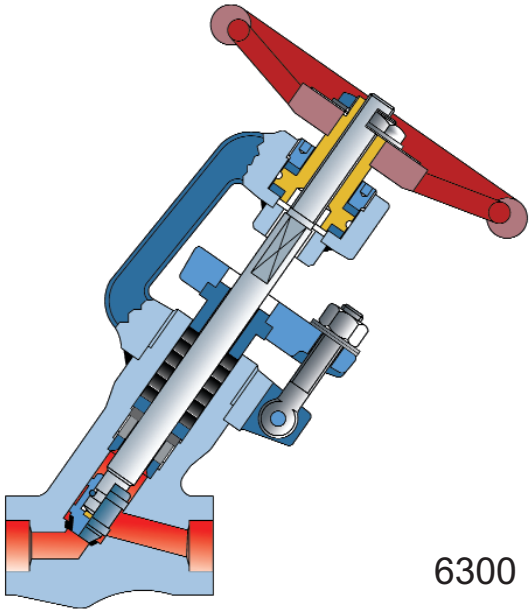
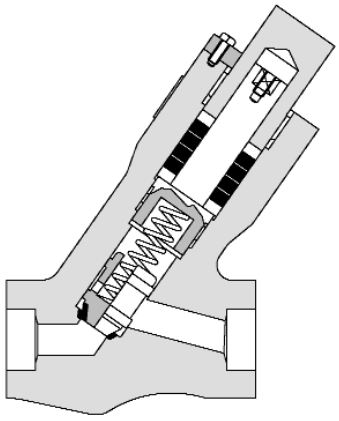
BONETTI®

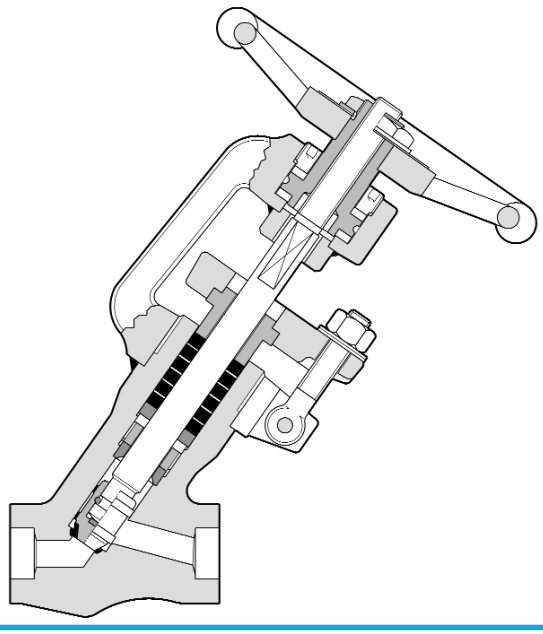


6300

BONT®

Forged Steel Valves
Type BLY
Bonnetless
ASME Class
1700 - 2700 - 4500





INDEX

FIGURE NUMBER INDEX

MATERIAL SCHEDULES

Item	Part	71	11	22	31	91
1	Body	ASTM A105 + Stellite Gr. 6	ASTM A182 F11 + Stellite Gr. 6	ASTM A182 F22 + Stellite Gr. 6	ASTM A182 F316 + Stellite Gr. 6	ASTM A182 F91 + Stellite Gr. 6
1.2	Body					
2	Yoke					
2.2	Bonnet	ASTM A 105	ASTM A182 F11	ASTM A 182 F22	ASTM A182 F316	ASTM A182 F91
3	Disk					
3.2	Disk	Stellite Gr. 6, or ASTM A182 F6 + Stellite Gr. 6	Stellite Gr. 6, or ASTM A182 F6 + Stellite Gr. 6	Stellite Gr. 6, or ASTM A182 F6 + Stellite Gr. 6	Stellite Gr. 6, or ASTM A479 T316 + Stellite Gr. 6	Stellite Gr. 6, or ASTM A479 T316 + Stellite Gr. 6
3.3	Disk					
3.4	Disk					
4	Stem					
4.2	Stem	ASTM A182 F6 (Cl. 1700) ASTM A479 T.410 Cond.3 (Cl. 2700-4500)	ASTM A182 F6 (Cl. 1700)	ASTM A 479 T.410 Cond. 3 (Cl. 2700-4500)	ASTM A564 T.630	ASTM A453 Gr. 660
4.4	Stem					
5	Bottom Ring	ASTM A479 T.316 (Cl. 1700) BONT® R.L.G. (Cl. 2700-4500)	ASTM A479 T.316 (Cl. 1700)	ASTM A479 T.316 (Cl. 1700) BONT® R.L.G. (Cl. 2700-4500)	ASTM A479 T.316 (Cl. 1700) BONT® R.L.G. (Cl. 2700-4500)	ASTM A479 T.316 (Cl. 1700-2700-4500)
6	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
8	Swing Bolt	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7	ASTM A193 B8
9	Pin	Alloy Steel	Alloy Steel	Alloy Steel	Alloy Steel	35NC6
10	Packing Flange	ASTM A105	ASTM A105	ASTM A105	ASTM A182 F316	ASTM A182 F316
11	Yoke Bushing	ASTM B150 C62300	ASTM B150 C62300	ASTM B150 C62300	ASTM B150 C62300	ASTM B150 C62300
12	Handwheel	Carbon Steel (Cl. 1700) Nodular Cast Iron (Cl.2700-4500)	Carbon Steel (Cl. 1700)	Nodular Cast Iron (Cl.2700-4500)	Carbon Steel (Cl. 1700) Nodular Cast Iron (Cl.2700-4500)	Carbon Steel (Cl. 1700) Nodular Cast Iron (Cl.2700-4500)
13.2	Locking Plate with Bolt	ASTM A105/Stainless Steel	ASTM A105/Stainless Steel	ASTM A105/Stainless Steel	ASTM A105/Stainless Steel	ASTM A105/Stainless Steel
14	Disk Pad (Cl. 1700 only)	ASTM A182 F6	ASTM A182 F6	-	Stainless Steel+Treat.	-
15	Handwheel Nut	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
15A	Bolt Nut	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 Gr 8
17	Washer (Cl. 2700-4500 only)	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
19	Packing Gland (Cl. 2700-4500)	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
20	Name Plate	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
21	Spring	Inconel	Inconel	Inconel	Inconel	Inconel
23	Antirotation / Indicator (1700)	Carbon Steel + Zinc.	Carbon Steel + Zinc.	-	Carbon Steel + Zinc.	Carbon Steel + Zinc.
31	Antirotation Ring (Cl. 2700-4500)	ASTM A182 F6	-	ASTM A182 F6	ASTM A182 F6	ASTM A182 F6
39	Locking Ring (Cl. 1700 only)	ASTM A105	ASTM A105	-	ASTM A105	ASTM A105
40	Bearing (Cl. 2700-4500)	Alloy Steel	-	Alloy Steel	Alloy Steel	Alloy Steel
41	Locking Ring (Cl. 2700-4500)	ASTM A182 F6	-	ASTM A182 F6	ASTM A182 F6	ASTM A182 F6
42	Retaining Ring (Cl. 1700 only)	Alloy Steel	Alloy Steel	-	Alloy Steel	Alloy Steel
43	Antifriction Washer (Cl. 1700)	Carbon Steel C70	Carbon Steel C70	-	Carbon Steel C70	Carbon Steel C70
46	Backseat Ring	ASTM A564 T.630 (Cl. 1700) ASTM A479 T.316 (Cl. 2700-4500)	ASTM A564 T.630 (Cl. 1700)	ASTM A479 T.316 (Cl. 2700-4500)	ASTM A564 T.630 (Cl. 1700) ASTM A479 T.316 (Cl. 2700-4500)	ASTM A479 T. 316 (Cl. 1700-2700-4500)
47	Locking Ring (Cl. 2700-4500)	ASTM A564 T.630	-	ASTM A564 T.630	ASTM A564 T.630	ASTM A479 T. 316
48	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite
70	Connecting Ring	Stellite	Stellite	Stellite	Stellite	Stellite

BONT® Valves Type BLY

FOREWORD

Unlike many other manufacturers, we design, experiment, manufacture and test the most important parts under one roof to ensure complete satisfaction of the customers and strict accordance with the most used international Standards.

APPLICATION RANGE

The Bonnetless BONT Valves Type BLY are designed to meet the requirements of the main customers under the heaviest duties like Superheated Steam at very high temperature and pressure, Feed Water at high pressure, Vent and Drain at the typical conditions of Supercritical Cycles as well as Chemical Plants under high pressure, e.g. NH_3 Synthesis and Petrochemical Installations.

DESIGN

BLY Valves are "full-bore" Valves.
BLY Valves are bonnet less valves, namely there is not bonnet The sole pressurized pieces are the Body, the Disk and the Backseat. Instead of bonnet there is the Yoke with structural functions only, non contacting the fluid and not pressurized. The bonnet less design eliminates the body/bonnet sealing, therefore no presence of gaskets, pressure welds, seal welds as well as of bolts and pressure resisting threads.
BLY Valve can be dismantled in few minutes on the line for inspection and maintenance. Same time is needed for reassembling and putting in service without welding operations according to procedures.
The Backseat consist of the Backseat Ring (stellited on request) and the Locking Ring fixed into the Body and easily removable.
Type BLY Valves have rising and non-rotating Stem. The thrust on the Yoke Bushing is held up by means of two roller-bearings.
The position of the valve Disk is indicated by the protrusion of the Stem from the Yoke Bushing.
Type BLY Valves are "streamlined", i.e. their Body is Y pattern with inclined Stem. This design allows less fluid turbulence and higher Flow Coefficient Values, in comparison with T pattern valves.

OPERATION

BLY Valves perform the following operations: Stop, Piston-Check, Manual Flow Control, Stop-Check. All the valves, Piston-Check excepted, can be power actuated and can be furnished with a locking device in any position, including a padlock with key.

RATINGS (see Page 13)

BLY Valves are suitable for Rating Class 1700 - 2700 - 4500 lb according to the international recognized standards and in particular to ASME B 16.34 prescriptions.

