



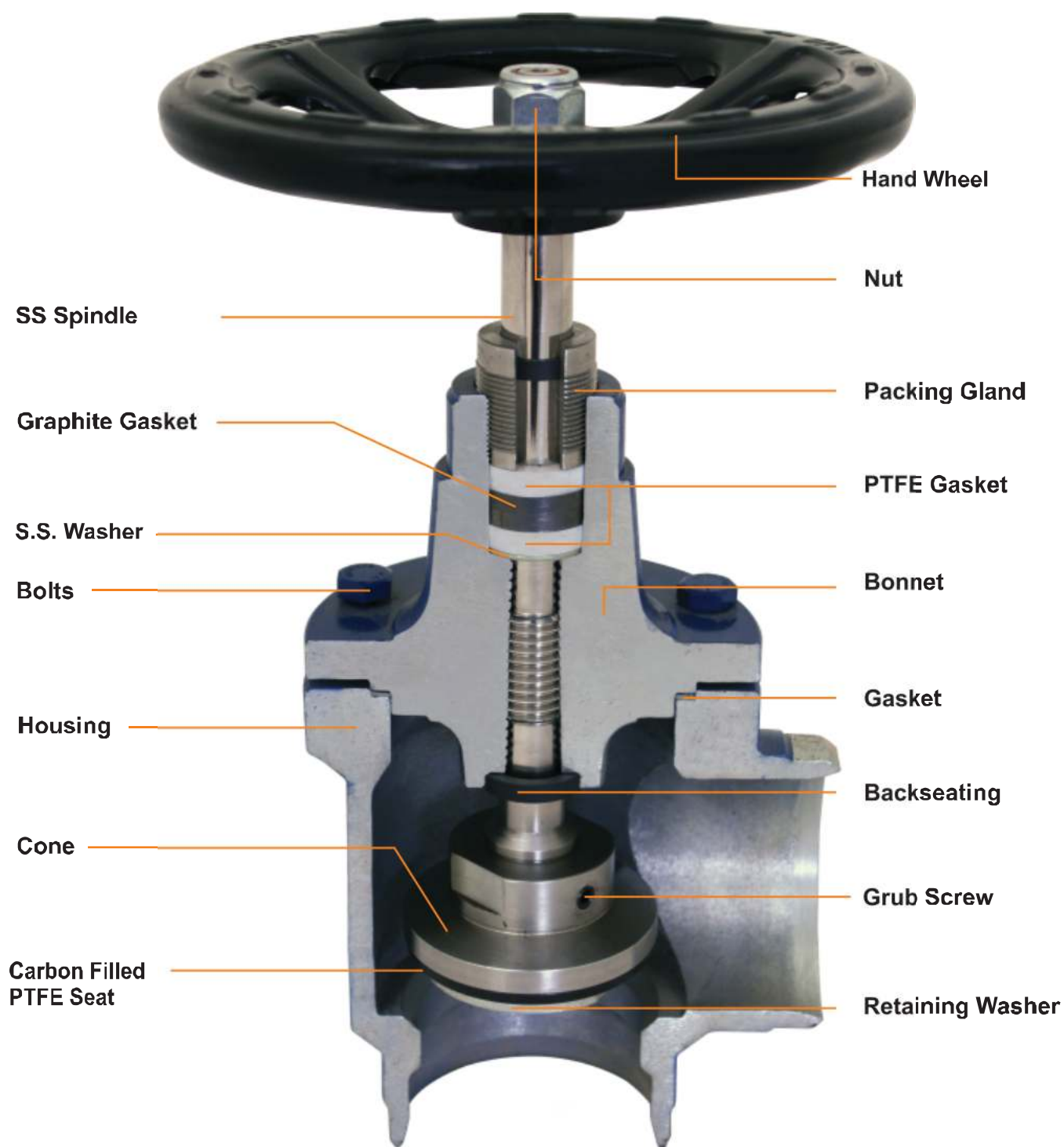
Valves for Industrial Refrigeration

CATALOGUE 2013



Shut Off Valves

Exploded view



Technical Data

Introduction

Refrigerants

Applicable to all common non flammable refrigerants including R717 and non corrosive gases/liquids dependent on sealing material compatability. For further information please see installation instruction for **CSVA**

Temperature range

Standard version : -46/+150°C

Pressure range

The valves are designed for max. working pressure 40 bar (580 psig).

Features

Housing

Made of special, cold resistant steel.

Valve cone

The valve cone can be turned on the spindle, thus there will be no friction between the cone and the seat, when the valve is opened and closed.

Spindle

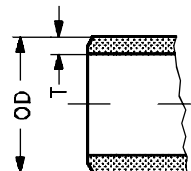
Made of polished stainless steel so that PTFE and Graphite gaskets are not damaged.

Sealing

Spindle sealing is done with PTFE and Graphite gaskets assuring 100% sealing.



Connections ANSI

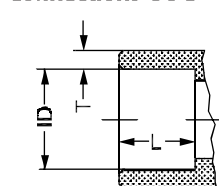


Size mm	Size in	OD mm	T mm	OD in.	T in.			K _v angle m ³ /h	K _v straight m ³ /h	C _v angle USgal/min	C _v straight USgal/min
Butt-weld ANSI (B 36.10 Schedule 80)											
15	1/2	21.3	3.7	0.839	0.146			7.0	4.9	8.1	5.7
20	3/4	26.9	4.0	1.059	0.158			14.6	10.2	16.9	11.8
25	1	33.7	4.6	1.327	0.181			24.8	17.4	28.8	20.2
32	1 1/4	42.4	4.9	1.669	0.193			42.6	29.8	49.4	34.6
40	1 1/2	48.3	5.1	1.902	0.201			45.2	31.6	52.4	36.7

Butt-weld ANSI (B 36.10 Schedule 40)

50	2	60.3	3.9	2.37	0.15			80	65	93	76
65	2 1/2	73.0	5.2	2.87	0.20			120	97	140	113
80	3	88.9	5.5	3.50	0.22			182	152	211	176
100	4	114.3	6.0	4.50	0.24			313	278	363	323
125	5	141.3	6.6	5.56	0.26			514	470	596	545
150	6	168.3	7.1	6.63	0.28			785	597	911	693
200	8	219.1	8.2	8.63	0.32			1168	1024	1355	1188

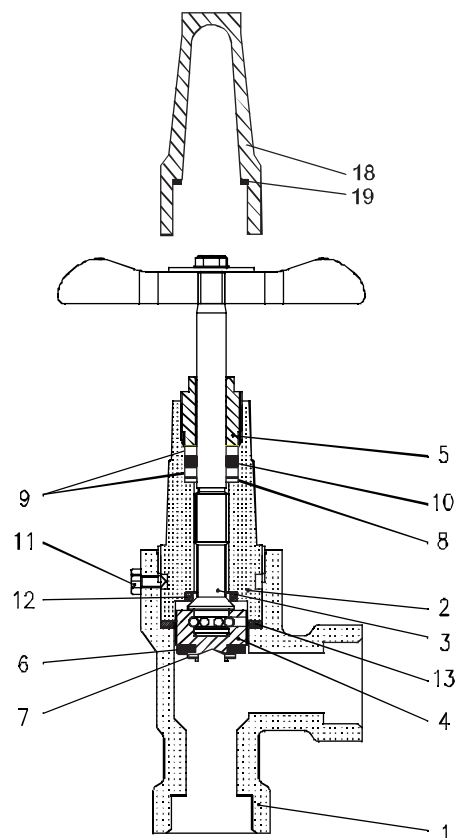
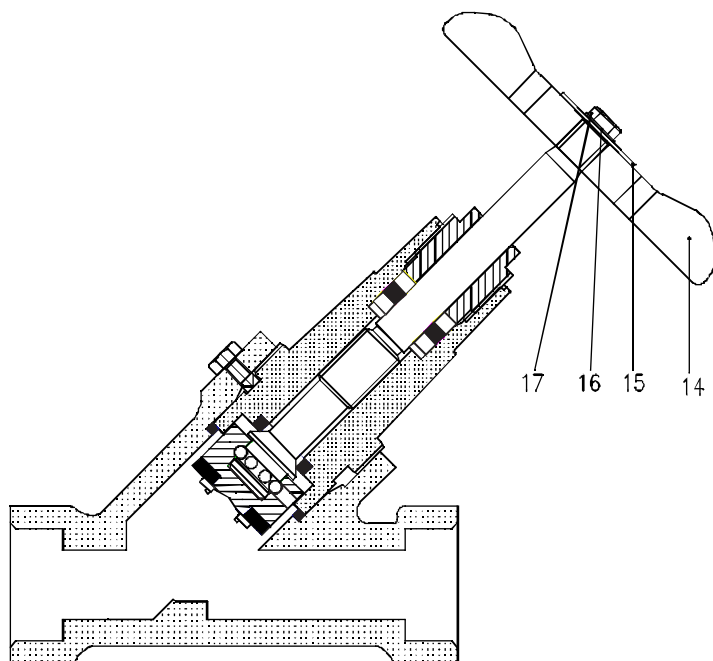
Connections SOC



Size mm	Size in	ID mm	T mm	ID in.	T in.	L mm	L in.	K _v angle m ³ /h	K _v straight m ³ /h	C _v angle USgal/min	C _v straight USgal/min
Socket-weld ANSI (B 16.11)											
15	1/2	21.8	6.0	0.858	0.235	10	0.39	7.0	4.9	8.1	5.7
20	3/4	27.2	4.6	1.071	0.181	13	0.51	10.0	7.0	11.9	8.1
25	1	33.9	7.2	1.335	0.284	13	0.51	24.8	17.4	28.8	20.2
32	1 1/4	42.7	6.1	1.743	0.240	13	0.51	42.6	29.8	49.4	34.6
40	1 1/2	48.8	6.6	1.921	0.260	13	0.51	45.2	31.6	52.4	36.7
50	2	61.2	6.2	2.41	0.24	16	0.63	80	65	93	76

