



AAE 1BA-01

# A-SERIES THERMOSTATIC EXPANSION VALVES

The A-Series is used for heat pump, air conditioning, food service and commercial refrigeration applications.

**FEATURES**

- Stainless steel power element prevents corrosion and valve failure
- Hermetic, leak-free construction
- Compact size allows installation in limited spaces
- Mass spectrometer tested to ensure less than 0.10 oz/year external leakage rate
- ODF connections standard - SAE, Chatleff or Aeroquip also available
- External or internal equalizer
- Internal check available for heat pump applications
- Bleed type for pressure equalization available

**SPECIFICATIONS**

Maximum Working Pressure..... 700 psig (48 bar)  
 UR/CUR File Number ..... SA5312  
 Canadian CRN ..... 0C21506.513467890YTN

**MODEL NUMBER NOMENCLATURE** - Example: **AAE 2BA-01**

SERIES	SUPERHEAT ADJUSTMENT	INTERNAL CHECK VALVE	EQUALIZER	BLEED HOLE	CAPACITY	SYSTEM REFRIGERANT CODE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
A	A		E		2	B	A	-01		
Hermetic Design	A = Adjustable N = Non-Adjustable	C = Internal Check Valve for Reverse Flow Bypass (Heat Pump) Applications  (Omit for No Check)	E = External  (Omit for Internal)	B = Bleed Hole  (Omit for No Bleed Hole)	Nominal Rating in Tons	B = R-448A/R-449A/R-452A D = R-450A/R-513A F = R-12 H = R-22/R-407A M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A/R-407H T = R-290	A = Medium & Low Temp. AA = Wide Range C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	-01 Thru -99	G = Customer Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

**A-SERIES THERMOSTATIC EXPANSION VALVES** (Body Style Straight Thru)

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	INTERNAL CHECK	EQUALIZER	BLEED	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
B (R-448A, R-449A)	1/5	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/5BA-01	066885
	1/4	A (Med./Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/4BA-02	067033
	1/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/4BA-01	066886
	1/2	A (Med./Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/2BA-02	067035
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/2BA-01	066887
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/2BA-02	066922
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1BA-01	066888
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1BA-03	066923
	1	A (Med./Low Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	30 In.	AAE 1BA-04	066931
	1-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1-1/2BA-01	066889
	1-1/2	A (Med./Low Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	30 In.	AAE 1-1/2BA-04	066928
	2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2BA-01	066890
	2	A (Med./Low Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	30 In.	AAE 2BA-05	066925
	2	A (Med./Low Temp.)	5/8" X 7/8" ODF	Yes	No	External	No	30 In.	AAE 2BA-06	066932
	2-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2-1/2BA-01	066891
2-1/2	A (Med./Low Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	30 In.	AAE 2-1/2BA-06	066926	
2-1/2	A (Med./Low Temp.)	5/8" X 7/8" ODF	Yes	No	External	No	30 In.	AAE 2-1/2BA-07	066929	

# THERMOSTATIC EXPANSION VALVES

# A-SERIES

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	INTERNAL CHECK	EQUALIZER	BLEED	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
B (R-448A, R-449A)	3-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 3-1/2BA-01	066892
	3-1/2	A (Med./Low Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	30 In.	AAE 3-1/2BA-04	066927
	3-1/2	A (Med./Low Temp.)	5/8" X 7/8" ODF	Yes	No	External	No	30 In.	AAE 3-1/2BA-05	066930
	4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 4BA-01	066893
	5-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 5-1/2BA-01	066894
D (R-450A, R-513A)	1/8	A (Med./Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/8DA-01	067057
	1/8	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/8DA-02	067040
	1/8	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/8DA-01	067045
	1/5	A (Med./Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/5DA-01	067058
	1/5	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/5DA-02	067041
	1/5	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/5DA-01	067046
	1/4	A (Med./Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/4DA-01	067059
	1/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/4DA-02	067042
	1/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/4DA-01	067047
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/2DA-01	067043
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/2DA-01	067048
	3/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 3/4DA-01	067044
	3/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 3/4DA-01	067049
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1DA-01	067050
	1-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1-1/2DA-01	067051
	2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2DA-01	067052
	2-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2-1/2DA-01	067053
3	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 3DA-01	067054	
H (R-22) *R-407C	1/4	C (Med. Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	5 Ft.	AA 1/4HC-02	056315
	1/4	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	5 Ft.	AA 1/4HC-01	055932
	1/2	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1/2HC-02	065632
	1/2	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	5 Ft.	AA 1/2HC-03	065626
	1/2	C (Med. Temp.)	3/8" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/2HC-01	056547
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1/2HC-03	065633
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Yes	No	External	No	5 Ft.	AAE 1/2HC-01	057987
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Yes	No	Internal	No	5 Ft.	AA 1/2HC-02	057828
	1	C (Med. Temp.)	1/4" X 3/8" ODF	Yes	No	External	No	30 In.	AAE 1HC-02	059582
	1	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1HC-05	065634
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1HC-06	065635
	1	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	No	30 In.	AACE 1HCA-01	063795
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1-1/2HC-04	064424
	1-1/2	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	No	5 Ft.	AACE 1-1/2HCA-01	058923
	1-1/2	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	Yes	30 In.	AACEB 1-1/2HCA-01	065842
	2	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 2HC-05	064425
	2	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2HCA-01	049632
	2	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	No	External	Yes	30 In.	AAEB 2HCA-02	059616
	2	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	No	30 In.	AACE 2HCA-02	063676
	2	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	Yes	30 In.	AACEB 2HCA-02	065959
	2-1/2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2-1/2HAA-02	063648
	2-1/2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	External	No	30 In.	AACE 2-1/2HAA-03	064102
	2-1/2	AA (Wide Range)	Chatleff	Yes	No	External	No	30 In.	AAE 2-1/2HAA-01G	013938
	2-1/2	AA (Wide Range)	Chatleff	Yes	Yes	External	No	30 In.	AACE 2-1/2HAA-01G	014091
	2-1/2	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2-1/2HCA-01	049633
	3	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 3HC-03	062376
	3	C (Med. Temp.)	3/8" X 1/2" SAE	Yes	No	External	No	5 Ft.	AAE 3HC-01	056686
	3	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 3HCA-03	049634
	3	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	No	External	Yes	30 In.	AAEB 3HCA-02	059603
	3	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	No	5 Ft.	AACE 3HCA-05	065868
3	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	Yes	30 In.	AACEB 3HCA-02	065941	

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H (R-22) *R-407C	3	CA (Heat Pump)	3/8" X 5/8" ODF	Yes	Yes	External	No	30 In.	AAE 3HCA-03	064428
	3	CA (Heat Pump)	1/2" X 5/8" ODF	Yes	No	External	No	30 In.	AAE 3HCA-04	060643
	3	CA (Heat Pump)	1/2" X 5/8" ODF	Yes	Yes	External	No	5 Ft.	AAE 3HCA-04	065797
	3	W100 (MOP)	3/8" X 5/8" ODF	Yes	No	External	No	5 Ft.	AAE 3HW100-03	062412
	4	C (Med. Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	5 Ft.	AAE 4HC-02	061960
	4	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 4HCA-04	049638
	4	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	Yes	External	No	5 Ft.	AAE 4HCA-03	065869
	4	CA (Heat Pump)	3/8" X 5/8" ODF	Yes	Yes	External	Yes	30 In.	AAE 4HCA-01	065844
	4	CA (Heat Pump)	1/2" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 4HCA-06	061247
	4	CA (Heat Pump)	1/2" X 1/2" ODF	Yes	No	External	Yes	30 In.	AAE 4HCA-05	059605
	5	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 5HAA-07	063649
	5	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	External	No	30 In.	AAE 5HAA-04	064103
	5	AA (Wide Range)	1/2" X 5/8" ODF	Yes	Yes	External	No	5 Ft.	AAE 5HAA-05	065863
	5	AA (Wide Range)	Chatleff	Yes	No	External	No	30 In.	AAE 5HAA-01G	013939
	5	AA (Wide Range)	Chatleff	Yes	Yes	External	No	30 In.	AAE 5HAA-01G	014092
	5	C (Med. Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	5 Ft.	AAE 5HC-04	059565
	5	C (Med. Temp.)	5/8" X 7/8" ODF	Yes	No	External	No	30 In.	AAE 5HC-05	061805
	5	CA (Heat Pump)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 5HCA-03	054024
	5	CA (Heat Pump)	1/2" X 1/2" ODF	Yes	No	External	Yes	30 In.	AAE 5HCA-04	059607
	M (R-134a) *R-12	1/8	C (Med. Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/8MC-03
1/8		C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/8MC-02	065821
1/4		C (Med. Temp.)	1/4" X 3/8" ODF	Yes	No	External	No	30 In.	AAE 1/4MC-01	066486
1/4		C (Med. Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/4MC-05	062051
1/4		C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	5 Ft.	AA 1/4MC-08	065623
1/2		C (Med. Temp.)	1/4" X 3/8" SAE	Yes	No	Internal	No	30 In.	AA 1/2MC-03	058985
1/2		C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1/2MC-04	065630
1/2		C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	5 Ft.	AA 1/2MC-07	065624
1/2		Z (Low Temp.)	1/4" X 3/8" SAE	Yes	No	Internal	No	30 In.	AA 1/2MZ-01	058986
1		C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1MC-03	065631
1		C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1MC-02	065776
S (R-404A) *R-502 *R-507		1/8	C (Med. Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/8SC-03
	1/4	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/4SC-04	066422
	1/4	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/4SC-03	063503
	1/4	W45 (MOP)	1/4" X 3/8" ODF	Yes	No	Internal	No	5 Ft.	AA 1/4SW45-02	065676
	1/4	W45 (MOP)	1/4" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/4SW45-01	066508
	1/4	Z (Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/4SZ-05	065202
	1/4	Z (Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	5 Ft.	AA 1/4SZ-06	065675
	1/4	Z (Low Temp.)	1/4" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/4SZ-01	066435
	1/2	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/2SC-04	066423
	1/2	C (Med. Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/2SC-02	063504
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1/2SC-03	066085
	1/2	W45 (MOP)	1/4" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1/2SW45-01	065636
	1/2	W45 (MOP)	1/4" X 1/2" ODF	Yes	No	Internal	No	5 Ft.	AA 1/2SW45-01	065685
	1/2	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1/2SW45-02	065688
	1/2	Z (Low Temp.)	1/4" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 1/2SZ-04	066436
	1/2	Z (Low Temp.)	1/4" X 1/2" ODF	Yes	No	Internal	No	5 Ft.	AA 1/2SZ-06	065682
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1/2SZ-02	065687
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/2SZ-05	063925
	3/4	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 3/4SC-02	066086
	3/4	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 3/4SC-01	066200
3/4	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 3/4SW45-01	066509	

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S (R-404A) *R-502 *R-507	3/4	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 3/4SW45-01	065686
	3/4	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 3/4SZ-02	066437
	3/4	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 3/4SZ-02	065149
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1SC-03	066087
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1SC-03	066201
	1	W 45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1SW45-01	065637
	1	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1SZ-02	065183
	1-1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1-1/4SC-03	066081
	1-1/4	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1-1/4SW45-01	066079
	1-1/4	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1-1/4SZ-02	066080
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1-1/2SC-01	066448
	1-1/2	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1-1/2SW45-01	065698
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 1-1/2SZ-01	065697
	2	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	30 In.	AAE 2SC-03	065330
	2	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 2SW45-01	065690
	2	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 2SZ-03	065689
	2-1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 2-1/4SC-02	066084
	2-1/4	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 2-1/4SW45-01	066082
	2-1/4	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 2-1/4SZ-01	066083
2-1/2	W45 (MOP)	1/2" X 5/8" ODF	Yes	No	External	No	5 Ft.	AAE 2-1/2SW45-01	065148	
2-1/2	Z (Low Temp.)	1/2" X 5/8" ODF	Yes	No	External	No	5 Ft.	AAE 2-1/2SZ-01	065691	
3	C (Med. Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 3SC-01	066510	
3	W45 (MOP)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 3SW45-01	065693	
3	Z (Low Temp.)	3/8" X 1/2" ODF	Yes	No	External	No	5 Ft.	AAE 3SZ-01	065692	
T (R-290)	1/5	A (Med./Low Temp.)	1/4" X 3/8" ODF	Yes	No	Internal	No	30 In.	AA 1/5TA-02	066987
	1/5	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/5TA-01	066941
	1/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/4TA-01	066942
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1/2TA-01	066943
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1TA-01	066944
	1-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	Yes	No	Internal	No	30 In.	AA 1-1/2TA-01	066945

\* Valve capacity is for the first refrigerant listed. To determine the capacity for additional refrigerants listed, consult the Nominal Capacity Tables for Interchangeable Refrigerants.

**A-SERIES PARTS LIST**

DESCRIPTION	MODEL NUMBER	ITEM NUMBER
A-Series Thermostatic Expansion Valve Chatleff Gasket Kit	KG-10045	066031

**NOMINAL CAPACITY TABLE FOR INTERCHANGEABLE REFRIGERANTS IN TONS (KW)**

R-134a	R-12	R-404A / R-507	R-502	R-22 / R-290	R-407C / R-407A
1/8 (0.4)	—	1/8 (0.4)	—	1/5 (0.7)	1/5 (0.7)
1/4 (0.9)	1/8 (0.4)	1/4 (0.9)	1/8 (0.4)	1/4 (0.9)	1/4 (0.9)
1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/2 (1.8)
3/4 (2.6)	1/2 (1.8)	3/4 (2.6)	1/2 (1.8)	1 (3.5)	1 (3.5)
1 (3.5)	1 (3.5)	1 (3.5)	1 (3.5)	1-1/2 (5.3)	1-1/4 (4.4)
1-1/2 (5.3)	—	1-1/4 (4.4)	—	2 (7)	2 (7)
2 (7)	1-1/2 (5.3)	2 (7)	1-1/2 (5.3)	2-1/2 (8.8)	2-1/2 (8.8)
2-1/2 (8.8)	2 (7)	2-1/4 (7.2)	2 (7)	3 (10.6)	3-1/4 (11.4)
3 (10.6)	2-1/2 (8.8)	2-1/2 (8.8)	2-1/2 (8.8)	4 (14.1)	4 (14.1)
4 (14.1)	3 (10.6)	3-1/2 (12.3)	3 (10.6)	5 (17.6)	5-1/4 (18.5)

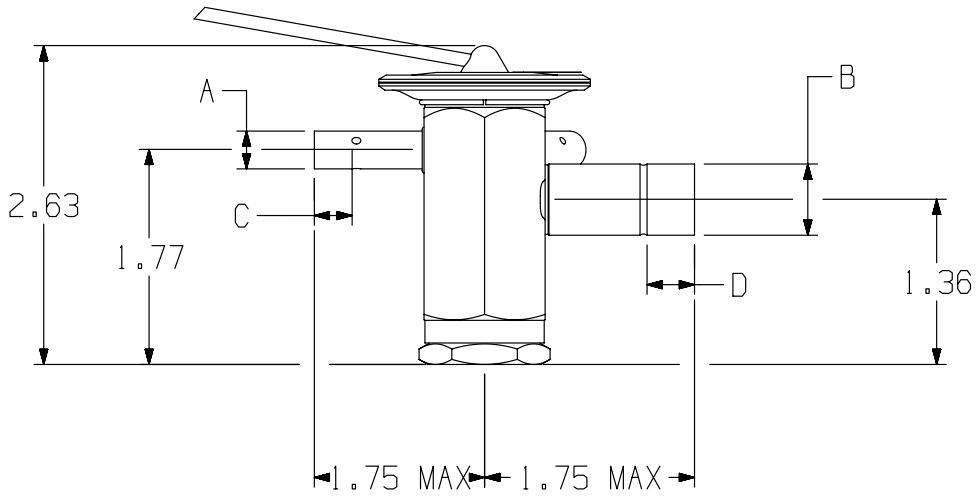
All capacities shown are at 100°F condensing, 40°F evaporator temperature. See Extended Capacity Tables for ratings at a wide range of conditions per AHRI standard 750.

**DIMENSIONAL DATA (IN)**

CONNECTION SIZE		A ± .002	B ± .002	C MIN	D MIN	E	F
INLET	OUTLET						
1/4 ODF	3/8 ODF	0.25	0.38	0.32	0.32	1.70	1.73
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.70	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.38	1.73	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.38	0.38	1.73	1.73
1/2 ODF	5/8 ODF	0.63	0.61	0.38	0.50	1.75	1.75

For adjustable valves, add 0.78 to body length.

**DIMENSIONAL DIAGRAM**



Capacity  
Tables (Tons)



AFAE 1/4SC-01

## AFA SERIES THERMOSTATIC EXPANSION VALVES

The AFA Series is designed for air conditioning and commercial refrigeration applications. It is ideal for applications requiring compact size combined with stable and accurate control over wide load and evaporator temperature ranges.

### FEATURES

- Stainless steel power element prevents corrosion and valve failure
- External superheat adjustment
- Replaceable inlet strainer
- Angle configuration SAE connections only
- Wrench flats on inlet and outlet
- External or internal equalizer

### SPECIFICATIONS

Maximum Working Pressure..... 700 psig (48 bar)  
 UR/CUR File Number ..... SA5312  
 Canadian CRN ..... 0C21506.513467890YTN

### MODEL NUMBER NOMENCLATURE - Example: AFAE 1/2HC-01

SERIES	SUPERHEAT ADJUSTMENT	EQUALIZER	CAPACITY	SYSTEM REFRIGERANT CODE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
AF	A	E	1/2	H	C	-01		
Hermetic Design, Flare Connections	A = Adjustable	E = External (Omit for Internal)	Nominal Rating in Tons	F = R-12 H = R-22 M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A Z = R-410A	AA = Wide Range C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	-01 Thru -99	G = Customer Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

### AFA SERIES THERMOSTATIC EXPANSION VALVES (Body Style Angle 90°)

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	EQUALIZER	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
F (R-12) *R-134a	1/4	W15(MOP)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/4FW15-01	049373
	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1/4FC-01	054240
	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/4FC-03	057047
	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/4FC-01	047753
	1/4	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/4FC-02	054258
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/2FC-03	057023
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/2FC-04	057028
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/2FC-01	047752
	1/2	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/2FZ-01	048685
	1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/2FC-03	057027
	1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/2FC-02	054226
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1FC-02	059563
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1FC-01	057048
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1FC-02	057029
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1FC-01	047758
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1-1/2FC-02	061152
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2FC-01	052715

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	EQUALIZER	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
H (R-22) *R-407C	1/4	C (Med. Temp.)	1/4" X 3/8-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/4HC-02	056441
	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/4HC-03	057261
	1/4	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/4HZ-01	059575
	1/2	C (Med. Temp.)	1/4" X 3/8-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/2HC-01	054228
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1/2HC-01	054243
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/2HC-03	057260
	1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/2HC-02	054229
	1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFAE 1/2HC-02	054244
	1	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1HC-01	054245
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1HC-02	054246
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1HC-01	054231
	1	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1HZ-01	057163
	1	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1HZ-01	057555
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2HC-01	054247
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1-1/2HC-01	054232
	1-1/2	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2HZ-01	057950
	2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 2HC-01	054248
	2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 2HC-01	054233
	2	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 2HZ-01	057951
	3	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 3HC-01	054249
3	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 3HC-01	054234	
3	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 3HZ-01	057556	
5	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 5HC-01	054250	
5	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 5HZ-01	058484	
M (R-134a) *R-12	1/4	W55 (MOP)	1/4" X 3/8-1/2" SAE	Yes	Internal	30 In.	AFA 1/4MW55-01	058913
	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/4MC-01	057607
	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/4MC-02	058536
	1/4	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/4MC-01	063898
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/2MC-01	057853
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/2MC-01	057606
	1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/2MC-02	061904
	1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/2MC-02	059625
	1	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1MC-01	057605
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1MC-01	057613
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1-1/2MC-01	062156
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1-1/2MC-01	060865
	2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 2MC-01	061906
3	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 3MC-01	061908	
R (R-502) *R-404A *R-507	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/4RC-01	049871
	1/2	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/2RC-01	048431
	1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1/2RC-01	054254
	1-1/2	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/2RW45-01	058925
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2RC-01	054255
	1-1/2	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2RW45-01	049257
	1-1/2	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2RZ-01	049360
S (R-404A) *R-502 *R-507	1/4	C (Med. Temp.)	1/4" X 3/8-1/2" SAE	Yes	External	30 In.	AFAE 1/4SC-01	066427
	1/4	C (Med. Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1/4SC-01	064072
	1/4	W45 (MOP)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/4SW45-01	066502
	1/4	W45 (MOP)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/4SW45-01	066498
	1/4	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/4SZ-01	066442
	1/4	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/4SZ-01	066438
	1/2	C (Med. Temp.)	1/4" X 3/8-1/2" SAE	Yes	External	30 In.	AFAE 1/2SC-02	066428
	1/2	C (Med. Temp.)	1/4" X 3/8-1/2" SAE	Yes	Internal	30 In.	AFA 1/2SC-01	066424
1/2	W45 (MOP)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/2SW45-01	066499	

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	EQUALIZER	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
S (R-404A) *R-502 *R-507	1/2	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/2SW45-01	066453
	1/2	W45 (MOP)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/2SW45-02	066503
	1/2	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1/2SZ-02	066443
	1/2	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1/2SZ-01	066439
	3/4	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 3/4SC-01	066425
	3/4	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 3/4SC-01	061911
	3/4	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 3/4SW45-01	066504
	3/4	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 3/4SW45-01	066500
	3/4	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 3/4SZ-01	066444
	3/4	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 3/4SZ-01	066440
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1SC-01	066426
	1	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1SC-01	061912
	1	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1SW45-01	066452
	1	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	Internal	5 Ft.	AFA 1SW45-01	066501
	1	Z (Low Temp.)	1/4" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 1SZ-02	066445
	1	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1SZ-01	063464
	1	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	Internal	30 In.	AFA 1SZ-01	066441
	1-1/2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2SC-01	066454
	1-1/2	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 1-1/2SZ-01	063465
	2	C (Med. Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	30 In.	AFAE 2SC-01	061914
2	W45 (MOP)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 2SW45-01	066505	
2	Z (Low Temp.)	3/8" X 3/8"-1/2" SAE	Yes	External	5 Ft.	AFAE 2SZ-01	061646	

\* Valve capacity is for the first refrigerant listed. To determine the capacity for additional refrigerants listed, consult the Nominal Capacity Tables for Interchangeable Refrigerants.

**NOMINAL CAPACITY TABLE FOR INTERCHANGEABLE REFRIGERANTS IN TONS (KW)**

R-134a	R-12	R-404 / R-507	R-502	R-22	R-407C
1/8 (0.4)	—	1/8 (0.4)	—	1/5 (0.7)	1/5 (0.7)
1/4 (0.9)	1/8 (0.4)	1/4 (0.9)	1/8 (0.4)	1/4 (0.9)	1/4 (0.9)
1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/2 (1.8)
3/4 (2.6)	1/2 (1.8)	3/4 (2.6)	1/2 (1.8)	1 (3.5)	1 (3.5)
1 (3.5)	1 (3.5)	1 (3.5)	1 (3.5)	1-1/2 (5.3)	1-1/4 (4.4)
1-1/2 (5.3)	—	1-1/4 (4.4)	—	2 (7)	2 (7)
2 (7)	1-1/2 (5.3)	2 (7)	1-1/2 (5.3)	2-1/2 (8.8)	2-1/2 (8.8)
2-1/2 (8.8)	2 (7)	2-1/4 (7.2)	2 (7)	3 (10.6)	3-1/4 (11.4)
3 (10.6)	2-1/2 (8.8)	2-1/2 (8.8)	2-1/2 (8.8)	4 (14.1)	4 (14.1)
4 (14.1)	3 (10.6)	3-1/2 (12.3)	3 (10.6)	5 (17.6)	5-1/4 (18.5)

All capacities shown are at 100°F condensing, 40°F evaporator temperature. See Extended Capacity Tables for ratings at a wide range of conditions per AHRI standard 750.



Capacity Tables (Tons)





## NXT SERIES THERMOSTATIC EXPANSION VALVES

The Copeland NXT Series is a balanced ported valve designed for high efficiency R-410A air conditioning and heat pump applications. NXT Series valves operate over a wide range of conditions and applications offering excellent performance, superior reliability, and unparalleled valve life.

