

Data Sheet

Hand operated regulating valve Type **REG-SA** and **REG-SB 10-65**

Assures favorable flow characteristics and accurate linear characteristics



REG-SA and REG-SB are angleway and straightway hand operated regulating valves, which act as normal shut-off valves in closed position.

The valves are available in two different versions – REG-SA and REG-SB designed for regulation purposes in liquid and expansion lines.

The valves are designed to meet the strict quality requirements on refrigerating installations specified by the international classification societies and are carefully designed to present favourable flow conditions and accurate linear characteristics.

REG-SA and REG-SB are equipped with vented cap and internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure.

Features

- Applicable to HCFC, HFC, R717 (Ammonia), R744 (CO₂), Propane, Butane, Iso-Butane and Ethane.
- R717 Heat Pump and Propylene applications with replaced O-ring.
- Modular Concept:
 - Each valve housing is available with several different connection types and sizes.
 - Possible to convert REG-SA or REG-SB to any other product in the Flexline™ SVL family (shut-off valve, check & stop valve, check valve or strainer) just by replacing the complete top part.
- Fast and easy valve overhaul service. It is easy to replace the top part and no welding is needed.
- 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.
- Long neck versions (DN 15 to DN 40) for insulated systems available from parts programme.
- Max. operating pressure: 52 bar (754 psig)
- Temperature range: -60 °C to +150 °C (-76 °F to +302 °F)
- Acts as a normal shut-off valve in closed position.
- Housing and bonnet material is low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities.
- Exact capacity and setting of the valve can be calculated for all refrigerants by means of Coolselector®2 (Danfoss calculation and selection software).
- Classification: DNV, CRN, BV, EAC etc. To get an updated list of certification on the products please contact your local Danfoss Sales Company.

Media

Refrigerants

Applicable to HCFC, HFC, R717 (Ammonia), R744 (CO₂), Propane, Butane, Iso-Butane and Ethane.

R717 Heat Pump and Propylene applications with replaced O-ring.

New refrigerants

Danfoss products are continually evaluated for use with new refrigerants depending on market requirements.

When a refrigerant is approved for use by Danfoss, it is added to the relevant portfolio, and the R number of the refrigerant (e.g. R513A) will be added to the technical data of the code number. Therefore, products for specific refrigerants are best checked at store.danfoss.com/en/, or by contacting your local Danfoss representative.

Product specification

Design

Housing

Housing is Standard SVA angleway or straightway housing allowing other inserts from the SVL platform to be installed.

Material is special, cold resistant steel

The cone

The valves are available in two different versions – REG-SA with an A cone and REG-SB with a B cone. The A cone is designed for expansion lines, while the B cone is designed for regulating purposes e.g. liquid lines.

The valve cone is designed to ensure perfect regulation and provide an extensive regulating area. Irrespective of the refrigerant used, it is easy to obtain the correct capacity. 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

The spindle is made of polished stainless steel, which is ideal for O-ring sealing.

Packing gland - REG-SA and REG-SB

The “full temperature range” packing gland ensures perfect tightness in the whole range: -60 °C/+150 °C (-76 °F / +302 °F). The packing glands are equipped with a scraper ring to prevent penetration of dirt and ice.

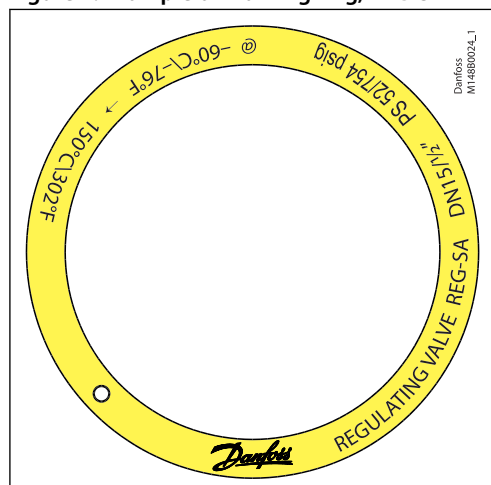
Installation

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 product instruction for REG-SA and REG-SB.

