

The T-series Take-Apart valves, with adjustable superheat and replaceable, interchangeable components are ideal for original equipment and field replacements in air conditioning, heat pump, and refrigeration applications.

### Features

- Take-Apart construction for easy field service
- External superheat adjustment
- Bi-Flow capability
- Stainless steel power assembly up to 18 tons



### Options

- Interchangeable, replaceable cages
- Interchangeable body flanges
- Interchangeable power assemblies
- 1/4 to 100 tons capacity

### Specifications

- Maximum working pressure: 450 psig
- Torque Bolts: 300 in. lb.

### Nomenclature example: TCLEB 5 HC 5 FT 3/8 x 1/2 SAE ANG

TCL	E	B	5	H	C	5 FT	3/8 x 1/2	SAE	ANG
Valve Series Take-Apart Adjustable	Equalizer  E=External  (Omit for Internal)	Bleed Hole (optional)  B=Bleed Hole  (Omit for no bleed hole)	Capacity Nominal Rating in Tons  (See Cage Assembly Interchangeability Tables)	Refrigerant Code +F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R404A	Charge Code  C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	Capillary Tube Length	Inlet x Outlet Connection Sizes  Various sizes are available (valve is also available less flange)	Connection Type  SAE=flare ODF=solder	Configuration  ANG = 90° angle S/T=straight-thru

- + = R-12 and R-134a are interchangeable refrigerant charges
- \* = R-507, R-502 and R-404A are interchangeable refrigerant charges
- = R-22 and R-407C are interchangeable refrigerant charges

### Single Outlet “T” Series Body Flanges with Bleed Hole for Use with PSC Compressors

Valve Type			Bleed Hole Diameter <sup>1</sup> for % Capacity Bypass											
R-12/R-134a	R-22/R-407C	R-507/ R-502/R-404A	10%		15%		20%		25%		30%		40%	
			Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size	Dia. (In)	Drill Size
TCL1/4F	TCL1/2H	TCL1/2R	–	–	0.02	1/64	0.02	77	0.02	76	0.02	74	0.03	72
TCL1/2F	TCL1H	TCL1/2R	0.02	77	0.02	75	0.02	73	0.03	71	0.03	69	0.04	65
TCL1F	TCL2H	TCL1R	0.03	71	0.03	1/32	0.04	64	0.04	60	0.05	56	0.05	55
TCL2F	TCL3H	TCL2R	0.03	70	0.04	65	0.04	60	0.04	57	0.05	3/4	0.06	54
TCL3F	TCL5H	TCL3R	0.04	65	0.04	57	0.05	55	0.06	54	0.06	1/16	0.07	50
TCL4F	TCL7-1/2H	TCL4-1/2R	0.04	57	0.05	55	0.06	53	0.07	51	0.08	48	0.09	44
TCL6-1/2F	TCL10H	TCL7R	0.05	55	0.06	53	0.07	50	0.08	47	0.09	44	0.10	39
TCL7-1/2F	TCL12H	TCL8R	0.05	55	0.06	53	0.07	50	0.08	47	0.09	44	0.10	39

<sup>1</sup>Bleed hole sizes shown above are based on a percent of full effective port area of the valve. This does not necessarily indicate the percent of valve capacity that will be bypassed. The hole sizes shown above should be used for reference only. Normal industry practice is to equalize systems 3 to 5 minutes.

# T-Series – Take-Apart

# Thermal Expansion Valves

## Small Capacity 1/2 to 18 tons

(R-22 Nominal – Bi Flow)