Material Specifications

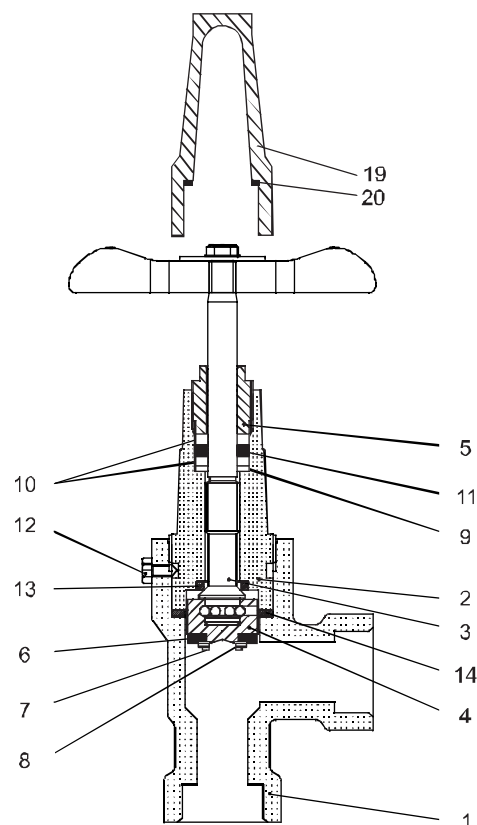
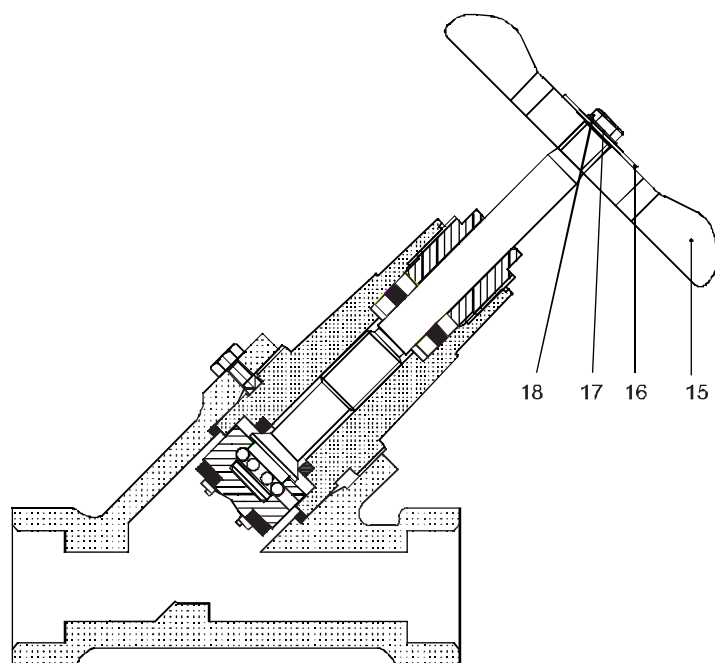
CSVA 15-25 (½"-1")



NO.	PART	MATERIAL	GRADE	QTY.
1	HOUSING	STEEL	ASTM A350 LF2, LCC	1
2	BONNET	STEEL	ASTM A350 LF2, LCC	1
3	SPINDLE	STAINLESS STEEL	AISI 303	1
4	CONE	STEEL	AISI 1213	1
5	PACKING GLAND	STEEL	AISI 1213	1
6	CONE SEAL	PTFE	CARBON FILLED PTFE	1
7	RETAINING WASHER	STEEL	AISI 1213	1
8	WASHER	STAINLESS STEEL	AISI 304	1
9	GASKET	PTFE		2
10	GASKET	GRAPHITE		1
11	LOCKING SCREW	STAINLESS STEEL	AISI 304	1
12	BACKSEATING	PTFE	CARBON FILLED PTFE	1
13	GASKET	PTFE	CARBON FILLED PTFE	1
14	HANDWHEEL	STEEL		1
15	NAME PLATE	ALUMINUM		1
16	WASHER	STEEL		1
17	HANDLE LOCKING SCREW	STEEL		1
18	CAP	ALUMINUM		1
19	GASKET FOR CAP	NYLON		1

Material Specifications

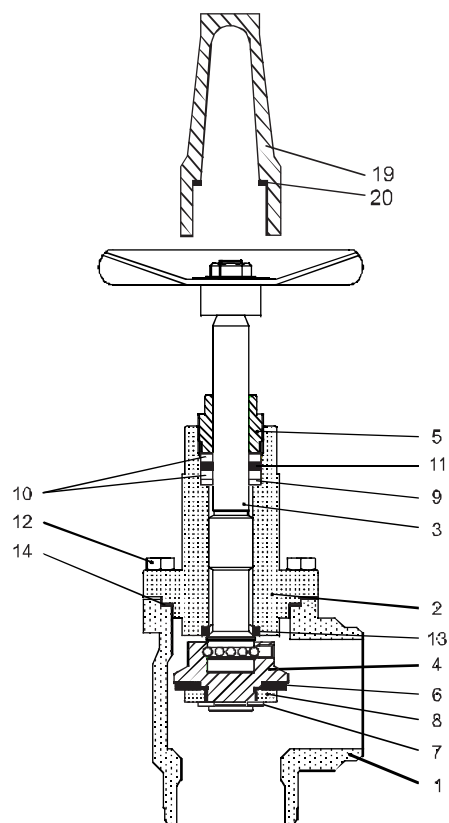
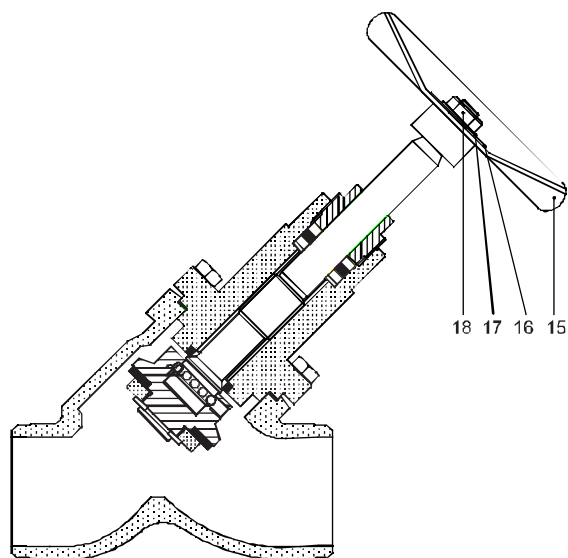
CSVA 32-40 (1.1/4"-1.1/2")



NO.	PART	MATERIAL	GRADE	QTY.
1	HOUSING	STEEL	ASTM A350 LF2, LCC	1
2	BONNET	STEEL	ASTM A350 LF2, LCC	1
3	SPINDLE	STAINLESS STEEL	AISI 303	1
4	CONE	STEEL	AISI 1213	1
5	PACKING GLAND	STEEL	AISI 1213	1
6	CONE SEAL	PTFE	CARBON FILLED PTFE	1
7	E-CLIP	STAINLESS STEEL	AISI 304	1
8	RETAINING WASHER	STEEL	AISI 1213	1
9	WASHER	STAINLESS STEEL	AISI 304	1
10	GASKET	PTFE		2
11	GASKET	GRAPHITE		1
12	LOCKING SCREW	STAINLESS STEEL	AISI 304	1
13	INTERNAL SOFT BACKSEATING	PTFE	CARBON FILLED PTFE	1
14	GASKET	PTFE	CARBON FILLED PTFE	1
15	HANDWHEEL	STEEL		1
16	NAME PLATE	ALUMINUM		1
17	WASHER	STEEL		1
18	HANDLE LOCKING SCREW	STEEL		1
19	CAP	ALUMINUM		1
20	GASKET FOR CAP	NYLON		1

Material Specifications

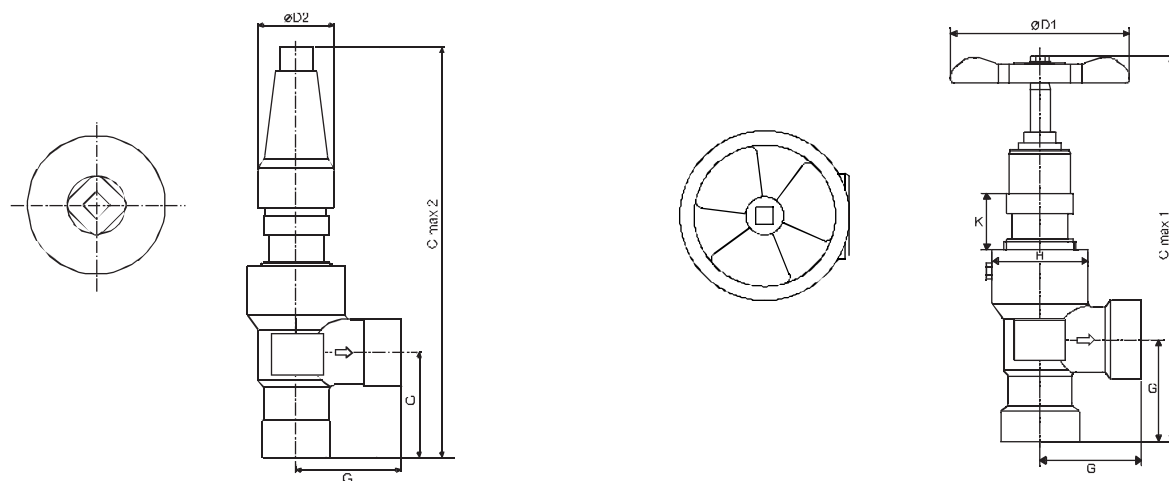
CSVA 50-200 (2" - 8")



NO.	PART	MATERIAL	GRADE	QTY.
1	HOUSING	STEEL	ASTM A350 LF2, LCC	1
2	BONNET	STEEL	ASTM A350 LF2, LCC	1
3	SPINDLE	STAINLESS STEEL	AISI 303	1 ★
4	CONE	STEEL	AISI 1213	1
5	PACKING GLAND	STEEL	AISI 1213	1
6	CONE SEAL	PTFE	CARBON FILLED PTFE	1
7	E-CLIP	STAINLESS STEEL	AISI 304	1
8	RETAINING WASHER	STEEL	AISI 1213	1
9	WASHER	STAINLESS STEEL	AISI 304	1
10	GASKET	PTFE		2
11	GASKET	GRAPHITE		1 ★★
12	BOLTS	HIGH TENSILE BOLTS	ASTM A-574	4 ★★★
13	INTERNAL SOFT BACKSEATING	PTFE	CARBON FILLED PTFE	1
14	GASKET	NON ASBESTOS		1
15	HANDWHEEL	STEEL		1
16	NAME PLATE	ALUMINUM		1
17	WASHER	STEEL		1
18	NUT	STEEL		1
19	CAP	ALUMINUM		1
20	GASKET FOR CAP	NYLON		1
★	MATERIAL AISI 304 FOR DN-80 to DN-200			
★★	QTY 2 FOR DN-125 to DN-200			
★★★	QTY 8 FOR DN- 80 to DN-200			

