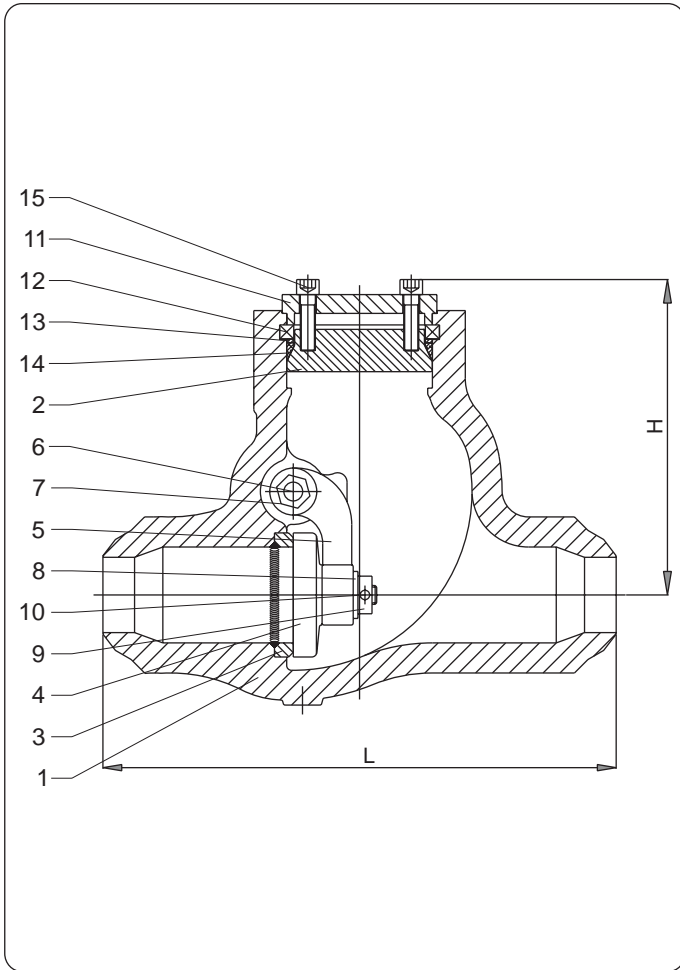
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*standard features*

- **Description** PRESSURE SEAL BONNET  
FULL BORE  
LAPPED DISC AND SEAT  
WELDED IN SEATS
- **Design** BS 1868  
API 6D
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B



PART NAME	WP7x	IP7x	MP7x	WCP7x	FP7x
1 Body	WCB	WC1	WC6	WC9	CF8M
2 Cover	WCB	WC1	WC6	WC9	CF8M
3 Seat (integral)		← Stellite® (1) →			
4 Disc - seat	A105 + HF (2)	F6A + HF (2)	F6A + HF (2)	F6A + HF (2)	F316 + HF (2)
5 Hinge	WCB	WC1	WC6	WC9	CF8M
6 Hinge pin	F6A	F6A	F6A	F6A	F316
7 Plug (externally)	A105	F316	F316	F316	F316
8 Washer	A105	F316	F316	F316	F316
9 Nut	2H	G4	G4	G4	G8
10 Pin	F316	F316	F316	F316	F316
11 Retaining ring	A105	F6A	F6A	F6A	F316
12 Segmental retaining ring	F6A	F6A	F6A	F6A	F316
13 Spacer ring	F6A	F6A	F6A	F6A	F316
14 Gasket		← S.S. reinforced graphite (3) →			
15 Bolt	B7	B16	B16	B16	B8

(1) On request: faced with Stellite® - MoneI® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - MoneI® - Hastelloy® - other materials  
 (3) On request: Soft iron - Stainless steel

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# SWING CHECK VALVES - PRESSURE SEAL ASME 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. P72 - SWING CHECK VALVES PRESSURE SEAL ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF/BW	292	356	432	559	660	787	838	889	991	1092	1194	1397	---	---	---
L RTJ	295	359	435	562	663	790	841	892	994	1095	1200	1407	---	---	---
H	180	215	275	350	390	450	500	555	630	710	800	1000	---	---	---

**FIG. N. P73 - SWING CHECK VALVES PRESSURE SEAL ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF/BW	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	---	---	---
L RTJ	371	384	460	613	740	842	968	1038	1140	1232	1334	1568	---	---	---
H	245	250	310	390	510	580	620	680	740	800	850	1100	---	---	---

**FIG. N. P74 - SWING CHECK VALVES PRESSURE SEAL ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF/BW	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943	---	---	---
L RTJ	371	473	549	711	842	1000	1146	1276	1407	1559	1686	1972	---	---	---
H	245	290	350	420	630	690	750	800	980	1100	1300	1550	---	---	---

**FIG. N. P75 - SWING CHECK VALVES PRESSURE SEAL ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---	---	---	---	---	---	---
L RF/BW	451	578	673	914	1022	1270	1422	---	---	---	---	---	---	---	---
L RTJ	454	584	683	927	1038	1292	1445	---	---	---	---	---	---	---	---
H	245	300	380	430	650	720	780	---	---	---	---	---	---	---	---

*features on request*

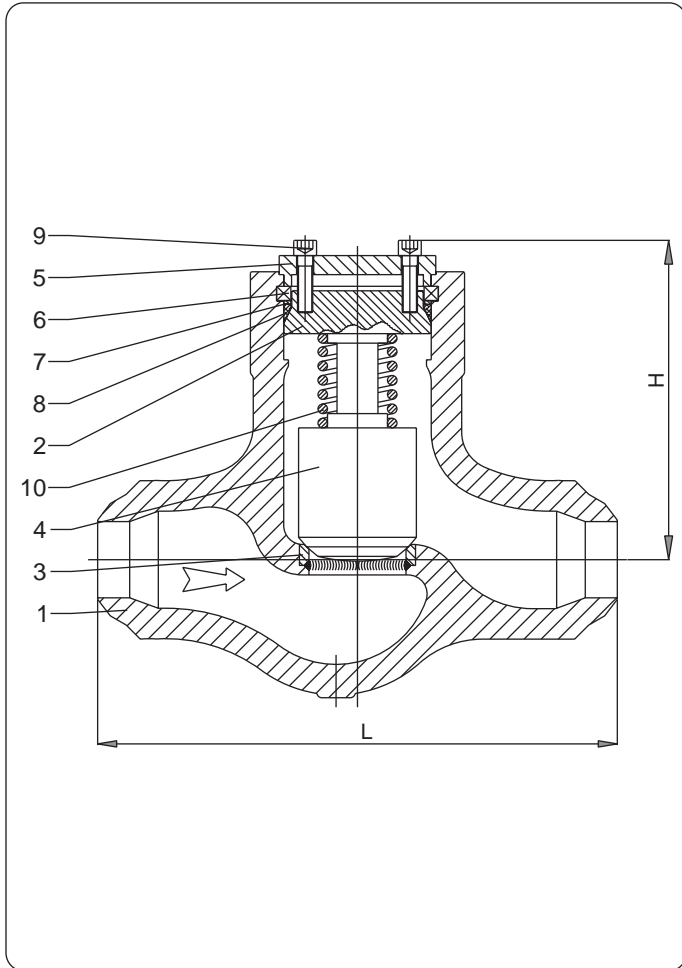
- DISC WITH PTFE OR RUBBER
- LEVER AND WEIGHT
- SHOCK ABSORBER
- LOCKING DEVICE
- INTEGRAL SEAT
- DRAIN PLUG
- BY PASS
- FLANGED ENDS
- RTJ FLANGES
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

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### standard features

- **Description** PRESSURE SEAL BONNET  
LAPPED DISC AND SEAT  
INTEGRAL SEAT
- **Design** BS 1873  
API 6D
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	WP6xPC	IP6xPC	MP6xPC	WCP6xPC	FP6xPC
1 Body	WCB	WC1	WC6	WC9	CF8M
2 Cover	WCB	WC1	WC6	WC9	CF8M
3 Seat (integral)		← <i>Stellite® (1)</i> →			
4 Disc - seat	A105 + HF (2)	F6A + HF (2)	F6A + HF (2)	F6A + HF (2)	A182 F316 + HF (2)
5 Retaining ring	A105	F6A	F6A	F6A	F316
6 Segmental retaining ring	F6A	F6A	F6A	F6A	F316
7 Spacer ring	F6A	F6A	F6A	F6A	F316
8 Gasket		← <i>S.S. reinforced graphite (3)</i> →			
9 Bolt	B7	B16	B16	B16	B8
10 Spring		← <i>F316</i> →			

- (1) On request: faced with Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: Soft iron - Stainless steel

All data, subject to technical changes, are only for information and not for official use.



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# LIFT CHECK VALVES - PRESSURE SEAL STRAIGHT TYPE - ASME 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. P62PC - LIFT CHECK VALVES PRESSURE SEAL STRAIGHT TYPE - ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	---	---	---	---	---	---
L RF/BW	292	356	432	559	660	787	838	889	991	---	---	---	---	---	---
L RTJ	295	359	435	562	663	790	841	892	994	---	---	---	---	---	---
H	230	280	330	450	520	600	700	800	900	---	---	---	---	---	---

**FIG. N. P63PC - LIFT CHECK VALVES PRESSURE SEAL STRAIGHT TYPE - ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	---	---	---	---	---	---
L RF/BW	368	381	457	610	737	838	965	1029	1130	---	---	---	---	---	---
L RTJ	371	384	460	613	740	842	968	1038	1140	---	---	---	---	---	---
H	270	300	390	430	520	600	700	800	900	---	---	---	---	---	---

**FIG. N. P64PC - LIFT CHECK VALVES PRESSURE SEAL STRAIGHT TYPE - ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---	---	---	---	---	---	---
L RF/BW	368	470	546	705	832	991	1130	---	---	---	---	---	---	---	---
L RTJ	371	473	549	711	842	1000	1146	---	---	---	---	---	---	---	---
H	270	310	400	440	530	620	720	---	---	---	---	---	---	---	---

**FIG. N. P65PC - LIFT CHECK VALVES PRESSURE SEAL STRAIGHT TYPE - ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---	---	---	---	---	---	---
L RF/BW	451	578	673	914	1022	1270	1422	---	---	---	---	---	---	---	---
L RTJ	454	584	683	927	1038	1292	1445	---	---	---	---	---	---	---	---
H	270	310	400	440	530	620	720	---	---	---	---	---	---	---	---

*features on request*

- |  |                                       |
|--|---------------------------------------|
| <input type="radio"/> DISC WITH PTFE OR RUBBER | <input type="radio"/> BY PASS         |
| <input type="radio"/> INTEGRAL SEAT            | <input type="radio"/> FLANGED ENDS    |
| <input type="radio"/> RENEWABLE SEAT           | <input type="radio"/> RTJ FLANGES     |
| <input type="radio"/> DRAIN PLUG               | <input type="radio"/> DIN CONNECTIONS |

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

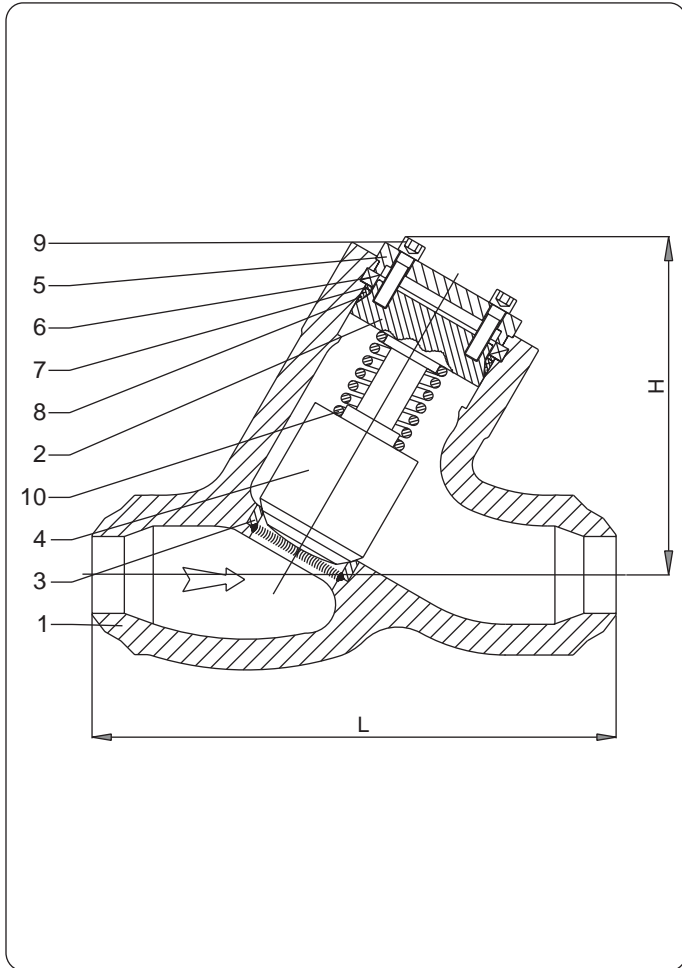


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### standard features

- **Description** PRESSURE SEAL BONNET  
LAPPED DISC AND SEAT  
INTEGRAL SEAT
- **Design** BS 1873  
API 6D
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	WP8xPC	IP8xPC	MP8xPC	WCP8xPC	FP8xPC
1 Body	WCB	WC1	WC6	WC9	CF8M
2 Cover	WCB	WC1	WC6	WC9	CF8M
3 Seat (integral)		← <i>Stellite® (1)</i> →			
4 Disc - seat	A105 + HF (2)	F6A + HF (2)	F6A + HF (2)	F6A + HF (2)	A182 F316 + HF (2)
5 Retaining ring	A105	F6A	F6A	F6A	F316
6 Segmental retaining ring	F6A	F6A	F6A	F6A	F316
7 Spacer ring	F6A	F6A	F6A	F6A	F316
8 Gasket		← <i>S.S. reinforced graphite (3)</i> →			
9 Bolt	B7	B16	B16	B16	B8
10 Spring		← <i>F316</i> →			

- (1) On request: faced with Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: Soft iron - Stainless steel

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**LIFT CHECK VALVES - PRESSURE SEAL  
'Y' TYPE - ASME 600 - 900 - 1500 - 2500**

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. P82PC - LIFT CHECK VALVES PRESSURE SEAL - 'Y' TYPE - ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	---	---	---	---	---	---
L RF/BW	292	356	432	559	660	787	838	889	991	---	---	---	---	---	---
L RTJ	295	359	435	562	663	790	841	892	994	---	---	---	---	---	---
H	253	308	363	495	572	660	770	880	990	---	---	---	---	---	---

**FIG. N. P83PC - LIFT CHECK VALVES PRESSURE SEAL - 'Y' TYPE - ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	---	---	---	---	---	---
L RF/BW	368	381	457	610	737	838	965	1029	1130	---	---	---	---	---	---
L RTJ	371	384	460	613	740	842	968	1038	1140	---	---	---	---	---	---
H	297	330	429	473	572	660	770	880	990	---	---	---	---	---	---

**FIG. N. P84PC - LIFT CHECK VALVES PRESSURE SEAL - 'Y' TYPE - ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---	---	---	---	---	---	---
L RF/BW	368	470	546	705	832	991	1130	---	---	---	---	---	---	---	---
L RTJ	371	473	549	711	842	1000	1146	---	---	---	---	---	---	---	---
H	297	341	440	484	583	682	792	---	---	---	---	---	---	---	---

**FIG. N. P85PC - LIFT CHECK VALVES PRESSURE SEAL - 'Y' TYPE - ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---	---	---	---	---	---	---
L RF/BW	451	578	673	914	1022	1270	1422	---	---	---	---	---	---	---	---
L RTJ	454	584	683	927	1038	1292	1445	---	---	---	---	---	---	---	---
H	297	341	440	484	583	682	792	---	---	---	---	---	---	---	---

*features on request*

- |  |                                       |
|--|---------------------------------------|
| <input type="radio"/> DISC WITH PTFE OR RUBBER | <input type="radio"/> BY PASS         |
| <input type="radio"/> INTEGRAL SEAT            | <input type="radio"/> FLANGED ENDS    |
| <input type="radio"/> RENEWABLE SEAT           | <input type="radio"/> RTJ FLANGES     |
| <input type="radio"/> DRAIN PLUG               | <input type="radio"/> DIN CONNECTIONS |

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

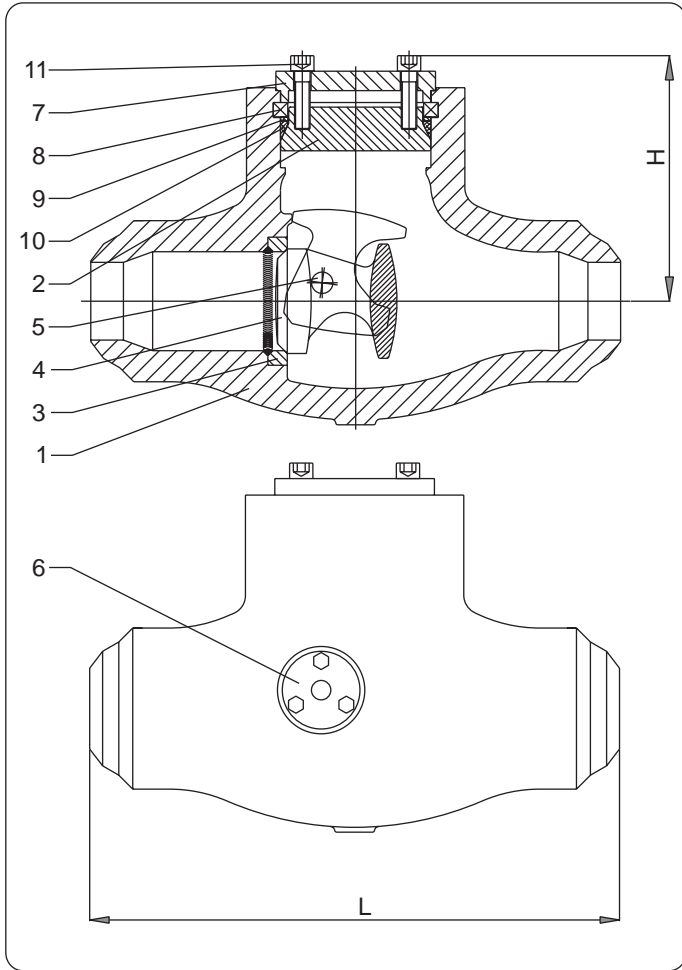


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*standard features*

- **Description** PRESSURE SEAL BONNET  
LAPPED DISC AND SEAT  
INTEGRAL SEAT
- **Design** BS 1873  
API 6D
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW ENDS TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	WP7xT	IP7xT	MP7xT	WCP7xT	FP7xT
1 Body	WCB	WC1	WC6	WC9	CF8M
2 Cover	WCB	WC1	WC6	WC9	CF8M
3 Seat (integral)		← <i>Stellite® (1)</i> →			
4 Disc - seat	A105 + HF (2)	F6A + HF (2)	F6A + HF (2)	F6A + HF (2)	F316 + HF (2)
5 Pin	F6A	F6A	F6A	F6A	F316
6 Plug (externally)	A105	F6A	F6A	F6A	F316
7 Retaining ring	A105	F316	F316	F316	F316
8 Segmental retaining ring	F6A	F6A	F6A	F6A	F316
9 Spacer ring	F6A	F6A	F6A	F6A	F316
10 Gasket		← <i>S.S. reinforced graphite (3)</i> →			
11 Bolt	B7	B16	B16	B16	B8

(1) On request: faced with Monel® - Hastelloy® - other materials  
 (2) On request: faced with Stellite® - Monel® - Hastelloy® - other materials  
 (3) On request: Soft iron - Stainless steel

All data, subject to technical changes, are only for information and not for official use.

