

Forged Valve

Eco-L-Valves[®]



Valve Specialists[™]

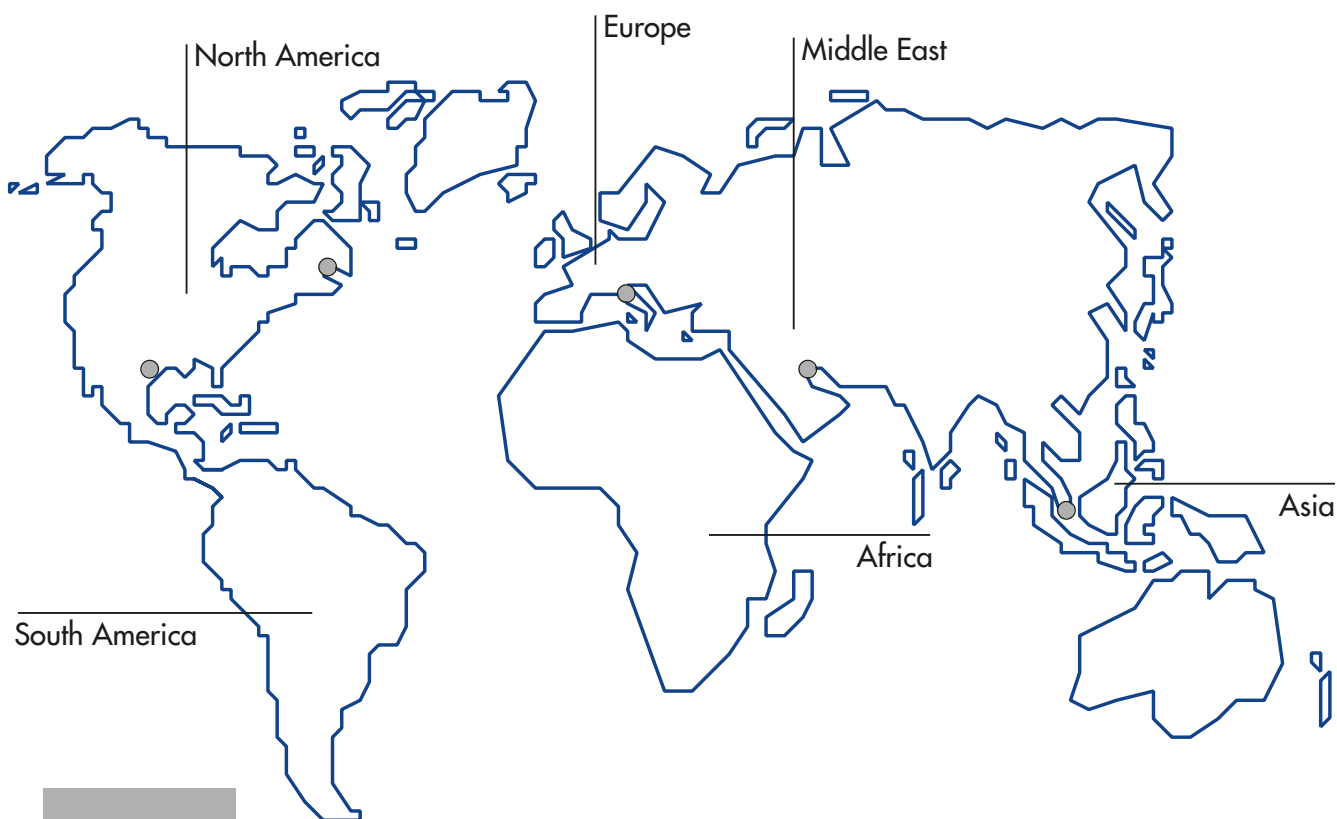


Eco-L-Valve



C-EV2

30 YEARS OF INNOVATIONS



OMB Group is a family owned and managed business founded by Mr Roberto Brevi in 1973. The group is specialized in forged steel valves from small size gate valves to large diameter Trunnion mounted ball valves. The company now operates 5 plants in 3 countries and is present worldwide directly and with a well established network of agents and distributors.

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C-EVI the previous version.

NEW in this version

This is the 3rd version of the ECO-L-VALVES® catalog. In this version we introduce the ISO standards as a general reference code and revise the dimension of few valves to exactly meet the metric conversions set by the new standards.

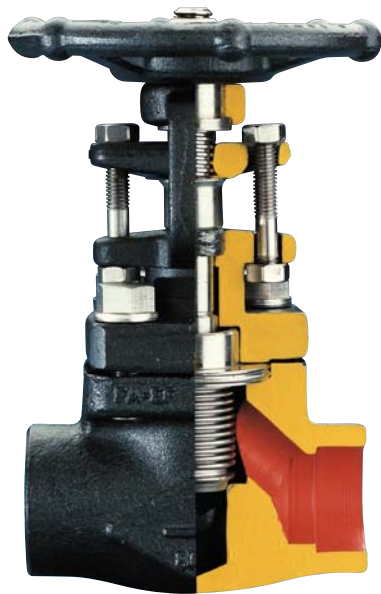
We introduce as well 3 new designs which have been introduced in the past 5 years and the DIN Flanged version of the valves.



THE GROUP



The **Brevi** family is active in the management of the operations. Roberto Brevi, Founder and Chairman, with Simone and Fabio, Managing Directors.



The ECO-L-VALVE® was developed by OMB in the 80s to meet the market request for a zero emission valve, incorporating the benefit of a bellows seal in an API602 standard size valve for handling steam and heat transfer fluids.

At OMB we have developed a comprehensive range of engineered valves products which have been installed globally across a wide range of industries:

- Oil & Gas Production
- Refining
- Petrochemical
- Chemical
- Pulp & Paper
- Power Generation
- Steam and Heat Transfer Fluid applications
- Desalination

In these past 30 years millions of valves have been supplied to major oil and gas companies worldwide and the OMB name became synonymous with absolute reliability, superior quality and competitive pricing.

In the early '80 we were the first to introduce robotics in the manufacturing process along with specialized equipment designed to reduce machining time and increase quality of the components.

Today we are more than ever committed to innovation and continuous improvement: we remain focused in expanding our capacity at home, opening new plants near the users and extending our distribution network.

We invite you to visit our plants where you will see a young and at the same time experienced team working with state of the art equipment to provide the best value money can buy in valves.

