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BV10



BV10-U
BV11
BV12-U



BV12



MAX. WORKING PRESSURE

Max. working pressure	16.0 bar
Hydraulic body test	24.0 bar
Hydraulic seat test	17.6 bar
AISI 316 stem execution	10.0 bar

TEMPERATURE RANGE

EPDM	-15° C	120° C
EPDM HT	-15° C	130° C
NBR	-10° C	80° C
FPM / FKM	-20° C	160° C
PTFE	-10° C	120° C

TECHNICAL SPECIFICATIONS

Face to face according to EN558-BS5155-IS05752-API 609

Long neck execution

Wafer type with 4 centerholes - type BV10, lug with threaded holes = type BV12, U-type = BV10-U / BV11 / BV12-U

2-piece stem design "anti blow-out" system

Internal stem/disc junction

Mounting topflange according to ISO 5211

Mounting between flanges DIN PN 6/10/16, ANSI 150 and some JIS 10K

Exchangeable seat vulcanised on hard core - type Back-up - with 2 lay-in O-rings (top and bottom)

Epoxy coating - thickness minimal 150 micron

BUTTERFLY VALVES CERTIFIED



PED 97/23/EC (TÜV Süddeutschland - CE0036)
Pressure Equipment Directive
According to Module H (full quality assurance)



TA LUFT (TÜV Süddeutschland)
Technische Anleitung zur Reinhaltung der Luft
According TA luft (27.02.86) punkt 3.1.8.4



ADR approved (Apragaz)
International Carriage of Dangerous Goods by Road
According to KB 09.03.2003 - Class 3, 4, 5, 6, 8, 9



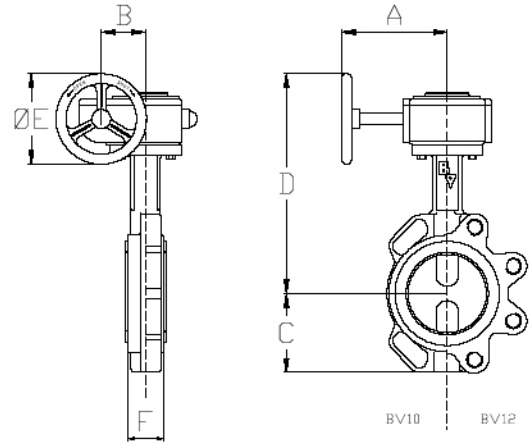
WRAS approved (Water Regulations Advisory Scheme)
Black coloured EPDM rubber valve liner
For cold and hot water use up to 85°C



ISO 9001:2000 certified (SGS)
Quality Management System
Certified since 1996

dimensions

gearbox operated



		WAFER with BACK-UP SEAT / BV10							LUG with BACK-UP SEAT / BV12						
DN	NPS	A	B	C	D	E	F	Kg	A	B	C	D	E	F	Kg
50	2	173,50	45,00	71,40	253,70	150,00	43,00	8,70	173,50	45,00	71,40	253,70	150,00	43,00	8,70
65	2 1/2	173,50	45,00	77,80	266,40	150,00	46,00	9,45	173,50	45,00	77,80	266,40	150,00	46,00	9,70
80	3	173,50	45,00	89,00	272,80	150,00	46,00	9,45	173,50	45,00	89,00	272,80	150,00	46,00	10,20
100	4	173,50	45,00	102,00	289,00	150,00	52,00	10,80	173,50	45,00	102,00	289,00	150,00	52,00	12,30
125	5	173,50	45,00	123,00	301,50	150,00	56,00	12,30	173,50	45,00	123,00	301,50	150,00	56,00	15,20
150	6	173,50	45,00	138,00	316,20	150,00	56,00	12,40	173,50	45,00	138,00	316,20	150,00	56,00	15,40
200	8	237,00	63,00	168,00	430,00	300,00	60,00	24,90	237,00	63,00	168,00	430,00	300,00	60,00	28,00
250	10	237,00	63,00	207,00	461,30	300,00	68,00	27,50	237,00	63,00	207,00	461,30	300,00	68,00	42,20
300	12	225,00	80,00	243,50	497,50	300,00	78,00	50,50	225,00	80,00	243,50	497,50	300,00	78,00	50,90
350	14	225,00	80,00	273,00	575,00	300,00	78,00	60,50	307,00	78,00	259,00	560,00	300,00	78,00	80,00
400	16	292,00	181,00	318,00	685,00	300,00	102,00	82,00	292,00	120,00	309,00	615,00	390,00	102,00	131,00
450	18	292,00	181,00	334,00	707,00	300,00	114,00	117,00	292,00	120,00	327,00	637,00	390,00	114,00	152,00
500	20	341,50	200,00	367,00	777,00	300,00	127,00	170,00	350,00	321,50	371,00	739,00	400,00	127,00	223,00
600	24	341,50	200,00	471,00	849,00	300,00	154,00	225,00	471,00	321,50	471,00	842,00	400,00	151,00	306,00
700	28	362,00	242,50	521,00	998,50	425,00	169,00	320,00	-	-	-	-	-	-	-
800	32	362,00	242,50	591,00	1038,50	425,00	195,00	520,00	-	-	-	-	-	-	-
900	36	411,00	263,50	650,00	1161,50	425,00	211,00	910,00	-	-	-	-	-	-	-
1000	40	411,00	263,50	713,00	1245,50	425,00	224,00	1022,00	-	-	-	-	-	-	-
1200	48	607,00	563,50	855,00	2295,00	500,00	286,00	1580,00	-	-	-	-	-	-	-

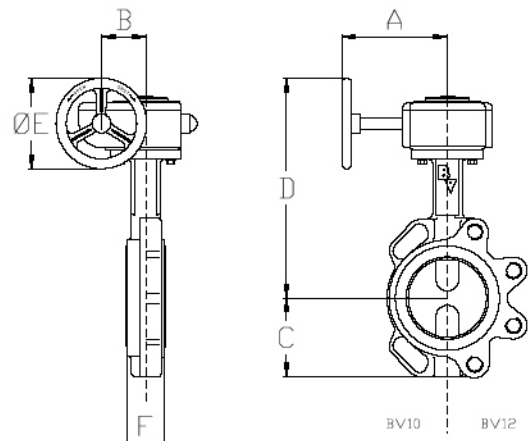
mm | inches

Dimensions in mm

		U-DESIGN (BV10-U / BV11 / BV12-U)						
DN	NPS	A	B	C	D	E	F	Kg
200	8	237,00	63,00	175,00	456,00	300,00	59,60	60,00
250	10	237,00	63,00	202,50	488,00	300,00	68,00	75,00
300	12	225,00	78,00	242,00	533,00	300,00	78,00	85,00
350	14	225,00	78,00	267,00	560,00	300,00	78,00	115,00
400	16	292,00	120,00	309,00	615,00	300,00	102,00	150,00
450	18	292,00	120,00	337,00	637,00	300,00	114,00	180,00
500	20	349,00	121,50	371,00	703,00	300,00	127,00	240,00
600	24	349,00	121,50	459,00	785,00	300,00	151,00	300,00
700	28	334,00	210,50	527,00	993,00	435,00	165,00	490,00
750	30	334,00	228,00	566,40	1027,00	400,00	167,00	558,00
800	32	334,00	228,00	605,00	1033,00	400,00	190,00	655,00
900	36	356,00	248,00	668,00	1132,00	450,00	205,00	767,00
1000	40	356,00	248,00	728,00	1218,00	450,00	216,00	1010,00
1050	42	385,00	228,00	790,00	1175,00	400,00	251,00	1280,00
1100	44	356,00	248,00	760,00	1262,00	450,00	251,00	1488,00
1200	48	607,00	313,50	868,00	1088,00	500,00	276,00	1665,00

mm | inches

Dimensions in mm



BV10

BV10-U

BV11 - XX XX X - XX(XX)