Externally Adjustable Cage Assembly

### Step 1: Select Cage from Capacity Table

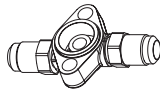
Valve Type	Nominal Capacity - Tons						Cage Assembly <sup>1</sup>	
	R-12	R-134a	R-22	R-404A R-507	R-502	R-407C	Description	PCN
TCL TCLE	1/4	1/4	1/2	1/4	1/4	1/2	X22440B1A	037034
	1/4	1/4	1/2	1/4	1/4	1/2	X22440B1B	037035
	1/2	3/4	1	1/2	1/2	1	X22440B2A	037036
	1/2	3/4	1	1/2	1/2	1	X22440B2B	037037
	1	1 1/2	2	1	1	2	X22440B3A	037038
	1	1 1/2	2	1	1	2	X22440B3B	037039
	2	2 1/2	3	2	2	3	X22440B4A	037040
	2	2 1/2	3	2	2	3	X22440B4B	037041
	3	3 1/2	5	3	3	5	X22440B5B	037043
	4	5 1/2	7 1/2	4 1/2	4 1/2	7 1/2	X22440B6B	037045
TJLE	7 1/2	9	12	8	8	12	X22440B8B	037049
	7	9	11	7	7	11	XC724B4B	093343
TJR	8	11	14	9	9	14	XC724B5B	038699
	8	11	14	9	9	14	X11873B4B	088837
TJR	11	13	18	12	12	18	X11873B5B	089058

<sup>1</sup> Gaskets included on cage.

Gasket strip X13455-1 (PCN: 027579) replaces all older T-Series Gasket kits.



Angle, ODF



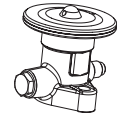
Straight-Thru, SAE

### Step 2: Select Flange

Valve Type	Flow	Size & Style Connections		Body Flange Part	
		Inlet	Outlet	Number	PCN
TCL TCLE	Angle	3/8 SAE	1/2 SAE	C500-4	056932
		3/8 SAE	5/8 SAE	C500-5	057153
		1/2 SAE	5/8 SAE	C500-6	056294
		3/8 ODF	1/2 ODF	C501-4	065527
		3/8 OFD	5/8 ODF	C501-5	065748
		1/2 ODF	5/8 ODF	C501-7	065861
		5/8 ODF or 7/8 ODM	7/8 ODF or 1 1/8 ODM	A576	027764
		3/8 SAE	1/2 SAE	X6669-4	051176
		3/8 SAE	5/8 SAE	X6669-1	050563
		1/2 SAE	1/2 SAE	X6669-5	083378
	Straight-Thru	1/2 SAE	5/8 SAE	X6669-2	050842
		3/8 ODF	1/2 ODF	9761-5	027769
		3/8 ODF	5/8 ODF	9761-3	027771
		1/2 ODF	1/2 ODF	9761-6	027766
		1/2 ODF	5/8 ODF	9761-4	027268
		1/2 ODF	7/8 ODF	9761-2	027770
		5/8 ODF	5/8 ODF	X6346-16	044733
		5/8 ODF	7/8 ODF	X6346-17	044846
		5/8 ODF	1 1/8 ODF	X6346-18	094038
		7/8 ODF	1 1/8 ODF	X6346-34	071757
TJLE	Angle	5/8 ODF or 7/8 ODM	7/8 ODF or 1 1/8 ODM	B504	044984
	Straight-Thru	5/8 ODF	1 1/8 ODF	X6347-2	094289
		7/8 ODF	1 1/8 ODF	X6347-6	057210
		7/8 ODF	1 1/8 ODF	X6347-7	057323
TJR <sup>2</sup>	Angle	5/8 ODF or 1-1/8 ODM	7/8 ODF or 1 1/8 ODM	10331	029411
	Straight-Thru	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1 1/8 ODM	10332	032988

<sup>2</sup> TJR is balanced ported. TJR flange includes extended length capscrews.

Superheat Plug  
X28124-1 (ODM)  
(PCN: 058336)



