

Stainless Steel Valves,

Stop Valves	Type SVA-SS	15	(1/2" - 40 (1 1/2"))
Hand Regulating Valves	Type REG-SS	15	(1/2" - 40 (1 1/2"))
Stop Check Valves	Type SCA-SS	15	(1/2" - 40 (1 1/2"))
Check Valves	Type CHV-SS	15	(1/2" - 40 (1 1/2"))
Filters	Type FIA-SS	15	(1/2" - 40 (1 1/2"))
Overflow Valves	Type OFV-SS	20	(3/4" - 25 (1"))

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Introduction

Danfoss Industrial Refrigeration introduces a range of stainless steel valves for special application requirements.

The valve range includes for valve sizes DN 15 mm (1/2") to DN 40mm (1 1/2") all in angleway execution and includes:

- Stop Valves SVA-SS
- Hand Regulating Valves REG-SS
- Stop Check Valves SCA-SS
- Check Valves CHV-SS
- Filters FIA-SS
- Overflow Valves OFV-SS

These have been introduced to meet the increased demand brought about by

1. the need for higher protection of external surfaces on valves and fittings
2. the need to meet developments in the way that plants are being designed.

In certain specific areas such as outdoor applications and corrosive atmospheres, such as coastal installations, there is a need for high surface protection to prevent failure due to corrosion.



Today's food safety standards often call for daily treatment with detergents to protect against bacteria growth, again producing a need for high surface protection.

Features

- Applicable to all common non flammable refrigerants including R717 and non-corrosive gases/liquids dependent on sealing material.
- Optional accessories:

	Vented cap	Handwheel
SVA-SS	X	X
REG-SS	X	
SCA-SS	X	
CHV-SS		
FIA-SS		
OFV-SS	X	

- Designed to give favourable flow conditions.
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure (SVA-SS, REG-SS, SCA-SS, OFV-SS).
- Housing is made of special cold resistant stainless steel approved for low temperature operations.
- Easy to disassemble for inspection and service.
- SVA-SS Stop Valves can accept flow in either direction.
- Butt-weld DIN connections.
- Max. operating pressure: 40 bar g (580 psig) (valves for higher operating pressure available on request).
- Temperature range: -60/+150°C (-76 +302°F).
- Compact and light valves for easy handling and installation.
- Classification: To receive updated list of certification on the products please contact your local Danfoss Sales Company.

Design

Connections

- Butt-weld DIN (2448)

Housing and bonnet

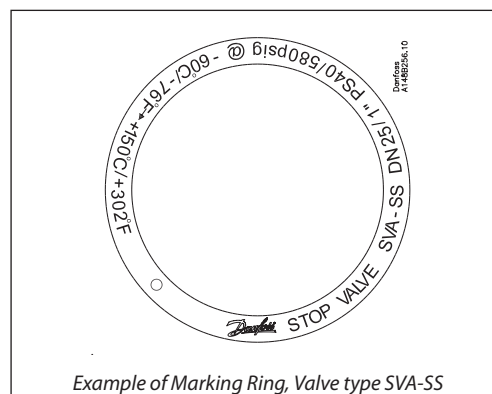
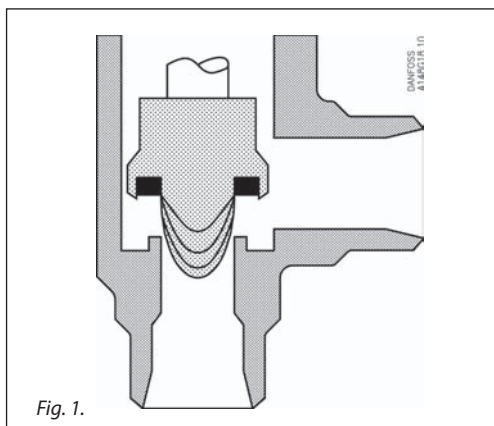
Made of stainless steel approved for low temperature operations.

Valve cone (SVA-SS)

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. A teflon tightening ring provides perfect sealing at a minimum closing momentum.

Valve cone (REG-SS)

The valve cone is designed to ensure perfect regulation. A wide programme of valves and precision cones provides an extensive regulating range allowing the required capacity to be achieved, irrespective of the refrigerant type (see Fig. 1). A cone seal ring provides perfect sealing at a minimum closing momentum.



Spindle

(SVA-SS, REG-SS, SCA-SS, OFV-SS)

Made of polished stainless steel, ideal for O-ring sealing. Furthermore, parts of the spindle are heat treated to obtain anti-abrasive/adhesive properties.

Packing gland

(SVA-SS, REG-SS, SCA-SS, OFV-SS)

The stainless steel packing gland comprises a spring loaded seal packing gland which ensures a perfect tightness in the range: -60/+150°C (-76/+302°F).

The packing glands are equipped with a scraper ring to prevent penetration of dirt and ice into the packing gland.

Selection

Please refer to the relevant standard product programme technical leaflets. The computation program DIRcalc can also be used to select valve sizes.

Please refer to the installation instructions for the details on installing the components as a part of the selection process.