STANDARDS

BLY Valves have been designed, where applicable, in accordance with the most used international Standards. namely:

ASME B 16.11	ASME B 16.25	ASME B 16.34
ASTM Standard	MSS SP-25	DIN 3239

ASME Boiler and Pressure Vessel Code Sect. III.

MATERIAL SCHEDULES

BLY Valves are manufactured in different Material Schedules. For "Material Schedule" we mean the material quality of each valve component.
In the descriptive page relevant to each valve are plainly indicated the materials used for each piece and Material Schedule. Here below we Fist the main characteristic elements of the different Material Schedules:

Material Schedule	Body Material	Disc Seat
71	ASTM A 105	Stellite Gr. 6
11	ASTM A 182 F11	
22	ASTM A 182 F22	
31	ASTM A 182 F316	
91	ASTM A 182 F91	

The seating surfaces of all BONT valves are of Stellite Gr. 6, deposited into the Body with highly specialized and automatic procedure which, guarantees the achievement of stated constant characteristics. In general, the Disk is precision cast Stellite Gr. 6.

SIZES

BLY Valves are manufactured in the following Sizes:
Up and including ASME Class 1700 and 2700: from 1/2" up to 3"
ASME Class 4500: from 1/2" up to 2".
Valves sized 1/4" and 3/8" on request.

CONNECTIONS (see Page 14)

BLY Valves have the following pipe connections:

- standard	Socket Weld ASME B 16.11
- on request	Butt Weld ASME B 16.25 or DIN 3239 or Threaded NPT ASME B1.20.1 or Flanged to ASME or DIN.

FLOW COEFFICIENT

The Flow Coefficient Values indicated for each valve in the descriptive pages were measured experimentally in our plant, in accordance with ISA-S75.02.
Values are given in Metrical Units (Kv) and in English Units (Cv).
By definition, Kv is the number of m^3/h of water that will low through a full open valve with a pressure drop of 1 kg/cm^2.
By definition, Cv is the volume of water at 60 °F in American gallons per minute which flow through a valve, in the full open position, under 1 psi differential pressure.

CODE No.

The Code No. is composed as follows: Example

- Type of Valve: **BLY**		**BLY**
- Size:	005 = 1/2" 007 = 3/4" 010 = 1" 015 = 1.1/2" 020 = 2" 025 = 2.1/2" 030 = 3"	**010**
- Operation:	IT = Stop RT = Piston Check IT RE = Manual Flow Control RI = Stop-Check	**IT**
- Rating: 15=17001b; 25=2700 lb; 45 = 4500 lb		**25**
- Material Schedule: 71 or 11 or 22 or 31 or 91		**22**
- Connections: 0SW = Socket Weld ASME BWA = Buff Weld ASME BWD = Butt Weld DIN		**0SW**
- Packing: GR = Graphite SP = SpecialGR		**GR**

Resulting Code No. (as in example): **BLY010IT25220SWGR**

INSTALLATION

Welding procedures issued by an engineering company or final owner should be followed. Please do not forget that:
- Valve should be partially open during welding,
- If the valve will be normally closed, piping should be flushed, then open and close the valve 2-3 times before finally seating, to prevent solid particles from remaining between seat and disk,
- BLY Valves are fully suitable for Acid Washing,
- Check packing tightness during initial operation and eliminate and leakage by retorquing the Swing Bolt Nuts.

MAINTENANCE

Very easy for BLY Valves.
Procedure Bulletin and Servicing Kit of tools are available on request.

SHIPPING PREPARATION

BLY Valves are supplied only after undergoing the prescribed dimensional and operating tests.
For storage and shipment valves are protected with corrosion inhibitor oil on the internals, polythene caps on end connections, stem head protection and external painting or are dried and sealed each one in a single polythene bag. Packing in wooden boxes should be recommended.

In order to proceed at the same rate with the development requirements of the products, we reserve the right to carry out any necessary alterations, without notice.

BONT® Valves Type BLY
ASME Class 1700 - 2700 - 4500 - Forged Steel
Bonnetless - Rising non-rotating Stem

Construction Details

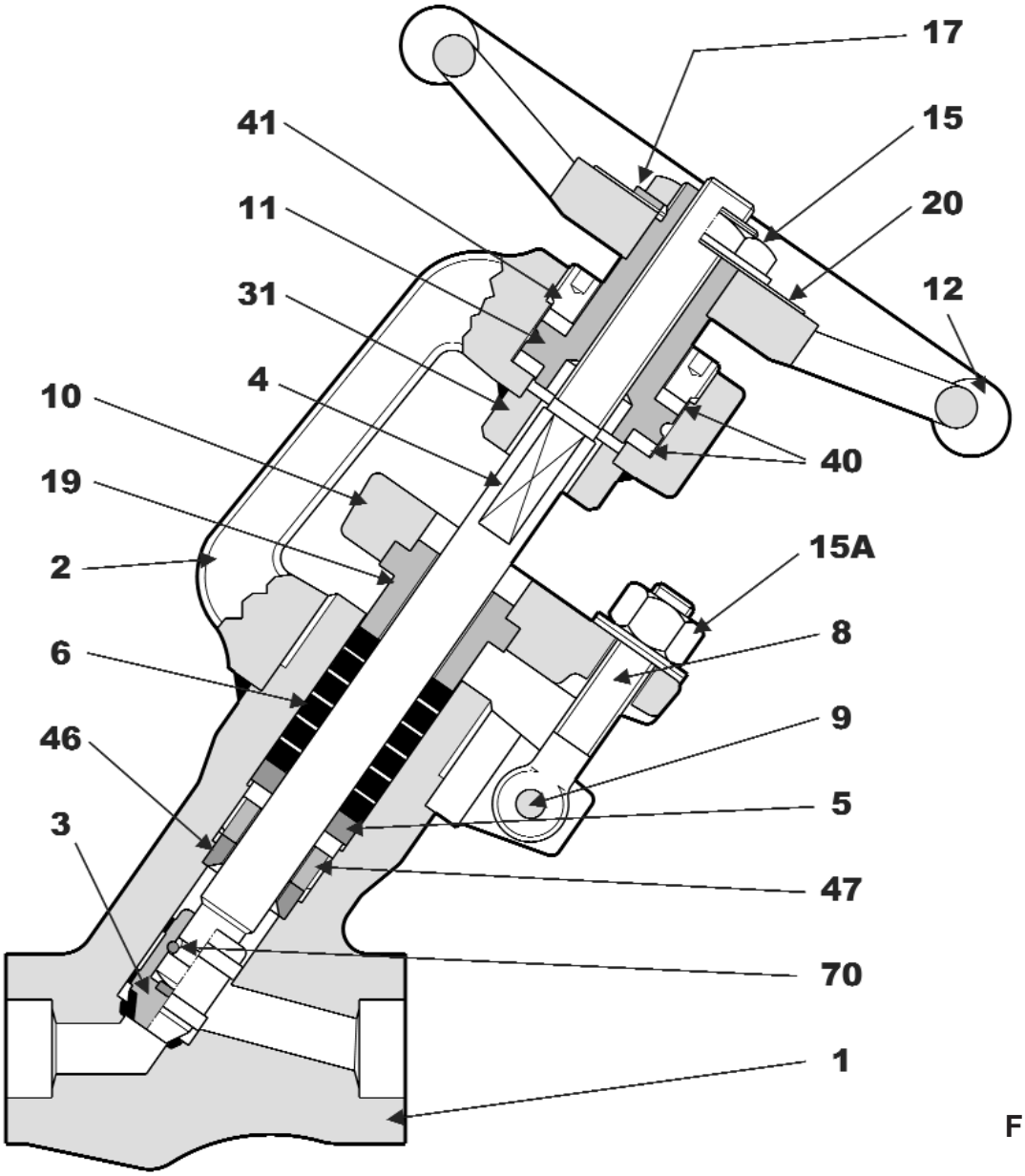


Fig. 6301

1.BODY

Always forged. Available in Carbon Steel, Cr Mo Low Alloy Steel or Stainless Steel.
Seat is integral of Stellite Gr. 6 deposited with highly specialized and automatic procedure which guarantees the achievement of stated constant characteristics. The deep thickness of the deposited Stellite enables many renewing operations of the seating surface.
Streamlined internal contours and inclined stem permit "soft" flow and reduce losses of pressure. Passage contours minimize turbulence, vibration, erosion and are self-draining.
Backseat is 2-piece. Stiffly coupled with the Body to avoid transmission of axial loads to gland assembly, as per the latest Standards. The Backseat Ring (46) is stellited on request and is firmly kept in place by the Locking Ring (47) threaded in the Body that can be easily removed by means of suitable tool. Final machining in a single operation of seating and other surfaces insures perfect alignment of all components.

2 YOKE

Always forged and standard of carbon steel, has structural functions only and is not under pressure. Threaded outside the body and kept in place by means of one welding tack that can be easily removed and remade for inspection or maintenance. No pressure seals. No seal welds.

3 DISK

Seating surface, lower and upper guide are always Stellite Gr. 6. On request, precision cast Stellite Gr. 6 disk is available.
Disk is fully guided (bottom and top) in the Body to prevent shaking in any semiclosing position and side thrust against Stem. The Connecting Ring (70) of Stellite connects the Disk with the Stem (4). Any galling or spinning is avoided. The design allows many renewing operations of the seating surface. When backseated, Disk is pulled against Backseat with axial non rotating movement.

4 STEM
Of 13% Cr stainless steel, heat treated against corrosion and for the best mechanical features, or of special stainless steel ASTM A564 T.630 (17-4 PH).
Steam is rising and non-rotating for all sizes and classes. The Yoke Bushing (11) is riding on two Roller Bearings (40). This design insures a lower driving and closing torque. less wear of Packing Rings (6) and a better flow control.

6 PACKING
The packing chamber is very smooth machined into the Body: max. roughness 32 microinches.
Packing is made of an adequate number of preformed Rings (6). Graphite is standard. Special qualities available.

8 SWING BOLTS
Heat treated of alloy steel. Pins (9) permit outside turning of the Swing Bolts for easier repacking.

10 PACKING
Of forged steel. Its design permits easy removal and allows ample space for repacking. The split Gland (19) is of stainless steel and easy to remove.

