



## Danfoss RT 1AL Series Pressure Switch Installation Guide

ENGINEERING  
TOMORROW



### Installation guide

## Pressure switch

RT 1AL, RT 5AL, RT 110L, RT 117L, RT 200L



### Refrigerants:

R22, R134a, R404A, R407A, R407C, R407F, R507A, R717\*)

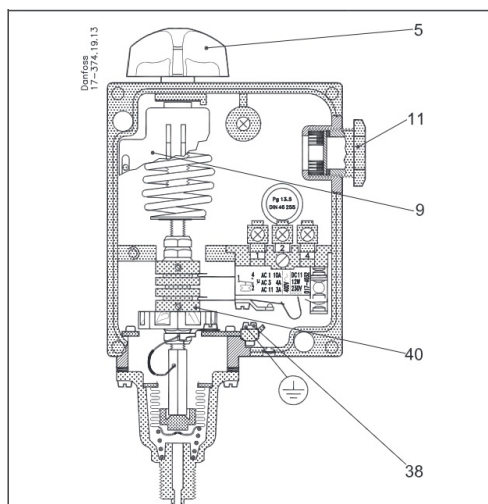


Fig. 1

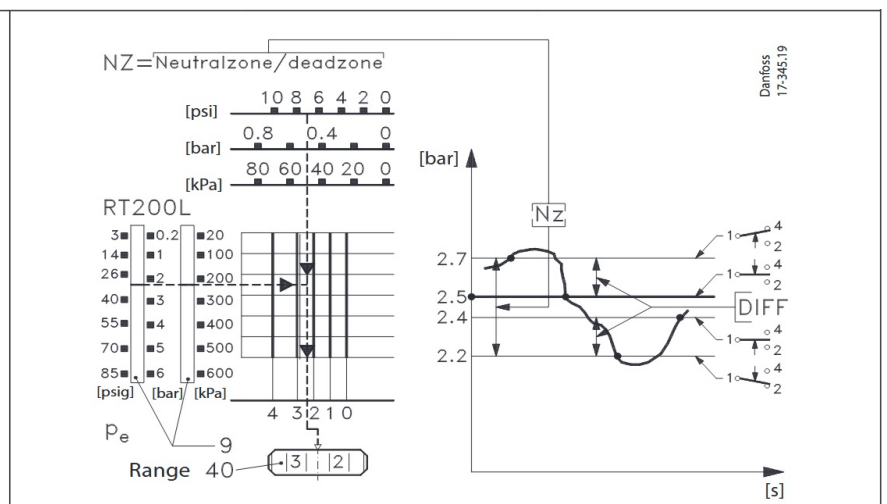
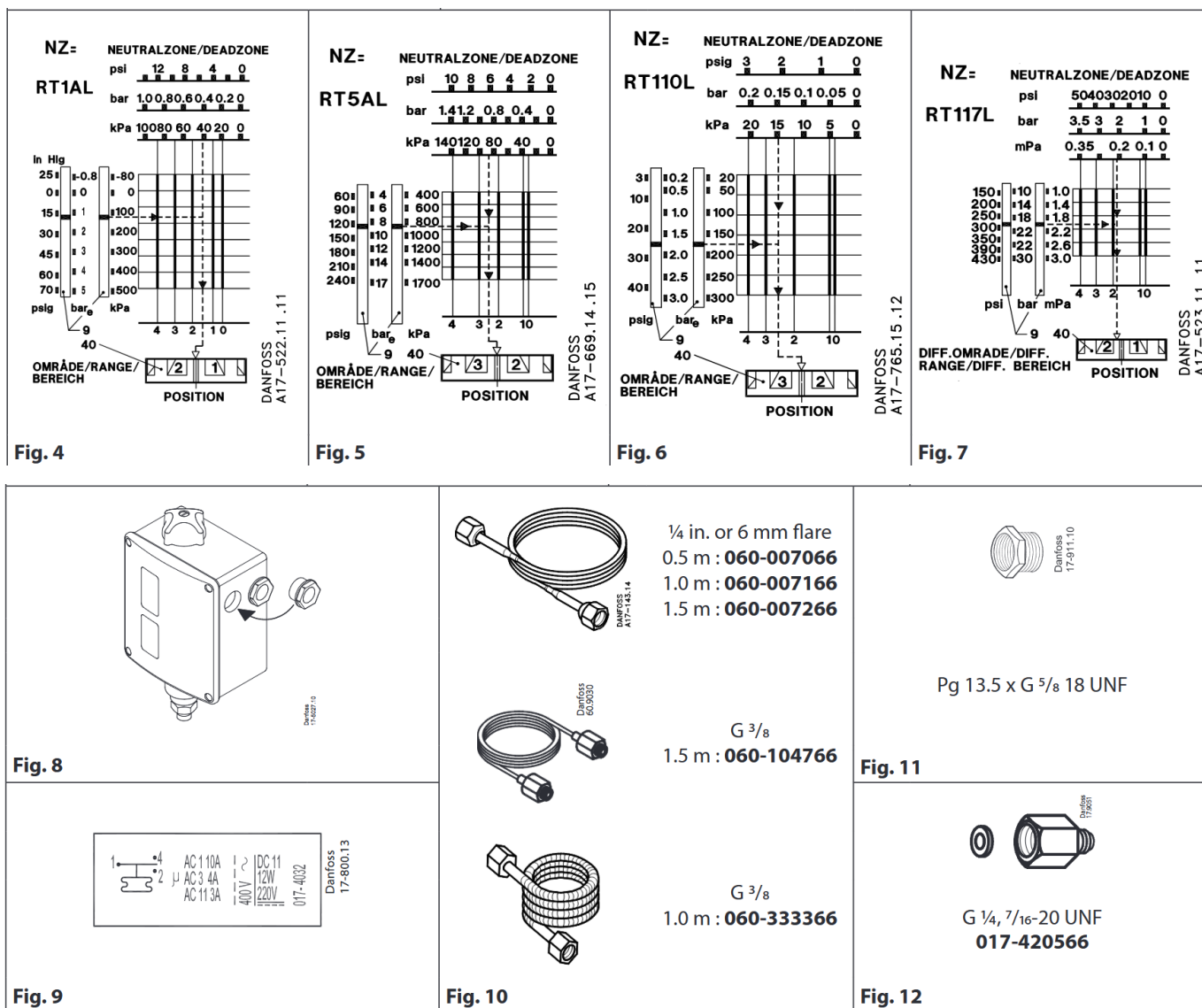