Pressure Equipment Directive (PED)

The stainless steel valves are approved and CE marked in accordance with the Pressure Equipment Directive - 97/23/EC.



SVA-SS, REG-SS, FIA-SS, SCA-SS, CHV-SS, OFV-SS		
Nominal bore	DN ≤ 25 mm (1")	DN32-40 mm (1 1/4 - 1 1/2")
Classified for	Fluid group I	
Category	Article 3, paragraph 3	II

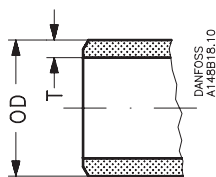
Technical data

- *Refrigerants*
Applicable to all common non flammable refrigerants including R 717 and non-corrosive gases/liquids dependent on sealing material compatability.
For further information please see installation instruction.
- *Flammable hydrocarbons* are not recommended. For further information please contact your local Danfoss Sales Company.

- *Temperature Range*
-60/+150°C (-76/+302°F).
- *Pressure range*
The valves are designed for max. working pressure 40 bar g (580 psi g).

Connections - all types

DIN

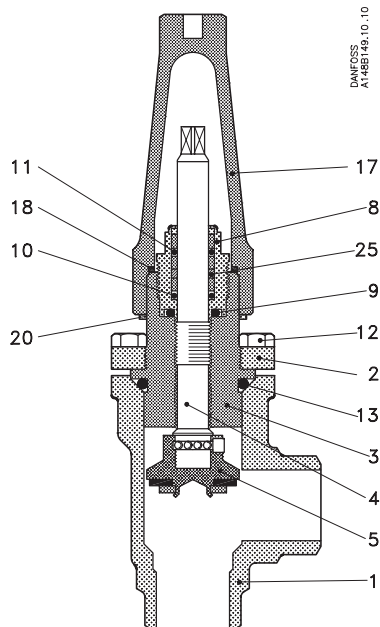


Size		OD	T
Butt-weld DIN (2448)			
15	mm	21.3	2.3
1/2	in.	0.839	0.091
20	mm	26.9	2.3
3/4	in.	1.059	0.091
25	mm	33.7	2.6
1	in.	1.327	0.103
32	mm	42.4	2.6
1 1/4	in.	1.669	0.102
40	mm	48.3	2.6
1 1/2	in.	1.902	0.103

k _v / C _v -angle	
m ³ /h	7.0
USgal/min	8.1
m ³ /h	14.6
USgal/min	16.9
m ³ /h	24.8
USgal/min	28.8
m ³ /h	42.6
USgal/min	49.4
m ³ /h	45.2
USgal/min	52.4

Stop Valves, SVA-SS

Material specification



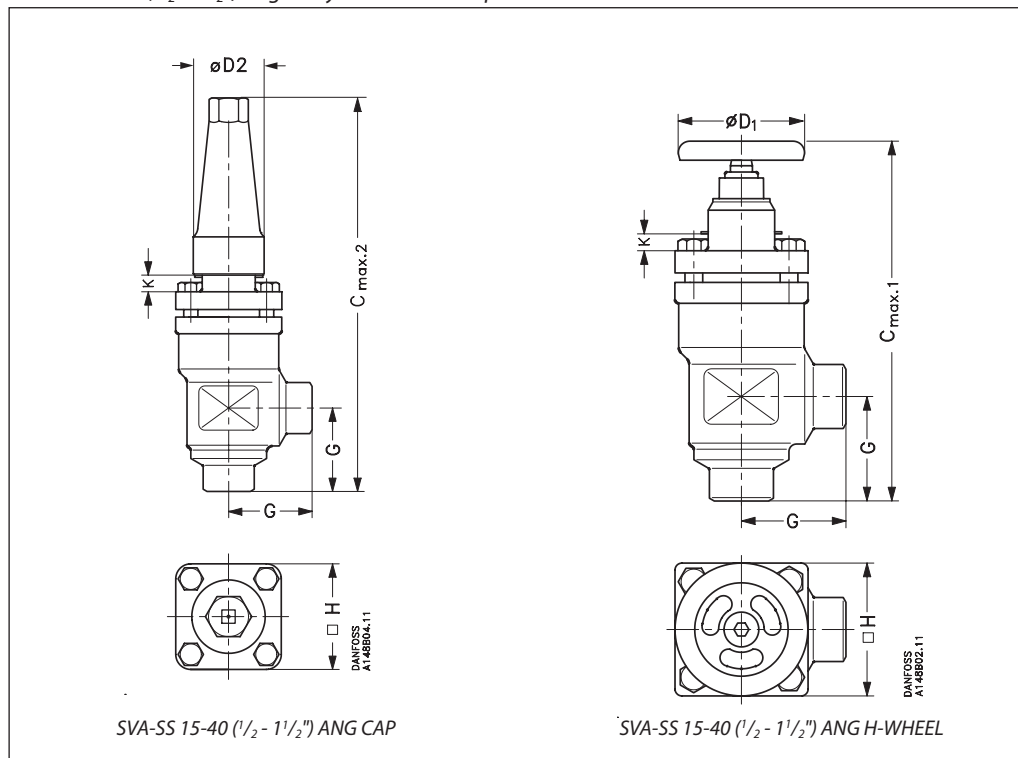
SVA-SS 15 - 40 (1/2 - 1 1/2")

