

Introduction



SCV are angle-way and straight-way stop valves.

The stop valves are carefully designed to give favourable flow conditions, easy to disassemble for inspection / service and are of a very compact design, i.e. low height and low weight, facilitating easy handling and installation.

The stop valves have internal backseating enabling the spindle seal to be replaced with the valve still under pressure.

SCV 50 - 200 are available with the following optional equipment:

- With handwheel - for frequent operation.
- With vented cap - for infrequent operation.
- With extended spindle - for installation in insulated systems.

Features

- Applicable to all common non flammable refrigerants including R 717 and non corrosive gases/liquids dependent on sealing material compatability
- Designed to give favourable flow conditions
- 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
- No special flow direction required
- Max. operating pressure: 25 bar g (363 psi g) (valves for higher operating pressure available on request)
- Compact and light valves for easy handling and installation
- Classification: To get an updated list of certification on the products please contact your local Danfoss Sales Company.

Design

Connections

Available with the following connections:

- Welding DIN (2448)
- Welding ANSI (B 36.10: schedule 40)

Housing

Made of special, cold resistant steel approved for low temperature operations.

Bonnet

As standard supplied in cast iron, however, can also be supplied in special, cold resistant steel approved for low temperature operations.

Valve cone

Secured against turning when closing the valve, thus the best possible condition for permanent tightness is obtained. Teflon tightening ring renders perfect tightness at minimum closing momentum. Metallic stop prevents damage to the teflon ring in case of overtightening.

Spindle

Made of polished stainless steel, which is ideal for O-ring sealing. When operating the valve, there is no axial movement of the spindle. As a result no dirt can be drawn into the spindle seal.

Packing gland

The "full temperature range" packing gland consists of a double O-ring sealing arrangement combined with permanent lubrication from a grease reservoir. This ensures perfect tightness throughout the whole range: $-50/+150^{\circ}\text{C}$ ($-58/+302^{\circ}\text{F}$).

Installation

No special flow direction is required and the valve can be mounted in any position. The valve is designed to withstand high internal pressures. 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 SCV 50 - 200.

Technical data

■ *Refrigerants*

Applicable to all common non flammable refrigerants including R 717 and non corrosive gases/liquids dependent on sealing material compatibility. For further information please see installation instruction for SCV. Flammable hydrocarbon are not recommended, please contact Danfoss.