11 BUSHING
Usually of special Aluminium Bonze. Accurate machining guarantees perfect alignment and lowest coefficient of friction with Stem and eliminates seizure possibility.
Fixed with the Handwheel (12), the Yoke Bushing rotate in the Yoke (2) and is kept in place by means of two Roller Bearings (40) and one Locking Ring (41). This design insures a lower torque.

12 HANDWHEEL
Of nodular cast iron. Its form permits sure grip. Impactor Handwheel is not necessary thanks to the two roller Bearings.

20 NAME PLATE
The Name Plate is fixed on each valve and bears all prescribed indications.

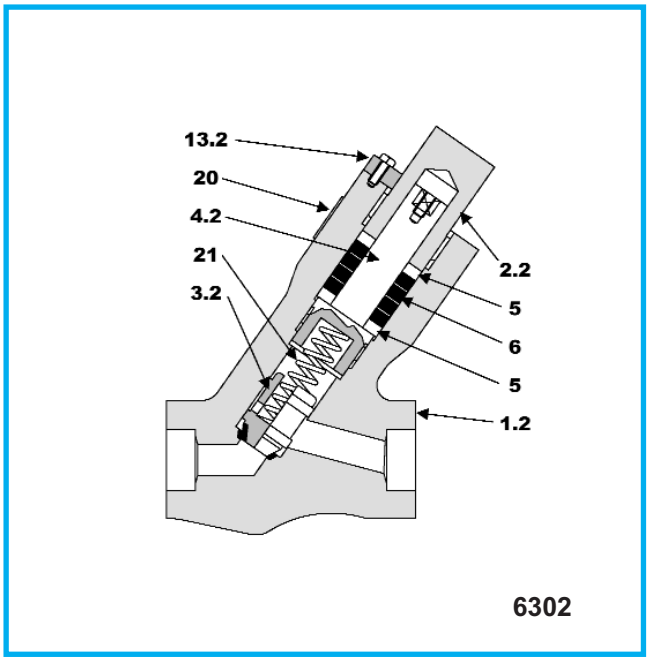
ACTUATED VALVES
Every BLY BONT Valves of any Size, Class and Material Schedule, Check Valves excepted, can be Power Actuated, that is equipped with electrical, hydraulic or pneumatic actuator.
The design, of BLY Valves as well their overdimensioning enableeasy mounting of any actuator. Actuator is available with:
- torque limit switches, adjustable both at the time of delivery and on the plant during the operation,
- travel limit switches,
- local dial positon indicators,
- “OPEN-CLOSED” indicating lights,
- auxiliary switches for various signals or operations,
- inductive or resistive position transmitter.

Class 1700 valve construction may be different, in some particulars, respect to above desciption.
The BONT Valves type BLY are manufactured also in the models:

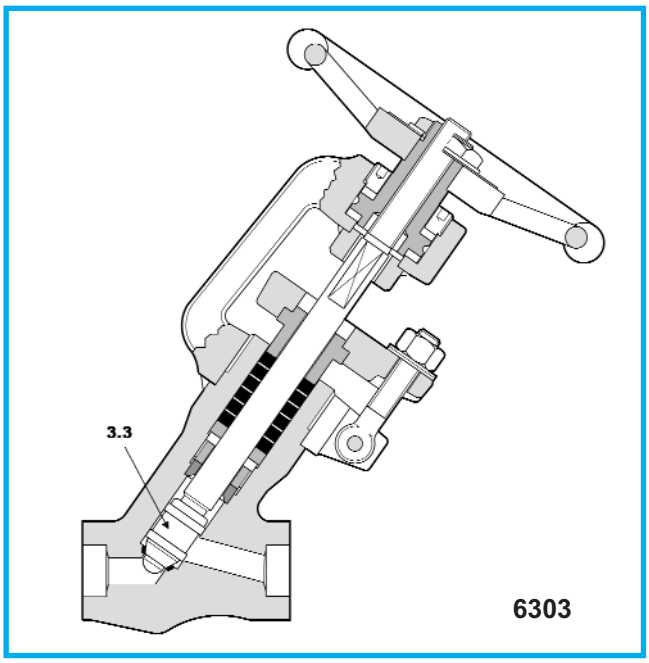
Piston Check Valve (Fig. 6302), where the Disk (3.2) is free in the Body, but loaded against the seat by a helical Spring (21). Thanks to the body Y pattern and the helical spring, piston check valve operate perfectly on both horizontal and vertical pipes.

Manual Flow Control Valve (Fig. 6303), where the Disk (3.3) is shaped for a fine control. Disk and Stem are one piece to avoid vibration. Seating and regulating surface of disk can be Stellite Gr. 6 faced on request. The position of the valve disk is indicated by the protrusion of the stem from the yoke bushing

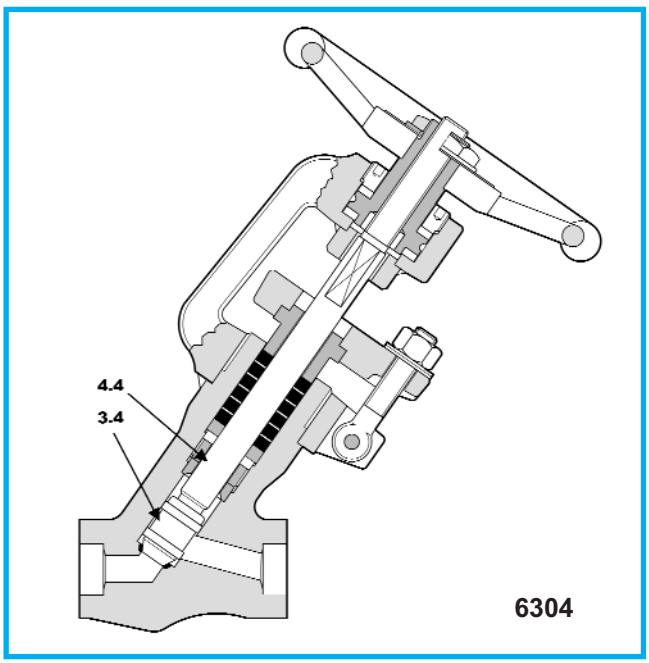
Stop-Check Valve (Fig. 6304), where Stem (4.4) and Disk (3.4) are sliding connected. In this way disk, with stem in back position, allows valve to operate as Piston Check. With stem screwed into the valve, flow is interrupted in both directions. Being this valve without spring, it must be installed in position which allows the disk to close by gravity.



6302



6303



6304

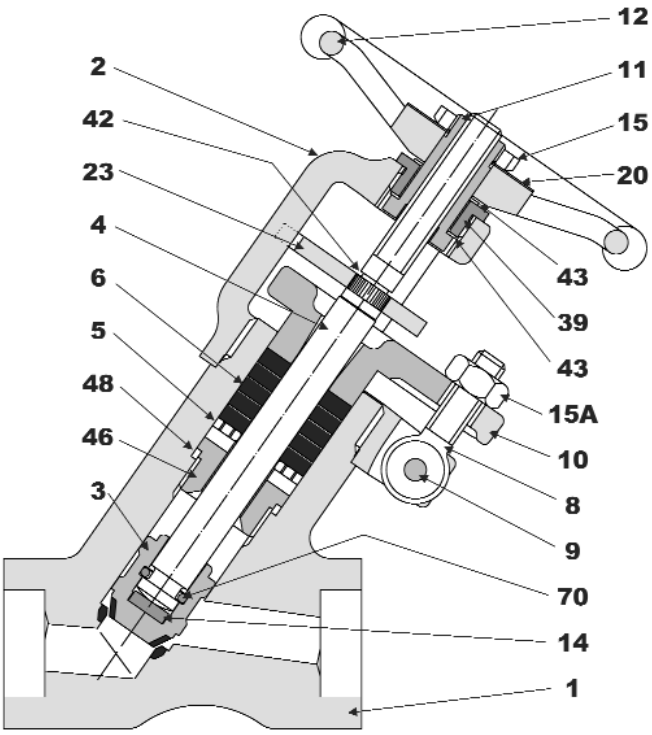
BONT® Valves Type BLY

ASME Class 1700 - Forged Steel
Bonnetless - Rising non-rotating stem
Size 1/2” to 3”

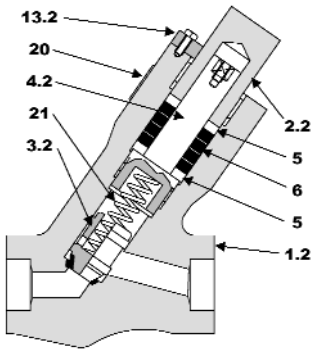
Connections (see Page 14):

Socket Weld	S.W. ANSI B 16.11	(Code: 0SW)
Butt weld	B.W. ANSI B 16.25	(Code: BWA)
Butt Weld	B.W. DIN 3239	(Code: BWD)

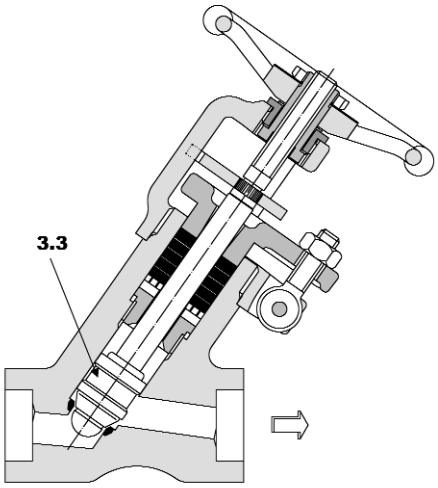
Standard Material Schedules: 71-11-31-91
Rating for each Material Schedule on Page 13



6321 - Stop Valve



6322 - Piston Check Valve



6323 - Manual Flow Control Valve

Part Material for Material Schedule

BLY Valves are manufactured in different Material Schedules.

For "Material Schedule" we mean the material quality of each valve component.

