

TUA/TUAE—Thermostatic Expansion Valves



Danfoss TUA/TUAE stainless steel thermostatic expansion valves feature solder inlet and outlet connections. By pairing one valve body with one of ten replaceable orifices, a contractor can satisfy applications from -40°F to $+50^{\circ}\text{F}$ and up to $4\frac{1}{2}$ tons capacity (see capacity chart for specifics).

Product Selection

1. Select Valve Body

Equalization	R-22	R-407C	R-404A	R-134a
Internal	068U2235		068U2285	068U2205
External	068U2237		068U2287	068U2207

All valves above have $\frac{3}{8}$ in. \times $\frac{1}{2}$ in. solder ODF connections and are designed for evaporator temperatures -40°F to $+50^{\circ}\text{F}$ (N charge). Other variations available, please contact your local Danfoss authorized wholesaler.

2. Select Orifice

TUA/TUAE valve capacities are based on the installed orifice. To select the correct size, use one of the two methods below:

A. System characteristics: Select the orifice using appropriate refrigerant, evaporator temperature, and system capacity.

OR

B. Nominal capacity of the installed valve: Use the nominal capacity of the originally installed valve and match with the nominal capacity in chart (3rd column from left).

Easy to carry kits for truck stock

All TUA/TUAE valve bodies and orifice featured on the next page and a hex key for superheat adjustment. **068U7000**

Both TUA/TUAE valve bodies and orifices and T2/TE2 and orifices plus gaskets for TUA/TUAE and a hex key for superheat adjustment. **068U7001**

Kits are plastic cases with foam inserts, all valves and orifices, and instructions for selection and installation of the valves. Empty kits and foam available upon request.

TUA and TUAE (IF EXACT CAPACITY CANNOT BE FOUND, USE NEXT LARGER ORIFICE)

R-22		R-407C	Evaporator temperature ($^{\circ}\text{F}$)										
Orifice size	Danfoss Code No.	Nominal capacity of installed valve ¹ (tons)	-40	-30	-20	-10	0	10	20	30	40	50	
			Rated capacity ² (tons)										
0	068U1030	$\frac{1}{8}$	$\frac{1}{15}$	$\frac{1}{15}$	$\frac{1}{15}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	
1	068U1031	$\frac{1}{5}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{4}$	
2	068U1032	$\frac{1}{4}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{3}$	
3	068U1033	$\frac{1}{3}$	$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	
4	068U1034	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	
5	068U1035	$\frac{3}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	
6	068U1036	$1\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	
7	068U1037	2	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	$1\frac{1}{5}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	2	
8	068U1038	$2\frac{3}{4}$	1	1	$1\frac{1}{3}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	$2\frac{1}{2}$	3	3	
9	068U1039	4	$1\frac{1}{3}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{1}{4}$	$3\frac{1}{2}$	4	$4\frac{1}{2}$	

R-404A		Evaporator temperature ($^{\circ}\text{F}$)										
Orifice size	Danfoss Code No.	Nominal capacity of installed valve ¹ (tons)	-40	-30	-20	-10	0	10	20	30	40	50
			Rated capacity ² (tons)									
0	068U1030	$\frac{1}{8}$	$\frac{1}{20}$	$\frac{1}{20}$	$\frac{1}{15}$	$\frac{1}{15}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
1	068U1031	$\frac{1}{5}$	$\frac{1}{15}$	$\frac{1}{15}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$
2	068U1032	$\frac{1}{4}$	$\frac{1}{15}$	$\frac{1}{15}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
3	068U1033	$\frac{1}{3}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$
4	068U1034	$\frac{1}{2}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
5	068U1035	$\frac{3}{4}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
6	068U1036	$1\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	1	$1\frac{1}{3}$
7	068U1037	$1\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1	$1\frac{1}{3}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{3}{4}$
8	068U1038	$2\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1	$1\frac{1}{3}$	$1\frac{1}{2}$	2	2	$2\frac{1}{3}$	$2\frac{1}{2}$
9	068U1039	$3\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{3}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$3\frac{3}{4}$

