

Installation guide

Electric 3-way valve

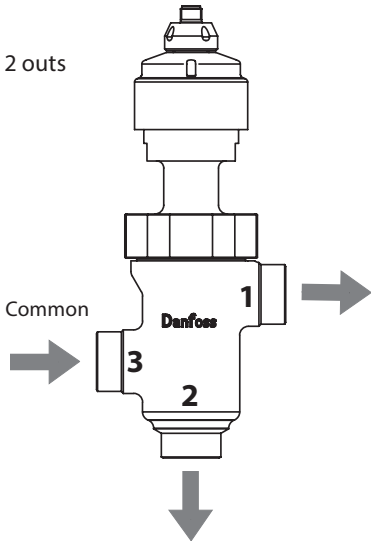
Type CTR 20

Main application: Heat reclaim	Refrigerant: R744 for other refrigerants contact Danfoss	Ambient temperature: Min. -40 °C / -40 °F Max. 60 °C / 140 °F	Fluid temperature: Min. 0 °C / 32 °F Max. 150 °C / 302 °F
Stepper motor type: Bipolar		Max working pressure: 140 Bar / 2030 psig	Total full steps: 6600
Phase Current: 100 mA RMS		Coil resistance: 52 Ohm ±10% (25 °C)	Step rate: 75 stp./sec.
 Note! Valves are delivered in approximately half opened position and is ready for brazing.		 Warning! Do not connect directly to AC / DC power source. Connect valve to appropriate controller/driver only. Do not operate valve while assembling or disassembling.	

Flow direction

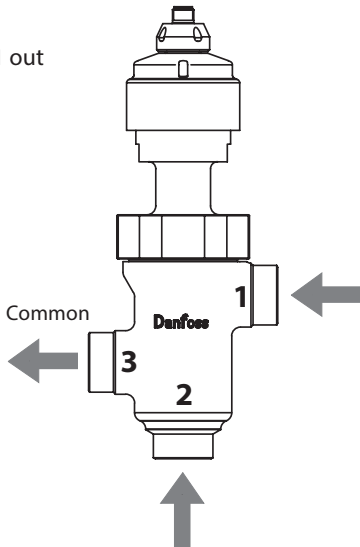
A.

1 in 2 outs



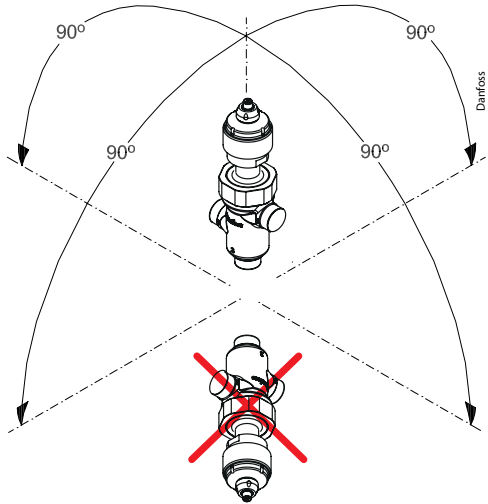
B.

2 in 1 out



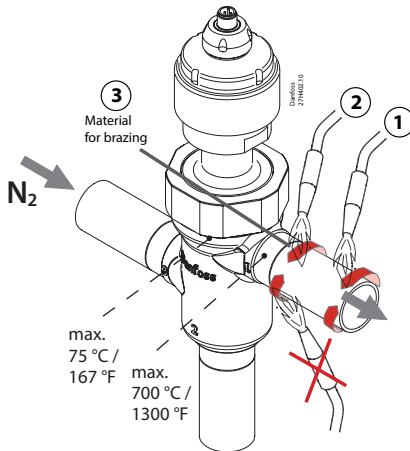
For more information on the product,
please scan the QR code.

Mounting direction



- Do not disassemble the valve before brazing or welding.
- the valve must be in middle position by brazing and welding (as it is delivered).

Brazing



Recommendation: Solder nozzle 4 - 6 mm N (5/32 in - 15/64 in)

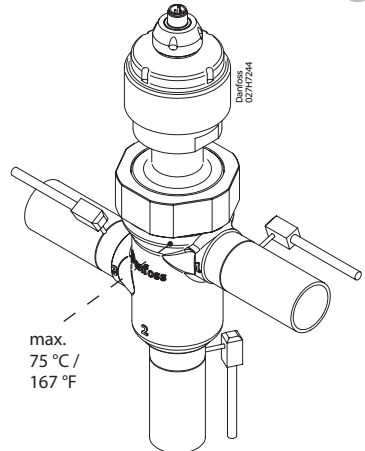
Materials used for brazing:

- Flux: Metalli tenacity No. 5 Powder or Braze Tec special h paste.
- Filler: Silver-Flo 55 (BS:AG 14/ DIN L-Ag55 Sn) or Silver-Flo 56 (AWS B Ag-7).