BV12

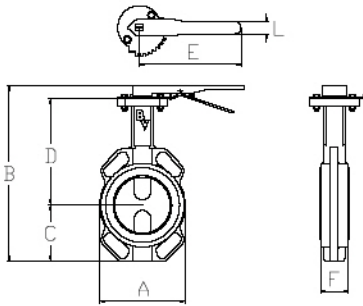
BV12-U

BODY		
Cast iron	23	GG25 Epoxy coated
Ductile iron	24	GGG40 Epoxy coated
Cast steel	44	A216 WCB
Stainless steel	63	CF8
Stainless steel	66	CF8M

DISC		
Alu - Bronze	13	ASTM B148 C95400
Ductile iron	24	GGG40 Epoxy coated
Ductile iron	25	GGG40 Nickel plated
Ductile iron	26	GGG40 Halar plated
Ductile iron	27	GGG40 Nylon plated
Stainless steel	63	CF8
Stainless steel	66	CF8M
Stainless steel	69	CF8M polished

SEAT	
EPDM	E
EPDM HIGH TEMPERATURE	EHT
NBR	B
FKM/FPM	V
PTFE	T

OPERATION	
BS	Bare shaft
LE	Lever
GB	Gearbox
DA / DA2	Pneumatic Double Acting
SR / SA2	Pneumatic Single Acting
DAM	Pneumatic Double Acting + Manual Override
SAM	Pneumatic Single Acting + Manual Override
EL XV	Electric on/off
EL CV	Electric Modulating



		WAFER with BACK-UP SEAT / BV10								
DN	NPS	A	B	C	D	E short	E standard	L	F	Kg
32	1 1/4	80,00	189,00	57,00	110,00	165,00	165,00	30,00	33,00	2,10
40	1 1/2	100,00	200,00	68,00	110,00	165,00	165,00	30,00	33,00	2,30
50	2	100,00	236,10	71,40	142,70	166,00	267,00	30,00	43,00	3,50
65	2 1/2	120,00	255,20	77,80	155,40	166,00	267,00	30,00	46,00	4,25
80	3	127,00	272,80	89,00	161,80	166,00	267,00	30,00	46,00	4,20
100	4	161,00	302,00	102,00	178,00	166,00	267,00	30,00	52,00	5,60
125	5	190,00	335,50	123,00	190,50	166,00	267,00	30,00	56,00	7,10
150	6	215,00	365,20	138,00	205,20	166,00	267,00	30,00	56,00	7,20
200	8	268,00	439,50	168,00	237,00	U/R	358,00	35,00	60,00	13,90
250	10	325,00	509,80	207,00	268,30	U/R	358,00	35,00	68,00	22,00
300	12	400,00	586,50	243,50	308,50	U/R	358,00	35,00	78,00	36,50

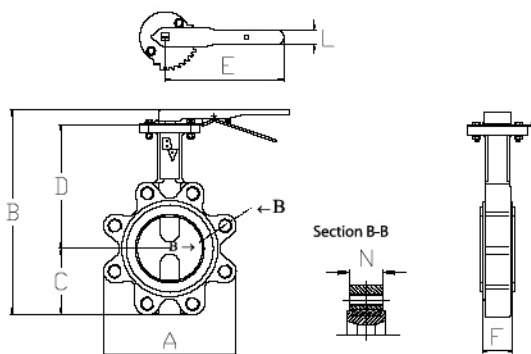
mm | inches

Dimensions in mm; U/R = Upon Request

		LUG with BACK-UP SEAT / BV12									
DN	NPS	A	B	C	D	E short	E standard	L	N	F	Kg
40	1 1/2	119,00	178,00	68,00	110,00	166,00	267,00	30,00	N/A	33,00	3,90
50	2	119,00	236,10	71,40	142,70	166,00	267,00	30,00	36,00	43,00	4,20
65	2 1/2	137,00	255,20	77,80	155,40	166,00	267,00	30,00	38,00	46,00	5,20
80	3	179,00	272,80	89,00	161,80	166,00	267,00	30,00	38,00	46,00	5,70
100	4	207,00	302,00	102,00	178,00	166,00	267,00	30,00	44,00	52,00	7,80
125	5	239,00	335,50	123,00	190,50	166,00	267,00	30,00	47,00	56,00	10,70
150	6	267,00	365,20	138,00	205,20	166,00	267,00	30,00	49,00	56,00	10,90
200	8	330,00	439,50	168,00	237,00	U/R	358,00	35,00	54,00	60,00	19,00
250	10	395,00	509,80	207,00	268,30	U/R	358,00	35,00	57,00	68,00	31,20
300	12	464,00	586,50	243,50	308,50	U/R	358,00	35,00	69,00	78,00	40,00

mm | inches

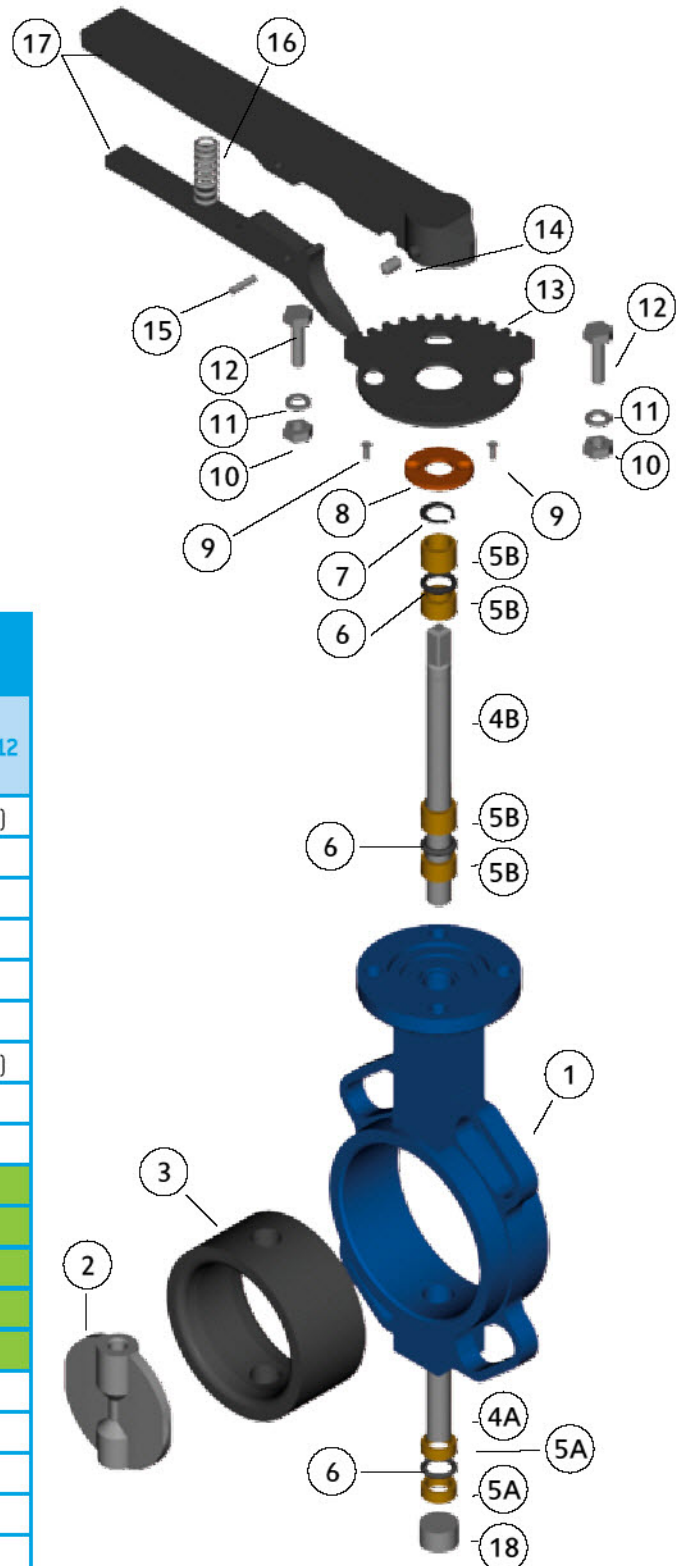
Dimensions in mm; U/R = Upon Request



part list

SPARE PARTS

POS	PART NAME	POS	PART NAME
1	BODY	9	SCREW PLUG
2	DISC	10	NUT
3	SEAT	11	SPRING WASHER
4A	DOWN SHAFT	12	BOLT
4B	UP SHAFT	13	NOTCHPLATE
5A	BOTTOM BUSHING	14	LEVER SCREW
5B	TOP BUSHING	15	PIN
6	O-RING	16	SPRING
7	CIRCLIP	17	LEVER
8	RETAINER PLATE	18	SCREW PLUG