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**TILTING DISC CHECK VALVES  
PRESSURE SEAL - ASME 600 - 900 - 1500 - 2500**



**FIG. N. P72T - TILTING DISC CHECK VALVES PRESSURE SEAL ASME CLASS 600**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF	292	356	432	559	660	787	838	889	991	1092	1194	1397	---	---	---
L RTJ	295	359	435	562	663	790	841	892	994	1095	1200	1407	---	---	---
L BW	178	254	305	457	584	711	813	889	991	1092	1194	1397	---	---	---
H	180	215	275	350	390	450	500	555	630	710	800	1000	---	---	---

**FIG. N. P73T - TILTING DISC CHECK VALVES PRESSURE SEAL ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	---	---	---
L RTJ	371	384	460	613	740	842	968	1038	1140	1232	1334	1568	---	---	---
L BW	216	305	356	508	660	787	914	991	1092	1143	1245	1397	---	---	---
H	245	250	310	390	510	580	620	680	740	800	850	1100	---	---	---

**FIG. N. P74T - TILTING DISC CHECK VALVES PRESSURE SEAL ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943	---	---	---
L RTJ	371	473	549	711	842	1000	1146	1276	1407	1559	1686	1972	---	---	---
L BW	216	305	406	559	711	864	991	1067	1194	1346	1473	1943	---	---	---
H	245	290	350	420	630	690	750	800	980	1100	1300	1550	---	---	---

**FIG. N. P75T - TILTING DISC CHECK VALVES PRESSURE SEAL ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---	---	---
L RF	451	578	673	914	1022	1270	1422	---	---	---	---	---	---	---	---
L RTJ	454	584	683	927	1038	1292	1445	---	---	---	---	---	---	---	---
L BW	279	368	457	610	762	914	1041	---	---	---	---	---	---	---	---
H	245	300	380	430	650	720	780	---	---	---	---	---	---	---	---

*features on request*

- DISC WITH PTFE OR RUBBER
- LEVER AND WEIGHT
- SHOCK ABSORBER
- LOCKING DEVICE
- INTEGRAL SEAT
- DRAIN PLUG
- BY PASS
- FLANGED ENDS
- RTJ FLANGES
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.



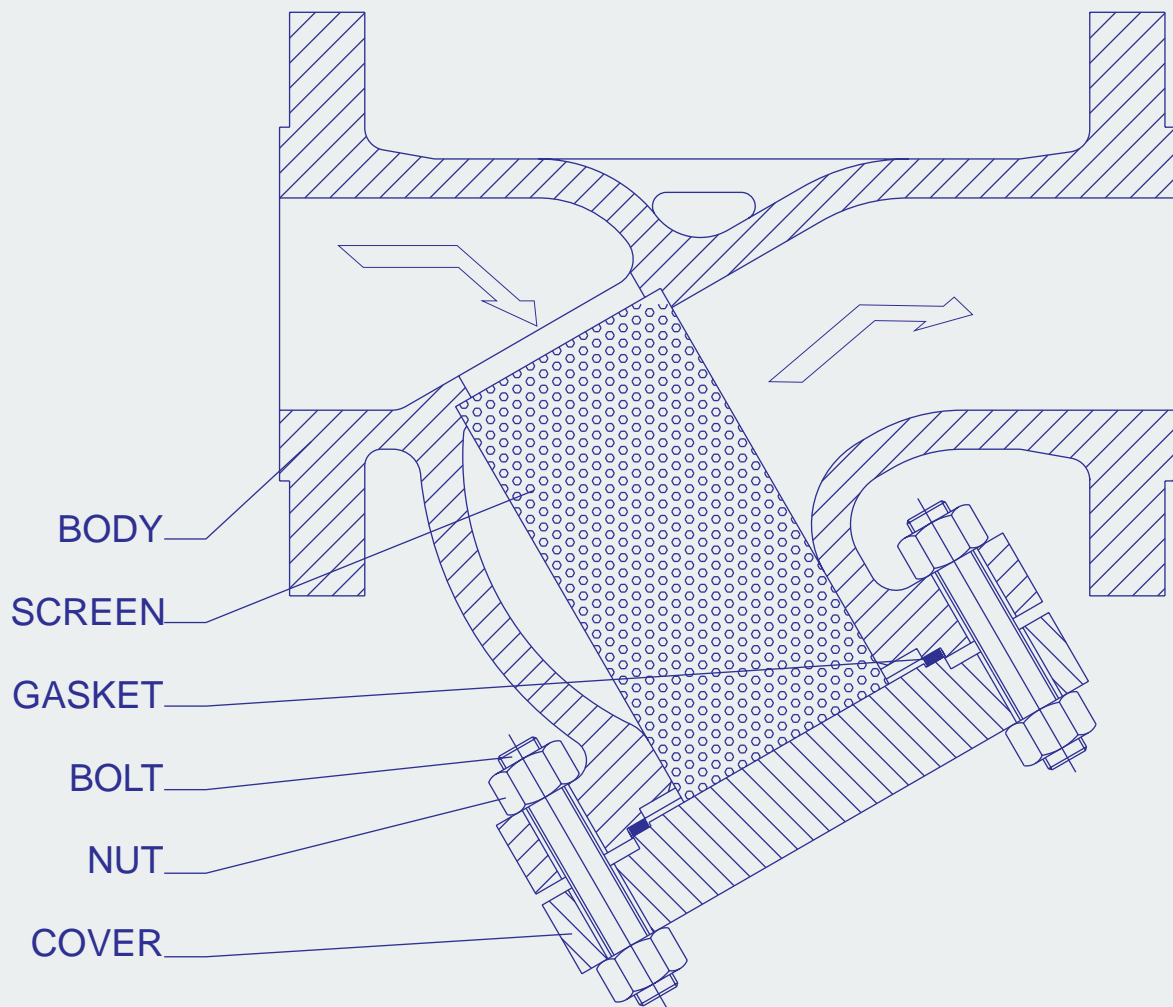
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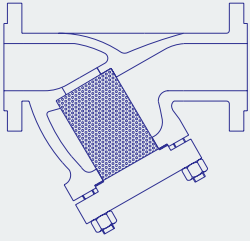
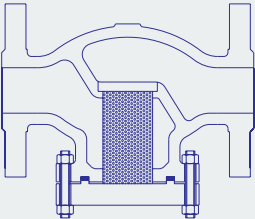
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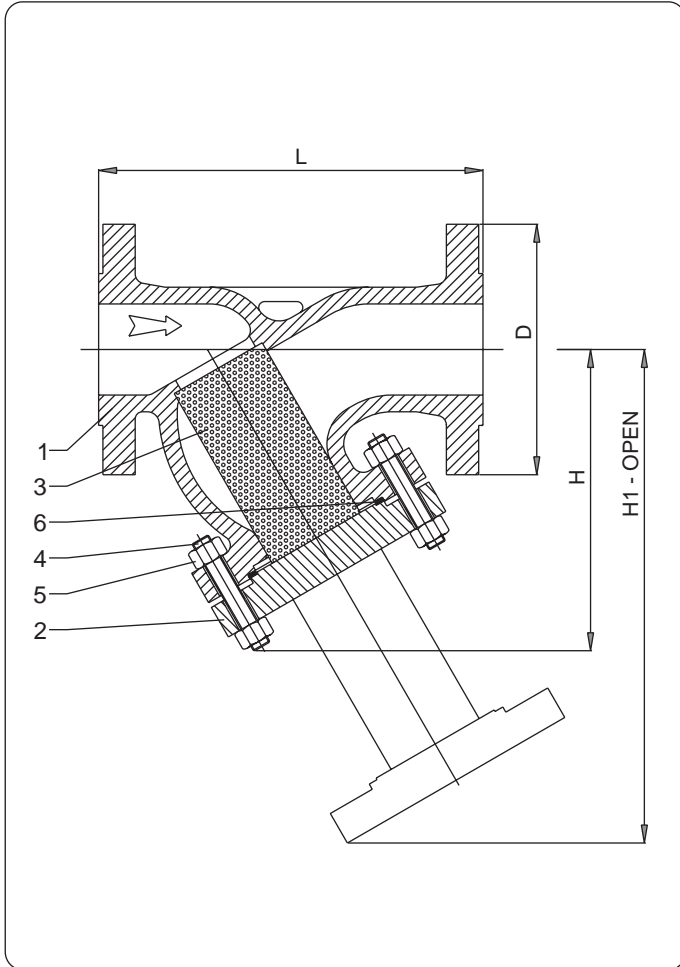
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## DESCRIPTION OF A TYPICAL STRAINER 'Y' TYPE



	TYPE	CLASS	SIZES	FIG. N.
 <p data-bbox="443 398 662 526"> <b>STRAINERS</b>  <b>'Y' TYPE</b> </p> <p data-bbox="657 698 770 734">page 54</p>	<p data-bbox="911 407 970 443">150</p> <p data-bbox="911 461 970 497">300</p> <p data-bbox="911 515 970 551">600</p> <p data-bbox="911 568 970 604">900</p> <p data-bbox="903 622 978 658">1500</p> <p data-bbox="903 676 978 712">2500</p>	<p data-bbox="1155 407 1300 443">2" - 24"</p> <p data-bbox="1155 461 1300 497">2" - 24"</p> <p data-bbox="1155 515 1300 551">2" - 24"</p> <p data-bbox="1155 568 1300 604">2" - 16"</p> <p data-bbox="1155 622 1300 658">2" - 16"</p> <p data-bbox="1155 676 1300 712">2" - 12"</p>	<p data-bbox="1444 407 1503 443"><b>490</b></p> <p data-bbox="1444 461 1503 497"><b>491</b></p> <p data-bbox="1444 515 1503 551"><b>492</b></p> <p data-bbox="1444 568 1503 604"><b>493</b></p> <p data-bbox="1444 622 1503 658"><b>494</b></p> <p data-bbox="1444 676 1503 712"><b>495</b></p>	
 <p data-bbox="422 779 683 907"> <b>STRAINERS</b>  <b>BASKET TYPE</b> </p> <p data-bbox="657 1079 770 1115">page 56</p>	<p data-bbox="911 788 970 824">150</p> <p data-bbox="911 842 970 878">300</p> <p data-bbox="911 896 970 931">600</p> <p data-bbox="911 949 970 985">900</p> <p data-bbox="903 1003 978 1039">1500</p> <p data-bbox="903 1057 978 1093">2500</p>	<p data-bbox="1155 788 1300 824">2" - 16"</p> <p data-bbox="1155 842 1300 878">2" - 16"</p> <p data-bbox="1155 896 1300 931">2" - 16"</p> <p data-bbox="1155 949 1300 985">2" - 12"</p> <p data-bbox="1155 1003 1300 1039">2" - 12"</p> <p data-bbox="1155 1057 1300 1093">2" - 8"</p>	<p data-bbox="1422 788 1528 824"><b>490BK</b></p> <p data-bbox="1422 842 1528 878"><b>491BK</b></p> <p data-bbox="1422 896 1528 931"><b>492BK</b></p> <p data-bbox="1422 949 1528 985"><b>493BK</b></p> <p data-bbox="1422 1003 1528 1039"><b>494BK</b></p> <p data-bbox="1422 1057 1528 1093"><b>495BK</b></p>	

*standard features*



- Description** BOLTED COVER  
REPLACEABLE SCREEN
- Design** BS 1873  
API 600  
ASME B16.34
- Face to face** ASME B16.10
- Flanges** ASME B16.5  
BW TO ASME B16.25
- Testing** API 598  
API 6D  
BS 6755
- Rating** ASME B16.34
- Marking** MSS-SP 25  
CE - PED
- Certificates** EN 10204 – 3.1 B

PART NAME	W49x	L49x	M49x	C49x	B49x	E49x	D49x	F49x	H49x
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Cover</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Screen</b>	F304 (1)	F304 (1)	F304 (1)	F304 (1)	F304 (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>5 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>6 Gasket</b>	ANSI 150 - 300 - 600 - 900 - 1500 : S.S. spiral wound reinf. Graphite / RTJ - ANSI 2500 : RTJ (2)								

(1) On request: other materials  
(2) On request: PTFE - other materials

All data, subject to technical changes, are only for information and not for official use.

 ISO 9001 No. 0072	 API 6 D - 0166	ISO 9001-2000 CERTIFIED	<b>A.N.C.C.</b> <b>I.S.P.E.S.L.</b> NOTIFIED	 97/23/CE	 AD-Merkblatt HP 0 AD 2000 A4 APPROVED
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# STRAINERS - ' Y ' TYPE

## ASME 150 - 300 - 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 490 - STRAINERS - Y TYPE - ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF/BW	203	216	241	292	356	406	495	622	699	787	914	978	978	1295	---
L RTJ	216	219	254	305	368	419	508	635	711	800	927	991	991	1308	---
D	152	178	191	229	254	279	343	406	483	533	597	635	699	813	---
H	146	185	195	235	301	366	530	530	665	---	---	---	---	---	---
H1	222	274	285	350	440	537	733	733	880	---	---	---	---	---	---

**FIG. N. 491 - STRAINERS - Y TYPE - ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF/BW	267	292	318	356	400	445	559	622	711	838	864	978	1016	1346	---
L RTJ	282	308	333	371	416	460	575	638	727	854	879	994	1035	1368	---
D	165	191	210	254	279	318	381	445	521	584	648	711	775	914	---
H	145	190	223	235	300	330	365	570	740	---	---	---	---	---	---
H1	228	290	328	362	450	489	555	892	1040	---	---	---	---	---	---

**FIG. N. 492 - STRAINERS - Y TYPE - ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	---
L RF/BW	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	---
L RTJ	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	---
D	165	191	210	273	330	356	419	508	559	603	686	743	813	940	---
H	185	210	230	290	370	425	470	---	---	---	---	---	---	---	---
H1	267	305	335	427	540	602	680	---	---	---	---	---	---	---	---

**FIG. N. 493 - STRAINERS - Y TYPE - ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
L RF/BW	368	381	457	610	737	838	965	1029	1130
L RTJ	371	384	460	613	740	842	968	1038	1140
D	216	241	292	381	467	546	610	641	705
H	320	340	370	455	---	---	---	---	---
H1	690	510	550	675	---	---	---	---	---

**FIG. N. 494 - STRAINERS - Y TYPE - ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
L RF/BW	368	470	546	705	832	991	1130	1257	1384
L RTJ	371	473	549	711	842	1000	1146	1276	1407
D	216	267	311	394	483	584	673	749	826
H	---	---	---	---	---	---	---	---	---
H1	---	---	---	---	---	---	---	---	---

**FIG. N. 495 - STRAINERS - Y TYPE - ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---
L RF/BW	451	578	673	914	1022	1270	1422	---	---
L RTJ	454	584	683	927	1038	1292	1445	---	---
D	235	305	356	483	552	673	762	---	---
H	---	---	---	---	---	---	---	---	---
H1	---	---	---	---	---	---	---	---	---

*features on request*

- SCREEN IN SPECIAL MATERIAL
- DISCHARGE VALVE
- DRAIN PLUG
- BW ENDS
- RTJ FLANGES
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.

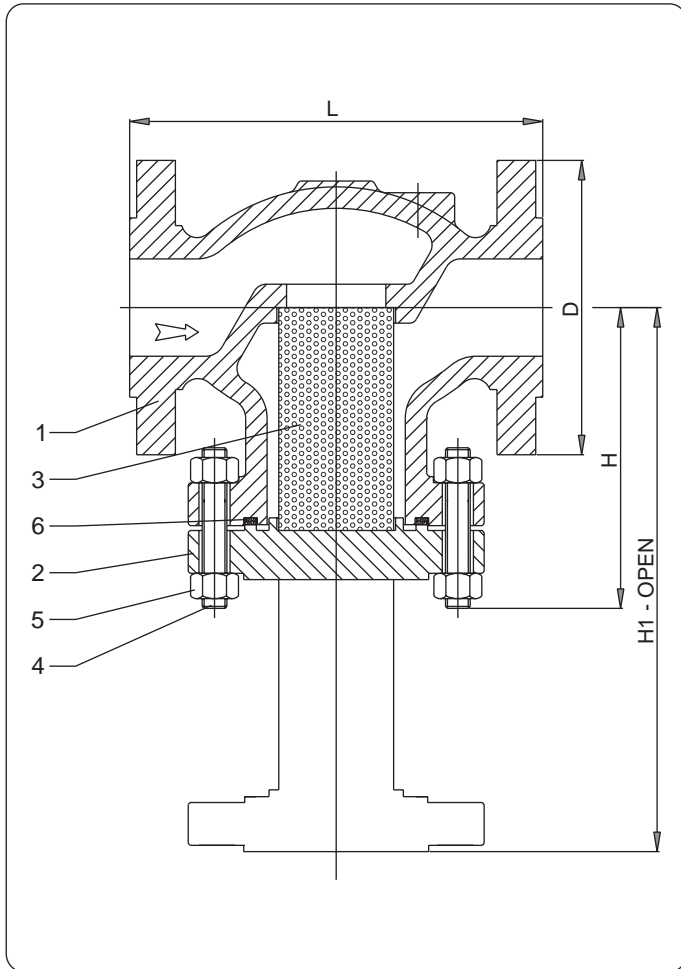


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*standard features*

- **Description** BOLTED COVER  
REPLACEABLE SCREEN
- **Design** BS 1873  
API 600  
ASME B16.34
- **Face to face** ASME B16.10
- **Flanges** ASME B16.5  
BW TO ASME B16.25
- **Testing** API 598  
API 6D  
BS 6755
- **Rating** ASME B16.34
- **Marking** MSS-SP 25  
CE - PED
- **Certificates** EN 10204 – 3.1 B

PART NAME	W49xBK	L49xBK	M49xBK	C49xBK	B49xBK	E49xBK	D49xBK	F49xBK	H49xBK
<b>1 Body</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>2 Cover</b>	WCB	LCB	WC6	C5	C12	CF8	CF8C	CF8M	CF3M
<b>3 Screen</b>	F304 (1)	F304 (1)	F304 (1)	F304 (1)	F304 (1)	F304 (1)	F321 (1)	F316 (1)	F316L (1)
<b>4 Bolts</b>	B7	L7	B16	B16	B16	B8	B8	B8	B8
<b>5 Nuts</b>	2H	G4	G4	G4	G4	G8	G8	G8	G8
<b>6 Gasket</b>	ANSI 150 - 300 - 600 - 900 - 1500 : S.S. spiral wound reinf. Graphite / RTJ - ANSI 2500 : RTJ (2)								

(1) On request: other materials

(2) On request: PTFE - other materials

All data, subject to technical changes, are only for information and not for official use.