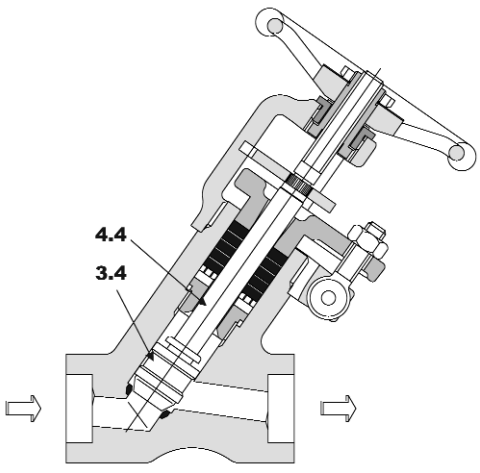
For detailed Material Schedules refer to Table on Page 2, in which for each type of valve and each Material Schedule are plainly indicated the materials used for any item.

Here below we list the main characteristic elements of the different Standard Material Schedules for valves shown on this page.

Special different material (like Hastelloy, Incoloy or other alloys) can be supplied on request.

Material Schedule	Body Material	Disc Seat
71 11 31 91	ASTM A 105 ASTM A 182 F11 ASTM A 182 F316 ASTM A 182 F91	Stellite Gr. 6

For Material Schedule RATING, refer to table on Page 13.

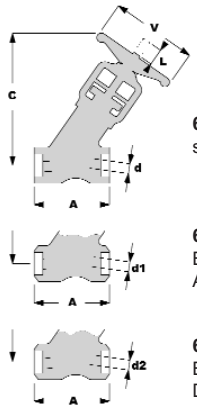


6324 - Stop-Check Valve

BONT® Valves type BLY - ASME Class 1700

Forged steel - Standard Material Schedule: 71 - 11 - 31 - 91

Stop Valves (Fig. 6321)



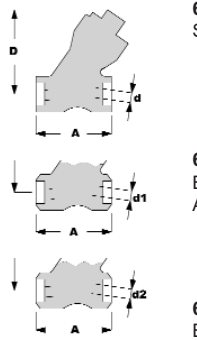
6321 sw

6321.1 BW ASME

6321.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	C mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	105 (4,13)	105 (4,13)	105 (4,13)	180 (7,09)	95 (3,74)	12,0 (0,47)	15 (0,59)	4	5	8,0 (17,6)	BLY	005	IT	15	71 or 11 or 31 or 91	0SW or BWA or BWD	GR
3/4"	105 (4,13)	105 (4,13)	105 (4,13)	180 (7,09)	95 (3,74)	17,5 (0,69)	15 (0,59)	10	12	8,0 (17,6)	BLY	007	IT	15			G R
1"	110 (4,33)	110 (4,33)	110 (4,33)	220 (8,66)	145 (5,71)	22,5 (0,89)	22 (0,87)	16	19	8,0 (17,6)	BLY	010	IT	15			GR
1.1/2"	160 (6,30)	160 (6,30)	160 (6,30)	300 (11,81)	175 (6,89)	34,0 (1,34)	27 (1,06)	34	40	16,0 (35,3)	BLY	015	IT	15			GR
2"	188 (7,40)	188 (7,40)	188 (7,40)	320 (12,60)	175 (6,89)	44,0 (1,73)	36 (1,42)	55	64	25,0 (55,1)	BLY	020	IT	15			GR
2.1/2"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	57,0 (2,24)	70 (2,76)	100	118	80,0 (176,4)	BLY	025	IT	15			G R
3"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	60,0 (2,36)	70 (2,76)	100	118	80,0 (176,4)	BLY	030	IT	15			GR

Piston Check Valves (Fig. 6322)



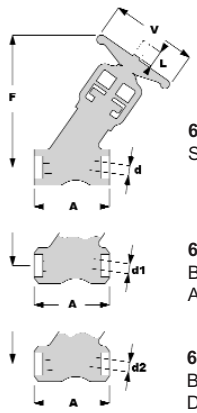
6322 SW

6322.1 BW ASME

6322.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	D mm (in)	d mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	110 (4,33)	110 (4,33)	110 (4,33)	180 (7,09)	14,0 (0,55)	4	5	6,0 (13,2)	BLY	005	RT	15	71 or 11 or 31 or 91	0SW or BWA or BWD	GR
3/4"	110 (4,33)	110 (4,33)	110 (4,33)	180 (7,09)	14,0 (0,55)	10	12	6,0 (13,2)	BLY	007	RT	15			G R
1"	154 (6,06)	154 (6,06)	154 (6,06)	200 (7,87)	19,0 (0,75)	16	19	6,0 (13,2)	BLY	010	RT	15			GR
1.1/2"	188 (7,40)	188 (7,40)	188 (7,40)	250 (9,84)	31,5 (1,24)	34	40	13,0 (28,7)	BLY	015	RT	15			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	300 (11,81)	39,5 (1,56)	55	64	19,0 (41,9)	BLY	020	RT	15			GR
2.1/2"	- -	305 (12,01)	380 (14,96)	380 (14,96)	57,0 (2,24)	100	118	55,0 (121,3)	BLY	025	RT	15			G R
3"	- -	305 (12,01)	380 (14,96)	380 (14,96)	60,0 (2,36)	100	118	55,0 (121,3)	BLY	030	RT	15			GR

Manual Flow Control Valves (Fig. 6323)



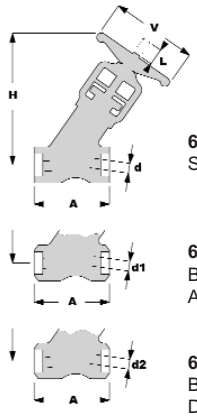
6323 SW

6323.1 BW ASME

6323.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	F mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	105 (4,13)	105 (4,13)	105 (4,13)	180 (7,09)	95 (3,74)	12,0 (0,47)	15 (0,59)	4	5	8,0 (17,6)	BLY	005	RE	15	71 or 11 or 31 or 91	0SW or BWA or BWD	G R
3/4"	105 (4,13)	105 (4,13)	105 (4,13)	180 (7,09)	95 (3,74)	17,5 (0,69)	15 (0,59)	10	12	8,0 (17,6)	BLY	007	RE	15			GR
1"	110 (4,33)	110 (4,33)	110 (4,33)	220 (8,66)	145 (5,71)	22,5 (0,89)	22 (0,87)	16	19	8,0 (17,6)	BLY	010	RE	15			GR
1.1/2"	160 (6,30)	160 (6,30)	160 (6,30)	300 (11,81)	175 (6,89)	34,0 (1,34)	27 (1,06)	34	40	16,0 (35,3)	BLY	015	RE	15			GR
2"	188 (7,40)	188 (7,40)	188 (7,40)	320 (12,60)	175 (6,89)	44,0 (1,73)	36 (1,42)	55	64	25,0 (55,1)	BLY	020	RE	15			GR
2.1/2"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	57,0 (2,24)	70 (2,76)	100	118	80,0 (176,4)	BLY	025	RE	15			GR
3"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	60,0 (2,36)	70 (2,76)	100	118	80,0 (176,4)	BLY	030	RE	15			G R

Stop - Check Valves (Fig. 6324)



6324 SW

6324.1 BW ASME

6324.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	H mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	105 (4,13)	105 (4,13)	105 (4,13)	180 (7,09)	95 (3,74)	12,0 (0,47)	15 (0,59)	4	5	8,0 (17,6)	BLY	005	RI	15	71 or 11 or 31 or 91	0SW or BWA or BWD	G R
3/4"	105 (4,13)	105 (4,13)	105 (4,13)	180 (7,09)	95 (3,74)	17,5 (0,69)	15 (0,59)	10	12	8,0 (17,6)	BLY	007	RI	15			GR
1"	110 (4,33)	110 (4,33)	110 (4,33)	220 (8,66)	145 (5,71)	22,5 (0,89)	22 (0,87)	16	19	8,0 (17,6)	BLY	010	RI	15			GR
1.1/2"	160 (6,30)	160 (6,30)	160 (6,30)	300 (11,81)	175 (6,89)	34,0 (1,34)	27 (1,06)	34	40	16,0 (35,3)	BLY	015	RI	15			GR
2"	188 (7,40)	188 (7,40)	188 (7,40)	320 (12,60)	175 (6,89)	44,0 (1,73)	36 (1,42)	55	64	25,0 (55,1)	BLY	020	RI	15			GR
2.1/2"	_ _	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	57,0 (2,24)	70 (2,76)	100	118	80,0 (176,4)	BLY	025	RI	15			GR
3"	_ _	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	60,0 (2,36)	70 (2,76)	100	118	80,0 (176,4)	BLY	030	RI	15			G R

Dimensions d1 and d2 depend on requested BW connections - (see pag. 14)

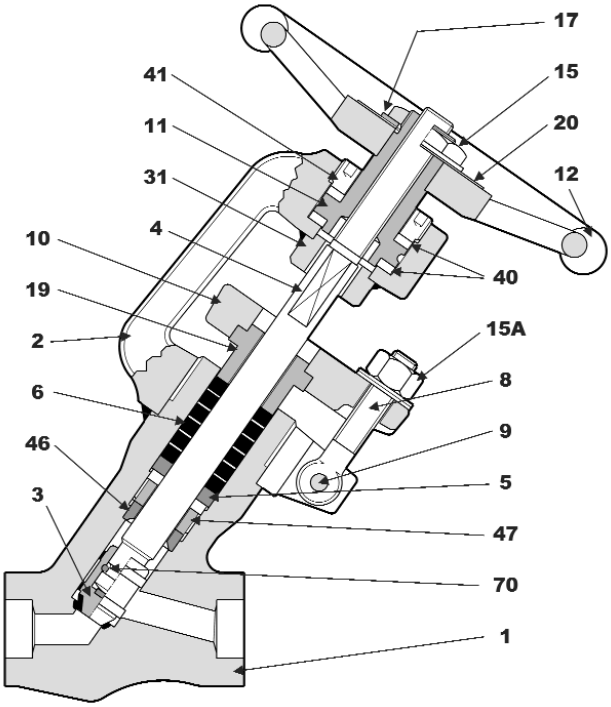
BONT® Valves Type BLY

ASME Class 2700 - Forged Steel
Bonnetless - Rising non-rotating stem
Size 1/2” to 3”

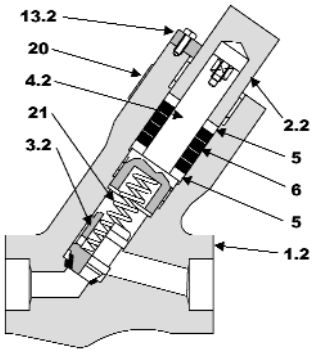
Connections (see Page 14):