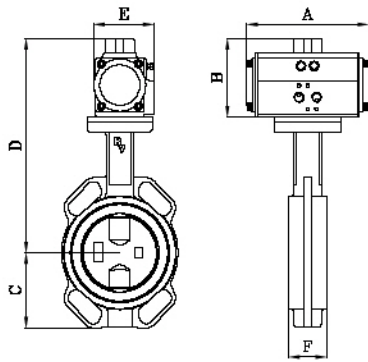


BELVEN STANDARD TYPES

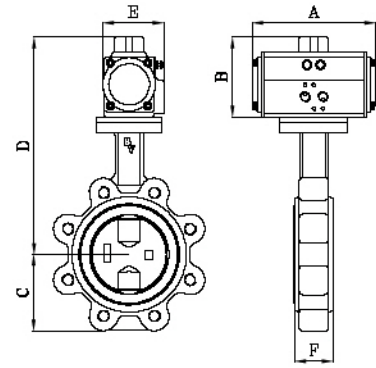
BV10- BV12-	BODY	DISC	SEAT	BV10	BV12
2325E	GG25	GGG40 nickle plated	EPDM		(*)
2325B	GG25	GGG40 nickle plated	NBR		x
2327E	GG25	GGG40 Rilsan coated	EPDM	x	x
2327B	GG25	GGG40 Rilsan coated	NBR	x	x
2313E	GG25	Alu Bronze	EPDM	x	x
2313B	GG25	Alu Bronze	NBR	x	x
2366E	GG25	CF8M	EPDM		(*)
2366B	GG25	CF8M	NBR		x
2366V	GG25	CF8M	FPM/FKM		x
2425E	GGG40	GGG40 nickle plated	EPDM	x	
2425B	GGG40	GGG40 nickle plated	NBR	x	
2466E	GGG40	GGG40 nickle plated	EPDM	x	
2466B	GGG40	CF8M	NBR	x	
2466V	GGG40	CF8M	FPM/FKM	x	
4466E	WCB	CF8M	EPDM	x	x
4466B	WCB	CF8M	NBR	x	x
4466V	WCB	CF8M	FPM/FKM	x	x
6666E	CF8M	CF8M	EPDM	x	x
6666B	CF8M	CF8M	NBR	x	x
6666V	CF8M	CF8M	FPM/FKM	x	x

stock product	
production item	x

(*) suggests not to use cast iron as body material for the Lug type as this material can not guarantee the quality for the threaded holes.



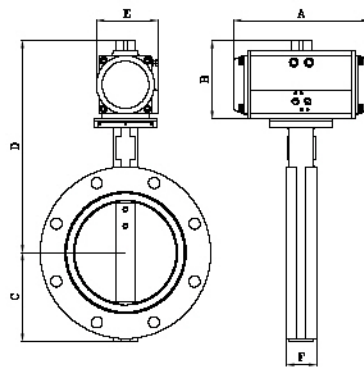
BPA-SR



BPA-DA

DN	NPS	WAFER with BACK-UP SEAT BV10 - SINGLE ACTING LUG with BACK-UP SEAT BV12 - SINGLE ACTING							WAFER with BACK-UP SEAT BV10 - DOUBLE ACTING LUG with BACK-UP SEAT BV12 - DOUBLE ACTING						
		A	B	C	D	E	F	TYPE	A	B	C	D	E	F	TYPE
50	2	168	107,5	71,4	257,2	83	43	BPA-63-SR	147	92	71,4	246,7	71,5	43	BPA-52-DA
65	2 1/2	184	119,5	77,8	281,7	95	46	BPA-75-SR	147	92	71,4	259,4	71,5	46	BPA-52-DA
80	3	204	128,7	89	290,5	103	46	BPA-83-SR	168	107,5	89	276,3	83	46	BPA-63-DA
100	4	262	136,5	102	314,5	108,5	52	BPA-92-SR	168	107,5	102	292,5	83	52	BPA-63-DA
125	5	168	153	123	343,5	121,5	56	BPA-105-SR	204	128,7	123	319,2	103	56	BPA-83-DA
150	6	301	175	138	380,2	112	56	BPA-125-SR	262	136,5	138	341,7	108,5	56	BPA-92-DA
200	8	390	192	168	434	152	60	BPA-140-SR	268	153	168	395	121,5	60	BPA-105-DA
250	10	458	217	207	490,3	174	68	BPA-160-SR	390	192	207	465,3	152	68	BPA-140-DA
300	12	525	260	243,5	568,5	206	78	BPA-190-SR	390	192	243,5	505,5	152	78	BPA-140-DA
350	14	532	285	259	653	226	78	BPA-210-SR	458	217	259	585	174	78	BPA-160-DA
400	16	602	319	309	719	260	102	BPA-240-SR	458	217	309	617	174	102	BPA-160-DA
450	18	722	356	327	778	294	114	BPA-270-SR	525	260	327	682	206	114	BPA-190-DA
500	20	-	-	-	-	-	-	-	532	285	361	765	226	127	BPA-210-DA
600	24	-	-	-	-	-	-	-	602	319	459	881	260	154	BPA-240-DA

mm inches Dimensions in mm; or if otherwise mentioned for minimum 6 bar air supply, for operational pressure ΔP 6 bar, for water at 20 °C

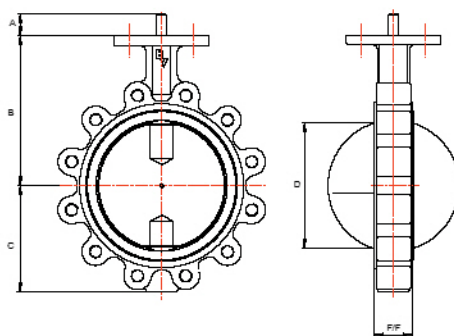
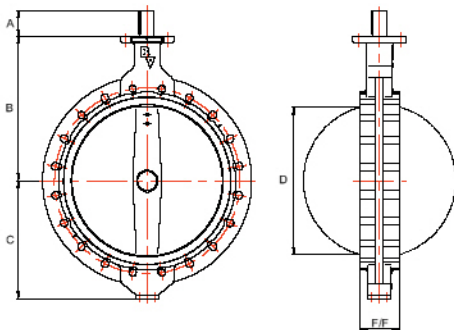
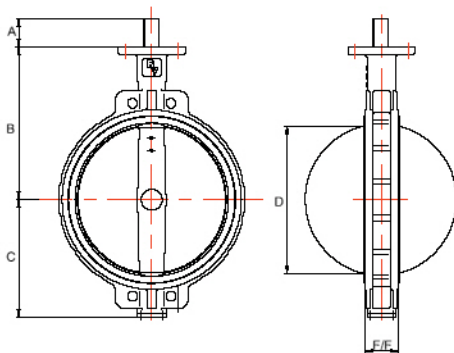
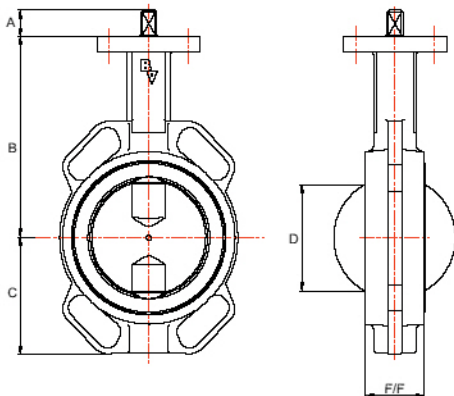