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# STRAINERS - BASKET TYPE

## ASME 150 - 300 - 600 - 900 - 1500 - 2500

**VALVOSIDER**  
MANUFACTURER OF VALVES

**FIG. N. 490BK - STRAINERS BASKET TYPE - ASME CLASS 150**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	---	---	---	---
L RF/BW	203	216	241	292	356	406	495	622	699	787	914	---	---	---	---
L RTJ	216	219	254	305	368	419	508	635	711	800	927	---	---	---	---
D	152	178	191	229	254	279	343	406	483	533	597	---	---	---	---
H	146	185	195	235	301	366	530	530	665	---	---	---	---	---	---
H1	222	274	285	350	440	537	733	733	880	---	---	---	---	---	---

**FIG. N. 491BK - STRAINERS BASKET TYPE - ASME CLASS 300**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	---	---	---	---
L RF/BW	267	292	318	356	400	445	559	622	711	838	864	---	---	---	---
L RTJ	282	308	333	371	416	460	575	638	727	854	879	---	---	---	---
D	165	191	210	254	279	318	381	445	521	584	648	---	---	---	---
H	145	190	223	235	300	330	365	570	740	---	---	---	---	---	---
H1	228	290	328	362	450	489	555	892	1040	---	---	---	---	---	---

**FIG. N. 492BK - STRAINERS BASKET TYPE - ASME CLASS 600**

SIZE	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	---	---	---	---
L RF/BW	292	330	356	432	508	559	660	787	838	889	991	---	---	---	---
L RTJ	295	333	359	435	511	562	663	790	841	892	994	---	---	---	---
D	165	191	210	273	330	356	419	508	559	603	686	---	---	---	---
H	185	210	230	290	370	425	470	---	---	---	---	---	---	---	---
H1	267	305	335	427	540	602	680	---	---	---	---	---	---	---	---

**FIG. N. 493BK - STRAINERS BASKET TYPE - ASME CLASS 900**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---
L RF/BW	368	381	457	610	737	838	965	---	---
L RTJ	371	384	460	613	740	842	968	---	---
D	216	241	292	381	467	546	610	---	---
H	---	---	---	---	---	---	---	---	---
H1	---	---	---	---	---	---	---	---	---

**FIG. N. 494BK - STRAINERS BASKET TYPE - ASME CLASS 1500**

SIZE	2"	3"	4"	6"	8"	10"	12"	---	---
L RF/BW	368	470	546	705	832	991	1130	---	---
L RTJ	371	473	549	711	842	1000	1146	---	---
D	216	267	311	394	483	584	673	---	---
H	---	---	---	---	---	---	---	---	---
H1	---	---	---	---	---	---	---	---	---

**FIG. N. 495BK - STRAINERS BASKET TYPE - ASME CLASS 2500**

SIZE	2"	3"	4"	6"	8"	---	---	---	---
L RF/BW	451	578	673	914	1022	---	---	---	---
L RTJ	454	584	683	927	1038	---	---	---	---
D	235	305	356	483	552	---	---	---	---
H	---	---	---	---	---	---	---	---	---
H1	---	---	---	---	---	---	---	---	---

*features on request*

- SCREEN IN SPECIAL MATERIAL
- DISCHARGE VALVE
- DRAIN PLUG
- BW ENDS
- RTJ FLANGES
- DIN CONNECTIONS

All dimensions in mm (except where differently indicated)

All data, subject to technical changes, are only for information and not for official use.



ISO 9001-2000  
CERTIFIED

A.N.C.C.  
I.S.P.E.S.L.  
NOTIFIED



VALVOSIDER s.r.l. - Via S. Rocco, 2 - P.O. BOX 76 - 13011 Borgosesia (VC) - Italy  
Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com



# 1 Special Executions

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# 2 Dimensions

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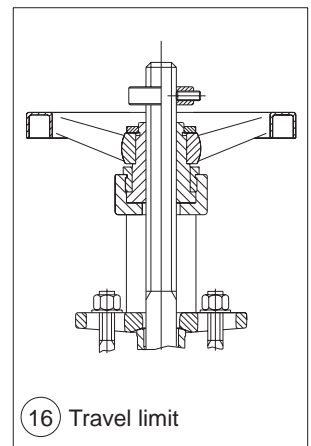
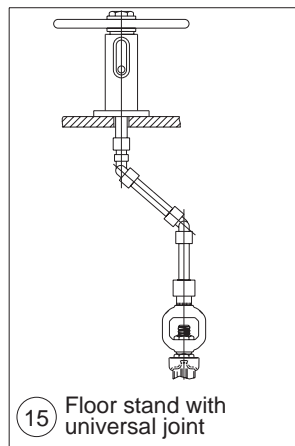
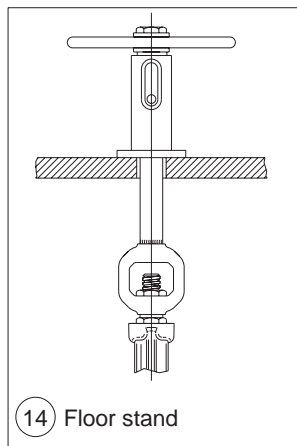
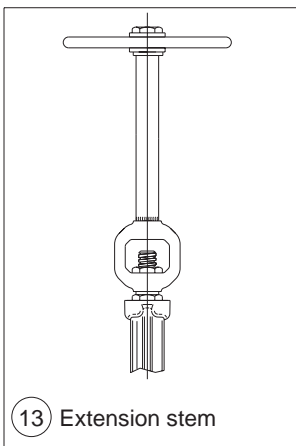
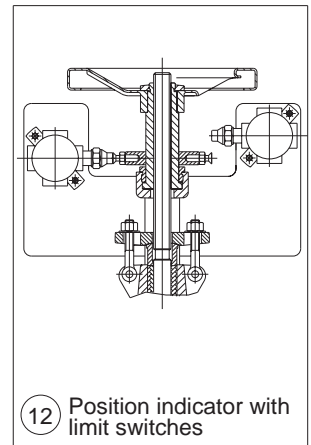
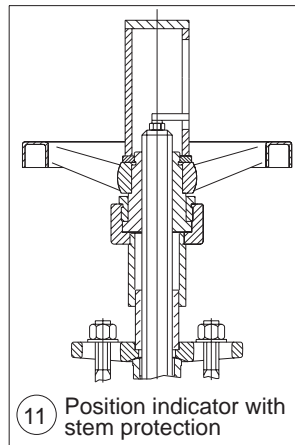
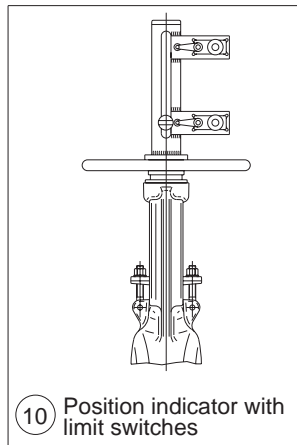
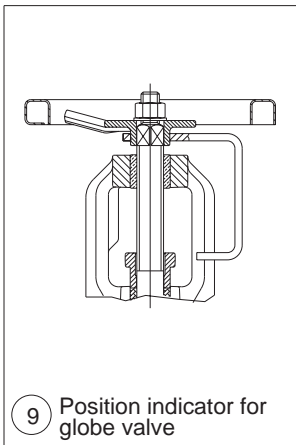
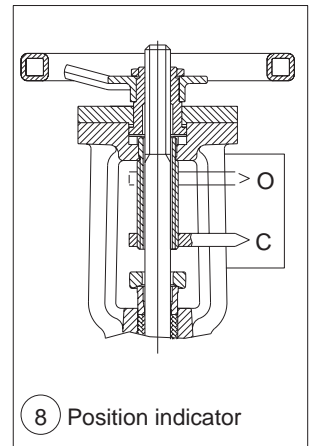
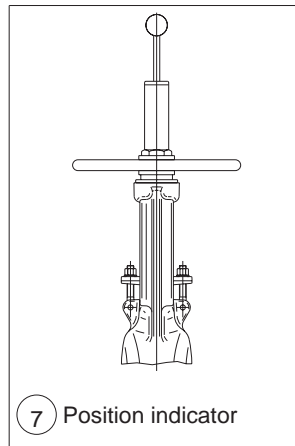
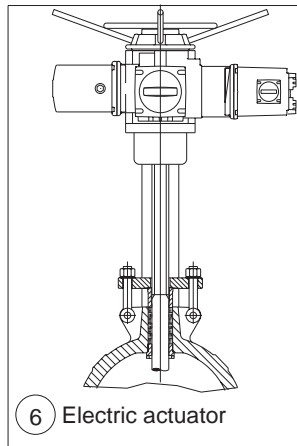
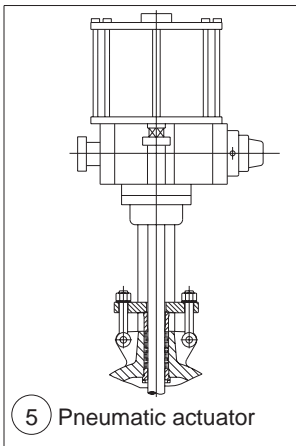
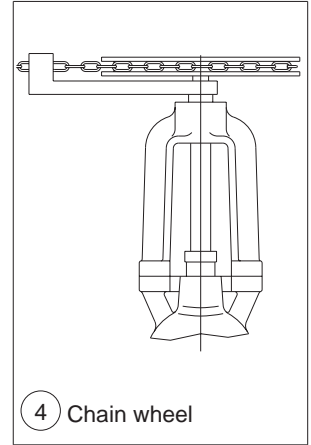
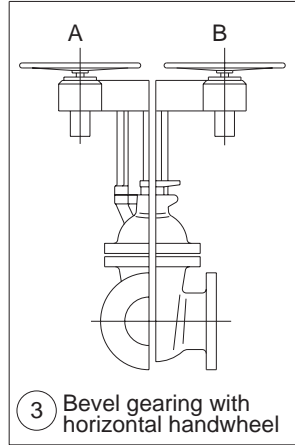
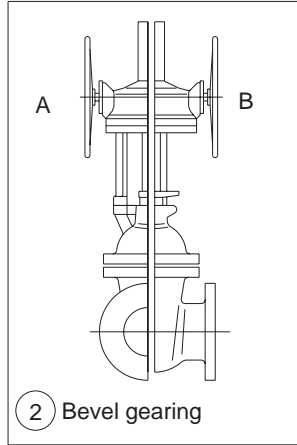
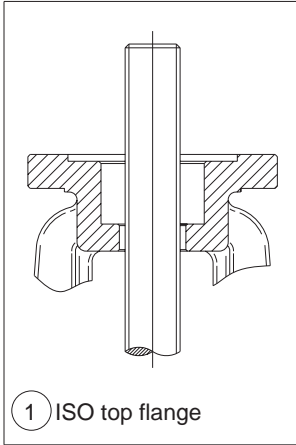
# ASME

# 3 Materials & Trim

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# 4 Ratings

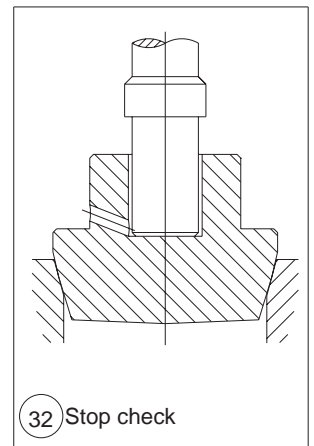
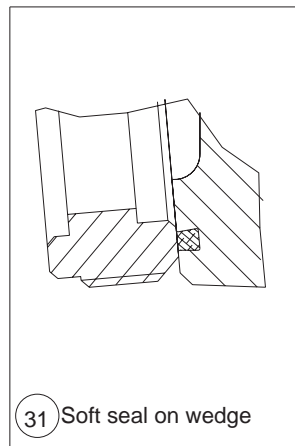
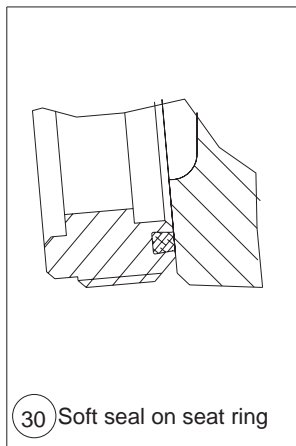
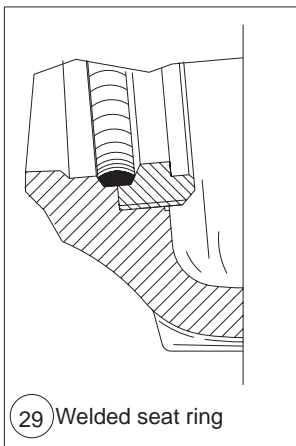
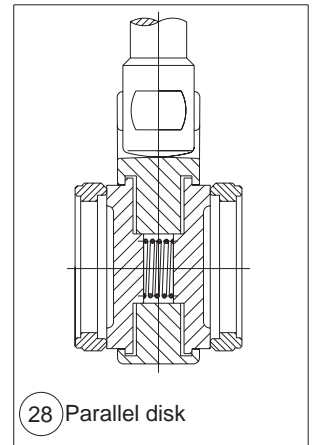
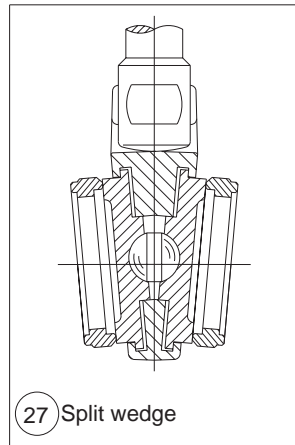
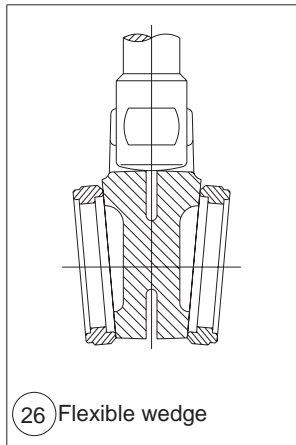
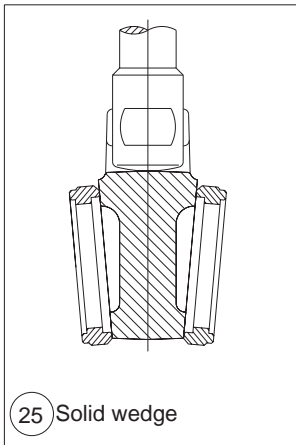
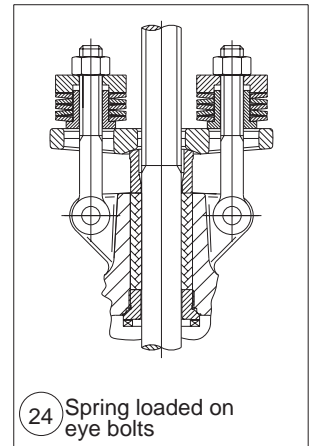
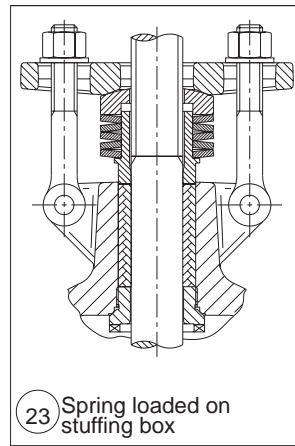
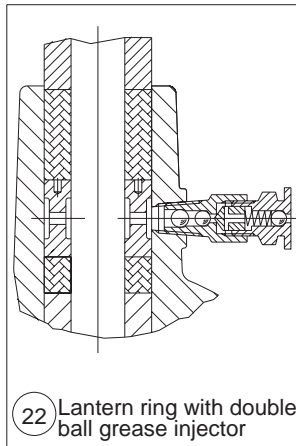
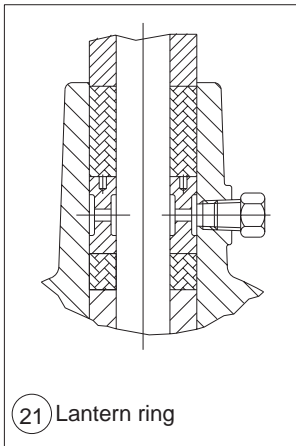
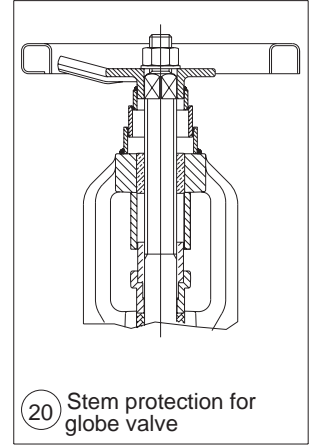
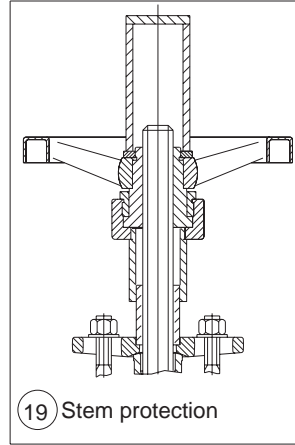
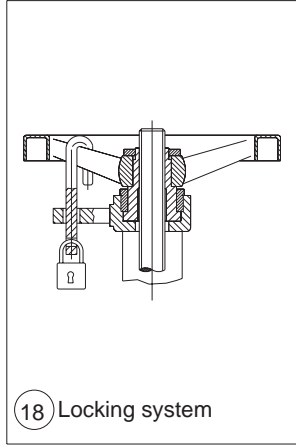
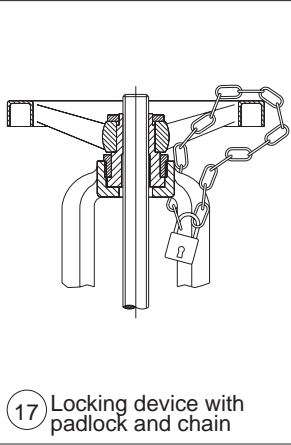
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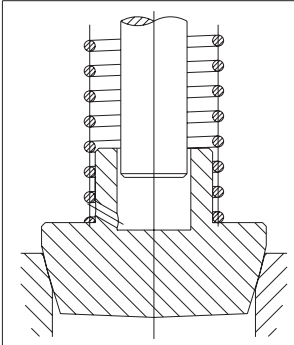
# SPECIAL EXECUTIONS

**VALVOSIDER**  
MANUFACTURER OF VALVES

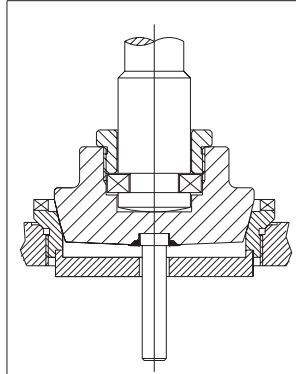


All data, subject to technical changes, are only for information and not for official use.

