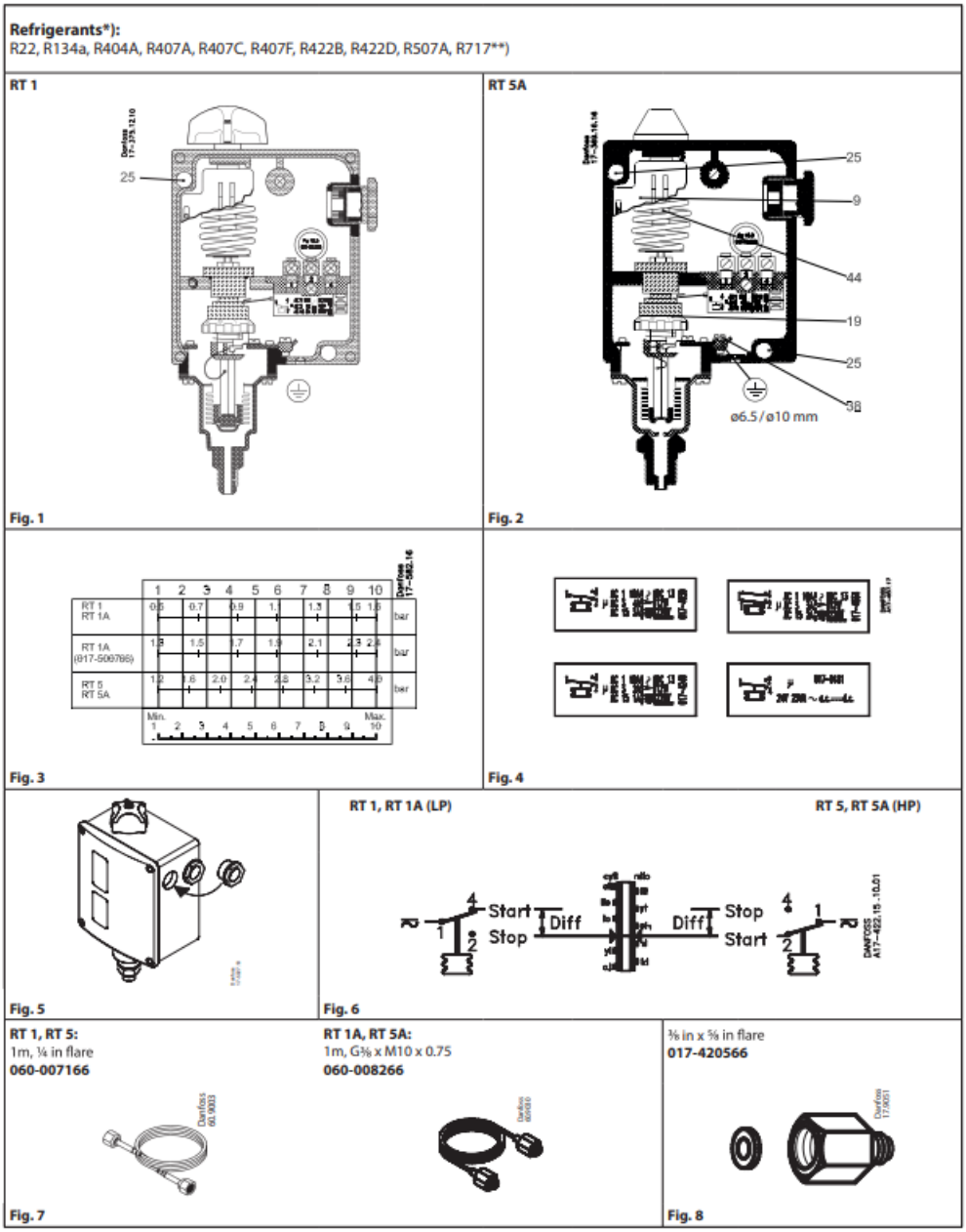
Danfoss RT 1 Pressure Switch Installation Guide

Danfoss RT 1 Pressure Switch Installation Guide



Contents

1 Pressure switches
2 Technical data
3 Contact load
4 Fitting
5 Mains connection
6 Adjustment
7 Documents / Resources
7.1 References
8 Related Posts