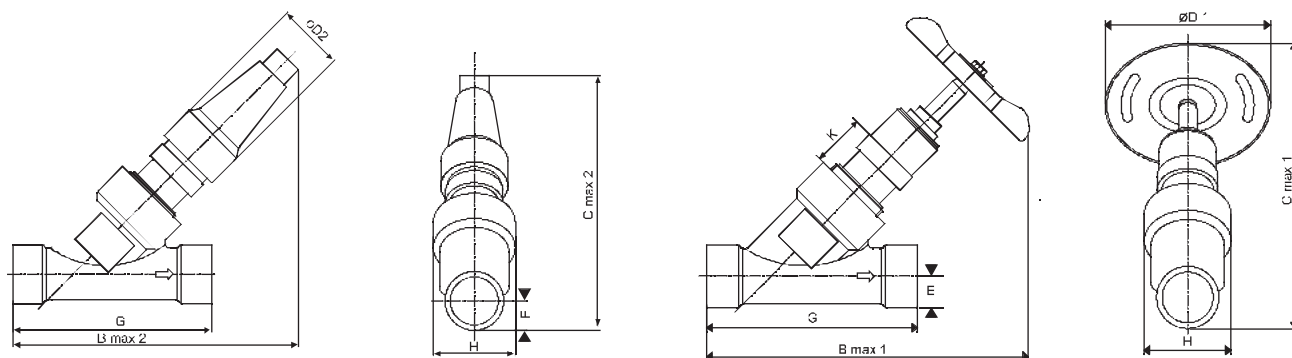
Dimensions and weights

CSVA 15-40 In angleway version



Valve size		K	Cmax1	Cmax 2	G	ØD 1	ØD 2	H	Weight
CSVA-Socket weld									
CSVA 15 20	mm	25.4	193	207	53	90	38.5	47	1.3 kg
CSVA (½ - ¾)	in	1	7.59	8.14	2.08	3.54	1.51	1.85	2.9 lb
CSVA 25	mm	25.4	193	210.5	49	90	38.5	47	1.5 kg
CSVA (1)	in	1	7.59	8.28	1.92	3.54	1.51	1.85	3.3 lb
CSVA 32	mm	30	240	286	58	110	50	62	2.6 kg
CSVA (1¼)	in	1.18	9.44	11.25	2.28	4.33	1.96	2.44	5.72 lb
CSVA 40	mm	30	240	286	58	110	50	68	2.9 kg
CSVA (1½)	in	1.18	9.44	11.25	2.28	4.33	1.96	2.67	6.38 lb

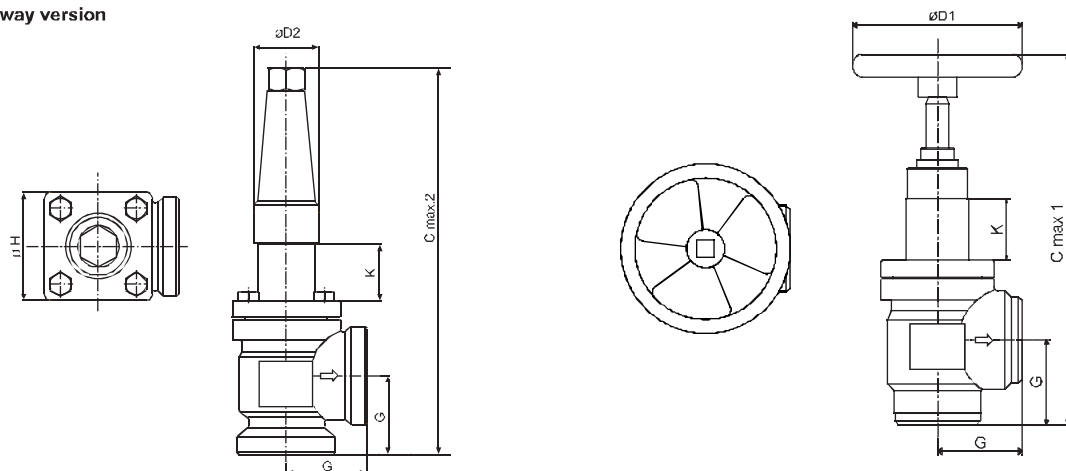
CSVA 15-40 in straightway version



Valve size		K	Cmax. 1	Cmax.2	Bmax.1	Bmax. 2	G	E	ØD 1	ØD 2	H	Weight
CSVA -Socket weld												
CSVA 15-20	mm	25.4	141	146	163	164	114	17	90	38.5	47	1.4 kg
CSVA (½ - ¾)	in	1	5.55	5.74	6.41	6.45	4.49	0.67	3.54	1.51	1.85	3.0 lb
CSVA 25	mm	25.4	160	157.5	164	172	126	18.3	90	38.5	47	1.7 kg
CSVA (1)	in	1	6.30	6.20	6.45	6.77	4.96	0.72	3.54	1.51	1.85	3.7 lb
CSVA 32	mm	30	202	219	172	239	160	24	110	50	62	2.7 kg
CSVA (1¼)	in	1.18	7.95	8.62	6.77	9.40	6.30	0.94	4.33	1.96	2.44	5.9 lb
CSVA 40	mm	30	210	223.5	218	232.5	150	27.4	110	50	68	3.0 kg
CSVA (1½)	in	1.18	8.26	8.79	8.58	9.15	5.90	1.07	4.33	1.96	2.67	6.6 lb

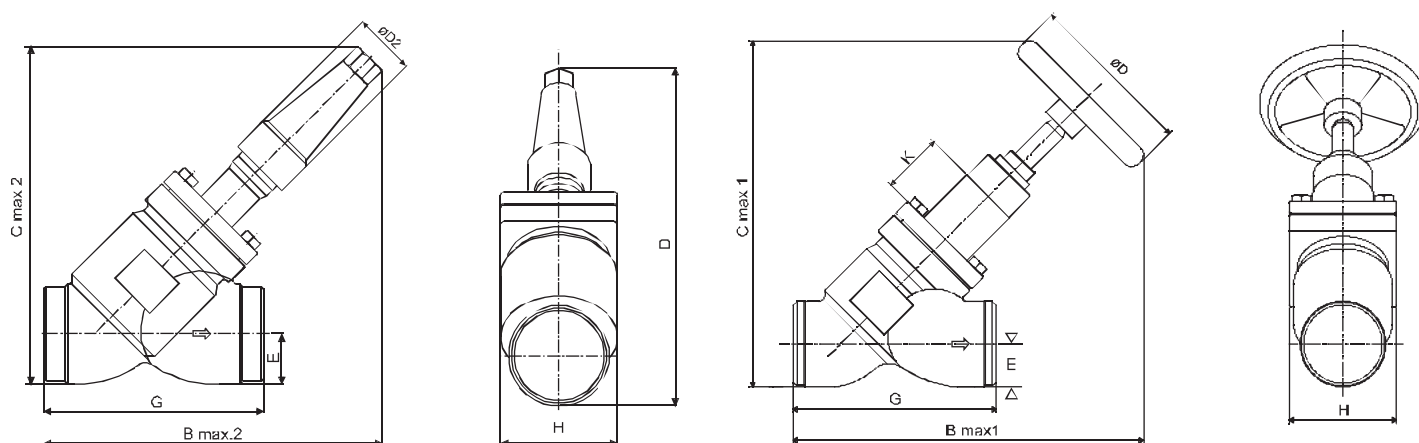
Dimensions and weights

CSVA50-65 in angleway version



Valve size		K	Cmax 1	Cmax 2	G	ØD1	ØD2	nH	Weight
CSVA-BUTT WELD									
CSVA 50	mm	44	245	294.5	60	120	50	77	3.4 kg
CSVA (2)	in	1.73	9.64	11.59	2.36	4.72	1.96	3.03	7.5 lb
CSVA 65	mm	45	283	335.5	70	120	50	90	5 kg
CSVA (2 1/4)	in	1.77	11.14	13.20	2.75	4.72	1.96	3.54	11.0 lb
CSVA-Socket weld									
CSVA 50	mm	44	245	294.5	60	120	50	77	3.6 kg
CSVA (2)	in	1.73	9.65	11.59	2.36	4.72	1.96	3.03	7.92 lb

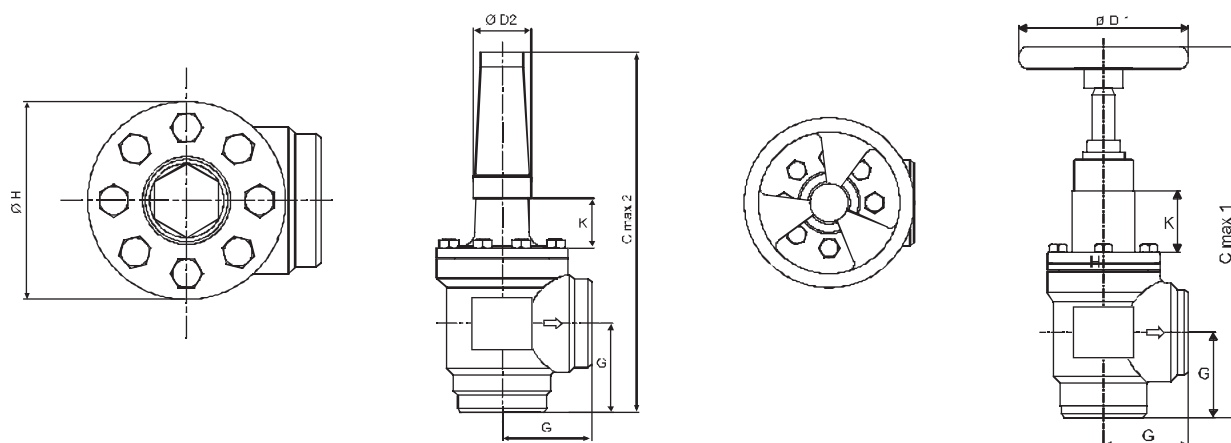
CSVA 50-65 in straightway version



Valve size		K	Cmax 1	Cmax 2	Bmax 1	Bmax 2	G	E	ØD1	ØD2	nH	Weight
CSVA-BUTT WELD												
CSVA 50	mm	44	232	243.5	236	247	148	32	120	50	77	3.90 kg
CSVA (2)	in	1.73	9.13	9.58	9.30	9.72	5.82	1.25	4.72	1.96	3.03	8.58 lb
CSVA 65	mm	45	264	289	266	289	176	40.2	120	50	90	6.35 kg
CSVA (2 1/4)	in	1.77	10.39	11.37	10.47	11.37	6.92	1.58	4.72	1.96	3.54	14 lb
CSVA-Socket weld												
CSVA 50	mm	44	238	243.5	236	247	148	36.8	120	50	77	3.7 kg
CSVA (2)	in	1.73	9.37	9.58	9.30	9.72	5.82	1.45	4.72	1.96	3.03	8.14 lb