Socket Weld	S.W. ANSI B 16.11	(Code: 0SW)
Butt weld	B.W. ANSI B 16.25	(Code: BWA)
Butt Weld	B.W. DIN 3239	(Code: BWD)

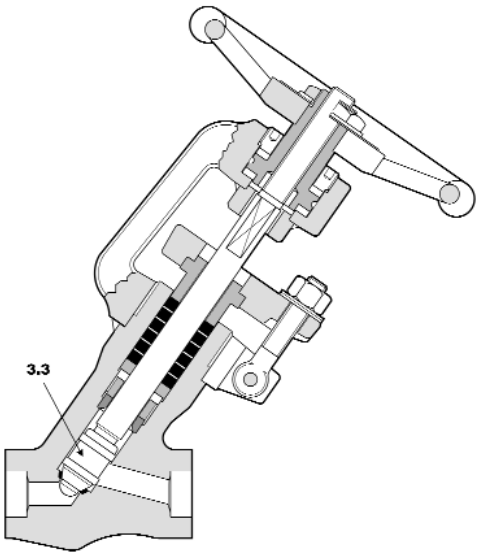
Standard Material Schedules: 71-11-22-31-91
Rating for each Material Schedule on Page 13



6341 - Stop Valve



6342 - Piston Check Valve



6343 - Manual Flow Control Valve

Part Material for Material Schedule

BLY Valves are manufactured in different Material Schedules.

For "Material Schedule" we mean the material quality of each valve component.

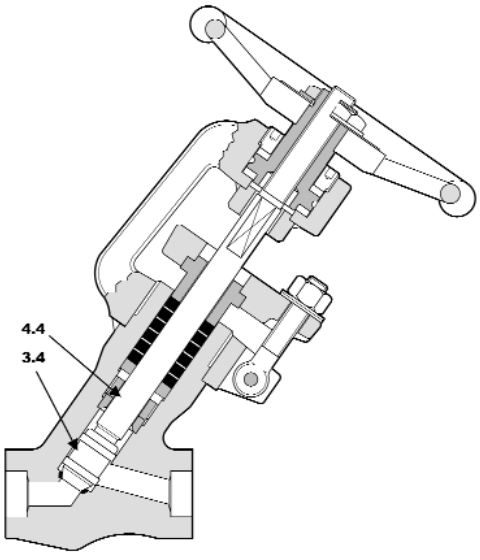
For detailed Material Schedules refer to Table on Page 2, in which for each type of valve and each Material Schedule are plainly indicated the materials used for any item.

Here below we list the main characteristic elements of the different Standard Material Schedules for valves shown on this page.

Special different material (like Hastelloy, Incoloy or other alloys) can be supplied on request.

Material Schedule	Body Material	Disc Seat
71 11 22 31 91	ASTM A 105 ASTM A 182 F11 ASTM A 182 F22 ASTM A 182 F316 ASTM A 182 F91	Stellite Gr. 6

For Material Schedule RATING, refer to table on Page 13.

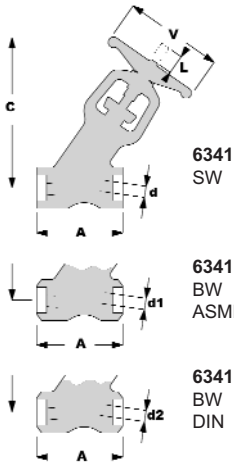


6344 - Stop-Check Valve

BONT® Valves type BLY - ASME Class 2700

Forged steel - Standard Material Schedule: 71 - 11 - 22 - 31 - 91

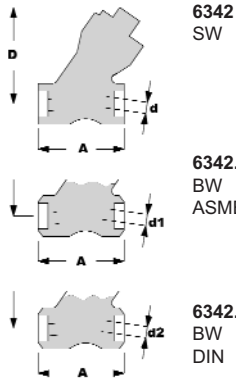
Stop Valves (Fig. 6341)



6341 SW
6341.1 BW ASME
6341.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	C mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	110 (4,33)	110 (4,33)	110 (4,33)	295 (11,61)	200 (7,87)	14,0 (0,55)	16 (0,63)	4	5	8,0 (17,6)	BLY	005	IT	25	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	GR
3/4"	110 (4,33)	110 (4,33)	110 (4,33)	295 (11,61)	200 (7,87)	14,0 (0,55)	16 (0,63)	6	7	8,0 (17,6)	BLY	007	IT	25			G R
1"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	19,0 (0,75)	22 (0,87)	10	12	17,0 (37,5)	BLY	010	IT	25			GR
1.1/2"	188 (7,40)	188 (7,40)	188 (7,40)	410 (16,14)	300 (11,81)	31,5 (1,24)	30 (1,18)	32	37	26,5 (58,4)	BLY	015	IT	25			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	515 (20,28)	400 (15,75)	39,5 (1,56)	43 (1,69)	53	62	51,0 (112,4)	BLY	020	IT	25			GR
2.1/2"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	55,0 (2,16)	70 (2,76)	76	90	80,0 (176,4)	BLY	025	IT	25			G R
3"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	57,0 (2,24)	70 (2,76)	76	90	80,0 (176,4)	BLY	030	IT	25			GR

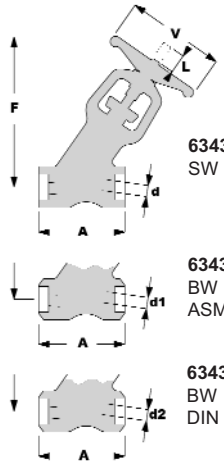
Piston Check Valves (Fig. 6342)



6342 SW
6342.1 BW ASME
6342.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	D mm (in)	d mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	110 (4,33)	110 (4,33)	110 (4,33)	180 (7,09)	14,0 (0,55)	4	5	6,0 (13,2)	BLY	005	RT	25	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	GR
3/4"	110 (4,33)	110 (4,33)	110 (4,33)	180 (7,09)	14,0 (0,55)	6	7	6,0 (13,2)	BLY	007	RT	25			G R
1"	154 (6,06)	154 (6,06)	154 (6,06)	200 (7,87)	19,0 (0,75)	10	12	14,0 (30,9)	BLY	010	RT	25			GR
1.1/2"	188 (7,40)	188 (7,40)	188 (7,40)	250 (9,84)	31,5 (1,24)	32	37	20,0 (44,1)	BLY	015	RT	25			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	300 (11,81)	39,5 (1,56)	53	62	41,0 (90,4)	BLY	020	RT	25			GR
2.1/2"	- -	305 (12,01)	380 (14,96)	380 (14,96)	55,0 (2,16)	76	90	55,0 (121,3)	BLY	025	RT	25			G R
3"	- -	305 (12,01)	380 (14,96)	380 (14,96)	57,0 (2,24)	76	90	55,0 (121,3)	BLY	030	RT	25			GR

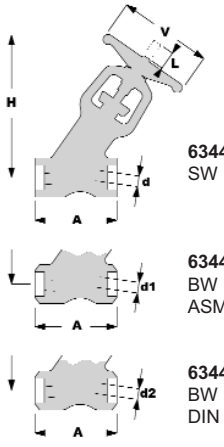
Manual Flow Control Valves (Fig. 6343)



6343 SW
6343.1 BW ASME
6343.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	F mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	110 (4,33)	110 (4,33)	110 (4,33)	295 (11,61)	200 (7,87)	14,0 (0,55)	22 (0,87)	4	5	8,0 (17,6)	BLY	005	RE	25	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	G R
3/4"	110 (4,33)	110 (4,33)	110 (4,33)	295 (11,61)	200 (7,87)	14,0 (0,55)	22 (0,87)	6	7	8,0 (17,6)	BLY	007	RE	25			GR
1"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	19,0 (0,75)	28 (1,10)	10	12	17,0 (37,5)	BLY	010	RE	25			GR
1.1/2"	188 (7,40)	188 (7,40)	188 (7,40)	410 (16,14)	300 (11,81)	31,5 (1,24)	36 (1,42)	32	37	26,5 (58,4)	BLY	015	RE	25			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	515 (20,28)	400 (15,75)	39,5 (1,56)	49 (1,93)	53	62	51,0 (112,4)	BLY	020	RE	25			GR
2.1/2"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	55,0 (2,16)	70 (2,76)	76	90	80,0 (176,4)	BLY	025	RE	25			GR
3"	- -	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	57,0 (2,24)	70 (2,76)	76	90	80,0 (176,4)	BLY	030	RE	25			G R

Stop - Check Valves (Fig. 6344)



6344 SW
6344.1 BW ASME
6344.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	H mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	110 (4,33)	110 (4,33)	110 (4,33)	295 (11,61)	200 (7,87)	14,0 (0,55)	14 (0,55)	4	5	8,0 (17,6)	BLY	005	RI	25	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	G R
3/4"	110 (4,33)	110 (4,33)	110 (4,33)	295 (11,61)	200 (7,87)	14,0 (0,55)	14 (0,55)	6	7	8,0 (17,6)	BLY	007	RI	25			GR
1"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	19,0 (0,75)	20 (0,79)	10	12	17,0 (37,5)	BLY	010	RI	25			GR
1.1/2"	188 (7,40)	188 (7,40)	188 (7,40)	410 (16,14)	300 (11,81)	31,5 (1,24)	28 (1,10)	32	37	26,5 (58,4)	BLY	015	RI	25			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	515 (20,28)	400 (15,75)	39,5 (1,56)	41 (1,61)	53	62	51,0 (112,4)	BLY	020	RI	25			GR
2.1/2"	_ _	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	55,0 (2,16)	70 (2,76)	76	90	80,0 (176,4)	BLY	025	RI	25			GR
3"	_ _	305 (12,01)	305 (12,01)	680 (26,77)	400 (15,75)	57,0 (2,24)	70 (2,76)	76	90	80,0 (176,4)	BLY	030	RI	25			G R

Dimensions d1 and d2 depend on requested BW connections - (see pag. 14)