### FEATURES

- Precision superheat control optimized for R-410A systems
- Stainless steel sensing bulb and capillary tubing prevents corrosion and provides durability
- Enhanced power element design offers extended life
- Laser etched identification markings for permanent legibility
- Hermetic leak-free construction of all joints
- Internal check models provide bi-directional capability for heat pump applications
- Balanced port construction
- External equalizer is standard, other configurations available
- Optional screens on ODF inlet connections
- Available in adjustable or non-adjustable superheat

### SPECIFICATIONS

Maximum Working Pressure..... 700 psig (48 bar)  
 R-410A Operating Range.....-20°F to +50°F (-29° to 10°C)  
 UR/CUR File Number ..... SA5312  
 Canadian CRN ..... 0C20308.5C

### MODEL NUMBER NOMENCLATURE - Example: NAE 3ZAA-17

SERIES	BODY TYPE	EQUALIZER	CAPACITY	SYSTEM REFRIGERANT CODE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
N	A	E	3	Z	AA	-17		
NXT Series Balanced Port	A = Adjustable Superheat, With Check, Straight-Thru B = Adjustable Superheat, No Check, Straight-Thru C = Non-Adjustable Superheat, With Check, Straight-Thru D = Non-Adjustable Superheat, No Check, Straight-Thru	E = External Equalizer	Nominal Rating in Tons	Z = R-410A	AA = Wide Range	-01 Thru -999	G = Cust. Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

### NXT SERIES THERMOSTATIC EXPANSION VALVES (Body Style Straight Thru)

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	INTERNAL CHECK	EQUALIZER	BLEED	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
Z(R-410A)	1/2	AA (Wide Range)	3/8" X 3/8" ODF	Yes	No	30" With Angle Cut	15%	30 In.	NBE 1/2ZAA-05	091065
	1/2	AA (Wide Range)	3/8" X 3/8" ODF	Yes	No	1/8" Cap	No	30 In.	NBE 1/2ZAA-04	091064
	1/2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	No	30 In.	NBE 1/2ZAA-06	091066
	1	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 1ZAA-07	091002
	1	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 1ZAA-06	091001
	1	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 1ZAA-09	091005
	1	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	No	5 Ft.	NAE 1ZAA-05	091000
	1	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 1ZAA-08	091004
	1-1/2	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 1-1/2ZAA-11	091008
	1-1/2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 1-1/2ZAA-10	091007
	1-1/2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 1-1/2ZAA-13	091011
	1-1/2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	No	5 Ft.	NAE 1-1/2ZAA-09	091006
	1-1/2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 1-1/2ZAA-12	091010
	2	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 2ZAA-12	091014
	2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 2ZAA-11	091013

**NXT SERIES THERMOSTATIC EXPANSION VALVES (CONTINUED)**

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	INTERNAL CHECK	EQUALIZER	BLEED	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
Z(R-410A)	2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 2ZAA-05	091017
	2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	No	5 Ft.	NAE 2ZAA-10	091012
	2	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 2ZAA-04	091016
	3	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 3ZAA-17	091020
	3	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 3ZAA-16	091019
	3	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 3ZAA-12	091023
	3	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	No	5 Ft.	NAE 3ZAA-15	091018
	3	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 3ZAA-11	091022
	4	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 4ZAA-19	091026
	4	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 4ZAA-18	091025
	4	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 4ZAA-09	091029
	4	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	No	5 Ft.	NAE 4ZAA-17	091024
	4	AA (Wide Range)	3/8" X 1/2" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 4ZAA-08	091028
	5	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 5ZAA-31	091032
	5	AA (Wide Range)	3/8" X 1/2" ODF	Yes	Yes	1/4" ODF	No	5 Ft.	NAE 5ZAA-33	091063
	5	AA (Wide Range)	1/2" X 5/8" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 5ZAA-30	091031
	5	AA (Wide Range)	1/2" X 5/8" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 5ZAA-12	091035
	5	AA (Wide Range)	1/2" X 5/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 5ZAA-11	091034
	6	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 6ZAA-07	091038
	6	AA (Wide Range)	1/2" X 5/8" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 6ZAA-06	091037
	6	AA (Wide Range)	1/2" X 5/8" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 6ZAA-09	091041
	6	AA (Wide Range)	1/2" X 5/8" ODF	Yes	Yes	1/4" ODF	No	5 Ft.	NAE 6ZAA-05	091036
	6	AA (Wide Range)	1/2" X 5/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 6ZAA-08	091040
	7	AA (Wide Range)	Chatleff	Yes	Yes	5 Ft.*	No	5 Ft.	NAE 7ZAA-09	091044
	7	AA (Wide Range)	5/8" X 7/8" ODF	Yes	Yes	1/4" ODF	15%	5 Ft.	NAE 7ZAA-08	091043
	7	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 7ZAA-08	091047
	7	AA (Wide Range)	5/8" X 7/8" ODF	Yes	Yes	1/8" Cap	No	5 Ft.	NAE 7ZAA-10	091045
	7	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 7ZAA-07	091046
	8	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 8ZAA-03	091049
	8	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 8ZAA-02	091048
	10	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 10ZAA-04	091051
	10	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 10ZAA-03	091050
12	AA (Wide Range)	1/2" X 5/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 12ZAA-09	091060	
12	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	15%	5 Ft.	NBE 12ZAA-06	091053	
12	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 12ZAA-05	091052	
12	AA (Wide Range)	5/8" X 1-1/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 12ZAA-07	091054	
12	AA (Wide Range)	7/8" X 1-1/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 12ZAA-08	091055	
15	AA (Wide Range)	5/8" X 7/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 15ZAA-06	091056	
15	AA (Wide Range)	5/8" X 1-1/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 15ZAA-08	091058	
15	AA (Wide Range)	7/8" X 1-1/8" ODF	Yes	No	1/4" ODF	No	5 Ft.	NBE 15ZAA-09	091059	

\* External equalizer has a stainless steel tube and copper flare with 1/4" SAE flare nut



## TXV CONNECT KITS THERMOSTATIC EXPANSION VALVES

*Copeland TXV Connect kits provide a universal retrofit and service solution. Adapters are available for Chatleff and Aeroquip connections, and an external equalizer connector makes installation easy for all residential air conditioning systems.*

**FEATURES**

- ODF TXVs with internal check, Chatleff and Aeroquip adapters, external equalizer connector and bulb strap
- Fits all systems regardless of manufacturer
- R-410A and R-22 kits in multiple capacities
- R-410A valve offers stainless steel power assembly for durability
- Adapters have extended ends for ease of installation
- Easy field replacement of fixed orifice for increased efficiency

**SPECIFICATIONS**

Maximum Working Pressure..... 700 psig (48 bar)  
 UL/CUL File Number (Valves) ..... SA5312  
 Canadian CRN for R-22 ..... 0C21506.513467890YTN  
 Canadian CRN for R-410A ..... 0C20308.5C

**TXV CONNECT KITS THERMOSTATIC EXPANSION VALVES (Body Style Straight Thru)**

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	EQUALIZER	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
H (R-22)	1-1/2 to 3	3/8" X 1/2" ODF	Yes	External	30 In.	TXV+CONNECT 2-1/2TR-22	066657
	3-1/2 to 5	3/8" X 1/2" ODF	Yes	External	30 In.	TXV+CONNECT 5TR-22	066658
Z (R-410A)	1-1/2	3/8" X 1/2" ODF	Yes	External	5 Ft.	TXV+CONNECT 1-1/2TR-410A	066660
	2	3/8" X 1/2" ODF	Yes	External	5 Ft.	TXV+CONNECT 2TR-410A	066661
	3	3/8" X 1/2" ODF	Yes	External	5 Ft.	TXV+CONNECT 3TR-410A	066662
	4	3/8" X 1/2" ODF	Yes	External	5 Ft.	TXV+CONNECT 4TR-410A	066663
	5	3/8" X 1/2" ODF	Yes	External	5 Ft.	TXV+CONNECT 5TR-410A	066664

**TXV CONNECT KITS ADAPTERS**

DESCRIPTION	MODEL NUMBER	ITEM NUMBER
Chatleff Adapter Assembly, 1/2" ODF X Chatleff	KT-30036-1	066653
Chatleff Adapter Assembly Standard, Short, 1/2" ODF X Chatleff*	KT-30036-3	066679
Aeroquip Adapter Assembly, 1/2" ODF X Aeroquip*	KT-30037-1	066654

\* Included in kit but also available for individual purchase.



HFES 1/2FC-01

# HF SERIES THERMOSTATIC EXPANSION VALVES

The HF Series is a balanced ported valve designed for refrigeration, air conditioning and heat pump applications.

**FEATURES**

- Stainless steel replaceable power assembly eliminates corrosion and prevents valve failure
- Two body sizes provide capacities from 1/8 to 13 tons for R-404A
- Bodies, cages and power assemblies can be ordered separately or in pre-packaged Service kits
- Bi-directional capability up to 3-1/2 tons for R-22 on one valve superheat control in cooling and heating
- Optional removable inlet strainer (ODF only)
- Available in straight-through or angle flow configurations
- Available with internal or external equalizer
- Available in ODF or SAE connections

**SPECIFICATIONS**

Maximum Working Pressure..... 450 psig (31 bar)  
 UR/CUR File Number ..... SA5312  
 Canadian CRN ..... 0C21506.513467890YTN

**MODEL NUMBER NOMENCLATURE** - Example: HFE 1/2FC-01

SERIES	SUPERHEAT ADJUSTMENT	EQUALIZER	CONNECTION TYPE	REMOVABLE INLET STRAINER	BLEED HOLE	CAPACITY	SYSTEM REFRIGERANT CODE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
HF		E				1/2	F	C	-01	G	
Balanced Port Design	N = Non-adjustable  (Omit For Adjustable)	E = External  (Omit For Internal)	S = Solder  (Omit For SAE Flare)	C = Inlet Strainer  (ODF Only)	B = Bleed Hole  (Omit For No Bleed Hole)	Nominal Rating in Tons	B = R-448A/R-449A/R-452A D = R-450A/R-513A F = R-12 H = R-22/R-407A M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A/R-407H T = R-290	A = Medium & Low Temp. AA = Wide Range C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	-01 Thru -999	G = Cust. Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

**HF SERIES THERMOSTATIC EXPANSION VALVES** (Adjustable Superheat Models)

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER
B (R-448A, R-449A)	1/4	A (Med./Low Temp.)	1/4" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/4BA-01	067018
	1/4	A (Med./Low Temp.)	1/4" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4BA-01	067016
	1/2	A (Med./Low Temp.)	1/4" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2BA-01	067019
	1/2	A (Med./Low Temp.)	1/4" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2BA-01	067017
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2BA-02	066979
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1BA-01	067008
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1BA-01	066980
	1-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2BA-01	067009
	1-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2BA-01	066981
	2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2BA-01	067010
	2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2BA-01	066982
	2-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2-1/2BA-01	067011
	2-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2-1/2BA-01	066983
3-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2BA-01	067012	

All capacities shown are at 100°F condensing, 40°F evaporator temperature.  
 Valve capacity is for the first refrigerant listed. To determine the capacity for additional refrigerants listed, consult the nominal capacity tables for interchangeable refrigerants.

# HF SERIES

# THERMOSTATIC EXPANSION VALVES

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER	
B (R-448A, R-449A)	3-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3-1/2BA-01	066984	
	6	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 6BA-01	066985	
	6	A (Med./Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFESC 6BA-01	067013	
	6	A (Med./Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 6BA-02	067014	
	8-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 8-1/2BA-01	066986	
	8-1/2	A (Med./Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 8-1/2BA-02	067015	
D (R-450A, R-513A)	1/5	A (Med./Low Temp.)	1/4" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/5DA-01	096856	
	1/5	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/5DA-01	096840	
	1/5	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/5DA-01	096851	
	1/5	A (Med./Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFESC 1/5DA-01	096858	
	1/4	A (Med./Low Temp.)	1/4" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/4DA-01	096855	
	1/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/4DA-01	096839	
	1/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4DA-01	096850	
	1/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFESC 1/4DA-01	096857	
	1/2	A (Med./Low Temp.)	1/4" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/2DA-01	096854	
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2DA-01	096838	
	1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2DA-01	096849	
	3/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3/4DA-01	096845	
	3/4	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3/4DA-01	096853	
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1DA-01	096842	
	1	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1DA-01	096852	
	1-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2DA-01	096837	
	2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2DA-01	096843	
	3-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2DA-01	096844	
	4-1/2	A (Med./Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 4-1/2DA-01	096846	
	6	A (Med./Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 6DA-01	096847	
	9	A (Med./Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 9DA-01	096848	
	11-1/2	A (Med./Low Temp.)	7/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 11-1/2DA-01	096841	
	F (R-12) *R-134a	1/4	C (Med. Temp.)	1/4" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4FC-01	009811
		1/4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/4FC-01	054360
1/4		C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4FC-02	054134	
1/2		C (Med. Temp.)	1/4" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2FC-01	009955	
1/2		C (Med. Temp.)	1/4" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2FC-01	009810	
1/2		C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2FC-02	054895	
1/2		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/2FC-01	056021	
1/2		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2FC-01	057397	
1/2		C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2FC-02	054892	
1/2		C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/2FC-01	056013	
1/2		C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/2FC-02	056063	
1		C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1FC-01	054909	
1		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1FC-01	055993	
1		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1FC-02	056151	
1		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1FC-01	057398	
1		C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1FC-01	054905	
1		C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1FC-01	056119	
1		Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1FZ-01	054910	
1-1/2		C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2FC-01	054917	
1-1/2		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1-1/2FC-01	055994	
1-1/2		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2FC-01	057399	
1-1/2		C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1-1/2FC-01	054914	
2		C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2FC-01	053069	
2		C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2FC-01	057400	
2		C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 2FC-01	053060	
3-1/2		C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 3-1/2FC-01	054138	
H (R-22) *R-407C		1/4	C (Med. Temp.)	1/4" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4HC-03	058430
		1/4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/4HC-01	054924

# THERMOSTATIC EXPANSION VALVES

# HF SERIES

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER
H (R-22) *R-407C	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/4HC-01	055927
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4HC-01	057409
	1/4	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4HC-01	054921
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/4HC-01	055493
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/4HC-02	055633
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/4HC-01	057467
	1/4	Z (Low Temp.)	1/4" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4HZ-01	059653
	1/4	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/4HZ-01	054925
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4HZ-01	057428
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/4HZ-01	056169
	1/2	C (Med. Temp.)	1/4" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2HC-02	059079
	1/2	C (Med. Temp.)	1/4" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2HC-01	009812
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2HC-01	054361
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/2HC-01	054838
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2HC-02	055827
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2HC-01	057291
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2HC-02	054135
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/2HC-02	054136
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/2HC-03	054723
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/2HC-01	057293
	1/2	W35 (MOP)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2HW35-01	054362
	1/2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2HZ-01	054365
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2HZ-01	055889
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2HZ-01	057429
	1/2	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2HZ-01	054364
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/2HZ-01	057482
	1	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1HC-01	054930
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1HC-01	055494
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1HC-02	055708
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1HC-01	057410
	1	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1HC-01	054927
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1HC-01	055702
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1HC-02	055928
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1HC-01	057468
	1	W35 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1HW35-01	054932
	1	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1HZ-01	054931
	1	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1HZ-01	057430
	1	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1HZ-01	054928
	1-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2HC-01	054936
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1-1/2HC-01	055495
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2HC-02	055863
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2HC-01	057292
	1-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1-1/2HC-01	054933
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1-1/2HC-01	055969
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1-1/2HC-02	056018
	1-1/2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2HZ-01	054937
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2HZ-01	055870
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2HZ-01	057321
	2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2HC-01	054942
	2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 2HC-01	054946
2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2HC-02	055706	
2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2HC-01	057294	
2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 2HC-01	054939	
2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 2HC-01	057470	
2	CA (Heat Pump)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2HCA-01	059670	
2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2HZ-01	054943	

# HF SERIES

# THERMOSTATIC EXPANSION VALVES

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER
H (R-22) *R-407C	2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2HZ-01	057433
	2	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 2HZ-01	054940
	2-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2-1/2HC-01	054950
	2-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2-1/2HC-01	055931
	2-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 2-1/2HC-02	056042
	2-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2-1/2HC-01	057411
	2-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 2-1/2HC-01	054947
	2-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2-1/2HZ-01	057434
	3	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 3HC-01	053317
	3	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3HC-01	053916
	3	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 3HC-02	054756
	3	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3HC-01	057412
	3	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 3HC-01	053316
	3	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 3HC-01	053915
	3	CA (Heat Pump)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3HCA-01	061730
	3	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 3HZ-01	053191
	3	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3HZ-01	057748
	3	Z (Low Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Angle	No	HFES 3HZ-02	064761
	5-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 5-1/2HC-01	054140
	5-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2HC-01	054141
	5-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 5-1/2HC-01	057781
	5-1/2	C (Med. Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2HC-02	054778
	5-1/2	C (Med. Temp.)	1/2" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2HC-04	055187
	5-1/2	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2HC-03	054779
	5-1/2	CA (Heat Pump)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2HCA-03	065649
	5-1/2	CA (Heat Pump)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2HCA-02	057378
	5-1/2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 5-1/2HZ-01	054777
	5-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2HZ-02	054780
	8	C (Med. Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 8HC-01	057312
	8	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 8HC-02	057313
	8	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 8HC-01	058609
	8	CA (Heat Pump)	1/2" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 8HCA-04	056818
	8	CA (Heat Pump)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 8HCA-05	056819
	8	W100 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 8HW100-01	057354
	10	C (Med. Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10HC-02	057315
	10	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10HC-01	057256
	10	C (Med. Temp.)	7/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10HC-03	057316
	10	CA (Heat Pump)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10HCA-05	056820
	10	CA (Heat Pump)	5/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10HCA-06	056821
	10	W100 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10HW100-01	058159
12	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 12HC-01	062737	
15	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 15HC-01	057317	
15	C (Med. Temp.)	7/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 15HC-02	057318	
15	CA (Heat Pump)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 15HCA-07	056823	
15	CA (Heat Pump)	5/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 15HCA-08	056824	
15	CA (Heat Pump)	7/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 15HCA-09	056825	
20	C (Med. Temp.)	7/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 20HC-01	062055	
20	CA (Heat Pump)	7/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 20HCA-04	058490	
20	CA (Heat Pump)	7/8" X 1-3/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 20HCA-05	060646	
M (R-134a) *R-12	1/4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	30 In.	Angle	No	HFE 1/4MC-01	057860
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4MC-01	057572
	1/4	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4MC-01	057618
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/4MC-01	058545
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/4MC-01	057573
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2MC-01	057616
1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2MC-01	065645	

# THERMOSTATIC EXPANSION VALVES

# HF SERIES

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M (R-134a) *R-12	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2MC-01	058069
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2MC-01	057620
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/2MC-01	058100
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/2MC-01	058067
	3/4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	30 In.	Angle	No	HFE 3/4MC-01	057861
	3/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 3/4MC-01	057784
	3/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3/4MC-02	059422
	1	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1MC-01	057617
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1MC-01	058546
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1MC-02	065646
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1MC-01	057570
	1	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1MC-01	057619
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1MC-01	065641
	1-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2MC-01	057895
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2MC-01	057568
	1-3/4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-3/4MC-01	057896
	1-3/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-3/4MC-01	058152
	1-3/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-3/4MC-02	065647
	2-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2-1/2MC-01	058421
	4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 4MC-01	057897
4	C (Med. Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 4MC-01	058680	
6	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 6MC-01	057903	
7-1/2	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 7-1/2MC-01	057904	
11	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 11MC-02	057906	
11	C (Med. Temp.)	7/8" X 1-1/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 11MC-03	058681	
14	C (Med. Temp.)	7/8" X 1-3/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 14MC-02	064000	
R (R-502) *R-404A *R-507	1/4	C (Med. Temp.)	1/4" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4RC-02	059304
	1/4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/4RC-01	054366
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/4RC-01	055092
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4RC-01	057436
	1/4	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4RC-01	054137
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/4RC-01	055490
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/4RC-01	057487
	1/4	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/4RW45-01	054963
	1/4	Z (Low Temp.)	1/4" X 3/8" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/4RZ-01	055792
	1/4	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/4RZ-01	054370
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/4RZ-01	055491
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4RZ-01	057454
	1/4	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4RZ-01	054369
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/4RZ-02	056228
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/4RZ-01	057484
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2RC-01	054967
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/2RC-01	055992
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2RC-02	056022
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2RC-01	057437
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2RC-01	054964
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/2RC-01	057488
	1/2	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2RW45-01	054969
	1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/2RW45-01	055996
	1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2RW45-01	057443
	1/2	W45 (MOP)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2RW45-01	054966
	1/2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2RZ-01	054968
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/2RZ-01	055497
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2RZ-02	056024
1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2RZ-01	057455	
1/2	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2RZ-01	054965	



SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER
R (R-502) *R-404A *R-507	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/2RZ-01	055874
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1/2RZ-02	056008
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/2RZ-01	057485
	1	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1RC-01	054979
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1RC-01	054983
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1RC-02	056029
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1RC-01	057438
	1	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1RC-01	054976
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1RC-01	057489
	1	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1RW45-01	054981
	1	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1RW45-01	055948
	1	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1RW45-01	057446
	1	W45 (MOP)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1RW45-01	054978
	1	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1RZ-01	054980
	1	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1RZ-01	055496
	1	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1RZ-02	056225
	1	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1RZ-01	057456
	1	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1RZ-01	054977
	1	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1RZ-01	057486
	1-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2RC-01	054988
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1-1/2RC-01	055657
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2RC-02	056031
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2RC-01	057439
	1-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1-1/2RC-01	054984
	1-1/2	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2RW45-01	054990
	1-1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1-1/2RW45-01	055991
	1-1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2RW45-02	056032
	1-1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2RW45-01	057448
	1-1/2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2RZ-01	054989
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1-1/2RZ-01	055498
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2RZ-02	055878
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2RZ-01	057322
	1-1/2	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1-1/2RZ-01	054986
	2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2RC-01	053070
	2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2RC-02	053270
	2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 2RC-03	054768
	2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2RC-01	057440
	2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 2RC-01	053061
	2	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2RW45-01	054992
	2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2RZ-01	053071
	2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2RZ-01	053271
	2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 2RZ-02	054844
	2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2RZ-01	057457
	3-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 3-1/2RC-01	054142
	3-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2RC-01	054143
	3-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3-1/2RC-01	057441
	3-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 3-1/2RC-01	055936
	3-1/2	C (Med. Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2RC-02	054783
	3-1/2	W 45 (MOP)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2RW45-01	058907
	3-1/2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 3-1/2RZ-01	054145
3-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2RZ-01	054784	
3-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3-1/2RZ-01	057458	
3-1/2	Z (Low Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2RZ-02	054785	
5	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5RC-02	058875	
5	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 5RC-01	058595	
5	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5RC-01	058608	

# THERMOSTATIC EXPANSION VALVES

# HF SERIES

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER
R (R-502) *R-404A *R-507	5	W45 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5RW45-01	058305
	5	Z (Low Temp.)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5RZ-02	061196
	5	Z (Low Temp.)	1/2" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5RZ-01	059624
	5	Z (Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 5RZ-01	059654
	7	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 7RC-01	058607
	7	W45 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 7RW45-01	059291
S (R-404A) *R-502 *R-507	10	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10RC-01	058808
	1/8	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/8SC-01	058248
	1/8	W45 (MOP)	1/4" X 1/2" ODF	Internal	No	30 In.	Angle	Yes	HFSC 1/8SW45-01	066552
	1/8	Z (Low Temp.)	1/4" X 1/2" ODF	Internal	No	30 In.	Angle	Yes	HFSC 1/8SZ-01	066553
	1/4	C (Med. Temp.)	1/4" X 1/2" ODF	Internal	No	30 In.	Straight Thru	No	HFS 1/4SC-01	066516
	1/4	C (Med. Temp.)	1/4" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/4SC-01	066039
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	30 In.	Straight Thru	No	HFES 1/4SC-01	066533
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	30 In.	Angle	Yes	HFESC 1/4SC-02	066539
	1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/4SC-01	058249
	1/4	W45 (MOP)	1/4" X 1/2" ODF	External	No	30 In.	Angle	Yes	HFESC 1/4SW45-01	066540
	1/4	W45 (MOP)	1/4" X 1/2" ODF	Internal	No	30 In.	Straight Thru	No	HFS 1/4SW45-01	066517
	1/4	W45 (MOP)	1/4" X 1/2" ODF	Internal	No	30 In.	Angle	Yes	HFSC 1/4SW45-01	066554
	1/4	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/4SW45-01	066623
	1/4	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/4SW45-01	065734
	1/4	Z (Low Temp.)	1/4" X 1/2" ODF	External	No	30 In.	Angle	Yes	HFESC 1/4SZ-02	066542
	1/4	Z (Low Temp.)	1/4" X 1/2" ODF	Internal	No	30 In.	Straight Thru	No	HFS 1/4SZ-02	066518
	1/4	Z (Low Temp.)	1/4" X 1/2" ODF	Internal	No	30 In.	Angle	Yes	HFSC 1/4SZ-01	066555
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/4SZ-01	065733
	1/4	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4SZ-01	058194
	1/2	C (Med. Temp.)	1/4" X 1/2" ODF	External	No	30 In.	Angle	Yes	HFESC 1/2SC-03	066543
	1/2	C (Med. Temp.)	1/4" X 1/2" ODF	Internal	No	30 In.	Straight Thru	No	HFS 1/2SC-01	066519
	1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2SC-01	062147
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/2SC-01	058975
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2SC-02	058141
	1/2	W45 (MOP)	1/4" X 1/2" ODF	External	No	30 In.	Angle	Yes	HFESC 1/2SW45-02	066544
	1/2	W45 (MOP)	1/4" X 1/2" ODF	Internal	No	30 In.	Straight Thru	No	HFS 1/2SW45-01	066520
	1/2	W45 (MOP)	1/4" X 1/2" ODF	Internal	No	30 In.	Angle	Yes	HFSC 1/2SW45-01	066556
	1/2	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1/2SW45-01	066040
	1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2SW45-01	065736
	1/2	Z (Low Temp.)	1/4" X 1/2" ODF	External	No	30 In.	Angle	Yes	HFESC 1/2SZ-02	066545
	1/2	Z (Low Temp.)	1/4" X 1/2" ODF	Internal	No	30 In.	Straight Thru	No	HFS 1/2SZ-01	066521
	1/2	Z (Low Temp.)	1/4" X 1/2" ODF	Internal	No	30 In.	Angle	Yes	HFSC 1/2SZ-01	066557
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1/2SZ-01	058995
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2SZ-02	065735
	1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2SZ-01	058147
	1/2	Z (Low Temp.)	3/8" X 1/2" SAE	Internal	No	5 Ft.	Angle	No	HF 1/2SZ-01	066037
	1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/2SC-01	058250
	1	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1SC-01	062148
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1SC-01	058976
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1SC-02	065650
	1	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1SC-01	058135
	1	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1SC-01	058251
1	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1SC-01	065643	
1	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1SW45-01	066624	
1	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1SW45-01	059086	
1	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1SW45-02	065651	
1	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1SW45-01	058157	
1	W45 (MOP)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1SW45-01	066522	
1	W45 (MOP)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1SW45-01	066558	
1	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1SZ-01	058363	