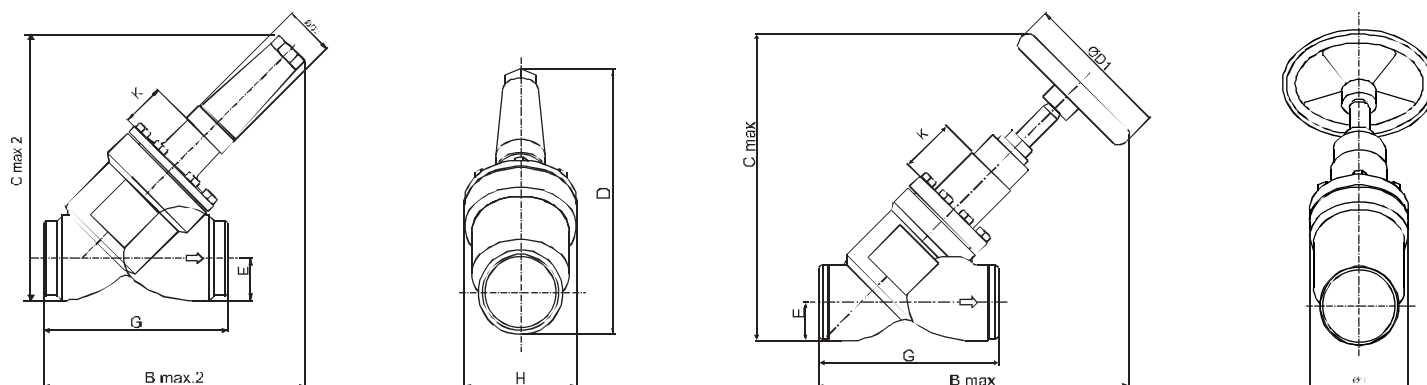
Dimensions and weights

CSVA 80-200 in angleway version



Valve size		K	Cmax 1	Cmax 2	G	ØD 1	ØD 2	ØH	Weight
CSVA-BUTT WELD									
CSVA 80	mm	45	331	368,5	90	200	58	131	8.3 kg
CSVA (3)	in	1.77	13.11	14.50	3.54	7.87	2.28	5.15	18.3 lb
CSVA 100	mm	45	379	405	106	200	58	155	14.2 kg
CSVA (4)	in	1.77	14.92	15.91	4.17	7.87	2.28	6.10	31.2 lb
CSVA 125	mm	90	517	533	128	320	74	210	28.1 kg
CSVA (5)	in	3.54	20.35	20.98	5.04	12.59	2.91	8.26	61.9 lb
CSVA 150	mm	90	564	568	145	320	74	219	39.7 kg
CSVA (6)	in	3.54	22.20	22.36	5.71	12.59	2.91	8.62	87.5 lb
CSVA 200	mm	90	675	678	180	320	86	276	79.5 kg
CSVA (8)	in	3.54	26.57	26.69	7.09	12.59	3.39	10.87	175.3 lb

CSVA 80-200 in straightway version



Valve size		K	Cmax 1	Cmax 2	Bmax 1	Bmax 2	G	E	ØD 1	ØD 2	ØH	Weight
CSVA-BUTT WELD												
CSVA 80	mm	45	332	311	331	307	216	49.8	200	58	131	10.1 kg
CSVA (3)	in	1.77	13.07	12.24	13.03	12.08	8.50	1.96	7.87	2.28	5.15	22.2 lb
CSVA 100	mm	45	381	350	370	343.5	264	60.7	200	58	157	17.2 kg
CSVA (4)	in	1.77	15.00	13.77	14.56	13.52	10.39	2.39	7.87	2.28	6.18	37.84 lb
CSVA 125	mm	90	538	456	526	444	322	75	320	74	210	32.8 kg
CSVA (5)	in	3.54	21.18	17.95	20.70	17.48	12.67	2.96	12.59	2.91	8.26	72.16 lb
CSVA 150	mm	90	594	505	572	483	370	91	320	74	219	60 kg
CSVA (6)	in	3.54	23.38	19.88	22.51	19.02	14.57	3.59	12.59	2.91	8.62	132 lb
CSVA 200	mm	90	726	613	692	579	464	117	320	86	276	111.5 kg
CSVA (8)	in	3.54	28.58	24.13	27.24	22.80	18.27	4.61	12.59	3.39	10.87	245.8 lb

Ordering

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range. For further information please contact your local Castle Sales Distributor.

Type codes

Valve type	CSVA	Shut off valve			
Nominal size in mm (valve size measured on the connection diameter)		Available connections			
		A/D	SOC	FPT	
		DN 15(½)	x	x	x
		DN20(¾)	x	x	x
		DN25(1)	x	x	x
		DN32(1¼)	x	x	x
		DN40(1½)	x	x	
		DN50(2)	x	x	
		DN65(2½)	x		
		DN80(3)	x		
		DN100(4)	x		
		DN 125 (5)	x		
		DN 150 (6)	x		
DN 200 (8)	x				
Connections	A	Butt-weld connection: ANSI B 36.10 schedule 80, DN 15 - 40 (½-1½ in.)			
D	Butt-weld connection: ANSI B 36.10 schedule 40, DN 50 - 200 (2 - 8 in.)				
SOC	Socket weld: ANSI B 16.11				
FPT	Female Pipe Thread NPT: ANSI/ASME B 1.20.1				
T	Outside threaded connections ISO 228/1 Pipe thread				
Valves housing	AV	Angle flow			
	ST	Straight flow			
Other equipment	H-WHEEL	Hand-Wheel			
	CAP	Cap			
Example	CSVA-AV - 15-Soc- H-wheel This is a Castle Shut off Valve for Ammonia with a 15mm Socket connection with hand wheel.				

Important!

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.



Regulating Valves

Type CREG DN-15 to DN-50

Technical Data

Introduction



CREG are angle-way and straight-way regulating valves, which act as normal stop valves in closed position. The valves are designed to meet the strict quality requirements on refrigerating installations and are carefully designed to present favourable flow conditions and accurate linear characteristics.

CREG are equipped with internal backseating enabling the spindle seal to be replaced with the valve still under pressure.

Features

- Applicable to all common non flammable refrigerants including R 717 and non corrosive gases/liquids dependent to sealing material compatibility
- Designed to ensure perfect regulation
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Easy to disassemble for inspection and possible repair
- Max. operating pressure: CREG: 40 bar g (580 psi g) Full temperature range packing gland - 46 / +150°C

Housing

Made of special, cold resistant steel.

Valve cone

The valve cone can be turned on the spindle, thus there will be no friction between the cone and the seat, when the valve is opened and closed.

Spindle

Made of polished stainless steel so that PTFE and Graphite gaskets are not damaged.

Sealing

Spindle sealing is done with PTFE and Graphite gaskets assuring 100% sealing.

Design

Housing

Made of special, cold resistant steel.

Connections

Available with the following connections:

- Butt-weld ANSI

DN15-40(B 3/8-1 1/2 Schedule 80)

Butt-weld ANSI

DN 50(B 3/4 Schedule 40)

Butt-weld ANSI

Socket weld (ANSI B 16.11)

– DN 15 - 50 (1/2 - 1 in.)

Valve cone

The valve cone is designed to ensure perfect regulation.

A cone seal ring provides perfect sealing at a minimum closing momentum.

The valve cone can be turned on the spindle, thus there will be no friction between the cone and the seat when the valve is opened and closed.

Spindle

Made of polished stainless steel so that PTFE and Graphite gaskets are not damaged.

Packing gland - CREG

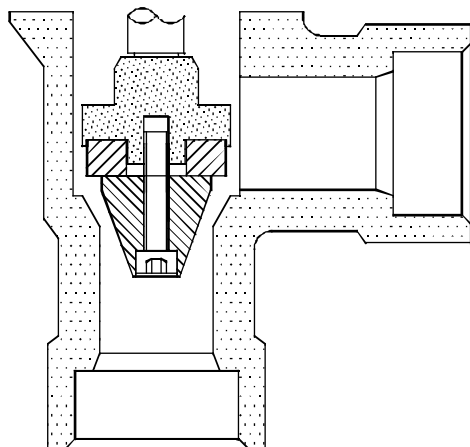
The "full temperature range" packing gland ensures perfect tightness in the whole range: $-46/+150^{\circ}\text{C}$

Installation

Install the valve with the spindle up or in horizontal position. The flow must be directed towards the cone.

The valve is designed to withstand high internal pressure. However, the piping system in general should be designed to avoid liquid traps and reduce the risk of hydraulic pressure caused by thermal expansion.

For further information refer to installation instruction for CREG.



Technical data

Refrigerants

Applicable to all common non flammable refrigerants including R 717 and non corrosive gases/liquids dependent on sealing material compability.

Flammable hydrocarbons are not recommended. For further information please contact your local Castle Sales Distributor.

Temperature range

CREG: $-46/+150^{\circ}\text{C}$

For further information please see installation instruction for CREG

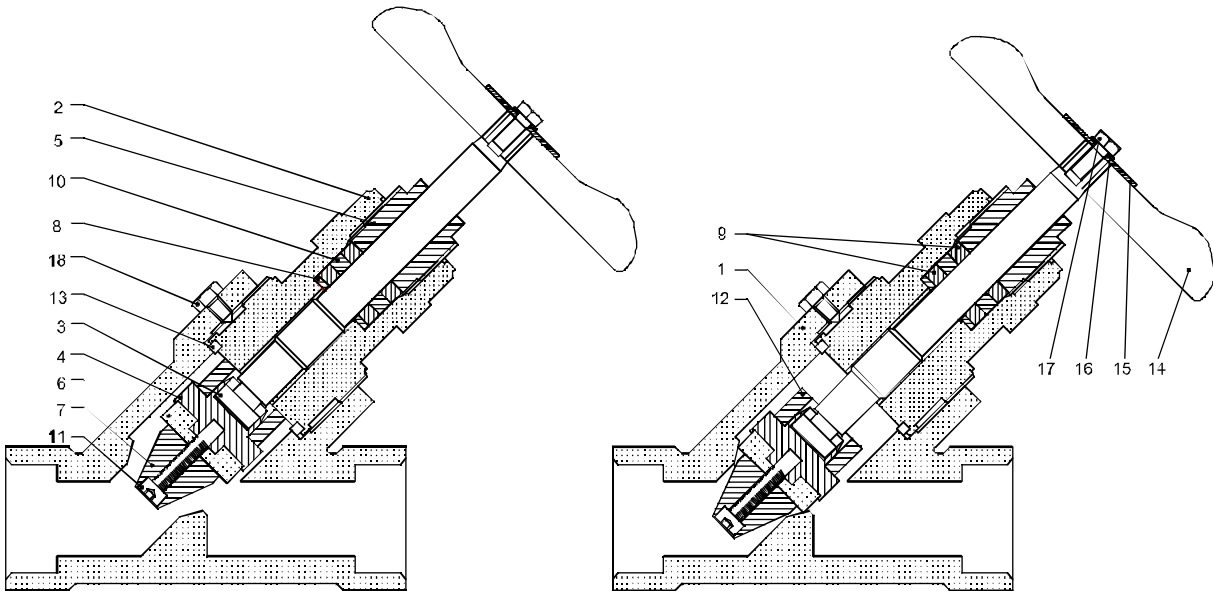
Pressure range

Max. operating pressure:

CREG: 40 bar g (580 psig).