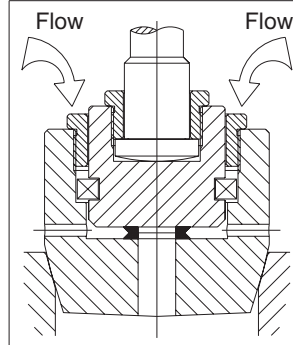
VALVOSIDER s.r.l. - Via S. Rocco, 2 - P.O. BOX 76 - 13011 Borgosesia (VC) - Italy  
Phone: +39016322991 - Fax: +39016321537 - www.valvosider.com - e-mail: valvo@valvosider.com



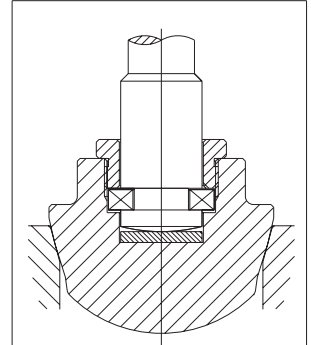
33 Stop check with spring



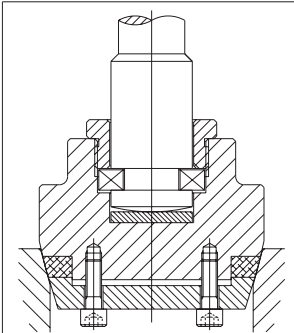
34 Guided disk



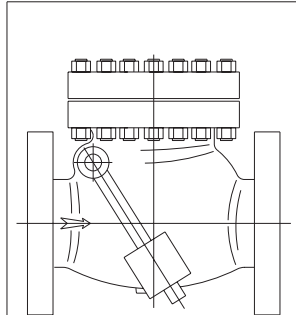
35 Double stage opening disk



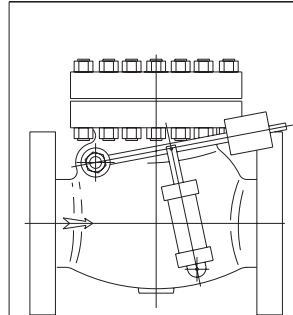
36 Parabolic / regulating disk



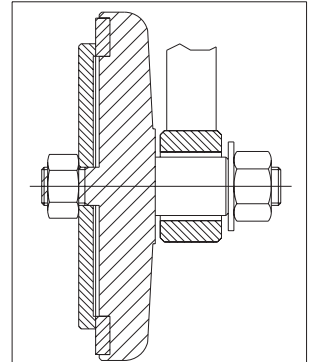
37 Soft seated disk



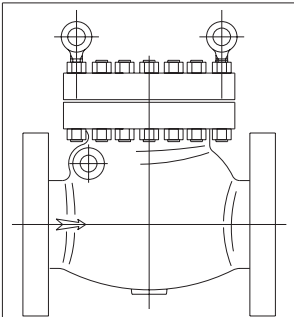
38 Swing check valve with outside lever and weight



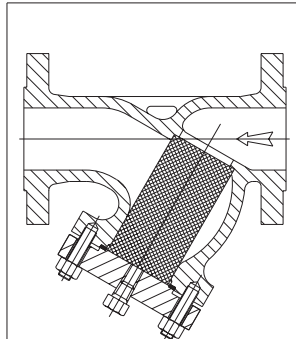
39 Swing check valve with shock absorber



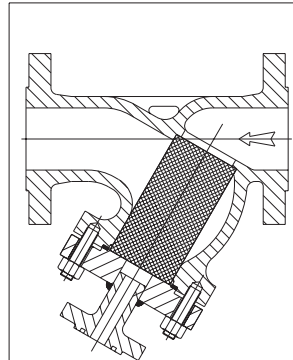
40 Soft seated disk for check valve



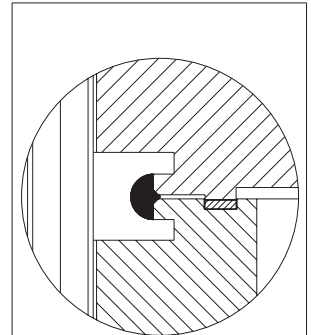
41 Swing check valve with lifting eyebolt



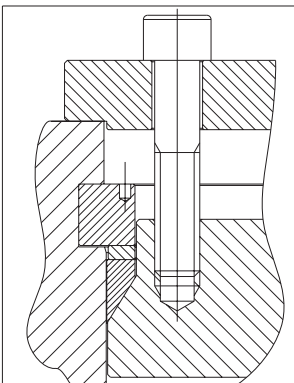
42 Strainer Y type with drain plug



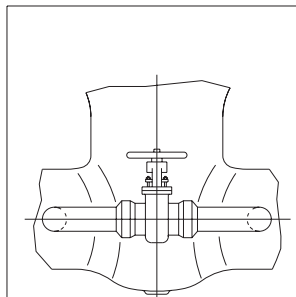
43 Strainer Y type with flange connection



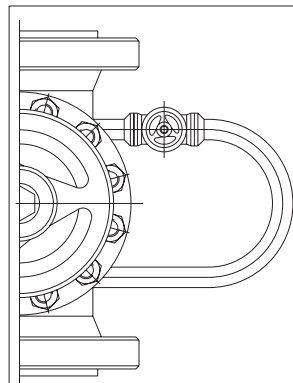
44 Body / bonnet seal weld



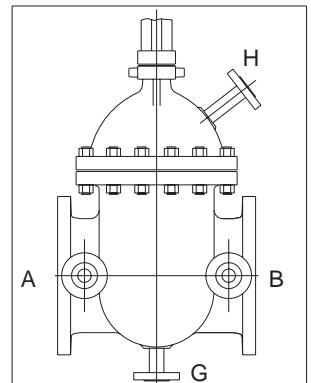
45 Pressure seal construction



46 By pass (front view)



47 By pass ( top view )



48 Flanges connection

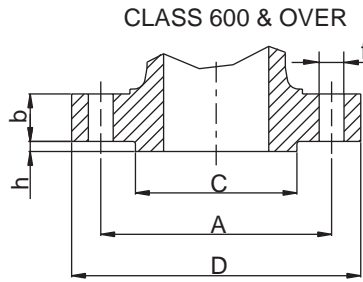
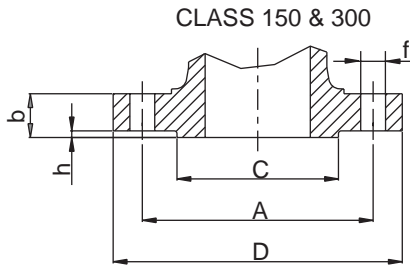
All data, subject to technical changes, are only for information and not for official use.

# FLANGES DIMENSIONS - ASME B16.5

## SIZES 1/2" ÷ 24" - CLASSES 150 ÷ 2500

# VALVOSIDER

MANUFACTURER OF VALVES



DN = Nominal pipe size (inches)  
 D = Outside diameter of flange  
 b\* = Thickness of flange min.  
 C = Diameter of hub  
 h = Height of raised face  
 N = Number of bolt holes  
 f = Diameter of bolt holes  
 A = Diameter of bolt circle  
 RJ = Groove number

\* raised face included for ANSI Class 150-300  
 raised face not included for ANSI Class 600-900-1500-2500

CLASS	DN	D	b	C	h	N	f	A	RJ
150	1/2"	89	11,1	34,9	1,60	4	15	60,3	--
300	1/2"	95	14,3	34,9	1,60	4	15	66,7	11
600	1/2"	95	14,3	34,9	6,35	4	15	66,7	11
900-1500	1/2"	121	22,2	34,9	6,35	4	22	82,5	12
150	3/4"	98,4	12,7	42,9	1,60	4	15	69,8	--
300	3/4"	118	15,9	42,9	1,60	4	18	82,5	13
600	3/4"	118	15,9	42,9	6,35	4	18	82,5	13
900-1500	3/4"	130	25,4	42,9	6,35	4	22	88,9	14
150	1"	108	14,3	50,8	1,60	4	15	79,4	15
300	1"	124	17,5	50,8	1,60	4	19	88,9	16
600	1"	124	17,5	50,8	6,35	4	19	88,9	16
900-1500	1"	149	28,6	50,8	6,35	4	25	102	16
150	1 1/4"	118	15,9	63,5	1,60	4	15	88,9	17
300	1 1/4"	133	19	63,5	1,60	4	18	98,4	18
600	1 1/4"	133	20,6	63,5	6,35	4	18	98,4	18
900-1500	1 1/4"	159	28,6	63,5	6,35	4	26	111	18
150	1 1/2"	127	17,5	73	1,60	4	15	98,4	19
300	1 1/2"	156	20,6	73	1,60	4	22	114	20
600	1 1/2"	156	22,2	73	6,35	4	22	114	20
900-1500	1 1/2"	178	31,8	73	6,35	4	30	124	20
150	2"	152	19	92,1	1,60	4	19	121	22
300	2"	165	22,2	92,1	1,60	8	18	127	23
600	2"	165	25,4	92,1	6,35	8	18	127	23
900-1500	2"	216	38,1	92,1	6,35	8	26	165	24
2500	2"	235	50,8	92,1	6,35	8	29	171	26
150	2 1/2"	178	22,2	105	1,60	4	19	140	25
300	2 1/2"	191	25,4	105	1,60	8	22	149	26
600	2 1/2"	191	28,6	105	6,35	8	22	149	26
900-1500	2 1/2"	245	41,3	105	6,35	8	30	191	27
2500	2 1/2"	267	57,2	105	6,35	8	32	197	28
150	3"	191	23,8	127	1,60	4	19	152	29
300	3"	210	28,6	127	1,60	8	22	168	31
600	3"	210	31,8	127	6,35	8	22	168	31
900	3"	241	38,1	127	6,35	8	25	191	31
1500	3"	267	47,6	127	6,35	8	32	203	35
2500	3"	305	66,7	127	6,35	8	34,9	229	32
150	4"	229	23,8	157	1,60	8	19	191	36
300	4"	254	31,7	157	1,60	8	22	200	37
600	4"	273	38,1	157	6,35	8	26	216	37
900	4"	292	44,45	157	6,35	8	32	235	37
1500	4"	311	54	157	6,35	8	35	241	39
2500	4"	356	76,2	157	6,35	8	41	273	38
150	5"	254	23,8	186	1,60	8	22	216	40
300	5"	279	34,9	186	1,60	8	22	235	41
600	5"	330	44,4	186	6,35	8	28	267	41
900	5"	349	50,8	186	6,35	8	36	279	41
1500	5"	375	73	186	6,35	8	42	292	44
2500	5"	416	92,1	186	6,35	8	48	324	42

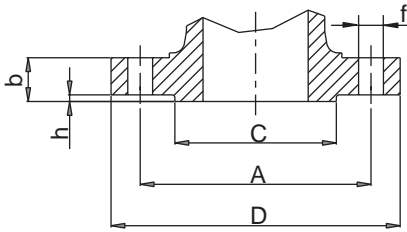
CLASS	DN	D	b	C	h	N	f	A	RJ
150	6"	279	25,4	216	1,6	8	22	241	43
300	6"	318	36,5	216	1,6	12	22	270	45
600	6"	356	47,6	216	6,35	12	30	292	45
900	6"	381	55,6	216	6,35	12	32	318	45
1500	6"	394	82,6	216	6,35	12	39	318	46
2500	6"	483	108	216	6,35	8	54	368	47
150	8"	343	28,6	270	1,6	8	22	298	48
300	8"	381	41,3	270	1,6	12	26	330	49
600	8"	419	55,6	270	6,35	12	32	349	49
900	8"	470	63,5	270	6,35	12	39	394	49
1500	8"	483	92,1	270	6,35	12	45	394	50
2500	8"	552	127	270	6,35	12	54	438	51
150	10"	406	30,2	324	1,6	12	25	362	52
300	10"	445	47,6	324	1,6	16	28,6	387	53
600	10"	508	63,5	324	6,35	16	36	432	53
900	10"	546	69,8	324	6,35	16	38,1	470	53
1500	10"	584	108	324	6,35	12	52	483	54
2500	10"	673	165	324	6,35	12	67	540	55
150	12"	483	31,7	381	1,6	12	26	432	56
300	12"	521	50,8	381	1,6	16	32	451	57
600	12"	559	66,7	381	6,35	20	36	490	57
900	12"	610	79,4	381	6,35	20	39	533	57
1500	12"	673	124	381	6,35	16	55	572	58
2500	12"	762	184	381	6,35	12	73	619	60
150	14"	533	34,9	413	1,6	12	29	476	59
300	14"	584	54	413	1,6	20	32	514	61
600	14"	603	69,8	413	6,35	20	39	527	61
900	14"	641	85,7	413	6,35	20	42	559	62
1500	14"	749	133	413	6,35	16	60	635	63
150	16"	597	36,5	470	1,6	16	28	540	64
300	16"	648	57,2	470	1,6	20	36	572	65
600	16"	686	76,2	470	6,35	20	42	603	65
900	16"	705	88,9	470	6,35	20	45	616	66
1500	16"	826	146	470	6,35	16	65	705	67
150	18"	635	39,7	533	1,6	16	32	578	68
300	18"	711	60,3	533	1,6	24	36	629	69
600	18"	743	82,6	533	6,35	20	45	654	69
900	18"	787	102	533	6,35	20	52	686	70
1500	18"	914	162	533	6,35	16	75	775	71
150	20"	699	42,9	584	1,6	20	32	635	72
300	20"	775	63,5	584	1,6	24	36	686	73
600	20"	813	88,9	584	6,35	24	45	724	73
900	20"	857	108	584	6,35	20	55	749	74
1500	20"	984	178	584	6,35	16	80	832	75
150	24"	813	47,6	692	1,6	20	36	749	76
300	24"	914	69,8	692	1,6	24	42	813	77
600	24"	940	102	692	6,35	24	52	838	77
900	24"	1041	140	692	6,35	20	65	902	78
1500	24"	1168	203	692	6,35	16	93	991	79

All dimensions in mm (except where differently indicated)

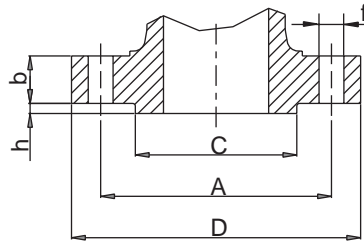
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CLASS 150 & 300



CLASS 600 & OVER



DN = Nominal pipe size (inches)  
 D = Outside diameter of flange  
 b\* = Thickness of flange min.  
 C = Diameter of hub  
 h = Height of raised face  
 N = Number of bolt holes  
 f = Diameter of bolt holes  
 A = Diameter of bolt circle  
 RJ = Groove number

\* raised face included for ANSI Class 150-300  
 raised face not included for ANSI Class 600-900

CLASS	DN	D	b	C	h	N	f	A	RJ	CLASS	DN	D	b	C	h	N	f	A	RJ
150	26"	870	68,3	749	1,6	24	35,1	806		150	38"	1238	87,4	1073	1,6	32	41,1	1149	
300	26"	972	79,2	749	1,6	28	44,5	876	93	300	38"	1168	108,0	1029	1,6	32	41,1	1092	
600	26"	1016	108,0	749	1,6	28	50,8	914	93	600	38"	1270	152,4	1054	1,6	28	60,5	1162	
900	26"	1086	139,7	953	1,6	20	73,2	953	100	900	38"	1461	190,5	1289	1,6	20	91,9	1289	
150	28"	927	71,4	800	1,6	28	35,1	864		150	40"	1289	90,4	1124	1,6	36	41,1	1200	
300	28"	1035	85,9	800	1,6	28	44,5	940	94	300	40"	1238	114,3	1086	1,6	32	44,5	1156	
600	28"	1073	111,3	800	1,6	28	53,8	965	94	600	40"	1321	158,8	1111	1,6	32	60,5	1213	
900	28"	1168	142,7	1022	1,6	20	79,2	1022	101	900	40"	1511	196,9	1340	1,6	24	91,9	1340	
150	30"	984	74,7	857	1,6	28	35,1	914		150	42"	1346	96,8	1194	1,6	36	41,1	1257	
300	30"	1092	91,9	857	1,6	28	47,8	997	95	300	42"	1289	119,1	1137	1,6	32	44,5	1207	
600	30"	1130	114,3	857	1,6	28	53,8	1022	95	600	42"	1403	168,1	1168	1,6	28	66,5	1283	
900	30"	1232	149,4	1086	1,6	20	79,2	1086	102	900	42"	1562	206,2	1391	1,6	24	91,9	1391	
150	32"	1060	81,0	914	1,6	28	41,1	978		150	44"	1403	101,6	1245	1,6	40	41,1	1314	
300	32"	1149	98,6	914	1,6	28	50,8	1054	96	300	44"	1353	124,0	1194	1,6	32	47,8	1264	
600	32"	1194	117,3	914	1,6	28	60,5	1080	96	600	44"	1454	173,0	1226	1,6	32	66,5	1334	
900	32"	1314	158,8	1156	1,6	20	85,9	1156	103	900	44"	1648	214,4	1464	1,6	24	98,6	1464	
150	34"	1111	82,6	965	1,6	32	41,1	1029		150	46"	1454	103,1	1295	1,6	40	41,1	1365	
300	34"	1207	101,6	965	1,6	28	50,8	1105	97	300	46"	1416	128,5	1245	1,6	28	50,8	1321	
600	34"	1245	120,7	965	1,6	28	60,5	1130	97	600	46"	1511	179,3	1276	1,6	32	66,5	1391	
900	34"	1397	165,1	1226	1,6	20	91,9	1226	104	900	46"	1734	225,6	1537	1,6	24	105	1537	
150	36"	1168	90,4	1022	1,6	32	41,1	1086		150	48"	1511	108,0	1359	1,6	44	41,1	1422	
300	36"	1270	104,6	1022	1,6	32	53,8	1168	98	300	48"	1467	133,4	1302	1,6	32	50,8	1372	
600	36"	1314	124,0	1022	1,6	28	66,5	1194	98	600	48"	1594	189,0	1334	1,6	32	73,2	1461	
900	36"	1461	171,5	1289	1,6	20	91,9	1289	105	900	48"	1784	233,4	1588	1,6	24	105	1588	

### FLANGES FACING FINISH

NOMINAL ROUGHNESS GRADES (R<sub>a</sub>) FOR ROUGHNESS COMPARISON SPECIMENS - ASME B46.1

μm	μin.
0.006	0.25
0.0125	0.5
0.025	1
0.05	2
0.1	4
0.2	8
0.4	16
0.8	32
1.6	63
3.2	125
6.3	250
12.5	500
25	1,000
50	2,000
100	4,000
200	8,000
400	16,000

ASME B16.5

TONGUE AND GROOVE - SMALL MALE AND FEMALE

The gasket contact surface shall not exceed 125 microinches (3,2 micrometers) roughness.