Capscrews



### Step 3: Select Power Assembly

Refrigerant	Equalizer Type	Cap Tube Length	Application		Power <sup>5</sup> Assembly	PCN	
			Temp. Range	MOP <sup>4</sup> (psi)			
			R-12	Internal			5 FT
R-12	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019FC1B	049881	
	Internal	10 FT	-20 to +50	NONE	XB-1019FC2A	032374	
	1/4 SAE	10 FT	-20 to +50	NONE	XB-1019FC2B	052954	
	1/4 SAE	15 FT	-20 to +50	NONE	XB-1019FC3B	058569	
	1/4 SAE	5 FT	-50 to +50	35	XB-1019FW351B	079346	
	1/4 SAE	5 FT	-50 to +50	55	XB-1019FW551B	057432	
	1/4 SAE	10 FT	-50 to +50	55	XB-1019FW552B	050981	
	1/4 SAE	5 FT	-50 to 0	15	XB-1019FW151B	077063	
	R-22	Internal	5 FT	-20 to +50	NONE	XB-1019HC1A	062078
		1/4 SAE	5 FT	-20 to +50	NONE	XB-1019HC1B	053416
1/4 SAE		10 FT	-20 to +50	NONE	XB-1019HC2B	054390	
1/4 SAE		5 FT	-20 to +50	NONE	XB-1019HCA1B	056039	
1/4 SAE		5 FT	-50 to +5	35	XB-1019HW351B	089975	
1/4 SAE		5 FT	-50 to +20	55	XB-1019HW551B	039152	
1/4 SAE		5 FT	-50 to +30	65	XB-1019HW651B	089445	
1/4 SAE		5 FT	-50 to +50	100	XB-1019HW1001B	062437	
1/4 SAE		20 FT	-10 to +50	NONE	XB-1019HW4B	055703	
1/4 SAE		10 FT	-50 to +50	100	XB-1019HW1002B	062658	
R-407C	1/4 SAE	5 FT	-50 to +10	NONE	XB-1019HZ1B	040568	
	1/4 SAE	10 FT	-50 to +10	NONE	XB-1019HZ2B	054105	
	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019NC1B	064837	
	1/4 SAE	5 FT	-20 to +50	100	XB-1019NW1001B	063069	
	R-507	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019PC1B	061949
		1/4 SAE	5 FT	-50 to 0	40	XB-1019PW401B	062400
	R-134a	1/4 SAE	5 FT	-50 to +10	NONE	XB-1019PZ1B	061951
		1/4 SAE	5 FT	-20 to +50	NONE	XB-1019MC1B	057878
		1/4 SAE	10 FT	-20 to +50	NONE	XB-1019MC2B	059548
		1/4 SAE	5 FT	-50 to +50	55	XB-1019MW551B	057370
R-502	1/4 SAE	5 FT	-50 to +10	NONE	XB-1019M21B	061946	
	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019RC1B	052955	
	1/4 SAE	10 FT	-20 to +50	NONE	XB-1019RC2B	054415	
	1/4 SAE	5 FT	-50 to +20	15	XB-1019RW151B	070346	
	1/4 SAE	5 FT	-50 to +5	35	XB-1019RW351B	063644	
	1/4 SAE	5 FT	-50 to +5	45	XB-1019RW451B	055881	
	1/4 SAE	10 FT	-50 to +5	45	XB-1910RW452B	055704	
	1/4 SAE	5 FT	-50 to +25	65	XB-1019RW651B	063114	
	1/4 SAE	5 FT	-50 to +10	NONE	XB-1019RZ1B	046474	
	1/4 SAE	10 FT	-50 to +10	NONE	XB-1019RZ2B	047358	
R-404A	1/4 SAE	5 FT	-20 to +50	NONE	XB-1019SC-1B	059189	
	1/4 SAE	5 FT	-50 to 0	40	XB-1019SW401B	059130	
	1/4 SAE	5 FT	-50 to +25	65	XB-1019SW651B	063541	
	1/4 SAE	10 FT	-50 to +10	NONE	XB-1019SZ2B	061948	
Misc.	Internal	5 FT	Liquid Injection	NONE	XB-1019A-1A	037389	
	1/4 SAE	5 FT		NONE	XB-1019A-1B	034803	
	1/4 SAE	5 FT		NONE	XB-1019B-1B	032207	
	1/4 SAE	5 FT		NONE	XB-1019C-1B	035162	
	1/4 SAE	5 FT		NONE	XB-1019CW-1B	084768	

<sup>3</sup> Capscrews included with Power Assembly

<sup>4</sup> Maximum Operating Pressure Limit to prevent motor overload

<sup>5</sup> Power Assembly final character: A=Internally Equalized, B=Externally Equalized

**NOTE:** Nominal capacities shown here are based on 40°F evaporator temperature and 100°F vapor-free liquid refrigerant entering the valve. R-12 and R-134a rated at 60 PSID. All other refrigerants rated at 100 PSID.