Filler metals containing Phosphor i.e. BS: CP 1/ DIN L-Ag 15P or BS: CP 3/ DIN L-Ag P7 must not be used.

Welding

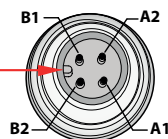
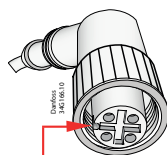
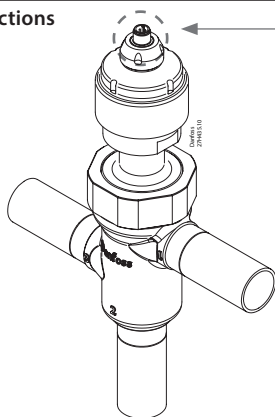


Recommendation for TIG welding

- Power approximately 60A.
- Use Shield gas charge - Argon.
- Material for welding - approximately 2 mm thick stainless steel alloy.

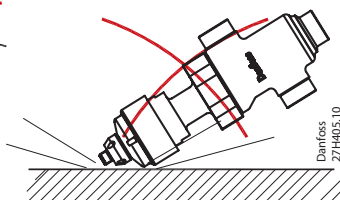
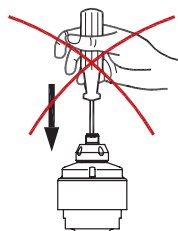
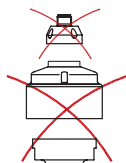
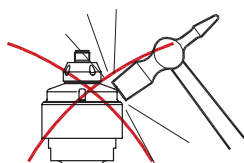
Electrical connections

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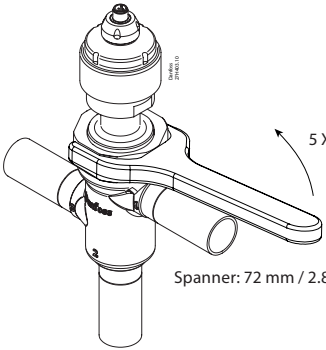
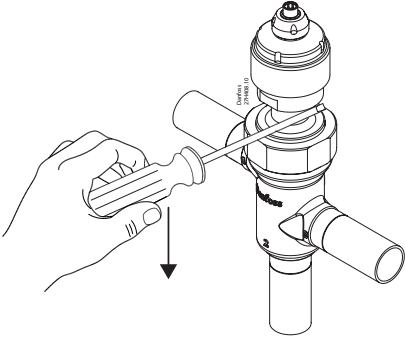
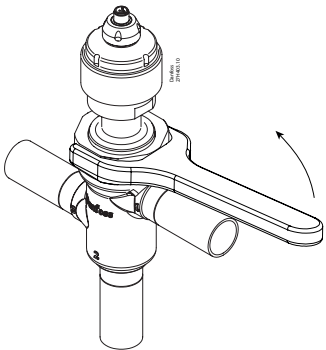
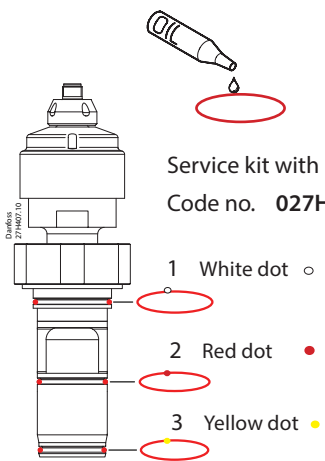
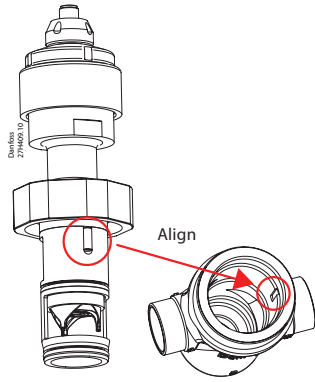
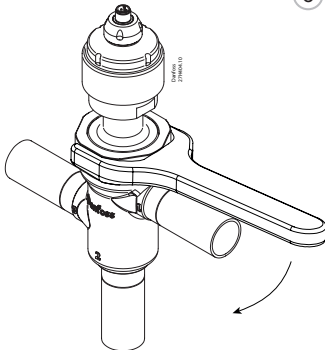
M12 connection
on CTR valve

A1 and A2 = coil I
B1 and B2 = coil II



For your own notes

Service only

1  Spanner: 72 mm / 2.8 in 5X Unscrew the big nut with 5 rotations	2  Lift the motor with a screwdriver until it is loose
3  Unscrew the big nut fully	4  Service kit with 3 O-rings Code no. 027H7248 1 White dot ○ 2 Red dot ● 3 Yellow dot ●
5  Align The "fixing" pin must be placed in the gap	6  Max. torque: 130 Nm / 95.9 ft-lbf