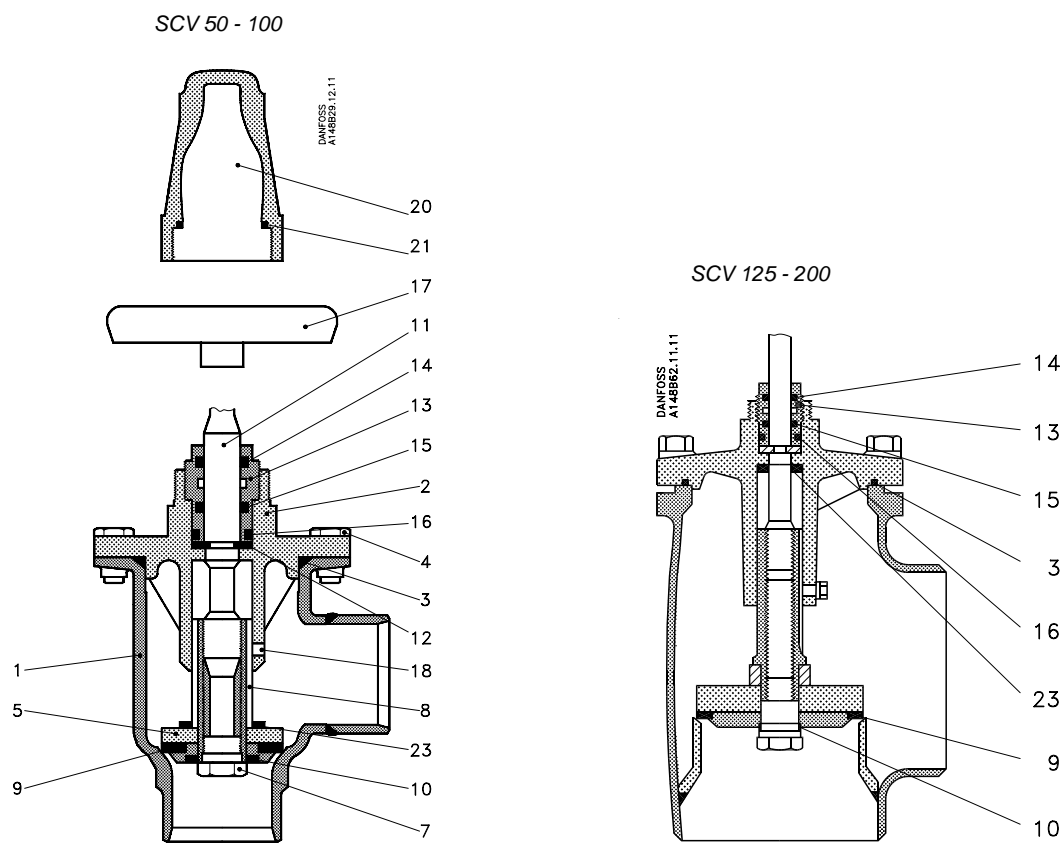
■ *Temperature range*

$-50/+150^{\circ}\text{C}$ ($-58/+302^{\circ}\text{F}$).

■ *Pressure range*

The valves are designed for:
 Maximum operating pressure is 25 bar g (363 psi g).
 Strength test: 50 bar g (725 psi g)
 Leakage test: 25 bar g (363 psi g)
 Valves for higher working pressure are available on request.

Material specification



No.	Part	Material	DIN/EN	ISO	ASTM
1	Housing: DN 50-150 DN 200, shell DIN 200, flange	Steel Steel Steel	TTSt 35 N, 17173 TTSt 35 N, 17173 TTSt 35 N(V), 17173 P275 NL1, EN 10 028-3	TW6, 2604 TW6, 2604 TW6, 2604	Grade 1, A333, A334 Grade 1, A333, A334 Grade 1, A333, A334 LF2 A350 ¹⁾
2	Bonnet: Type x1x Type x2x, DN 50-100 DN 125-200, flange DN 125-200, center piece	Cast iron Steel Steel Steel	GG-25, 1691 TTSt 35 N, 17173 H11, 17175 ²⁾ RSt 37-2, 17100	Grade 250, 185 TW6, 2604 P9, 2604 Fe 360 B, 630	Class 40B, A 48 Grade 1, A333, A334 Grade 60, SA-516 Grade C, A283
3	O-ring, DN 50-100	Cloroprene (Neoprene)			
3	Gasket , DN 125	Non-asbestos			
3	O-ring, DN 150-200	Cloroprene (Neoprene)			
4	Set screw f. x1x Set screw f. x2x	Steel Stainless steel	Quality 8.8 A2, 26 Blatt 11	Quality 8.8 A2, 3506	Grade 5 Type 308, A276
5-8	Cone	Steel			
9	Teflon ring	PTFE (teflon)			
10	Gasket	Aluminium			
11	Spindle	Stainless steel	X45 CrMo V15, 17440		
12	Lock washer	Steel			
13	Packing gland	Steel			
14-16	O-ring	Cloroprene (Neoprene)			
17	Handwheel	Steel plate			
18	Slotted pin, DN 50-100 Guide screw, DN 125-200	Steel Steel			
20	Cap	Aluminium			
21	Gasket f. cap	Nylon			
23	Packing washer	PTFE (teflon)			

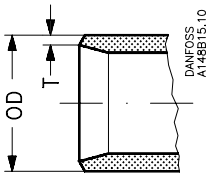
¹⁾ Alternative material with similar properties

²⁾ Low temperature material - Impact strength ≥ 27 joule at -40°C (-40°F)

Connections

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
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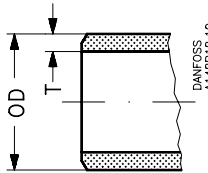
DIN