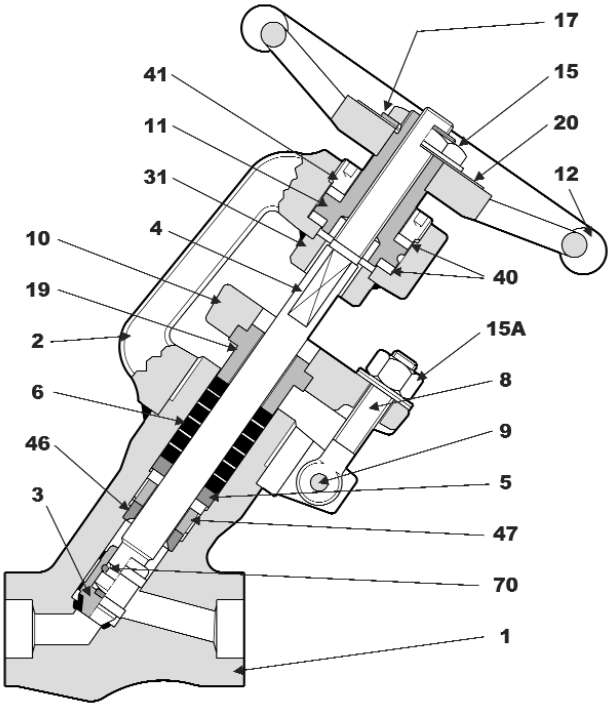
BONT® Valves Type BLY

ASME Class 4500 - Forged Steel
Bonnetless - Rising non-rotating stem
Size 1/2” to 2”

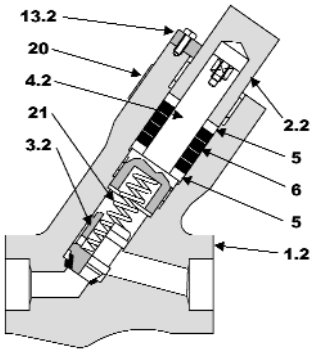
Connections (see Page 14):

Socket Weld	S.W. ANSI B 16.11	(Code: 0SW)
Butt weld	B.W. ANSI B 16.25	(Code: BWA)
Butt Weld	B.W. DIN 3239	(Code: BWD)

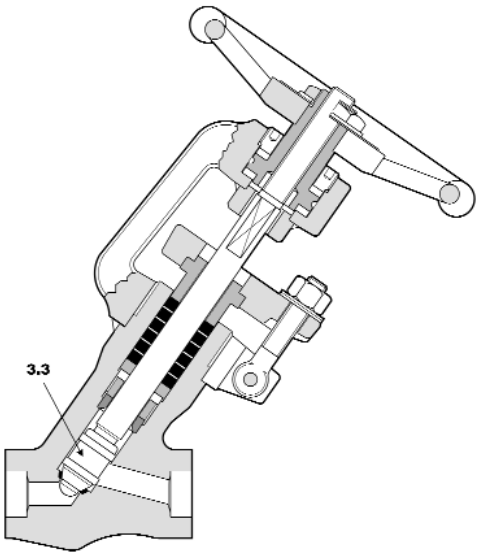
Standard Material Schedules: 71-11-22-31-91
Rating for each Material Schedule on Page 13



6351 - Stop Valve



6352 - Piston Check Valve



6353 - Manual Flow Control Valve

Part Material for Material Schedule

BLY Valves are manufactured in different Material Schedules.

For "Material Schedule" we mean the material quality of each valve component.

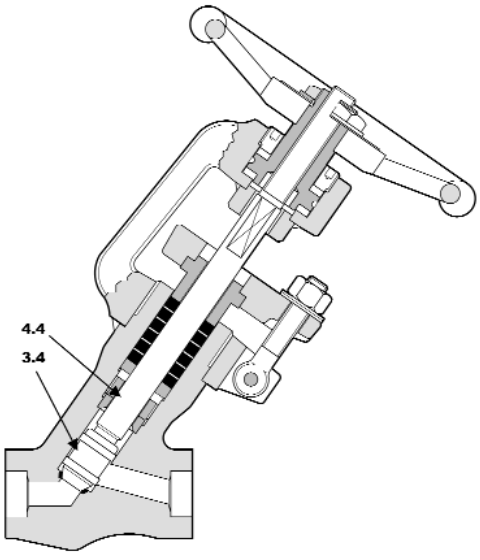
For detailed Material Schedules refer to Table on Page 2, in which for each type of valve and each Material Schedule are plainly indicated the materials used for any item.

Here below we list the main characteristic elements of the different Standard Material Schedules for valves shown on this page.

Special different material (like Hastelloy, Incoloy or other alloys) can be supplied on request.

Material Schedule	Body Material	Disc Seat
71 11 22 31 91	ASTM A 105 ASTM A 182 F11 ASTM A 182 F22 ASTM A 182 F316 ASTM A 182 F91	Stellite Gr. 6

For Material Schedule RATING, refer to table on Page 13.

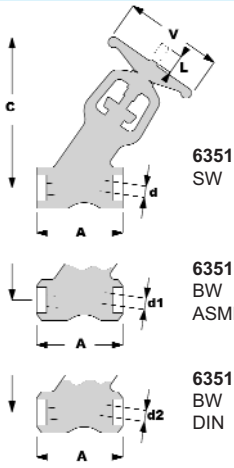


6354 - Stop-Check Valve

BONT® Valves type BLY - ASME Class 4500

Forged steel - Standard Material Schedule: 71 - 11 - 22 - 31 - 91

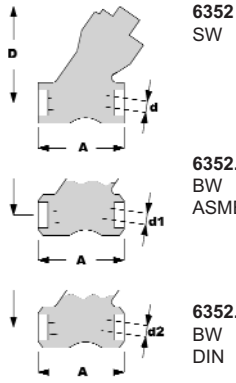
Stop Valves (Fig. 6351)



6351 SW
6351.1 BW ASME
6351.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	C mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	20 (0,79)	2	2,5	18,0 (39,7)	BLY	005	IT	45	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	GR
3/4"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	20 (0,79)	4	5	18,0 (39,7)	BLY	007	IT	45			G R
1"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	20 (0,79)	6	7	18,0 (39,7)	BLY	010	IT	45			GR
1.1/2"	224 (8,82)	224 (8,82)	224 (8,82)	490 (19,29)	400 (15,75)	31,5 (1,24)	30 (1,18)	19	22	54,0 (119,0)	BLY	015	IT	45			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	490 (19,29)	400 (15,75)	31,5 (1,24)	30 (1,18)	21	25	53,0 (116,8)	BLY	020	IT	45			GR

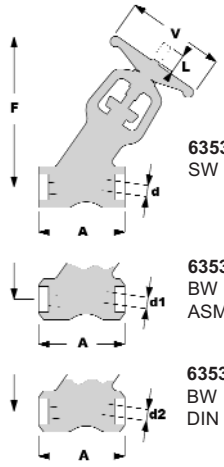
Piston Check Valves (Fig. 6352)



6352 SW
6352.1 BW ASME
6352.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	D mm (in)	d mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	154 (6,06)	154 (6,06)	154 (6,06)	200 (7,87)	14,5 (0,57)	2	2,5	15,0 (33,1)	BLY	005	RT	45	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	GR
3/4"	154 (6,06)	154 (6,06)	154 (6,06)	200 (7,87)	14,0 (0,55)	4	5	15,0 (33,1)	BLY	007	RT	45			G R
1"	154 (6,06)	154 (6,06)	154 (6,06)	200 (7,87)	14,0 (0,55)	6	7	15,0 (33,1)	BLY	010	RT	45			GR
1.1/2"	224 (8,82)	224 (8,82)	224 (8,82)	300 (11,81)	31,5 (1,24)	19	22	44,0 (97,0)	BLY	015	RT	45			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	300 (11,81)	31,5 (1,24)	21	25	43,0 (94,8)	BLY	020	RT	45			GR

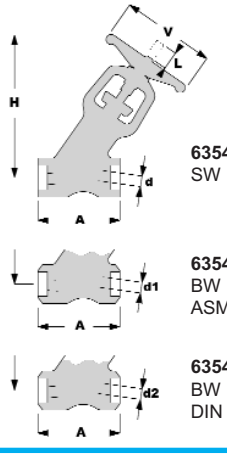
Manual Flow Control Valves (Fig. 6353)



6353 SW
6353.1 BW ASME
6353.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	F mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	26 (1,02)	2	2,5	18,0 (39,7)	BLY	005	RE	45	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	G R
3/4"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	26 (1,02)	4	5	18,0 (39,7)	BLY	007	RE	45			GR
1"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	26 (1,02)	6	7	18,0 (39,7)	BLY	010	RE	45			GR
1.1/2"	224 (8,82)	224 (8,82)	224 (8,82)	490 (19,29)	400 (15,75)	31,5 (1,24)	36 (1,42)	19	22	54,0 (119,0)	BLY	015	RE	45			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	490 (19,29)	400 (15,75)	31,5 (1,24)	36 (1,42)	21	25	53,0 (116,8)	BLY	020	RE	45			GR

Stop - Check Valves (Fig. 6354)



6354 SW
6354.1 BW ASME
6354.2 BW DIN

DN inches	A mm (in)	A1 mm (in)	A2 mm (in)	H mm (in)	V mm (in)	d mm (in)	L mm (in)	Kv	Cv	Weight kg (lb)	Code Number						
1/2"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	18 (0,71)	2	2,5	18,0 (39,7)	BLY	005	RI	45	71 or 11 or 22 or 31 or 91	0SW or BWA or BWD	G R
3/4"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	18 (0,71)	4	5	18,0 (39,7)	BLY	007	RI	45			GR
1"	154 (6,06)	154 (6,06)	154 (6,06)	360 (14,17)	300 (11,81)	14,0 (0,55)	18 (0,71)	6	7	18,0 (39,7)	BLY	010	RI	45			GR
1.1/2"	224 (8,82)	224 (8,82)	224 (8,82)	490 (19,29)	400 (15,75)	31,5 (1,24)	28 (1,10)	19	22	54,0 (119,0)	BLY	015	RI	45			GR
2"	224 (8,82)	224 (8,82)	224 (8,82)	490 (19,29)	400 (15,75)	31,5 (1,24)	28 (1,10)	21	25	53,0 (116,8)	BLY	020	RI	45			GR