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER
S (R-404A) *R-502 *R-507	1	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1SZ-01	064289
	1	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1SZ-01	058118
	1	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1SZ-01	066523
	1	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1SZ-01	066559
	1-1/4	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/4SC-01	062149
	1-1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	No	HFES 1-1/4SC-01	058977
	1-1/4	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/4SC-01	058206
	1-1/4	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1-1/4SC-01	058252
	1-1/4	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/4SW45-01	057976
	1-1/4	W45 (MOP)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFESC 1-1/4SW45-01	066560
	1-1/4	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/4SZ-01	065737
	1-1/4	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1-1/4SZ-01	066561
	1-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2SC-01	058309
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2SC-01	057974
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2SC-01	058119
	1-1/2	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 1-1/2SW45-01	066625
	1-1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2SW45-01	065738
	1-1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2SW45-01	058136
	1-1/2	W45 (MOP)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1-1/2SW45-01	066525
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/2SZ-01	064290
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/2SZ-01	058121
	1-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1-1/2SC-01	066524
	1-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 1-1/2SZ-01	066526
	2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2SC-01	062150
	2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2SC-01	057958
	2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2SC-01	058122
	2	W45 (MOP)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 2SW45-01	066627
	2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2SW45-01	065740
	2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2SW45-01	058212
	2	W45 (MOP)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 2SW45-01	066528
	2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 2SZ-01	065739
	2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 2SZ-01	058214
	2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 2SC-01	066527
	2	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 2SZ-01	066529
	3-1/2	C (Med. Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 3-1/2SC-01	058310
	3-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2SC-02	065652
	3-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3-1/2SC-01	058071
	3-1/2	C (Med. Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 3-1/2SC-01	066530
	3-1/2	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2SC-01	062151
	3-1/2	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3-1/2SW45-01	066547
	3-1/2	W45 (MOP)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 3-1/2SW45-01	066531
	3-1/2	W45 (MOP)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2SW45-01	061694
	3-1/2	W45 (MOP)	1/2" X 5/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2SW45-02	066534
	3-1/2	Z (Low Temp.)	3/8" X 1/2" SAE	External	No	5 Ft.	Angle	No	HFE 3-1/2SZ-01	063493
	3-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3-1/2SZ-01	063492
	3-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3-1/2SZ-01	066548
	3-1/2	Z (Low Temp.)	3/8" X 1/2" ODF	Internal	No	5 Ft.	Straight Thru	No	HFS 3-1/2SZ-01	066532
	5	C (Med. Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 5SC-02	058220
	5	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5SC-01	066535
	5	W45 (MOP)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 5SW45-01	058221
	5	W45 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5SW45-01	064170
	5	Z (Low Temp.)	3/8" X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 5SZ-01	066549
	5	Z (Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5SZ-01	058451
	7	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 7SC-02	066536
	7	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 7SC-01	065458
	7	W45 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 7SW45-01	066537

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	BODY DESIGN	STRAINER	MODEL NUMBER	ITEM NUMBER
S (R-404A) *R-502 *R-507	7	W45 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 7SW45-02	066550
	7	Z (Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 7SZ-01	064291
	7	Z (Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 7SZ-01	064058
	10	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10SC-02	066538
	10	C (Med. Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 10SC-01	064219
	10	W45 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10SW45-01	064195
	10	W45 (MOP)	5/8" X 7/8" ODF	External	No	5 Ft.	Angle	Yes	HFESC 10SW45-01	066551
	10	Z (Low Temp.)	5/8" X 7/8" ODF	External	No	5 Ft.	Straight Thru	No	HFES 10SZ-01	062828
T (R-290)	1/4	A (Med./Low Temp.)	1/4 X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/4TA-01	096830
	1/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/4TA-01	096818
	1/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/4TA-01	096825
	1/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/4TA-01	096833
	1/2	A (Med./Low Temp.)	1/4 X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 1/2TA-01	096831
	1/2	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1/2TA-01	096817
	1/2	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1/2TA-01	096826
	1/2	A (Med./Low Temp.)	3/8 X 1/2" ODF	Internal	No	5 Ft.	Angle	Yes	HFSC 1/2TA-01	096834
	3/4	A (Med./Low Temp.)	1/4 X 1/2" ODF	Internal	No	5 Ft.	Angle	No	HFS 3/4TA-01	096832
	3/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3/4TA-01	096819
	3/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 3/4TA-01	096827
	1-1/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 1-1/4TA-01	096820
	1-1/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-1/4TA-01	096828
	1-3/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Angle	Yes	HFESC 1-3/4TA-01	096829
	2-1/4	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Straight Thru	Yes	HFES 2-1/4TA-01	096822
	3	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 3TA-01	096823
	5-1/2	A (Med./Low Temp.)	3/8 X 1/2" ODF	External	No	5 Ft.	Straight Thru	No	HFES 5-1/2TA-01	096824

\* Valve capacity is for the first refrigerant listed. To determine the capacity for additional refrigerants listed, consult the nominal capacity tables for interchangeable refrigerants.

### NOMINAL CAPACITY TABLES FOR INTERCHANGEABLE REFRIGERANTS IN TONS (kW): Standard Body (1/8 to 5-1/2 Tons)

R-134a	R-12	R-404A / R-507 / R-502	R-22 / R-407C
1/4 (0.9)	1/8 (0.4)	1/8 (0.4)	1/4 (0.9)
1/2 (1.8)	1/4 (0.9)	1/4 (0.9)	1/2 (1.8)
3/4 (2.6)	1/2 (1.8)	1/2 (1.8)	1 (3.5)
1 (3.5)	1 (3.5)	1 (3.5)	1-1/2 (5.3)
1-1/2 (5.3)	1-1/4 (4.4)	1-1/4 (4.4)	2 (7)
1-3/4 (6.2)	1-1/2 (5.3)	1-1/2 (5.3)	2-1/2 (8.8)
2-1/2 (8.8)	2 (7)	2 (7)	3 (10.6)
4 (14.1)	3-1/2 (12.3)	3-1/2 (12.3)	5-1/2 (19.3)

### NOMINAL CAPACITY TABLES FOR INTERCHANGEABLE REFRIGERANTS IN TONS (kW): Extended Body (8 to 20 Tons)

R-134a	R-12	R-404A / R-507 / R-502	R-22 / R-407C
6 (21.1)	5 (17.6)	5 (17.6)	8 (28.1)
7-1/2 (26.4)	6 (21.1)	7 (24.6)	10 (35.2)
11 (38.7)	9 (31.7)	10 (35.2)	15 (52.8)
14 (49.2)	12 (42.2)	13 (45.7)	20 (70.3)

All capacities shown are at 100°F condensing, 40°F evaporator temperature. See Extended Capacity Tables for ratings at a wide range of conditions per AHRI standard 750.

### POWER ASSEMBLY MODEL NOMENCLATURE - Example: X-26300-BA-1

SERIES	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE LENGTH CODE
X-26300	B	A	1
X-26300 = Power Element	B = R-448A / R-449A D = R-450A / R-513A F = R-12 H = R-22	M = R-134a S = R-404A T = R-290 A = Med/Low Temp. C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	1 = 5 Ft. 2 = 10 Ft. 3 = 15 Ft.

**HF SERIES POWER ASSEMBLIES**

SYSTEM REFRIGERANT CODE	CHARGE CODE	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
B (R-448A/R-449A)	A (Med/Low Temp.)	5 Ft.	X-26300BA-1	066990
D (R-450, R-513A)	A (Med/Low Temp.)	5 Ft.	X-26300DA-1	096859
F (R-12, R-134a)	C (Med Temp.)	5 Ft.	X-26300FC-1	053763
F (R-12, R-134a)	W15 (MOP)	5 Ft.	X-26300FW15-1	053769
F (R-12, R-134a)	W55 (MOP)	5 Ft.	X-26300FW55-1	063869
F (R-12, R-134a)	W35 (MOP)	5 Ft.	X-26300FW35-1	054798
F (R-12, R-134a)	Z (Low Temp.)	5 Ft.	X-26300FZ-1	053766
H (R-22, R-407C)	C (Med Temp.)	5 Ft.	X-26300HC-1	053764
H (R-22, R-407C)	CA (Heat Pump)	5 Ft.	X-26300HCA-1	057834
H (R-22, R-407C)	W100 (MOP)	5 Ft.	X-26300HW100-1	057764
H (R-22, R-407C)	W35 (MOP)	5 Ft.	X-26300HW35-1	053770
H (R-22, R-407C)	Z (Low Temp.)	5 Ft.	X-26300HZ-1	053767
M (R-134a, R-12)	C (Med Temp.)	5 Ft.	X-26300MC-1	058074
M (R-134a, R-12)	Z (Low Temp.)	5 Ft.	X-26300MZ-1	058076
S (R-404A, R-502)	C (Med Temp.)	5 Ft.	X-26300SC-1	058083
S (R-404A, R-502)	W45 (MOP)	5 Ft.	X-26300SW45-1	058085
S (R-404A, R-502)	Z (Low Temp.)	5 Ft.	X-26300SZ-1	058082
T (R-290)	A (Med/Low Temp.)	5 Ft.	X-26300TA-1	096835

**HF SERIES VALVE CAGE KITS**

If HF body is stamped HFK then the cage is replaceable.

CAGE CODE	R-12	R-22	R-134a	R-290	R-404A	R-448A / R-449A	R-450A / R-513A	R-507	R-502	MODEL NUMBER	ITEM NUMBER
0	1/8	1/4	1/4	1/4	1/8	1/4	1/5	1/8	1/8	KT-20299-0	064868
1	1/4	1/2	1/2	1/2	1/4	1/2	1/4	1/4	1/4	KT-20299-1	064869
2	1/2	1	3/4	3/4	1/2	1	1/2	1/2	1/2	KT-20299-2	064870
3	1	1-1/2	1	1-1/4	1	1-1/2	3/4	1	1	KT-20299-3	064871
4	1-1/4	2	1-1/2	1-3/4	1-1/4	2	1	1-1/4	1-1/4	KT-20299-4	064872
5	1-1/2	2-1/2	1-3/4	2-1/4	1-1/2	2-1/2	1-1/4	1-1/2	1-1/2	KT-20299-5	064873
6	2	3	2-1/2	3	2	3-1/2	1-3/4	2	2	KT-20299-6	064874
7	3-1/2	5-1/2	4	5-1/2	3-1/2	6	3	3-1/2	3-1/2	KT-20299-7	064875

All capacities shown are at 100°F condensing, 40°F evaporator temperature.  
See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

**HFK SERIES BODY KITS**

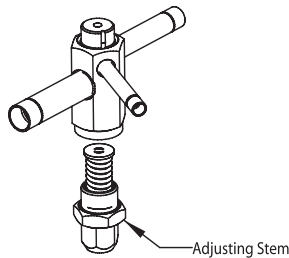
If HF body is stamped HFK then the cage is replaceable.

VALVE TYPE	CONNECTIONS	BODY STYLE	EXTERNAL EQUALIZER	MODEL NUMBER	ITEM NUMBER
HFK Body Kit	1/4" X 1/2" SAE	Angle	No	KT-20298-1	064881
HFK Body Kit	3/8" X 1/2" SAE	Angle	No	KT-20298-2	064882
HFKE Body Kit	1/4" X 1/2" SAE	Angle	Yes	KT-20298-3	064883
HFKE Body Kit	3/8" X 1/2" SAE	Angle	Yes	KT-20298-4	064884
HFKSC Body Kit	3/8" X 1/2" ODF	Angle, Removable Strainer	No	KT-20298-5	064885
HFKESC Body Kit	3/8" X 1/2" ODF	Angle, Removable Strainer	Yes	KT-20298-6	064886
HFKS Body Kit	3/8" X 1/2" ODF	Straight Through	No	KT-20298-7	064887
HFKS Body Kit	3/8" X 5/8" ODF	Straight Through	No	KT-20298-8	064888
HFKS Body Kit	1/2" X 5/8" ODF	Straight Through	No	KT-20298-9	064889
HFKS Body Kit	1/2" X 7/8" ODF	Straight Through	No	KT-20298-10	064890
HFKES Body Kit	3/8" X 1/2" ODF	Straight Through	Yes	KT-20298-11	064891
HFKES Body Kit	3/8" X 5/8" ODF	Straight Through	Yes	KT-20298-12	064892
HFKES Body Kit	1/2" X 5/8" ODF	Straight Through	Yes	KT-20298-13	064895
HFKES Body Kit	1/2" X 7/8" ODF	Straight Through	Yes	KT-20298-14	064896

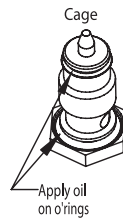
## HF SERIES SERVICE KITS AND PARTS

DESCRIPTION	MODEL NUMBER	ITEM NUMBER
3/8" Inlet Filter Screen	X-11176-1	027385
1/4" Inlet Filter Screen	X-11176-7	048638
SAE Inlet Nut Seal	27676-1	058707
HFSC/HFESC Parts Kit	KT-20264	057686
HFK Cage Box (Empty)	KT-20303	064897
HFK Cage Insertion Tool	KT-20304	064898
HFK Oil Bottle	Oil Bottle for HFK	064899
HFK Cage Gasket Kit (12 sets)	KT-20305	065203
HFK and HFKE SAE/ODF Kit	KT-20300-5	065135
HF Cage Kit	KT-20301-1	064879

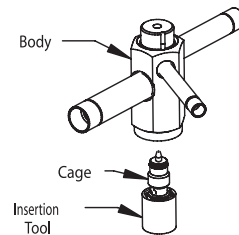
## HFK ASSEMBLY PROCEDURE



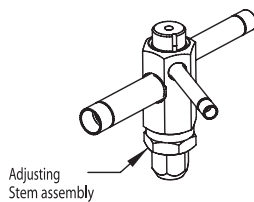
1. Remove adjusting stem assembly from body with 15/16" wrench.



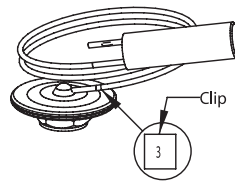
2. Lubricate both o-rings on cage.



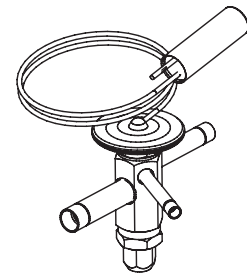
3. Insert cage into body with driver and insertion tool and hand tighten (do not over-tighten).



4. Replace adjustment stem assembly to body and hand tighten. Use the 15/16" wrench to tighten adjustment stem assembly 60° or one wrench flat (300-360 inch lbs. - Do not over-tighten).



5. Attach cage identification clip on power element cap tube.



6. Screw power element to top of valve body and hand tighten. Use the 1" wrench to tighten power element 60° or one wrench flat. (300-360 inch lbs. - Do not over-tighten)



Capacity  
Tables (Tons)



TX7-N07 806860

## TX7 SERIES THERMOSTATIC EXPANSION VALVES

The Copeland TX7 Series is a balanced ported valve designed for air conditioning, heat pumps, close control and industrial process cooling applications. It is ideal for applications requiring a hermetic compact design with stable and accurate control over wide load and evaporation temperature ranges.

### FEATURES

- Hermetic, leak-free construction
- Available for applications up to 47 ton (R-410A)
- Enhanced power element design offers extended valve life
- Laser welded stainless steel power element prevents corrosion
- Bi-directional flow capability allows one valve to control superheat for close-coupled or packaged heat pump applications
- Only available with adjustable superheat
- External equalizer with 1/4 ODF connection
- Balanced port construction

### SPECIFICATIONS

Maximum Working Pressure..... 667 psig (46 bar)  
 Refrigerant Temperature Range..... -13°F to 158°F (-11° to 70°C)  
 Storage Temperature ..... -22°F to 158°F (-30° to 70°C)  
 Connections..... Copper ODF  
 UL/CUL File Number ..... SA5312

### TEMPERATURE RANGES

SYSTEM REFRIGERANT	CHARGE	RECOMMENDED EVAPORATING TEMPERATURE RANGE (°F)	MAXIMUM BULB TEMPERATURE (°F)
R-410A/R-32	Z1 MOP 175 psig	-40 to 57	248
R-134a/R-450A/R-513A	M0	-13 to 86	190
R-407C/R-22	N0	-13 to 68	160

### MODEL NUMBER NOMENCLATURE - Example: TX7-Z16 806816

SERIES	SYSTEM REFRIGERANT CODE	PRESSURE LIMITING	ORIFICE	UNIQUE IDENTIFIER
TX7	Z	1	6	806816
Hermetic Balanced Port Design	M = R-134a/R450A/R-513A N = R-407C/R-22 Z = R-410A/R-32	0 = Without MOP 1 = With MOP	Sizes 3 Through 9	

### TX7 SERIES THERMOSTATIC EXPANSION VALVES (Body Style Straight Thru)

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	PRESSURE LIMITING	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	INTERNAL CHECK	EQUALIZER	BLEED	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
M (R-134a) *R-450A *R-513A	4	No	1/2" X 5/8" ODF	Yes	No	External	No	5 Ft.	TX7-M03 806824	806824
	5	No	5/8" X 7/8" ODF	Yes	No	External	No	5 Ft.	TX7-M04 806826	806826
	6-1/2	No	5/8" X 7/8" ODF	Yes	No	External	No	5 Ft.	TX7-M05 806828	806828
	10-1/2	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-M06 806830	806830
	13	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-M07 806832	806832
	17	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-M08 806834	806834
	24	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-M09 806836	806836

**TX7 SERIES THERMOSTATIC EXPANSION VALVES (CONTINUED)** (Body Style Straight Thru)

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	PRESSURE LIMITING	INLET X OUTLET CONNECTION	ADJUSTABLE SUPERHEAT	INTERNAL CHECK	EQUALIZER	BLEED	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
N (R-407C) *R-22	6-1/2	No	1/2" X 5/8" ODF	Yes	No	External	No	5 Ft.	TX7-N03 806852	806852
	8	No	5/8" X 7/8" ODF	Yes	No	External	No	5 Ft.	TX7-N04 806854	806854
	10	No	5/8" X 7/8" ODF	Yes	No	External	No	5 Ft.	TX7-N05 806856	806856
	16	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-N06 806858	806858
	20	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-N07 806860	806860
	26	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-N08 806862	806862
	37	No	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-N09 806864	806864
Z (R-410A) *R-32	20	175 (MOP)	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-Z16 806816	806816
	25	175 (MOP)	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-Z17 806818	806818
	33	175 (MOP)	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-Z18 806820	806820
	47	175 (MOP)	7/8" X 1-1/8" ODF	Yes	No	External	No	5 Ft.	TX7-Z19 806822	806822

\* Valve capacity is for the first refrigerant listed. To determine the capacity for additional refrigerants listed, consult the Nominal Capacity Tables for Interchangeable Refrigerants.

**NOMINAL CAPACITY TABLES FOR INTERCHANGEABLE REFRIGERANTS IN TONS (KW)**

ORIFICE SIZE	R-134a	R-450A	R-513A	R-407C	R-22	R-410a	R-32
3	4 (14.7)	4 (13.7)	3-3/4 (13.1)	6-1/2 (22.6)	7 (24.2)	—	12 (41.7)
4	5 (18.3)	5 (17.0)	4-1/2 (16.2)	8 (28.1)	8-1/2 (30.0)	—	15 (51.9)
5	6-1/2 (22.4)	6 (20.9)	5-1/2 (19.9)	10 (34.4)	10-1/2 (36.8)	—	18 (63.6)
6	10-1/2 (37.0)	10 (34.5)	9-1/2 (32.9)	16 (56.9)	17 (60.8)	20 (71.7)	30 (105.0)
7	13 (45.6)	12 (42.5)	11-1/2 (40.5)	20 (70.1)	21 (74.9)	25 (88.3)	37 (129.4)
8	17 (60.1)	16 (55.9)	15 (53.3)	26 (92.3)	28 (98.6)	33 (116.3)	48 (170.4)
9	24 (84.2)	22 (78.4)	21 (74.7)	37 (129.3)	40 (138.2)	47 (163.0)	68 (238.8)

All capacities shown are at 100°F condensing, 40°F evaporator temperature.  
See Extended Capacity Tables for ratings at a wide range of conditions per AHRI standard 750.





TRAE+20HC-01



TRAE 50HC-02

# TRAE SERIES THERMOSTATIC EXPANSION VALVES

The TRAE Series is a large capacity valve designed for refrigeration, air conditioning, heat pump and chiller applications.

**FEATURES**

- Suitable for heat pump bi-directional applications
- External superheat adjustment
- Integral body with straight thru connections
- Balanced port construction
- Solid copper connections
- Large diaphragm provides superior stability
- Replaceable power element and cage assembly for full serviceability on TRAE+ models
- Stainless steel power element for TRAE+
- Permanent inlet strainer

**SPECIFICATIONS**

Maximum Working Pressure..... 450 psig (31 bar)  
 UR/CUR File Number ..... SA5312  
 Canadian CRN ..... 0C21506.513467890YTN

**MODEL NUMBER NOMENCLATURE** - Example: TRAE+ 30HC-01

SERIES	EQUALIZER	REPLACEABLE COMPONENTS	CAPACITY	SYSTEM REFRIGERANT CODE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
TRA	E	+	30	H	C	-01		
Double Balanced Port Design	E = External 1/4" SAE	Cage and Power Assembly	Nominal Rating in Tons	F = R-12 H = R-22 M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A	AA = Wide Range C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	-01 Thru -999	G = Customer Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

**TRAE SERIES THERMOSTATIC EXPANSION VALVES** (Body Style Straight Thru)

REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
H (R-22) *R-407C	10	C (Med. Temp.)	5/8" X 7/8" ODF	5 Ft.	TRAE+ 10HC-01	062718
	10	C (Med. Temp.)	7/8" X 1-1/8" ODF	15 Ft.	TRAE+ 10HC-02	063100
	10	CA (Heat Pump)	5/8" X 7/8" ODF	10 Ft.	TRAE+ 10HCA-05	063138
	10	CA (Heat Pump)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 10HCA-07	063554
	15	C (Med. Temp.)	5/8" X 7/8" ODF	10 Ft.	TRAE+ 15HC-04	063139
	15	C (Med. Temp.)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 15HC-02	062721
	15	CA (Heat Pump)	5/8" X 7/8" ODF	10 Ft.	TRAE+ 15HCA-05	063510
	15	CA (Heat Pump)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 15HCA-03	062722
	15	CA (Heat Pump)	7/8" X 1-3/8" ODF	10 Ft.	TRAE+ 15HCA-04	063141
	15	W100 (MOP)	5/8" X 7/8" ODF	5 Ft.	TRAE+ 15HW100-02	063103
	15	W100 (MOP)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 15HW100-01	062723
	20	C (Med. Temp.)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 20HC-01	062724
	20	C (Med. Temp.)	7/8" X 1-3/8" ODF	10 Ft.	TRAE+ 20HC-03	063650
	20	CA (Heat Pump)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 20HCA-04	062725

REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
H (R-22) *R-407C	20	CA (Heat Pump)	1-1/8" X 1-1/8" ODF	10 Ft.	TRAE+ 20HCA-10	064581
	20	W100 (MOP)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 20HW100-01	062726
	20	W90 (MOP)	7/8" X 1-1/8" ODF	15 Ft.	TRAE+ 20HW90-05	064018
	30	C (Med. Temp.)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 30HC-03	062727
	30	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE+ 30HC-04	062728
	30	CA (Heat Pump)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE+ 30HCA-07	062730
	30	W100 (MOP)	7/8" X 1-3/8" ODF	5 Ft.	TRAE+ 30HW100-04	063425
	30	W85 (MOP)	7/8" X 1-1/8" ODF	15 Ft.	TRAE+ 30HW85-01	063109
	40	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE+ 40HC-02	062733
	40	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	15 Ft.	TRAE+ 40HC-03	063153
	40	CA (Heat Pump)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE+ 40HCA-04	062734
	50	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE 50HC-02	061700
	60	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE 60HC-03	061865
	60	C (Med. Temp.)	1-3/8" X 1-3/8" ODF	20 Ft.	TRAE 60HC-01	058657
	70	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE 70HC-03	061866
M (R-134a) *R-12	22	C (Med. Temp.)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 22MC-02	063462
	30	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE+ 30MC-01	064001
	40	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	15 Ft.	TRAE 40MC-01	063941
S (R-404A) *R-502 *R-507	14	C (Med. Temp.)	1-1/8" X 1-1/8" ODF	10 Ft.	TRAE+ 14SC-01	064407
	20	C (Med. Temp.)	7/8" X 1-1/8" ODF	10 Ft.	TRAE+ 20SC-02	063461
	20	Z (Low Temp.)	5/8" X 7/8" ODF	10 Ft.	TRAE+ 20SZ-01	064923
	35	C (Med. Temp.)	1-1/8" X 1-3/8" ODF	10 Ft.	TRAE 35SC-01	064217

\* Valve capacity is for the first refrigerant listed. To determine the capacity for additional refrigerants listed, consult the Nominal Capacity Tables for Interchangeable Refrigerants.

**NOMINAL CAPACITY TABLES FOR INTERCHANGEABLE REFRIGERANTS IN TONS (kW): TRAE+ 10-40 Ton**

R-134a	R-12	R-404A / R-502	R-507	R-22 / R-407C
9 (31.7)	7-1/2 (26.4)	8 (28.1)	8 (28.1)	10 (35.2)
13 (45.7)	10 (35.2)	12 (42.2)	12 (42.2)	15 (52.8)
14 (49.2)	12 (42.2)	14 (49.2)	14 (49.2)	20 (70.3)
22 (77.4)	18 (63.3)	20 (70.3)	20 (70.3)	30 (105.5)
30 (105.5)	25 (87.9)	30 (105.5)	28 (98.5)	40 (140.8)

**NOMINAL CAPACITY TABLES FOR INTERCHANGEABLE REFRIGERANTS IN TONS (kW): TRAE 40-70 Ton**

R-134a	R-12	R-404A / R-507 / R-502	R-22 / R-407C
40 (140.8)	30 (105.5)	35 (123.1)	50 (175.8)
45 (158.3)	35 (123.1)	40 (140.8)	60 (211.0)
50 (175.8)	40 (140.8)	50 (175.8)	70 (246.2)

All capacities shown are at 100°F condensing, 40°F evaporator temperature. See Extended Capacity Tables for ratings at a wide range of conditions per AHRI standard 750.