Welding DIN (2448)

50	2	60.3	2.9	2.37	0.11			85	85	99	99
65	2½	76.1	2.9	3.00	0.11			137	137	159	159
80	3	88.9	3.2	3.50	0.13			183	183	212	212
100	4	114.3	3.6	4.50	0.14			280	280	325	325
125	5	139.7	4.0	5.50	0.16			520	520	603	603
150	6	168.3	4.5	6.63	0.18			760	760	882	882
200	8	219.1	6.3	8.63	0.25			910	910	1056	1056

ANSI

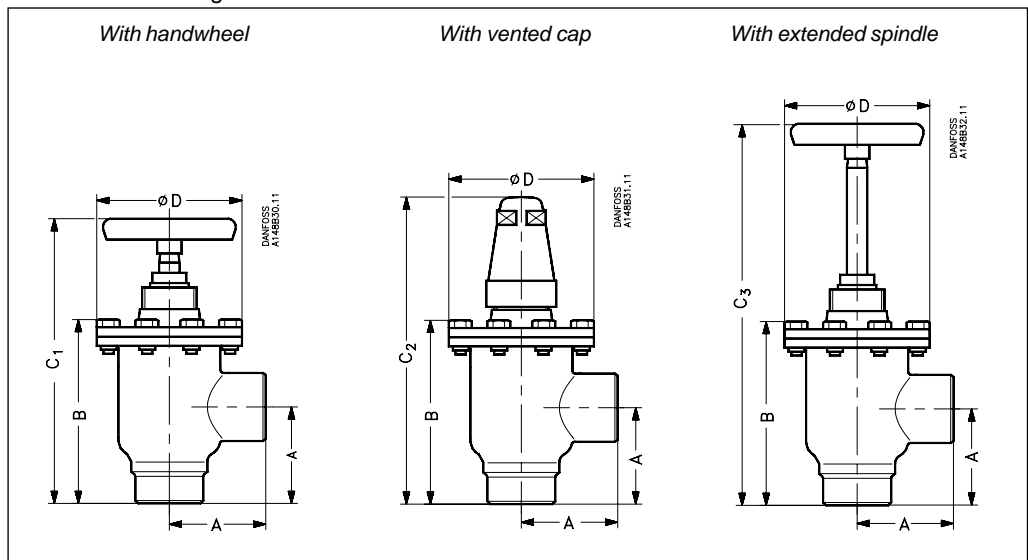


Welding ANSI (B 36.10)

50	2	60.3	3.9	2.37	0.15			85	85	99	99
65	2½	73.0	5.2	2.87	0.20			137	137	159	159
80	3	88.9	5.5	3.50	0.22			183	183	212	212
100	4	114.3	6.0	4.50	0.24			280	280	325	325
125	5	141.3	6.6	5.56	0.26			520	520	603	603
150	6	168.3	7.1	6.63	0.28			760	760	882	882
200	8	219.1	8.2	8.63	0.32			910	910	1056	1056