No.	Part	Material	DIN/EN	ISO	ASTM
1	Housing	Stainless steel	X5CrNi18-10 EN10088		AISI 304
2	Bonnet, Flange	Stainless steel	X5CrNi18-10 EN10088		AISI 304
3	Bonnet, Insert	Stainless steel			
4	Spindle	Stainless steel	X8CrNiS18-9 DIN 17440	Type 17, 683/13	AISI 303
5	Cone Cone seal	Steel Teflon (PTFE)			
8	Packing gland	Stainless steel			
9	Packing washer DN 15 - 20 (1/2 - 3/4")	Aluminium			
	O-ring DN 25 - 40 (1 - 1 1/2")	Cloroprene (Neoprene)			
10-11	O-ring	Cloroprene (Neoprene)			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	O-ring	Cloroprene (Neoprene)			
14	Handwheel	Stainless steel			
15	Washer	Stainless steel			
16	Screw	Stainless steel			
17	Spindle seal cap	Aluminium			
18	Seal cap gasket	Nylon			
20	Identification ring	Stainless steel			
25	U-sleeve sealing	PTFE + Stainless steel			

Stop Valves, SVA-SS

Dimensions and weights

SVA-SS 15 - 40 (1/2 - 1 1/2") angleway version with cap / hand wheel

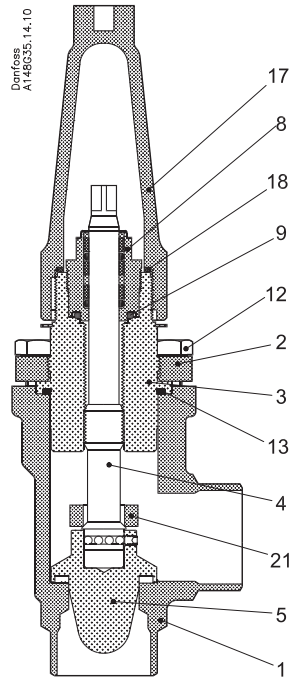


Valve size	K	C _{max.1}	C _{max.2}	G	ØD ₁	ØD ₂	H	Weight	
SVA-SS									
SVA-SS 15-20	mm	4	178	189	45	60	38	60	1.4 kg
SVA-SS 1/2 - 3/4"	in.	0.16	7.00	7.44	1.77	2.36	1.5	2.36	3.1 lbs
SVA-SS 25-40	mm	12	234	268	55	80	50	70	2.4 kg
SVA-SS 1 - 1 1/2"	in.	0.47	9.21	10.55	2.17	3.15	1.97	2.76	5.3 lbs

Specified weights are approximate values only.

Hand Regulating Valves, REG-SS

Material specification



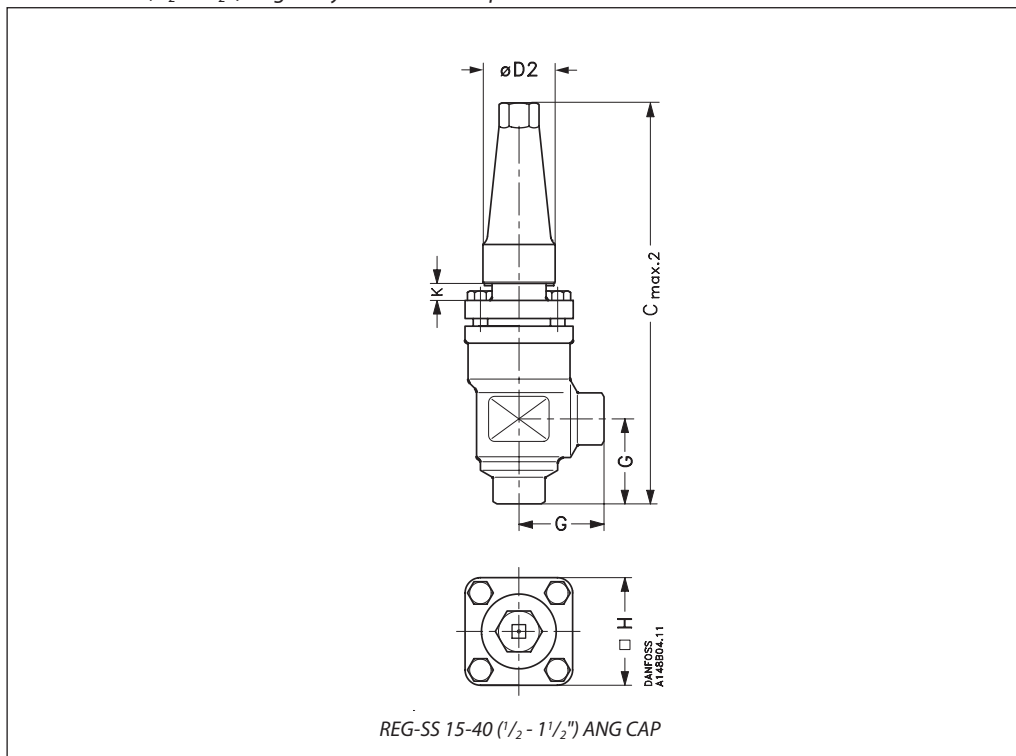
REG-SS 15 - 40 (1/2 - 1 1/2")