## Large Capacity 22 to 100 tons (R22 Nominal – Balanced Ported and Bi Flow)

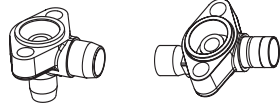


Externally Adjustable  
Double Ported  
Cage Assembly

### Step 1: Select Cage from Capacity Table

Valve Type	Nominal Capacity - Tons						Cage Assembly <sup>1</sup>	
	R-12	R-134a	R-22	R-404A R-507	R-502	R-407C	Description	PCN
TER	13	16	22	14	14	22	X9117B6B	077896
	15	19	26	16	16	26	X9117B7B	078117
	20	25	35	21	21	35	X9117B8B	071155
	25	31	45	27	27	45	X9117B9B	029429
TIR	35	45	55	37	37	55	X9166B10B	070738
THR	35	45	55	37	37	55	X9144B10B	071238
	45	55	75	48	48	70	X9144B11B	020846
	55	68	85	60	60	85	X9144B13B	021067
TMR	55	68	100	60	--	100	X9144B14B	065123

<sup>1</sup> Gaskets included on cage.  
Gasket strip X13455-1 (PCN: 027579) replaces all older T-Series Gasket kits.



### Step 2: Select Flange

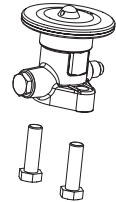
Angle, ODF      Straight-Thru, ODF

Valve Type	Style	Size & Style Connections		Body Flange Part	
		Inlet	Outlet	Number	PCN
TER <sup>2</sup>	ANGLE	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1 1/8 ODM	9153	027919
	STRAIGHT- THRU	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1 1/8 ODM	9152	027918
TIR	ANGLE	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1-1/8 ODM	9151	027926
	STRAIGHT- THRU	7/8 ODF or 1 1/8 ODM	7/8 ODF or 1-1/8 ODM	9150	028849
THR	ANGLE	1 1/8 ODM	1-1/8 ODM	9149	028030
	STRAIGHT- THRU	1 1/8 ODM	1-1/8 ODM	9148	028032
TMR <sup>2</sup>	ANGLE	1 1/8 ODM	1-1/8 ODM	9149-1	065124
	STRAIGHT- THRU	1 1/8 ODM	1-1/8 ODM	9148-1	065125

<sup>2</sup> TER-TMR Flange includes extended length capscrews.

**NOTE:** Nominal capacities shown here are based on 40°F evaporator temperature and 100°F vapor-free liquid refrigerant entering the valve. R-12 and R-134a rated at 60 PSID. All other refrigerants rated at 100 PSID.

Superheat Plug  
X28124-1 (ODM)  
(PCN: 058336)



### Step 3: Select Power Assembly

Capscrews

TER-TIR-THR-TMR Power Assemblies <sup>3</sup>						
Refrigerant	Equalizer Type	Cap Tube Length	Application		Power Assembly	PCN
			Temp. Range	MOP <sup>4</sup> (psi)		
R-12	1/4 SAE	10 FT	-20 to +40	NONE	XC-726FC2B	052957
	1/4 SAE	10 FT	-50 to +50	55	XC-726FW552B	035000
R-22	1/4 SAE	10 FT	-20 to +50	NONE	XC-726HC2B	056421
	1/4 SAE	10 FT	-50 to +50	35	XC-726HW352B	024511
	1/4 SAE	10 FT	-50 to +30	65	XC-726HW652B	025011
	1/4 SAE	10 FT	-20 to +50	NONE	XC-726HCA2B	059333
	1/4 SAE	10 FT	-50 to +50	100	XC-726HW1002B	036750
	1/4 SAE	10 FT	-50 to +10	NONE	XC-726HZ2B	040569
R-134A	1/4 SAE	10 FT	-20 to +50	NONE	XC-726MC2B	057235
	1/4 SAE	10 FT	-50 to +50	55	XC-726MW552B	057372
	1/4 SAE	10 FT	-50 to +10	NONE	XC-726MZ2B	063075
R-502	1/4 SAE	10 FT	-20 to +50	NONE	XC-726RC2B	052958
	1/4 SAE	10 FT	-50 to +20	15	XC-726RW152B	023351
	1/4 SAE	10 FT	-50 to +50	35	XC-726RW352B	070866
	1/4 SAE	10 FT	-50 to +25	65	XC-726RW652B	071421
R-404A	1/4 SAE	10 FT	-50 to +10	NONE	XC-726RZ2B	046692
	1/4 SAE	10 FT	-20 to +50	NONE	XC-726SC2B	062303
	1/4 SAE	10 FT	-50 to +10	40	XC-726SW402B	063127
	1/4 SAE	10 FT	-50 to +25	65	XC-726SW652B	061692
1/4 SAE	10 FT	-50 to +10	NONE	XC-726SZ2B	063974	