BPA-SR

BPA-DA

DN	NPS	U-DESIGN (BV10-U / BV11 / BV12-U) - SINGLE ACTING							U-DESIGN (BV10-U / BV11 / BV12-U) - DOUBLE ACTING						
		A	B	C	D	E	F	TYPE	A	B	C	D	E	F	TYPE
200	8	390	192	175	457	152	60	BPA-140-SR	268	153	175	418	121,5	60	BPA-105-DA
250	10	458	217	202,5	514	174	68	BPA-160-SR	390	192	202,5	489	152	68	BPA-140-DA
300	12	525	260	242	597	206	78	BPA-190-SR	390	192	242	559	152	78	BPA-140-DA
350	14	532	285	267	649	226	78	BPA-210-SR	458	217	267	581	174	78	BPA-160-DA
400	16	602	319	309	719	260	102	BPA-240-SR	458	217	309	617	174	102	BPA-160-DA
450	18	722	356	337	778	294	114	BPA-270-SR	525	260	337	682	206	114	BPA-190-DA
500	20	-	-	-	-	-	-	-	532	285	371	765	226	127	BPA-210-DA
600	24	-	-	-	-	-	-	-	602	319	459	881	260	154	BPA-240-DA

mm inches Dimensions in mm; or if otherwise mentioned for minimum 6 bar air supply, for operational pressure ΔP 6 bar, for water at 20 °C



		BV10					
DN	NPS	A	B	C	D	F/F	Kg
32	1 1/4	22,0	110,0	57,0	(*)	33,0	2,65
40	1 1/2	22,0	110,0	89,0	29,0	33,0	2,95
50	2	22,0	142,7	71,4	30,0	43,0	3,03
65	2 1/2	22,0	155,4	77,8	45,0	46,0	3,29
80	3	22,0	161,8	89,0	64,0	46,0	3,49
100	4	22,0	178,0	102,0	90,0	52,0	4,59
125	5	22,0	190,5	123,0	110,0	56,0	6,37
150	6	22,0	205,2	138,0	146,0	56,0	7,85
200	8	34,5	237,0	168,0	194,0	60,0	13,73
250	10	34,5	268,3	207,0	242,0	68,0	21,05
300	12	34,5	308,5	243,5	292,0	78,0	29,55
mm inches		Dimensions in mm; U/R = Upon Request					

(*) For this size, the open disc dimension is covered by F/F

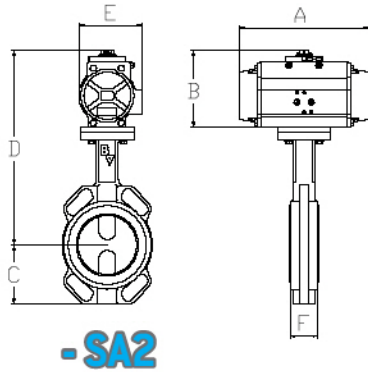
		BV10					
DN	NPS	A	B	C	D	F/F	Kg
350	14	65,0	368,0	259,0	325,0	78,0	42,5
400	16	75,0	400,0	309,0	377,0	102,0	52,0
450	18	75,0	422,0	327,0	426,0	114,0	87,0
500	20	90,0	480,0	363,0	475,0	127,0	98,0
mm inches		Dimensions in mm					

		BV10					
DN	NPS	A	B	C	D	F/F	Kg
600	24	100,0	562,0	459,0	572,0	154,0	133,0
700	28	85,0	626,0	518,0	674,0	165,0	187,0
800	32	100,0	666,0	605,0	772,0	190,0	387,0
900	36	118,0	722,0	655,0	840,0	203,0	713,0
1000	40	140,0	806,0	713,0	940,0	216,0	864,0
1200	48	150,0	938,0	855,0	1132,0	254,0	1380,0
mm inches		Dimensions in mm					

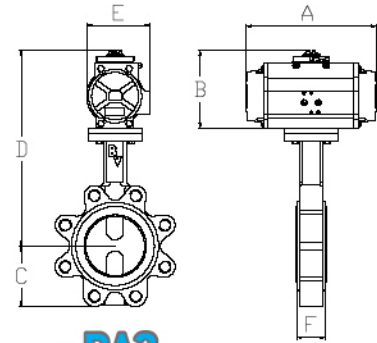
		BV12					
DN	NPS	A	B	C	D	F/F	Kg
40	1 1/2	22,0	110,0	89,0	29,0	33,0	3,2
50	2	22,0	142,7	71,4	30,0	43,0	3,5
65	2 1/2	22,0	155,4	77,8	45,0	46,0	4,5
80	3	22,0	161,8	89,0	64,0	46,0	5,0
100	4	22,0	178,0	102,0	90,0	52,0	7,1
125	5	22,0	190,5	123,0	110,0	56,0	10,0
150	6	22,0	205,2	138,0	146,0	56,0	10,2
200	8	34,5	237,0	168,0	194,0	60,0	17,0
250	10	34,5	268,3	207,0	242,0	68,0	29,2
300	12	34,5	308,5	243,5	292,0	78,0	38,0
350	14	65,0	368,0	259,0	325,0	78,0	50,0
400	16	75,0	400,0	309,0	377,0	102,0	101,0
450	18	75,0	422,0	327,0	426,0	114,0	130,0
500	20	90,0	480,0	361,0	475,0	127,0	183,0
600	24	100,0	562,0	459,0	572,0	154,0	258,0
mm inches		Dimensions in mm					

dimensions

pneumatic operated



-SA2



-DA2

DN	NPS	WAVER with BACK-UP SEAT BV10 - SINGLE ACTING LUG with BACK-UP SEAT BV12 - SINGLE ACTING								WAVER with BACK-UP SEAT BV10 - DOUBLE ACTING LUG with BACK-UP SEAT BV12 - DOUBLE ACTING							
		A mm	B mm	C mm	D mm	E mm	F mm	BV10 Kg	BV12 Kg	A mm	B mm	C mm	D mm	E mm	F mm	BV10 Kg	BV12 Kg
32	1 1/4	207,00	117,00	57,00	227,00	94,50	33,00	5,27	-	139,50	89,50	57,00	239,00	71,00	33,00	3,14	-
40	1 1/2	207,00	117,00	68,00	227,00	94,50	33,00	5,57	7,65	139,50	89,50	68,00	239,00	71,00	33,00	3,44	5,52
50	2	207,00	117,00	71,40	272,20	94,50	43,00	5,65	7,95	139,50	89,50	71,40	244,70	71,00	43,00	3,52	5,82
65	2 1/2	207,00	117,00	77,80	284,90	94,50	43,00	6,35	8,35	139,50	89,50	77,80	257,40	71,00	43,00	4,22	6,22
80	3	237,50	128,50	89,00	297,30	106,00	43,00	7,85	9,65	161,50	100,50	89,00	274,80	80,50	43,00	5,08	6,88
100	4	271,20	141,50	102,00	326,50	123,00	51,50	11,63	16,13	207,00	117,00	102,00	302,00	94,50	51,50	7,60	12,10
125	5	271,20	141,50	123,00	339,00	123,00	55,00	13,53	19,13	237,50	128,50	123,00	326,00	106,00	55,00	10,35	15,95
150	6	327,10	171,50	138,00	376,70	137,00	55,00	18,65	24,55	271,20	141,50	138,00	353,70	123,00	55,00	12,80	18,70
200	8	522,00	263,00	168,00	514,00	187,00	60,00	42,70	49,50	327,70	171,50	168,00	422,50	137,00	60,00	21,25	28,05
250	10	522,00	263,00	207,00	545,30	187,00	67,00	48,50	59,50	366,00	183,50	207,00	465,50	148,00	67,00	29,02	40,02
300	12	575,00	320,50	243,50	729,00	218,00	76,00	82,85	100,35	522,00	263,00	243,50	585,50	187,00	76,00	52,10	69,60
350	14	672,00	361,00	259,00	849,00	290,00	78,00	134,40	141,90	522,00	263,00	259,00	731,00	187,00	78,00	65,90	73,40
400	16	672,00	361,00	309,00	881,00	290,00	102,00	143,90	192,90	575,00	320,50	309,00	820,50	218,00	102,00	87,90	136,90
450	18	672,00	361,00	327,00	903,00	290,00	114,00	178,90	221,90	575,00	320,50	327,00	842,50	218,00	114,00	122,90	165,90
500	20	U.R.	U.R.	U.R.	U.R.	U.R.	U.R.	U.R.	U.R.	672,00	361,00	363,00	961,00	290,00	127,00	175,00	260,00
600	24	U.R.	U.R.	U.R.	U.R.	U.R.	U.R.	U.R.	U.R.	672,00	361,00	459,00	1043,00	290,00	154,00	210,00	335,00