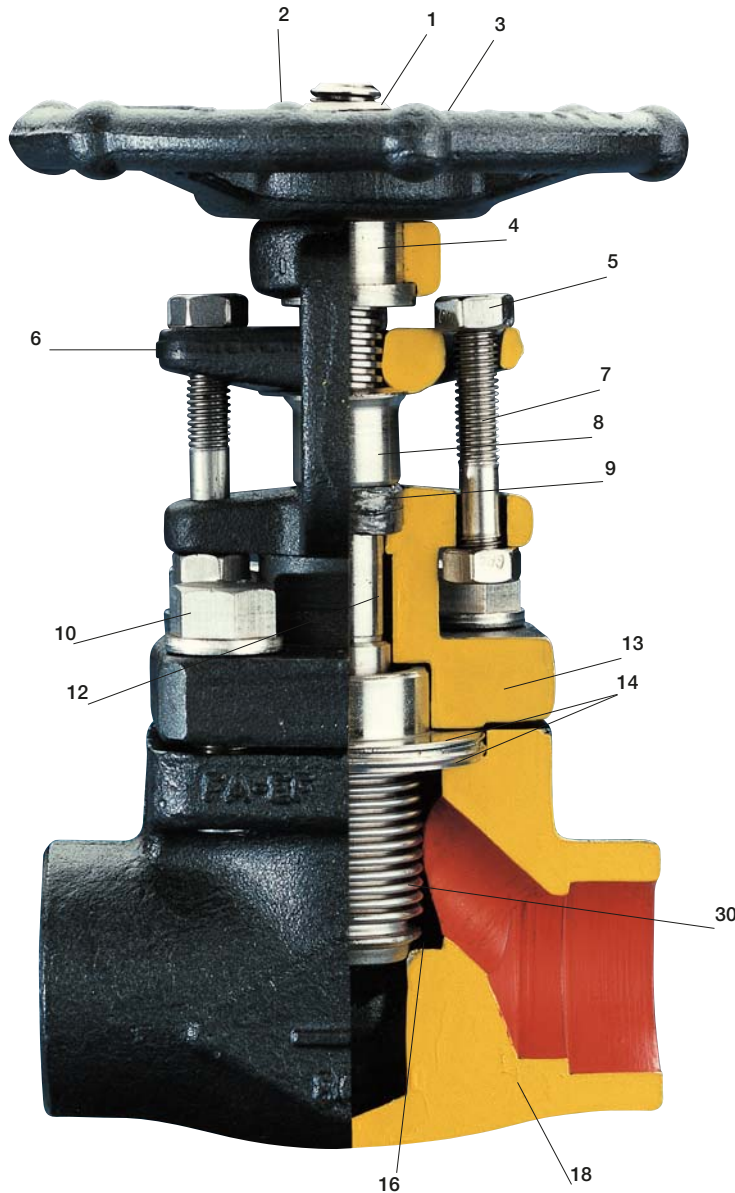
This is our promise !

Roberto, Simone and Fabio Brevi



OMB is based in **Bergamo**, a town 45 Km from Milan with easy access to airports, highways and seaports. Bergamo is the world center for the forged steel valves production with a large valve parts subcontracting base.





Graphite Packing

Eco-L-Valve® provides a secondary sealing by means of a gland packing.

Backseat

In case of an accidental failure of the bellows, any possible leakage toward the outside is immediately stopped by operating the valve to the backseat position.

Bellows

A wide bellows material choice to suit variable service conditions.

Loose Disc

A technical choice to give continuous contact with the seat.

Stellited Seat

The stellited seat provides the life long durability of seating.

Forged Steel Body and Bonnet

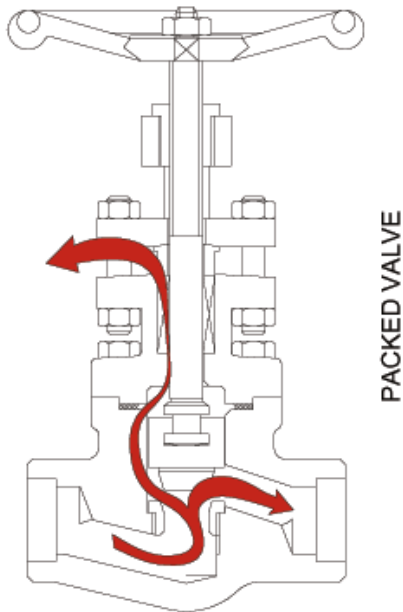
Suitably heat treated to meet various specifications and service conditions. Available in a wide selection of materials.

Fire Safe

Its unique design and metal to metal joint and seatings enable the valve to remain pressurized tight even at high temperatures.

- | | |
|-----------------|----------------------|
| 1. Wheelnut | 9. Packing |
| 2. Nameplate | 10. Bolts |
| 3. Handwheel | 12. Stem |
| 4. Yoke nut | 13. Bonnet |
| 5. Gland nut | 14. Gasket |
| 6. Gland flange | 16. Integral seat |
| 7. Gland stud | 18. Body |
| 8. Gland | 30. Bellow with disc |





In the Eco-L-Valve® the bellows is a unique component that is not welded to the bonnet and therefore replaceable.

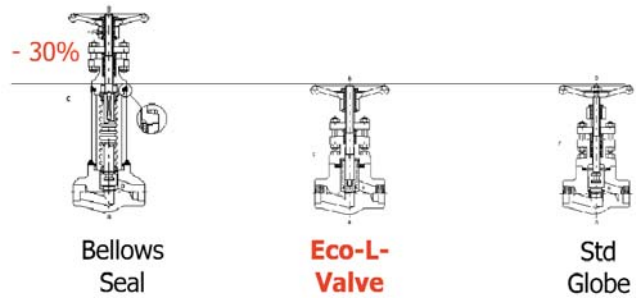
The lower end of the bellows assembly is welded to the disc which is attached to the stem by threaded connection. The bellows upper end is welded to a transition piece that is clamped between the body and bonnet.

Standard gaskets are used to seal this joint. The gasket on the media side of the valve is generally a spiral wound gasket and assures a higher sealing level than the packing.

The top gasket on the bonnet side of the bellows assembly, comes into operation only if the bellows fails.

Together with the packing, it maintains the sealing integrity of the system until the bellows is replaced. The important feature of this design is that the bellows can be replaced. With the system shut down, the bonnet can be removed, the bellows unscrewed from the stem and replaced by a new component. The entire procedure does not require more than 15 minutes of maintenance time.

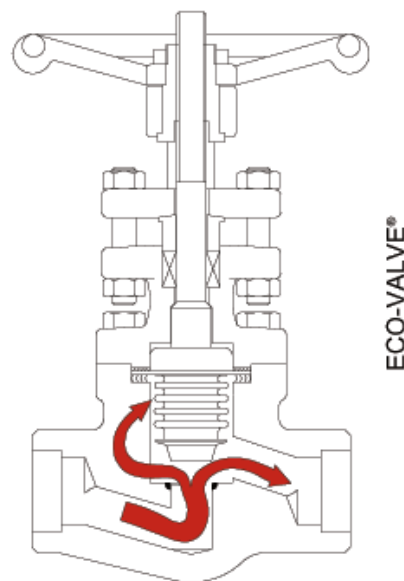
By utilizing this arrangement, preventative maintenance can be a meaningful strategy to help optimize the service life of these valves, especially when very high levels of cycles are needed. Another significant feature of the Eco-L-Valve® is its compact height.



The cyclic efficiency of the bellows stem seal, makes it possible to supply a valve with a height comparable to a packed valve thereby allowing direct replacement in existing piping systems.