Material specification

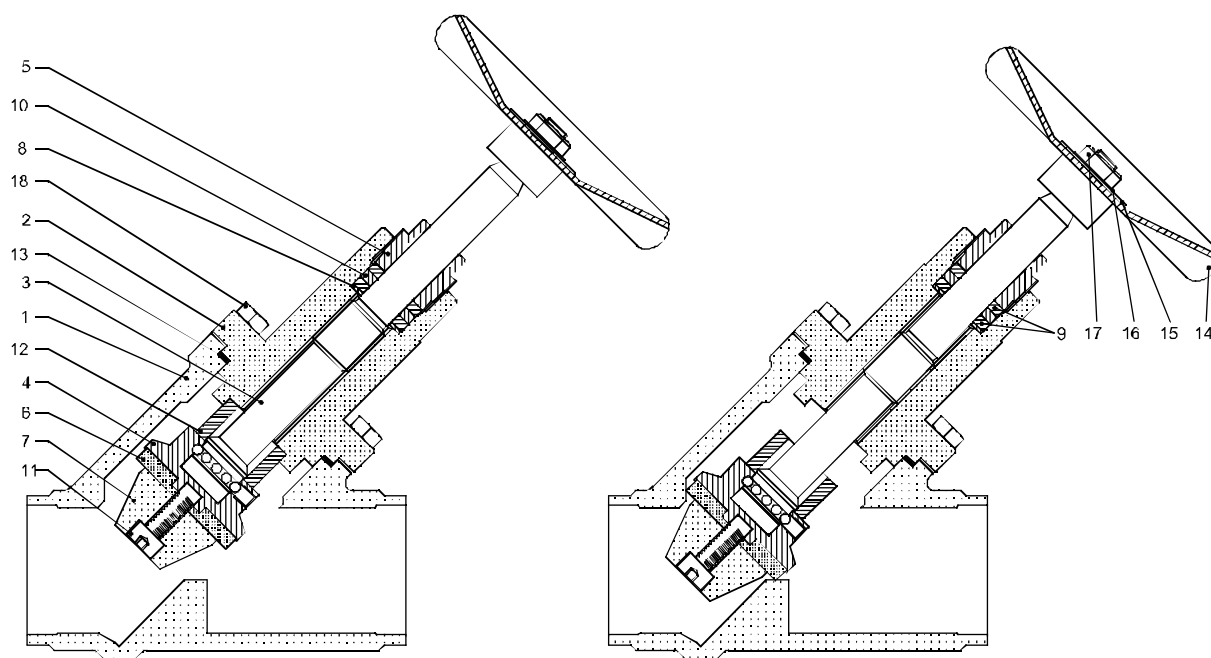
CREG 15-40 (½ " - 1.½ ")



NO.	PART	MATERIAL	GRADE	QTY.
1	HOUSING	STEEL	ASTM A350 LF2,LCC	1
2	BONNET	STEEL	ASTM A350 LF2,LCC	1
3	SPINDLE	STAINLESS STEEL	AISI 303	1
4	CONE	STEEL	AISI 1213	1
5	PACKING GLAND	STEEL	AISI 1213	1
6	CONE SEAL	PTFE	CARBON FILLED PTFE	1
7	NEEDLE PIN	STEEL	AISI 1213	1
8	WASHER	STAINLESS STEEL	AISI 304	1
9	GASKET	PTFE		2
10	GASKET	GRAPHITE		1
11	ALLEN SCREW	STAINLESS STEEL	AISI 304	1
12	PACKING WASHER	PTFE		1
13	GASKET	PTFE	CARBON FILLED PTFE	1
14	HANDWHEEL	STEEL		1
15	NAME PLATE	ALUMINIUM		1
16	WASHER	STEEL		1
17	HANDLE LOCKING SCREW	STEEL		1
18	LOCKING SCREW	STAINLESS STEEL	AISI 304	1

Material specification

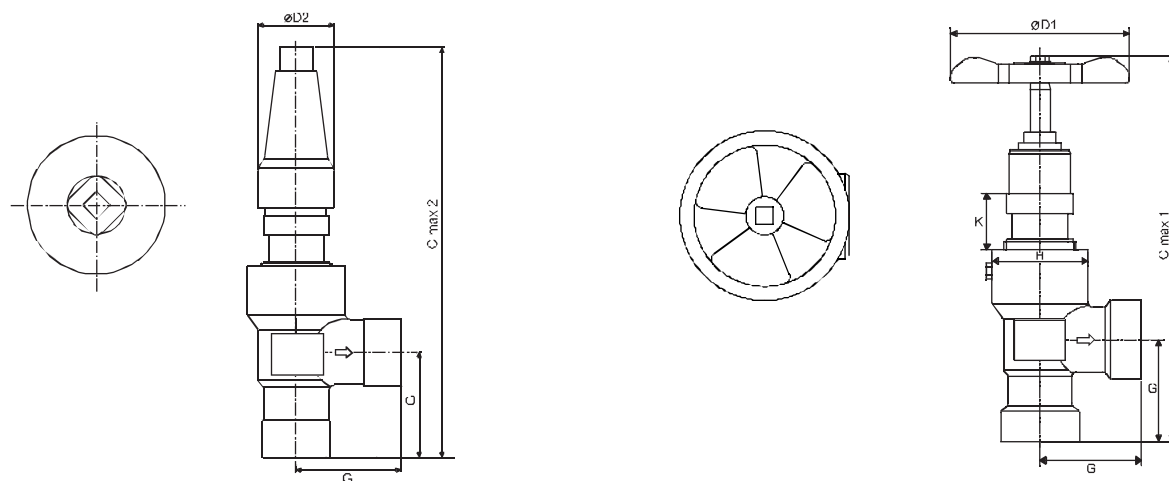
CREG 50 (2")



NO.	PART	MATERIAL	GRADE	QTY.
1	HOUSING	STEEL	ASTM A350 LF2, LCC	1
2	BONNET	STEEL	ASTM A350 LF2, LCC	1
3	SPINDLE	STAINLESS STEEL	AISI 303	1
4	CONE	STEEL	AISI 1213	1
5	PACKING GLAND	STEEL	AISI 1213	1
6	CONE SEAL	PTFE	CARBON FILLED PTFE	1
7	NEEDLE PIN	STEEL	AISI 1213	1
8	WASHER	STAINLESS STEEL	AISI 304	1
9	GASKET	PTFE		2
10	GASKET	GRAPHITE		1
11	ALLEN SCREW	STAINLESS STEEL	AISI 304	1
12	PACKING WASHER	PTFE		1
13	GASKET	NON-ASBESTOS		1
14	HANDWHEEL	STEEL		1
15	NAME PLATE	ALUMINIUM		1
16	WASHER	STEEL		1
17	NUT	STEEL		1
18	BOLTS	HIGH TENSILE BOLTS	ASTM A-574	4

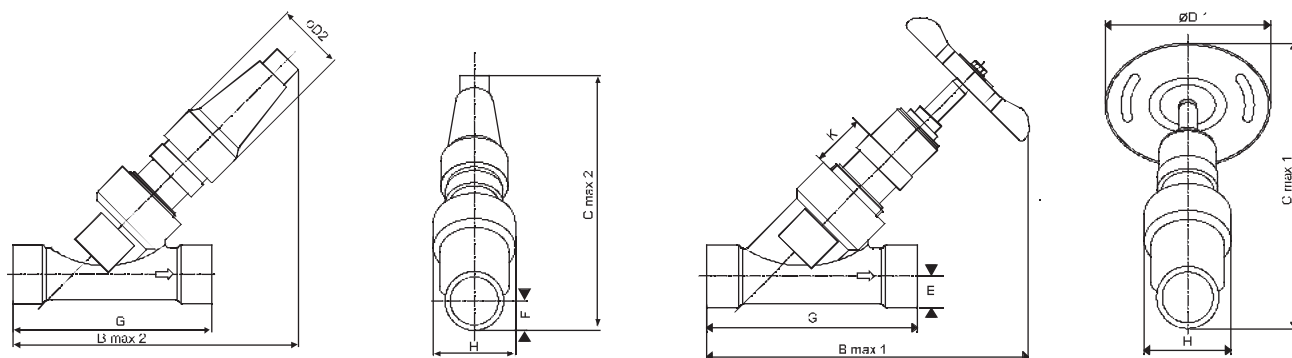
Dimensions and weights

CREG 15-40 in angleway version



Valve size		K	Cmax1	Cmax 2	G	ØD 1	ØD 2	H	Weight
CSVA-Socket weld									
CSVA 15 20	mm	25.4	193	207	53	90	38.5	47	1.3 kg
CSVA (½ - ¾)	in	1	7.59	8.14	2.08	3.54	1.51	1.85	2.9 lb
CSVA 25	mm	25.4	193	210.5	49	90	38.5	47	1.5 kg
CSVA (1)	in	1	7.59	8.28	1.92	3.54	1.51	1.85	3.3 lb
CSVA 32	mm	30	240	286	58	110	50	62	2.6 kg
CSVA (1¼)	in	1.18	9.44	11.25	2.28	4.33	1.96	2.44	5.72 lb
CSVA 40	mm	30	240	286	58	110	50	68	2.9 kg
CSVA (1½)	in	1.18	9.44	11.25	2.28	4.33	1.96	2.67	6.38 lb

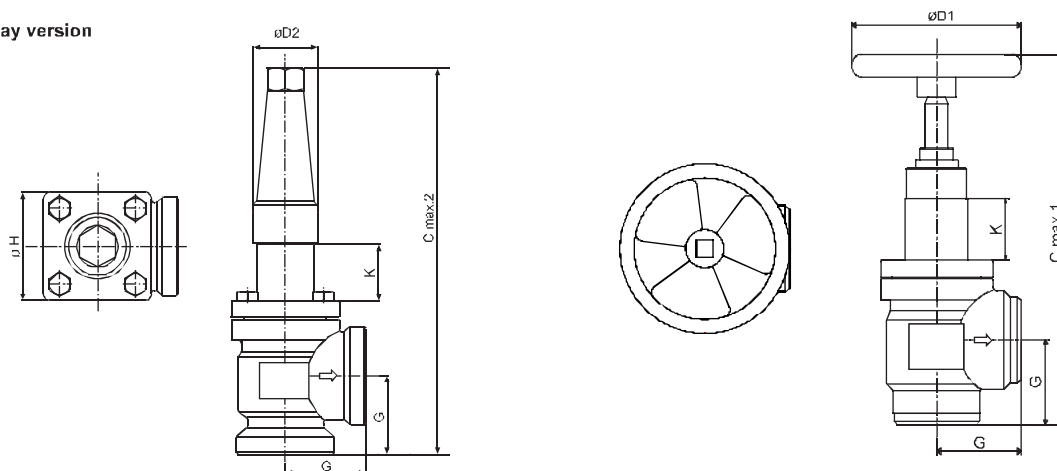
CREG 15-40 in straightway version



Valve size		K	Cmax. 1	Cmax.2	Bmax.1	Bmax. 2	G	E	ØD 1	ØD 2	H	Weight
CSVA-Socket weld												
CSVA 15-20	mm	25.4	141	146	163	164	114	17	90	38.5	47	1.4 kg
CSVA (½ - ¾)	in	1	5.55	5.74	6.41	6.45	4.49	0.67	3.54	1.51	1.85	3.0 lb
CSVA 25	mm	25.4	160	157.5	164	172	126	18.3	90	38.5	47	1.7 kg
CSVA (1)	in	1	6.30	6.20	6.45	6.77	4.96	0.72	3.54	1.51	1.85	3.7 lb
CSVA 32	mm	30	202	219	172	239	160	24	110	50	62	2.7 kg
CSVA (1¼)	in	1.18	7.95	8.62	6.77	9.40	6.30	0.94	4.33	1.96	2.44	5.9 lb
CSVA 40	mm	30	210	223.5	218	232.5	150	27.4	110	50	68	3.0 kg
CSVA (1½)	in	1.18	8.26	8.79	8.58	9.15	5.90	1.07	4.33	1.96	2.67	6.6 lb