Fig. 2

Fig. 3



**Pressure switch** (with neutral zone) \*) Only for RT 1AL, RT 5AL

For complete list of approved refrigerants, visit [www.products.danfoss.com](http://www.products.danfoss.com) and search for individual code numbers, where refrigerants are listed as part of technical data.

## Technical data

## Reference list

- 5. Knob
- 9. Main scale
- 38. Earth terminal
- 40. Setting disc

## Regulating range

As shown on the main scale (9), figs. 2, 4, 5 and 7

## Contact differential (DIFF)

0.08 bar for RT 110L

0.2 bar for RT 1AL

0.25 bar for RT 200L

0.35 bar for RT 5AL

1.0 bar for RT 117L

### **Contact load**

See contact cover or fig. 9.

The rating, e.g. 10 (4) A, 400 V~ AC , indicates that the maximum load is 10 A ohmic and 4 A inductive at 400 V ~ AC.

The maximum start current at cut-in of motor (L.R.) is seven times the inductive load.

**Ambient temperature:** -50 °C – 70 °C.

### **Max. test pressure**

RT 1AL,RT 200L : 25 bar (pe)

RT 110L: 8 bar (pe)

RT 5AL : 25 bar (pe)

RT 117L : 47 bar (pe)

### **Neutral zone (NZ)**

As shown on the NZ-scale, figs. 2, 4, 5, 6 and 7.

### **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. 8. If this gland is not used with a cable, a metal blinding should be also assembled.

The pressure controller should be fitted with the knob (5) facing upwards.

### **Mains connection**

Cable connection Pg 13.5

Cable diameter 6 – 14 mm.

When a rigid cable conduit is used, connection should be to screwed cable entry shown in fig. 11.

Earth connection to earth terminal (38).

Fit the protective cap.

## Setting

The pressure required ( = cut-out pressure for contacts 1 – 4) is set by turning the knob (5), and reading the main scale (9) at the same time.

The neutral zone (NZ) required is found on the diagram for the controller in question.

The value for which the setting disc (40) is to be set, can be read on the lower scale of the diagram.

### Example: RT 200L

Required pressure : 2.5 bar (pe)

Required neutral zone (NZ) : 0.5 bar

Set the pressure controller at 2.5 bar (pe) by turning the knob (5).

As it can be seen from the diagram, the required neutral zone of 0.5 bar is obtained by setting the setting disc (40) at the value of 2.4. When DIFF = 0.2 bar, the cut-in and cut-out pressures of the switch (fig. 3) are:

#### Cut-in pressures for contacts 1-4:

$2.5 + 0.2 = 2.7$  bar (pe).

#### Cut-out pressures for contacts 1 – 4:

pressure setting = 2.5 bar (pe).

#### Cut – in pressure for contacts 1 – 2:

$2.7 - 0.5 = 2.2$  bar (pe).

#### Cut – out pressure for contacts 1 – 2:

$2.2 + 0.2 = 2.4$  bar (pe).

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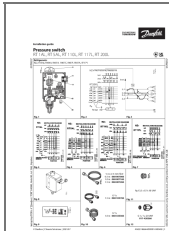
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## References

-  [Engineering Tomorrow | Danfoss](#)
- [User Manual](#)

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