Introduction of the Eco-L-Valve® to the marketplace was planned so as to offer a reasonably priced bellows seal product with easily replaced parts.

These characteristics justified usage in a myriad of applications within a process plant where leak tight performance and economical pricing are a necessity.



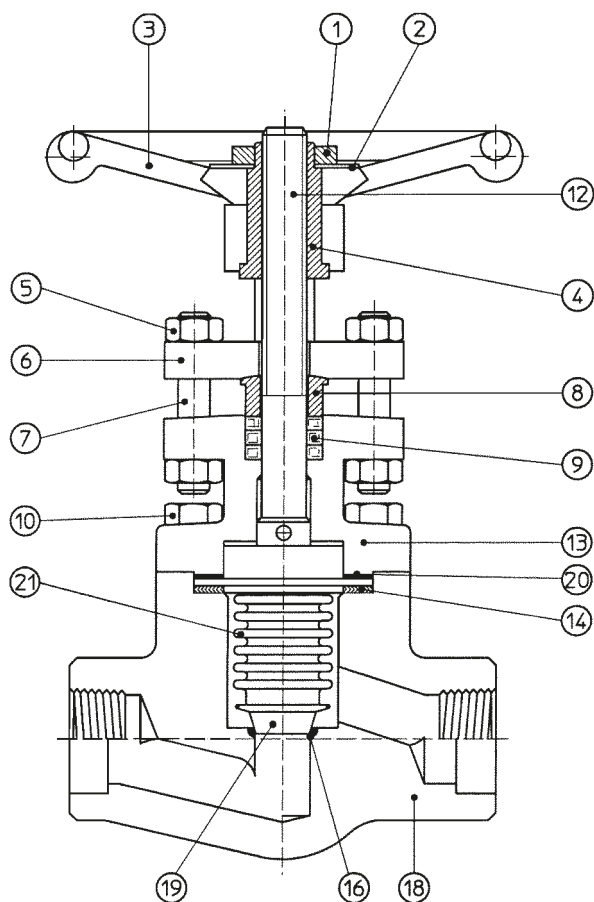
BODY AND BONNET MATERIALS

OMB valves are manufactured in a wide range of materials, supplied by the best available steel mills, forged by well known forgery with outstanding equipment and experience. All the material can be certified in the chemical composition and the mechanical characteristic.

BODY AND BONNET MATERIALS								
Material Group	Common Name	Nominal Type	UNS	Forging Spec.	Casting Spec. Equivalent	DIN	DIN W. No	Application Notes
Carbon Steel	CS	C-Mn-Fe	K03504	A105N	A216-WCB	C22.8 DIN 17243	1.0460	General non-corrosive service from -20F(-29C) to 800F(427C)
Low Temperature Carbon Steel	LTCs	C-Mn-Fe	K03011	A350-LF2	A352-LCA A352-LCB A352-LCC	TSTE 355 DIN 18103	1.0566	General non-corrosive service from -50F (-46C) to 650F(340C), LF2 to 800F(427C).
Low Temperature Alloy Steel	Nickel Steel	3.1/2Ni	K32025	A350-LF3	A352-LC3	10Ni14	1.5637	-150F(-101C) to 650F(340C)
Low Alloy Steel	Moly Steel	C-1/2Mo	K12822	A182-F1	A217-WC1	15Mo3	1.5415	Up to 875F (468C)
	Alloy Steel Chrome Moly	1.1/4Cr-1/2Mo	K11572	A182-F11 d2	A217-WC6	13CRMO44	1.7335	Up to 1100F (593C)
		2.1/4Cr-1Mo	K21590	A182-F22 d3	A217-WC9	10CRM0910	1.7380	Up to 1100F(593C), HP steam
		5Cr-1/2Mo	K41545	A182-F5	A217-C5	12CRM0195	1.7362	High temp refinery service
		9Cr-1Mo	K90941	A182-F9	A217-C12	X 12 CrMo 9 1	1.7386	High temp erosive refinery service
		9Cr-1Mo-V		A182-F91	A217-C12A	X 10 CrMoVNb 9 1	1.4903	High pressure steam
Stainless Steel	Austenitic S.Steel 300 series S.Steel	304 : 18Cr-8Ni	S30400	A182-F304	A351-CF8	DIN X5CrNi 18 9	1.4301	0.04% min. carbon for temp.>1000F(538C)
		304L : 18Cr-8Ni	S30403	A182-F304L	A351-CF3	X 2 CrNi 19 11	1.4306	Up to 800F(427C)
		304H :	S30409	A182-F304H		n/a	n/a	
		316 : 16Cr-12Ni-2Mo	S31600	A182-F316	A351-CF8M	DIN X5CrNiMo 18 10	1.4401	0.04% min. carbon for temp.>1000F(538C)
		316L : 16Cr-12Ni-2Mo	S31603	A182-F316L	A351-CF3M	X 5 CrNiMo 17 12 2	1.4404	Up to 800F(427C)
		316H :	S31609	A182-F316H		n/a	n/a	
		316Ti:	S31635	A182-F316Ti		X 6 CrNiMoTi 17 12 2	1.4571	
		321: 18Cr-10Ni-Ti	S32100	A182-F321		X 6 CrNiTi 18 10	1.4541	0.04% min. carbon (grade F321H) and heat treat at 2000F(1100C) for service temps.>1000F(538C)
		321H	S32109	A182-F321H		n/a	n/a	
		347: 18Cr-10Ni-Cb(Nb)	S34700	A182-F347	A351-CF8C	DIN 8556	1.4550	0.04% min. carbon (grade F347H) and heat treat at 2000F(1100C) for service temps.>1000F(538C)
		347H	S34709	A182-F347H		n/a	n/a	
		317L	S31703	A182-F317L	A351-CG3M	X2CrNiMo18-16-4	1.4438	

OMB TRIM MATERIAL						
OMB	UNS	TYPE	Grade (forged)	ASTM wrought	DIN	DIN W NO.
F6	UNS S41000	13Cr	ASTM A182 F6a	A276-410	DIN X12Cr13	1,4006
304	UNS S30400	18-8 Cr-Ni	ASTM A182 F304	A276-304	DIN X5CrNi 18 10	1,4301
316	UNS S31600	18-8 Cr-Ni (18-10-2)	ASTM A182 F316	A276-316	DIN X5CrNiMo 18 10	1,4401
321	UNS S32100	18 Cr-10 Ni-Ti	ASTM A182 F321	A276-321	DIN X6CrNiTi 18 10	1.4541
347	UNS S34700	18 Cr-10 Ni-Cb	ASTM A182 F347	A276-347	DIN X6CrNiNb18 10	1.4550
MONEL(R)	UNS N04400	67Ni-30Cu	ASTM B564-N04400	B164-N04400	DIN 17743	2.4360
ALLOY 20	UNS N08020	28Ni-19Cr-Cu-Mo	ASTM A182-F20	ASTM B473	DIN 14500	2.4660
ALLOY 625	UNS N06625	60Ni-22Cr-9Mo-3.5Cb	ASTM B564-N06625	ASTM B564-N06625	DIN 17361	2.4865
C276	UNS N10276	54Ni-15Cr-16Mo	ASTM B564-N10276	ASTM B574-N10276	DIN NiMo 16 Cr 15 W	2,4819
St. Gr6	UNS R30006	Co Cr-A	AMS 5894	Stellite(R) Gr6		





The Eco-L-Valves material selection can be modified to meet special service application requirements.