Dimensions and weights

CREG 50 in angleway version



Valve size		K	Cmax 1	Cmax 2	G	ØD1	ØD2	ØH	Weight
------------	--	---	--------	--------	---	-----	-----	----	--------

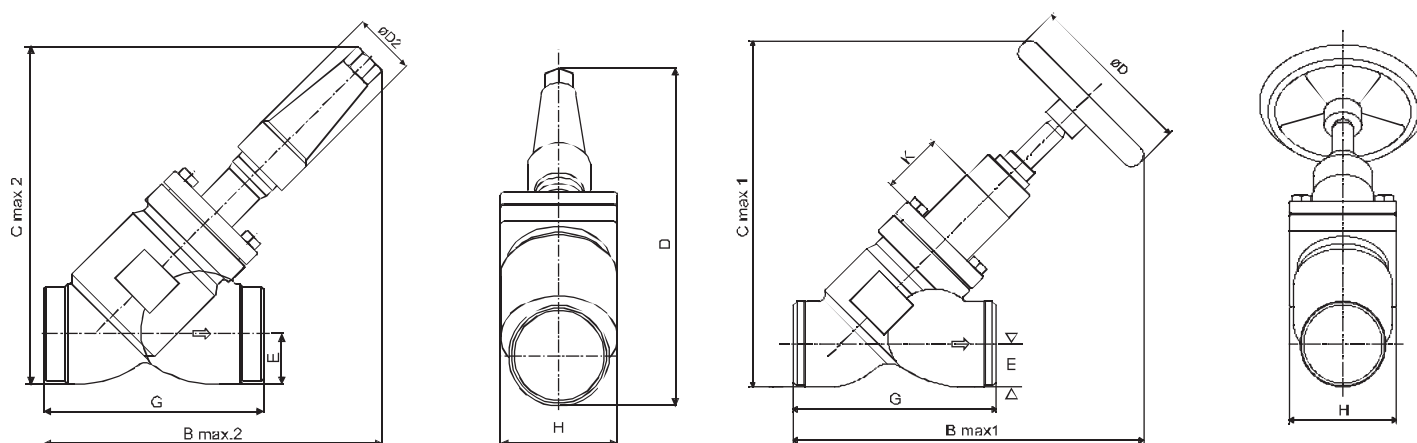
CSVA-BUTT WELD

CSVA 50	mm	44	245	294.5	60	120	50	77	3.4 kg
CSVA (2)	in	1.73	9.64	11.59	2.36	4.72	1.96	3.03	7.5 lb

CSVA-Socket weld

CSVA 50	mm	44	245	294.5	60	120	50	77	3.6 kg
CSVA (2)	in	1.73	9.65	11.59	2.36	4.72	1.96	3.03	7.92 lb

CREG 50 in straightway version



Valve size		K	Cmax 1	Cmax 2	Bmax 1	Bmax 2	G	E	ØD1	ØD2	ØH	Weight
------------	--	---	--------	--------	--------	--------	---	---	-----	-----	----	--------

CSVA-BUTT WELD

CSVA 50	mm	44	232	243.5	236	247	148	32	120	50	77	3.90 kg
CSVA (2)	in	1.73	9.13	9.58	9.30	9.72	5.82	1.25	4.72	1.96	3.03	8.58 lb

CSVA-Socket weld

CSVA 50	mm	44	238	243.5	236	247	148	36.8	120	50	77	3.7 kg
CSVA (2)	in	1.73	9.37	9.58	9.30	9.72	5.82	1.45	4.72	1.96	3.03	8.14 lb



Strainers

Type CFA DN- 15 to DN- 200

Introduction

CFIA filters are a range of angle-way and straight-way filters which are carefully designed to give favourable flow conditions. The design makes the filter easy to install, and ensures quick filter inspection and cleaning.

CFIA filters are used ahead of automatic controls, pumps, compressors etc. for initial plant start-up and where permanent filtration of the refrigerant is required. The filter reduces the risk of undesirable system breakdowns and reduces wear and tear on plant components.

CFIA filters are equipped with a screen mesh of stainless steel, available in sizes 100, 150, 250 and 500 μ (microns*), (US 150, 100, 72, 38 mesh*).

Features

- ◆ Applicable to all common refrigerants and all noncorrosive gases/liquids.
- ◆ Filter net of stainless steel mounted direct without extra gaskets means easy servicing.
- ◆ CFIA filter housing compatible with housings belonging to other Castle products. A compatibility overview can be obtained from local Castle Sales Distributor.
- ◆ Mesh is the number of threads per inch.
 μ (microns) is the distance between two threads
(1 μ = 1/1000 mm).
- ◆ CFIA 50-200 (2 - 8 in.) can be equipped with a magnetic insert for detention of iron particles and other magnetic particles.
- ◆ Each filter clearly marked with type, size and performance range
- ◆ Housing and bonnet of low temperature steel.
- ◆ Temperature range -46 °C /+150 °C
- ◆ Pressure range: CFIA: 40 bar g (580 psi g)



Technical data

Refrigerants Applicable to all common refrigerants including flammable refrigerants and all non-corrosive gases/liquids. For further information please see installation instruction for CFIA.

Temperature range -46 °C /+150 °C

Pressure range

Max. working pressure:

CFIA: 40 bar g (580 psi g).

Design Connections

Available with the following connections:

- ◆ Butt-weld ANSI (B 36.10 Schedule 80),
DN 15 - 40 (1/2 - 1 1/2 in.)
- ◆ Butt-weld ANSI (B 36.10 Schedule 40),
DN 50 - 200 (2 - 8 in.)
- ◆ Socket Weld (ANSI B 16.11), DN 15 - DN 50 (1/2 - 2 in.)

Filter Insert

A filter grid and filter net of stainless steel ensure long element life. The filter net offers a very high degree of cleanability.

Housing

Made of special, cold resistant steel.

Selection of filter size

The mesh aperture size of the filter must satisfy the requirements stated by the suppliers of the equipment to be protected.

The following recommendations of aperture size apply in general to refrigeration installations:

Liquid Lines

Ahead of pumps:.....**500μ** [38 mesh]
 After pumps:.....**150μ** [100 mesh] / 250μ [72 mesh]
 In front of valves.....**100μ** [150 mesh]

Protection of automatic regulation equipment

General.....**150μ** [100 mesh] / 250μ [72 mesh]
 Sensitive equipment, e.g.
 suction regulators with low temperature**250μ** [72 mesh]

Suction Lines

Ahead of screw compressor**250μ** [72 mesh]
 Ahead of piston compressor**150μ** [100 mesh]

Definition

Mesh is the number of threads per inch.

μ (microns) is the distance between

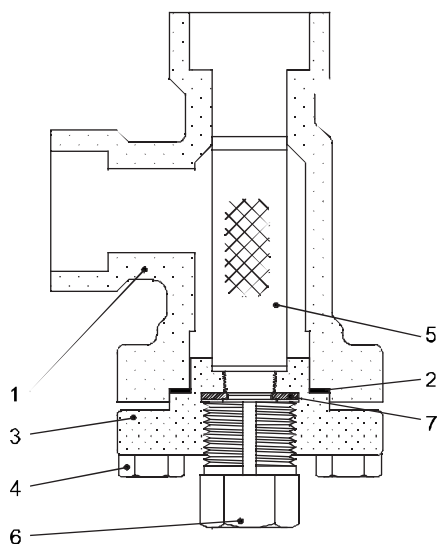
two threads (1μ = 1 /1000 mm).

Flow coefficient (DIN/ANSI)

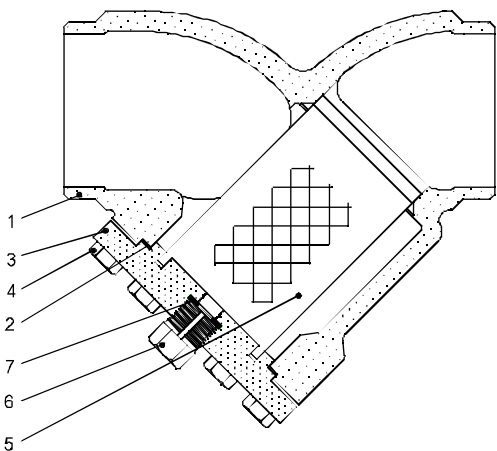
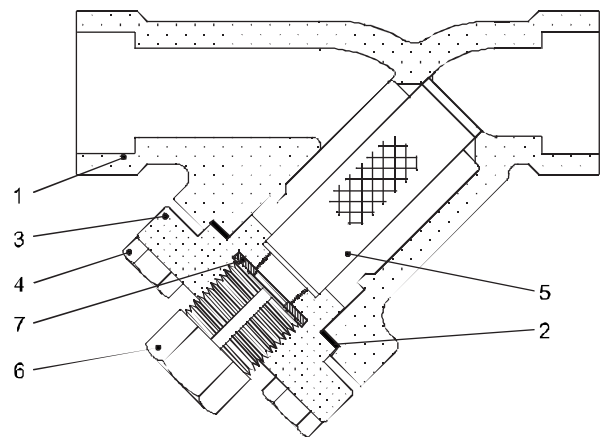
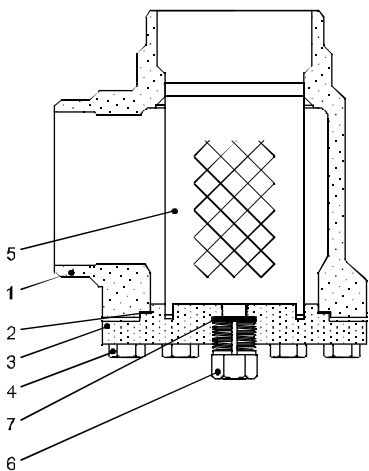
Size	μ	mesh	wire mm	wire in	free space %	screen area			
						plain elements		Pleated elements	
						cm ²	in ²	cm ²	in ²
15-20 (½" - ¾")	100		0.068	0.003	35	25	3.9	45	7.0
	150	100	0.10	0.004	36	25	3.9	45	7.0
	250	72	0.10	0.004	51	25	3.9	45	7.0
	500	38	0.16	0.006	57.6	25	3.9	45	7.0
25-40 (1" - 1½")	100		0.068	0.003	35	71	11	160	25.0
	150	100	0.10	0.004	36	71	11	160	25.0
	250	72	0.10	0.004	51	71	11	160	25.0
	500	38	0.16	0.006	57.6	71	11	160	25.0
50 (2")	100		0.068	0.003	35	71	11	200	31.2
	150	100	0.10	0.004	36	87	13.5	200	31.2
	250	72	0.10	0.004	51	87	13.5	200	31.2
	500	38	0.16	0.006	57.6	87	13.5	200	31.2
65 (2½")	150	100	0.10	0.004	36	127	19.7	305	47.6
	250	72	0.10	0.004	36	127	19.7	305	47.6
	500	38	0.16	0.006	57.6	127	19.7	305	47.6
80 (3")	150	100	0.10	0.004	36	205	31.8	450	70.2
	250	72	0.10	0.004	51	205	31.8	450	70.2
	500	38	0.16	0.006	57.6	205	31.8	450	70.2
100 (4")	150	100	0.10	0.004	36	370	57.4	790	123.2
	250	72	0.10	0.004	51	370	57.4	790	123.2
	500	38	0.16	0.006	57.6	370	57.4	790	123.2
125 (5")	150	100	0.10	0.004	36	510	79.1	1105	172.4
	250	72	0.10	0.004	51	510	79.1	1105	172.4
	500	38	0.16	0.006	57.6	510	79.1	1105	172.4
150 (6")	150	100	0.10	0.004	36	726	112.5	1600	249.6
	250	72	0.10	0.004	51	726	112.5	1600	249.6
	500	38	0.16	0.006	57.6	726	112.5	1600	249.6
200 (8")	150	100	0.10	0.004	36	1315	203.8		
	250	72	0.10	0.004	51	1315	203.8		
	500	38	0.16	0.006	57.6	1315	203.8		