Dimensions and weights

SCV 50 - 200 in angle execution

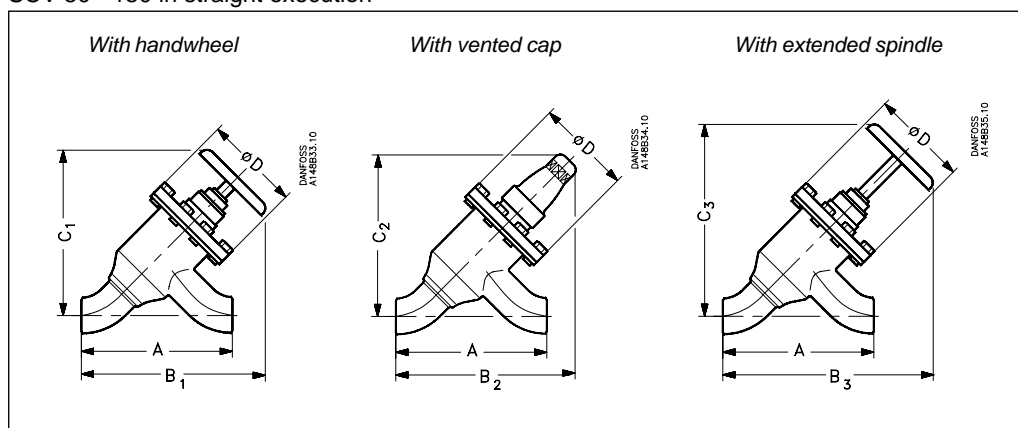


Valve Size		A	B	C ₁	C ₂	C ₃	ØD	Weight
<i>SCV 50 - 200 in angle execution</i>								
SCV 50 (2 in.)	mm	85	165	255	275	325	130	5 kg
	in.	3.3	6.5	10.0	10.8	12.8	5.1	
SCV 65 (2½ in.)	mm	100	205	300	345	395	155	9 kg
	in.	3.9	8.1	11.8	13.6	15.6	6.1	
SCV 80 (3 in.)	mm	100	205	300	345	395	155	9 kg
	in.	3.9	8.1	11.8	13.6	15.6	6.1	
SCV 100 (4 in.)	mm	125	250	370	400	460	190	16 kg
	in.	4.9	9.8	14.6	15.7	18.1	7.5	
SCV 125 (5 in.)	mm	150	335	485	480	555	230	27 kg
	in.	5.9	13.2	19.1	18.9	21.9	9.1	
SCV 150 (6 in.)	mm	180	385	545	535	610	300	49 kg
	in.	7.1	15.2	21.5	21.1	24.0	11.8	
SCV 200 (8 in.)	mm	180	425	585	575	650	300	63 kg
	in.	7.1	16.7	23.0	22.6	25.6	11.8	

Specified weights are approximate values only

Dimensions and weights

SCV 50 - 150 in straight execution



Valve Size		A	B ₁	B ₂	B ₃	C ₁	C ₂	C ₃	ØD	Weight
<i>SCV 50 - 150 in straight execution</i>										
SCV 50 (2 in.)	mm in.	225 8.9	270 10.6	260 10.2	320 12.6	240 9.4	230 9.1	290 11.4	130 5.1	6 kg
SCV 65 (2½ in.)	mm in.	275 10.8	325 12.8	320 12.6	400 15.7	290 11.4	280 11.0	355 14.0	155 6.1	10 kg
SCV 80 (3 in.)	mm in.	300 11.8	340 13.4	330 13.0	405 15.9	295 11.6	285 11.2	360 14.2	155 6.1	10 kg
SCV 100 (4 in.)	mm in.	385 15.2	425 16.7	395 15.6	485 19.1	365 14.4	335 13.2	430 16.9	190 7.5	18 kg
SCV 125 (5 in.)	mm in.	470 18.5	525 20.7	470 18.5	575 22.6	455 17.9	400 15.7	505 19.9	230 9.1	32 kg
SCV 150 (6 in.)	mm in.	565 22.2	610 24.0	535 21.1	660 26.0	525 20.7	450 17.7	570 22.4	300 11.8	57 kg

Specified weights are approximate values only

Ordering

How to order

The table below is used to identify the valve required.

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 for type codes

SCV 50 D 1 1 1

Type codes

Valve type	SCV	Stop Cone Valve	
Nominal size in mm (valve size measured on the connection diameter)	50	Angle flow	Straight flow
	65	DN 50	x
	80	DN 65	x
	100	DN 80	x
	125	DN 100	x
	150	DN 125	x
	200	DN 150	x
Connections	A D	Welding branches: ANSI B 36.10: DN 50 - 200 schedule 40 Welding branches: DIN 2448	
Valve housing	1 2	Angle flow Straight flow	
Materials	1 2	Bonnet: GG 25, Valve size: DN 50 - 200 Bonnet: TT St 35N for valve size: DN 50 - 100 Bonnet: H11 for valve size: DN 125 - 200	
Other equipment	1 3 4	Handwheel, short spindle Vented cap, short spindle Handwheel and extended spindle	

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.

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