RING JOINT

The side wall surface of gasket groove shall not exceed 63 microinches (1,6 micrometers) roughness.

OTHER FLANGE FACINGS

Either a serrated concentric or serrated spiral finish having a resultant surface finish from 125 microinches to 250 microinches (3,2 to 6,3 micrometers) average roughness.

MSS SP-6 - steel

FLAT OR 1/6" (1.6 mm) RAISED FACE AND 1/4" (6.4 mm) RAISED AND LARGE MALE & FEMALE

Serrated: spiral or concentric, 45 to 55 per inch (18 to 21 per cm). Surface finish shall have a 125 to 250 microinches (3.2 to 6.3 micrometers) Ra.

SMALL MALE & FEMALE, LARGE & SMALL TONGUE & GROOVE

Serrated (as above) or non-serrated: 125 microinches (3,2 micrometers) Ra max.

RING JOINT

Non-serrated: 63 microinches (1.6 micrometers) Ra max. according to ASME B46.1.

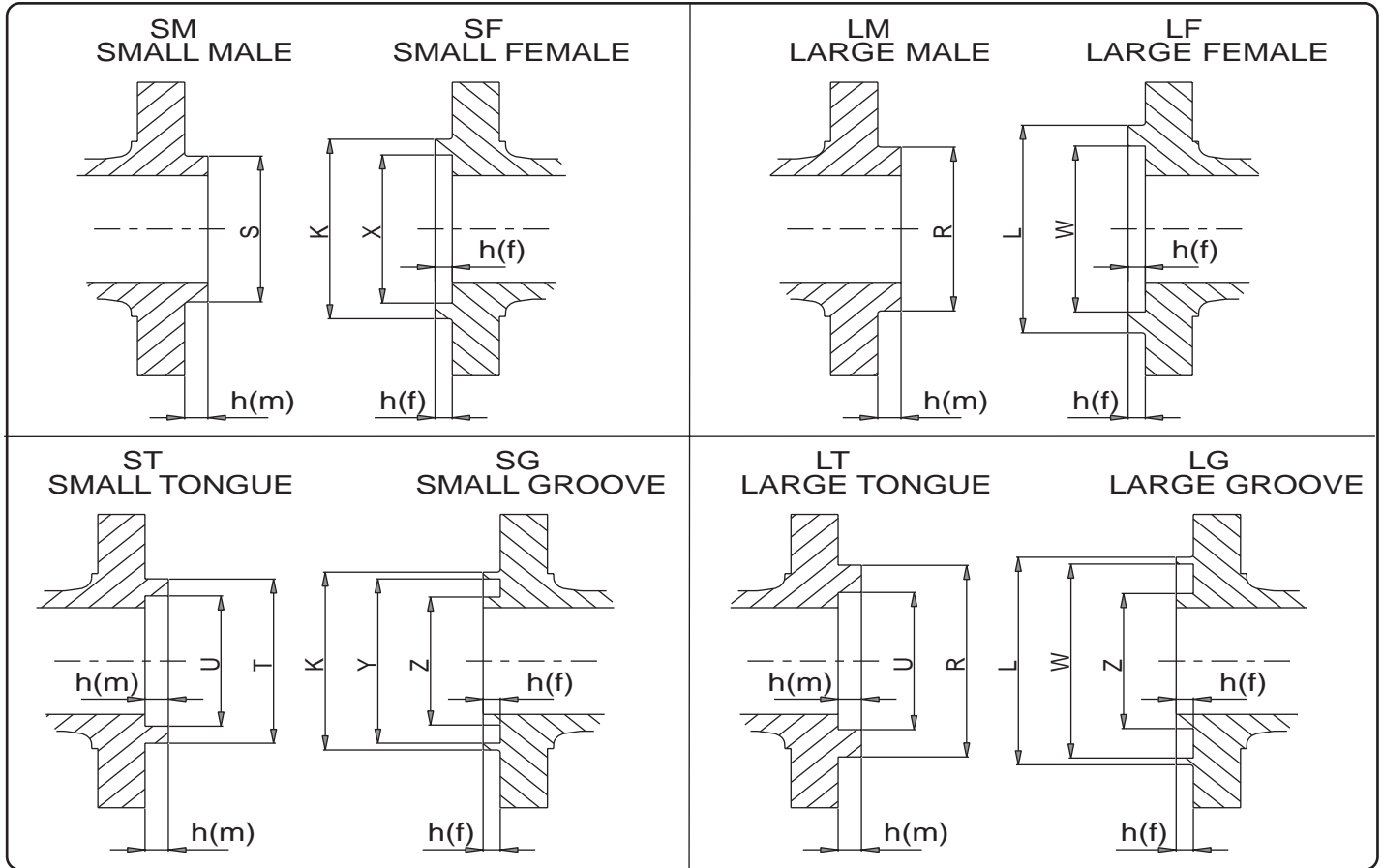
The finish of contact faces of pipe flanges and connecting end flanges of fittings shall be judged by visual comparison with Ra standards.

All dimensions in mm (except where differen ly indicated)

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# END FLANGE FACINGS - ASME B16.5

**VALVOSIDER**  
MANUFACTURER OF VALVES



## FACE TO FACE DIMENSIONS - ASME B16.10

CLASS	RF	MALE	FEMALE
150 / 300	SEE CATALOGUE	RF + 13 mm	RF + 10 mm
600 / 900 / 1500	SEE CATALOGUE	RF	RF - 3 mm

## DIMENSIONS OF FACING (mm)

Nominal pipe size (inches)	OUTSIDE DIAMETER			INT. DIAM.	OUTSIDE DIAMETER				RAISED FACE HEIGHT	Depth of groove or female	OUTSIDE DIAMETER OF RAISED PORTION					
	Raised face, lapped, large male and large tongue	Small male **	Small tongue		Large and small tongue	Large female and large groove	Small female	Small groove			Large and small groove **	150 and 300 Lbs. Class	Large and small male and tongue 400/2500 Lbs. Class	h(f)	Small Female and Groove (min.)	Large Female and Groove (min.)
1 1/2"	73,1	44,4	63,5	53,8	74,6	45,9	65	52,3	1,6	6,35	4,8	84,1	84,1			
2"	91,8	57,1	82,5	73,1	93,7	58,7	84,1	71,4	1,6	6,35	4,8	103,1	103,1			
2 1/2"	104,6	68,3	95,2	85,8	106,4	69,8	96,8	84,1	1,6	6,35	4,8	115,8	115,8			
3"	127,0	84,1	117,3	107,9	128,5	85,8	119,1	106,4	1,6	6,35	4,8	138,2	138,2			
4"	157,2	109,5	144,5	131,8	158,7	111,2	146,0	130,0	1,6	6,35	4,8	168,1	168,1			
5"	185,7	136,6	173,0	160,3	187,4	138,1	174,7	158,7	1,6	6,35	4,8	196,8	196,8			
6"	215,9	162,0	203,2	190,5	217,5	163,5	204,7	188,9	1,6	6,35	4,8	227,0	227,0			
8"	269,7	212,8	254,0	238,2	271,5	214,3	255,5	236,5	1,6	6,35	4,8	281,0	281,0			
10"	323,8	266,7	304,8	285,7	325,4	268,2	306,3	284,2	1,6	6,35	4,8	335,0	335,0			
12"	381,0	317,5	361,9	342,9	382,5	319,0	363,5	341,3	1,6	6,35	4,8	392,1	392,1			
14"	412,7	349,2	393,7	374,6	414,3	350,8	395,3	373,1	1,6	6,35	4,8	423,9	423,9			
16"	469,9	400,0	447,5	425,4	471,4	401,6	449,3	423,9	1,6	6,35	4,8	481,0	481,0			
18"	533,4	450,8	511,0	488,9	535,0	452,4	512,8	487,4	1,6	6,35	4,8	544,5	544,5			
20"	584,2	501,6	558,8	533,4	585,7	503,2	560,3	531,8	1,6	6,35	4,8	595,3	595,3			
24"	692,1	603,2	666,7	641,3	693,7	604,8	668,8	639,8	1,6	6,35	4,8	703,3	703,3			

\*\*Large male and female faces and large tongue and groove are not applicable to Class 150 because of potential dimensional conflict.

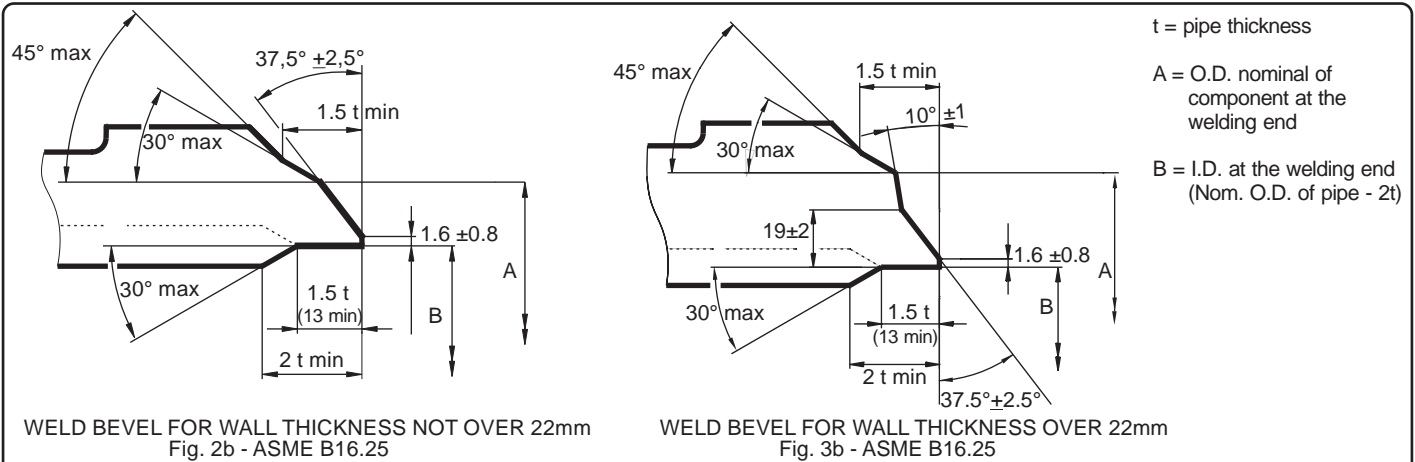
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**BUTT WELDING ENDS - ASME B16.25**



DN (inches)	Nom. pipe O.D.	A (1)	Wall thickness of pipe											
			sch. 20	sch. 30	sch. Std	sch. 40	sch. 60	sch. xs	sch. 80	sch. 100	sch. 120	sch. 140	sch. 160	sch. xxs
1" 1/2	48.3	n.a.			3.68	3.68		5.08	5.08				7.14	10.16
2"	60.3	n.a.			3.91	3.91		5.54	5.54				8.74	11.07
2" 1/2	73.0	75			5.16	5.16		7.01	7.01				9.52	14.02
3"	88.9	91			5.49	5.49		7.62	7.62				11.13	15.24
4"	114.3	117			6.02	6.02		8.56	8.56		11.13		13.49	17.12
5"	141.3	144			6.55	6.55		9.52	9.52		12.70		15.88	19.05
6"	168.3	172			7.11	7.11		10.97	10.97		14.27		18.26	21.95
8"	219.1	223	6.35	7.04	8.18	8.18	10.31	12.70	12.70	15.09	18.26	20.62	23.01	22.22
10"	273.0	278	6.35	7.80	9.27	9.27	12.70	12.70	15.09	18.26	21.44	25.40	28.58	25.40
12"	323.8	329	6.35	8.38	9.52	10.31	14.27	12.70	17.48	21.44	25.40	28.57	33.32	
14"	355.6	362	7.92	9.52	9.52	11.12	15.09	12.70	19.05	23.83	27.76	31.75	35.71	
16"	406.4	413	7.92	9.52	9.52	12.70	16.66	12.70	21.44	26.19	30.94	36.52	40.46	
18"	457.2	464	7.92	11.13	9.52	14.27	19.05	12.70	23.83	29.36	34.92	39.67	45.24	
20"	508.0	516	9.52	12.70	9.52	15.06	20.62	12.70	26.19	32.54	38.10	44.45	49.99	
24"	609.6	619	9.52	14.27	9.52	17.45	24.59	12.70	30.94	38.89	46.02	52.37	59.51	

(1) The diameters listed are not requirements

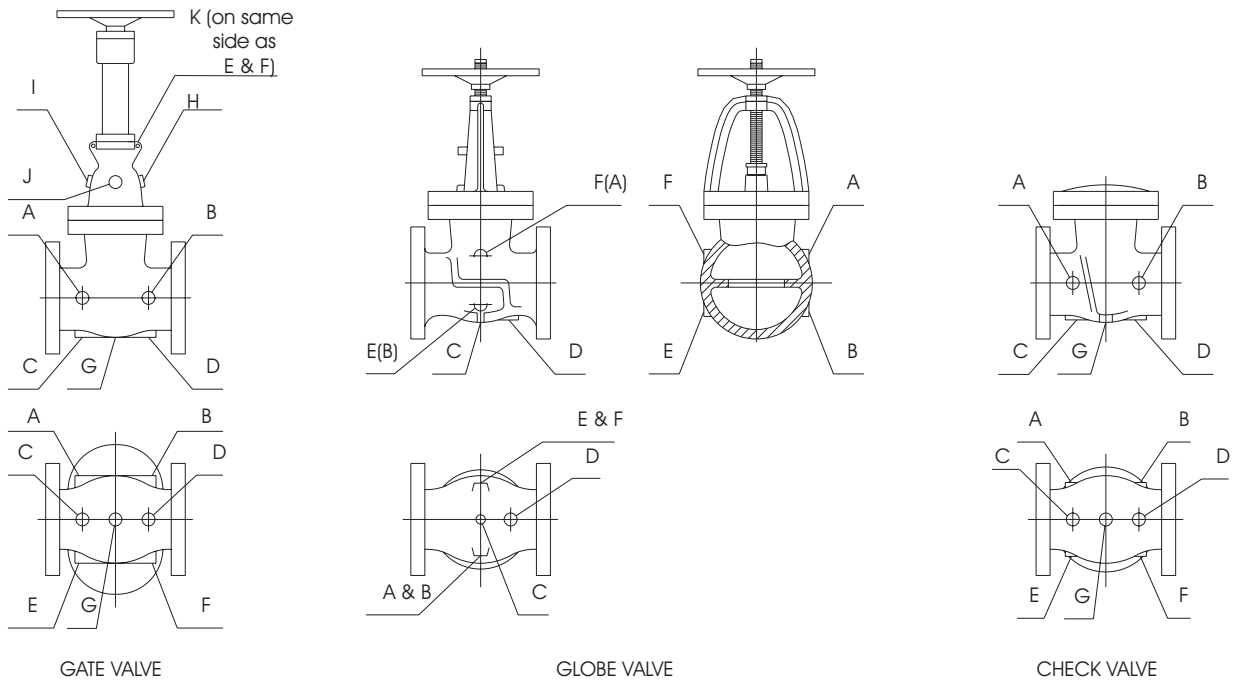
**SOCKET WELDING ENDS - ASME B16.11 (not for auxiliary connections - see ASME B16.34)**

DN mm	Nominal pipe size (inches)	B mm (min.)	J mm (min.)	Class 3000 Sch. 80		Class 6000 Sch. 160		Class 9000 Wall Des. XXS	
				C mm (min.)	D mm (min.)	C mm (min.)	D mm (min.)	C mm (min.)	D mm (min.)
6	1/8"	10,8	9,5	3,18	6,1	3,43	3,2	--	--
8	1/4"	14,2	9,5	3,30	8,5	4,01	5,6	--	--
10	3/8"	17,6	9,5	3,50	11,8	4,37	8,4	--	--
15	1/2"	21,8	9,5	4,09	15,0	5,18	11,0	5,94	5,6
20	3/4"	27,2	12,5	4,27	20,2	6,04	14,8	6,93	10,3
25	1"	33,9	12,5	4,98	25,9	6,93	19,9	7,95	14,4
32	1" 1/4	42,7	12,5	5,28	34,3	9,93	28,7	7,95	22,0
40	1" 1/2	48,8	12,5	5,54	40,1	7,80	33,2	8,91	27,2
50	2"	61,2	16,0	6,04	51,7	9,50	42,1	10,89	37,4
65	2" 1/2	73,9	16,0	7,67	61,2	--	--	--	--
80	3"	89,8	16,0	8,30	76,4	--	--	--	--
100	4"	115,2	16,0	9,35	100,7	--	--	--	--

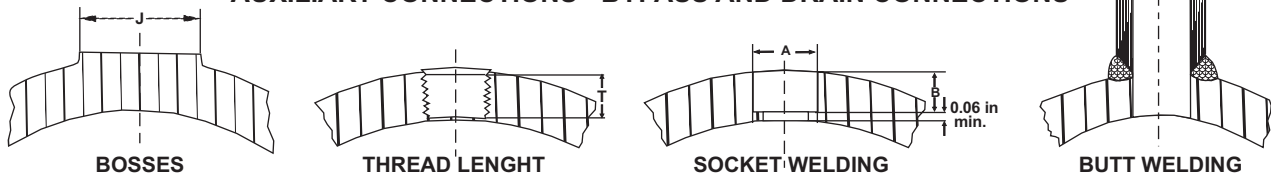
All dimensions in mm (except where differen ly indicated)

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### AUXILIARY CONNECTION - TAPS - DRAINS - BY PASSES



### AUXILIARY CONNECTIONS - BYPASS AND DRAIN CONNECTIONS



Size of Valve	2" to 4"	5" to 8"	10" to 24"
Size of Connections	1/2"	3/4"	1"
Length of Thread T	14	14	18
Min.Diam. of Socket A	22	27	34
Min.Depth. of Socket B	5	6.5	6.5
Diameter of Boss J	38	44	54
Size of Tapping	1/2"	3/4"	1"