Dimensions in mm, or if otherwise mentioned for minimum 6 bar air supply, for operational pressure ΔP 6 bar, for water at 20 °C

DN	NPS	U-DESIGN (BV10-U / BV11 / BV12-U) - SINGLE ACTING							U-DESIGN (BV10-U / BV11 / BV12-U) - DOUBLE ACTING						
		A	B	C	D	E	F	Kg	A	B	C	D	E	F	Kg
200	8	522,00	263,00	175,0	537,00	187,00	60,0	78,97	327,70	171,50	175,0	445,50	137,00	60,0	57,52
250	10	522,00	263,00	202,5	569,00	187,00	68,0	92,45	366,00	183,50	202,5	489,20	148,00	68,0	72,97
300	12	575,00	320,50	242,0	757,50	218,00	78,0	128,30	522,00	263,00	242,0	614,00	187,00	78,0	97,55
350	14	672,00	361,00	267,0	845,00	290,00	78,0	186,90	522,00	263,00	267,0	727,00	187,00	78,0	118,40
400	16	672,00	361,00	309,0	881,00	290,00	102,0	211,90	575,00	320,50	309,0	820,50	218,00	102,0	155,90
450	18	672,00	361,00	337,0	903,00	290,00	114,0	241,90	575,00	320,50	337,0	842,50	218,00	114,0	185,90
500	20	U.R.	U.R.	371,0	U.R.	U.R.	127,0	U.R.	672,00	361,00	371,0	961,00	290,00	127,0	267,00
600	24	U.R.	U.R.	459,0	U.R.	U.R.	154,0	U.R.	672,00	361,00	459,0	1043,00	290,00	154,0	387,00

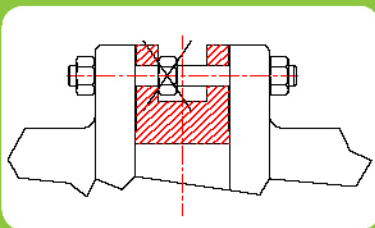
Dimensions in mm ; U/R = Upon Request , for minimum 6 bar air supply, for operational pressure 16 bar for water at 20 °C



U-SECTION DESIGN

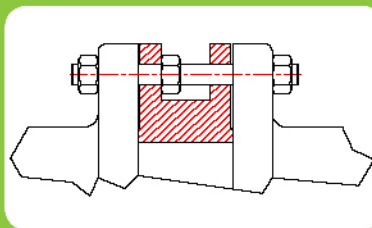
BV10-U

"U" SECTION WAFER BODY
WITHOUT COUNTER NUT



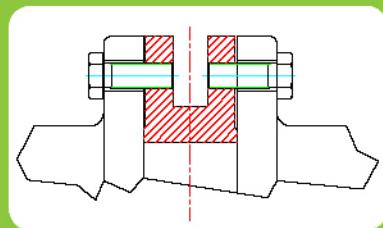
BV11

"U" SECTION WAFER BODY
WITH COUNTER NUT



BV12-U

"U" SECTION LUG BODY
WITH INTERNALLY THREADED HOLES



BV10-U

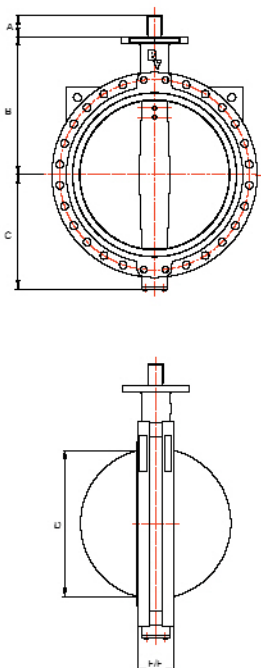
SIZES DN 200 - 1200 / NPS 8-48
FLANGE CONNECTION PN 10 - 16 -
ANSI 150

BV11

SIZES DN 350 - 1200 / NPS 14-48
FLANGE CONNECTION PN 16 - ANSI 150

BV12-U

SIZES DN 700 - 1200 / NPS 28-48
FLANGE CONNECTION PN 10 - PN 16 -
ANSI 150

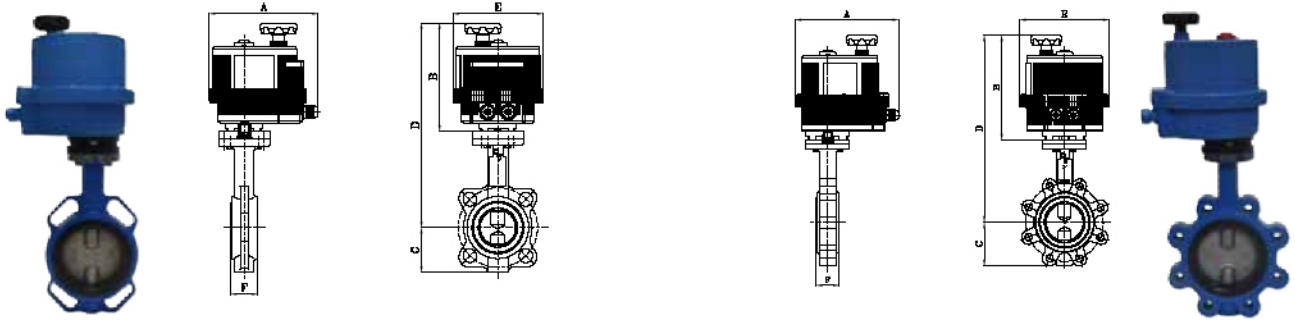


		BV10-U / BV11 / BV12-U								
DN	NPS	A	B	C	D	F/F	Kg	BV10-U	BV11	BV12-U
150	6	22,0	226,0	142,0	185,4	56,0	35,0		U/R	U/R
200	8	34,5	260,0	175,0	235,2	60,0	50,0		U/R	U/R
250	10	34,5	292,0	202,5	289,4	68,0	65,0		U/R	U/R
300	12	34,5	337,0	242,0	341,2	78,0	75,0		U/R	U/R
350	14	65,0	364,0	267,0	372,1	78,0	95,0			U/R
400	16	75,0	400,0	309,0	435,9	102,0	120,0			U/R
450	18	75,0	422,0	337,0	486,6	114,0	150,0			U/R
500	20	90,0	480,0	371,0	530,0	127,0	190,0			U/R
600	24	100,0	562,0	459,0	648,2	154,0	280,0			U/R
700	28	85,0	626,0	527,0	741,1	165,0	357,0			
750	30	85,0	660,0	566,4	795,0	167,0	453,0			
800	32	100,0	666,0	605,0	846,9	190,0	553,0			
900	36	118,0	720,0	668,0	944,0	203,0	574,0			
1000	40	140,0	806,0	728,0	1050,0	216,0	817,0			
1050	42	150,0	858,0	790,5	1118,4	251,0	1087,0			
1100	44	150,0	850,0	760,0	1160,9	251,0	1295,0			
1200	48	150,0	938,0	868,0	1261,1	254,0	1410,0			
mm	inches									