Dimensions d1 and d2 depend on requested BW connections - (see pag. 14)

MATERIALS

Material		ASTM A105	ASTM A182F11	ASTM A182F22	ASTM A182F316	ASTM A182F91	Stellite Gr.6	ASTM A479 T.410C.3	ASTM A193 B7	ASTM A182 F XM 19	ASTM A194 2H	ASTM B150 C62300	ASTM B166 N06600	ASTM A182 F6	ASTM A564T.630 Cond.H1075	ASTM A453 Gr. 660
Chemical Analysis		(Note 1)														
Carbon	%	0.35 max	0.10-0.20	0.15 max	0.08 max	0.08-0.12	1	0.13 max	0.38-0.48	0.06 max	0.40 max		0.15 max	0.15 max	0,07	0.08 max
Manganese	%	0.60-105	0.30-0.80	0.30-0.60	2.00 max	0.30-0.60		1.00 max	0.75-1.00	4.0-6.0		0.5 max	1.0 max	1.00 max	1.0 max	2.00 max
Phosphorus	%	0.04 max	0.04 max	0.04 max	0.04 max	0.02 max		0.04 max	0.04 max	0.04 max	0.04 max			0.04 max	0.04 max	0.040 max
Sulphur	%	0.05 max	0.04 max	0.04 max	0.03 max	0.01 max		0.03 max	0.04 max	0.03 max	0.05 max		0.015 max	0.30 max	0.03 max	0.030 max
Silicon	%	0.35 max	0.5-1.0	0.5 max	1.00 max	0.20-0.50		1.00 max	0.20-0.35	1.00 max		0.25 max	0.5 max	1.00 max	1.0 max	1.00 max
Chromium	%		1.0-1.5	2.0-2.5	16.00-18.00	8.00-9.50	28	11.5-13.5	0.80-1.10	20.5-23.5			14.0-17.0	11.5-13.5	15.0-17.5	13.5-16.0
Nickel	%				10.00-14.00	0.40 max		0.50 max		11.5-13.5		1.0 max	72 min+Co	0.50 max	3.0-5.0	24.0-27.0
Molybdenum	%		0.44-0.65	0.87-1.13	2.00-3.00	0.85-1.05			0.15-0.25	1.5-3.0					1.2-2.0	1.0-1.5
Copper	%											82.2 min	0.50 max		3.0-5.0	
Aluminium	%											8.5-10.0				0.35 max
Iron	%											2.0-4.0	6.0-10.0			
Cobalt	%						66									
Tungsten	%						5									
Titanium	%															1.90-2.35
Columbium	%									0.10-0.30						
Mechanical features								(Note 2)				(Note 2)	(Note 2)			
Tensile Strength	psi	70000	70000	75000	75000	85000		130000	125000	100000		78000	155000	110000	145000	130000
	MPa	485	485	515	515	585		900	860	690		542	1.069	760	1000	895
Yield Strength	psi	36000	40000	45000	30000	60000		100000	105000	55000		32000	90000	85000	125000	85000
	MPa	250	275	310	205	415		690	720	380		221	620	585	862	585
Elongation on 2"	%min							12	16	35		15	10	15	13	15

Notes for Materials
(Those Notes apply also to Rating Tables on page 13)

1 We utilize also steel with lower Carbon content (≤ 0,25%).

2 Mechanical features depend on heat treatment. Prescribed heat treatment permits us to obtain the most suitable physical and chemical characteristics.

Notes for Rating
(Those Notes apply also to Rating Tables on page 13)

3 Ratings of tables are those indicated by ASME B 16.34 for Classes 600 - 900 - 1500 - 2500 - 4500 and extrapolated for Classes 1700-2700

4 Due to a possible transformation of carbides into graphite, ASME B 16.34 does not recommend the use of Carbon steel valves (BONETTI Mat. Sch. 71) over 800°F (425°C) for extended periods.

5 For ASTM A182 F11 and for ASTM A182 F22 (BONETTI Mat. Sch. 11 and 22) ASME B 16.34 recommends:
"Use normalized and tempered material only - Not to be used over 1100 °F (595 °C).

6 At temperature above 1000 °F (538 °C) material ASTM A182 F316 (BONETTI Mat. Sch. 31) must be used only when the Carbon content is 0.04% or higer.

7 As BONT valves are oversized versus International Standard prescription, including ASME B 16.34, effective maximum operating condition can be communicated on request.

RATING

Metric Units

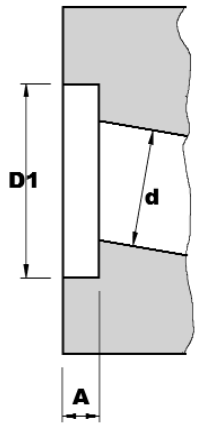
Operating Temperature °C	Max Operating Pressure bar Class 1700				Max Operating Pressure bar Class 2700					Max Operating Pressure bar Class 4500				
	Material Schedule				Material Schedule					Material Schedule				
	71	11	31	91	71	11	22	31	91	71	11	22	31	91
-29 +38	289,3	293,1	281,4	293,1	459,5	465,5	465,5	446,9	465,5	765,8	775,8	775,8	744,8	775,8
50	283,3	293,1	272,8	293,1	450,7	465,5	465,5	433,3	465,5	751,1	775,8	775,8	722,2	775,8
100	262,8	291,8	238,9	291,8	417,4	463,4	463,9	379,6	463,9	695,7	772,3	773,1	633,2	773,1
150	256,3	281,8	217,9	284,5	407,1	447,5	451,8	346,3	451,8	678,4	746,2	752,9	577,6	752,9
200	248,3	271,6	202,1	275,8	394,4	431,4	439,0	320,9	439,0	657,3	719,6	731,8	535,1	731,8
250	236,4	261,6	189,1	261,6	375,5	415,5	417,0	300,2	417,1	625,8	692,6	694,9	500,8	694,9
300	219,5	242,8	179,1	242,8	348,6	385,6	385,6	284,5	385,6	581,0	642,7	642,7	474,5	642,7
350	209,4	227,7	172,5	227,7	332,6	362,0	362,0	274,1	362,0	554,4	603,4	603,4	456,9	603,4
375	206,6	219,7	169,3	219,7	328,2	348,9	348,9	269,0	348,9	547,0	581,9	581,9	448,3	581,9
400	195,5	207,2	166,8	207,2	310,5	329,0	329,0	265,0	329,0	517,5	548,6	548,6	441,8	548,6
425	163,0	198,8	164,9	198,8	258,8	315,7	315,7	262,2	315,7	431,4	526,3	526,3	437,2	526,3
450	113,5	191,6	163,4	191,6	180,3	304,4	304,4	259,4	304,4	300,5	507,1	507,1	432,8	507,1
475	76,7	179,4	162,3	179,4	121,9	285,0	285,0	257,9	285,0	203,2	474,9	474,9	430,2	474,9
500	49,9	142,8	154,8	159,7	73,2	226,9	250,3	246,1	253,9	131,9	378,5	417,3	410,4	423,1
525	29,4	102,7	143,0	146,2	46,6	163,1	194,8	227,3	232,2	77,7	272,4	325,3	379,1	386,8
550		71,8	135,5	141,5		114,2	138,0	215,2	224,7		190,7	230,6	359,0	374,3
575		49,8	129	133,0		79,1	94,6	205,0	211,1		132,1	158,0	341,9	351,9
600		34,1	112,6	110,6		54,3	61,8	179,0	175,5		90,8	103,3	298,5	292,5
625		22,8	89,6	82,8		36,2	40,0	142,1	131,4		60,3	67,0	237,3	219,2
650		14,5	71,7	56,3		22,9	24,9	113,9	89,4		38,1	41,4	189,8	149,0
675			58,4					70,5					154,7	
700			47,5					125,8					125,8	
725			39,6					104,9					104,9	
750			32,5					85,6					85,6	
775			25,9					68,4					68,4	
800			19,8					52,6					52,6	
	Nota 4	Nota 5	Nota 6		Nota 4	Nota 5	Nota5	Nota 6		Nota 4	Nota 5	Nota 5	Nota 6	

English Units

Operating Temperature °F	Max Operating Pressure psi Class 1700				Max Operating Pressure psi Class 2700					Max Operating Pressure psi Class 4500				
	Material Schedule				Material Schedule					Material Schedule				
	71	11	31	91	71	11	22	31	91	71	11	22	31	91
-20+100	4200	4250	4080	4250	6665	6750	6750	6480	6750	11110	11250	11250	10800	11250
200	3825	4250	3505	4250	6075	6750	6750	5570	6750	10120	11250	11250	9290	11250
300	3720	4090	3165	4125	5910	6495	6555	5030	6555	9845	10830	10925	8390	10925
400	3590	3925	2910	4000	5700	6235	6350	4620	6530	9505	10400	10585	7705	10585
500	3395	3765	2705	3765	5390	5980	5980	4295	5980	8980	9965	9965	7165	9965
600	3100	3425	2555	3425	4925	5440	5440	4060	5440	8210	9070	9070	6770	9070
650	3045	3330	2515	3330	4835	5295	5295	3995	5295	8055	8825	8825	6660	8825
700	3020	3215	2460	3215	4795	5105	5105	3910	5150	7990	8515	8515	6515	8515
750	2895	3010	2420	3010	4535	4780	4780	3845	4780	7560	7970	7970	6410	7970
800	2335	2875	2390	2875	3705	4565	4565	3800	4565	6170	7610	7610	6335	7610
850	1520	2760	2365	2760	2410	4385	4385	3755	4385	4010	7305	7305	6265	7305
900	975	2545	2350	2545	1545	4045	4045	3735	4045	2570	6740	6740	6230	6740
950	585	1805	2185	2185	930	2865	3395	3475	3475	1545	4785	5665	5795	5795
1000	295	1220	1980	2060	465	1940	2340	3145	3270	770	3240	3910	5245	5450
1050		815	1945	2040		1295	1570	3090	3240		2160	2625	5155	5400
1100		540	1725	1710		860	985	2745	2715		1440	1645	4575	4525
1150		350	1340	1260		555	615	2125	2000		925	1030	3550	3345
1200		215	1045	815		340	370	1665	1295		565	615	2775	2160
1250			830					1325					2210	
1300			660					1045					1750	
1350			540					860					1440	
1400			430					680					1130	
1450			325					520					875	
1500			230					370					620	
	Nota 4	Nota 5	Nota 6		Nota 4	Nota 5	Nota 5	Nota 6		Nota 4	Nota 5	Nota 5	Nota 6	