No.	Part	Material	DIN/EN	ISO	ASTM
1	Housing	Stainless steel	X5CrNi18-10 EN10088		AISI 304
2	Bonnet, Flange	Stainless steel	X5CrNi18-10 EN10088		AISI 304
3	Bonnet, Insert	Stainless steel			
4	Spindle	Stainless steel	X8CrNi18-9 DIN 17440	Type 17, 683/13	AISI 303
5	Cone	Steel			
8	Packing gland	Stainless steel			
	O-ring	Cloroprene (Neoprene)			
9	Packing washer	Non-asbestos			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	O-ring	Cloroprene (Neoprene)			
17	Spindle seal cap	Aluminium			
18	Seal cap gasket	Nylon			
19	Locking nut	Steel			
20	Screw	Steel			
21	Packing washer	PTFE (Teflon)			

Hand Regulating Valves, REG-SS

Dimensions and weights

REG-SS 15 - 40 (1/2 - 1 1/2") angleway version with cap

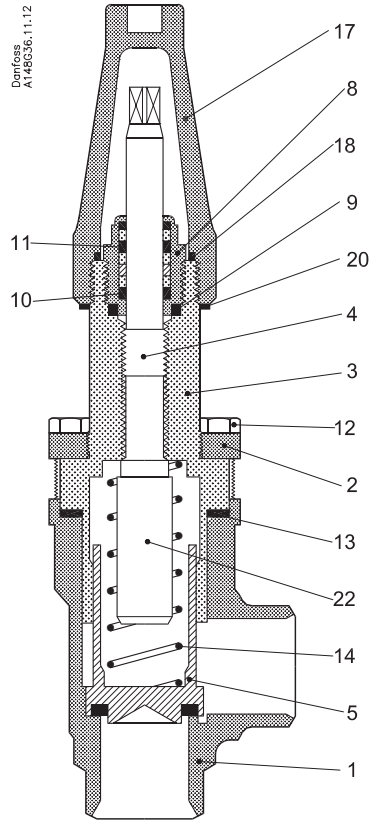


Valve size		K	C _{max.2}	G	ØD ₂	□H	Weight
REG-SS							
REG-SS 15-20	mm	4	189	45	38	60	1.4 kg
REG-SS 1/2-3/4"	in.	0.16	7.44	1.77	1.5	2.36	3.1 lbs
REG-SS 25-40	mm	12	268	55	50	70	2.4 kg
REG-SS 1 - 1 1/2"	in.	0.47	10.55	2.17	1.97	2.76	5.3 lbs

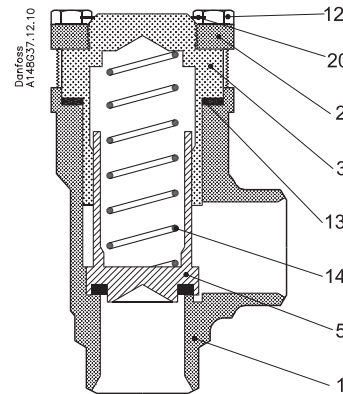
Specified weights are approximate values only.

Stop Check Valves SCA-SS and Check Valves CHV-SS

Material specification



SCA-SS 15 - 40 (1/2 - 1 1/2")