Since its introduction 15 years ago we have supplied valves in full Nickel for semiconductor high purity gas applications, duplex material for offshore service, high alloyed materials for severe corrosion use.

We use same body and bonnet forgings of standard API602 valves allowing us to offer a very wide range of choice from our stock of raw materials.

We will welcome your request for suggestions and application details and we will be able to introduce you to a growing list of stocking distributor which hold this valve in their inventories.



"The Eco-L-Valves meet the requirement of the PED"

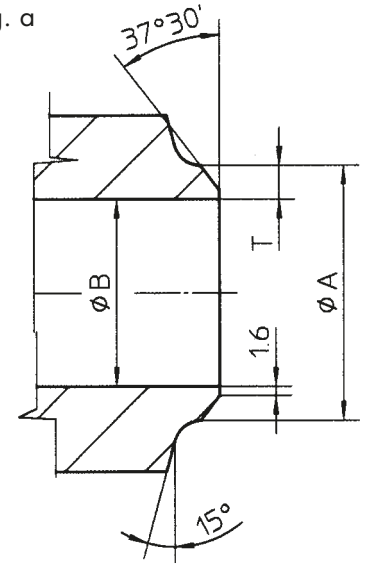
	A105/F6	A105/F6HFS	A105/F6HF	F316L/316
1. Wheelnut	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
2. Nameplate	Aluminium	Aluminium	Aluminium	Aluminium
3. Handwheel	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
4. Yoke Nut 416	416	416	416	
5. Gland Nut	2H	2H	2H	Gr.8
6. Gland Flange	A105	A105	A105	F316
7. Gland Stud	410	410	410	B8
8. Gland	316L	316L	316L	316L
9. Packing	Graphite	Graphite	Graphite	Graphite
10. Bolts	B7	B7	B7	B8
12. Stem	410	410	410	316
13. Bonnet	A105N	A105N	A105N	F316L*
14. Gasket	Sp.Wound	Sp.Wound	Sp.Wound	Sp.Wound
16. Seat	Integral	CoCr Alloy	CoCr Alloy	316
19. Disc	F6	F6	F6HF	F316
18. Body	A105N	A105N	A105	F316L*
21. Bellows	321	321	321	321

(*) F316L: Dual certificated F316/F3162

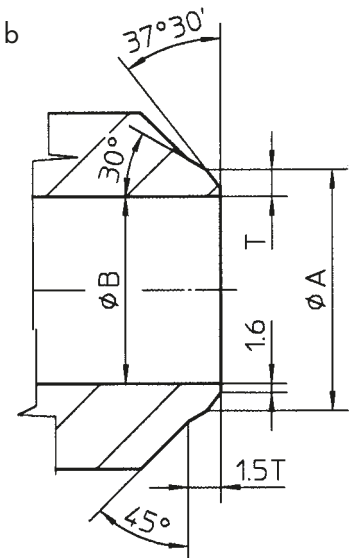
BUTT WELD - ASME B16.25

SIZE	SCHEDULE 40		SCHEDULE 80		SCHEDULE 160		SCHEDULE XXS	
	ØA	T	ØA	T	ØA	T	ØA	T
	mm (In)	mm (In)	mm (In)	mm (In)	mm (In)	mm (In)	mm (In)	mm (In)
1/2"	21.3	2.77	21.3	3.73	21.3	4.78	21.3	7.47
	(0.840)	(0.190)	(0.840)	(0.147)	(0.840)	(0.188)	(0.840)	(0.294)
3/4"	26.7	2.87	26.7	3.91	26.7	5.56	26.7	7.82
	(1.050)	(0.113)	(1.050)	(0.154)	(1.050)	(0.219)	(1.050)	(0.308)
1"	33.4	3.38	33.4	4.55	33.4	6.35	33.4	9.09
	(1.315)	(0.133)	(1.315)	(0.179)	(1.315)	(0.250)	(1.315)	(0.358)
1.1/4"	42.2	3.55	42.2	4.85	42.2	6.35	42.2	9.70
	(1.660)	(0.140)	(1.660)	(0.191)	(1.660)	(0.250)	(1.660)	(0.382)
1.1/2"	48.3	3.68	48.3	5.08	48.3	7.14	48.3	10.15
	(1.900)	(0.145)	(1.900)	(0.200)	(1.900)	(0.281)	(1.900)	(0.400)
2"	60.3	3.91	60.3	5.54	60.3	8.74	60.3	11.07
	(2.375)	(0.154)	(2.375)	(0.218)	(2.375)	(0.344)	(2.375)	(0.436)
2.1/2"	73.0	5.15	73.0	7.01	73.0	9.53	73.0	14.02
	(2.875)	(0.203)	(2.875)	(0.276)	(2.875)	(0.375)	(2.875)	(0.552)
3"	88.9	5.48	88.9	7.62	88.9	11.13	88.9	15.24
	(3.500)	(0.216)	(3.500)	(0.300)	(3.500)	(0.438)	(3.500)	(0.600)
4"	114.3	6.02	114.3	8.56	114.3	13.49	114.3	17.12
	(4.500)	(0.237)	(4.500)	(0.337)	(4.500)	(0.531)	(4.500)	(0.674)

-Fig. a



-Fig. b



-Fig. a ≤ 2"

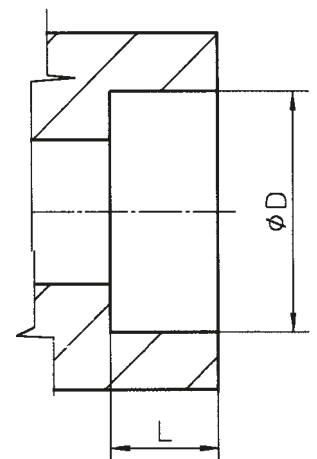
-Fig. b > 2"

$$B = A - 2T$$

SOCKET WELD - API 602/ISO 15761

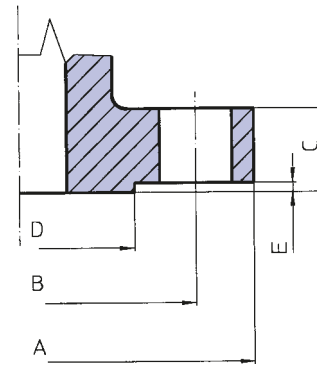
SIZE	ØD		L (min)		L (OMB)	
	Inch	mm	Inch	mm	Inch	mm
1/4"	0.557	14.20	0.38	9.53	0,44	11,1
3/8"	0.690	17.60	0.38	9.53	0,44	11,1
1/2"	0.855	21.80	0.38	9.53	0,5	12,7
3/4"	1.065	27.20	0.5	12.70	0,57	14,5
1"	1.330	33.90	0.5	12.70	0,63	16,0
1.1/4"	1.675	42.70	0.5	12.70	0,69	17,5
1.1/2"	1.915	48.80	0.5	12.70	0,75	19,0
2"	2.406	61.20	0.62	15.88	0,86	22,0