Material specification

CFA 15-65(½"-2½")



CFA 80-200 (3"-8")



CFA15-200 (½" - 8")

NO.	PART	MATERIAL	GRADE	QTY.
1	HOUSING	STEEL	LCC, ASTM A350 LF2	1
2	GASKET	NON-ASBESTOS		1
3	COVER	STEEL	LCC, ASTM A350 LF2	1
4	BOLTS	HIGH TENSILE BOLTS	ASTM A-574	4 ★
5	FILTER ELEMENT	STAINLESS STEEL	AISI 304	1
6	PRESSURE RELIEF(SCREW)	STAINLESS STEEL	AISI 303	1
7	PACKING WASHER	PTFE		1
★	QTY 8 FOR DN-80 to DN-200			



Level Indicator
Ball Valves
Level Controllers
Solenoid Valves

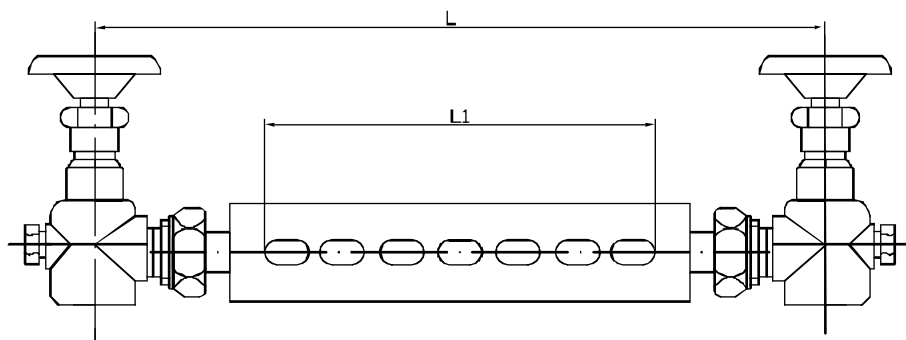
Liquid Level Indicator

Application : These level indicators are used to display the level of ammonia gas in the system.

Material of construction : Valves are made of steel with a ball for protection incase of failure. The glass is fused to the metal at high temperatures.

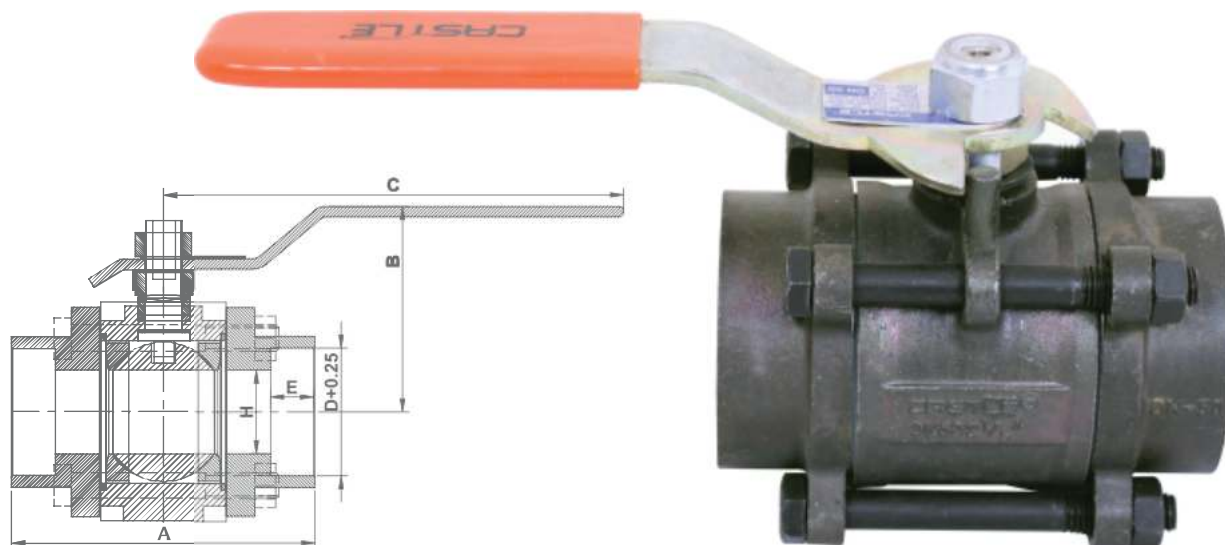
Temperature : -40 / +125°C

Pressure : Level indicators will work for a max working pressure of 40 Bar.



L(mm)	L1(mm)
300	120
450	270
600	420
800	620
1000	820
1100	920
1200	1020

Ball Valves



Application

Petroleum, Petrochemical, Chemical, Refrigeration, air-conditioning and engineering industries. Valves are compatible with Ammonia, CFC, HCFC, Oil, Air, Chemicals, Gas, Acids, Alkalies etc. amongst many other media.

Installation

The three piece design makes the Series C-44 valve the most easily maintainable valve in its type. By removing three body connector bolts and loosening the fourth, the body can be swung away using the fourth bolt as a fulcrum, to carry, out any maintenance on the valve. This feature allows the valve to be online and considerably reduces down time.

SWP : 40 Bar

Temp : -46/+125°C

MATERIAL SPECIFICATIONS		
Name of Part	Carbon Steel valve	Stainless Steel valve
Body	ASTM-A352 L.C.B.	ASTM A351 Gr.CF 8
Body Connector		
Ball	AISI 304 Gr. CF 8	
Seat	Virgin PTFE	
Stem	Stainless Steel AISI 304	
Body Seal	Virgin PTFE	
Gland Packing	35% Carbon filled PTFE	
Stem Seal		

Model	SCREWED / SOCKET-WELD END (IN MM, UNLESS SPECIFIED)							Weight
DN	INCH	A	B	C	D+0.25	E	H	Kg
DN15 (1/2")	1/2" - 5/8"	64	45	122	21.8	9.7	11.2	0.6
DN20 (3/4")	7/8"	75	54	122	27.4	12.7	14.2	1
DN25 (1")	1.1/8"	94	75	148	34.1	12.7	22	1.7
DN32 (1.1/4")	1.3/8"	109	73	182	42.7	12.7	25	2.5
DN40 (1.5")	1.5/8"	118	73	182	49	12.7	32	3.7
DN50 (2")	2.1/8"	127	83	182	61	12.7	38	5
DN65 (2.5")	2.5/8"	145	260	230	77.5	15.9	50	8.5
DN80 (3")	3.1/8"	172	280	230	91	20	63	11.5
DN100 (4")	4.1.8"	185	295	230	117.5	25	72	18
DN125 (5")	5.1/8"	230	295	230	142	25	96	25

Liquid Level Controller



Application

While primarily designed for Ammonia, this control is also suitable for R-22 and other non-corrosive liquids that have a specific gravity of 0.5 or more. The controller is ideal for the control of the operating level of liquid in liquid refrigerant accumulators and separators. Although this is normally done with a solenoid valve, the controller can activate an alarm or a pump or similar device.

Construction

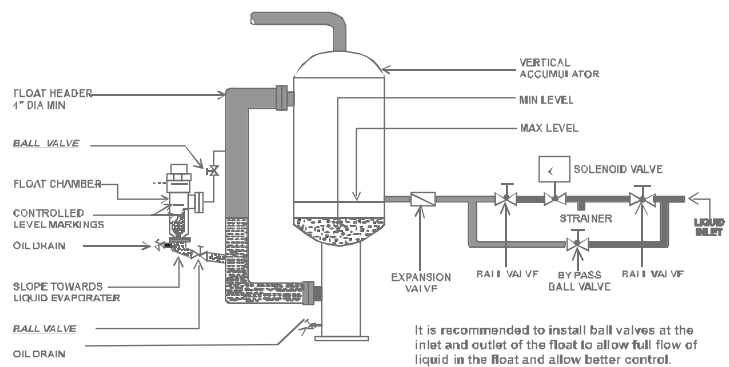
Mechanical Float:

Light deep drawn body, drawn in one piece. Ball & Stem are made from SS. Electronic control box made from ABS in an international size 96X96 housing.

This device consists of two separate units, the float chamber and the electronic controller. The float chamber consists of a housing, float ball, float coil and coil enclosure. The float ball is located inside the housing and moves an attached magnetic stem up or down in an enclosing tube from the top and is protected by the coil enclosure. The construction permits all high voltage connections and wiring to be made at a remote or non-hazardous location.

Gravity equalisation of the liquid level in the float chamber is a function of the liquid. For fluids having a high viscosity the response time will be slower. The level controller should not be used on water applications.

Suggested installation for Liquid Level Controller



Liquid Level Switch



Application

While primarily designed for Ammonia, this control is also suitable for R-22 and other non-corrosive liquids that have a specific gravity of 0.5 or more. The controller is ideal for the control of the operating level of liquid in liquid refrigerant accumulators and separators. Although this is normally done with a solenoid valve, the controller can activate an alarm or a pump or similar device.

Construction

Mechanical Float:

Light deep drawn body, drawn in one piece. Ball & Stem are made from SS.

This device consists of one float chamber with a magnetic operated switch in the top housing. The float chamber consists of a housing, float ball and magnet. The float ball is located inside the housing and moves an attached magnetic stem up or down in an enclosing tube from the top and is protected by the enclosure.