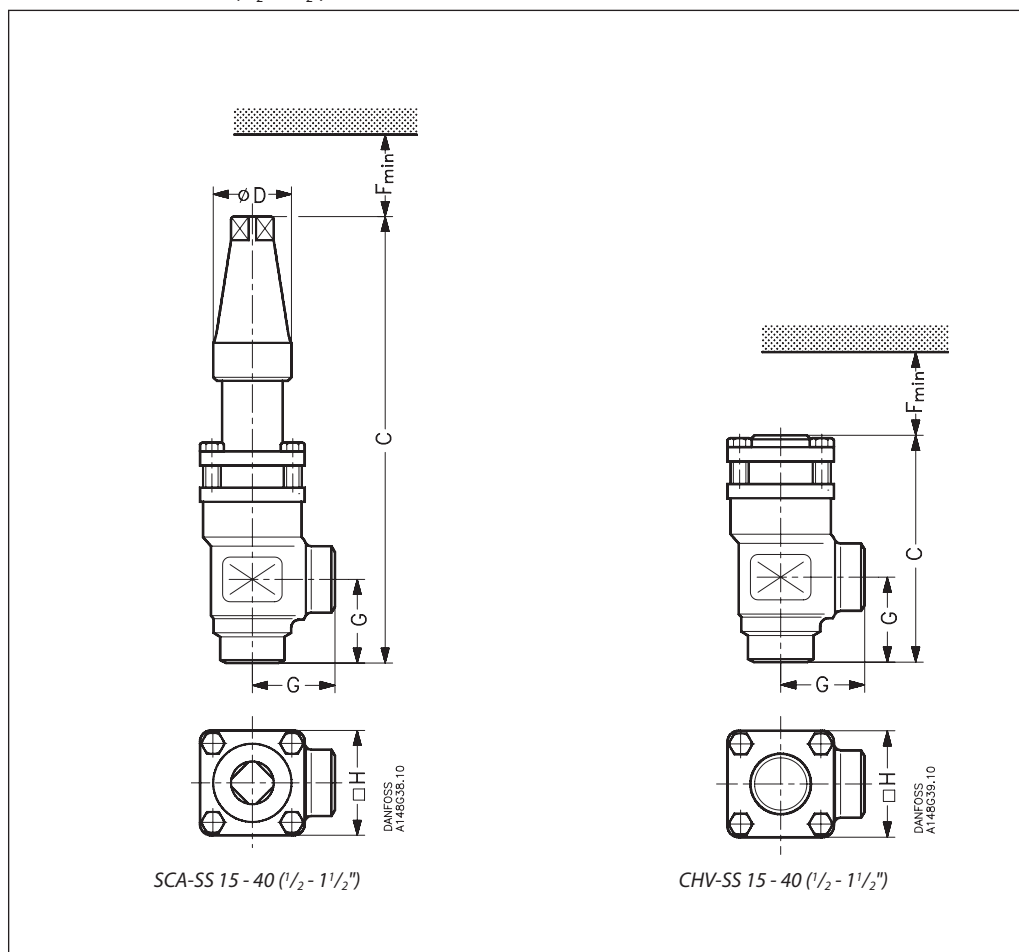
CHV-SS 15 - 40 (1/2 - 1 1/2")

No.	Part	Material	DIN/EN	ISO	ASTM
1	Housing	Stainless steel	X5CrNi18-10 EN10088		AISI 304
2	Bonnet, Flange	Stainless steel	X5CrNi18-10 EN10088		AISI 304
3	Bonnet, Insert	Stainless steel			
4	Spindle	Stainless steel	X8CrNiS18-9	Type 17, 17440	AISI 303, 683/13
5	Cone	Steel Teflon (PTFE)			
8	Packing gland O-rings	Stainless steel Cloroprene (Neoprene)			
9	Packing washer	Aluminium			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	Gasket	Fiber, non-asbestos			
14	Spring	Steel			
17	Spindle seal cap	Aluminium			
18	Seal cap gasket	Nylon			
20	Identification ring	Stainless steel			
22	Spindle extension	Steel			

Stop Check Valves SCA-SS and Check Valves CHV-SS

Dimensions and weights

SCA-SS / CHV-SS 15 - 40 (1/2 - 1 1/2")



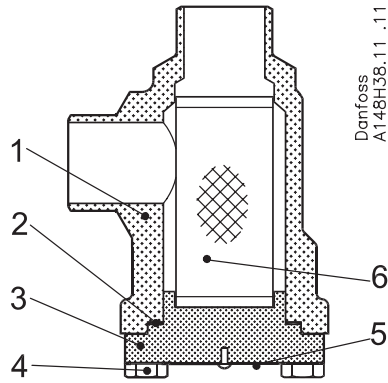
Valve size		C	G	ØD	F _{min}	□H	Weight
SCA-SS							
SCA-SS 15	mm	212	45	38	60	60	1.6 kg
SCA-SS 1/2"	in.	8.35	1.77	1.50	2.36	2.36	3.5 lbs
SCA-SS 20	mm	212	45	38	60	60	1.6 kg
SCA-SS 3/4"	in.	8.35	1.77	1.50	2.36	2.36	3.5 lbs
SCA-SS 25	mm	295	55	50	85	70	3.2 kg
SCA-SS 1"	in.	11.61	2.17	1.97	3.35	2.76	7.1 lbs
SCA-SS 32	mm	295	55	50	85	70	3.2 kg
SCA-SS 1 1/4"	in.	11.61	2.17	1.97	3.35	2.76	7.1 lbs
SCA-SS 40	mm	295	55	50	85	70	3.2 kg
SCA-SS 1 1/2"	in.	11.61	2.17	1.97	3.35	2.76	7.1 lbs

Valve size		C	G	ØD	F _{min}	□H	Weight
CHV-SS							
CHV-SS 15	mm	212	45	38	60	60	1.6 kg
CHV-SS 1/2"	in.	8.35	1.77	1.50	2.36	2.36	3.5 lbs
CHV-SS 20	mm	212	45	38	60	60	1.6 kg
CHV-SS 3/4"	in.	8.35	1.77	1.50	2.36	2.36	3.5 lbs
CHV-SS 25	mm	295	55	50	85	70	3.2 kg
CHV-SS 1"	in.	11.61	2.17	1.97	3.35	2.76	7.1 lbs
CHV-SS 32	mm	295	55	50	85	70	3.2 kg
CHV-SS 1 1/4"	in.	11.61	2.17	1.97	3.35	2.76	7.1 lbs
CHV-SS 40	mm	295	55	50	85	70	3.2 kg
CHV-SS 1 1/2"	in.	11.61	2.17	1.97	3.35	2.76	7.1 lbs

Specified weights are approximate values only.