Socket wall thickness conform to ASME B16.34
 "API table only for metric measure"

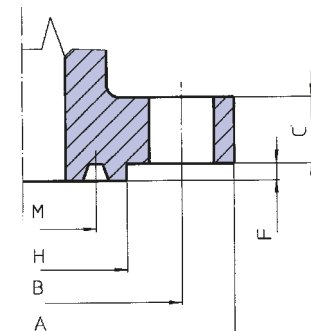
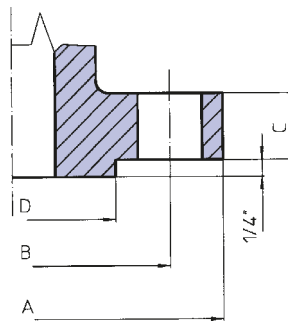
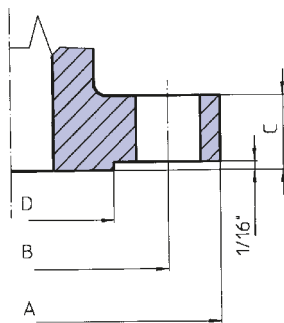


FLANGES DIN 2544-45-46

DN	PN	Size	A	B	C	D	E	Bolt holes	
								N	Ø
15	25/40	1/2	95	65	16	45	2	4	14
20		3/4	105	75	18	58	2	4	14
25		1	115	85	18	68	2	4	14
32		1.1/4	140	100	18	78	2	4	18
40		1.1/2	150	110	18	88	3	4	18
50		2	165	125	20	102	3	4	18
15	64	1/2	105	75	20	45	2	4	14
20		3/4	130	90	22	58	2	4	18
25		1	140	100	24	65	2	4	18
32		1.1/4	155	110	24	75	2	4	22
40		1.1/2	170	125	26	88	3	4	22
50		2	180	135	26	95	3	4	22



FLANGES ASME - B16.5



FLANGES ANSI - B16.5

RAISED FACE 600 & 1500 lb

RING JOINT FACE

CLASS	Size	A		C		D		B		Bolt holes		Ring Joint Facing					Ring N.		
		H	M	H	M	H	M	H	M	N	Size	H	M	F					
150	1/2	3.50	89.0	0.44	11.5	1.38	34.9	2.38	60.5	4	0.62	16.0							
	3/4	3.88	98.5	0.50	13.0	1.69	42.9	2.75	70.0	4	0.62	16.0							
	1	4.25	108.0	0.56	14.5	2.00	50.8	3.12	79.5	4	0.62	16.0	2.50	63.5	1.875	47.62	0.250	6.4	R 15
	1.1/4	4.62	117.5	0.62	16.0	2.50	63.5	3.50	89.0	4	0.62	16.0	2.88	73.0	2.250	57.15	0.250	6.4	R 17
	1.1/2	5.00	127.0	0.69	18.0	2.88	73.0	3.88	98.5	4	0.62	16.0	3.25	82.5	2.562	65.07	0.250	6.4	R 19
	2	6.00	152.5	0.75	19.5	3.62	92.1	4.75	120.5	4	0.75	19.0	4.00	101.5	3.250	82.55	0.250	6.4	R 22
300	1/2	3.75	95.5	0.56	14.5	1.38	34.9	2.62	66.5	4	0.62	16.0	2.00	50.8	1.344	34.14	0.219	5.6	R 11
	3/4	4.62	117.5	0.62	16.0	1.69	42.9	3.25	82.5	4	0.75	19.0	2.50	63.5	1.688	42.88	0.250	6.4	R 13
	1	4.88	124.0	0.69	18.0	2.00	50.8	3.50	89.0	4	0.75	19.0	2.75	69.9	2.000	50.80	0.250	6.4	R 16
	1.1/4	5.25	133.5	0.75	19.5	2.50	63.5	3.88	98.5	4	0.75	19.0	3.12	79.2	2.375	60.32	0.250	6.4	R 18
	1.1/2	6.12	156.0	0.81	21.0	2.88	73.0	4.50	114.5	4	0.88	22.0	3.56	90.4	2.688	68.28	0.250	6.4	R 20
	2	6.50	165.5	0.88	22.5	3.62	92.1	5.00	127.0	8	0.75	19.0	4.25	108.0	3.250	82.55	0.312	7.9	R 23
600	1/2	3.75	95.5	0.56	14.5	1.38	34.9	2.62	66.5	4	0.62	16.0	2.00	50.5	1.344	34.14	0.219	5.6	R 11
	3/4	4.62	117.5	0.62	16.0	1.69	42.9	3.25	82.5	4	0.75	19.0	2.50	63.5	1.688	42.88	0.250	6.4	R 13
	1	4.88	124.0	0.69	18.0	2.00	50.8	3.50	89.0	4	0.75	19.0	2.75	69.9	2.000	50.80	0.250	6.4	R 16
	1.1/4	5.25	133.5	0.81	21.0	2.50	63.5	3.88	98.5	4	0.75	19.0	3.12	79.4	2.375	60.32	0.250	6.4	R 18
	1.1/2	6.12	156.0	0.88	22.5	2.88	73.0	4.50	114.5	4	0.88	22.0	3.56	90.5	2.688	68.28	0.250	6.4	R 20
	2	6.50	165.5	1.00	25.5	3.62	92.1	5.00	127.0	8	0.75	19.0	4.25	108.0	3.250	82.55	0.312	7.9	R 23

The Eco-L-Valve® is available in pressure classes up to class 600 in a combination of Flanged, Butt Weld, Socket Weld, Threaded NPT or Threaded BSP.

Bonnet construction can be either Bolted, allowing in-line inspection and substitution of the bellows seal unit, or Welded Bonnet, in a full penetration welding design, which guarantee complete sealing even in case of bellows seal failure.

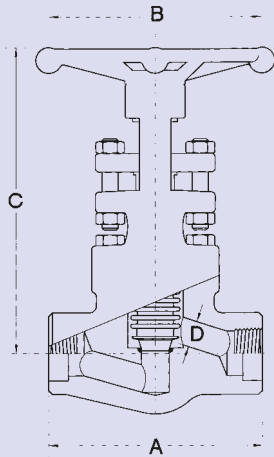
We have recently developed a Y pattern construction designed to maximize the flow, with a special extended end-to-end length which allows the welding of the valves to the line with the use of automatic equipment: this construction has become popular for steam tracing applications in the petrochemical field and has been approved by some major end-users.