**TRAE+ POWER ASSEMBLY MODEL NOMENCLATURE** - Example: X-28458HCA-2

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE LENGTH CODE
X-28458	H	CA	2
X-28458 = Drawing Number	H = R-22 M = R-134a R = R-502 S = R-404A	C = Medium Temp. CA = Heat Pump G(MOP) = Press. Limiting W(MOP) = Press. Limiting Z = Low Temp.	1 = 5 Ft. 2 = 10 Ft. 3 = 15 Ft.

**TRAE+ POWER ASSEMBLIES**

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
X-28458	H (R-22, R-407C)	CA (Heat Pump)	10 Ft.	X-28458HCA-2	063414
X-28458	H (R-22, R-407C)	W100 (MOP)	10 Ft.	X-28458HW100-2	063416
X-28458	S (R-404A, R-502, R-507)	C (Med. Temp.)	10 Ft.	X-28458SC-2	065439
X-28458	S (R-404A, R-502, R-507)	W45 (MOP)	10 Ft.	X-28458SW45-2	065298
X-28458	M (R-134a)	C (Medium Temp.)	15 Ft.	X-28458MC-3	063593

**TRAE+ CAGE KITS**

Cage kits are cross referenced by capacity and tonnage in the table below. Each cage kit consists of a replacement cage and cage removal wrench. In addition, the cage removal wrench (KT-20294) can be ordered as a separate item.

NOMINAL CAPACITY - TONS			MODEL NUMBER	ITEM NUMBER
R-22	R-12 / R-134a	R-507 / R-404A / R-502		
10	9	8	KT-20289	063387
15	13	12	KT-20290	063388
20	14	14	KT-20291	063389
30	22	20	KT-20292	063390
40	30	30	KT-20293	063391

Capacities shown are at 100° F condensing and 40° F evaporator temperature. See Extended Capacity Tables for ratings at a wide range of conditions.

**TRAE+ PARTS LIST**

DESCRIPTION	MODEL NUMBER	ITEM NUMBER
TRAE Series Cage Wrench	KT-20294	063392
Nut Seal	27676-1	058707



Capacity  
Tables (Tons)



## T-SERIES TAKE-APART THERMOSTATIC EXPANSION VALVES

*T-Series take-apart valves with adjustable superheat and replaceable, interchangeable components are ideal for air conditioning, heat pump, and refrigeration applications.*

### FEATURES

- Take-apart construction for easy field service
- External superheat adjustment
- Bi-directional capability
- Stainless steel power assembly up to 18 tons
- Interchangeable replaceable cages, body flanges, power assemblies
- 1/4 to 100 Tons Capacity

### SPECIFICATIONS

Maximum Working Pressure..... 450 psig (31 bar)  
 Torque Bolts ..... 300 In. Lbs

### MODEL NUMBER NOMENCLATURE - Example: **TCLC 3FC-03**

SERIES	TYPE	NAVY	EQUALIZER	BLEED HOLE	CAPACITY	SYSTEM REFRIGERANT CODE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
T	CL		E		3	F	C	-03		
Take-Apart Adjustable Superheat	CL, JL, JR = Small Capacity (1/2 to 18 Tons R-22)  ER, IR, HR, MR = Large Capacity, Balanced Port (22 to 100 Tons R-22)	N= Navy  (Omit for Standard)	E = External  (Omit for Internal and Omit on Externally Equalized TCLN, TER, THR, TIR, TMR Models)	B = Bleed Hole  (Omit for No Bleed Hole)	Nominal Rating in Tons	F = R-12 H = R-22 M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A	AA = Wide Range C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	-01 Thru -999	G = Cust. Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

### STEP 1: Select small capacity cage kit

### T-SERIES SMALL CAPACITY CAGE KITS

VALVE TYPE	NOMINAL CAPACITY - TONS							MODEL NUMBER	ITEM NUMBER
	R-12	R-134a	R-22	R-404A / R-507	R-407C	R-502	EQUALIZER		
TCL TCLC	1/4	1/4	1/2	1/4	1/2	1/4	Internal	X-22440-B1A	037034
	1/4	1/4	1/2	1/4	1/2	1/4	External	X-22440-B1B	037035
	1/2	3/4	1	1/2	1	1/2	Internal	X-22440-B2A	037036
	1/2	3/4	1	1/2	1	1/2	External	X-22440-B2B	037037
	1	1-1/5	2	1	2	1	Internal	X-22440-B3A	037038
	1	1-1/2	2	1	2	1	External	X-22440-B3B	037039
	2	2-1/2	3	2	3	2	Internal	X-22440-B4A	037040
	2	2-1/2	3	2	3	2	External	X-22440-B4B	037041
	3	3-1/2	5	3	5	3	External	X-22440-B5B	037043
	4	5-1/2	7-1/2	4-1/2	7-1/2	4-1/2	External	X-22440-B6B	037045
	6-1/2	7-1/2	10	7	10	7	External	X-22440-B7B	037047
7-1/2	9	12	8	12	8	External	X-22440-B8B	037049	
TJLE	7	9	11	7	11	7	External	XC-724-B4B	093343
	8	11	14	9	14	9	External	XC-724-B5B	038699
TJR	8	11	14	9	14	9	External	X-11873-B4B	088837
	11	13	18	12	18	12	External	X-11873-B5B	089058

Gasket strip X13455-1 (ITEM NUMBER 027579) replaces all older T-Series Gasket kits.

**STEP 2: Select Small Capacity Flange**

**T-SERIES SMALL CAPACITY FLANGES**

VALVE TYPE	CONFIGURATION	INLET CONNECTION	OUTLET CONNECTION	MODEL NUMBER	ITEM NUMBER
TCL,TCLE	Angle	3/8" SAE	1/2" SAE	C-500-4	056932
TCL,TCLE	Angle	3/8" SAE	5/8" SAE	C-500-5	057153
TCL,TCLE	Angle	1/2" SAE	5/8" SAE	C-500-6	056294
TCL,TCLE	Angle	3/8" ODF	1/2" ODF	C-501-4	065527
TCL,TCLE	Angle	3/8" ODF	5/8" ODF	C-501-5	065748
TCL,TCLE	Angle	1/2" ODF	5/8" ODF	C-501-7	065861
TCL,TCLE	Angle	5/8" ODF or 7/8" ODM	7/8" ODF or 1-1/8" ODM	A576	027764
TCL,TCLE	Straight Thru	3/8" SAE	1/2" SAE	X-6669-4	051176
TCL,TCLE	Straight Thru	3/8" SAE	5/8" SAE	X-6669-1	050563
TCL,TCLE	Straight Thru	1/2" SAE	1/2" SAE	X-6669-5	083378
TCL,TCLE	Straight Thru	1/2" SAE	5/8" SAE	X-6669-2	050842
TCL,TCLE	Straight Thru	3/8" ODF	1/2" ODF	9761-5	027769
TCL,TCLE	Straight Thru	3/8" ODF	5/8" ODF	9761-3	027771
TCL,TCLE	Straight Thru	1/2" ODF	1/2" ODF	9761-9	027766
TCL,TCLE	Straight Thru	1/2" ODF	5/8" ODF	9761-4	027268
TCL,TCLE	Straight Thru	1/2" ODF	7/8" ODF	9761-2	027770
TCL,TCLE	Straight Thru	5/8" ODF	5/8" ODF	X-6346-16	044733
TCL,TCLE	Straight Thru	5/8" ODF	7/8" ODF	X-6346-17	044846
TCL,TCLE	Straight Thru	5/8" ODF	1-1/8" ODF	X-6346-18	094038
TCL,TCLE	Straight Thru	7/8" ODF	1-1/8" ODF	X-6346-34	071757
TJLE	Angle	5/8" ODF or 7/8" ODM	7/8" ODF or 1-1/8" ODM	B504	044984
TJLE	Straight Thru	5/8" ODF	1-1/8" ODF	X-6347-2	094289
TJLE	Straight Thru	7/8" ODF	1-1/8" ODF	X-6347-6	057210
TJLE	Straight Thru	7/8" ODF	1-3/8" ODF	X-6347-7	057323
TJR	Angle	7/8" ODF or 1-1/8" ODM	7/8" ODF or 1-1/8" ODM	10331	029411
TJR	Straight Thru	7/8" ODF or 1-1/8" ODM	7/8" ODF or 1-1/8" ODM	10332	032988

**STEP 3: Select Power Assembly**

**POWER ASSEMBLY MODEL NOMENCLATURE - Example: XB-1019FC-1A**

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE LENGTH CODE	EQUALIZER
XB-1019	F	C	1	A
XB-1019 = Drawing Number	F = R-12 H = R-22 M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A	A = Medium & Low Temp. AA = Wide Range C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	1 = 5 Ft. 2 = 10 Ft. 3 = 15 Ft.	A = Internal B = External

**T-SERIES SMALL POWER ASSEMBLIES**

VALVE TYPE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAP LENGTH	EQUALIZER	MODEL NUMBER	ITEM NUMBER
TCL, TCLE, TJLE, TJR	F (R-12)	W15 (MOP)	5 Ft.	External	XB-1019FW15-1B	077063
	F (R-12)	W35 (MOP)	5 Ft.	External	XB-1019FW35-1B	079346
	F (R-12)	W55 (MOP)	10 Ft.	External	XB-1019FW55-2B	050981
	F (R-12)	W55 (MOP)	5 Ft.	External	XB-1019FW55-1B	057432
	F (R-12)	C (Med. Temp.)	10 Ft.	Internal	XB-1019FC-2A	032374
	F (R-12)	C (Med. Temp.)	10 Ft.	External	XB-1019FC-2B	052954
	F (R-12)	C (Med. Temp.)	15 Ft.	External	XB-1019FC-3B	058569
	F (R-12)	C (Med. Temp.)	5 Ft.	Internal	XB-1019FC-1A	052951
	F (R-12)	C (Med. Temp.)	5 Ft.	External	XB-1019FC-1B	049881
	H (R-22)	W100 (MOP)	10 Ft.	External	XB-1019HW100-2B	062658
H (R-22)	W100 (MOP)	5 Ft.	External	XB-1019HW100-1B	062437	

**T-SERIES SMALL POWER ASSEMBLIES (CONTINUED)**

VALVE TYPE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAP LENGTH	EQUALIZER	MODEL NUMBER	ITEM NUMBER
TCL, TCLE, TJLE, TJR	H (R-22)	W35 (MOP)	5 Ft.	External	XB-1019HW35-1B	089975
	H (R-22)	W55 (MOP)	5 Ft.	External	XB-1019HW55-1B	039152
	H (R-22)	W65 (MOP)	5 Ft.	External	XB-1019HW65-1B	089445
	H (R-22)	CA (Heat Pump)	5 Ft.	External	XB-1019HCA-1B	056039
	H (R-22)	Z (Low Temp.)	10 Ft.	External	XB-1019HZ-2B	054105
	H (R-22)	Z (Low Temp.)	5 Ft.	External	XB-1019HZ-1B	040568
	H (R-22)	C (Med. Temp.)	10 Ft.	External	XB-1019HC-2B	054390
	H (R-22)	C (Med. Temp.)	20 Ft.	External	XB-1019HW-4B	055703
	H (R-22)	C (Med. Temp.)	5 Ft.	Internal	XB-1019HC-1A	062078
	H (R-22)	C (Med. Temp.)	5 Ft.	External	XB-1019HC-1B	053416
	M (R-134a)	W55 (MOP)	5 Ft.	External	XB-1019MW55-1B	057370
	M (R-134a)	Z (Low Temp.)	5 Ft.	External	XB-1019MZ-1B	061946
	M (R-134a)	C (Med. Temp.)	10 Ft.	External	XB-1019MC-2B	059548
	M (R-134a)	C (Med. Temp.)	5 Ft.	External	XB-1019MC-1B	057878
	N (R-407C)	W100 (MOP)	5 Ft.	External	XB-1019NW100-1B	063069
	N (R-407C)	C (Med. Temp.)	5 Ft.	External	XB-1019NC-1B	064837
	P (R-507)	W40 (MOP)	5 Ft.	External	XB-1019PW40-1B	064200
	P (R-507)	Z (Low Temp.)	5 Ft.	External	XB-1019PZ-1B	061951
	P (R-507)	C (Med. Temp.)	5 Ft.	External	XB-1019PC-1B	061949
	R (R-502)	W15 (MOP)	5 Ft.	External	XB-1019RW15-1B	070346
	R (R-502)	W35 (MOP)	5 Ft.	External	XB-1019RW35-1B	063644
	R (R-502)	W45 (MOP)	10 Ft.	External	XB-1019RW45-2B	055704
	R (R-502)	W45 (MOP)	5 Ft.	External	XB-1019RW45-1B	055881
	R (R-502)	W65 (MOP)	5 Ft.	External	XB-1019RW65-1B	063114
	R (R-502)	Z (Low Temp.)	10 Ft.	External	XB-1019RZ-2B	047358
	R (R-502)	Z (Low Temp.)	5 Ft.	External	XB-1019RZ-1B	046474
	R (R-502)	C (Med. Temp.)	10 Ft.	External	XB-1019RC-2B	054415
	R (R-502)	C (Med. Temp.)	5 Ft.	External	XB-1019RC-1B	052955
	S (R-404A)	W40 (MOP)	5 Ft.	External	XB-1019SW40-1B	059130
	S (R-404A)	W65 (MOP)	5 Ft.	External	XB-1019SW65-1B	063541
	S (R-404A)	Z (Low Temp.)	10 Ft.	External	XB-1019SZ-2B	061948
	S (R-404A)	C (Med. Temp.)	5 Ft.	External	XB-1019SC-1B	059189

**STEP 1: Select Large Capacity Cage Kit**

**T-SERIES LARGE CAPACITY CAGE KITS**

VALVE TYPE	NOMINAL CAPACITY - TONS						EQUALIZER	MODEL NUMBER	ITEM NUMBER
	R-12	R-134a	R-22	R-404A / R-507	R-407C	R-502			
TER	13	16	22	14	22	14	External	X-9117-B6B	077896
TER	15	19	26	16	26	16	External	X-9117-B7B	078117
TER	20	25	35	21	35	21	External	X-9117-B8B	071155
TER	25	31	45	27	45	27	External	X-9117-B9B	029429
TIR	35	45	55	37	55	37	External	X-9166-B10B	070738
THR	35	45	55	37	55	37	External	X-9144-B10B	071238
THR	45	55	75	48	70	48	External	X-9144-B11B	020846
THR	55	68	85	60	85	60	External	X-9144-B13B	021067
TMR	55	68	100	60	100	—	External	X-9144-B14B	065123



Capacity  
Tables (Tons)

**STEP 2: Select Large Capacity Flange**

**T-SERIES LARGE CAPACITY FLANGES**

VALVE TYPE	CONFIGURATION	INLET CONNECTION	OUTLET CONNECTION	MODEL NUMBER	ITEM NUMBER
TER	Angle	7/8" ODF or 1-1/8" ODM	7/8" ODF or 1-1/8" ODM	9153	027919
TER	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
TIR	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
THR	Straight Thru	1-1/8" ODM	1-1/8" ODM	9148	028032
TMR	Angle	1-1/8" ODM	1-1/8" ODM	9149-1	065124
TMR	Straight Thru	1-1/8" ODM	1-1/8" ODM	9148-1	065125

**STEP 3: Select Power Assembly**

**POWER ASSEMBLY MODEL NOMENCLATURE** - Example: XB-1019FC-1A

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE LENGTH CODE	EQUALIZER
XB-1019	F	C	1	A
XB-1019 = Drawing Number	F = R-12 H = R-22 M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A	C = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	1 = 5 Ft. 2 = 10 Ft. 3 = 15 Ft.	A = Internal B = External

**T-SERIES LARGE POWER ASSEMBLIES**

VALVE TYPE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE	EQUALIZER	MODEL NUMBER	ITEM NUMBER
TER, TIR, THR, TMR	F (R-12)	W55 (MOP)	10 Ft.	External	XC-726FW55-2B	035000
	F (R-12)	C (Med. Temp.)	10 Ft.	External	XC-726FC-2B	052957
	H (R-22)	W100 (MOP)	10 Ft.	External	XC-726HW100-2B	036750
	H (R-22)	W35 (MOP)	10 Ft.	External	XC-726HW35-2B	024511
	H (R-22)	W65 (MOP)	10 Ft.	External	XC-726HW65-2B	025011
	H (R-22)	CA (Heat Pump)	10Ft.	External	XC-726HCA-2B	059333
	H (R-22)	Z (Low Temp.)	10 Ft.	External	XC-726HZ-2B	040569
	H (R-22)	C (Med. Temp.)	10 Ft.	External	XC-726HC-2B	056421
	M (R-134a)	M55 (MOP)	10 Ft.	External	XC-726MW55-2B	057372
	M (R-134a)	Z (Low Temp.)	10 Ft.	External	XC-726MZ-2B	063075
	M (R-134a)	C (Med. Temp.)	10 Ft.	External	XC-726MC-2B	057235
	R (R-502)	W15 (MOP)	10 Ft.	External	XC-726RW15-2B	023351
	R (R-502)	W35 (MOP)	10 Ft.	External	XC-726RW35-2B	070866
	R (R-502)	W65 (MOP)	10 Ft.	External	XC-726RW65-2B	071421
	R (R-502)	Z (Low Temp.)	10 Ft.	External	XC-726RZ-2B	046692
	R (R-502)	C (Med. Temp.)	10 Ft.	External	XC-726RC-2B	052958
	S (R-404A)	W40 (MOP)	10 Ft.	External	XC-726SW40-2B	063127
	S (R-404A)	W65 (MOP)	10 Ft.	External	XC-726SW65-2B	061692
S (R-404A)	Z (Low Temp.)	10 Ft.	External	XC-726SZ-2B	063974	
S (R-404A)	C (Med. Temp.)	10 Ft.	External	XC-726SC-2B	062303	
TCLE, TJLE, TJRE	R-12	Rapid Response	5 Ft.	External	X-8019FWS-1B	031654
	R-22	Rapid Response	10 Ft.	External	X-8019HWS-2B	055873
	R-22	Rapid Response	5 Ft.	External	X-8019HWS-1B	055652
	R-502	Rapid Response	10 Ft.	External	X-8019RWS-2B	042426
	R-502	Rapid Response	5 Ft.	Internal	X-8019RWS-1A	032131

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.

**T-SERIES THERMOSTATIC EXPANSION VALVES (Less Flange)**

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	EQUALIZER	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
F (R-12)	1/2	C (Med. Temp.)	External	5 Ft.	TCLE 1/2FC-01	054413
	1	C (Med. Temp.)	External	5 Ft.	TCLE 1FC-01	052940
	2	C (Med. Temp.)	External	5 Ft.	TCLE 2FC-03	052941
	3	C (Med. Temp.)	External	5 Ft.	TCLE 3FC-03	052942
	4	C (Med. Temp.)	External	5 Ft.	TCLE 4FC-03	052943
	6-1/2	C (Med. Temp.)	External	5 Ft.	TCLE 6-1/2FC-02	052944
	7-1/2	C (Med. Temp.)	External	5 Ft.	TCLE 7-1/2FC-03	052945
	8	C (Med. Temp.)	External	5 Ft.	TJLE 8FC-01	055104
	11	C (Med. Temp.)	External	5 Ft.	TJRE 11FC-01	055105
	20	C (Med. Temp.)	External	10 Ft.	TER 20FC-01	055109
25	C (Med. Temp.)	External	10 Ft.	TER 25FC-01	055111	
H (R-22)	1	C (Med. Temp.)	External	5 Ft.	TCLE 1HC-01	062884
	2	C (Med. Temp.)	External	5 Ft.	TCLE 2HC-03	061724
	3	C (Med. Temp.)	External	5 Ft.	TCLE 3HC-05	054395
	3	W100 (MOP)	External	5 Ft.	TCLE 3HW100-05	089943
	5	C (Med. Temp.)	External	5 Ft.	TCLE 5HC-02	054399
	7-1/2	C (Med. Temp.)	External	5 Ft.	TCLE 7-1/2HC-02	054401
	7-1/2	W100 (MOP)	External	5 Ft.	TCLE 7-1/2HW100-08	054079
	10	C (Med. Temp.)	External	5 Ft.	TCLE 10HC-03	054404
	10	W 100 (MOP)	External	5 Ft.	TCLE 10HW100-07	059076
	11	C (Med. Temp.)	External	5 Ft.	TJLE 11HC-01	060855
	12	C (Med. Temp.)	External	5 Ft.	TCLE 12HC-05	060854
	14	C (Med. Temp.)	External	5 Ft.	TJLE 14HC-04	060856
	14	C (Med. Temp.)	External	5 Ft.	TJRE 14HC-02	060857
	18	C (Med. Temp.)	External	5 Ft.	TJRE 18HC-05	060858
	22	C (Med. Temp.)	External	10 Ft.	TER 22HC-04	061673
	22	W100 MOP	External	10 Ft.	TER 22HW100-04	058582
	26	C (Med. Temp.)	External	10 Ft.	TER 26HC-05	061674
	35	C (Med. Temp.)	External	10 Ft.	TER 35HC-04	061675
	35	W 100 (MOP)	External	10 Ft.	TER 35HW100-02	058038
	45	C (Med. Temp.)	External	10 Ft.	TER 45HC-05	061676
75	C (Med. Temp.)	External	10 Ft.	THR 75HC-04	064961	
100	C (Med. Temp.)	External	10 Ft.	THR 100HC-03	062036	
100	W 100 (MOP)	External	10 Ft.	THR 100HW100-07	052912	
R (R-502)	2	C (Med. Temp.)	External	5 Ft.	TCLE 2RC-01	061215
	3	C (Med. Temp.)	External	5 Ft.	TCLE 3RC-01	055501
	8	C (Med. Temp.)	External	5 Ft.	TCLE 8RC-01	063501
	14	C (Med. Temp.)	External	10 Ft.	TER 14RC-01	060788

**T-SERIES PARTS LIST**

VALVE TYPE	DESCRIPTION	MODEL NUMBER	ITEM NUMBER
TLE	Packing Nut Wrench	E-642	039862
LCL, TLE, ZZ	Take-Apart Gasket Set	X-13455-1	027579
T-Series	Superheat Plug	X-28124-1	058336
TCL, TLE	Replacement Capscrews, 10 Pcs of Screw # PS-286-5	KT-30021	054569
TJR, TER	Replacement Capscrews 10 Pcs of Screw # PS-259	KT-30023	054571
TJLE, ANG	Replacement Capscrews 10 Pcs of Screw # PS-514-5	KT-30025	054573
TJLE	Replacement Capscrews 10 Pcs of Screw # PS-517-5	KT-30026	054574
TMR	Straight Thru	9148-1	065125





TLE 3HW75-01

## TLE SERIES THERMOSTATIC EXPANSION VALVES

The TLE Series is designed for air conditioning, heat pumps, transportation and commercial refrigeration. Take-apart construction improves serviceability with replaceable/interchangeable parts.

### FEATURES

- Stainless steel power element eliminates corrosion and prevents valve failure
- Non-adjustable superheat
- Bi-directional capability for heat pump applications (external equalizer required)
- Take-Apart construction for easy field service
- Interchangeable capacity cages, power assemblies and flanges available

### SPECIFICATIONS

Maximum Working Pressure..... 450 psig (31 bar)  
 Capscrew Torque..... 300 In. lbs.

### MODEL NUMBER NOMENCLATURE - Example: TLE 5HW-01

SERIES	EQUALIZER	BLEED HOLE	CAPACITY	SYSTEM REFRIGERANT CODE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
TL	E		5	H	W	-01		
Take-Apart	E = External 1/4" SAE Standard 1/4" ODF Available  (Omit for Internal)	B = Bleed Hole  (Omit for no Bleed Hole)	Nominal Rating in Tons	F = R-12 H = R-22 M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A	AA = Wide Range C or W = Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	-01 Thru -999	G = Customer Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

### TLE SERIES THERMOSTATIC EXPANSION VALVES

SYSTEM REFRIGERANT CODE	CAPACITY (NOMINAL TONNAGE)	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	BLEED	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
H (R-22) *R-407C	3	W (Med. Temp.)	Valve Less Flange	External	No	5 Ft.	TLE 3HW-01	041734
	3	W100 (MOP)	Valve Less Flange	External	No	5 Ft.	TLE 3HW100-02	053363
	3	W75 (MOP)	5/8" X 7/8" ODF (Straight-Thru)	External	No	5 Ft.	TLE 3HW75-01	041931
	5	W (Med. Temp)	Valve Less Flange	External	No	5 Ft.	TLE 5HW-01	054793
	10	W (Med. Temp)	Valve Less Flange	External	No	5 Ft.	TLE 10HW-01	055125

### TLE SERIES POWER ASSEMBLY NOMENCLATURE - Example: XB-1033HC-1B

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE LENGTH CODE	EQUALIZER
XB-1033	H	C	1	B
XB-1033 = Drawing Number	F = R-12 H = R-22 M = R-134a N = R-407C P = R-507 R = R-502 S = R-404A	C=Medium Temp. CA = Heat Pump W(MOP) = Press. Limiting Z = Low Temp.	1 = 5 Ft. 2 = 10 Ft. 3 = 15 Ft. 15 = 30 In.	A = Internal B = External

**TLE SERIES POWER ASSEMBLIES**

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAP LENGTH	EQUALIZER	MODEL NUMBER	ITEM NUMBER
XB-1033	F (R-12)	W25 (MOP)	5 Ft.	External	XB-1033FW25-1B	083765
XB-1033	H (R-22)	C (Med. Temp.)	5 Ft.	External	XB-1033HC-1B	061760
XB-1033	H (R-22)	W (Wide Range)	30 In.	Internal	XB-1033HW-15A	077201
XB-1033	H (R-22)	W75 (MOP)	5 Ft.	External	XB-1033HW75-1B	089748
XB-1033	H (R-22)	W100 (MOP)	30 In.	External	XB-1033HW100-15B	095534
XB-1033	H (R-22)	W100 (MOP)	5 Ft.	External	XB-1033HW100-1B	095813
XB-1033	H (R-22)	W90 (MOP)	5 Ft.	External	XB-1033HW90-1B	090082

**TLE SERIES CAGE KITS**

R-12	R-134a	R-22 / R-407C	R-404A / R-507 / R-502	MODEL NUMBER	ITEM NUMBER
1/4	1/4	1/2	1/4	X-22517-B1B	041551
1	1-1/2	2	1	X-22517-B3B	041556
2	2-1/2	3	2	X-22517-B4A	041560
2	2-1/2	3	2	X-22517-B4B	041558
3	3-1/2	5	3	X-22517-B5B	041562
4	5-1/2	7-1/2	4-1/2	X-22517-B6B	041564
6-1/2	7-1/2	10	7	X-22517-B7B	041566

Capacities shown are at 100°F condensing and 40°F evaporator temperature. See Extended Capacity Tables for ratings at a wide range of conditions.