Pressure switches

- For complete list of approved refrigerants, www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of technical data.
- Only for RT 1A, RT 5A

Technical data

Type	Reset	Range (Pe) [bar]	Adjustable p [bar]
RT 1 RT 1A	auto	-0.8 – 5	0.5 – 1.6 *1)
	min.		
RT 5 RT 5A	auto	4 – 17	1.2 – 4
	max.		*2)

1. RT 1A 017-500766 – adjustable differential 1.3 – 2.4 bar RT 5 017-528466 – adjustable differential 0.6 – 3.0 bar
2. RT 5 017-539566 – adjustable differential 0.3 – 2.5 bar

Max. working pressure, PS / MWP:
22 bar / 315 psig
Max. test pressure, p': 25 bar
Maximum permissible bellows temperature: 70°C
Enclosure: IP66 according to IEC 529

Contact load

See switch cover or fig. 4.
The marking, e.g.10 (4) A, 400 V ~ means that max. connection current is 10 A ohmic or 4 A inductive at 400 V ~.
The max. starting current on motor cutin (L.R.) may be up to seven times the inductive load – but max. 28 A.
The RT pressure controls comply with conditions specified in VDE 0660.
VDE = Verband Deutscher Elektrotechniker

Fitting

A set of Pg13.5 cable gland is attached to the RT in a separate bag. To ensure IP66 (units with automatic reset) or IP54 (units with external reset) grade of RT enclosure it is necessary to assemble this gland as shown in the fig.5. If this gland is not used with a cable, a metal blinding should be with a cable, a metal blinding should be also assembled.

The pressure switch is designed for fitting on the valve panel or the compressor. Use the mounting holes pos. 25, fig. 1. If the control is subjected to vibration, it should be mounted on a soft intermediate base.

If pressure pulsations occur in the system, such pulsations should be effectively damped, e.g. by connecting the pressure switch to the system through a capillary tube. See fig. 7.

Mains connection

See fig. 6.
START = make. STOP = break
DIFF = differential
Cable diameter 6 – 14 mm
The earth terminal 38 should be connected to earth.
Refit protective cap.

Adjustment

See figs. 2, 3 and 6.
Set the pressure switch for minimum actuating pressure (range setting).

NOTE: RT 5 and RT 5A with max. reset should be set for maximum actuating pressure (range setting). Setting is done by rotating the main spindle 44, at the same time reading the main scale 9. The differential is set by rotating the differentia adjusting nut 19 according to the diagram in fig. 3. Maximum actuating pressure is the sum of the setting pressure and the differential.

Example
A setting on “5”fig. 3. will give a differential of approx. 1.8 bar on type RT 1A (code no. 017-500766), while the same setting on type RT SA will give a differential of approx. 2.3 bar.

In general, turning the main spindle automatically moves both the maximum and minimum actuating pressures (break and make pressures) up or down because of the fixed differential. On the other hand turning the differential adjusting nut only alters the maximum actuating pressures.

The scale of all RT types without reset and RT types with min. reset is calibrated in such a way that the scale setting corresponds to contact change-over at minimum actuating pressure (normal setting).

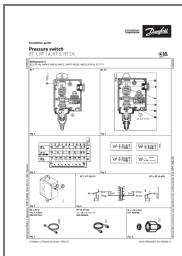
In RT switches with min. reset, the pressure in the bellow system must increase by a value corresponding to the differential, before manual reset can be effected.

RT switches with max. reset have a scale which is calibrated in such a way that the scale setting corresponds to contact changeover at maximum actuating pressure. (NOTE: contrary to normal setting). The pressure in the bellows system must decrease by a value which corresponds to the differential, before manual reset can be effected.

Accessories See figs. 7 and 8.

AN21698644097301-000402 | 5

Documents / Resources

	Danfoss RT 1 Pressure Switch [pdf] Installation Guide RT 1, RT 1A, RT 5, RT 5A, RT 1 Pressure Switch, RT 1, Pressure Switch, Switch

References

- Engineering Tomorrow | Danfoss
- Danfoss Global Product Store | Homepage