			<i>BOLTED BONNET</i>	<i>WELDED BONNET</i>
Straight Pattern	Class 800	SW/NPT/BSP	X	X
		BW to OMB	X	X
	Class 150	Flanged ANSI	X	X
		Butt Weld	X	X
	Class 300	Flanged ANSI	X	X
		Butt Weld	X	X
	Class 600	Flanged ANSI	X	X
		Butt Weld	X	X
	PN 25/40	Flanged DIN	X	X
	JIS 10K	Flanged JIS	X	X
JIS 20K	Flanged JIS	X	X	
Y Pattern	Class 800	SW/NPT		X
		BW to OMB std.		X
	Class 150	Flanged ANSI		X
		Butt Weld		X
	Class 300	Flanged ANSI		X
		Butt Weld		X
Class 600	Flanged ANSI		X	
	Butt Weld		X	

NOTE: Y-pattern flanged construction is usually with welded-on flanges

CLASS 800

EG-830	EG-630
Globe Eco-L-Valve	Globe Eco-L-Valve
SW & NPT	SW & NPT
Bolted Bonnet	Bolted Bonnet
Regular Port	Full Port
Rating # 800	Rating # 800



RATINGS: Bellows - 1480 p.s.i. @ 100°F



CLASS 800

BOLTED BONNET - REGULAR AND FULL PORT
Outside Screw & Yoke - Threaded and Socket Weld Ends

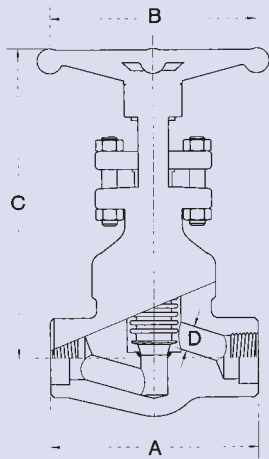
REGULAR PORT	EG-830	-		1/2		3/4		1		1.1/4		1.1/2		2		-	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
End to End	A	-	-	80	3.14	90	3.54	110	4.33	127	5.00	155	6.10	170	6.69	-	-
Handwheel	B	-	-	70	2.75	110	4.33	110	4.33	130	5.11	180	7.08	180	7.08	-	-
Center to Top Open	C	-	-	136	5.34	144	5.65	167	6.57	194	7.63	220	8.64	230	9.03	-	-
Dia. of Port	D	-	-	9	0.35	13	0.51	17.5	0.69	23	0.90	29.5	1.16	36	1.41	-	-
Approx. Weight	Kg/Lb	-	-	1.7	3.7	2.3	5.0	3.6	7.9	5.9	12.9	7.5	16.5	11.6	25.5	-	-

FULL PORT	EG-630	1/4		3/8		1/2		3/4		1		1.1/4		1.1/2		2	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
End to End	A	80	3.14	80	3.14	90	3.54	110	4.33	127	5.00	155	6.10	170	6.69	210	8.26
Handwheel	B	70	2.75	70	2.75	110	4.33	110	4.33	130	5.11	180	7.08	180	7.08	180	7.08
Center to Top Open	C	136	5.34	136	5.34	144	5.65	167	6.57	194	7.63	220	8.64	230	9.03	260	10.2
Dia. of Port	D	7	0.28	9	0.35	13	0.51	17.5	0.69	23	0.90	29.5	1.16	36	1.41	45.5	1.79
Approx. Weight	Kg/Lb	1.7	3.7	1.7	3.7	2.3	5.0	3.6	7.9	5.9	12.9	7.5	16.5	11.6	25.5	20.8	45.8



CLASS 800

EW-830	EW-630
Globe Eco-L-Valve	Globe Eco-L-Valve
SW & NPT	SW & NPT
Welded Bonnet	Welded Bonnet
Regular Port	Full Port
Rating # 800	Rating # 800



RATINGS: Bellows - 1480 p.s.i. @ 100°F



CLASS 800

WELDED BONNET - REGULAR AND FULL PORT

Outside Screw & Yoke - Threaded and Socket Weld Ends

REGULAR PORT	EW-830	-		1/2		3/4		1		1.1/4		1.1/2		2		-	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
End to End	A	-	-	80	3.14	90	3.54	110	4.33	127	5.00	155	6.10	170	6.69	-	-
Handwheel	B	-	-	70	2.75	90	3.54	110	4.33	110	4.33	180	7.08	180	7.08	-	-
Center to Top Open	C	-	-	136	5.34	144	5.65	167	6.57	194	7.63	220	8.64	230	9.03	-	-
Dia. of Port	D	-	-	9	0.35	13	0.51	17.5	0.69	23	0.90	29.5	1.16	36	1.41	-	-
Approx. Weight	Kg/Lb	-	-	1.7	3.7	2.3	5.0	3.6	7.9	5.9	12.9	7.3	16.0	10.5	23.1	-	-

FULL PORT	EW-630	1/4		3/8		1/2		3/4		1		1.1/4		1.1/2		2	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
End to End	A	80	3.14	80	3.14	90	3.54	110	4.33	127	5.00	155	6.10	170	6.69	210	8.26
Handwheel	B	70	2.75	70	2.75	90	3.54	110	4.33	110	4.33	180	7.08	180	7.08	180	7.08
Center to Top Open	C	136	5.34	136	5.34	144	5.65	167	6.57	194	7.63	220	8.64	230	9.03	260	10.2
Dia. of Port	D	7	0.28	9	0.35	13	0.51	17.5	0.69	23	0.90	29.5	1.16	36	1.41	45.5	1.79
Approx. Weight	Kg/Lb	1.7	3.7	1.7	3.7	2.3	5.0	3.6	7.9	5.9	12.9	7.3	16.0	10.5	23.1	19.0	41.8



CLASS 800

E-Y630

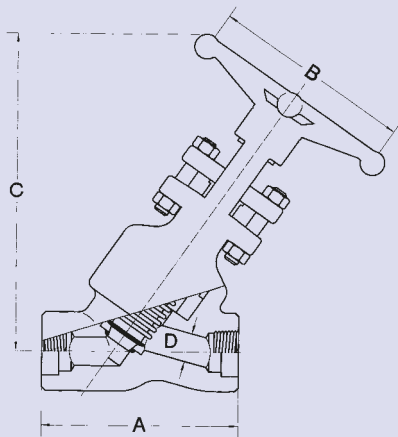
Globe Y Pattern Eco-L-Valve

SW - NPT - BW

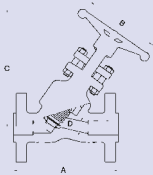
Welded Bonnet

Full Port

Rating # 800



RATINGS: Bellows - 1480 p.s.i. @ 100°F



CLASS 800

WELDED BONNET - FULL PORT

Outside Screw & Yoke - Threaded and Socket Weld Ends

FULL PORT	E-Y630	1/2		3/4		1		1.1/4		1.1/2		2	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
End to End	A	110	4.33	110	4.33	142	5.59	-	-	170	6.69	180	7.08
Handwheel	B	140	5.51	140	5.51	140	5.51	-	-	220	8.66	180	7.08
Center to Top Open	C	155	6.10	175	6.88	205	8.07	-	-	255	10.04	300	11.81
Dia. of Port	D	13	0.51	17.5	0.69	23	0.90	-	-	36	1.41	45	1.77
Approx. Weight	Kg/Lb	1.9	4.1	2.6	5.7	4.7	10.3	-	-	9.0	19.8	13	28.6