**TLE SERIES FLANGES**

CONFIGURATION	INLET CONNECTION	OUTLET CONNECTION	MODEL NUMBER	ITEM NUMBER
Angle	1/2" ODF	5/8" ODF	C-501-7	065861
Angle	1/2" SAE	5/8" SAE	C-500-6	056294
Angle	3/8" ODF	1/2" ODF	C-501-4	065527
Angle	3/8" ODF	5/8" ODF	C-501-5	065748
Angle	3/8" SAE	1/2" SAE	C-500-4	056932
Angle	3/8" SAE	5/8" SAE	C-500-5	057153
Straight Thru	1/2" ODF	1/2" ODF	9761-9	027766
Straight Thru	1/2" ODF	5/8" ODF	9761-4	027268
Straight Thru	1/2" ODF	7/8" ODF	9761-2	027770
Straight Thru	1/2" SAE	1/2" SAE	X-6669-5	083378
Straight Thru	1/2" SAE	5/8" SAE	X-6669-2	050842
Straight Thru	3/8" ODF	1/2" ODF	9761-5	027769
Straight Thru	3/8" ODF	5/8" ODF	9761-3	027771
Straight Thru	3/8" SAE	1/2" SAE	X-6669-4	051176
Straight Thru	3/8" SAE	5/8" SAE	X-6669-1	050563
Straight Thru	5/8" ODF	1-1/8" ODF	X-6346-18	094038
Straight Thru	5/8" ODF	5/8" ODF	X-6346-16	044733
Straight Thru	5/8" ODF	7/8" ODF	X-6346-17	044846
Straight Thru	7/8" ODF	1-1/8" ODF	X-6346-34	071757



TIE SW 802460

## TI SERIES THERMOSTATIC EXPANSION VALVES

The TI Series has interchangeable cages capable of changing valve capacity in the field.

### FEATURES

- Stainless steel power element eliminates corrosion and prevents valve failure
- Wrench flats on inlet and outlet
- Forged brass valve body
- Inlet strainer assembly

### SPECIFICATIONS

Inlet Connection Size.....3/8" SAE, Outlet 1/2" SAE  
 Maximum Working Pressure..... 652 psig (45 bar)  
 Maximum Bulb Temperature ..... 165°F (74°C)

### TI SERIES CAGES

CAGE SIZE	NOMINAL CAPACITY (kW)			MODEL NUMBER	ITEM NUMBER
	R-134a	R-22/R-407C	R-404A / R-507		
00	0.3	0.5	0.4	TIO-00X 800532	065087
0	0.8	1.3	1	TIO-000 800533	065088
1	1.9	3.2	2.3	TIO-001 800534	065090
2	3.1	5.3	3.9	TIO-002 800535	065091
3	5	8.5	6.2	TIO-003 800536	065092
4	8.3	13.9	10.1	TIO-004 800537	065093
5	10.1	16.9	12.3	TIO-005 800538	065094
6	11.7	19.5	14.2	TIO-006 800539	065095

NOTE: Nominal capacities in this section are based on European standards of +38°C condensing temperature, +4°C evaporating temperature and 1°K liquid subcooling at the inlet of the expansion valve. This methodology varies from the rest of the capacity tables in the TXV product offering.

### MODEL NUMBER NOMENCLATURE BODIES

SERIES	EQUALIZER	SYSTEM REFRIGERANT CODE	CHARGE CODE	UNIQUE IDENTIFIER
TI	E	H	W	800533
Interchangeable Cage Capacities	E = External (Omit for Internal)	F = R-12 H = R-22 M = R-134a P = R-507 S = R-404A	C or W= Medium Temp. W (MOP) = Press. Limiting	

### TI SERIES BODIES - Flare Type

EQUALIZER	SYSTEM REFRIGERANT CODE	CHARGE CODE	INLET X OUTLET SIZE	MODEL NUMBER	ITEM NUMBER
External	H (R-22/R-407C)	W ( Med. Temp.)	3/8" X 1/2" SAE	TIE-HW 802421	066390
External	M (R-134a)	W ( Med. Temp.)	3/8" X 1/2" SAE	TIE-MW 802446	066388
External	S (R-404A/R-507)	W ( Med. Temp.)	3/8" X 1/2" SAE	TIE-SW 802460	066392
Internal	H (R-22/R-407C)	W ( Med. Temp.)	3/8" X 1/2" SAE	TI-HW 802420	066389
Internal	M (R-134a)	W ( Med. Temp.)	3/8" X 1/2" SAE	TI-MW 802445	066387
Internal	S (R-404A/R-507)	W ( Med. Temp.)	3/8" X 1/2" SAE	TI-SW 802459	066391

NOTE: Evaporating temperature range -10°F to 40°F.



## ZZ SERIES THERMOSTATIC EXPANSION VALVES

The ZZ series is designed for ultra low temperature applications such as environmental test chambers and other applications where the desired evaporator temperature is below -40°F.

### FEATURES

- Take-apart construction for easy field service
- Improved internal construction extends valve life
- External equalizer standard
- Exclusive cage bellows eliminates friction at low temperatures
- External superheat adjustment
- Interchangeable cages, power assemblies and flanges

### SPECIFICATIONS

Maximum Working Pressure..... 450 psig (31 bar)

### ZZ SERIES CAGE KITS

VALVE	MODEL NUMBER	ITEM NUMBER
ZZC1BG, ZZC3/4RHW, ZZC3/4RW	X-10110-B1B	021288
ZZC2-1/2BG, ZZC1-1/2HW, ZZC1-1/2RW	X-10110-B2B	020871
ZZC4BG, ZZC2-1/2HW, ZZC2-1/2RW	X-10110-B3B	096091
ZZC6BG, ZZC4HW, ZZC3-1/2RW	X-10110-B4B	096312
ZZC9BG, ZZC6HW, ZZC5RW	X-10110-B5B	096425
ZZC13BG, ZZC8HW, ZZC8RW	X-10110-B6B	096646
ZZER6BG, ZZER4HW, ZZC3-1/2RW	X-10059-B4B	045362
ZZER9BG, ZZER6HW, ZZER5RW	X-10059-B5B	033697
ZZER20BG, ZZER12HW, ZZER11RW	X-10059-B6B	030071
ZZER21BG, ZZER13HW, ZZER13RW	X-10059-B7B	025100
ZZER29BG, ZZER18HW, ZZER18RW	X-10059-B8B	025101
ZZJR48BG, ZZJR30HW, ZZJR29RW	X-10060-B10B	025090
ZZJR16BG, ZZJR10HW, ZZJR9RW	X-10111-B5B	089306

### ZZ-SERIES FLANGES

CONFIGURATION	INLET CONNECTION	OUTLET CONNECTION	MODEL NUMBER	ITEM NUMBER
Straight Thru	1/2" ODF	7/8" ODF	9761-2	027770
Straight Thru	3/8" ODF	5/8" ODF	9761-3	027771
Straight Thru	1/2" ODF	5/8" ODF	9761-4	027268
Straight Thru	3/8" ODF	1/2" ODF	9761-5	027769
Straight Thru	1/2" ODF	1/2" ODF	9761-9	027766
Angle	3/8" SAE	1/2" SAE	C-500-4	056932
Angle	3/8" SAE	5/8" SAE	C-500-5	057153
Angle	1/2" SAE	5/8" SAE	C-500-6	056294
Angle	3/8" SAE	1/2" ODF	C-501-4	065527
Angle	3/8" SAE	5/8" ODF	C-501-5	065748
Angle	1/2" SAE	5/8" ODF	C-501-7	065861

## ZZ SERIES POWER ASSEMBLY MODEL NOMENCLATURE - Example: XC-726BG30-2B

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE LENGTH CODE	EQUALIZER
XC-726	B	G30	2	B
XC-726 = Drawing Number	B = R-13/R-23 H = R-22 R = R-502	G(MOP) = Press. Limiting W(MOP) = Press. Limiting Z = Low Temp.	1 = 5 Ft. 2 = 10 Ft. 3 = 15 Ft.	B = External

## ZZ SERIES POWER ASSEMBLIES

PRINT REFERENCE	SYSTEM REFRIGERANT CODE	CHARGE CODE	CAPILLARY TUBE	EQUALIZER	MODEL NUMBER	ITEM NUMBER
XC-726	B (R-13, R-23)	G30 (MOP)	10 Ft.	External	XC-726BG30-2B	094594
XC-726	B (R-13, R-23)	G125 (MOP)	10 Ft.	External	XC-726BG125-2B	039130
XC-726	H (R-22)	W35 (MOP)	10 Ft.	External	XC-726HW35-2B	024511
XC-726	H (R-22)	W65 (MOP)	10 Ft.	External	XC-726HW65-2B	025011
XC-726	H (R-22)	W85 (MOP)	15 Ft.	External	XC-726HW85-3B	023357
XC-726	H (R-22)	W100 (MOP)	10 Ft.	External	XC-726HW100-2B	036750
XC-726	H (R-22)	Z (Low Temp.)	10 Ft.	External	XC-726HZ-2B	040569

## REPLACEMENT GASKET SET

MODEL NUMBER	ITEM NUMBER
X-13455-1	027579

Gasket Set includes necessary body flange gasket & seat gasket.



## LCL SERIES DESUPERHEATING VALVES

The LCL take-apart Series is a de-superheating (liquid injection) valve used in conjunction with hot gas bypass to prevent excessive suction line superheat. LCL valves can be used for interstage cooling in compound systems.

### FEATURES

- Stainless steel power element prevents corrosion and valve failure
- Take-apart construction for easy field service
- Interchangeable cages, body flanges, and power assemblies for versatility
- External superheat adjustment

### SPECIFICATIONS

Maximum Working Pressure..... 450 psig (31 bar)

### MODEL NUMBER NOMENCLATURE - Example: LCLE 1A-02

VALVE SERIES	EQUALIZER	VALVE SIZE	CHARGE CODE	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
LCL	E	1	A	-02		
De-Superheating Liquid Injection	E = External 1/4" SAE  (Omit for Internal)	Valve Size  (Contact application engineer for sizing)	See Charge Codes Table for Selection of A, B, or C	-01 Thru -99	G = Customer Special  (Omit for Standard)	B1 = Bulk Pack  (Omit for Individual Pack)

### LCL SERIES THERMOSTATIC EXPANSION VALVES

VALVE SIZE	CHARGE CODE	INLET X OUTLET CONNECTION	EQUALIZER	CAP LENGTH	MODEL NUMBER	ITEM NUMBER
1	A	Valve Less Flange	External	5 Ft.	LCLE 1A-02	055096
1	A	Valve Less Flange	Internal	5 Ft.	LCL 1A-01	022018
1	B	Valve Less Flange	Internal	5 Ft.	LCL 1B-01	022017
2	A	Valve Less Flange	External	5 Ft.	LCLE 2A-01	022003
2	A	Valve Less Flange	Internal	5 Ft.	LCL 2A-01	022005
2	B	Valve Less Flange	External	5 Ft.	LCLE 2B-01	021997
2	B	Valve Less Flange	Internal	5 Ft.	LCL 2B-01	021996
2	C	1/2" X 5/8" ODF ANG	External	5 Ft.	LCLE 2C-01	064297
2	C	Valve Less Flange	Internal	5 Ft.	LCL 2C-01	045527
3	A	Valve Less Flange	External	5 Ft.	LCLE 3A-01	021991
3	A	Valve Less Flange	Internal	5 Ft.	LCL 3A-02	055093
3	B	Valve Less Flange	External	5 Ft.	LCLE 3B-01	021985
3	B	Valve Less Flange	Internal	5 Ft.	LCL 3B-01	021987
4	A	Valve Less Flange	External	5 Ft.	LCLE 4A-01	062885
4	B	Valve Less Flange	External	5 Ft.	LCLE 4B-01	061054
4	C	Valve Less Flange	External	5 Ft.	LCLE 4C-01	055097
6	A	Valve Less Flange	Internal	5 Ft.	LCL 6A-01	047759
6	B	Valve Less Flange	Internal	5 Ft.	LCL 6B-01	021961

**LCL SERIES CHARGE CODES**

SATURATED SUCTION	REFRIGERANT					
	R-22		R-134a		R-404a / R-507	
	REQUIRED SUCTION GAS		REQUIRED SUCTION GAS		REQUIRED SUCTION GAS	
TEMPERATURE	45°F	65°F	45°F	65°F	45°F	65°F
40°F	—	A	—	B	—	—
30°F	—	A	B	B	—	A
20°F	A	B	B	C	—	A
10°F	B	B	B	C	A	B
0°F	B	B	C	C	A	B
-10°F	B	C	C	C	B	B
-20°F	B	C	C	C	B	C
-30°F	C	C	C	C	B	C
-40°F	C	C	C	C	B	C

**LCL SERIES CAGE KITS**

VALVE	CAPACITY RANGE REFERENCE (TONS)	R-12	R-22	R-134a	R-404A / R-507	R-502	R-407C	EQUALIZER	MODEL NUMBER	ITEM NUMBER
TCL, LCL	1/4 to 1/2	1/4	1/2	1/4	1/4	1/4	1/2	Internal	X-22440-B1A	037034
TCLE, LCLE	1/4 to 1/2	1/4	1/2	1/4	1/4	1/4	1/2	External	X-22440-B1B	037035
TCL, LCL	1/2 to 1	1/2	1	3/4	1/2	1/2	1	Internal	X-22440-B2A	037036
TCLE, LCLE	1/2 to 1	1/2	1	3/4	1/2	1/2	1	External	X-22440-B2B	037037
TCL, LCL	1 to 2	1	2	1-1/2	1	1	2	Internal	X-22440-B3A	037038
TCLE, LCLE	1 to 2	1	2	1-1/2	1	1	2	External	X-22440-B3B	037039
TCL, LCL	2 to 3	2	3	2-1/2	2	2	3	Internal	X-22440-B4A	037040
TCLE, LCLE	2 to 3	2	3	2-1/2	2	2	3	External	X-22440-B4B	037041
TCLE, LCLE	3 to 5	3	4	3-1/2	3	3	5	External	X-22440-B5B	037043
TCLE, LCLE	4 to 7-1/2	4	7-1/2	5-1/2	4-1/2	4-1/2	7-1/2	External	X-22440-B6B	037045
TCLE, LCLE	6-1/2 to 10	6-1/2	10	7-1/2	7	7	10	External	X-22440-B7B	037047
TCLE, LCLE	7-1/2 to 12	7-1/2	12	9	8	8	12	External	X-22440-B8B	037049

**LCL SERIES FLANGES**

VALVE SERIES	CONFIGURATION	INLET CONNECTION	OUTLET CONNECTION	MODEL NUMBER	ITEM NUMBER
LCL,LCLE	Angle	3/8" SAE	1/2" SAE	C-500-4	056932
LCL,LCLE	Angle	3/8" SAE	5/8" SAE	C-500-5	057153
LCL,LCLE	Angle	1/2" SAE	5/8" SAE	C-500-6	056294
LCL,LCLE	Angle	3/8" ODF	1/2" ODF	C-501-4	065527
LCL,LCLE	Angle	3/8" ODF	5/8" ODF	C-501-5	065748
LCL,LCLE	Angle	1/2" ODF	5/8" ODF	C-501-7	065861
LCL,LCLE	Angle	5/8" ODF or 7/8" ODM	7/8" ODF or 1-1/8" ODM	A-576	027764
LCL,LCLE	Straight Thru	3/8" SAE	1/2" SAE	X-6669-4	051176
LCL,LCLE	Straight Thru	3/8" SAE	5/8" SAE	X-6669-1	050563
LCL,LCLE	Straight Thru	1/2" SAE	1/2" SAE	X-6669-5	083378
LCL,LCLE	Straight Thru	1/2" SAE	5/8" SAE	X-6669-2	050842
LCL,LCLE	Straight Thru	3/8" ODF	1/2" ODF	9761-5	027769
LCL,LCLE	Straight Thru	3/8" ODF	5/8" ODF	9761-3	027771
LCL,LCLE	Straight Thru	1/2" ODF	1/2" ODF	9761-9	027766
LCL,LCLE	Straight Thru	1/2" ODF	5/8" ODF	9761-4	027268
LCL,LCLE	Straight Thru	1/2" ODF	7/8" ODF	9761-2	027770
LCL,LCLE	Straight Thru	5/8" ODF	5/8" ODF	X-6346-16	044733
LCL,LCLE	Straight Thru	5/8" ODF	7/8" ODF	X-6346-17	044846
LCL,LCLE	Straight Thru	5/8" ODF	1-1/8" ODF	X-6346-18	094038
LCL,LCLE	Straight Thru	7/8" ODF	1-1/8" ODF	X-6346-34	071757

**LCL SERIES POWER ASSEMBLY MODEL NOMENCLATURE** - Example: XB-1019A-1A

PRINT REFERENCE	CHARGE CODE	CAPILLARY TUBE LENGTH	EQUALIZER
XB-1019	A	1	A
XB-1019 = Drawing Number	A B C  See LCL Series Charge Code Table for Suction Gas Temperature by Gas Type	1 = 5 Ft.	A = Internal B = External

**LCL SERIES POWER ASSEMBLIES**

PRINT REFERENCE	CHARGE CODE	CAPILLARY TUBE	EQUALIZER	MODEL NUMBER	ITEM NUMBER
XB-1019	A	5 Ft.	Internal	XB-1019A-1A	037389
XB-1019	A	5 Ft.	External	XB-1019A-1B	034803
XB-1019	B	5 Ft.	External	XB-1019B-1B	032207
XB-1019	C	5 Ft.	External	XB-1019C-1B	035162

**REPLACEMENT GASKET SET**

MODEL NUMBER	ITEM NUMBER
X-13455-1	027579

Gasket Set includes necessary body flange gasket & seat gasket.



## ACP AUTOMATIC VALVES



ACP 4-07

ACP valves are designed for small units where heat load is reasonably constant. ACP's are ideal for room air conditioners, refrigerators, drink dispensers, coolers, freezers and ice makers.

### FEATURES

- Friction-free floating design
- Hermetic, leak-free construction
- Can be used as a small capacity hot gas bypass valve
- Mass spectrometer tested to ensure less than 0.10 oz/year external leakage rate
- Fully adjustable from 0-80 psig (factory setting 40 psig)
- Available with internal or external equalizer
- SAE or ODF connections available

### SPECIFICATIONS

Maximum Working Pressure..... 500 psig (35 bar)  
 Maximum Working Temperature..... 300°F (149°C)  
 UR/CUR File Number ..... SA5312  
 Canadian CRN ..... 0C21506.513467890YTN

### MODEL NUMBER NOMENCLATURE - Example: ACPE 4-02

SERIES	EQUALIZER	PORT DIAMETER	SEQUENTIAL IDENTIFIER	CUSTOMER SPECIAL	PACK TYPE
ACP	E	4	-01	G	
Valve Series	E = External (Omit for Internal)	1 = 0.05" 2 = 0.06" 3 = 0.1" 4 = 0.11" 5 = 0.13" 6 = 0.14" 7 = 0.17" 8 = 0.2" 9 = 0.23"	-01 Thru -99	G = Customer Special (Omit for Standard)	B1 = Bulk Pack (Omit for Individual Pack)

### NOMINAL CAPACITY TABLES FOR INTERCHANGEABLE REFRIGERANTS IN TONS (kW)

VALVE	PORT DIAMETER (IN)	R-12/R-134a	R-407C/R-22	R-502/R-404A/R-507
		PRESSURE DROP ACROSS VALVE – PSI		
		60	100	100
ACP(E)1	0.05	0.31	0.44	0.29
ACP(E)2	0.06	0.41	0.57	0.38
ACP(E)3	0.10	0.65	0.91	0.61
ACP(E)4	0.11	0.90	1.30	0.87
ACP(E)5	0.13	1.40	1.96	1.31
ACP(E)6	0.14	1.90	2.67	1.78
ACP(E)7	0.17	2.30	3.28	2.19
ACP(E)8	0.20	2.70	3.75	2.50
ACP(E)9	0.23	3.80	5.32	3.55

All capacities shown are at 100°F condensing, 40°F evaporator temperature.  
 See Extended Capacity Tables for ratings at a wide range of conditions per AHRI standard 750.

**ACP AUTOMATIC VALVES**

ACP TYPE	EQUALIZER	EQUALIZER TYPE	PORT REFERENCE	BODY STYLE	INLET X OUTLET CONNECTION	MODEL NUMBER	ITEM NUMBER
ACP	Internal	—	1	Straight Thru	1/4" X 3/8" ODF	ACP 1-12	057233
ACP	Internal	—	1	Angle	1/4" X 3/8" ODF	ACP 1-13	047680
ACP	Internal	—	1	Angle	1/4" X 3/8-1/2" SAE	ACP 1-14	046838
ACP	Internal	—	1	Angle	1/4" X 3/8" SAE	ACP 1-15	056240
ACPE	External	1/4" SAE	1	Straight Thru	1/4" X 3/8" SAE	ACPE 1-03	047280
ACP	Internal	—	2	Angle	1/4" X 3/8" SAE	ACP 2-14	046839
ACP	Internal	—	2	Angle	1/4" X 3/8" ODF	ACP 2-15	047651
ACP	Internal	—	3	Angle	1/4" X 3/8" SAE	ACP 3-12	046840
ACP	Internal	—	3	Angle	1/4" X 3/8" ODF	ACP 3-13	047283
ACP	Internal	—	4	Angle	1/4" X 3/8" SAE	ACP 4-06	047101
ACP	Internal	—	4	Angle	1/4" X 3/8" ODF	ACP 4-07	047105
ACPE	External	1/4" SAE	4	Angle	1/4" X 3/8" ODF	ACPE 4-02	053231
ACP	Internal	—	5	Angle	1/4" X 3/8" SAE	ACP 5-11	047332
ACP	Internal	—	5	Angle	1/4" X 3/8" ODF	ACP 5-12	047284
ACP	Internal	—	5	Angle	3/8" X 3/8" ODF	ACP 5-13	053374
ACP	Internal	—	5	Angle	3/8" X 3/8-1/2" SAE	ACP 5-14	049204
ACP	Internal	—	6	Angle	1/4" X 3/8" SAE	ACP 6-05	047653
ACP	Internal	—	6	Angle	1/4" X 3/8" ODF	ACP 6-06	047652
ACP	Internal	—	6	Angle	3/8" X 3/8" ODF	ACP 6-07	065922
ACP	Internal	—	7	Angle	3/8" X 1/2" ODF	ACP 7-09	047654
ACP	Internal	—	7	Angle	3/8" X 3/8-1/2" SAE	ACP 7-10	047285
ACPE	External	1/4" SAE	7	Angle	3/8" X 1/2" ODF	ACPE 7-02	047790
ACP	Internal	—	8	Angle	3/8" X 1/2" ODF	ACP 8-06	047655
ACP	Internal	—	9	Angle	1/2" X 5/8" ODF	ACP 9-11	057771
ACP	Internal	—	9	Angle	3/8" X 1/2" ODF	ACP 9-12	047657
ACP	Internal	—	9	Straight Thru	3/8" X 3/8" SAE	ACP 9-13	057327
ACP	Internal	—	9	Angle	3/8" X 3/8" ODF	ACP 9-14	057209
ACP	Internal	—	9	Angle	3/8" X 3/8-1/2" SAE	ACP 9-15	047658
ACP	Internal	—	9	Angle	1/4" X 3/8" ODF	ACP 9-16	052773
ACPE	External	1/4" SAE	9	Straight Thru	1/2" X 5/8" ODF	ACPE 9-09	058674
ACPE	External	1/4" ODF	9	Angle	3/8" X 1/2" ODF	ACPE 9-10	057017
ACPE	External	1/4" SAE	9	Straight Thru	3/8" X 1/2" ODF	ACPE 9-11	048657

Capacity  
Tables (kW)