Dimensions in mm; U/R = Upon Request

dimensions

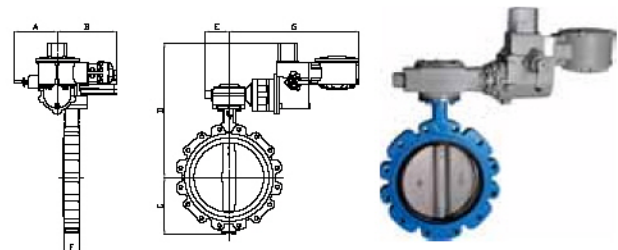
electric operated



DN	NPS	WAFER							LUG						
		BV10 - ELECTRIC OPERATED ON/OFF							BV12 - ELECTRIC OPERATED ON/OFF						
		A mm	B mm	C mm	D mm	E mm	F mm	BV10 Kg	A mm	B mm	C mm	D mm	E mm	F mm	BV12 Kg
32	1 1/4	190,00	187,70	57,00	309,70	157,00	33,00	5,05	-	-	-	-	-	-	-
40	1 1/2	190,00	187,70	68,00	309,70	157,00	33,00	5,40	190,00	187,70	68,00	309,70	157,00	33,00	6,40
50	2	190,00	187,70	71,40	342,90	157,00	47,00	5,48	190,00	187,70	71,40	342,90	157,00	47,00	6,70
65	2 1/2	190,00	187,70	77,80	342,90	157,00	47,00	5,74	190,00	187,70	77,80	355,90	157,00	47,00	7,10
80	3	214,00	214,90	89,00	398,10	185,00	47,00	6,95	214,00	214,90	89,00	383,70	185,00	47,00	8,31
100	4	214,00	214,90	102,00	399,90	185,00	55,50	8,04	214,00	214,90	102,00	399,90	185,00	55,50	12,50
125	5	237,00	232,10	123,00	422,60	211,00	59,00	11,28	237,00	232,10	123,00	422,60	208,00	59,00	16,96
150	6	237,00	232,10	138,00	437,30	211,00	59,00	12,91	237,00	232,10	138,00	437,30	208,00	59,00	18,21
200	8	247,00	233,50	168,00	484,40	222,00	64,50	19,91	247,00	233,40	168,00	484,40	217,00	64,50	24,73
250	10	247,80	233,50	207,00	515,80	222,00	74,00	27,05	247,00	233,40	207,00	515,70	218,00	67,00	34,55
300	12	U/R	U/R	U/R	U/R	U/R	U/R	U/R	U/R	U/R	U/R	U/R	U/R	U/R	U/R

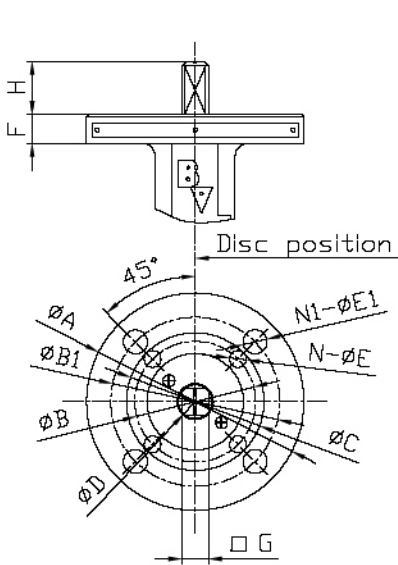
mm | inches Dimensions in mm ; or if otherwise mentioned - U/R = Upon Request - for 100-240 VAC actuators, for water at 20° C (EPDM/NBR seated)

AUMA ACTUATOR

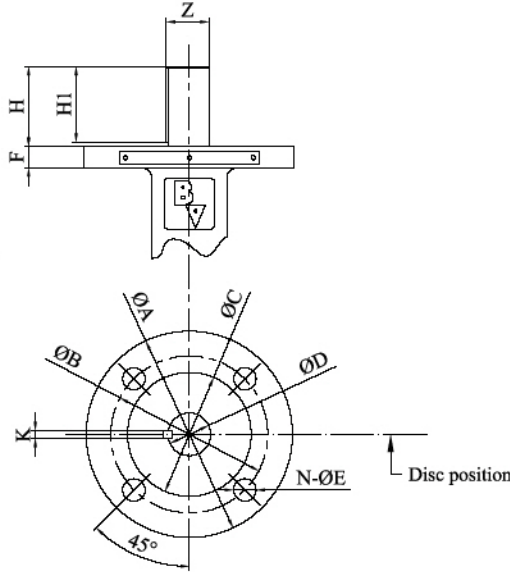


DN	NPS	WAFER (BV10) - LUG (BV10) - U-DESIGN (BV10-U / BV11 / BV12-U) with AUMA ELECTRIC ON/OFF									WAFER BV10 Kg	LUG BV12 Kg	U-DESIGN U-DESIGN Kg
		A mm	B mm	C mm	D mm	E mm	F mm	G mm					
		32	1 1/4	215,00	302,00	57,00	325,00	92,00	33,00	437,00			
40	1 1/2	215,00	302,00	68,00	325,00	92,00	33,00	437,00	11,25	11,50	-		
50	2	215,00	302,00	71,40	357,70	92,00	43,00	437,00	11,33	11,80	-		
65	2 1/2	215,00	302,00	71,40	370,40	92,00	43,00	437,00	11,59	12,80	-		
80	3	215,00	302,00	89,00	376,80	92,00	43,00	437,00	11,79	13,30	-		
100	4	215,00	302,00	102,00	393,00	92,00	51,50	437,00	12,89	15,40	-		
125	5	215,00	302,00	123,00	405,50	92,00	55,00	437,00	25,37	29,00	-		
150	6	215,00	302,00	138,00	420,20	92,00	55,00	437,00	26,85	29,20	-		
200	8	214,00	302,00	168,00	538,00	218,00	60,00	564,00	32,73	36,00	69,00		
250	10	214,00	302,00	207,00	569,30	128,00	67,00	564,00	46,05	54,20	80,00		
300	12	214,00	302,00	243,50	611,00	133,00	76,00	569,00	58,55	67,00	104,00		
350	14	214,00	302,00	267,00	670,50	133,00	76,00	569,00	71,50	79,00	129,00		
400	16	235,00	325,00	309,00	742,00	131,50	102,00	714,00	81,00	130,00	149,00		
450	18	235,00	325,00	337,00	780,00	189,00	114,00	717,00	151,00	194,00	214,00		
500	20	214,00	302,00	371,00	808,00	182,00	127,00	748,00	162,00	247,00	254,00		
600	24	214,00	302,00	456,00	890,00	182,00	151,00	748,00	197,00	322,00	344,00		

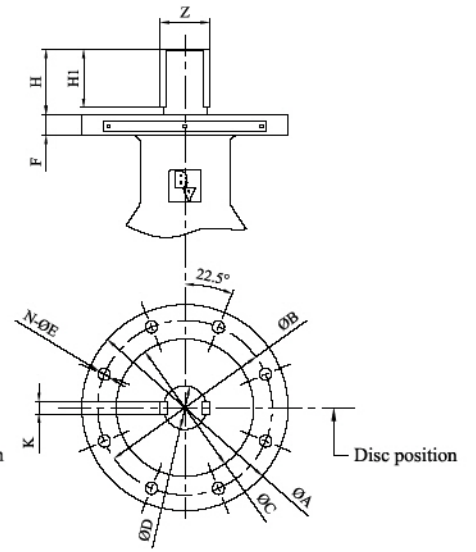
mm | inches Dimensions in mm ; or if otherwise mentioned - for 400V actuators, for water at 20° C / 10 bar (EPDM/NBR seated)