CLASS 150-300-600

WELDED BONNET - FULL PORT

Outside Screw & Yoke - Integral Flanged Ends according to ANSI B16.5

FULL PORT			1/2		3/4		1		1.1/4		1.1/2		2	
			mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
Class 150	1-EY630*	A	153	6.02	178	7.00	203	7.99	-	-	229	9.01	267	10.5
Class 300	3-EY630	A	153	6.02	178	7.00	203	7.99	-	-	229	9.01	267	10.5
Class 600	6-EY630	A	165	6.49	191	7.51	216	8.50	-	-	241	9.48	296	11.50
Handwheel		B	90	3.53	110	4.33	130	5.11	-	-	180	7.08	180	7.08
Center to Top Open		C	155	6.10	175	6.88	220	8.66	-	-	280	11.02	320	12.6
Dia. of Port		D	13	0.51	17.5	0.68	23	0.90	-	-	36	1.41	45.5	1.79
Approx. Weight	Class 150	Kg/Lb	3.2	7.04	4	8.8	7.2	15.8	-	-	14.9	32.8	18	39.6
	Class 300	Kg/Lb	4.2	9.25	5.7	12.5	10.7	23.5	-	-	16.4	36.1	20	44
	Class 600	Kg/Lb	4.7	10.3	6	13.2	11.7	25.7	-	-	17.4	38.3	22	48.4

* Class 150: End to End according Class 300



CLASS PN 25/40

F4U-E830

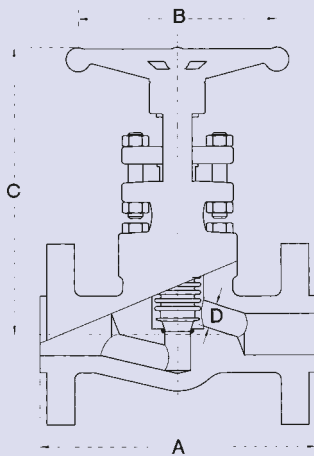
Globe Eco-L-Valve

Flanged to DIN Standards

Bolted Bonnet

Full Port

PN 25/40



RATINGS: Carbon Steel
DIN Pn 25-40 40 bar @ 29° C



CLASS PN 25/40

BOLTED BONNET* - REGULAR PORT

Outside Screw & Yoke - Integral Flanged Ends according to DIN 2544

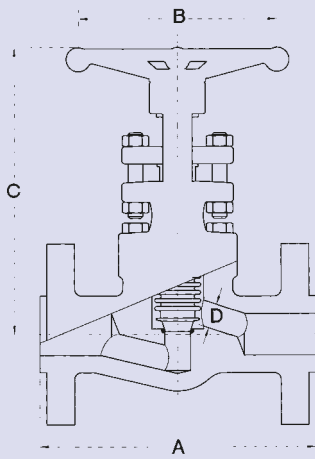
REGULAR PORT	F4U-E830	DN15		DN25		DN32		DN40		DN50		DN65		DN80			
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.		
End to End	A	130	5.11	150	5.9	160	6.29	-	-	200	7.87	230	9.05	290	11.41	310	12.20
Handwheel	B	80	3.14	110	4.33	110	4.33	-	-	130	5.11	160	6.29	250	9.85	300	11.80
Center to Top Open	C	165	6.49	180	7.08	213	8.38	-	-	262	10.3	327	12.9	457	18	550	21.65
Dia. of Port	D	15	0.60	20	0.78	25	0.98	-	-	40	1.57	50	1.97	65	2.56	80	3.15
Approx. Weight	Kg/Lb	4.5	9.9	5.2	11.44	6.2	13.6	-	-	10.9	24	16	35.2	21	46.2	31	68.2

End to End dimensions according to DIN 3202

*Welded Bonnet option available

CLASS 150-300-600

F1-E830	F3-E830	F6-E830
Globe Eco-L-Valve	Globe Eco-L-Valve	Globe Eco-L-Valve
Flanged	Flanged	Flanged
Bolted Bonnet	Bolted Bonnet	Bolted Bonnet
Regular Port	Regular Port	Regular Port
Rating # 150	Rating # 300	Rating # 600



RATINGS: Bellows - 1480 p.s.i. @ 100°F



CLASS 150-300-600

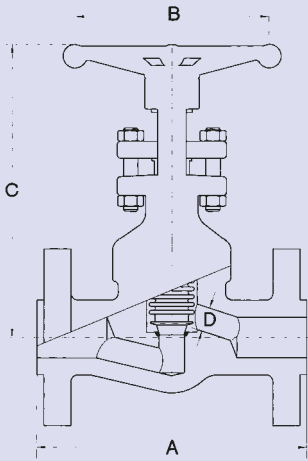
BOLTED BONNET - regular PORT

Outside Screw & Yoke - Integral Flanged Ends according to ANSI B16.5

REGULAR PORT			1/2		3/4		1		1.1/4		1.1/2		2	
			mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
Class 150	F1-E830	A	108	4.25	118	4.64	127	5.00	-	-	165	6.49	203	7.99
Class 300	F3-E830	A	153	6.02	178	7.00	203	7.99	-	-	229	9.01	267	10.5
Class 600	F6-E830	A	165	6.49	191	7.51	216	8.50	-	-	241	9.48	296	11.50
Handwheel		B	70	2.75	90	3.54	110	4.33	-	-	130	5.11	180	7.08
Center to Top Open	Class 150	C	158	6.22	176	6.92	192	7.56	-	-	220	8.66	230	9.05
	Class 300/600	C	136	5.35	144	5.67	167	6.57	-	-	220	8.66	230	9.05
Dia. of Port		D	9	0.35	13	0.51	17.5	0.69	-	-	29.5	1.16	36	1.41
Approx. Weight	Class 150	Kg/Lb	3.4	7.5	4	8.8	5.7	12.5	-	-	9	19.8	17.5	38.5
	Class 300	Kg/Lb	4	8.8	5	11.0	7.3	16.1	-	-	14	30.8	18.2	40.0
	Class 600	Kg/Lb	4.5	9.9	5.5	12.1	7.5	16.5	-	-	15.0	33.0	20.0	44.0

CLASS 150-300-600

F1-EW830	F3-EW830	F6-EW830
Globe Eco-L-Valve	Globe Eco-L-Valve	Globe Eco-L-Valve
Flanged	Flanged	Flanged
Welded Bonnet	Welded Bonnet	Welded Bonnet
Regular Port	Regular Port	Regular Port
Rating # 150	Rating # 300	Rating # 600