Gravity equalisation of the liquid level in the float chamber is a function of the liquid. For fluids having a high viscosity the response time will be slower. The level controller should not be used on water applications.

Solenoid Valves



Application

These valves are for Ammonia duty. The MSVA are pilot operated valves whilst the MDSVA are direct operated solenoid valves. They are used in many applications such as cold stores, freezers, chilling applications etc.

Installation

These valves must be installed in horizontal positions with the coil housing no more than 45 degrees from the vertical position.

Construction

The valve is made up from various metals. Whilst stainless steel is used for components like stems, plungers, the main body is made from LCC

Type	Flanged Connection	Port Size inches	MOPD PSI	Nominal Liquid Capacity T.R.- Ammonia Pressure Drop P.S.I.					Coil Rating		
			AC	1	2	3	4	5	Type	Volt-Hz	Watts
MDSVA 12	1/2"	0.140	250	8.0	11.2	13.5	16	17.5	SVC-1	230AC 50/60	18
MSVA 12	1/2"	0.450	275	68	91	110	131	143			
MSVA 20	3/4"	0.600	275	75	97	122	145	167			
MSVA 25	1"	0.950	300	119	169	221	241	266	SVC-2	230AC 50/60	18
MSVA 32	1.1/4"	1.075	300	125	174	225	249	277			
MSVA 40	1.1/2"	1.260	300	275	390	500	550	625			

Strainers



Application

These strainers are specially designed to be installed in conjunction with solenoid valves.

Their mesh is selected so that no particles enter and disrupt the operation of the solenoid valve. For smooth operation of solenoid valves these strainers are mandatory.

Installation

For best results, the strainer is installed right at the inlet of the solenoid valve or as close to it as possible for larger sizes.

Features

retains contaminants eg. Slag, weld beads, pipe fittings.
pressure drop insignificant

Construction

The material of construction for the body is CI whilst for the mesh it is stainless steel.



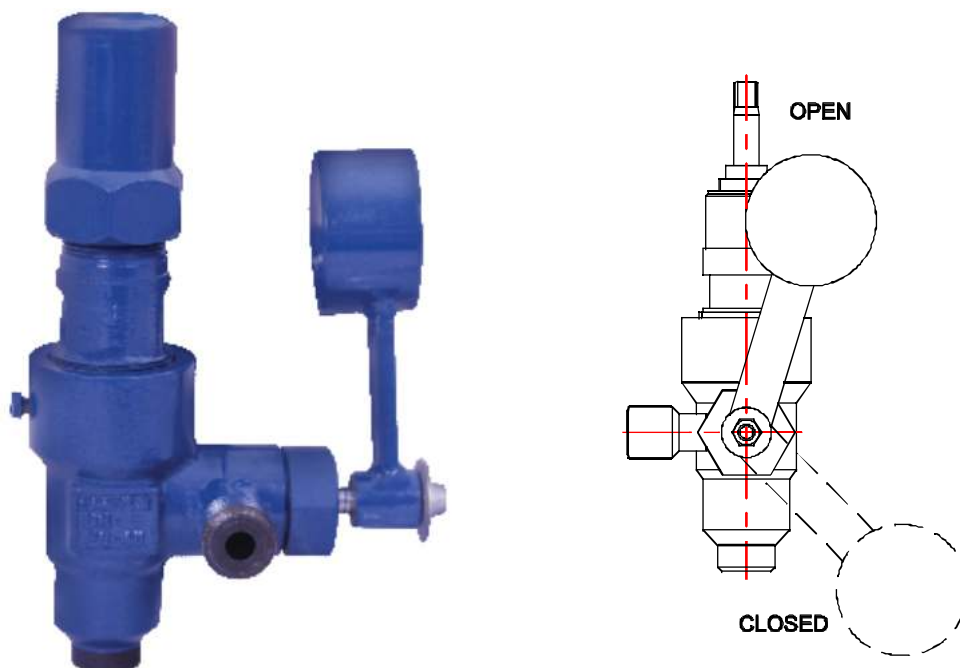
Model	DIMENSIONS (MM)		Weight Kg
	A	B	
CAS12	68	122	1.3
CAS20	85	140	2.3

Model	DIMENSIONS (MM)										Weight
	A	B	C	D	E	F	G	H	PCD	BOLT SIZE	Kg
CAS25	190	136	42	150	-	47	58.8	4	80	M12X40	7
CAS32	190	154	42	150	-	47	58.8	4	80	M12X40	7



Purge Valves Stop Needles Valves

Purge valves with counterweights



Design characteristics

Purge valves with counterweights are valves with a normal primary closing system and a secondary closing system operated by the counterweight falling. The normal closing system is designed to provide a seal for a long period. The secondary closing system is a quick but provisional closing, see below the design working pressures.

Secondary closing

	pressure against which the counterweight falling will seal the valve	increase in pressure resistance after closing
DN 8	25 BAR	25 BAR
DN 15	Max 7.5 BAR	25 BAR

Adjusting the counterweight

Full opening of the secondary closing system should occur when the counterweight is positioned near "1 o'clock when facing the counterweight side of the valve.

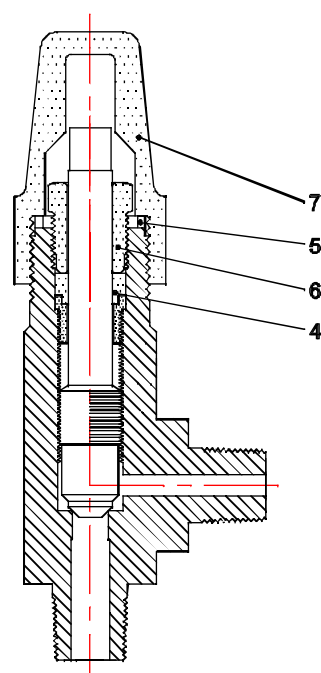
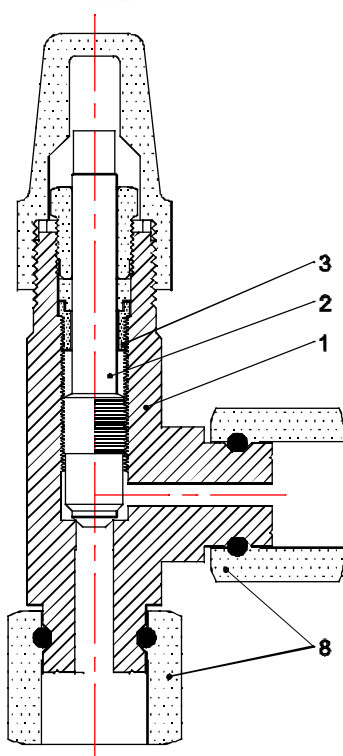
The counterweight position (conical fixing) must be oriented depending on the purge valve fitting position.

The counterweight should fall down by itself.

Operation

If the primary valve is open, the counterweight is in the high position, the purge valve is open. To close the purge valve, let the counterweight fall. The primary closing system can then be operated manually. The cap should be replaced after closing the primary valve.

Stop Needle Valve



Material Specification

NO.	PART	MATERIAL	GRADE	QTY.
1	HOUSING	STEEL	ASTM A350 LF2, LCC	1
2	SPINDLE	STAINLESS STEEL	S.S.303	1
3	LOCKING RING	STEEL	AISI 1213	1
4	SEALING RING	PTFE	PTFE	1
5	SEALING CAP GASKET	NYLON		1
6	GLAND NUT	STEEL	AISI 1213	1
7	SEAL CAP	STEEL		1
8	FEMALE NUT	STEEL	AISI 1213	2

Dual Manifold Valve



Safety Relief Valve



Dual Manifold Valve
Safety Relief Valve

Forthcoming Product

LIMITED WARRANTY AND LIMITATION OF LIABILITY.



WARRANTY.

All Castle products manufactured by A.S.Controls Pvt. Ltd (hereafter referred to as ASCPL) are under warranty against defects in workmanship and materials for a period of one year from date of shipment from factory. This warranty is in force only when products are properly installed, field assembled, maintained and operated in use and service as specifically stated in Castle catalogues for normal refrigeration applications unless otherwise approved in writing by ASCPL.

Defective products, or parts thereof returned to the factory with transportation charges prepaid and found to be defective by factory inspection, will be replaced or repaired at ASCPL's option, free of charge, Ex-factory. Warranty does not cover products that have been altered, or repaired in the field, or damaged in transit, or have suffered accidents, misuse, or abuse. Products disabled by dirt or other foreign substances will not be considered defective. This warranty does not cover any cosmetic issues, such as scratches, dents, marring, fading of colours or discoloration. Repair or change in parts or replacement of parts or products does not extend the warranty.

The express warranty set forth above constitutes the only warranty applicable to ASCPL products, and is in lieu of all other warranties, expressed or implied. No employee, agent, dealer or any other person is authorised to give any warranties on behalf of ASCPL, nor to assume for ASCPL, any other liability in connection with any of its products.

LIMITATION OF LIABILITY.

ASCPL's total liability for any and all losses and damages arising out of any cause whatsoever shall in no event exceed the purchase price of the products or parts in respects of which such cause arises, whether such cause be based on theories of contract, negligence, strict liability, tort or otherwise.

In no event is ASCPL responsible for any consequential or punitive damages or losses of any nature whatsoever. ASCPL shall not be liable for, and buyer assumes any liability for, all personal injury and property damage connected with the handling, transportation, possession, further manufacture, other use or resale of the products, whether used alone or in combination with any other products or materials. ASCPL makes NO other warranty, expressed or implied, and makes no warranty of merchantability or fitness for any particular purpose.

From time to time buyers might call to ask ASCPL for technical advice based upon limited facts disclosed to ASCPL. If ASCPL furnishes technical advice to the buyer, whether or not at buyer's request, with respect to application, further manufacture or use of the products or parts, ASCPL shall not be liable for such technical advice or any such advice provided to buyer by any third party and buyer assumes all risks of such advice and results thereof.

NOTICE TO USERS OF PRODUCTS.

The Limited Warranty stated above is a factory warranty to the first purchasers of ASCPL products. Since many users have purchased these products from ASCPL distributors, the user must within thirty (30) days after user's discovery of what the user believes is a defect, notify in writing and return the product to the distributor from whom he purchased the product/part. The distributor may or may not at the distributor's option choose to submit the products/parts to ASCPL pursuant to this limited warranty. Failure by the buyer to give such written notice within 30 (thirty) days shall be deemed an absolute and unconditional waiver of buyers claim for such defects. Acceptance of any alleged defective product/parts by ASCPL's distributor for replacement or repairs under the terms of ASCPL's limited warranty in no way determines ASCPL's obligations under this Limited Warranty.

Because of a policy of continuous product improvement, ASCPL reserves the right to change designs, materials or specifications without notice.

Applicable Law.

All disputes are subject to Mumbai jurisdiction.

A.S.CONTROLS PVT.LTD.



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