DN 32 - 300 / NPS 1 1/4 - 12
[this is the topflange dimension
for GG25 / GGG40 body]



DN 350- 600 / NPS 14 - 24



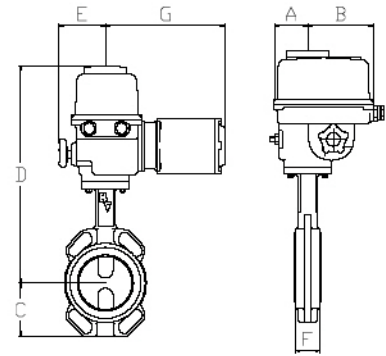
DN 700- 1200 / NPS 28 - 48

DN	NPS	ØA	ØB	ØB1	ØC	ØD	N-ØE	N-ØE1	F	□G	H
32	1 1/4	Ø90	F05/Ø50	F07/Ø70	Ø55	Ø14	4-Ø7	4-Ø10	13	11	22
40	1 1/2	Ø90	F05/Ø50	F07/Ø70	Ø55	Ø14	4-Ø7	4-Ø10	13	11	22
50	2	Ø90	F05/Ø50	F07/Ø70	Ø55	Ø14	4-Ø7	4-Ø10	13	11	22
65	2 1/2	Ø90	F05/Ø50	F07/Ø70	Ø55	Ø14	4-Ø7	4-Ø10	13	11	22
80	3	Ø90	F05/Ø50	F07/Ø70	Ø55	Ø14	4-Ø7	4-Ø10	13	11	22
100	4	Ø90	F07/Ø70	-	Ø55	Ø18	4-Ø10	-	13	11	22
125	5	Ø90	F07/Ø70	-	Ø55	Ø18	4-Ø10	-	13	11	22
150	6	Ø90	F07/Ø70	-	Ø55	Ø18	4-Ø10	-	13	11	22
200	8	Ø150	F10/Ø102	-	Ø70	Ø22	4-Ø12	-	16	17	34,5
250	10	Ø150	F10/Ø102	-	Ø70	Ø28	4-Ø12	-	16	22	34,5
300	12	Ø150	F12/Ø125	-	Ø85	Ø36	4-Ø14	-	16	27	34,5
mm	inches	Dimensions in mm; U/R = Upon Request									

DN	NPS	ØA	ØB	ØC	ØD	N-ØE	F	Z	H	H1	K
350	14	Ø175	F14/Ø140	Ø100	Ø28	4-Ø18	19	31	65	61	8
400	16	Ø175	F14/Ø140	Ø100	Ø38	4-Ø18	20	41	75	71	12
450	18	Ø175	F14/Ø140	Ø100	Ø38	4-Ø18	20	41	75	71	12
500	20	Ø210	F16/Ø165	Ø130	Ø45	4-Ø23	22	48,5	90	81	14
600	24	Ø210	F16/Ø165	Ø130	Ø55	4-Ø23	22	58,5	100	91	14
mm	inches	Dimensions in mm; U/R = Upon Request									

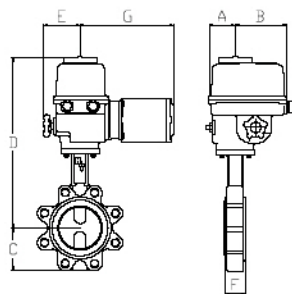
DN	NPS	ØA	ØB	ØC	ØD	N-ØE	F	Z	H	H1	K
700	28	Ø300	F25/Ø254	Ø200	Ø63,35	8-Ø18	33	71,35	85	63	18
750	30	Ø300	F25/Ø254	Ø200	Ø63,35	8-Ø18	33	71,35	85	63	18
800	32	Ø300	F25/Ø254	Ø200	Ø63,35	8-Ø18	33	71,35	100	85	18
900	36	Ø300	F25/Ø254	Ø200	Ø75	8-Ø18	33	84	118	100	20
1000	40	Ø300	F25/Ø254	Ø200	Ø85	8-Ø18	38	95	140	130	22
1050	42	Ø300	F25/Ø254	Ø200	Ø85	8-Ø18	38	95	150	140	22
1200	48	Ø350	F30/Ø298	Ø230	Ø105	8-Ø22	38	117	150	140	28
mm	inches	Dimensions in mm; U/R = Upon Request									

BERNARD ACTUATOR



WAFFER (BV10) - LUG (BV12) with BERNARD ELECTRIC ON/OFF

DN	NPS	A mm	B mm	C mm	D mm	E mm	F mm	G mm	BV10 Kg	BV12 Kg
50	2	73,00	127,00	71,40	367,40	116,31	43,00	156,69	8,50	10,30
65	2 1/2	73,00	127,00	77,80	380,00	116,31	43,00	156,69	9,20	10,70
80	3	73,00	127,00	89,00	386,50	116,31	43,00	156,69	9,60	10,90
100	4	73,00	127,00	102,00	402,70	116,22	51,50	203,00	11,10	15,10
125	5	73,00	127,00	123,00	415,00	116,22	55,00	246,00	14,00	19,10
150	6	84,00	229,00	138,00	385,20	167,00	55,00	311,80	25,80	31,00
200	8	87,00	226,00	168,00	463,00	168,00	60,00	359,80	30,20	36,50
250	10	87,00	226,00	207,00	494,30	168,00	67,00	359,80	36,00	46,50
300	12	87,00	226,00	243,50	533,20	168,00	76,00	359,80	50,50	67,00
350	14	84,00	229,00	267,00	579,00	168,00	76,00	360,00	65,50	73,00
400	16	140,00	284,00	317,00	567,00	171,00	102,00	412,00	87,00	136,00
450	18	129,00	333,00	339,00	706,00	188,00	114,00	476,00	136,00	179,00
500	20	129,00	333,00	371,00	764,00	188,00	127,00	476,00	147,00	232,00
600	24	174,00	288,00	471,00	846,00	154,00	151,00	510,00	211,00	336,00
mm	inches	Dimensions in mm ; or if otherwise mentioned - for monophasic actuators, for water at 20° C (EPDM/NBR seated)								



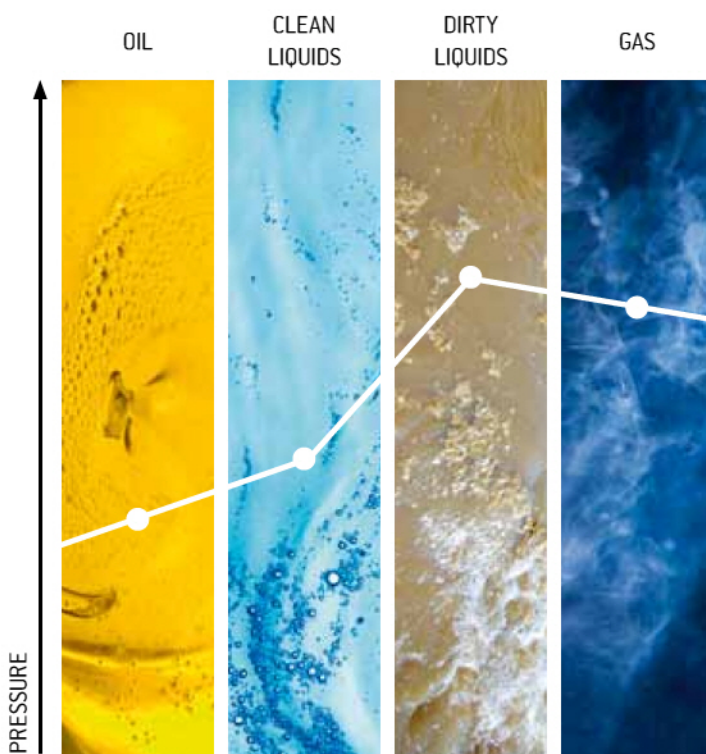
U-TYPE (BV10-U / BV11 / BV12-U) with BERNARD ELECTRIC ON/OFF

