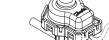
Installation guide

Electric expansion valve Type ETS 5M

Refrigerants

R410A, R22, R32, R290, R454C, R515B, R1234ze, R452B, R1234yf, R452A, R454B, R454A, R455A, R449A, R407C, R134a, R407H, R513A, R449B, R404A, R448A, R463A

Max. working pressure PS / MWP: 4.55 MPa / 45.5 barg / 660 psig



Refrigerant temperature

 $t_{Min.}$: -30 °C / -22 °F, $t_{Max.}$: 70 °C /158 °F





Safety notes for flammable refrigerants (R454C, R454A, R1234ze, R290, R32, R452B, R454B, R455A, R1234vf)

- This product is validated in accordance to ATEX, EN 378, ISO 5149, ASHRAE 15, IEC 60335-2-x or equivalent standards.
- Ignition risk is evaluated in accordance to ISO 5149 and IEC 60335.
- See safety note below.

Allowable ambient temperature

-30 °C / -22 °F - 60 °C / 140 °F

Phase current 240 mA

Resistance 50 Ω

Nominal voltage

Stepper motor type

Unipolar

12 V DC

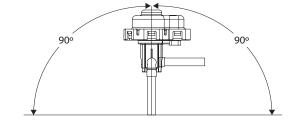


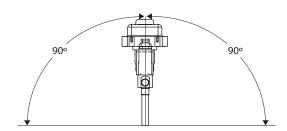
Safety notes:

- The product can be applied on systems with R454C, R454A, R1234ze, R290, R32, R452B, R454B, R455A, R1234yf as the working fluid.
- For countries where safety standards are not an indispensable part of the safety system Danfoss recommend the installer to get a third party approval of the system containing flammable refrigerant.
- Note, please follow specific selection criteria stated in the datasheet for these particular refrigerants.
- The valve must only be used in closed circuit refrigeration system, where no oxygen is present acc. EN 378, ISO 5149 ASHRAE 15 or IEC 60335-2-x or equivalent standards.



Mounting Angle

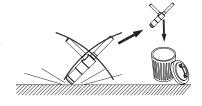












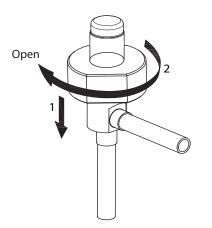
Do not connect directly to AC / DC power source. Connect valve to appropriate controller / driver only. Do not operate valve while assembling or disassembling.

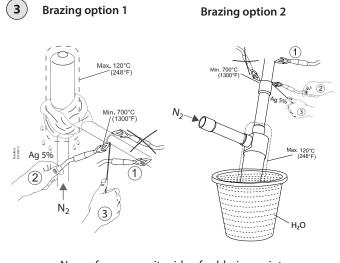


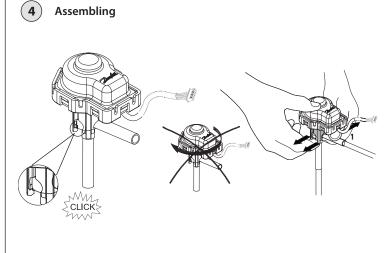


Always open valve to overdrive before brazing using manual coil.

ETS 5M manual coil: Code no. 034G3803

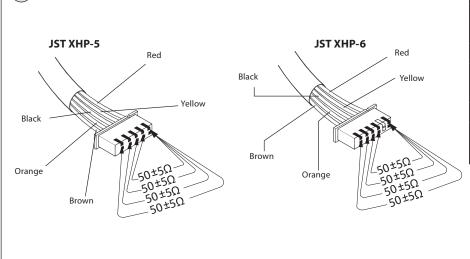




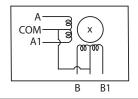


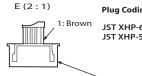
N₂ gas from opposite side of soldering point.

Table:1 Stepper motor open and close sequence



	Yellow (A1)	Orange (A2)	Black (B1)	Brown (B2)	Red (Com)	
Valve Opening	ON	OFF	OFF	OFF	0	Valve Closing
	ON	OFF	ON	OFF	0	
	OFF	OFF	ON	OFF	0	
	OFF	ON	ON	OFF	0	
	OFF	ON	OFF	OFF	0	
	OFF	ON	OFF	ON	0	
	OFF	OFF	OFF	ON	0	
	ON	OFF	OFF	ON	0	





Plug Coding

JST XHP-6: 1 2 3 4 5 6

JST XHP-5: 1 2 3 4 5 6

Color coding
JST 5/6
5/6: RED - Common
-/5: No wire 4/4: Yellow - Coil A

3/3: Black - Coil B 2/2: Orange - Coil A1 1/1: Brown - Coil B1

Connection