Figure 1: Example of marking ring, REG-SA



Pressure and temperature data

Table 1: Temperature and pressure

Description	Values
Temperature range	-60 °C / +150 °C (-76 °F / +302 °F)
Max working pressure	52 bar (754 psi g)

Flow coefficients

Flow coefficients for fully opened valves from $k_v = 0.15$ to $80 \text{ m}^3/\text{h}$ ($C_v = 0.17$ to 92.5 USgal/min).

Connections

Available with the following connections:

- Butt-weld DIN (EN 10220) – DN 10 - 65 ($\frac{3}{8}$ - 2½ in.)
- Butt-weld ANSI (B 36.10 Schedule 80) – DN 10 - 40 ($\frac{3}{8}$ - 1½ in.)
- Butt-weld ANSI (B 36.10 Schedule 40) – DN 50 - 65 (2 - 2½ in.)
- Butt-weld GOST, (8734-75 and 8732-78) – DN 10 - 65 ($\frac{3}{8}$ - 2½ in.)
- Socket weld (ANSI B 16.11) – DN 15 - 40 (½ - 1½ in.)
- FPT inside pipe thread, NPT (ANSI/ASME B 1.20.1) – DN 15 - 32 (½ - 1¼ in.)

Figure 2: DIN

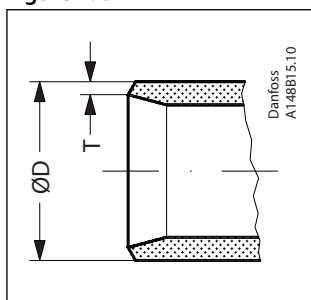


Table 2: Butt-weld DIN (EN 10220)

	Size mm	Size in.	OD mm	T mm	OD in.	T in.	Cone
REG-SA / SB	10	$\frac{3}{8}$	17.2	2.3	0.677	0.091	A and B
REG-SA / SB	15	$\frac{1}{2}$	21.3	2.3	0.839	0.091	A and B
	20	$\frac{3}{4}$	26.9	2.3	1.059	0.091	
	25	1	33.7	2.6	1.327	0.103	
REG-SA / SB	32	1¼	42.4	2.6	1.669	0.102	A and B
	40	1½	48.3	2.6	1.902	0.103	
REG-SB	50	2	60.3	2.9	2.37	0.11	B
REG-SB	65	2½	76.1	2.9	3	0.11	B

Figure 3: ANSI

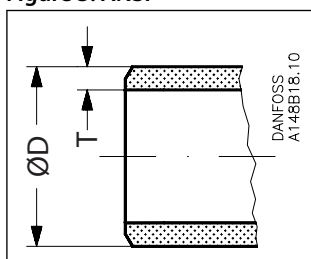


Table 3: Butt-weld ANSI (B 36.10 Schedule 80)

	Size mm	Size in.	OD mm	T mm	OD in.	T in.	Cone
REG-SA / SB	10	$\frac{3}{8}$	17.2	3.2	0.677	0.126	A and B
REG-SA / SB	15	$\frac{1}{2}$	21.3	3.7	0.839	0.146	
	20	$\frac{3}{4}$	26.9	4.0	1.059	0.158	A and B
	25	1	33.7	4.6	1.327	0.181	
REG-SA / SB	32	1¼	42.4	4.9	1.669	0.193	A and B
	40	1½	48.3	5.1	1.902	0.201	

Table 4: Butt-weld ANSI (B 36.10 Schedule 40)

	Size mm	Size in.	OD mm	T mm	OD in.	T in.	Cone
REG-SB	50	2	60.3	3.9	2.37	0.15	B
REG-SB	65	2½	73.0	5.2	2.87	0.20	B