# CONVENTIONAL PORTED VALVE CAPACITY TABLES

## R-12 CONVENTIONAL PORTED VALVES (TONS) – A SERIES AND T SERIES

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/8	0.20	0.23	0.26	0.29	0.32	0.34	0.20	0.23	0.26	0.29	0.32	0.34	0.19	0.22	0.25	0.27	0.30	0.32
AA/AN/AAC/ANC/AFA	1/4	0.35	0.40	0.45	0.51	0.55	0.60	0.34	0.39	0.44	0.49	0.54	0.58	0.33	0.38	0.43	0.48	0.52	0.56
AA/AN/AAC/ANC/AFA	1/2	0.56	0.65	0.72	0.81	0.89	0.96	0.55	0.64	0.71	0.79	0.87	0.94	0.53	0.61	0.68	0.76	0.84	0.91
AA/AN/AAC/ANC/AFA	1	0.80	0.92	1.03	1.15	1.26	1.37	0.79	0.91	1.02	1.14	1.25	1.35	0.76	0.88	0.98	1.10	1.20	1.30
AA/AN/AAC/ANC/AFA	1-1/2	1.66	1.92	2.14	2.40	2.62	2.83	1.63	1.88	2.10	2.35	2.58	2.78	1.58	1.80	2.01	2.25	2.47	2.66
AA/AN/AAC/ANC/AFA	2	2.04	2.36	2.63	2.94	3.23	3.48	2.00	2.31	2.58	2.89	3.16	3.42	1.92	2.22	2.48	2.77	3.04	3.28
AA/AN/AAC/ANC/AFA	2-1/2	2.42	2.79	3.12	3.49	3.83	4.13	2.37	2.74	3.06	3.42	3.75	4.05	2.28	2.63	2.94	3.29	3.60	3.89
AA/AN/AAC/ANC/AFA	3	3.31	3.82	4.27	4.78	5.23	5.65	3.24	3.74	4.18	4.68	5.12	5.53	3.11	3.59	4.01	4.49	4.92	5.31
TCLE	1/4	0.30	0.35	0.38	0.43	0.47	0.51	0.30	0.35	0.39	0.43	0.47	0.51	0.28	0.32	0.36	0.40	0.44	0.48
TCLE	1/2	0.57	0.66	0.74	0.82	0.90	0.97	0.56	0.65	0.72	0.81	0.89	0.96	0.53	0.61	0.68	0.76	0.84	0.91
TCLE	1	1.15	1.33	1.48	1.66	1.82	1.96	1.13	1.30	1.48	1.63	1.79	1.93	1.08	1.25	1.39	1.56	1.71	1.84
TCLE	2	2.12	2.45	2.74	3.06	3.35	3.62	2.08	2.40	2.69	3.00	3.29	3.55	1.99	2.30	2.57	2.84	3.15	3.40
TCLE	3	3.09	3.57	3.99	4.46	4.89	5.28	3.03	3.50	3.91	4.37	4.79	5.17	2.90	3.35	3.74	4.19	4.59	4.95
TCLE	4	4.48	5.17	5.78	6.47	7.08	7.65	4.39	5.07	5.67	6.34	6.94	7.50	4.21	4.86	5.44	6.08	6.66	7.19
TCLE	6-1/2	6.17	7.12	7.97	8.91	9.76	10.54	6.05	6.99	7.81	8.73	9.57	10.33	5.80	6.70	7.49	8.37	9.17	9.91
TCLE	7-1/2	7.44	8.59	9.60	10.74	11.76	12.71	7.30	8.43	9.42	10.54	11.54	12.47	7.00	8.08	9.04	10.10	11.07	11.95
TJL	7	6.59	7.51	8.51	9.51	10.42	11.25	6.47	7.47	8.35	9.34	10.23	11.05	6.20	7.16	8.00	8.95	9.80	10.59
TJL	8	8.41	9.71	10.86	12.14	13.30	14.36	8.25	9.53	10.65	11.91	13.04	14.09	7.91	9.13	10.21	11.42	12.51	13.51

NOTE: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 60 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/8	0.17	0.2	0.22	0.25	0.27	0.29	0.13	0.15	0.16	0.18	0.19	0.21	0.08	0.09	0.1	0.11	0.12	0.13
AA/AN/AAC/ANC/AFA	1/4	0.29	0.33	0.37	0.42	0.46	0.5	0.23	0.26	0.29	0.31	0.34	0.36	0.15	0.17	0.19	0.21	0.22	0.24
AA/AN/AAC/ANC/AFA	1/2	0.47	0.54	0.61	0.68	0.74	0.8	0.37	0.41	0.46	0.51	0.55	0.59	0.24	0.27	0.3	0.33	0.35	0.38
AA/AN/AAC/ANC/AFA	1	0.67	0.77	0.86	0.97	1.06	1.14	0.53	0.59	0.66	0.73	0.78	0.84	0.34	0.38	0.43	0.47	0.5	0.54
AA/AN/AAC/ANC/AFA	1-1/2	1.39	1.61	1.79	2.01	2.2	2.37	1.09	1.22	1.36	1.49	1.61	1.72	0.71	0.79	0.89	0.97	1.05	1.12
AA/AN/AAC/ANC/AFA	2	1.7	1.96	2.19	2.45	2.69	2.9	1.33	1.49	1.66	1.82	1.97	2.1	0.87	0.97	1.09	1.19	1.29	1.38
AA/AN/AAC/ANC/AFA	2-1/2	2.02	2.33	2.61	2.92	3.19	3.45	1.58	1.77	1.98	2.16	2.34	2.50	1.03	1.15	1.29	1.41	1.52	1.63
AA/AN/AAC/ANC/AFA	3	2.76	3.19	3.56	3.98	4.36	4.71	2.16	2.41	2.7	2.96	3.19	3.42	1.4	1.57	1.75	1.92	2.07	2.21
TCLE	1/4	0.25	0.29	0.32	0.36	0.4	0.43	0.2	0.22	0.25	0.27	0.3	0.32	0.13	0.15	0.16	0.18	0.19	0.21
TCLE	1/2	0.47	0.54	0.61	0.68	0.74	0.8	0.37	0.41	0.46	0.51	0.55	0.59	0.24	0.27	0.3	0.33	0.35	0.38
TCLE	1	0.96	1.11	1.24	1.39	1.52	1.64	0.75	0.84	0.94	1.03	1.11	1.19	0.49	0.55	0.61	0.67	0.72	0.77
TCLE	2	1.76	2.03	2.27	2.54	2.78	3.01	1.38	1.54	1.73	1.89	2.04	2.18	0.9	1.01	1.13	1.23	1.33	1.42
TCLE	3	2.57	2.97	3.32	3.71	4.06	4.39	2.01	2.25	2.51	2.75	2.97	3.18	1.31	1.46	1.64	1.79	1.94	2.07
TCLE	4	3.73	4.31	4.82	5.38	5.9	6.37	2.92	3.26	3.65	4	4.32	4.62	1.9	2.12	2.38	2.6	2.81	3
TCLE	6-1/2	5.14	5.94	6.64	7.42	8.13	8.78	4.03	4.51	5.04	5.52	5.96	6.37	2.62	2.93	3.28	3.59	3.88	4.14
TCLE	7-1/2	6.2	7.16	8	8.95	9.8	10.59	4.86	5.43	6.08	6.65	7.19	7.68	3.16	3.53	3.95	4.33	4.67	5
TJL	7	5.49	6.34	7.09	7.92	8.68	9.38	4.3	4.81	5.38	5.89	6.36	6.8	2.8	3.13	3.5	3.83	4.14	4.43
TJL	8	7	8.08	9.04	10.1	11.07	11.95	5.49	6.14	6.86	7.52	8.12	8.68	3.57	3.99	4.46	4.89	5.28	5.64

## REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-22 CONVENTIONAL PORTED VALVES (TONS) A SERIES | AFA SERIES | T SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F					40°F					20°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/5	0.15	0.17	0.19	0.22	0.24	0.26	0.15	0.17	0.19	0.21	0.23	0.25	0.14	0.16	0.18	0.20	0.22	0.24
AA/AN/AAC/ANC	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.26	0.30	0.33	0.37	0.40	0.44	0.25	0.29	0.32	0.36	0.40	0.43
AA/AN/AAC/ANC/AFA	1/2	0.46	0.53	0.59	0.66	0.73	0.79	0.45	0.52	0.58	0.65	0.71	0.77	0.44	0.51	0.57	0.64	0.70	0.75
AA/AN/AAC/ANC/AFA	1	0.73	0.84	0.94	1.05	1.15	1.25	0.72	0.83	0.93	1.04	1.14	1.23	0.70	0.81	0.90	1.01	1.11	1.20
AA/AN/AAC/ANC/AFA	1-1/2	1.05	1.21	1.36	1.52	1.66	1.79	1.03	1.19	1.33	1.49	1.63	1.76	1.01	1.17	1.30	1.46	1.60	1.72
AA/AN/AAC/ANC/AFA	2	1.54	1.78	1.99	2.22	2.43	2.63	1.52	1.75	1.96	2.19	2.40	2.59	1.48	1.71	1.91	2.14	2.34	2.53
AA/AN/AAC/ANC/AFA	2-1/2	2.16	2.49	2.79	3.12	3.42	3.69	2.13	2.46	2.75	3.07	3.37	3.64	2.08	2.40	2.69	3.00	3.29	3.55
AA/AN/AAC/ANC/AFA	3	2.65	3.06	3.42	3.82	4.19	4.53	2.61	3.01	3.37	3.77	4.13	4.46	2.55	2.94	3.29	3.68	4.03	4.35
AA/AN/AAC/ANC/AFA	4	3.14	3.63	4.05	4.53	4.96	5.36	3.10	3.58	4.00	4.47	4.90	5.29	3.03	3.50	3.91	4.37	4.79	5.17
AA/AN/AAC/ANC/AFA	5	4.30	4.97	5.55	6.21	6.80	7.34	4.24	4.89	5.47	6.12	6.70	7.24	4.14	4.78	5.34	5.98	6.55	7.07
TCLE	1/2	0.39	0.45	0.50	0.56	0.62	0.67	0.39	0.45	0.50	0.56	0.61	0.66	0.38	0.44	0.49	0.55	0.60	0.65
TCLE	1	0.74	0.85	0.96	1.07	1.17	1.26	0.73	0.84	0.94	1.05	1.15	1.24	0.71	0.82	0.92	1.02	1.12	1.21
TCLE	2	1.49	1.72	1.92	2.15	2.36	2.54	1.47	1.70	1.90	2.12	2.33	2.51	1.44	1.66	1.86	2.08	2.28	2.46
TCLE	3	2.75	3.18	3.55	3.97	4.35	4.70	2.71	3.13	3.50	3.91	4.29	4.63	2.65	3.06	3.42	3.82	4.19	4.53
TCLE	5	4.01	4.63	5.18	5.79	6.34	6.85	3.95	4.56	5.10	5.70	6.25	6.75	3.86	4.46	4.98	5.57	6.10	6.59
TCLE	7-1/2	5.82	6.72	7.51	8.40	9.20	9.94	5.75	6.64	7.42	8.30	9.09	9.82	5.60	6.47	7.23	8.08	8.85	9.56
TCLE	10	8.02	9.26	10.35	11.58	12.68	13.70	7.92	9.15	10.23	11.44	12.53	13.53	7.72	8.91	9.97	11.14	12.21	13.18
TCLE	12	9.67	11.17	12.48	13.96	15.29	16.51	9.55	11.03	12.33	13.79	15.10	16.31	9.31	10.75	12.02	13.44	14.72	15.90
TJL	11	8.57	9.90	11.06	12.37	13.55	14.64	8.47	9.78	10.93	12.22	13.39	14.46	8.25	9.53	10.65	11.91	13.04	14.09
TJL	14	10.92	12.61	14.10	15.76	17.27	18.65	10.80	12.47	13.94	15.59	17.07	18.44	10.52	12.15	13.58	15.18	16.63	17.97

NOTE: Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F					-20°F					-40°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/5	0.13	0.15	0.17	0.19	0.21	0.22	0.10	0.11	0.13	0.14	0.15	0.16	0.07	0.08	0.09	0.10	0.10	0.11
AA/AN/AAC/ANC	1/4	0.23	0.27	0.30	0.33	0.36	0.39	0.18	0.20	0.23	0.25	0.27	0.28	0.12	0.13	0.15	0.16	0.18	0.19
AA/AN/AAC/ANC/AFA	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.32	0.36	0.40	0.44	0.47	0.51	0.21	0.23	0.26	0.29	0.31	0.33
AA/AN/AAC/ANC/AFA	1	0.64	0.74	0.83	0.92	1.01	1.09	0.51	0.57	0.64	0.70	0.75	0.81	0.34	0.38	0.43	0.47	0.50	0.54
AA/AN/AAC/ANC/AFA	1-1/2	0.91	1.05	1.17	1.31	1.44	1.55	0.73	0.82	0.91	1.00	1.08	1.15	0.48	0.54	0.60	0.66	0.71	0.76
AA/AN/AAC/ANC/AFA	2	1.35	1.56	1.74	1.95	2.13	2.31	1.07	1.20	1.34	1.47	1.58	1.69	0.71	0.79	0.89	0.97	1.05	1.12
AA/AN/AAC/ANC/AFA	2-1/2	1.89	2.18	2.44	2.73	2.99	3.23	1.51	1.69	1.89	2.07	2.23	2.39	0.99	1.11	1.24	1.36	1.46	1.57
AA/AN/AAC/ANC/AFA	3	2.31	2.67	2.98	3.33	3.65	3.95	1.85	2.07	2.31	2.53	2.74	2.93	1.22	1.36	1.53	1.67	1.80	1.93
AA/AN/AAC/ANC/AFA	4	2.75	3.18	3.55	3.97	4.35	4.70	2.19	2.45	2.74	3.00	3.24	3.46	1.44	1.61	1.80	1.97	2.13	2.28
AA/AN/AAC/ANC/AFA	5	3.75	4.33	4.84	5.41	5.93	6.40	3.00	3.35	3.75	4.11	4.44	4.74	1.97	2.20	2.46	2.70	2.91	3.11
TCLE	1/2	0.34	0.39	0.44	0.49	0.54	0.58	0.27	0.30	0.34	0.37	0.40	0.43	0.18	0.20	0.23	0.25	0.27	0.28
TCLE	1	0.65	0.75	0.84	0.94	1.03	1.11	0.52	0.58	0.65	0.71	0.77	0.82	0.34	0.38	0.43	0.47	0.50	0.54
TCLE	2	1.30	1.50	1.68	1.88	2.06	2.22	1.04	1.16	1.30	1.42	1.54	1.64	0.69	0.77	0.86	0.94	1.02	1.09
TCLE	3	2.40	2.77	3.10	3.46	3.79	4.10	1.92	2.15	2.40	2.63	2.84	3.04	1.26	1.41	1.58	1.73	1.86	1.99
TCLE	5	3.50	4.04	4.52	5.05	5.53	5.98	2.79	3.12	3.49	3.82	4.13	4.41	1.84	2.06	2.30	2.52	2.72	2.91
TCLE	7-1/2	5.08	5.87	6.56	7.33	8.03	8.68	4.05	4.53	5.06	5.55	5.99	6.40	2.67	2.99	3.34	3.66	3.95	4.22
TCLE	10	7.00	8.08	9.04	10.10	11.07	11.95	5.59	6.25	6.99	7.65	8.27	8.84	3.68	4.11	4.60	5.04	5.44	5.82
TCLE	12	8.44	9.75	10.90	12.18	13.34	14.41	6.74	7.54	8.43	9.23	9.97	10.66	4.44	4.96	5.55	6.08	6.57	7.02
TJL	11	7.48	8.64	9.66	10.80	11.83	12.77	5.97	6.67	7.46	8.17	8.83	9.44	3.93	4.39	4.91	5.38	5.81	6.21
TJL	14	9.54	11.02	12.32	13.77	15.08	16.29	7.62	8.52	9.53	10.43	11.27	12.05	5.02	5.61	6.28	6.87	7.42	7.94

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

# R-134a CONVENTIONAL

# TXV EXTENDED CAPACITY TABLES

## R-134A CONVENTIONAL PORTED VALVES (TONS) A SERIES | AFA SERIES | T SERIES

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F					40°F					20°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/8	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24	0.13	0.15	0.17	0.19	0.21	0.22
AA/AN/AAC/ANC/AFA	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41	0.23	0.27	0.30	0.33	0.36	0.39
AA/AN/AAC/ANC/AFA	1/2	0.43	0.50	0.56	0.62	0.68	0.73	0.43	0.50	0.56	0.62	0.68	0.73	0.41	0.47	0.53	0.59	0.65	0.70
AA/AN/AAC/ANC/AFA	3/4	0.70	0.81	0.90	1.01	1.11	1.20	0.68	0.79	0.88	0.98	1.08	1.16	0.65	0.75	0.84	0.94	1.03	1.11
AA/AN/AAC/ANC/AFA	1	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.27	1.41	1.55	1.67	0.93	1.07	1.20	1.34	1.47	1.59
AA/AN/AAC/ANC/AFA	1-1/2	1.47	1.70	1.90	2.12	2.32	2.51	1.44	1.66	1.86	2.08	2.28	2.46	1.38	1.59	1.78	1.99	2.18	2.36
AA/AN/AAC/ANC/AFA	2	2.06	2.38	2.66	2.97	3.26	3.52	2.02	2.33	2.61	2.92	3.19	3.45	1.93	2.23	2.49	2.79	3.05	3.30
AA/AN/AAC/ANC/AFA	2-1/2	2.53	2.92	3.27	3.65	4.00	4.32	2.47	2.85	3.19	3.57	3.91	4.22	2.37	2.74	3.06	3.42	3.75	4.05
AA/AN/AAC/ANC/AFA	3	3.00	3.46	3.87	4.33	4.74	5.12	2.94	3.39	3.80	4.24	4.65	5.02	2.81	3.24	3.63	4.06	4.44	4.80
AA/AN/AAC/ANC/AFA	4	4.10	4.73	5.29	5.92	6.48	7.00	4.02	4.64	5.19	5.80	6.36	6.87	3.84	4.43	4.96	5.54	6.07	6.56
TCLE	1/4	0.37	0.43	0.48	0.53	0.59	0.63	0.37	0.43	0.48	0.53	0.59	0.63	0.35	0.40	0.45	0.51	0.55	0.60
TCLE	3/4	0.70	0.81	0.90	1.01	1.11	1.20	0.69	0.80	0.89	1.00	1.09	1.18	0.66	0.76	0.85	0.95	1.04	1.13
TCLE	1-1/2	1.42	1.64	1.83	2.05	2.25	2.43	1.39	1.61	1.79	2.01	2.20	2.37	1.33	1.54	1.72	1.92	2.10	2.27
TCLE	2-1/2	2.62	3.03	3.38	3.78	4.14	4.47	2.57	2.97	3.32	3.71	4.06	4.39	2.46	2.84	3.18	3.55	3.89	4.20
TCLE	3-1/2	3.82	4.41	4.93	5.51	6.04	6.52	3.74	4.32	4.83	5.40	5.91	6.39	3.58	4.13	4.62	5.17	5.66	6.11
TCLE	5-1/2	5.55	6.41	7.17	8.01	8.78	9.48	5.43	6.27	7.01	7.84	8.59	9.27	5.20	6.00	6.71	7.51	8.22	8.88
TCLE	7-1/2	7.65	8.83	9.88	11.04	12.10	13.06	7.49	8.65	9.67	10.81	11.84	12.79	7.16	8.27	9.24	10.33	11.32	12.23
TCLE	9	9.22	10.65	11.90	13.31	14.58	15.75	9.03	10.43	11.66	13.03	14.28	15.42	8.64	9.98	11.15	12.47	13.66	14.76
TJL	9	8.17	9.43	10.55	11.79	12.92	13.95	8.00	9.24	10.33	11.55	12.65	13.66	7.65	8.83	9.88	11.04	12.10	13.06
TJL	11	10.42	12.03	13.45	15.04	16.48	17.80	10.20	11.78	13.17	14.72	16.13	17.42	9.76	11.27	12.60	14.09	15.43	16.67

NOTE: Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/8	0.11	0.13	0.14	0.16	0.17	0.19	0.08	0.09	0.10	0.11	0.12	0.13	0.05	0.06	0.06	0.07	0.07	0.08
AA/AN/AAC/ANC/AFA	1/4	0.19	0.22	0.25	0.27	0.30	0.32	0.14	0.16	0.18	0.19	0.21	0.22	0.09	0.10	0.11	0.12	0.13	0.14
AA/AN/AAC/ANC/AFA	1/2	0.34	0.39	0.44	0.49	0.54	0.58	0.25	0.28	0.31	0.34	0.37	0.40	0.15	0.17	0.19	0.21	0.22	0.24
AA/AN/AAC/ANC/AFA	3/4	0.54	0.62	0.70	0.78	0.85	0.92	0.40	0.45	0.50	0.55	0.59	0.63	0.25	0.28	0.31	0.34	0.37	0.40
AA/AN/AAC/ANC/AFA	1	0.77	0.89	0.99	1.11	1.22	1.32	0.57	0.64	0.71	0.78	0.84	0.90	0.35	0.39	0.44	0.48	0.52	0.55
AA/AN/AAC/ANC/AFA	1-1/2	1.13	1.30	1.46	1.63	1.79	1.93	0.85	0.95	1.06	1.16	1.26	1.34	0.52	0.58	0.65	0.71	0.77	0.82
AA/AN/AAC/ANC/AFA	2	1.59	1.84	2.05	2.29	2.51	2.72	1.19	1.33	1.49	1.63	1.76	1.88	0.73	0.82	0.91	1.00	1.08	1.15
AA/AN/AAC/ANC/AFA	2-1/2	1.95	2.25	2.52	2.81	3.08	3.33	1.45	1.62	1.81	1.99	2.14	2.29	0.89	1.00	1.11	1.22	1.32	1.41
AA/AN/AAC/ANC/AFA	3	2.31	2.67	2.98	3.33	3.65	3.95	1.72	1.92	2.15	2.36	2.54	2.72	1.06	1.19	1.33	1.45	1.57	1.68
AA/AN/AAC/ANC/AFA	4	3.16	3.65	4.08	4.56	5.00	5.40	2.36	2.64	2.95	3.23	3.49	3.73	1.45	1.62	1.81	1.99	2.14	2.29
TCLE	1/4	0.29	0.33	0.37	0.42	0.46	0.50	0.22	0.25	0.28	0.30	0.33	0.35	0.13	0.15	0.16	0.18	0.19	0.21
TCLE	3/4	0.54	0.62	0.70	0.78	0.85	0.92	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
TCLE	1-1/2	1.10	1.27	1.42	1.59	1.74	1.88	0.82	0.92	1.03	1.12	1.21	1.30	0.50	0.56	0.63	0.68	0.74	0.79
TCLE	2-1/2	2.02	2.33	2.61	2.92	3.19	3.45	1.51	1.69	1.89	2.07	2.23	2.39	0.93	1.04	1.16	1.27	1.38	1.47
TCLE	3-1/2	2.95	3.41	3.81	4.26	4.66	5.04	2.20	2.46	2.75	3.01	3.25	3.48	1.35	1.51	1.69	1.85	2.00	2.13
TCLE	5-1/2	4.28	4.94	5.53	6.18	6.77	7.31	3.19	3.57	3.99	4.37	4.72	5.04	1.96	2.19	2.45	2.68	2.90	3.10
TCLE	7-1/2	5.90	6.81	7.62	8.52	9.33	10.08	4.40	4.92	5.50	6.02	6.51	6.96	2.70	3.02	3.38	3.70	3.99	4.27
TCLE	9	7.11	8.21	9.18	10.26	11.24	12.14	5.30	5.93	6.63	7.26	7.84	8.38	3.26	3.64	4.08	4.46	4.82	5.15
TJL	9	6.30	7.27	8.13	9.09	9.96	10.76	4.70	5.25	5.88	6.44	6.95	7.43	2.89	3.23	3.61	3.96	4.27	4.57
TJL	11	8.03	9.27	10.37	11.59	12.70	13.71	5.99	6.70	7.49	8.20	8.86	9.47	3.68	4.11	4.60	5.04	5.44	5.82

## REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-290 CONVENTIONAL PORTED VALVES (TONS) A SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/5	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.21	0.23	0.13	0.15	0.17	0.19	0.21	0.22
AA/AN/AAC/ANC	1/4	0.24	0.28	0.31	0.35	0.38	0.41	0.24	0.27	0.30	0.34	0.37	0.40	0.23	0.26	0.29	0.33	0.36	0.38
AA/AN/AAC/ANC/AFA	1/2	0.42	0.49	0.55	0.61	0.67	0.72	0.41	0.48	0.53	0.60	0.66	0.71	0.40	0.46	0.51	0.57	0.63	0.68
AA/AN/AAC/ANC/AFA	1	0.68	0.78	0.88	0.98	1.07	1.16	0.66	0.77	0.86	0.96	1.05	1.13	0.64	0.73	0.82	0.92	1.00	1.08
AA/AN/AAC/ANC/AFA	1-1/2	0.97	1.12	1.25	1.40	1.53	1.66	0.95	1.10	1.23	1.37	1.50	1.62	0.91	1.05	1.17	1.31	1.44	1.55
AA/AN/AAC/ANC/AFA	2	1.43	1.65	1.85	2.06	2.26	2.44	1.40	1.62	1.81	2.02	2.21	2.39	1.34	1.55	1.73	1.93	2.12	2.29
AA/AN/AAC/ANC/AFA	2-1/2	2.01	2.32	2.59	2.90	3.17	3.43	1.96	2.27	2.54	2.84	3.11	3.36	1.88	2.17	2.42	2.71	2.97	3.21
AA/AN/AAC/ANC/AFA	3	2.46	2.84	3.17	3.55	3.89	4.20	2.41	2.78	3.11	3.48	3.81	4.11	2.30	2.66	2.97	3.32	3.64	3.93
AA/AN/AAC/ANC/AFA	4	2.92	3.37	3.77	4.21	4.61	4.98	2.86	3.30	3.69	4.12	4.52	4.88	2.73	3.15	3.53	3.94	4.32	4.67
AA/AN/AAC/ANC/AFA	5	3.99	4.61	5.15	5.76	6.31	6.82	3.91	4.51	5.04	5.64	6.18	6.67	3.74	4.31	4.82	5.39	5.91	6.38

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/5	0.11	0.12	0.14	0.15	0.17	0.18	0.08	0.10	0.11	0.12	0.13	0.13	0.06	0.06	0.07	0.08	0.08	0.09
AA/AN/AAC/ANC	1/4	0.18	0.21	0.24	0.26	0.29	0.31	0.15	0.17	0.18	0.20	0.22	0.23	0.10	0.11	0.12	0.14	0.15	0.16
AA/AN/AAC/ANC/AFA	1/2	0.32	0.37	0.42	0.47	0.51	0.55	0.26	0.29	0.32	0.36	0.38	0.41	0.17	0.19	0.22	0.24	0.26	0.27
AA/AN/AAC/ANC/AFA	1	0.52	0.60	0.67	0.75	0.82	0.88	0.42	0.47	0.52	0.57	0.62	0.66	0.28	0.31	0.35	0.38	0.41	0.44
AA/AN/AAC/ANC/AFA	1-1/2	0.74	0.85	0.95	1.07	1.17	1.26	0.59	0.67	0.74	0.81	0.88	0.94	0.40	0.45	0.50	0.55	0.59	0.63
AA/AN/AAC/ANC/AFA	2	1.09	1.26	1.41	1.57	1.72	1.86	0.88	0.98	1.10	1.20	1.30	1.39	0.59	0.66	0.73	0.80	0.87	0.93
AA/AN/AAC/ANC/AFA	2-1/2	1.53	1.76	1.97	2.20	2.42	2.61	1.23	1.38	1.54	1.68	1.82	1.95	0.82	0.92	1.03	1.13	1.22	1.30
AA/AN/AAC/ANC/AFA	3	1.87	2.16	2.42	2.70	2.96	3.20	1.51	1.69	1.88	2.06	2.23	2.38	1.01	1.13	1.26	1.38	1.49	1.60
AA/AN/AAC/ANC/AFA	4	2.22	2.57	2.87	3.21	3.51	3.79	1.79	2.00	2.24	2.45	2.65	2.83	1.20	1.34	1.50	1.64	1.77	1.89
AA/AN/AAC/ANC/AFA	5	3.04	3.51	3.92	4.39	4.80	5.19	2.45	2.74	3.06	3.35	3.62	3.87	1.64	1.83	2.05	2.24	2.42	2.59