Filters, FIA-SS

Material specification



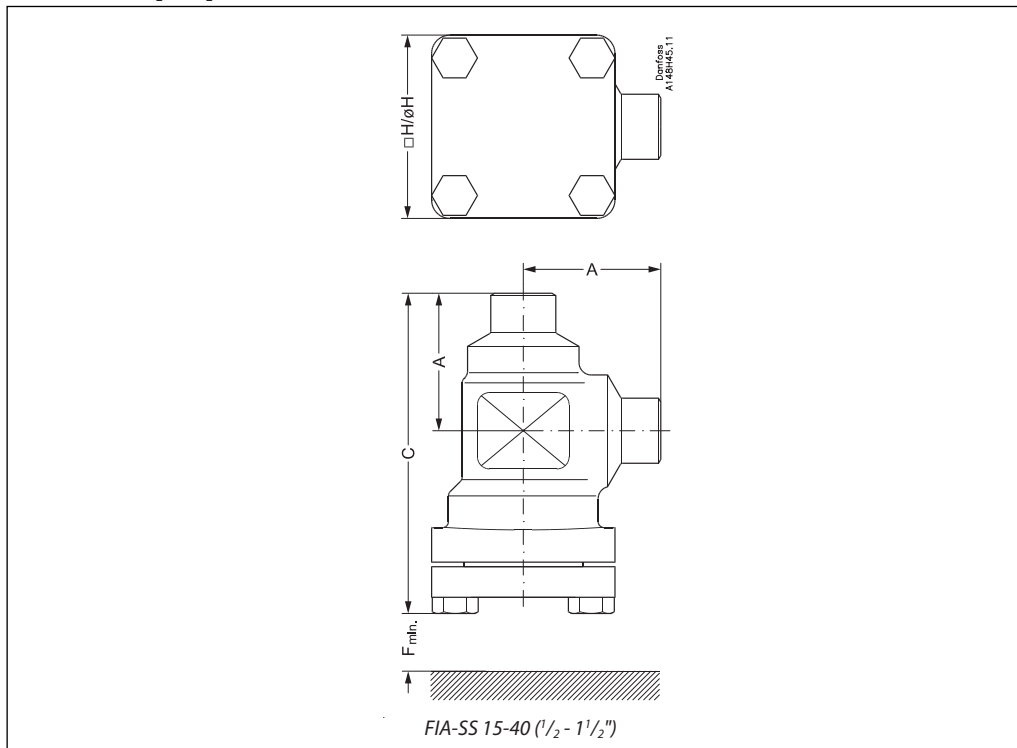
FIA-SS 15 - 40 (1/2 - 1 1/2")

No.	Part	Material	DIN	ISO	ASTM
1	Housing	Stainless steel	X5CrNi18-10 EN 10088		AISI 304
2	Gasket	Fibre, Non-asbestos			
3	Cover	Stainless steel	X5CrNi18-10 EN 10088		AISI 304
4	Bolts	Stainless steel	A2-70	A2-70	Type 308
5	Marking label	Aluminium			
6	Filter element	Stainless steel			

Filters, FIA-SS

Dimensions and weights

FIA-SS 15 - 65 (1/2 - 1 1/2")

