

Thermostatic Expansion Valves

TI Series

Application

TI/TIE series are used to regulate liquid refrigerant flow into evaporators by sensing the refrigerant temperature at the evaporator outlet, where the bulb must be placed, and specially applied for cold storage, cabinet, ice machines applications as well as air conditioners.

Features

- Available with MOP;
- Interchangeable orifice assembly makes it easy storage and capacity matching;
- For biflow system, please contact us;
- Reliable in a wide evaporating temperature range.

Approvals

UL, PED

Technical data

Applicable Refrigerants: R134a, R404A, R507, R407C, and R410A

Max. Temperature

Bulb, when valve is installed: 100 °C

Bulb, element not mounted: 60 °C

Max. Operating Pressure: 4.6 MPa

Max. Test Pressure: 4.7 MPa

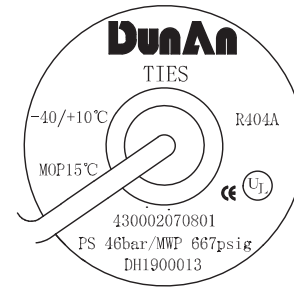
Pressure Equalization: 6mm(1/4in.)(solder)



Identification

Example

TIES = Model (S: R404A)
 R404A = Refrigerant
 -40/+10☒ = Evaporation Temperature (☒)
 430002070801 = Ordering Code
 MOP15☒ = Max. Evaporating Pressure
 PS 34 bar/MWP 667psig = Max. Operating Pressure
 430002070801 = Code Number
 BC0300005 = Date Marking



Refrigerant

R407C = Z
 R134a = N
 R404A/R507 = S
 R410A = L

Standard and MOP Valves

Refrigerant	-40°C~+10°C MOP +15°C	-40°C~-5°C MOP 0°C	-40°C~-15°C MOP -10°C	-60°C~-25°C MOP -20°C
R407C	6.6 bar	-	-	-
R134a	3.8 bar	2.1 bar	1.0 bar	-
R404A/R507	8.3 bar	5.2 bar	3.4 bar	2.1 bar
R410A	11.5 bar	-	-	-

Nominal Capacity

Orifice No.	Nominal Capacity [TR]				Nominal Capacity [kW]			
	R407C	R134a	R404A R507	R410A	R407C	R134a	R404A R507	R410A
0x	0.27	0.19	0.18	0.29	0.96	0.68	0.65	1.05
00	0.53	0.34	0.37	0.60	1.87	1.2	1.3	2.08
01	1.04	0.59	0.75	1.16	3.67	2.08	2.64	4.07
02	1.41	0.73	1.05	1.57	4.96	2.55	3.7	5.52
03	2.4	1.22	1.79	2.66	8.45	4.3	6.29	9.37
04	3.67	1.82	2.83	4.04	12.9	6.4	9.97	14.27
05	4.86	2.4	3.71	5.57	17.1	8.43	13.1	19.66
06	5.82	2.87	4.42	6.55	20.5	10.1	15.6	23.05

The Nominal capacity is based on :

1. Evaporating Temperature $T_e=4.4\text{☒}$; 2. Refrigerant Temperature Ahead of Valve $T_r=37\text{☒}$;
3. Condensing Temperature $T_c=38\text{☒}$;

Ordering

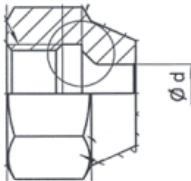
Flare x Flare

Refrigerant	Pressure Equalization	Capillary Tube	Connection		Code No.					
			Inlet x Outlet		-40°C~+10°C		-40°C~-5°C	-40°C~-15°C		-60°C~-25°C
		[m]	[in.xin.]	[mmxmm]	Without MOP	With MOP	With MOP	With MOP	Without MOP	With MOP
R407C	Internal	1.5	3/8x1/2	10x12	430005070500	430005070501	-	-	-	-
	External				430005070600	430005070601	-	-	-	-
R134a	Internal				430001070300	430001070101	430001070103	430001070105	-	-
	External				430001070400	430001070201	430001070203	430001070205	-	-
R404A/ R507	Internal				430002070300	430002070701	430002070703	430002070705	430002070706	430002070707
	External				430002070400	430002070801	430002070803	430002070805	430002070806	430002070807
R410A	Internal				430003070100	430003070101	-	-	-	-
	External				430003070200	430003070201	-	-	-	-


Flare x Solder

Refrigerant	Pressure Equalization	Capillary Tube	Connection		Code No.				
			Inlet x Outlet		-40°C~+10°C		-40°C~-15°C	-60°C~-25°C	
		[m]			Without MOP	With MOP	With MOP	Without MOP	With MOP
R407C	Internal	1.5	3/8	1/2	430005080500	430005080501	-	-	-
			10	12	430005080510	430005080511	-	-	-
	External		3/8	1/2	430005080600	430005080601	-	-	-
			10	12	430005080610	430005080611	-	-	-
R134a	Internal		3/8	1/2	430001080100	430001080101	-	-	-
			10	12	430001080110	430001080111	-	-	-
	External		3/8	1/2	430001080200	430001080201	-	-	-
			10	12	430001080210	430001080211	-	-	-
R404A/ R507	Internal		3/8	1/2	430002080700	430002080701	430002080705	430002080706	430002080707
			10	12	430002080710	430002080711	430002080715	430002080716	430002080717
	External		3/8	1/2	430002080800	430002080801	430002080805	430002080806	430002080807
			10	12	430002080810	430002080811	430002080815	430002080816	430002080817
R410A	Internal	3/8	1/2	430003080100	430003080101	-	-	-	
		10	12	430003080110	430003080111	-	-	-	
	External	3/8	1/2	430003080200	430003080201	-	-	-	
		10	12	430003080210	430003080211	-	-	-	

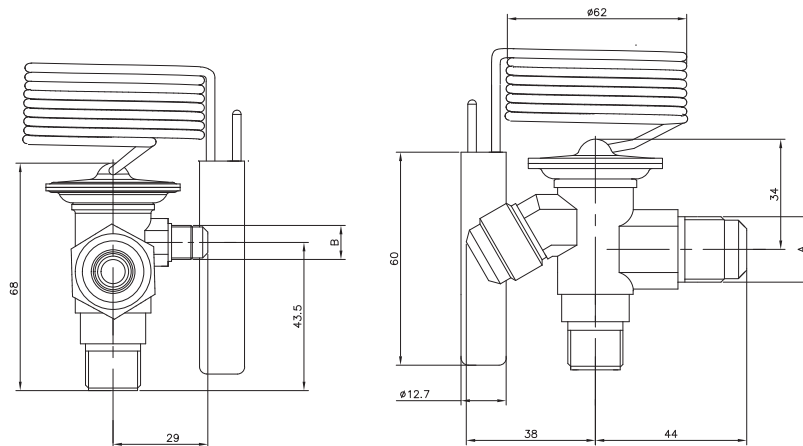
Flare connections

	Connection for copper tubing with outside diameter		Code No.
	in.	mm	
	1/4	6	432500070204
	3/8	10	432500070208
	1/2	12	432500070210

Orifice assembly with filter

	Orifice No.	Code No.
	0x	433900000001
	00	433900000002
	01	433900000003
	02	433900000004
	03	433900000005
	04	433900000006
	05	433900000007
	06	433900000008

Dimensions



Outlet A	Equalization B
1/2 in. flare	1/4 in. flare
1/2 in. solder 12 mm solder	1/4 in. solder 6 mm solder