RATINGS: Bellows - 1480 p.s.i. @ 100°F



CLASS 150-300-600

WELDED BONNET - FULL PORT

Outside Screw & Yoke - Integral Flanged Ends according to ANSI B16.5

FULL PORT			1/2		3/4		1		1.1/4		1.1/2		2	
			mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
Class 150	F1-EW830	A	108	4.25	118	4.64	127	5.00	-	-	165	6.49	203	7.99
Class 300	F3-EW830	A	153	6.02	178	7.00	203	7.99	-	-	229	9.01	267	10.5
Class 600	F6-EW830	A	165	6.49	191	7.51	216	8.50	-	-	241	9.48	296	11.50
Handwheel		B	70	2.75	90	3.54	110	4.33	-	-	130	5.11	180	7.08
Center to Top Open	Class 150	C	158	6.22	176	6.92	192	7.56	-	-	220	8.66	230	9.05
	Class 300/600	C	136	5.35	144	5.67	167	6.57	-	-	220	8.66	230	9.05
Dia. of Port		D	9	0.35	13	0.51	17.5	0.69	-	-	29.5	1.16	35	1.38
Approx. Weight	Class 150	Kg/Lb	3.4	7.5	4	8.8	5.7	12.5	-	-	9	19.8	17.5	38.5
	Class 300	Kg/Lb	4	8.8	5	11.0	7.3	16.1	-	-	14	30.8	18.2	40.0
	Class 600	Kg/Lb	4.5	9.9	5.5	12.1	7.5	16.5	-	-	15.0	33.0	20.0	44.0



DESIGN AND TEST STANDARDS

The Eco-L-Valve® design and test standard are in accordance with ISO15761 / API602 ed. 8th and particularly with Appendix B “Requirements for valves with bellows stem seals”.

DESIGN: BORE DIMENSION AND CV

The Eco-L-Valve® bore dimensions are in accordance with ISO15761/API602 ed. 8th. Flow Coefficient values are in accordance with following table.

VALVE SIZE	GLOBE	
	Regular Port	Y-Pattern
1/4	-	2.9
3/8	-	3.8
1/2	1.5	4.5
3/4	3.8	10.1
1	6.8	16.0
1 1/4	11	23.1
1 1/2	14.3	47.1
2	25	18

FLOW-RATE

$$Q = C_v \sqrt{\frac{\Delta p}{S}}$$

PRESSURE DROP

$$\Delta p = S \left(\frac{Q}{C_v} \right)^2$$

CONVERSION TABLE TO METRIC STD

Flow Coefficient	Cv	Kv
Cv	1	0,865
Kv	1.156	1

For liquids other than water
Δp= Pressure drop (p.s.i.).
Q = Liquid flow in gallons per minute (GPM).
S = Specific gravity of liquid relative to water (60°F).
Cv = Valves flow coefficient.

BELLOWS STANDARD MATERIALS

The Eco-L-Valve® is supplied as standard with Bellows in 321 stainless steel (ASTM240/ASTM A312). Other available materials on request are included in the following table (ref API602, Appendix B table B.1).



On request the Bellows plug (disc) can be supplied Hard Faced with Stellite® Grade 6 or equivalent material.

Material Type	Typical Specification
304 STAINLESS	ASTM 240/ASTM A312
304L STAINLESS	ASTM 240/ASTM A312
316 STAINLESS	ASTM 240/ASTM A312
316L STAINLESS	ASTM 240/ASTM A312
321 STAINLESS	ASTM 240/ASTM A312
347 STAINLESS	ASTM A240/ASTM A312
ALLOY 600	ASTM B467/ASTM B168
ALLOY 625	ASTM B443
ALLOY C276	ASTM B574 N10276

SEAT CONSTRUCTION AND MATERIALS

The Eco-L-Valve® is supplied as standard with an Integral seat Hard Faced with Stellite® Grade 6 or equivalent material. In the Bolted bonnet construction the seat can be renewed with a special tool available on request.

Eco-L-Valve® components, due to their characteristics of environment protection, undergo a severe program of inspection and tests. The most delicate component is the bellows.

The process used to manufacture Eco-L-Valve® bellows is by hydraulically forming a tube to give the bellows the shape required by the design. This process also gives an inherent pressure test to the tube used for the forming of bellows. After welding the disc and to the transition plate, bellows are 100% tested with helium to verify the presence of any microcrack.

This test is followed by a fatigue cycle test, in accordance with API602, performed on a testing machine designed by OMB R&D staff.

Cycle tests are effected on a statistical base and at the same expansion/compression stroke required in each valve for the closing/opening operation.

Bellows are tested at the pressure, required by BS 5352, of 99 bar. During testing the pressure undergoes cyclic variations, from 94 to 104 bar, so that bellows are tested also in cyclic pressure conditions. This test is performed by mounting the bellows/disc assembly on its stem and



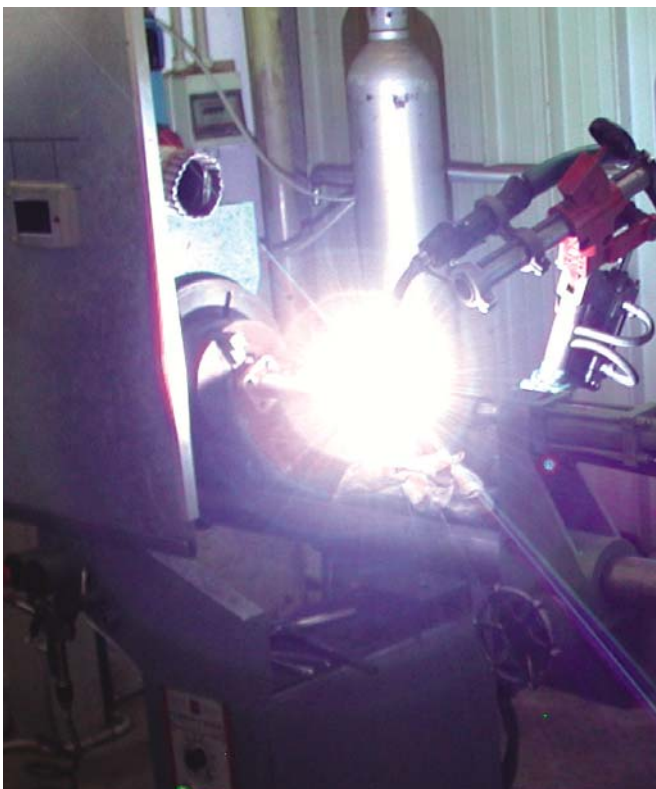
assembling on a cylinder containing water as the pressure medium.

The transition disc of the bellows is clamped between one gasket and a steel ring which simulates the closing pressure of the bonnet reproducing the same conditions of the assembled valve.

The stem is then connected to a device which effects the required stroke at a number of cycles.

After the completion of minimum number of cycles, bellows are tested with a mass spectrometer to a minimum leakage rate in the range of 1×10^{-6} SCC/sec.

The bellows are then subject to NDT examination. Cycle tests are always performed on a number of pieces which depends on the total lot and which is taken from the tables in use at OMB (UNI 4842-75 Specifications for Statistical Control).



PRODUCT INFORMATION REQUEST Request to send the following printed catalogs incopies:

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