DN	NPS	A mm	B mm	C mm	D mm	E mm	F mm	G mm	Kg
200	8	87,00	226,00	175,00	486,00	168,00	59,60	359,80	66,47
250	10	87,00	226,00	202,50	518,00	168,00	68,00	359,80	79,95
300	12	87,00	226,00	242,00	561,17	168,00	78,00	359,80	95,95
350	14	84,00	229,00	267,00	575,00	168,00	76,00	360,00	118,00
400	16	140,00	284,00	309,00	567,00	171,00	102,00	412,00	155,00
450	18	129,00	333,00	337,00	706,00	188,00	114,00	476,00	199,00
500	20	129,00	333,00	371,00	764,00	188,00	127,00	476,00	239,00
600	24	174,00	288,00	456,00	846,00	154,00	151,00	510,00	358,00
mm	inches	Dimensions in mm ; or if otherwise mentioned for monophasic actuators, for water at 20° C (EPDM/NBR seated)							

torque values

		BACK-UP SEATED			MAXIMUM ALLOWED TORQUE ON STEM
		6 BAR	10 BAR	16 BAR	
50	2	13,0	13,9	15,1	94
65	2 1/2	13,8	15,4	17,2	94
80	3	21,0	21,7	23,1	94
100	4	34,9	37,1	39,8	193
125	5	53,8	57,9	61,9	193
150	6	84,5	93,9	102,0	193
200	8	154,0	173,0	192,0	346
250	10	249,0	286,0	323,0	578
300	12	371,0	429,0	490,0	1388
350	14	466,0	550,0	625,0	1680
400	16	632,0	755,0	846,0	3026
450	18	831,0	1012,0	1131,0	4190
500	20	1093,0	1350,0	1431,0	5788
600	24	1679,0	2111,0	2301,0	10794
700	28	3010,0	3272,0	4254,0	15233
750	30	3487,0	3767,0	4897,0	15233
800	32	3963,0	4308,0	5600,0	15233
900	36	4913,0	5257,0	6834,0	25367
1000	40	8367,0	8926,0	11604,0	36930
1050	42	8433,0	9024,0	11731,0	36930
1100	44	10466,0	11200,0	14560,0	36930
1200	48	11733,0	12555,0	16322,0	69654
mm	inches				

Torque values in Nm, test conditions in water at a temperature at +/-20° C, with seat material EPDM, NBR



APPLICATION FACTORS	
MEDIA	MULTIPLIER
Oils, lubricating media	0.8
Liquid, clean (particle free)	1.0
Liquid, dirty (slurry), raw water	1.6
Gas, clean and wet (sat. Steam)	1.0
Gas, dry (superheated steam)	1.4
Gas, dirty (natural gas)	1.5
Oxygen, chlorine	1.5
FREQUENCY	MULTIPLIER
Operates once per week or more	1.0
Operates once per month	1.3
Operates once per 3 months	1.7
AUTOMATISATION	MULTIPLIER
manual gearbox	1.25
hydraulic actuator	1.3
pneumatic actuator	1.3
electric actuator	1.35

Kv/Cv values

The flow coefficient is the valve sizing factor that permits the selection of the appropriate valve to meet the flow requirements in the development of a given fluid system.

KV VALUE (m³/h)

The Kv for a valve defines the flow of water in m³/h at room temperature which flows through a fully open valve with a pressure of 1 bar.

FLOW IN M ³ /H @ ΔP 1 BAR										
Size DN		CLOSE → OPEN								
INCH	MM	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	50	0,1	3	6	13	23	38	60	90	99
2-1/2"	65	0,1	5	10	22	39	65	102	153	169
3"	80	0,2	8	15	34	60	100	157	237	260
4"	100	0,3	15	31	67	120	198	313	470	516
5"	125	0,4	25	52	114	204	337	533	800	879
6"	150	0,7	39	82	176	315	520	824	1236	1358
8"	200	2	77	162	351	625	1034	1637	2454	2697
10"	250	3	130	275	597	1064	1760	2786	4179	4592
12"	300	3	201	426	922	1643	2719	4304	6456	7095
14"	350	5	291	615	1332	2374	3928	6218	9326	10249
16"	400	7	399	845	1832	3265	5403	8550	12825	14094
18"	450	9	529	1120	2427	4324	7155	11324	16987	18666
20"	500	12	680	1416	3120	5560	9200	14561	21841	24001
24"	600	19	1051	2225	4820	7288	12856	19581	30012	37080
28"	700	31	1559	3130	5707	8591	14214	22495	33743	42570
30"	750	32	1789	3789	6610	10224	15970	24747	37561	50633
32"	800	39	1193	4120	7513	11858	17727	27000	41381	58695
36"	900	52	2623	5788	10956	17389	27950	45150	68456	75250
40"	1000	72	3597	7220	13164	20777	31103	47372	72606	102985
42"	1050	301	4106	7774	14713	23349	37530	60630	91925	117713
48"	1200	391	4614	10182	19264	26316	44032	79378	120400	132440

Flow: m³/h

Pressure drop: Δp = 1 bar

$$Kv = Cv \times 0,86$$

CV VALUE (gpm)

The Cv values, which are still used in the USA, define the flow of water in US gallons /minute flowing through an open valve with a pressure drop of 1 psi across the valve.

FLOW IN GPM @ ΔP 1 PSI										
Size DN		CLOSE → OPEN								
INCH	MM	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	50	0,1	3	7	15	27	44	70	105	115
2-1/2"	65	0,1	6	12	25	45	75	119	178	196
3"	80	0,2	9	18	39	70	116	183	275	302
4"	100	0,3	17	36	78	139	230	364	546	600
5"	125	0,5	29	61	133	237	392	620	930	1022
6"	150	0,8	45	95	205	366	605	958	1437	1579
8"	200	2	89	188	408	727	1202	1903	2854	3136
10"	250	3	151	320	694	1237	2047	3240	4859	5340
12"	300	4	234	495	1072	1911	3162	5005	7507	8250
14"	350	6	338	715	1549	2761	4568	7230	10844	11917
16"	400	8	464	983	2130	3797	6282	9942	14913	16388
18"	450	11	615	1302	2822	5028	8320	13168	19752	21705
20"	500	14	791	1647	3628	6465	10698	16931	25396	27908
24"	600	22	1222	2587	5605	8474	14949	22769	34898	43116
28"	700	36	1813	3639	6636	9989	16528	26157	39236	49500
30"	750	37	2080	4406	7686	11888	18570	28776	43676	58875
32"	800	45	1387	4791	8736	13788	20613	31395	48117	68250
36"	900	60	3050	6730	12740	20220	32500	52500	79600	87500
40"	1000	84	4183	8395	15307	24159	36166	55084	84425	119750
42"	1050	350	4774	9040	17108	27150	43640	70500	106890	136875
48"	1200	455	5365	11840	22400	30600	51200	92300	140000	154000

Flow: gpm (gallons per minute)

Pressure drop: Δp = 1 psi

$$Cv = Kv \times 1,16$$

FORMULAS

Liquid flow

$$Q = Kv \times \sqrt{(\Delta p / \delta)}$$

Pressure drop

$$\Delta p = \delta \times (Q^2 / Kv^2)$$

Minimum coefficient of flow

$$Kv = Q \times \sqrt{(\delta / \Delta p)}$$

Q flow (m³/h)

Δp pressure drop (1 bar)

δ density (kg/dm³), water = 1

We keep the right to change the mentioned values and text in this leaflet at any time without prior notice.

FIELD APPLICATIONS



HEATING, VENTILATION & AIRCONDITIONING



WATER TREATMENT

water purification / desalination / seawater



INDUSTRIAL WATER (FILTRATION) SYSTEMS

for regulation and control in : power plants / process plants / pulp & paper



SHIPBUILDING / SYSTEMS



TANK (SEMI) TRAILERS / TRUCK SYSTEMS



FIRE PROTECTION SYSTEMS