CONNECTIONS

Socket Weld (S.W.) Connections
ASME B 16.11

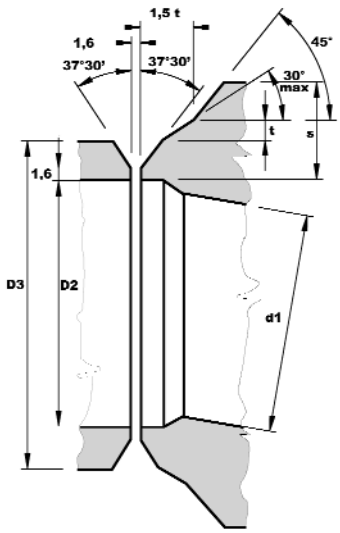


6101

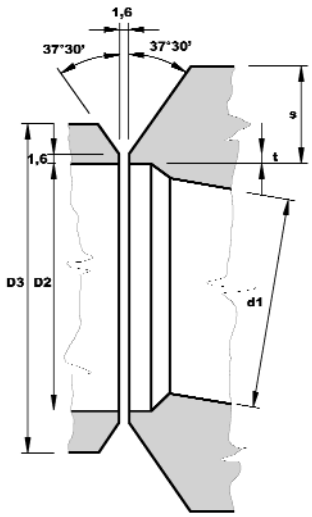
Size	Inches		Millimeters	
	D1 minimum	A minimum	D1 minimum	A minimum
1/4"	.555	3/8	14,10	9,53
3/8"	.690	3/8	17,53	9,53
1/2"	.855	3/8	21,72	9,53
3/4"	1.065	1/2	27,06	12,70
1"	1.330	1/2	33,79	12,70
1.1/4"	1.675	1/2	42,55	12,70
1.1/2"	1.915	1/2	48,65	12,70
2"	2.406	5/8	61,12	15,88

- Above sizes expressed in inches are taken from ASME B16.1 i (for details see above Standard).
- Sizes expressed in millimeters are converted from those in inches, they are not binding and are only as indication for user's convenience.
- Minimum wall thickness of socket welding is according to ASME B 1 6.34.

Butt Weld (B.W.) Connections
ASME B 16.25



6102



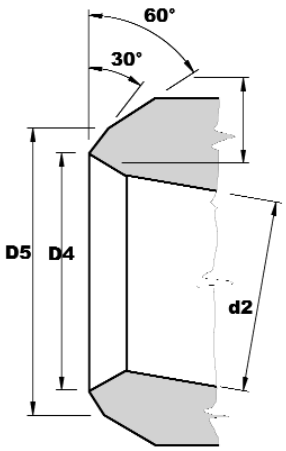
6102A

Dimension of Pipes, according to ASME B 36.10						
SIZE	Schedule D3 mm (in)	80 t mm (in)	Schedule D3 mm (in)	160 t mm (in)	Schedule D3 mm (in)	XXS t mm (in)
1/2"	21.3 (0.840)	3.73 (0.147)	21.3 (0.840)	4.78 (0.188)	21.3 (0.840)	7.47 (0.294)
¾"	26.7 (1.050)	3.91 (0.154)	26.7 (1.050)	5.56 (0.219)	26.7 (1.050)	7.82 (0.308)
1"	33.4 (1.315)	4.55 (0.179)	33.4 (1.315)	6.35 (0.250)	33.4 (1.315)	9.09 (0.358)
1.1/2"	48.3 (1.900)	5.08 (0.200)	48.3 (1.900)	7.14 (0.281)	48,3 (1.900)	10.15 (0.400)
2"	60.3 (2.375)	5.54 (0.218)	60.3 (2.375)	8.74 (0.344)	60.3 (2.375)	11.07 (0.436)
2.1/2"	73.0 (2.875)	7.01 (0.276)	73.0 (2.875)	9.53 (0.375)	73.0 (2.875)	14.02 (0.552)
3"	88.9 (3.500)	7.62 (0.300)	88.9 (3.500)	11.13 (0.438)	88.9 (3.500)	15.24 (0.600)
4"	114.3 (4.500)	8.56 (0.337)	114.3 (4.500)	13.49 (0.531)	114.3 (4.500)	17.12 (0.674)

Fig. 6102: Applicable for thickness of valve wall s > 22,2 mm
Fig. 6102A: Applicable for thickness of valve s ≤ 22,2 mm

- Dimension d1 depends on requested Schedule.

Butt Weld (B.W.) Connections
DIN 3239



6103

Size		PN100		PN160		PN250		PN320		PN400		PN640	
		D4	D5	D4	D5	D4	D5	D4	D5	D4	D5	D4	D5
10	3/8"	13	20	13	20	12	20	12	20	10	20	11	24
15	1/2"	17	24	17	24	16	24	15	24	17	31	16	25
25	1"	28	37	27	37	27	39	24	39	28	48	24	52
40	1.1/2"	43	54	41	54	38	54	35	54	39	57	34	72
50	2"	54	67	52	67	47	67	47	71	49	83	46	92
65	2.1/2"	70	83	65	83	59	83	65	96	68	110	--	--
80	3"	82	96	76	96	79	110	76	110	76	122	--	--
100	4"	106	121	97	121	97	129	--	--	--	--	--	--

-- Above sizes - in millimeters - are taken from DIN 3239, Form D, Ausführung 2 (see above Standard for details).
-- When ordering valves with butt weld connections. please indicate size of pipe to be welded to valve.
-- Dimension d2 depends on requested PN.

CERTIFICATE OF APPROVAL

This is to certify that the Quality Management System of:

Cesare Bonetti S.p.A.
Via C. Bonetti, 17
Garbagnate Milanese - Milano, Italy

has been approved by Lloyd's Register Quality Assurance to the following Quality Management System Standards:

ISO 9001:2000
EN ISO 9001:2000
UNI EN ISO 9001:2000

The Quality Management System is applicable to:

Design and manufacture of valves, glass and magnetic level gauges, magnetic limit switch and related accessories.

This certificate is a continuation of a previous approval administred by TÜV CERT, certificate N. 04100 20040189 and dated 02/17/04.

Approval
Certificate No: LRC 0271605

Original Approval: 16th February 2007

Current Certificate: 16th February 2007

Certificate Expiry: 16th February 2010

Issued by: Lloyd's Register Quality Assurance Italy Srl

UKAS QUALITY MANAGEMENT
001

This document is subject to the provision on the reverse
Registered Office: Piazza della Vittoria 6-1 – 16121 Genova – Trib.Genova 189273/1996 – CCIAA Genova 356347
This approval is carried out in accordance with the LRQA assessment and certification procedures and monitored by LRQA.
The use of the UKAS Accreditation Mark indicates Accreditation in respect of those activities covered by the Accreditation Certificate Number 001
Macro Revision 13

In 1905, **Cesare Bonetti** opened a shop in Milan, Italy, to manufacture small hand valves to meet the local demand. In the early 1920s, this small but growing firm, took on a new industrial look and moved into the production and sale of industrial valves.

BONETTI®, by this time, had become a well known company for the production of piston valves, sleeve-packed cocks, and glass level gauges. Subsequently, the production range, bearing the **BONT**® and **CMI Pasquini**® registered trademarks was increased to include new valves for high temperature and high pressure service designed to meet the strictest requirements of the time and using the most advanced design and manufacturing technology. This included double sealing valves, bellows valves, diaphragm valves. **CESARE BONETTI** Company had become also the most world known bypass level indicator manufacturer. Its complete range includes both glass and magnetic type, as well as electric and electronic systems and accessories for reading, monitoring and transmitting the level signal.

After two expansions, in 1969, the company moved to its new headquarters and main factory in Garbagnate Milanese, where Bonetti continues its passion for growth through research, development and design accuracy. Such expansion continued with the new factories of Limburg an der Lahn (Germany) and Suzhou (Popular Republic of China).

Production facilities are supported by international joint-ventures and by a sales network serving Customers around the world.

In 2005 BONETTI purchased the know how and manufacturing technology previously owned by Williams Valve Engineering Italy, a well known ball valves manufacturing company. All associated machinery was transferred to Bonetti's main factory in Garbagnate Milanese. The new ball valve product range is identified with the registered trade mark ***WVE*** (***W***illiams ***V***alve ***E***ngineering).

This, in turn, increases its opportunities to continue to grow and expand.

Facilities:	
Enclosed surface	66,000 sq.m
Offices building (with car parking below) for three stories	2,200 sq.m
Facilities building (mess-hall, locker rooms, sanitary department, etc.) for three stories	2,000 sq.m
Manufacturing shed (including production department and general facilities)	19,000 sq.m

A broad international sales network is available to serve your needs.

Please contac us for more information about our International Technical Sales Organisation

CESARE BONETTI S.p.A.

I-20024 GARBAGNATE MILANESE (Italy)
Via Cesare Bonetti 17
Telephone: +3902 990721
Telefax: +3902 9952483
Internet web site: http://www.cesare-bonetti.it
E-mail: bont.post@bont.it

Domestic sales: Telephone: +39 02 99 072 333
Telefax: +39 02 99 072 300
E-mail: italia@bont.it
Export sales: Telephone: +39 02 99 072 444
Telefax: +39 02 99 072 400
E-mail: export@bont.it

Bonetti Armaturen Vertriebs GmbH
D-65549 Limburg an der Lahn (Germany)
In den Fritzenstücker, 4

Sales Office Telephone: +49 06431 598310
Telefax: +49 06431 598329
E-mail: info@bonetti.de

BONETTI (Suzhou) Level Gauges & Valves Co., Ltd.
Yuandong Gongyefang, Minsheng Road,
Shengpu District, Suzhou Industrial Park,
Jiangsu, China 215021

Sales Office Phone +86-512-6281 6390
Fax: +86-512-6281 6396
E-mail: bonettisuzhou@yahoo.com