### NPT THREAD STANDARDS - ASME B1.20.1

NOMINAL PIPE SIZE (INCH)	OUTSIDE DIAMETER OF PIPE	THREADS PER INCH	PITCH OF THREAD	HANDTIGHT ENGAGEMENT	LENGTH OF EFFECTIVE THREAD (EXTERNAL)	WRENCH MAKEUP LENGTH FOR INTERNAL THREAD	OVERALL LENGTH OF EXTERNAL THREAD	PITCH DIAM. AT BEGINNING OF EXTERNAL THREAD
DN	D	(n)	P	L1	L2	L3	L4	E0
1/8	10,29	27	0,940	4,572	6,703	2,822	9,967	9,233
1/4	13,72	18	1,412	5,080	10,206	4,234	15,103	12,126
3/8	17,14	18	1,412	6,096	10,358	4,234	15,255	15,545
1/2	21,34	14	1,814	8,128	13,556	5,443	19,850	19,263
3/4	26,67	14	1,814	8,611	13,861	5,443	20,155	24,58
1	33,40	11,5	2,210	10,160	17,343	6,627	25,006	30,825
1 1/4	42,16	11,5	2,210	10,668	17,953	6,627	25,616	39,55
1 1/2	48,26	11,5	2,210	10,668	18,377	6,627	26,040	45,621
2	60,32	11,5	2,210	11,074	19,215	6,627	26,878	57,633

$p = \text{Pitch}$   
 $\text{Depth of thread} = 0.80p$   
 $E0 = D - (0.050d + 1.1)p$   
 $E1 = E0 + 0.0625L1$   
 $L2 = (0.80D + 6.8)p$

All dimensions in mm (except where differently indicated)

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	ASTM		chemical composition %									mechanical properties			
	Number	Grade	C	Mn	P	S	Si	Cr	Mo	Ni	others	R Mpa	S	% Ap.	% C
CASTINGS	A 216	WCB	max. 0,30	max. 1,00	max. 0,04	max. 0,045	max. 0,60	--	--	--	--	485	250	22	35
	A 352	LCB	max. 0,30	max. 1,00	max. 0,04	max. 0,045	max. 0,60	--	--	--	--	450	240	24	35
	A 352	LC 2	max. 0,25	0,50 - 0,80	max. 0,04	max. 0,045	max. 0,60	--	--	2,00 - 3,00	--	485	275	24	35
	A 352	LC 3	max. 0,15	0,50 - 0,80	max. 0,04	max. 0,045	max. 0,60	--	--	3,00 - 4,00	--	485	275	24	35
	A 217	WC 1	max. 0,25	0,50 - 0,80	max. 0,04	max. 0,045	max. 0,60	--	0,45 - 0,65	--	--	450	240	24	35
	A 217	WC 5	max. 0,20	0,40 - 0,70	max. 0,04	max. 0,045	max. 0,60	0,50 - 0,90	0,90 - 1,20	0,60 - 1,00	--	485	275	20	35
	A 217	WC 6	max. 0,20	0,50 - 0,80	max. 0,04	max. 0,045	max. 0,60	1,00 - 1,50	0,45 - 0,65	--	--	485	275	20	35
	A 217	WC 9	max. 0,18	0,40 - 0,70	max. 0,04	max. 0,045	max. 0,60	2,00 - 2,75	0,90 - 1,20	--	--	485	275	20	35
	A 217	C 5	max. 0,20	0,40 - 0,70	max. 0,04	max. 0,045	max. 0,75	4,00 - 6,50	0,45 - 0,65	--	--	620	415	18	35
	A 217	C 12	max. 0,20	0,35 - 0,65	max. 0,04	max. 0,045	max. 1,00	8,00 - 10,00	0,90 - 1,20	--	--	620	515	18	35
	A 217	CA 15	max. 0,15	max. 1,00	max. 0,04	max. 0,04	max. 1,50	11,50 - 14,00	max. 0,50	max. 1,00	--	620	450	18	30
	A 351	CF 3	max. 0,03	max. 1,50	max. 0,04	max. 0,04	max. 2,00	17,00 - 21,00	max. 0,50	8,00 - 12,00	--	485	205	35	--
	A 351	CF 8	max. 0,08	max. 1,50	max. 0,04	max. 0,04	max. 2,00	18,00 - 21,00	max. 0,50	8,00 - 11,00	--	485	205	35	--
	A 351	CF 8 C	max. 0,08	max. 1,50	max. 0,04	max. 0,04	max. 2,00	18,00 - 21,00	--	9,00 - 12,00	Cb min. 8xC max. 1,00	485	205	30	--
	A 351	CF 3 M	max. 0,03	max. 1,50	max. 0,04	max. 0,04	max. 1,50	17,00 - 21,00	2,00 - 3,00	9,00 - 13,00	--	485	205	30	--
	A 351	CF 8 M	max. 0,08	max. 1,50	max. 0,04	max. 0,04	max. 1,50	18,00 - 21,00	2,00 - 3,00	9,00 - 12,00	--	485	205	30	--
	A 351	CG 8M	max. 0,08	max. 1,50	max. 0,04	max. 0,04	max. 1,50	18,00 - 21,00	3,00 - 4,00	9,00 - 13,00	--	515	240	25	--
	A 351	CK3MCuN	max. 0,025	max. 1,20	max. 0,045	max. 0,01	max. 1,00	19,50 - 20,50	6,00 - 7,00	17,50 - 19,50	Cu 0,5 - 1,00 N 0,18-0,24	550	260	35	--
	A 351	CN7M	max. 0,07	max. 1,50	max. 0,04	max. 0,04	max. 1,50	19,00 - 22,00	2,00 - 3,00	27,50 - 30,50	Cu 3,0 - 4,0	425	170	35	--
	A 890	4A	max. 0,03	max. 1,50	max. 0,04	max. 0,02	max. 1,0	21,00 - 23,50	2,50 - 3,50	4,50 - 6,50	Cu max 1,00 N 0,10-0,30	620	415	25	--
A 890	5A	max. 0,03	max. 1,50	max. 0,04	max. 0,04	max. 1,0	24,00 - 26,00	4,00 - 5,00	6,00 - 8,00	N 0,10-0,30	690	515	18	--	
A 890	6A	max. 0,03	max. 1,00	max. 0,03	max. 0,025	max. 1,0	24,00 - 26,00	3,00 - 4,00	6,50 - 8,50	Cu&W 0,5-1,0 N 0,20-0,30	700	450	25	--	
FORGINGS	A 105	II	max. 0,35	max. 0,90	max. 0,05	max. 0,05	max. 0,35	--	--	--	--	485	250	22	30
	A 181	CL 60	max. 0,35	max. 0,90	max. 0,05	max. 0,05	max. 0,35	--	--	--	--	415	205	22	35
	A 181	CL 70	max. 0,35	max. 0,90	max. 0,05	max. 0,05	max. 0,35	--	--	--	--	485	250	18	24
	A 350	LF 2	max. 0,35	0,60 - 1,35	max. 0,35	max. 0,04	0,15 - 0,30	max. 0,30	max. 0,12	max. 0,40	Cu max 0,40	485	250	22	30
	A 350	LF 3	max. 0,20	max. 0,90	max. 0,035	max. 0,04	0,20 - 0,35	--	--	3,30 - 3,70	--	485	260	22	35
	A 182	F 1	max. 0,28	0,60 - 0,90	max. 0,045	max. 0,045	0,15 - 0,35	--	0,44 - 0,65	--	--	485	275	20	30
	A 182	F 5	max. 0,15	0,30 - 0,60	max. 0,03	max. 0,03	max. 0,50	4,00 - 6,00	0,44 - 0,65	max. 0,50	--	485	275	20	35
	A 182	F 6a CL.2	max. 0,12	max. 1,00	max. 0,04	max. 0,03	max. 1,00	11,50 - 13,50	--	max. 0,50	--	585	380	18	35
	A 182	F 9	max. 0,15	0,30 - 0,60	max. 0,03	max. 0,03	0,50 - 1,00	8,00 - 10,00	0,90 - 1,10	--	--	585	380	20	40
	A 182	F 10	0,01 - 0,20	0,50 - 0,80	max. 0,03	max. 0,03	1,00 - 1,40	7,00 - 9,00	--	19,00 - 22,00	--	550	205	30	50
	A 182	F 11 CL.2	0,05 - 0,15	0,30 - 0,60	max. 0,03	max. 0,03	0,50 - 1,00	1,00 - 1,50	0,44 - 0,65	--	--	485	275	20	30
	A 182	F 12 CL.2	0,10 - 0,20	0,30 - 0,80	max. 0,04	max. 0,04	0,10 - 0,60	0,80 - 1,25	0,44 - 0,65	--	--	485	275	20	30
	A 182	F 20	max. 0,07	max. 2,00	max. 0,045	max. 0,035	max. 1,00	19,00 - 21,00	2,00 - 3,00	32,00 - 38,00	--	550	240	30	50
	A 182	F 22	0,05 - 0,15	0,30 - 0,60	max. 0,04	max. 0,04	max. 0,50	2,00 - 2,50	0,87 - 1,13	--	--	415	205	20	35
	A 182	F 44	max. 0,02	max. 1,00	max. 0,03	max. 0,01	max. 0,80	19,5 - 20,5	6,0 6,5	17,5 - 18,5	Cu 0,50-1,00 N 0,18-0,22	650	300	35	50
	A 182	F 51	max. 0,03	max. 2,00	max. 0,03	max. 0,02	max. 1,00	21,0 - 23,0	2,5 3,5	4,5 - 6,5	N min 0,08 max 0,20	620	450	25	45
	A 182	F 53	max. 0,03	max. 1,20	max. 0,035	max. 0,02	max. 0,80	24,0 - 26,0	3,0 5,0	6,0 - 8,0	Cu max 0,50 N 0,24-0,32	750	515	15	..
	A 182	F 304	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	18,00 - 20,00	--	8,00 - 11,00	--	515	205	30	50
	A 182	F 310	max. 0,15	max. 2,00	max. 0,045	max. 0,03	max. 1,00	24,00 - 26,00	--	19,00 - 22,00	--	515	205	30	50
	A 182	F 316	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	16,00 - 18,00	2,00 - 3,00	10,00 - 14,00	--	515	205	30	50
	A 182	F 316L	max. 0,035	max. 2,00	max. 0,045	max. 0,03	max. 1,00	16,00 - 18,00	2,00 - 3,00	10,00 - 15,00	--	485	170	30	50
	A 182	F 321	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	min. 17,00	--	9,00 - 12,00	Ti min. 5xC max. 0,70	515	205	30	50
	A 182	F 347	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	17,00 - 20,00	--	9,00 - 13,00	Cb min. 10xC max. 1,00	515	205	30	50
	AISI	431	max. 0,20	max. 1,00	max. 0,04	max. 0,03	max. 1,00	15,00 - 17,00	--	1,25 - 2,50	--	--	--	--	--
	17.4 PH	®	max. 0,07	max. 1,00	max. 0,04	max. 0,03	max. 1,00	15,00 - 17,50	max. 0,50	3,00 - 5,00	Cb min. 8xC/max. 1 Cu 0,5-1,0	860	725	16	50
	BOLTINGS	A 193	B 7	0,37 - 0,49	0,65 - 1,10	max. 0,035	max. 0,04	0,15 - 0,35	0,75 - 1,20	0,15 - 0,25	--	--	860	720	16
A 193		B 16	0,36 - 0,47	0,45 - 0,70	max. 0,035	max. 0,04	0,15 - 0,35	0,80 - 1,15	0,50 - 0,65	--	Va 0,25-0,35	860	725	18	50
A 193		B 8	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	18,00 - 20,00	--	8,00 - 10,50	--	*	*	*	*
A 193		B 8M	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	16,00 - 18,00	2,00 - 3,00	10,00 - 14,00	--	*	*	*	*
A 320		B 8	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	18,00 - 20,00	--	8,00 - 10,50	--	*	*	*	*
A 320		L 7	0,38 - 0,48	0,75 - 1,00	max. 0,035	max. 0,04	0,15 - 0,35	0,80 - 1,10	0,15 - 0,25	--	--	860	725	16	50
A 194		2 H	min. 0,40	max. 1,00	max. 0,04	max. 0,05	max. 0,4	--	--	--	--	--	--	--	--
A 194		3	max. 0,10	max. 1,00	max. 0,04	max. 0,03	max. 1,00	4,00 - 6,00	0,40 - 0,65	--	--	--	--	--	--
A 194		4	0,40 - 0,50	0,70 - 0,90	max. 0,035	max. 0,04	0,15 - 0,35	--	0,20 - 0,30	--	--	--	--	--	--
A 194		8	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	18,00 - 20,00	--	8,00 - 10,50	--	--	--	--	--
A 194	8M	max. 0,08	max. 2,00	max. 0,045	max. 0,03	max. 1,00	16,00 - 18,00	2,00 - 3,00	10,00 - 14,00	--	--	--	--	--	

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# TRIM MATERIALS API STANDARD 600

**VALVOSIDER**  
MANUFACTURER OF VALVES

API 600 TRIM No.	MATERIAL TYPE					SERVICE
	DISC / WEDGE SEAT SURFACES (1)	SEAT RING SURFACES (1)	STEM HINGE PIN (2)	BACK SEAT	SMALL INTERNAL PARTS	
1	13Cr	13Cr	13Cr	13Cr	13Cr	General erosive or non-corrosive service between -100 °C and 400 °C
2	18Cr - 8Ni	18Cr - 8Ni	18Cr - 8Ni	18Cr - 8Ni	18Cr - 8Ni	For moderate pressure in non-erosive, corrosive service between -265 °C and 320 °C
3	25Cr - 20Ni	25Cr - 20Ni	25Cr - 20Ni	25Cr - 20Ni	25Cr - 20Ni	For moderate pressure in corrosive or non corrosive service between -265 °C and 450 °C
4	Hard 13Cr	Hard 13Cr	13Cr	13Cr	13Cr	As trim No. 1 but for medium pressure
5	HF	HF	13Cr	13Cr	13Cr	High pressure slightly erosive and corrosive service between -265 °C and 650 °C
5A	HF (A)	HF (A)	13Cr	13Cr	13Cr	As trim No. 5 where Co is not allowed
6	13Cr	NiCu alloy	13Cr	13Cr	13Cr	As trim No. 1
7	13Cr	Hard 13Cr	13Cr	13Cr	13Cr	As trim No. 1 for moderate pressure
8	13Cr	HF	13Cr	13Cr	13Cr	As trim No. 5 for moderate pressure
8A	13Cr	HF (A)	13Cr	13Cr	13Cr	As trim No. 5A for moderate pressure
9	NiCu alloy	NiCu alloy	NiCu alloy	NiCu alloy	NiCu alloy	Very corrosive fluids, erosive-corrosive service between -240 °C and 480 °C
10	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	As trim No. 2
11	NiCu alloy	HF	NiCu alloy	NiCu alloy	NiCu alloy	As trim No. 9 but for medium pressure
12	18Cr - 8Ni - Mo	HF	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	As trim No. 10 but for medium pressure
13	19Cr - 29Ni	19Cr - 29Ni	19Cr - 29Ni	19Cr - 29Ni	19Cr - 29Ni	Very corrosive service, for moderate pressure between -45 °C and 320 °C
14	19Cr - 29Ni	HF	19Cr - 29Ni	19Cr - 29Ni	19Cr - 29Ni	As trim No. 13 but for medium pressure
15	HF	HF	18Cr - 8Ni	18Cr - 8Ni	18Cr - 8Ni	As trim No. 2
16	HF	HF	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	18Cr - 8Ni - Mo	As trim No. 10
17	HF	HF	18Cr - 10Ni	18Cr - 10Ni	18Cr - 10Ni	As trim No. 2
18	HF	HF	19Cr - 29Ni	19Cr - 29Ni	19Cr - 29Ni	As trim No. 13

**NOTES:**

- 1) The base materials of disc, wedge and seat ring shall be, at least, equal in corrosion resistance to that of the body material. (Acc. to API Standard 600)
- 2) Stem shall be wrought material.
- Cr = chromium; Ni = nickel; Co = cobalt; Mo = molybdenum. Ni-Cu alloy = Monel
- HF = Hard Facing using CoCr (commercial name Stellite®) welding wire or electrode AWS a 5.13 "E-Co-Cr-A" hb >= 350; thickness 1.6 mm NiCr welding alloy. The suffix A applies to NiCr (5A..8A..)

## CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES OF OTHER MATERIALS

ASTM designation	chemical composition %													mechanical properties		
	Ni	Cu	Fe	Mo	Mn	C	Cr	Si	S	Ti	W	Co	Al	Mpa		%
														R	S	Ap.
Hastelloy B ®	61	--	5	28	--	0,05	1	--	--	--	--	2,5	--	588-902	343-392	15 - 50
Hastelloy C ®	54	--	6	16	--	0,08	15,1	--	--	--	4	2,5	--	549-892	353-471	10 - 49
Monel 8 400 ®	63 - 68	remaining	3,0	--	0,5 - 1,5	0,12	--	3,5 - 4,0	0,05	--	--	--	--	618-696	--	--
Monel K 500 ®	63 - 70	27 - 33	2,0	--	1,5	0,25	--	1,0	0,01	--	--	--	2,0 - 4,0	892-1049	559-755	30 - 20
Stellite N. 6 ®	--	--	--	--	0,25	1,40	29	1,20	--	--	8	60	--	--	--	--
Inconel 625 ®	min. 58	--	max. 5,0	8,0 - 10,0	max. 0,5	max. 0,1	22,0 - 23,0	max. 0,5	max. 0,015	max. 0,4		max. 1,0	max. 0,4	896	483	50