<sup>3</sup> Capscrews included with Power Assembly  
<sup>4</sup> Maximum Operating Pressure Limit to prevent motor overload

### Additional Parts

Description	PCN
Packing Nut Wrench	039862
Gasket Strip	027579
Superheat Adjustment Plug	058336

## Ordering Information

### Valves less flange – (VLF)

### TCLE, TJLE & TJRE

#### SAE External 5 FT. Cap Tube Length

Valve Description					
R-12	PCN	R-22	PCN	R-502	PCN
TCLE 1/2 FC	054413	TCLE 1 HC	062884	TCLE 2 RC	061215
TCLE 1 FC	052940	TCLE 2 HC	061724	TCLE 3 RC	055501
TCLE 2 FC	052941	TCLE 3 HC	054395	TCLE 8 RC	063501
TCLE 3 FC	052942	TCLE 5 HC	054399		
TCLE 4 FC	052943	TCLE 7-1/2 HC	054401		
TCLE 6-1/2 FC	052944	TCLE 7-1/2 HW100	054079		
TCLE 7-1/2 FC	052945	TCLE 10 HC	054404		
TJLE 8 FC	055104	TCLE 10 HW100	059076		
TJRE 11 FC	055105	TCLE 12 HC	060854		
		TJLE 11 HC	060855		
		TJLE 14 HC	060856		
		TJRE 14 HC	060857		
		TJRE 18 HC	060858		

### TCLE/TJLE/TJRE

#### Rapid Response Power Assemblies

Description	PCN
X-8019 FWS 1B	031654
X-8019 HWS 1B	055652
X-8019 HWS 2B	055873
X-8019 RWS 1A	032131
X-8019 RWS 2B	042426

### Nomenclature Cross-Reference

Refrigerant	New	Old
R-12	TJLE7	TJLE800
	TJLE8	TJLE1100
R-22	TJLE11	TJLE1400
	TJLE14	TJLE1800
R-502	TJLE7	TJLE900
	TJLE9	TJLE1200

### TER, TIR & THR

#### 10 FT. Cap Tube Length

Valve Description					
R-12	PCN	R-22	PCN	R-502	PCN
TER 20 FC	055109	TER 22 HC	061673	TER 14 RC	060788
TER 25 FC	055111	TER 22 HW100	058582		
		TER 26 HC	061674		
		TER 35 HC	061675		
		TER 35 HW100	058038		
		TER 45 HC	061676		
		TIR 55 HC	061677		
		THR 75 HC	064961		
		THR 100 HC	062036		
		THR 100 HW100	052912		

### TER/TIR/THR

#### Rapid Response Power Assemblies

Description	PCN
X-7726 FWS 2B	035083
X-7726 HWS 2B	093565
X-7726 RWS 2B	036616

### Replacement Cap Screw Kits

PCN	Description	Contains Screw #	Pcs. Per Pkg.
054569	KT-30021	PS-286-5	10
054570	KT-30022	PS-168-5	10
054571	KT-30023	PS-259	10
054572	KT-30024	PS-370	10
054573	KT-30025	PS-514-5	10
054574	KT-30026	PS-517-5	10