R-134a			Evaporator temperature (°F)										
Orifice size	Danfoss Code No.	Nominal capacity of installed valve ¹ (tons)	-40	-30	-20	-10	0	10	20	30	40	50	
			Rated capacity ² (tons)										
0	068U1030	1/8	1/30	1/20	1/20	1/20	1/15	1/15	1/10	1/10	1/6	1/6	
1	068U1031	1/8	1/20	1/15	1/15	1/10	1/10	1/8	1/6	1/6	1/6	1/5	
2	068U1032	1/8	1/15	1/15	1/15	1/10	1/8	1/6	1/6	1/6	1/5	1/5	
3	068U1033	1/4	1/15	1/10	1/8	1/8	1/6	1/5	1/5	1/5	1/4	1/4	
4	068U1034	1/8	1/6	1/6	1/5	1/5	1/4	1/4	1/3	1/3	1/3	1/2	
5	068U1035	1/2	1/5	1/5	1/4	1/4	1/3	1/3	1/2	1/2	1/2	1/2	
6	068U1036	3/4	1/4	1/4	1/3	1/3	1/2	1/2	3/4	3/4	1	1	
7	068U1037	1 1/4	1/3	1/3	1/2	1/2	3/4	3/4	1	1	1 1/4	1 1/2	
8	068U1038	1 3/4	1/2	1/2	3/4	3/4	1	1 1/4	1 1/2	1 3/4	2	2	
9	068U1039	2 1/2	3/4	1	1	1 1/3	1 1/2	1 3/4	2	2 1/3	2 3/4	3	

All capacity data is in accordance to ARI 750-2007.

¹ Nominal capacity based on condensing temperature of 100 °F, a vapor free liquid temperature of 98 °F ahead of the expansion valve and an evaporator temperature of 40 °F.

² Capacity based on condensing temperature of 95 °F and a vapor free liquid temperature of 85 °F ahead of the expansion valve.

TUA/TUAE Spare Parts and Accessories

Description	Notes	Danfoss Code No.
Bulb strap		068U3507
Metal gasket (24 pcs.)		068U0015
Filter for orifices 0-4 (clear; 24 pcs.)		068U1706
Filter for orifices 5-9 (blue; 24 pcs.)		068U0016

ETS—Electric Expansion Valves



ETS stepper motor electric expansion valves are designed for precise liquid injection in evaporators for air conditioning and refrigeration applications. The valve piston and linear positioning mechanism is fully balanced, providing bidirectional flow capability and tight solenoid shutoff in both flow directions. ETS valves cannot be used with flammable hydrocarbons.

Danfoss Type	R-410A (tons)	R-22 (tons)	R-134a (tons)	R-404A (tons)	Solder ODF Connection		Danfoss Code No.
					Inlet (in.)	Outlet (in.)	
ETS 12.5	20	16	13	12	1/2	1/2	034G4209
ETS 12.5	20	16	13	12	5/8	5/8	034G4210
ETS 12.5	20	16	13	12	7/8	7/8	034G4211
ETS 25	41	34	27	25	5/8	5/8	034G4202
ETS 25	41	34	27	25	7/8	7/8	034G4203
ETS 50	75.7	62	48.9	46.3	1 1/8	1 1/8	034G1706
ETS 100	140.9	115.4	91.2	86.6	1 3/8	1 3/8	034G0508

The rated capacity is based on an evaporation temperature of 40 °F, liquid temperature of 82 °F, and condensing temperature of 90 °F.

ETS Spare Parts and Accessories

Description	Danfoss Code No.
AST-G Service Driver: used to manually open or close valve	034G0013
M12 cable, 26 ft.	034G2323
M12 cable, 6 ft.	034G2330
Cable filter for long wire runs (in excess of 32 ft.); permits wire runs of up to 328 ft.	034G2238