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

# R-404A / R-507 CONVENTIONAL

# TXV EXTENDED CAPACITY TABLES

## R-404A / R-507 CONVENTIONAL PORTED VALVES (TONS) A-SERIES / AFA SERIES / T SERIES

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F					40°F					20°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/8	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24	0.13	0.15	0.17	0.19	0.21	0.22
AA/AN/AAC/ANC/AFA	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41	0.23	0.27	0.30	0.33	0.36	0.39
AA/AN/AAC/ANC/AFA	1/2	0.43	0.50	0.56	0.62	0.68	0.73	0.43	0.50	0.56	0.62	0.68	0.73	0.41	0.47	0.53	0.59	0.65	0.70
AA/AN/AAC/ANC/AFA	3/4	0.70	0.81	0.90	1.01	1.11	1.20	0.68	0.79	0.88	0.98	1.08	1.16	0.65	0.75	0.84	0.94	1.03	1.11
AA/AN/AAC/ANC/AFA	1	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.27	1.41	1.55	1.67	0.93	1.07	1.20	1.34	1.47	1.59
AA/AN/AAC/ANC/AFA	1-1/2	1.47	1.70	1.90	2.12	2.32	2.51	1.44	1.66	1.86	2.08	2.28	2.46	1.38	1.59	1.78	1.99	2.18	2.36
AA/AN/AAC/ANC/AFA	2	2.06	2.38	2.66	2.97	3.26	3.52	2.02	2.33	2.61	2.92	3.19	3.45	1.93	2.23	2.49	2.79	3.05	3.30
AA/AN/AAC/ANC/AFA	2-1/2	2.53	2.92	3.27	3.65	4.00	4.32	2.47	2.85	3.19	3.57	3.91	4.22	2.37	2.74	3.06	3.42	3.75	4.05
AA/AN/AAC/ANC/AFA	3	3.00	3.46	3.87	4.33	4.74	5.12	2.94	3.39	3.80	4.24	4.65	5.02	2.81	3.24	3.63	4.06	4.44	4.80
AA/AN/AAC/ANC/AFA	4	4.10	4.73	5.29	5.92	6.48	7.00	4.02	4.64	5.19	5.80	6.36	6.87	3.84	4.43	4.96	5.54	6.07	6.56
TCLE	1/4	0.37	0.43	0.48	0.53	0.59	0.63	0.37	0.43	0.48	0.53	0.59	0.63	0.35	0.40	0.45	0.51	0.55	0.60
TCLE	3/4	0.70	0.81	0.90	1.01	1.11	1.20	0.69	0.80	0.89	1.00	1.09	1.18	0.66	0.76	0.85	0.95	1.04	1.13
TCLE	1-1/2	1.42	1.64	1.83	2.05	2.25	2.43	1.39	1.61	1.79	2.01	2.20	2.37	1.33	1.54	1.72	1.92	2.10	2.27
TCLE	2-1/2	2.62	3.03	3.38	3.78	4.14	4.47	2.57	2.97	3.32	3.71	4.06	4.39	2.46	2.84	3.18	3.55	3.89	4.20
TCLE	3-1/2	3.82	4.41	4.93	5.51	6.04	6.52	3.74	4.32	4.83	5.40	5.91	6.39	3.58	4.13	4.62	5.17	5.66	6.11
TCLE	5-1/2	5.55	6.41	7.17	8.01	8.78	9.48	5.43	6.27	7.01	7.84	8.59	9.27	5.20	6.00	6.71	7.51	8.22	8.88
TCLE	7-1/2	7.65	8.83	9.88	11.04	12.10	13.06	7.49	8.65	9.67	10.81	11.84	12.79	7.16	8.27	9.24	10.33	11.32	12.23
TCLE	9	9.22	10.65	11.90	13.31	14.58	15.75	9.03	10.43	11.66	13.03	14.28	15.42	8.64	9.98	11.15	12.47	13.66	14.76
TJL	9	8.17	9.43	10.55	11.79	12.92	13.95	8.00	9.24	10.33	11.55	12.65	13.66	7.65	8.83	9.88	11.04	12.10	13.06
TJL	11	10.42	12.03	13.45	15.04	16.48	17.80	10.20	11.78	13.17	14.72	16.13	17.42	9.76	11.27	12.60	14.09	15.43	16.67

NOTE: Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F					-20°F					-40°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/8	0.09	0.10	0.12	0.13	0.14	0.15	0.07	0.08	0.09	0.10	0.10	0.11	0.05	0.06	0.06	0.07	0.07	0.08
AA/AN/AAC/ANC/AFA	1/4	0.16	0.18	0.21	0.23	0.25	0.27	0.12	0.13	0.15	0.16	0.18	0.19	0.08	0.09	0.10	0.11	0.12	0.13
AA/AN/AAC/ANC/AFA	1/2	0.28	0.32	0.36	0.40	0.44	0.48	0.22	0.25	0.28	0.30	0.33	0.35	0.14	0.16	0.18	0.19	0.21	0.22
AA/AN/AAC/ANC/AFA	3/4	0.44	0.51	0.57	0.64	0.70	0.75	0.35	0.39	0.44	0.48	0.52	0.55	0.23	0.26	0.29	0.31	0.34	0.36
AA/AN/AAC/ANC/AFA	1	0.63	0.73	0.81	0.91	1.00	1.08	0.50	0.56	0.63	0.68	0.74	0.79	0.32	0.36	0.40	0.44	0.47	0.51
AA/AN/AAC/ANC/AFA	1-1/4	0.93	1.07	1.20	1.34	1.47	1.59	0.73	0.82	0.91	1.00	1.08	1.15	0.48	0.54	0.60	0.66	0.71	0.76
AA/AN/AAC/ANC/AFA	2	1.31	1.51	1.69	1.89	2.07	2.24	1.03	1.15	1.29	1.41	1.52	1.63	0.67	0.75	0.84	0.92	0.99	1.06
AA/AN/AAC/ANC/AFA	2-1/4	1.61	1.86	2.08	2.32	2.55	2.75	1.26	1.41	1.58	1.73	1.86	1.99	0.82	0.92	1.03	1.12	1.21	1.30
AA/AN/AAC/ANC/AFA	2-1/2	1.91	2.21	2.47	2.76	3.02	3.26	1.50	1.68	1.88	2.05	2.22	2.37	0.98	1.10	1.23	1.34	1.45	1.55
AA/AN/AAC/ANC/AFA	3-1/2	2.61	3.01	3.37	3.77	4.13	4.46	2.04	2.28	2.55	2.79	3.02	3.23	1.34	1.50	1.68	1.83	1.98	2.12
TCLE	1/4	0.24	0.28	0.31	0.35	0.38	0.41	0.19	0.21	0.24	0.26	0.28	0.30	0.12	0.13	0.15	0.16	0.18	0.19
TCLE	1/2	0.45	0.52	0.58	0.65	0.71	0.77	0.35	0.39	0.44	0.48	0.52	0.55	0.23	0.26	0.29	0.31	0.34	0.36
TCLE	1	0.91	1.05	1.17	1.31	1.44	1.55	0.71	0.79	0.89	0.97	1.05	1.12	0.46	0.51	0.58	0.63	0.68	0.73
TCLE	2	1.67	1.93	2.16	2.41	2.64	2.85	1.31	1.46	1.64	1.79	1.94	2.07	0.86	0.96	1.08	1.18	1.27	1.36
TCLE	3	2.43	2.81	3.14	3.51	3.84	4.15	1.91	2.14	2.39	2.62	2.82	3.02	1.25	1.40	1.56	1.71	1.85	1.98
TCLE	4-1/2	3.53	4.08	4.56	5.10	5.58	6.03	2.77	3.10	3.46	3.79	4.10	4.38	1.81	2.02	2.26	2.48	2.68	2.86
TCLE	7	4.86	5.61	6.27	7.01	7.68	8.30	3.81	4.26	4.76	5.22	5.64	6.02	2.49	2.78	3.11	3.41	3.68	3.94
TCLE	8	5.86	6.77	7.57	8.46	9.27	10.01	4.60	5.14	5.75	6.30	6.80	7.27	3.01	3.37	3.76	4.12	4.45	4.76
TJL	7	5.19	5.99	6.70	7.49	8.21	8.86	4.07	4.55	5.09	5.57	6.02	6.44	2.66	2.97	3.33	3.64	3.93	4.21
TJL	9	6.62	7.64	8.55	9.56	10.47	11.31	5.20	5.81	6.50	7.12	7.69	8.22	3.40	3.80	4.25	4.66	5.03	5.38

## REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-407A CONVENTIONAL PORTED VALVES (TONS) A SERIES / AFA SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F					40°F					20°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/8	0.15	0.17	0.19	0.22	0.24	0.25	0.15	0.17	0.19	0.21	0.23	0.25	0.14	0.16	0.18	0.20	0.22	0.24
AA/AN/AAC/ANC	1/4	0.26	0.30	0.33	0.37	0.41	0.44	0.25	0.29	0.33	0.37	0.40	0.43	0.25	0.28	0.32	0.35	0.39	0.42
AA/AN/AAC/ANC/AFA	1/2	0.46	0.53	0.59	0.66	0.72	0.78	0.45	0.52	0.58	0.65	0.71	0.76	0.43	0.50	0.56	0.62	0.68	0.74
AA/AN/AAC/ANC/AFA	1	0.73	0.84	0.94	1.05	1.15	1.25	0.72	0.83	0.93	1.04	1.13	1.23	0.69	0.80	0.89	1.00	1.09	1.18
AA/AN/AAC/ANC/AFA	1-1/2	1.04	1.21	1.35	1.51	1.65	1.78	1.03	1.19	1.32	1.48	1.62	1.75	0.99	1.14	1.28	1.43	1.56	1.69
AA/AN/AAC/ANC/AFA	2	1.54	1.78	1.99	2.22	2.43	2.63	1.51	1.75	1.95	2.18	2.39	2.58	1.46	1.68	1.88	2.10	2.30	2.49
AA/AN/AAC/ANC/AFA	2-1/2	2.16	2.49	2.79	3.11	3.41	3.69	2.12	2.45	2.74	3.06	3.36	3.62	2.04	2.36	2.64	2.95	3.23	3.49
AA/AN/AAC/ANC/AFA	3-1/2	2.64	3.05	3.41	3.82	4.18	4.52	2.60	3.00	3.36	3.75	4.11	4.44	2.51	2.89	3.23	3.62	3.96	4.28
AA/AN/AAC/ANC/AFA	4	3.14	3.62	4.05	4.53	4.96	5.36	3.09	3.56	3.98	4.46	4.88	5.27	2.97	3.43	3.84	4.29	4.70	5.08
AA/AN/AAC/ANC/AFA	5-1/2	4.29	4.96	5.54	6.20	6.79	7.33	4.22	4.87	5.45	6.09	6.67	7.21	4.07	4.70	5.25	5.87	6.43	6.94

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F					-20°F					-40°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/8	0.13	0.15	0.17	0.19	0.20	0.22	0.10	0.11	0.12	0.14	0.15	0.16	0.06	0.07	0.08	0.09	0.09	0.10
AA/AN/AAC/ANC	1/4	0.22	0.26	0.29	0.32	0.35	0.38	0.17	0.19	0.22	0.24	0.26	0.27	0.11	0.12	0.14	0.15	0.16	0.17
AA/AN/AAC/ANC/AFA	1/2	0.39	0.46	0.51	0.57	0.62	0.67	0.30	0.34	0.38	0.42	0.45	0.48	0.19	0.21	0.24	0.26	0.28	0.30
AA/AN/AAC/ANC/AFA	1	0.63	0.73	0.82	0.91	1.00	1.08	0.49	0.54	0.61	0.67	0.72	0.77	0.31	0.34	0.39	0.42	0.46	0.49
AA/AN/AAC/ANC/AFA	1-1/2	0.90	1.04	1.17	1.31	1.43	1.55	0.70	0.78	0.87	0.95	1.03	1.10	0.44	0.49	0.55	0.60	0.65	0.70
AA/AN/AAC/ANC/AFA	2	1.33	1.54	1.72	1.92	2.11	2.28	1.03	1.15	1.28	1.40	1.52	1.62	0.65	0.73	0.81	0.89	0.96	1.03
AA/AN/AAC/ANC/AFA	2-1/2	1.87	2.16	2.42	2.70	2.96	3.20	1.44	1.61	1.80	1.97	2.13	2.27	0.91	1.02	1.14	1.25	1.35	1.44
AA/AN/AAC/ANC/AFA	3-1/2	2.29	2.65	2.96	3.31	3.63	3.92	1.76	1.97	2.20	2.41	2.61	2.79	1.12	1.25	1.40	1.53	1.65	1.77
AA/AN/AAC/ANC/AFA	4	2.72	3.14	3.51	3.93	4.30	4.65	2.09	2.34	2.62	2.87	3.10	3.31	1.33	1.48	1.66	1.81	1.96	2.10
AA/AN/AAC/ANC/AFA	5-1/2	3.72	4.30	4.80	5.37	5.88	6.36	2.86	3.20	3.58	3.92	4.23	4.52	1.81	2.03	2.27	2.48	2.68	2.87

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.



# R-407C CONVENTIONAL

# TXV EXTENDED CAPACITY TABLES

## R-407C CONVENTIONAL PORTED VALVES (TONS) A SERIES | AFA SERIES | T SERIES

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/5	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24
AA/AN/AAC/ANC/AFA	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41	0.23	0.27	0.30	0.33	0.36	0.39
AA/AN/AAC/ANC/AFA	1/2	0.44	0.51	0.57	0.64	0.70	0.75	0.43	0.50	0.56	0.62	0.68	0.73	0.41	0.47	0.53	0.59	0.65	0.70
AA/AN/AAC/ANC/AFA	1	0.70	0.81	0.90	1.01	1.11	1.20	0.69	0.80	0.89	1.00	1.09	1.18	0.66	0.76	0.85	0.95	1.04	1.13
AA/AN/AAC/ANC/AFA	1-1/4	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.27	1.41	1.55	1.67	0.95	1.10	1.23	1.37	1.50	1.62
AA/AN/AAC/ANC/AFA	2	1.48	1.71	1.91	2.14	2.34	2.53	1.45	1.67	1.87	2.09	2.29	2.48	1.39	1.61	1.79	2.01	2.20	2.37
AA/AN/AAC/ANC/AFA	2-1/2	2.07	2.39	2.67	2.99	3.27	3.54	2.04	2.36	2.63	2.94	3.23	3.48	1.95	2.25	2.52	2.81	3.08	3.33
AA/AN/AAC/ANC/AFA	3-1/4	2.54	2.93	3.28	3.67	4.02	4.34	2.49	2.88	3.21	3.59	3.94	4.25	2.39	2.76	3.09	3.45	3.78	4.08
AA/AN/AAC/ANC/AFA	4	3.02	3.49	3.90	4.36	4.78	5.16	2.96	3.42	3.82	4.27	4.68	5.06	2.84	3.28	3.67	4.10	4.49	4.85
AA/AN/AAC/ANC/AFA	5-1/4	4.12	4.76	5.32	5.95	6.51	7.04	4.05	4.68	5.23	5.85	6.40	6.92	3.89	4.49	5.02	5.61	6.15	6.64
TCLE	1/2	0.38	0.44	0.49	0.55	0.60	0.65	0.37	0.43	0.48	0.53	0.59	0.63	0.36	0.42	0.46	0.52	0.57	0.61
TCLE	1	0.71	0.82	0.92	1.02	1.12	1.21	0.70	0.81	0.90	1.01	1.11	1.20	0.67	0.77	0.86	0.97	1.06	1.14
TCLE	2	1.43	1.65	1.85	2.06	2.26	2.44	1.41	1.63	1.82	2.04	2.23	2.41	1.35	1.56	1.74	1.95	2.13	2.31
TCLE	3	2.64	3.05	3.41	3.81	4.17	4.51	2.59	2.99	3.34	3.74	4.10	4.42	2.49	2.88	3.21	3.59	3.94	4.25
TCLE	5	3.85	4.45	4.97	5.56	6.09	6.58	3.77	4.35	4.87	5.44	5.96	6.44	3.62	4.18	4.67	5.23	5.72	6.18
TCLE	7-1/2	5.58	6.44	7.20	8.05	8.82	9.53	5.48	6.33	7.07	7.91	8.66	9.36	5.26	6.07	6.79	7.59	8.32	8.98
TCLE	10	7.69	8.88	9.93	11.10	12.16	13.13	7.55	8.72	9.75	10.90	11.94	12.89	7.25	8.37	9.36	10.46	11.46	12.38
TCLE	12	9.27	10.70	11.97	13.38	14.66	15.83	9.10	10.51	11.75	13.13	14.39	15.54	8.74	10.09	11.28	12.62	13.82	14.93
TJL	11	8.22	9.49	10.61	11.86	13.00	14.04	8.07	9.32	10.42	11.65	12.76	13.78	7.75	8.95	10.01	11.19	12.25	13.24
TJL	14	10.48	12.10	13.53	15.13	16.57	17.90	10.29	11.88	13.28	14.85	16.27	17.57	9.88	11.41	12.76	14.26	15.62	16.87

NOTE: Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/5	0.11	0.13	0.14	0.16	0.17	0.19	0.09	0.10	0.11	0.12	0.13	0.14	0.05	0.06	0.06	0.07	0.07	0.08
AA/AN/AAC/ANC/AFA	1/4	0.20	0.23	0.26	0.29	0.32	0.34	0.15	0.17	0.19	0.21	0.22	0.24	0.09	0.10	0.11	0.12	0.13	0.14
AA/AN/AAC/ANC/AFA	1/2	0.35	0.40	0.45	0.51	0.55	0.60	0.26	0.29	0.33	0.36	0.38	0.41	0.17	0.19	0.21	0.23	0.25	0.27
AA/AN/AAC/ANC/AFA	1	0.56	0.65	0.72	0.81	0.89	0.96	0.42	0.47	0.53	0.58	0.62	0.66	0.27	0.30	0.34	0.37	0.40	0.43
AA/AN/AAC/ANC/AFA	1-1/4	0.80	0.92	1.03	1.15	1.26	1.37	0.61	0.68	0.76	0.84	0.90	0.96	0.38	0.42	0.48	0.52	0.56	0.60
AA/AN/AAC/ANC/AFA	2	1.18	1.36	1.52	1.70	1.87	2.02	0.90	1.01	1.13	1.23	1.33	1.42	0.56	0.63	0.70	0.77	0.83	0.89
AA/AN/AAC/ANC/AFA	2-1/2	1.65	1.91	2.13	2.38	2.61	2.82	1.26	1.41	1.58	1.73	1.86	1.99	0.79	0.88	0.99	1.08	1.17	1.25
AA/AN/AAC/ANC/AFA	3-1/4	2.02	2.33	2.61	2.92	3.19	3.45	1.54	1.72	1.93	2.11	2.28	2.43	0.97	1.08	1.21	1.33	1.43	1.53
AA/AN/AAC/ANC/AFA	4	2.40	2.77	3.10	3.46	3.79	4.10	1.83	2.05	2.29	2.51	2.71	2.89	1.15	1.29	1.44	1.57	1.70	1.82
AA/AN/AAC/ANC/AFA	5-1/4	3.28	3.79	4.23	4.73	5.19	5.60	2.50	2.80	3.13	3.42	3.70	3.95	1.57	1.76	1.96	2.15	2.32	2.48
TCLE	1/2	0.30	0.35	0.39	0.43	0.47	0.51	0.23	0.26	0.29	0.31	0.34	0.36	0.14	0.16	0.18	0.19	0.21	0.22
TCLE	1	0.56	0.65	0.72	0.81	0.89	0.96	0.43	0.48	0.54	0.59	0.64	0.68	0.27	0.30	0.34	0.37	0.40	0.43
TCLE	2	1.14	1.32	1.47	1.65	1.80	1.95	0.87	0.97	1.09	1.19	1.29	1.38	0.55	0.61	0.69	0.75	0.81	0.87
TCLE	3	2.10	2.42	2.71	3.03	3.32	3.59	1.60	1.79	2.00	2.19	2.37	2.53	1.01	1.13	1.26	1.38	1.49	1.60
TCLE	5	3.06	3.53	3.95	4.42	4.84	5.23	2.33	2.61	2.91	3.19	3.45	3.68	1.47	1.64	1.84	2.01	2.17	2.32
TCLE	7-1/2	4.44	5.13	5.73	6.41	7.02	7.58	3.38	3.78	4.23	4.63	5.00	5.34	2.13	2.38	2.66	2.92	3.15	3.37
TCLE	10	6.12	7.07	7.90	8.83	9.68	10.45	4.66	5.21	5.83	6.38	6.89	7.37	2.93	3.28	3.66	4.01	4.33	4.63
TCLE	12	7.38	8.52	9.53	10.65	11.67	12.60	5.62	6.28	7.03	7.70	8.31	8.89	3.54	3.96	4.43	4.85	5.24	5.60
TJL	11	6.54	7.55	8.44	9.44	10.34	11.17	4.98	5.57	6.23	6.82	7.37	7.87	3.13	3.50	3.91	4.29	4.63	4.95
TJL	14	8.34	9.63	10.77	12.04	13.19	14.24	6.35	7.10	7.94	8.70	9.39	10.04	4.00	4.47	5.00	5.48	5.92	6.32

## REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS

	REFRIGERANT LIQUID TEMPERATURE °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75	
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71	
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76	
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50	
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-407H CONVENTIONAL PORTED VALVES (TONS) A SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F					40°F					20°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/4	0.18	0.20	0.23	0.25	0.28	0.30	0.17	0.20	0.22	0.25	0.27	0.30	0.17	0.19	0.22	0.24	0.27	0.29
AA/AN/AAC/ANC	1/2	0.31	0.35	0.40	0.44	0.48	0.52	0.30	0.35	0.39	0.44	0.48	0.52	0.29	0.34	0.38	0.42	0.46	0.50
AA/AN/AAC/ANC/AFA	3/4	0.54	0.62	0.69	0.78	0.85	0.92	0.53	0.61	0.68	0.77	0.84	0.91	0.51	0.59	0.66	0.74	0.81	0.88
AA/AN/AAC/ANC/AFA	1	0.86	1.00	1.11	1.24	1.36	1.47	0.85	0.98	1.10	1.23	1.34	1.45	0.82	0.95	1.06	1.19	1.30	1.41
AA/AN/AAC/ANC/AFA	1-1/2	1.23	1.42	1.59	1.78	1.95	2.11	1.22	1.40	1.57	1.76	1.92	2.08	1.18	1.36	1.52	1.70	1.86	2.01
AA/AN/AAC/ANC/AFA	2-1/4	1.82	2.10	2.35	2.62	2.87	3.10	1.79	2.07	2.31	2.59	2.83	3.06	1.74	2.01	2.24	2.51	2.75	2.97
AA/AN/AAC/ANC/AFA	3-1/4	2.55	2.94	3.29	3.68	4.03	4.35	2.51	2.90	3.25	3.63	3.98	4.29	2.44	2.82	3.15	3.52	3.86	4.16
AA/AN/AAC/ANC/AFA	4	3.12	3.61	4.03	4.51	4.94	5.34	3.08	3.56	3.98	4.45	4.87	5.26	2.99	3.45	3.86	4.31	4.73	5.10
AA/AN/AAC/ANC/AFA	4-3/4	3.71	4.28	4.79	5.35	5.86	6.33	3.66	4.22	4.72	5.28	5.78	6.25	3.55	4.10	4.58	5.12	5.61	6.06
AA/AN/AAC/ANC/AFA	6-1/2	5.07	5.86	6.55	7.32	8.02	8.66	5.00	5.78	6.46	7.22	7.91	8.54	4.85	5.60	6.26	7.00	7.67	8.28

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F					-20°F					-40°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/4	0.15	0.17	0.19	0.22	0.24	0.26	0.12	0.13	0.14	0.16	0.17	0.18	0.07	0.08	0.09	0.10	0.11	0.12
AA/AN/AAC/ANC	1/2	0.26	0.30	0.34	0.38	0.41	0.45	0.20	0.23	0.25	0.28	0.30	0.32	0.13	0.14	0.16	0.18	0.19	0.20
AA/AN/AAC/ANC/AFA	3/4	0.46	0.53	0.59	0.66	0.72	0.78	0.35	0.40	0.44	0.48	0.52	0.56	0.23	0.25	0.28	0.31	0.33	0.36
AA/AN/AAC/ANC/AFA	1	0.74	0.85	0.95	1.06	1.16	1.26	0.57	0.63	0.71	0.78	0.84	0.90	0.36	0.40	0.45	0.49	0.53	0.57
AA/AN/AAC/ANC/AFA	1-1/2	1.05	1.21	1.36	1.52	1.66	1.80	0.81	0.91	1.01	1.11	1.20	1.28	0.52	0.58	0.65	0.71	0.76	0.82
AA/AN/AAC/ANC/AFA	2-1/4	1.55	1.79	2.00	2.24	2.45	2.65	1.20	1.34	1.49	1.64	1.77	1.89	0.76	0.85	0.95	1.04	1.12	1.20
AA/AN/AAC/ANC/AFA	3-1/4	2.17	2.51	2.81	3.14	3.44	3.71	1.68	1.88	2.10	2.30	2.48	2.65	1.07	1.19	1.33	1.46	1.58	1.69
AA/AN/AAC/ANC/AFA	4	2.66	3.08	3.44	3.84	4.21	4.55	2.06	2.30	2.57	2.81	3.04	3.25	1.31	1.46	1.63	1.79	1.93	2.07
AA/AN/AAC/ANC/AFA	4-3/4	3.16	3.65	4.08	4.56	5.00	5.40	2.44	2.73	3.05	3.34	3.61	3.86	1.55	1.74	1.94	2.13	2.30	2.45
AA/AN/AAC/ANC/AFA	6-1/2	4.32	4.99	5.58	6.24	6.84	7.38	3.34	3.73	4.17	4.57	4.94	5.28	2.12	2.37	2.65	2.91	3.14	3.36