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MATERIALS		WCB(a)	WCC(a) LCC(b) LC2(b) LC3(b)	LCB(b)	WC1(h) LC1(b)	WC4(j) WC5	WC6(m)	WC9(m)	C5	C12	CF3(e) CF8(g)	CF8M(g) CF3M(f)	CF8C(g)
CLASS	TEMPERATURE °C	Working pressure (bars)											
150 (PN 20)	- 29 to 38	19,6	20,0	18,4	18,4	20,0	20,0	20,0	20,0	20,0	19,0	19,0	19,0
	50	19,2	19,2	18,1	18,3	19,3	19,2	19,2	19,2	19,2	18,4	18,4	18,5
	100	17,7	17,7	17,3	17,7	17,7	17,7	17,7	17,7	17,7	15,7	16,2	16,7
	150	15,8	15,8	15,8	15,8	15,8	15,8	15,8	15,8	15,8	13,9	14,8	15,5
	200	14,0	14,0	14,0	14,0	14,0	14,0	14,0	14,0	14,0	12,6	13,7	14,0
	250	12,1	12,1	12,1	12,1	12,1	12,1	12,1	12,1	12,1	11,7	12,1	12,1
	300	10,2	10,2	10,2	10,2	10,2	10,2	10,2	10,2	10,2	10,1	10,2	10,2
	350	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4	8,4
	400	6,5				6,5		6,5	6,5	6,5	6,5	6,5	6,5
	425	5,6				5,6		5,6	5,6	5,6	5,6	5,6	5,6
	450	4,7				4,7		4,7	4,7	4,7	4,7	4,7	4,7
	500	2,8				2,8		2,8	2,8	2,8	2,8	2,8	2,8
	525	1,9				1,9		1,9	1,9	1,9	1,9	1,9	1,9
	540												
	600												
650													
700													
750													
800													
	SHELL TEST	29,4	30,0	27,6	27,6	30,0	30,0	30,0	30,0	30,0	28,5	28,5	28,5
	SEAT TEST	21,6	22,0	20,2	20,2	22,0	22,0	22,0	22,0	22,0	20,9	20,9	20,9
300 (PN 50)	- 29 to 38	51,1	51,7	47,9	47,9	51,7	51,7	51,7	51,7	51,7	49,6	49,6	49,6
	50	50,1	51,7	47,3	47,6	51,7	51,1	51,2	51,7	51,7	47,8	48,1	48,4
	100	46,4	51,5	45,1	46,6	51,5	48,8	49,0	51,5	51,5	40,9	42,2	43,5
	150	45,2	50,2	44,0	45,0	50,2	46,4	46,6	50,2	50,2	36,3	38,5	40,5
	200	43,8	48,8	42,7	44,2	48,8	45,5	44,8	48,8	48,8	32,8	35,7	38,4
	250	41,7	46,3	40,6	43,1	46,3	44,5	44,2	46,3	46,3	30,5	33,4	36,2
	300	38,7	42,4	37,7	42,0	42,4	42,4	42,4	42,4	42,4	29,1	31,6	34,4
	350	37,0	40,2	36,0	40,2	40,2	40,2	40,2	40,2	40,2	28,1	30,4	32,9
	400	34,5	34,5		36,6	36,6	36,6	36,6	36,6	36,6	27,7	29,1	31,8
	425	28,8	28,8		35,1	35,1	35,1	35,1	34,5	35,1	27,2	28,7	31,5
	450	20,0	20,0		33,8	33,8	33,8	33,8	30,9	33,8	26,9	28,1	30,8
	500	8,8	8,8		24,1	27,1	27,8	27,8	20,3	27,5	26,1	26,8	27,8
	525	5,2	5,2		15,0	18,8	23,0	21,9	15,4	22,6	23,9	26,3	25,8
	540				10,7	13,9	12,8	16,4	11,7	17,0	21,8	25,0	25,0
	600						5,9	7,6	6,5	7,2	16,7	21,4	21,4
650								3,0	3,5	10,5	14,1	11,6	
700										6,0	9,9	6,7	
750										3,7	5,9	4,0	
800										2,1	3,5	2,6	
	SHELL TEST	76,7	77,6	71,9	71,9	77,6	77,6	77,6	77,6	77,6	74,4	74,4	74,4
	SEAT TEST	56,2	56,9	52,7	52,7	56,9	56,9	56,9	56,9	56,9	54,6	54,6	54,6
600 (PN 100)	- 29 to 38	102,1	103,4	95,7	95,8	103,4	103,4	103,4	103,4	103,4	99,2	99,3	99,3
	50	100,2	103,4	94,6	95,3	103,4	102,3	102,4	103,4	103,4	95,7	96,3	96,8
	100	92,8	103,1	90,2	93,2	103,1	97,5	98,1	103,1	103,1	81,8	84,4	86,9
	150	90,5	100,4	87,9	89,8	100,4	92,7	93,3	100,4	100,4	72,7	77,0	81,0
	200	87,6	97,6	85,4	88,4	97,6	91,0	89,7	97,6	97,6	65,5	71,3	76,8
	250	83,4	92,7	81,2	86,2	92,7	88,9	88,4	92,7	92,7	61,1	66,8	72,4
	300	77,5	84,9	75,4	84,1	84,9	84,9	84,9	84,9	84,9	58,1	63,3	68,9
	350	73,9	80,5	71,9	80,5	80,5	80,5	80,5	80,5	80,5	56,1	60,8	65,8
	400	69,0	69,0		73,2	73,2	73,2	73,2	73,2	73,2	54,9	58,2	63,5
	425	57,5	57,5		70,2	70,2	70,2	70,2	69,0	70,2	54,3	57,3	62,9
	450	40,1	40,1		67,6	67,6	67,6	67,6	61,8	67,6	53,7	56,2	61,5
	500	17,6	17,6		48,1	54,1	55,6	55,6	40,5	55,0	52,1	53,7	55,6
	525	10,4	10,4		30,1	37,6	40,5	43,8	30,8	45,2	47,8	52,6	51,6
	540	6,5	6,5		21,4	27,9	25,5	32,7	23,4	34,0	43,6	49,9	49,9
	600						11,8	15,3	13,1	14,4	33,4	42,9	42,9
650						4,6	7,3	6,0	7,0	21,0	28,2	23,2	
700										12,0	19,9	13,5	
750										7,3	11,0	8,0	
800										4,1	7,0	5,2	
	SHELL TEST	153,2	155,1	143,6	143,7	155,1	155,1	155,1	155,1	155,1	148,8	149,0	149,0
	SEAT TEST	112,3	113,7	105,3	105,4	113,7	113,7	113,7	113,7	113,7	109,1	109,2	109,2

NOTES

- (a) Permissible, but not recommended for prolonged usage above 427 °C (800 °F)
- (b) Not to be used over 343 °C (650 °F)
- (c) Permissible, but not recommended for prolonged usage above 454 °C (850 °F)
- (d) Permissible, but not recommended for prolonged usage above 593 °C (1100 °F)
- (e) Not to be used over 427 °C (800 °F)

- (f) Not to be used over 454 °C (850 °F)
- (g) At temperature over 538 °C (1000 °F), use only when carbon content is 0,04 or higher
- (h) Permissible, but not recommended for prolonged usage above 468 °C (875 °F)
- (i) Not to be used over 538 °C (1000 °F)
- (m) Not to be used over 593 °C (1100 °F)

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# PRESSURE-TEMPERATURE RATINGS ASME B16.34

**VALVOSIDER**  
MANUFACTURER OF VALVES

MATERIALS		WCB(a)	WCC(a) LCC(b) LC2(b) LC3(b)	LCB(b)	WC1(h) LC1(b)	WC4(j) WC5	WC6(m)	WC9(m)	C5	C12	CF3(e) CF8(g)	CF8M(g) CF3M(f)	CF8C(g)
CLASS	TEMPERATURE °C	Working pressure (bars)											
900 (PN 150)	- 29 to 38	153,2	155,2	143,6	143,6	155,2	155,1	155,1	155,2	155,2	148,9	148,9	148,9
	50	150,2	155,2	141,9	142,9	155,2	153,4	153,6	155,2	155,2	143,5	144,4	144,4
	100	139,1	154,6	135,3	139,8	154,6	146,3	147,1	154,6	154,6	122,6	126,6	130,4
	150	135,7	150,6	131,9	134,9	150,6	139,1	139,9	150,6	150,6	109,0	115,5	121,5
	200	131,5	146,4	128,0	132,6	146,4	136,4	134,5	146,4	146,4	98,3	107,0	115,3
	250	125,2	139,0	121,8	129,2	139,0	133,4	132,7	139,0	139,0	91,6	100,2	108,6
	300	116,2	127,3	113,1	126,1	127,3	127,3	127,3	127,3	127,3	87,2	94,9	103,3
	350	110,9	120,7	107,9	120,7	120,7	120,7	120,7	120,7	120,7	84,2	91,3	98,7
	400	103,5	103,5		109,8	109,8	109,8	109,8	109,8	109,8	82,4	87,3	95,3
	425	86,3	86,3		105,3	105,3	105,3	105,3	105,3	105,3	81,5	86,0	94,4
	450	60,1	60,1		101,4	101,4	101,4	101,4	92,7	101,4	80,6	84,2	92,3
	500	26,4	26,4		72,2	81,2	83,4	83,4	60,8	82,5	78,2	80,5	83,4
	525	15,5	15,5		45,1	56,4	60,8	65,8	46,3	67,8	71,6	78,9	77,4
	540	9,8	9,8		32,1	41,8	38,3	49,1	35	50,9	65,4	74,9	74,9
	600						17,6	22,9	19,6	21,5	50,1	64,3	64,3
	650						7,0	11,0	9,0	10,4	31,6	42,4	34,7
	700										17,9	29,8	20,2
	750										11,0	17,6	12,1
	800										6,2	10,5	7,5
		SHELL TEST	229,8	232,8	215,4	215,4	232,8	232,7	232,7	232,8	232,8	223,4	223,4
	SEAT TEST	168,5	170,7	158,0	158,0	170,7	170,6	170,6	170,7	170,7	163,8	163,8	163,8
1500 (PN 250)	- 29 to 38	255,3	258,6	239,4	239,4	258,6	258,6	258,6	258,6	258,6	248,1	248,1	248,2
	50	250,4	258,6	236,5	238,2	258,6	255,7	256	258,6	258,6	239,2	240,6	241,9
	100	231,9	257,7	225,5	233,0	257,7	243,8	242,2	257,7	257,7	204,4	211,0	217,3
	150	226,1	251,0	219,8	224,8	251,0	231,9	233,2	251,0	251,0	181,7	192,5	202,5
	200	219,1	243,9	213,4	221,0	243,9	227,4	224,2	243,9	243,9	163,8	178,4	192,1
	250	208,6	231,7	202,9	215,4	231,7	222,3	221,1	231,7	231,7	152,7	166,9	181,0
	300	193,7	212,1	188,5	210,1	212,1	212,1	212,1	212,1	212,1	145,3	158,1	172,2
	350	184,8	201,2	179,8	201,1	201,2	201,2	201,2	201,2	201,2	140,3	152,1	164,5
	400	172,5	172,5		182,9	182,9	182,9	182,9	182,9	182,9	137,3	145,6	158,8
	425	143,8	100,2		175,5	175,5	175,5	175,5	172,5	175,5	135,8	143,3	157,3
	450	100,2	100,2		169,0	169,0	169,0	169,0	154,5	169,9	134,3	140,4	153,8
	500	44,0	44,0		120,3	135,3	139,0	139,0	101,3	137,5	130,3	134,1	139,0
	525	16,3	25,9		75,2	94,0	101,3	109,6	77,1	113	119,4	131,5	129,0
	540	16,3	16,3		53,5	69,7	63,8	81,8	58,4	84,9	109,1	124,8	124,8
	600						29,4	38,2	32,6	35,9	83,6	107,2	107,2
	650						11,6	18,3	15,0	17,4	52,6	70,6	57,9
	700										29,9	49,7	33,7
	750										18,3	29,4	20,1
	800										10,3	17,5	13,1
		SHELL TEST	383,0	387,9	359,1	359,1	387,9	387,9	387,9	387,9	387,9	372,2	372,2
	SEAT TEST	280,8	284,5	263,3	263,3	284,5	284,5	284,5	284,5	284,5	272,9	272,9	273,0
2500 (PN 420)	- 29 to 38	425,5	431,0	398,9	399,0	431,0	431,0	431,0	431,0	431,0	413,5	413,6	413,6
	50	417,3	431,0	393,7	397,1	431,0	426,2	426,7	430,9	430,9	398,6	401,0	403,2
	100	386,5	429,5	388,3	429,5	429,5	406,4	109,7	429,5	429,5	340,7	351,7	362,2
	150	376,9	419,3	366,3	374,6	418,3	386,4	388,6	418,3	418,3	302,8	320,9	337,5
	200	365,2	406,6	355,6	368,3	406,6	379,0	373,7	406,6	406,6	273,0	297,3	320,2
	250	347,7	386,1	338,2	359,0	386,1	370,6	368,5	386,1	386,1	254,5	278,2	301,7
	300	322,8	353,5	314,2	350,2	353,5	353,5	353,5	353,5	353,5	242,1	263,6	287,0
	350	308,0	335,3	299,7	335,2	335,3	335,3	335,3	335,3	335,3	233,8	253,8	274,2
	400	287,5	287,5		304,9	304,9	304,9	304,9	304,9	304,9	228,9	242,6	264,7
	425	239,6	239,6		292,5	292,5	292,5	292,5	287,5	292,5	226,4	238,9	262,2
	450	166,9	166,9		281,7	281,7	281,7	281,7	257,6	281,7	223,9	234,0	256,3
	500	73,3	73,3		200,6	225,4	231,6	231,6	168,9	229,1	217,2	223,6	231,6
	525	43,2	43,2		125,4	156,6	168,9	182,7	128,5	188,3	199,0	214,9	214,9
	540	27,2	27,2		89,2	116,1	106,4	136,4	97,3	141,5	181,8	208,0	208,0
	600						49,0	63,6	54,4	59,8	139,3	178,6	178,6
	650						19,3	30,4	25,1	29,0	87,6	117,1	96,5
	700										49,8	82,9	56,1
	750										30,4	49,0	33,5
	800										17,1	29,2	21,9
		SHELL TEST	638,3	646,5	598,4	398,5	646,5	646,5	646,5	646,5	646,5	620,3	620,4
	SEAT TEST	468,1	474,1	438,8	438,1	474,1	474,1	474,1	474,1	474,1	454,9	455,0	455,0

**NOTES**

- (a) Permissible, but not recommended for prolonged usage above 427 °C (800 °F)
- (b) Not to be used over 343 °C (650 °F)
- (c) Permissible, but not recommended for prolonged usage above 454 °C (850 °F)
- (d) Permissible, but not recommended for prolonged usage above 593 °C (1100 °F)
- (e) Not to be used over 427 °C (800 °F)

- (f) Not to be used over 454 °C (850 °F)
- (g) At temperature over 538 °C (1000 °F), use only when carbon content is 0,04 or higher
- (h) Permissible, but not recommended for prolonged usage above 468 °C (875 °F)
- (i) Not to be used over 538 °C (1000 °F)
- (m) Not to be used over 593 °C (1100 °F)

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### FLOW COEFFICIENT, $K_v$

may be defined as the rate of flow of water in cubic metres per hour, that will generate a pressure drop of one bar across the valve.

### FLOW COEFFICIENT, $C_v$

may be defined as the rate of flow of water in US gallons per minute, at 60 °F (15,6 °C), that will generate a pressure drop of one pound-force per square inch across the valve.

### BASIC FORMULAS

#### Liquid flow:

$$K_v = \frac{Q\sqrt{G}}{\sqrt{(P)}} ; P = G \frac{Q}{K_v}^2$$

where

Q = flow rate in cubic metres per hour;  
G = specific gravity of liquid (water = 1);  
P = pressure drop across valve in bar.

$$C_v = \frac{Q\sqrt{G}}{\sqrt{(P)}} ; P = G \frac{Q}{C_v}^2$$

where

Q = flow rate in US gal/min;  
G = specific gravity of liquid (water = 1);  
P = pressure drop across valve in lbf/in<sup>2</sup>

#### Gases flow :

$$P = P_1 \sqrt{P_1^2 - 2S_G T \frac{W_G}{1360 \frac{K_v}{0.86}}}$$

where

P<sub>1</sub> = inlet pressure (PSIA);  
S<sub>G</sub> = specific gravity of gas at standard conditions (air = 1);  
T = absolute temperature of gas (-460 °F)  
W<sub>G</sub> = Volumetric flow of gas

#### Steam flow:

$$P = P_1 \sqrt{P_1^2 - \frac{1}{2.1} \frac{0.0007 T_s}{\frac{K_v}{0.86}} W^2}$$

where

W = pound per hour of Steam;  
T<sub>s</sub> = degree of superheat (°F);  
P<sub>1</sub> = inlet pressure  
P = pressure drop across valve in lbf/in<sup>2</sup>

Each type and size of valve has a particular flow coefficient and the general formulas indicate how a knowledge of this can be used to establish the pressure drop across a valve for a given flow rate or, alternatively, to determinate the flow rate through a valve which will generate a given pressure drop.

Flow coefficient values are determined by testing and may not be valid for all conditions of flow.

### CAST STEEL VALVES - FLOW COEFFICIENT $K_v$ (m<sup>3</sup>/h) ( $C_v$ (US gal/minute) = $K_v/0.86$ )

Type	Class	Nominal dimension											
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
GATE VALVES	150	204	510	893	2074	3808	6035	8840	12325	16320	20825	23290	37060
	300	204	510	893	2074	3808	6035	8840	11339	15014	19159	21427	34095
	600	204	510	893	2074	3808	6035	10880	13065	17145	22330	27319	39704
	900	188	469	821	1908	3504	5552	10010	12019	15773	20543	25134	36527
	1500	173	432	756	1755	3223	5108	9209	11058	14511	18900	23123	33605
GLOBE VALVES	150	159	432	756	1755	3223	5108	9209	11058	--	--	--	--
	300	38	102	174	400	740	1190	1700	2380	3188	4080	5015	7225
	600	38	102	174	400	740	1190	1700	2380	3188	3754	4614	6647
	900	35	86	149	352	633	985	1415	2190	2268	--	--	--
	1500	32	79	137	324	582	906	1302	2015	2087	--	--	--
SWING CHECK VALVES F.B.	2500	27	67	116	275	493	768	1102	1705	1766	--	--	--
	150	80	204	349	799	1479	2380	3400	4760	6375	8160	9350	14875
	300	77	198	338	775	1435	2309	3298	4617	6184	7915	9070	14429
	600	73	188	321	736	1363	2193	3133	4386	5874	7519	8616	13707
	900	70	179	305	700	1295	2083	2977	4167	5580	7143	8186	--
STRAINERS	1500	66	170	290	665	1231	1979	2828	3958	5301	6786	7777	--
	2500	63	162	275	632	1170	1880	2687	3760	5036	6447	7388	--
	150	56	127	200	494	675	944	1378	1916	2874	4311	6467	9700
	300	56	127	200	494	675	944	1378	1916	2874	4311	6467	9700
	600	49	111	176	434	594	830	1213	1686	2529	3794	5691	8536
STRAINERS	900	48	109	172	426	582	814	1188	1652	2479	3718	5577	8365
	1500	47	107	169	417	570	797	1165	1619	2429	3643	5466	8198
	2500	46	105	165	409	559	781	1141	1587	2380	3571	5356	8034

