

# TUA Selection and Installation Guide



## 1) Select valve body and orifice size

TU type expansion valves are stainless steel with bi-metal connections for copper to copper sweat (ODF) connections. To make a functioning valve, pair the appropriate valve body and orifice using the charts below.

**IF THE EXACT SYSTEM CAPACITY CANNOT BE FOUND, USE THE NEXT LARGER ORIFICE.**

R22			Evap. Temperature (°F)								
Valve Body <sup>1</sup>	Orifice Size	Code Number	45	35	25	0	-10	-20	-30	-40	
			Rated Capacity in Tons (TR) <sup>2</sup>								
TUA 068U2235	TUAE 068U2237	00	068U1030	1/6	1/6	1/6	1/8	1/10	1/10	1/10	1/10
		01	068U1031	1/4	1/4	1/4	1/8	1/6	1/8	1/8	1/10
		02	068U1032	1/4	1/4	1/4	1/6	1/6	1/6	1/8	1/8
		03	068U1033	1/2	1/4	1/4	1/4	1/4	1/4	1/6	1/6
		04	068U1034	3/4	1/2	1/2	1/2	1/4	1/4	1/4	1/4
		05	068U1035	1	3/4	3/4	1/2	1/2	1/2	1/4	1/4
		06	068U1036	1 1/2	1	1	3/4	3/4	3/4	1/2	1/2
		07	068U1037	2	1 1/2	1 1/2	1	1	1	3/4	3/4
		08	068U1038	3	2 1/2	2 1/2	2	1 1/2	1 1/2	1	1
09	068U1039	4 1/2	4	4	3	2 1/2	2	1 1/2	1 1/2		

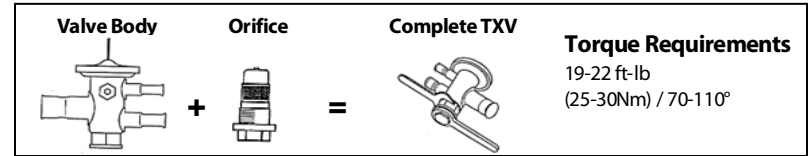
R404A / R507			Evap. Temperature (°F)								
Valve Body <sup>1</sup>	Orifice Size	Code Number	45	35	25	0	-10	-20	-30	-40	
			Rated Capacity in Tons (TR) <sup>2</sup>								
TUA 068U2285	TUAE 068U2287	00	068U1030	1/10	1/10	1/10	1/10	1/10	1/15	1/15	1/20
		01	068U1031	1/6	1/6	1/8	1/8	1/8	1/10	1/15	1/15
		02	068U1032	1/4	1/4	1/6	1/6	1/8	1/8	1/10	1/10
		03	068U1033	1/4	1/4	1/4	1/4	1/6	1/6	1/8	1/8
		04	068U1034	1/2	1/2	1/2	1/4	1/4	1/6	1/6	1/6
		05	068U1035	3/4	1/2	1/2	1/2	1/4	1/4	1/4	1/4
		06	068U1036	1	3/4	3/4	3/4	1/2	1/2	1/4	1/4
		07	068U1037	1 1/2	1 1/2	1	1	3/4	3/4	1/2	1/2
		08	068U1038	2	2	2	1 1/2	1	1	3/4	3/4
09	068U1039	3 1/2	3	3	2	1 1/2	1 1/2	1	1		

R134a			Evap. Temperature (°F)								
Valve Body <sup>1</sup>	Orifice Size	Code Number	45	35	25	0	-10	-20	-30	-40	
			Rated Capacity in Tons (TR) <sup>2</sup>								
TUA 068U2205	TUAE 068U2207	00	068U1030	1/10	1/10	1/10	1/10	1/15	1/15	1/20	1/20
		01	068U1031	1/6	1/6	1/6	1/8	1/10	1/15	1/15	1/20
		02	068U1032	1/4	1/4	1/6	1/8	1/8	1/10	1/15	1/15
		03	068U1033	1/4	1/4	1/4	1/6	1/6	1/8	1/10	1/10
		04	068U1034	1/2	1/2	1/4	1/6	1/4	1/6	1/6	1/8
		05	068U1035	3/4	1/2	1/2	1/4	1/4	1/4	1/6	1/6
		06	068U1036	1	1	3/4	1/2	1/2	1/4	1/4	1/4
		07	068U1037	1 1/2	1	1	3/4	3/4	1/2	1/2	1/4
		08	068U1038	2	2	1 1/2	1	1	3/4	3/4	1/2
09	068U1039	3 1/2	3	2 1/2	2	1 1/2	1	1	3/4		

## 2) Assemble the orifice and valve body

Place one drop of machine oil between the screen cage and the pushpin, then torque the assembly to 19-22 ft-lb. In addition to eliminating leaks, proper torquing insures proper superheat.

**REPLACE THE METAL WASHER EVERY TIME YOU CHANGE THE ORIFICE ASSEMBLY OR REMOVE IT FROM THE VALVE BODY**



## 3) Install into system

### Sweat Instructions

- 1) Clean and insert copper tubing into appropriate connection on valve.
- 2) Direct torch at copper tubing until it begins to color (10-15 seconds).
- 3) Briefly direct torch on valve connection (2-5 seconds).
- 4) Apply brazing alloy until it flows. Do not try to fill the ridge - attempts to do so may clog the connector.

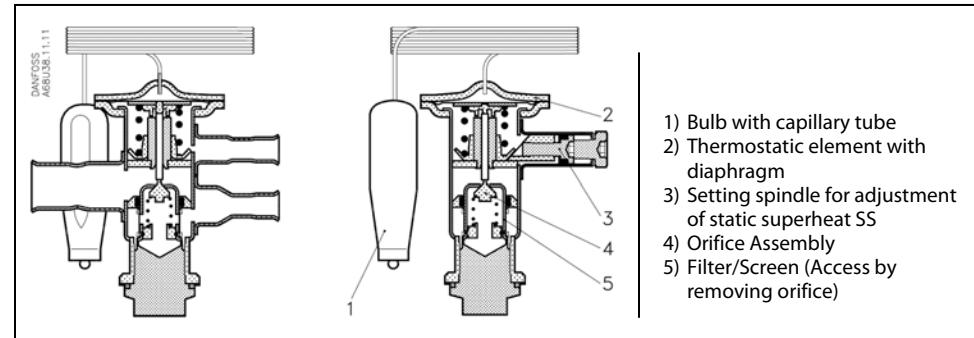
**No Wet Wrap Required**

Sweat connections using any common brazing alloy (6-15% silver). As internal connector surface is copper, connections are copper to copper, and there is no need for a high percentage content of silver.

### Superheat Adjustment

- 1) Remove the cap with a 5/32 in. Allen wrench.
- 2) Make superheat adjustments ¼ turn at a time (¼ turn≈1°F). Turning clockwise increases superheat. Turning counter-clockwise decreases superheat.
- 3) Reinstall the cap.

TXVs on low temperature systems may require more adjustment as the factory setting is for medium temperature systems.



<sup>1</sup> Valve Body - Internal: 3/8" X 1/2" ODF - External: 3/8" X 1/2" w/ 1/4" ODF Equalizer

<sup>2</sup> Capacities are based on a condensing temperature of 90 °F and a vapor free liquid temperature of 80 °F ahead of the expansion valve.