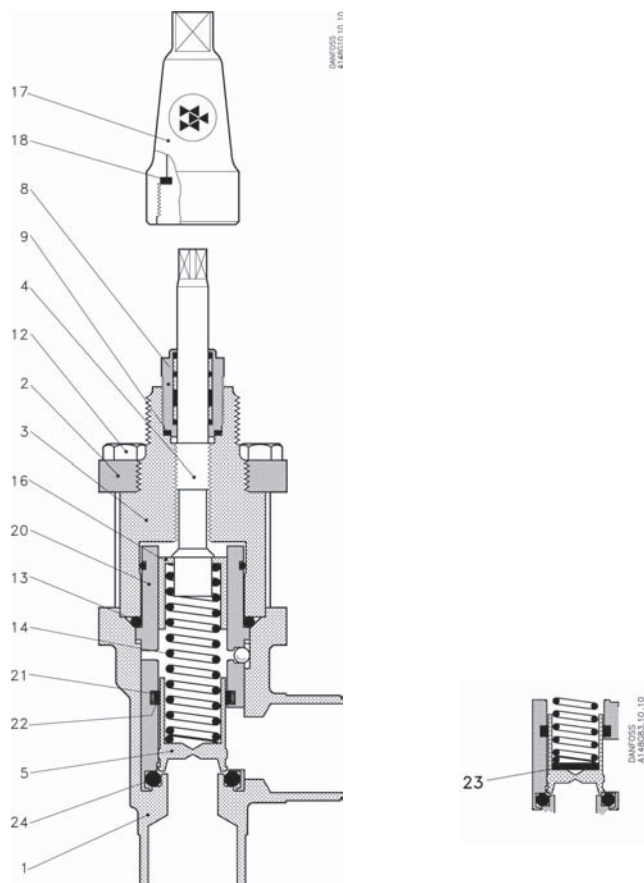


Filter size		A	C	H	F _{min}	Weight
FIA-SS						
FIA-SS 15-20	mm	45	105	60	68	1.1 kg
FIA-SS 1/2-3/4"	in.	1.77	4.13	2.36	2.68	2.4 lbs
FIA-SS 25-40	mm	55	132	70	95	1.7 kg
FIA-SS 1-1 1/2"	in.	2.17	5.20	2.76	3.74	3.7 lbs

Specified weights are approximate values only.

Overflow Valves, OFV-SS

Material specification



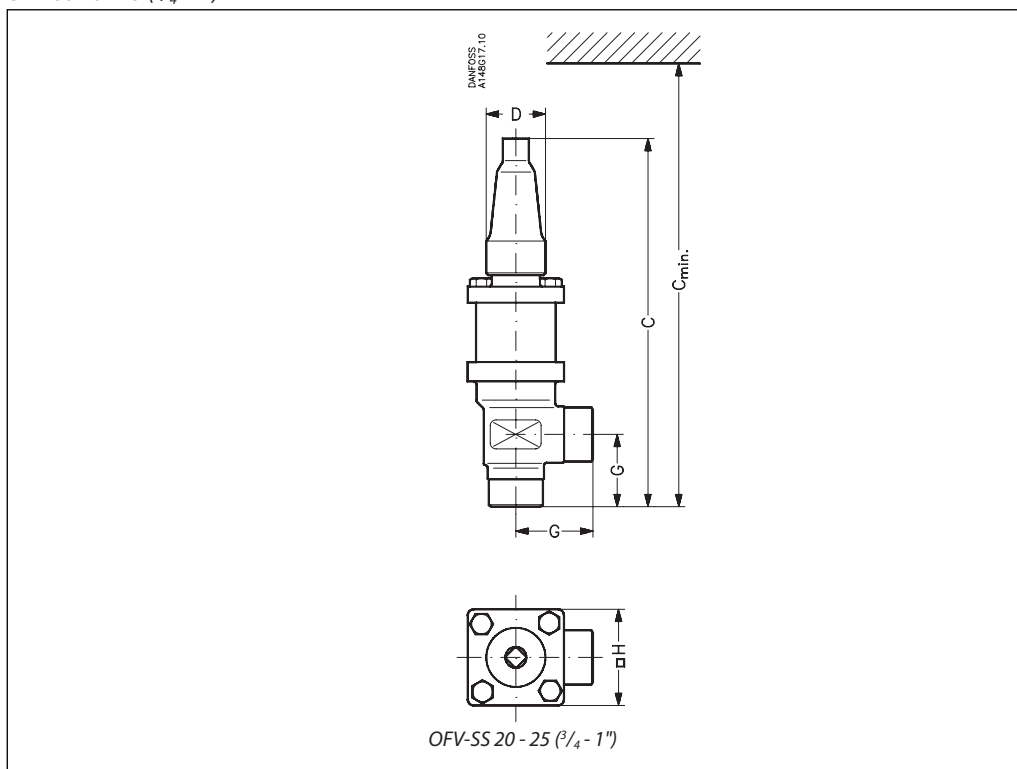
OFV-SS 20 - 25 (3/4 - 1")

No.	Part	Material	DIN/EN	ISO	ASTM
1	Housing	Stainless steel	X5CrNi18-10 EN10088		AISI 304
2	Bonnet, Flange	Stainless steel	X5CrNi18-10 EN10088		AISI 304
3	Bonnet, Insert	Stainless steel			
4	Spindle	Stainless steel	X8CrNiS18-9 DIN 17440	Type 17, 683/13	AISI 303
5	Cone	Steel	95Mn28	Type 2	1213
8	Packing gland	Stainless steel			
9	Packing washer	Non asbestos			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	O-ring	Cloroprene (Neoprene)			
14	Spring	Steel			
16	Spring washer	Steel	Steel		
17	Spindle seal cap	Aluminium			
18	Seal cap gasket	Nylon			
20	Guide piece	Steel			
21	O-ring	Cloroprene (Neoprene)			
22	Sealing ring	PTFE (Teflon)			
23	Distance piece	Steel			
24	O-ring	Cloroprene (Neoprene)			

Overflow Valves, OFV-SS

Dimensions and weights

OFV-SS 20 - 25 (3/4 - 1")



Valve size		G	C	C _{min}	ØD	□H	Weight
OFV-SS							
OFV-SS 20	mm	45	230	290	38	60	2.0 kg
OFV-SS 3/4"	in.	1.77	9.1	11.4	1.5	2.4	4.4 lbs
OFV-SS 25	mm	45	230	290	38	60	2.0 kg
OFV-SS 1"	in.	1.77	9.1	11.4	1.5	2.4	4.4 lbs

Specified weights are approximate values only.