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	<b>Multiply →</b>	<b>by</b>	<b>→ to obtain</b>		<b>Multiply →</b>	<b>by</b>	<b>→ to obtain</b>
Length	mil	25,4	μ (micron)	Velocity	ft/s (foot per second)	3,281	m/s (metre per second)
	in (inch)	25,4	mm		m/min (metre per minute)	60	m/s (metre per second)
	ft (foot)	0,3048	m		ft/min (foot per minute)	196,85	m/s (metre per second)
	yd (yard)	0,9144	m		mile/h (mile per hour)	1,6093	km/h (kilometre per hour)
	miles (nautical)	1,853	km		m/s (metre per second)	3,6	km/h (kilometre per hour)
	miles (statute)	1,609	km				
Area	sq.in. (square inch)	6,4516	cm <sup>2</sup>	Dynamic viscosity	g/ (cm s) (Poise)	0,1	Pa s = kg / (m s)
	sq.ft. (square foot)	0,0929	cm <sup>2</sup>		centipoise	0,001	Pa s
	sq.yd. (square yard)	0,8361	cm <sup>2</sup>		lb/ (ft s)	1,48819	Pa s
Volume	cu.in (cubic inch)	16,387	cm <sup>3</sup>	Kinematic viscosity	cm <sup>2</sup> (Stokes)	0,0001	m <sup>2</sup> /s
	cu.ft. (cubic foot)	28,317	dm <sup>3</sup>		centistokes	0,000001	m <sup>2</sup> /s
	UK gal (UK gallon)	4,5461	dm <sup>3</sup>		ft <sup>2</sup> / s	0,09290	m <sup>2</sup> /s
	US gal (US gallon)	3,7854	dm <sup>3</sup>	Moment of force	N m (newton metre)	0,001	kN m (kilonewton metre)
	bushel	35,24	dm <sup>3</sup>		kN m	101,972	kgf m (kilogram-force metre)
	US gal (US gallon)	42	Us barrel		kgf m	86,8	lbf in (Pound-force inch)
	UK pint	1,76	l (litre)		lbf ft (Pound-force foot)	12	lbf in (Pound-force inch)
	l (litre)	1000	cm <sup>3</sup>	lbf ft (Pound-force foot)	1,356	N m (newton metre)	
	l (litre)	1	dm <sup>3</sup>				
	m3 (cubic metre)	1000	l (litre)				
Mass	grains	0,0648	g	Mass per unit length	kg/m	0,672	lb/ft
	lb (pound)	0,4536	kg	lb/ft	1,488	kg/m	
	oz (ounce)	28,3495	g	Mass per unit area	kg/m <sup>2</sup>	0,2048	lb/ft <sup>2</sup>
	ton (UK ton)	1016,05	kg	lb/ft <sup>2</sup>	4,882	kg/m <sup>2</sup>	
	sh ton (US ton)	907,2	kg	Thermal conductivity	W/(m °C)	6,934	Btu in/(ft <sup>2</sup> h °F)
	t (tonne)	1000	kg	Btu in/ft <sup>2</sup> °F	0,1442	W/(m °C)	
Pressure and Stress	kgf/cm <sup>2</sup> = atc	0,980556	bar	Entalpy	Btu (British Thermal Unit)	1055	J (Joule)
	Pa (Pascal) = N/m <sup>2</sup>	0,00001	bar		Btu	0,252	kcal = Cal
	MPa (Megapascal)	10	bar		J	0,73560	ft lb
	mm H <sub>2</sub> O	9,80665	Pa	kWh	3600	kJ	
	Torr (mm Hg)	133,322	Pa	Btu	0,252	kcal = Cal	
	psi (lbs per square inch)	0,068941	bar	kcal	4186,8	J	
UK tonf/in <sup>2</sup>	15,44	Mpa	kJ/kg	0,239	kcal/kg		
Density	lb/in <sup>3</sup>	27,680	g/cm <sup>3</sup>	Power	kW	1,34102	hp
	lb/ft <sup>3</sup>	0,01602	g/cm <sup>3</sup>		hp	746	watt
	g/cm <sup>3</sup>	1000	litre - g/dm <sup>3</sup>		Calorific value (volume basis)	MJ/m <sup>3</sup>	26,84
	kg/m <sup>3</sup>	0,752	ton/yd <sup>3</sup>	Btu/ft <sup>3</sup>	0,03726	MJ/m <sup>3</sup>	
ton/yd <sup>3</sup>	13,319	lb/Ukgal	Btu/ft <sup>3</sup>	37,26	kJ7m <sup>3</sup>		
	<b>to obtain ←</b>	<b>by</b>	<b>← Divide</b>		<b>to obtain ←</b>	<b>by</b>	<b>← Divide</b>
	<b>To →</b>		<b>add</b>		<b>→ to obtain</b>		
	psig (psi at gauge)		14,70		psia (psi absolute)		
	bar (at gauge)		1,01325		bar absolute		
	°C (degrees Celsius)		273,15		K (degees Kelvin)		
	°F (degrees Fahrenheit)		459,4		°R (degrees Rankine)		
	<b>to obtain ←</b>		<b>subtract</b>		<b>← To</b>		

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# TEMPERATURE CONVERSION

## FAHRENHEIT AND CENTIGRADE

**VALVOSIDER**  
MANUFACTURER OF VALVES

°C	(a)		°C	(a)		°C	(a)		°C	(a)		°C	(a)	
	°C → °F	← °F		°C → °F	← °F		°C → °F	← °F		°C → °F	← °F		°C → °F	← °F
			17,2	1	33,8	16,1	61	141,8	149	300	572	482	900	1652
			16,7	2	35,6	16,7	62	143,6	154	310	590	488	910	1670
			16,1	3	37,4	17,2	63	145,4	160	320	608	493	920	1688
			15,6	4	39,2	17,8	64	147,2	166	330	626	499	930	1706
			15,0	5	41,0	18,3	65	149,0	171	340	644	504	940	1724
			14,4	6	42,8	18,9	66	150,8	177	350	662	510	950	1742
			13,9	7	44,6	19,4	67	152,6	182	360	680	516	960	1760
			13,3	8	46,4	20,0	68	154,4	188	370	698	521	970	1778
			12,8	9	48,2	20,6	69	156,2	193	380	716	527	980	1796
			12,2	10	50,0	21,1	70	158,0	199	390	734	532	990	1814
			11,7	11	51,8	21,7	71	159,8	204	400	752	538	1000	1832
273	-459,4		11,1	12	53,6	22,2	72	161,6	210	410	770	549	1020	1868
268	-450		10,6	13	55,4	22,8	73	163,4	216	420	788	560	1040	1904
262	-440		10,0	14	57,2	23,3	74	165,2	221	430	806	571	1060	1940
257	-430		9,4	15	59,0	23,9	75	167,0	227	440	824	582	1080	1976
251	-420		8,9	16	60,8	24,4	76	168,8	232	450	842	593	1100	2012
246	-410		8,3	17	62,6	25,0	77	170,6	238	460	860	604	1120	2048
240	-400		7,8	18	64,4	25,6	78	172,4	243	470	878	616	1140	2084
234	-390		7,2	19	66,2	26,1	79	174,2	249	480	896	627	1160	2120
229	-380		6,7	20	68,0	26,7	80	176,0	254	490	914	638	1180	2156
223	-370		6,1	21	69,8	27,2	81	177,8	260	500	932	649	1200	2192
218	-360		5,6	22	71,6	27,8	82	179,6	266	510	950	660	1220	2228
212	-350		5,0	23	73,4	28,3	83	181,4	271	520	968	671	1240	2264
207	-340		4,4	24	75,2	28,9	84	183,2	277	530	986	682	1260	2300
201	-330		3,9	25	77,0	29,4	85	185,0	282	540	1004	693	1280	2336
196	-320		3,3	26	78,8	30,0	86	186,8	288	550	1022	704	1300	2372
190	-310		2,8	27	80,6	30,6	87	188,6	293	560	1040	732	1350	2462
184	-300		2,2	28	82,4	31,1	88	190,4	299	570	1058	760	1400	2552
179	-290		1,7	29	84,2	31,7	89	192,2	304	580	1076	788	1450	2642
173	-280		1,1	30	86,0	32,2	90	194,0	310	590	1094	816	1500	2732
169	-273	459,4	0,6	31	87,8	32,8	91	195,8	316	600	1112	843	1550	2822
168	-270	454	0,0	32	89,6	33,3	92	197,6	321	610	1130	871	1600	2912
162	-260	436	0,6	33	91,4	33,9	93	199,4	327	620	1148	899	1650	3002
157	-250	418	1,1	34	93,2	34,4	94	201,2	332	630	1166	927	1700	3092
151	-240	400	1,7	35	95,0	35,0	95	203,0	338	640	1184	954	1750	3182
146	-230	382	2,2	36	96,8	35,6	96	204,8	343	650	1202	982	1800	3272
140	-220	364	2,8	37	98,6	36,1	97	206,6	349	660	1220	1010	1850	3362
134	-210	346	3,3	38	100,4	36,7	98	208,4	354	670	1238	1038	1900	3452
129	-200	328	3,9	39	102,2	37,2	99	210,2	360	680	1256	1066	1950	3542
123	-190	310	4,4	40	104,0	37,8	100	212,0	366	690	1274	1093	2000	3632
118	-180	292	5,0	41	105,8	43	110	230	371	700	1292	1121	2050	3722
112	-170	274	5,6	42	107,6	49	120	248	377	710	1310	1149	2100	3812
107	-160	256	6,1	43	109,4	54	130	266	382	720	1328	1177	2150	3902
101	-150	238	6,7	44	111,2	60	140	284	388	730	1346	1204	2200	3992
96	-140	220	7,2	45	113,0	66	150	302	393	740	1364	1232	2250	4082
90	-130	202	7,8	46	114,8	71	160	320	399	750	1382	1260	2300	4172
84	-120	184	8,3	47	116,6	77	170	338	404	760	1400	1288	2350	4262
79	-110	166	8,9	48	118,4	82	180	356	410	770	1418	1316	2400	4352
73	-100	148	9,4	49	120,2	88	190	374	416	780	1436	1343	2450	4442
68	-90	130	10,0	50	122,0	93	200	392	421	790	1454	1371	2500	4532
62	-80	112	10,6	51	123,8	99	210	410	427	800	1472	1399	2550	4622
57	-70	94	11,1	52	125,6	100	212	414	432	810	1490	1427	2600	4712
51	-60	76	11,7	53	127,4	104	220	428	438	820	1508	1454	2650	4802
46	-50	58	12,2	54	129,2	110	230	446	443	830	1526	1482	2700	4892
40	-40	40	12,8	55	131,0	116	240	464	449	840	1544	1510	2750	4982
34	-30	22	13,3	56	132,8	121	250	482	454	850	1562	1538	2800	5072
29	-20	4	13,9	57	134,6	127	260	500	460	860	1580	1566	2850	5162
28	-18	0	14,4	58	136,4	132	270	518	466	870	1598	1593	2900	5252
23	-10	14	15,0	59	138,2	138	280	536	471	880	1616	1621	2950	5342
18	0	32	15,6	60	140,0	143	290	554	477	890	1634	1649	3000	5432

The central column (a) represent the know temperature in °C or in °F.  
 The equivalent temperature in °F or in °C is then read from the column to the right or the left.  
 General Formula    °C = (°F - 32) x 5/9  
                          °F = (°C x 9/5) + 32

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INCHES	0	1/16	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16
0	0,00	1,59	3,18	4,76	6,35	7,94	9,53	11,11	12,70	14,29	15,88	17,46	19,05	20,64	22,23	23,81
1	25,40	26,99	28,58	30,16	31,75	33,34	34,93	36,51	38,10	39,69	41,28	42,86	44,45	46,04	47,63	49,21
2	50,80	52,39	53,98	55,56	57,15	58,74	60,33	61,91	63,50	65,09	66,68	68,26	69,85	71,44	73,03	74,61
3	76,20	77,79	79,38	80,96	82,55	84,14	85,73	87,31	88,90	90,49	92,08	93,66	95,25	96,84	98,43	100,01
4	101,60	103,19	104,78	106,36	107,95	109,54	111,13	112,71	114,30	115,89	117,48	119,06	120,65	122,24	123,83	125,41
5	127,00	128,59	130,18	131,76	133,35	134,94	136,53	138,11	139,70	141,29	142,88	144,46	146,05	147,64	149,23	150,81
6	152,40	153,99	155,58	157,16	158,75	160,34	161,93	163,51	165,10	166,69	168,28	169,86	171,45	173,04	174,63	176,21
7	177,80	179,39	180,98	182,56	184,15	185,74	187,33	188,91	190,50	192,09	193,68	195,26	196,85	198,44	200,03	201,61
8	203,20	204,79	206,38	207,96	209,55	211,14	212,73	214,31	215,90	217,49	219,08	220,66	222,25	223,84	225,43	227,01
9	228,60	230,19	231,78	233,36	234,95	236,54	238,13	239,71	241,30	242,89	244,48	246,06	247,65	249,24	250,83	252,41
10	254,00	255,59	257,18	258,76	260,35	261,94	263,53	265,11	266,70	268,29	269,88	271,46	273,05	274,64	276,23	277,81
11	279,40	280,99	282,58	284,16	285,75	287,34	288,93	290,51	292,10	293,69	295,28	296,86	298,45	300,04	301,63	303,21
12	304,80	306,39	307,98	309,56	311,15	312,74	314,33	315,91	317,50	319,09	320,68	322,26	323,85	325,44	327,03	328,61
13	330,20	331,79	333,38	334,96	336,55	338,14	339,73	341,31	342,90	344,49	346,08	347,66	349,25	350,84	352,43	354,01
14	355,60	357,19	358,78	360,36	361,95	363,54	365,13	366,71	368,30	369,89	371,48	373,06	374,65	376,24	377,83	379,41
15	381,00	382,59	384,18	385,76	387,35	388,94	390,53	392,11	393,70	395,29	396,88	398,46	400,05	401,64	403,23	404,81
16	406,40	407,99	409,58	411,16	412,75	414,34	415,93	417,51	419,10	420,69	422,28	423,86	425,45	427,04	428,63	430,21
17	431,80	433,39	434,98	436,56	438,15	439,74	441,33	442,91	444,50	446,09	447,68	449,26	450,85	452,44	454,03	455,61
18	457,20	458,79	460,38	461,96	463,55	465,14	466,73	468,31	469,90	471,49	473,08	474,66	476,25	477,84	479,43	481,01
19	482,60	484,19	485,78	487,36	488,95	490,54	492,13	493,71	495,30	496,89	498,48	500,06	501,65	503,24	504,83	506,41
20	508,00	509,59	511,18	512,76	514,35	515,94	517,53	519,11	520,70	522,29	523,88	525,46	527,05	528,64	530,23	531,81
21	533,40	534,99	536,58	538,16	539,75	541,34	542,93	544,51	546,10	547,69	549,28	550,86	552,45	554,04	555,63	557,21
22	558,80	560,39	561,98	563,56	565,15	566,74	568,33	569,91	571,50	573,09	574,68	576,26	577,85	579,44	581,03	582,61
23	584,20	585,79	587,38	588,96	590,55	592,14	593,73	595,31	596,90	598,49	600,08	601,66	603,25	604,84	606,43	608,01
24	609,60	611,19	612,78	614,36	615,95	617,54	619,13	620,71	622,30	623,89	625,48	627,06	628,65	630,24	631,83	633,41
25	635,00	636,59	638,18	639,76	641,35	642,94	644,53	646,11	647,70	649,29	650,88	652,46	654,05	655,64	657,23	658,81
26	660,40	661,99	663,58	665,16	666,75	668,34	669,93	671,51	673,10	674,69	676,28	677,86	679,45	681,04	682,63	684,21
27	685,80	687,39	688,98	690,56	692,15	693,74	695,33	696,91	698,50	700,09	701,68	703,26	704,85	706,44	708,03	709,61
28	711,20	712,79	714,38	715,96	717,55	719,14	720,73	722,31	723,90	725,49	727,08	728,66	730,25	731,84	733,43	735,01
29	736,60	738,19	739,78	741,36	742,95	744,54	746,13	747,71	749,30	750,89	752,48	754,06	755,65	757,24	758,83	760,41
30	762,00	763,59	765,18	766,76	768,35	769,94	771,53	773,11	774,70	776,29	777,88	779,46	781,05	782,64	784,23	785,81
31	787,40	788,99	790,58	792,16	793,75	795,34	796,93	798,51	800,10	801,69	803,28	804,86	806,45	808,04	809,63	811,21
32	812,80	814,39	815,98	817,56	819,15	820,74	822,33	823,91	825,50	827,09	828,68	830,26	831,85	833,44	835,03	836,61
33	838,20	839,79	841,38	842,96	844,55	846,14	847,73	849,31	850,90	852,49	854,08	855,66	857,25	858,84	860,43	862,01
34	863,60	865,19	866,78	868,36	869,95	871,54	873,13	874,71	876,30	877,89	879,48	881,06	882,65	884,24	885,83	887,41
35	889,00	890,59	892,18	893,76	895,35	896,94	898,53	900,11	901,70	903,29	904,88	906,46	908,05	909,64	911,23	912,81
36	914,40	915,99	917,58	919,16	920,75	922,34	923,93	925,51	927,10	928,69	930,28	931,86	933,45	935,04	936,63	938,21
37	939,80	941,39	942,98	944,56	946,15	947,74	949,33	950,91	952,50	954,09	955,68	957,26	958,85	960,44	962,03	963,61
38	965,20	966,79	968,38	969,96	971,55	973,14	974,73	976,31	977,90	979,49	981,08	982,66	984,25	985,84	987,43	989,01
39	990,60	992,19	993,78	995,36	996,95	998,54	1000,13	1001,71	1003,30	1004,89	1006,48	1008,06	1009,65	1011,24	1012,83	1014,41
40	1016,00	1017,59	1019,18	1020,76	1022,35	1023,94	1025,53	1027,11	1028,70	1030,29	1031,88	1033,46	1035,05	1036,64	1038,23	1039,81
41	1041,40	1042,99	1044,58	1046,16	1047,75	1049,34	1050,93	1052,51	1054,10	1055,69	1057,28	1058,86	1060,45	1062,04	1063,63	1065,21
42	1066,80	1068,39	1069,98	1071,56	1073,15	1074,74	1076,33	1077,91	1079,50	1081,09	1082,68	1084,26	1085,85	1087,44	1089,03	1090,61
43	1092,20	1093,79	1095,38	1096,96	1098,55	1100,14	1101,73	1103,31	1104,90	1106,49	1108,08	1109,66	1111,25	1112,84	1114,43	1116,01
44	1117,60	1119,19	1120,78	1122,36	1123,95	1125,54	1127,13	1128,71	1130,30	1131,89	1133,48	1135,06	1136,65	1138,24	1139,83	1141,41
45	1143,00	1144,59	1146,18	1147,76	1149,35	1150,94	1152,53	1154,11	1155,70	1157,29	1158,88	1160,46	1162,05	1163,64	1165,23	1166,81
46	1168,40	1169,99	1171,58	1173,16	1174,75	1176,34	1177,93	1179,51	1181,10	1182,69	1184,28	1185,86	1187,45	1189,04	1190,63	1192,21
47	1193,80	1195,39	1196,98	1198,56	1200,15	1201,74	1203,33	1204,91	1206,50	1208,09	1209,68	1211,26	1212,85	1214,44	1216,03	1217,61
48	1219,20	1220,79	1222,38	1223,96	1225,55	1227,14	1228,73	1230,31	1231,90	1233,49	1235,08	1236,66	1238,25	1239,84	1241,43	1243,01
49	1244,60	1246,19	1247,78	1249,36	1250,95	1252,54	1254,13	1255,71	1257,30	1258,89	1260,48	1262,06	1263,65	1265,24	1266,83	1268,41
50	1270,00	1271,59	1273,18	1274,76	1276,35	1277,94	1279,53	1281,11	1282,70	1284,29	1285,88	1287,46	1289,05	1290,64	1292,23	1293,81

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