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 Danfoss Sales Company.

Example:

Stop valve DN 20 in stainless steel with hand wheel = **148B3783**

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.

Type codes

Valve type	SVA-SS REG-SS SCA-SS CHV-SS FIA-SS OFV-SS	Stop Valves Hand Regulating Valves Stop Check Valves Check Valves Filters Overflow Valves
Nominal size in mm (valve size measured on the connection diameter)	15 20 25 32 40	Available connections D DN 15 (1/2) DN 20 (3/4) DN 25 (1) DN 32 (1 1/4) DN 40 (1 1/2)
Connections	D	Butt-weld connection: DIN 2448
Valve housing	ANG	Angle flow
Other equipment	H-WHEEL CAP	Hand wheel Cap

Code numbers

mm	in.	Type	Code Number
15	1/2	SVA-SS 15 D ANG STOP VALVE CAP	148B3780
15	1/2	SVA-SS 15 D ANG STOP VALVE H-WHEEL	148B3781
20	3/4	SVA-SS 20 D ANG STOP VALVE CAP	148B3782
20	3/4	SVA-SS 20 D ANG STOP VALVE H-WHEEL	148B3783
25	1	SVA-SS 25 D ANG STOP VALVE CAP	148B3784
25	1	SVA-SS 25 D ANG STOP VALVE H-WHEEL	148B3785
32	1 1/4	SVA-SS 32 D ANG STOP VALVE CAP	148B3786
32	1 1/4	SVA-SS 32 D ANG STOP VALVE H-WHEEL	148B3787
40	1 1/2	SVA-SS 40 D ANG STOP VALVE CAP	148B3788
40	1 1/2	SVA-SS 40 D ANG STOP VALVE H-WHEEL	148B3789

15	1/2	FIA-SS 15 D ANG FILTER HOUSING	148H3165
25	1	FIA-SS 25 D ANG FILTER HOUSING	148H3167
32	1 1/4	FIA-SS 32 D ANG FILTER HOUSING	148H3168
40	1 1/2	FIA-SS 40 D ANG FILTER HOUSING	148H3169

20	3/4	OFV-SS 20 D ANG OVER FLOW VALVE	148G3160
25	1	OFV-SS 25 D ANG OVER FLOW VALVE	148G3161

15	1/2	SCA-SS 15 D ANG STOP/CHECK VALVE	148G3224
20	3/4	SCA-SS 20 D ANG STOP/CHECK VALVE	148G3225
25	1	SCA-SS 25 D ANG STOP/CHECK VALVE	148G3226
32	1 1/4	SCA-SS 32 D ANG STOP/CHECK VALVE	148G3227
40	1 1/2	SCA-SS 40 D ANG STOP/CHECK VALVE	148G3228

15	1/2	CHV-SS 15 D ANG CHECK VALVE	148G3229
20	3/4	CHV-SS 20 D ANG CHECK VALVE	148G3230
25	1	CHV-SS 25 D ANG CHECK VALVE	148G3231
32	1 1/4	CHV-SS 32 D ANG CHECK VALVE	148G3232
40	1 1/2	CHV-SS 40 D ANG CHECK VALVE	148G3233

mm	in.	Type	Code Number
15	1/2	REG-SS 15 D ANG CONE#4 REGULATING VALVE	148G3234
15	1/2	REG-SS 15 D ANG CONE#5 REGULATING VALVE	148G3235
15	1/2	REG-SS 15 D ANG CONE#6 REGULATING VALVE	148G3236
15	1/2	REG-SS 15 D ANG CONE#7 REGULATING VALVE	148G3237
20	3/4	REG-SS 20 D ANG CONE#4 REGULATING VALVE	148G3437
20	3/4	REG-SS 20 D ANG CONE#5 REGULATING VALVE	148G3438
20	3/4	REG-SS 20 D ANG CONE#6 REGULATING VALVE	148G3439
20	3/4	REG-SS 20 D ANG CONE#7 REGULATING VALVE	148G3440
25	1	REG-SS 25 D ANG CONE#4 REGULATING VALVE	148G3441
25	1	REG-SS 25 D ANG CONE#5 REGULATING VALVE	148G3442
25	1	REG-SS 25 D ANG CONE#6 REGULATING VALVE	148G3443
25	1	REG-SS 25 D ANG CONE#7 REGULATING VALVE	148G3444
32	1 1/4	REG-SS 32 D ANG CONE#10 REGULATING VALVE	148G3447
32	1 1/4	REG-SS 32 D ANG CONE#8 REGULATING VALVE	148G3445
32	1 1/4	REG-SS 32 D ANG CONE#9 REGULATING VALVE	148G3446
40	1 1/2	REG-SS 40 D ANG CONE#10 REGULATING VALVE	148G3450
40	1 1/2	REG-SS 40 D ANG CONE#8 REGULATING VALVE	148G3448
40	1 1/2	REG-SS 40 D ANG CONE#9 REGULATING VALVE	148G3449