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-410A CONVENTIONAL PORTED VALVES (TONS) A SERIES / AFA SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		110	140	160	210	245	285	110	140	160	210	245	285	110	140	160	210	245	285
AA/AN/AAC/ANC/AFA	1/4	0.34	0.38	0.41	0.47	0.51	0.55	0.34	0.38	0.41	0.47	0.51	0.55	0.33	0.37	0.40	0.46	0.49	0.53
AA/AN/AAC/ANC/AFA	1/2	0.60	0.68	0.72	0.83	0.90	0.97	0.59	0.67	0.71	0.82	0.88	0.95	0.58	0.65	0.70	0.80	0.87	0.93
AA/AN/AAC/ANC/AFA	1	0.96	1.08	1.16	1.33	1.43	1.55	0.95	1.07	1.15	1.31	1.42	1.53	0.93	1.05	1.12	1.28	1.39	1.50
AA/AN/AAC/ANC/AFA	1-1/2	1.38	1.56	1.66	1.91	2.06	2.22	1.36	1.53	1.64	1.88	2.03	2.19	1.33	1.50	1.60	1.84	1.98	2.14
AA/AN/AAC/ANC/AFA	2	2.03	2.29	2.45	2.80	3.03	3.27	2.01	2.27	2.42	2.78	3.00	3.24	1.96	2.21	2.36	2.71	2.93	3.15
AA/AN/AAC/ANC/AFA	3	2.85	3.22	3.44	3.94	4.25	4.59	2.82	3.18	3.40	3.90	4.21	4.54	2.74	3.09	3.30	3.79	4.09	4.41
AA/AN/AAC/ANC/AFA	4	3.49	3.94	4.21	4.82	5.21	5.62	3.45	3.89	4.16	4.77	5.15	5.55	3.36	3.79	4.05	4.64	5.01	5.41
AA/AN/AAC/ANC/AFA	5	4.14	4.67	4.99	5.72	6.18	6.66	4.10	4.63	4.94	5.66	6.12	6.60	3.99	4.50	4.81	5.51	5.95	6.42

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		140	160	210	245	285	330	140	160	210	245	285	330	140	160	210	245	285	330
AA/AN/AAC/ANC/AFA	1/4	0.34	0.36	0.42	0.45	0.49	0.52	0.24	0.26	0.29	0.32	0.34	0.37	0.16	0.17	0.20	0.21	0.23	0.25
AA/AN/AAC/ANC/AFA	1/2	0.60	0.64	0.73	0.79	0.86	0.92	0.41	0.44	0.50	0.54	0.58	0.63	0.27	0.29	0.33	0.36	0.39	0.41
AA/AN/AAC/ANC/AFA	1	0.95	1.02	1.16	1.26	1.36	1.46	0.66	0.71	0.81	0.87	0.94	1.01	0.44	0.47	0.54	0.58	0.63	0.68
AA/AN/AAC/ANC/AFA	1-1/2	1.36	1.45	1.67	1.80	1.94	2.09	0.95	1.02	1.16	1.26	1.36	1.46	0.63	0.67	0.77	0.83	0.90	0.97
AA/AN/AAC/ANC/AFA	2	2.01	2.15	2.46	2.66	2.87	3.09	1.40	1.50	1.71	1.85	2.00	2.15	0.93	0.99	1.14	1.23	1.33	1.43
AA/AN/AAC/ANC/AFA	3	2.82	3.01	3.45	3.73	4.02	4.33	1.96	2.10	2.40	2.59	2.80	3.01	1.30	1.39	1.59	1.72	1.85	2.00
AA/AN/AAC/ANC/AFA	4	3.46	3.70	4.24	4.58	4.94	5.31	2.40	2.57	2.94	3.17	3.42	3.68	1.60	1.71	1.96	2.12	2.28	2.46
AA/AN/AAC/ANC/AFA	5	4.10	4.38	5.02	5.42	5.85	6.29	2.85	3.05	3.49	3.77	4.07	4.38	1.89	2.02	2.31	2.50	2.70	2.90

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75	
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71	
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76	
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50	
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-448A / R-449A CONVENTIONAL PORTED VALVES (TONS) A SERIES / AFA SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/5	0.15	0.18	0.20	0.22	0.24	0.26	0.15	0.17	0.19	0.22	0.24	0.26	0.15	0.17	0.19	0.21	0.23	0.25
AA/AN/AAC/ANC/AFA	1/4	0.27	0.31	0.34	0.38	0.42	0.45	0.26	0.30	0.34	0.38	0.41	0.45	0.26	0.30	0.33	0.37	0.40	0.44
AA/AN/AAC/ANC/AFA	1/2	0.47	0.54	0.60	0.67	0.74	0.80	0.46	0.53	0.60	0.67	0.73	0.79	0.45	0.52	0.58	0.65	0.71	0.77
AA/AN/AAC/ANC/AFA	1	0.75	0.86	0.96	1.08	1.18	1.28	0.74	0.85	0.95	1.07	1.17	1.26	0.72	0.83	0.93	1.04	1.14	1.23
AA/AN/AAC/ANC/AFA	1-1/2	1.07	1.23	1.38	1.54	1.69	1.82	1.06	1.22	1.36	1.53	1.67	1.81	1.03	1.19	1.33	1.49	1.63	1.76
AA/AN/AAC/ANC/AFA	2	1.57	1.82	2.03	2.27	2.49	2.69	1.56	1.80	2.01	2.25	2.46	2.66	1.52	1.76	1.96	2.20	2.40	2.60
AA/AN/AAC/ANC/AFA	2-3/4	2.21	2.55	2.85	3.19	3.49	3.77	2.19	2.52	2.82	3.16	3.46	3.73	2.13	2.46	2.75	3.08	3.37	3.64
AA/AN/AAC/ANC/AFA	3-1/2	2.71	3.13	3.49	3.91	4.28	4.62	2.68	3.09	3.46	3.87	4.24	4.57	2.61	3.02	3.38	3.77	4.13	4.47
AA/AN/AAC/ANC/AFA	4	3.21	3.71	4.15	4.64	5.08	5.49	3.18	3.67	4.10	4.59	5.03	5.43	3.10	3.58	4.01	4.48	4.91	5.30
AA/AN/AAC/ANC/AFA	5-1/2	4.39	5.07	5.67	6.34	6.95	7.50	4.35	5.02	5.61	6.28	6.87	7.43	4.24	4.90	5.48	6.13	6.71	7.25

NOTE: Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/5	0.14	0.17	0.19	0.21	0.23	0.24	0.13	0.15	0.16	0.18	0.19	0.21	0.09	0.10	0.11	0.12	0.13	0.14
AA/AN/AAC/ANC/AFA	1/4	0.25	0.29	0.32	0.36	0.39	0.43	0.23	0.25	0.28	0.31	0.34	0.36	0.15	0.17	0.19	0.21	0.23	0.24
AA/AN/AAC/ANC/AFA	1/2	0.44	0.51	0.57	0.63	0.69	0.75	0.40	0.45	0.50	0.55	0.59	0.63	0.27	0.30	0.34	0.37	0.40	0.43
AA/AN/AAC/ANC/AFA	1	0.70	0.81	0.91	1.01	1.11	1.20	0.64	0.72	0.80	0.88	0.95	1.01	0.43	0.48	0.54	0.59	0.64	0.68
AA/AN/AAC/ANC/AFA	1-1/2	1.00	1.16	1.30	1.45	1.59	1.71	0.92	1.02	1.15	1.26	1.36	1.45	0.62	0.69	0.77	0.85	0.92	0.98
AA/AN/AAC/ANC/AFA	2	1.48	1.71	1.91	2.14	2.34	2.53	1.35	1.51	1.69	1.85	2.00	2.14	0.91	1.02	1.14	1.25	1.35	1.44
AA/AN/AAC/ANC/AFA	2-3/4	2.08	2.40	2.68	3.00	3.28	3.54	1.90	2.12	2.37	2.60	2.80	3.00	1.28	1.43	1.60	1.75	1.89	2.02
AA/AN/AAC/ANC/AFA	3-1/2	2.54	2.94	3.28	3.67	4.02	4.34	2.32	2.60	2.90	3.18	3.44	3.67	1.57	1.75	1.96	2.15	2.32	2.48
AA/AN/AAC/ANC/AFA	4	3.02	3.49	3.90	4.36	4.77	5.16	2.76	3.08	3.45	3.77	4.08	4.36	1.86	2.08	2.33	2.55	2.75	2.94
AA/AN/AAC/ANC/AFA	5-1/2	4.13	4.77	5.33	5.96	6.53	7.05	3.77	4.21	4.71	5.16	5.58	5.96	2.55	2.85	3.18	3.49	3.76	4.02

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-450A / R-513A CONVENTIONAL PORTED VALVES (TONS) A SERIES / AFA SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/8	0.11	0.13	0.15	0.16	0.18	0.19	0.11	0.13	0.14	0.16	0.17	0.19	0.10	0.12	0.13	0.15	0.16	0.18
AA/AN/AAC/ANC/AFA	1/5	0.19	0.22	0.25	0.28	0.30	0.33	0.19	0.22	0.24	0.27	0.30	0.32	0.18	0.21	0.23	0.26	0.28	0.31
AA/AN/AAC/ANC/AFA	1/4	0.35	0.40	0.45	0.50	0.55	0.59	0.34	0.39	0.44	0.49	0.53	0.58	0.32	0.37	0.41	0.46	0.51	0.55
AA/AN/AAC/ANC/AFA	1/2	0.55	0.63	0.70	0.79	0.86	0.93	0.53	0.62	0.69	0.77	0.84	0.91	0.51	0.58	0.65	0.73	0.80	0.86
AA/AN/AAC/ANC/AFA	3/4	0.79	0.91	1.02	1.14	1.24	1.34	0.77	0.89	0.99	1.11	1.21	1.31	0.73	0.84	0.94	1.05	1.15	1.25
AA/AN/AAC/ANC/AFA	1	1.16	1.33	1.49	1.67	1.83	1.97	1.13	1.30	1.46	1.63	1.78	1.93	1.07	1.24	1.38	1.55	1.70	1.83
AA/AN/AAC/ANC/AFA	1-1/2	1.62	1.87	2.09	2.34	2.56	2.77	1.58	1.83	2.04	2.29	2.50	2.70	1.50	1.74	1.94	2.17	2.38	2.57
AA/AN/AAC/ANC/AFA	2	1.98	2.29	2.56	2.86	3.14	3.39	1.94	2.24	2.50	2.79	3.06	3.31	1.84	2.12	2.37	2.65	2.91	3.14
AA/AN/AAC/ANC/AFA	2-1/2	2.36	2.73	3.05	3.41	3.73	4.03	2.30	2.66	2.97	3.33	3.64	3.94	2.19	2.53	2.83	3.16	3.46	3.74
AA/AN/AAC/ANC/AFA	3	3.23	3.73	4.17	4.66	5.10	5.51	3.15	3.64	4.07	4.55	4.98	5.38	2.99	3.46	3.86	4.32	4.73	5.11

Standard Capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/8	0.08	0.09	0.10	0.11	0.12	0.13	0.06	0.06	0.07	0.08	0.08	0.09	0.03	0.04	0.04	0.04	0.05	0.05
AA/AN/AAC/ANC/AFA	1/5	0.13	0.15	0.17	0.19	0.21	0.22	0.10	0.11	0.12	0.13	0.15	0.16	0.06	0.06	0.07	0.08	0.08	0.09
AA/AN/AAC/ANC/AFA	1/4	0.23	0.27	0.30	0.34	0.37	0.40	0.18	0.20	0.22	0.24	0.26	0.28	0.10	0.11	0.13	0.14	0.15	0.16
AA/AN/AAC/ANC/AFA	1/2	0.37	0.42	0.47	0.53	0.58	0.63	0.28	0.31	0.35	0.38	0.41	0.44	0.16	0.18	0.20	0.22	0.24	0.25
AA/AN/AAC/ANC/AFA	3/4	0.53	0.61	0.68	0.76	0.84	0.90	0.40	0.45	0.50	0.55	0.59	0.63	0.23	0.26	0.29	0.31	0.34	0.36
AA/AN/AAC/ANC/AFA	1	0.78	0.90	1.00	1.12	1.23	1.33	0.59	0.66	0.74	0.81	0.87	0.93	0.34	0.38	0.42	0.46	0.50	0.53
AA/AN/AAC/ANC/AFA	1-1/2	1.09	1.26	1.41	1.58	1.73	1.86	0.83	0.93	1.03	1.13	1.22	1.31	0.47	0.53	0.59	0.65	0.70	0.75
AA/AN/AAC/ANC/AFA	2	1.33	1.54	1.72	1.93	2.11	2.28	1.01	1.13	1.26	1.39	1.50	1.60	0.58	0.65	0.72	0.79	0.85	0.91
AA/AN/AAC/ANC/AFA	2-1/2	1.59	1.83	2.05	2.29	2.51	2.71	1.20	1.35	1.51	1.65	1.78	1.90	0.69	0.77	0.86	0.94	1.02	1.09
AA/AN/AAC/ANC/AFA	3	2.17	2.51	2.80	3.14	3.44	3.71	1.65	1.84	2.06	2.25	2.44	2.60	0.94	1.05	1.17	1.29	1.39	1.49

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75	
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71	
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76	
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50	
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70	
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-452A CONVENTIONAL PORTED VALVES (TONS) - A SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AAC/ANC/AFA	1/5	0.11	0.13	0.15	0.16	0.18	0.19	0.11	0.13	0.14	0.16	0.18	0.19	0.11	0.12	0.14	0.15	0.17	0.18
AA/AN/AAC/ANC/AFA	1/4	0.20	0.23	0.26	0.29	0.31	0.34	0.19	0.22	0.25	0.28	0.31	0.33	0.18	0.21	0.24	0.26	0.29	0.31
AA/AN/AAC/ANC/AFA	1/2	0.35	0.40	0.45	0.50	0.55	0.59	0.34	0.39	0.44	0.49	0.54	0.58	0.32	0.37	0.42	0.46	0.51	0.55
AA/AN/AAC/ANC/AFA	1	0.56	0.64	0.72	0.80	0.88	0.95	0.54	0.63	0.70	0.79	0.86	0.93	0.52	0.60	0.67	0.74	0.82	0.88
AA/AN/AAC/ANC/AFA	1-1/2	0.80	0.92	1.03	1.15	1.26	1.36	0.78	0.90	1.00	1.12	1.23	1.33	0.74	0.85	0.95	1.07	1.17	1.26
AA/AN/AAC/ANC/AFA	2	1.17	1.36	1.52	1.70	1.86	2.01	1.15	1.32	1.48	1.66	1.81	1.96	1.09	1.26	1.40	1.57	1.72	1.86
AA/AN/AAC/ANC/AFA	2-3/4	1.65	1.90	2.13	2.38	2.61	2.81	1.61	1.86	2.08	2.32	2.54	2.75	1.53	1.76	1.97	2.20	2.41	2.61
AA/AN/AAC/ANC/AFA	3-1/2	2.02	2.33	2.61	2.91	3.19	3.45	1.97	2.28	2.55	2.85	3.12	3.37	1.87	2.16	2.41	2.70	2.96	3.19
AA/AN/AAC/ANC/AFA	4	2.40	2.77	3.09	3.46	3.79	4.09	2.34	2.70	3.02	3.38	3.70	4.00	2.22	2.56	2.86	3.20	3.51	3.79
AA/AN/AAC/ANC/AFA	5-1/2	3.28	3.78	4.23	4.73	5.18	5.60	3.20	3.70	4.13	4.62	5.06	5.47	3.03	3.50	3.92	4.38	4.80	5.18

Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AAC/ANC/AFA	1/5	0.10	0.11	0.13	0.14	0.16	0.17	0.08	0.09	0.10	0.11	0.12	0.13	0.05	0.06	0.06	0.07	0.08	0.08
AA/AN/AAC/ANC/AFA	1/4	0.17	0.20	0.22	0.25	0.27	0.29	0.14	0.16	0.17	0.19	0.21	0.22	0.09	0.10	0.11	0.12	0.13	0.14
AA/AN/AAC/ANC/AFA	1/2	0.30	0.35	0.39	0.44	0.48	0.52	0.25	0.27	0.31	0.34	0.36	0.39	0.16	0.17	0.20	0.21	0.23	0.25
AA/AN/AAC/ANC/AFA	1	0.49	0.56	0.63	0.70	0.77	0.83	0.39	0.44	0.49	0.54	0.58	0.62	0.25	0.28	0.31	0.34	0.37	0.40
AA/AN/AAC/ANC/AFA	1-1/2	0.69	0.80	0.90	1.00	1.10	1.19	0.56	0.63	0.70	0.77	0.83	0.89	0.36	0.40	0.45	0.49	0.53	0.57
AA/AN/AAC/ANC/AFA	2	1.02	1.18	1.32	1.48	1.62	1.75	0.83	0.93	1.04	1.13	1.23	1.31	0.53	0.59	0.66	0.72	0.78	0.83
AA/AN/AAC/ANC/AFA	2-3/4	1.44	1.66	1.86	2.07	2.27	2.45	1.16	1.30	1.45	1.59	1.72	1.84	0.74	0.83	0.93	1.01	1.10	1.17
AA/AN/AAC/ANC/AFA	3-1/2	1.76	2.03	2.27	2.54	2.78	3.01	1.42	1.59	1.78	1.95	2.11	2.25	0.91	1.01	1.13	1.24	1.34	1.43
AA/AN/AAC/ANC/AFA	4	2.09	2.41	2.70	3.02	3.30	3.57	1.69	1.89	2.11	2.32	2.50	2.67	1.08	1.20	1.35	1.47	1.59	1.70
AA/AN/AAC/ANC/AFA	5-1/2	2.86	3.30	3.69	4.13	4.52	4.88	2.31	2.59	2.89	3.17	3.42	3.66	1.47	1.65	1.84	2.02	2.18	2.33

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-502 CONVENTIONAL PORTED VALVES (TONS) A SERIES | AFA SERIES | T SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/ANI/AAC/ANC/AFA	1/8	0.17	0.20	0.22	0.25	0.27	0.29	0.17	0.20	0.22	0.25	0.27	0.29	0.16	0.18	0.21	0.23	0.25	0.27
AA/ANI/AAC/ANC/AFA	1/4	0.30	0.35	0.39	0.43	0.47	0.51	0.29	0.33	0.37	0.42	0.46	0.50	0.28	0.32	0.36	0.40	0.44	0.48
AA/ANI/AAC/ANC/AFA	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.47	0.54	0.61	0.68	0.74	0.80	0.45	0.52	0.58	0.65	0.71	0.77
AA/ANI/AAC/ANC/AFA	1	0.68	0.79	0.88	0.98	1.08	1.16	0.67	0.77	0.86	0.97	1.06	1.14	0.64	0.74	0.83	0.92	1.01	1.09
AA/ANI/AAC/ANC/AFA	1-1/2	1.41	1.63	1.82	2.04	2.23	2.41	1.38	1.59	1.78	1.99	2.18	2.36	1.32	1.52	1.70	1.91	2.09	2.25
AA/ANI/AAC/ANC/AFA	2	1.73	2.00	2.23	2.50	2.74	2.95	1.69	1.95	2.18	2.44	2.67	2.89	1.62	1.87	2.09	2.34	2.56	2.77
AA/ANI/AAC/ANC/AFA	2-1/2	2.05	2.37	2.65	2.96	3.24	3.50	2.01	2.32	2.59	2.90	3.18	3.43	1.92	2.22	2.48	2.77	3.04	3.28
AA/ANI/AAC/ANC/AFA	3	2.81	3.24	3.63	4.06	4.44	4.80	2.75	3.18	3.55	3.97	4.35	4.70	2.62	3.03	3.38	3.78	4.14	4.47
TCLE	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41
TCLE	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.47	0.54	0.61	0.68	0.74	0.80	0.45	0.52	0.58	0.65	0.71	0.77
TCLE	1	0.97	1.12	1.25	1.40	1.53	1.66	0.95	1.10	1.23	1.37	1.50	1.62	0.91	1.05	1.17	1.31	1.44	1.55
TCLE	2	1.80	2.08	2.32	2.60	2.85	3.07	1.76	2.03	2.27	2.54	2.78	3.01	1.68	1.94	2.17	2.42	2.66	2.87
TCLE	3	2.62	3.03	3.38	3.78	4.14	4.47	2.56	2.96	3.30	3.70	4.05	4.37	2.44	2.82	3.15	3.52	3.86	4.17
TCLE	4-1/2	3.80	4.39	4.91	5.48	6.01	6.49	3.72	4.30	4.80	5.37	5.88	6.35	3.55	4.10	4.58	5.12	5.61	6.06
TCLE	7	5.23	6.04	6.75	7.55	8.27	8.93	5.12	5.91	6.61	7.39	8.10	8.74	4.89	5.65	6.31	7.06	7.73	8.35
TCLE	8	6.31	7.29	8.15	9.11	9.98	10.78	6.18	7.14	7.98	8.92	9.77	10.55	5.90	6.81	7.62	8.52	9.33	10.08
TJL	7	5.59	6.45	7.22	8.07	8.84	9.55	5.47	6.32	7.06	7.90	8.65	9.34	5.22	6.03	6.74	7.53	8.25	8.91
TJL	9	7.13	8.23	9.20	10.29	11.27	12.18	6.98	8.06	9.01	10.07	11.04	11.92	6.66	7.69	8.60	9.61	10.53	11.37

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/ANI/AAC/ANC/AFA	1/8	0.15	0.17	0.19	0.22	0.24	0.26	0.11	0.12	0.14	0.15	0.16	0.17	0.07	0.08	0.09	0.10	0.10	0.11
AA/ANI/AAC/ANC/AFA	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.20	0.22	0.25	0.27	0.30	0.32	0.13	0.15	0.16	0.18	0.19	0.21
AA/ANI/AAC/ANC/AFA	1/2	0.41	0.47	0.53	0.59	0.65	0.70	0.32	0.36	0.40	0.44	0.47	0.51	0.21	0.23	0.26	0.29	0.31	0.33
AA/ANI/AAC/ANC/AFA	1	0.59	0.68	0.76	0.85	0.93	1.01	0.46	0.51	0.58	0.63	0.68	0.73	0.29	0.32	0.36	0.40	0.43	0.46
AA/ANI/AAC/ANC/AFA	1-1/2	1.21	1.40	1.56	1.75	1.91	2.07	0.96	1.07	1.20	1.31	1.42	1.52	0.61	0.68	0.76	0.84	0.90	0.96
AA/ANI/AAC/ANC/AFA	2	1.49	1.72	1.92	2.15	2.36	2.54	1.17	1.31	1.46	1.60	1.73	1.85	0.75	0.84	0.94	1.03	1.11	1.19
AA/ANI/AAC/ANC/AFA	2-1/2	1.76	2.03	2.27	2.54	2.78	3.01	1.39	1.55	1.74	1.90	2.06	2.20	0.89	1.00	1.11	1.22	1.32	1.41
AA/ANI/AAC/ANC/AFA	3	2.41	2.78	3.11	3.48	3.81	4.12	1.90	2.12	2.38	2.60	2.81	3.00	1.21	1.35	1.51	1.66	1.79	1.91
TCLE	1/4	0.22	0.25	0.28	0.32	0.35	0.38	0.17	0.19	0.21	0.23	0.25	0.27	0.11	0.12	0.14	0.15	0.16	0.17
TCLE	1/2	0.41	0.47	0.53	0.59	0.65	0.70	0.33	0.37	0.41	0.45	0.49	0.52	0.21	0.23	0.26	0.29	0.31	0.33
TCLE	1	0.84	0.97	1.08	1.21	1.33	1.43	0.66	0.74	0.83	0.90	0.98	1.04	0.42	0.47	0.53	0.58	0.62	0.66
TCLE	2	1.54	1.78	1.99	2.22	2.43	2.63	1.22	1.36	1.53	1.67	1.80	1.93	0.78	0.87	0.98	1.07	1.15	1.23
TCLE	3	2.25	2.60	2.90	3.25	3.56	3.84	1.78	1.99	2.23	2.44	2.63	2.81	1.13	1.26	1.41	1.55	1.67	1.79
TCLE	4-1/2	3.26	3.76	4.21	4.71	5.15	5.57	2.58	2.88	3.23	3.53	3.82	4.08	1.64	1.83	2.05	2.25	2.43	2.59
TCLE	7	4.50	5.20	5.81	6.50	7.12	7.69	3.55	3.97	4.44	4.86	5.25	5.61	2.26	2.53	2.83	3.09	3.34	3.57
TCLE	8	5.42	6.26	7.00	7.82	8.57	9.26	4.28	4.79	5.35	5.86	6.33	6.77	2.73	3.05	3.41	3.74	4.04	4.32
TJL	7	4.81	5.55	6.21	6.94	7.61	8.21	3.80	4.25	4.75	5.20	5.62	6.01	2.42	2.71	3.03	3.31	3.58	3.83
TJL	9	6.13	7.08	7.91	8.85	9.69	10.47	4.84	5.41	6.05	6.63	7.16	7.65	3.08	3.44	3.85	4.22	4.56	4.87

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-1234yf CONVENTIONAL PORTED VALVES (TONS) A SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
AA/AN/AFA	1/14	0.06	0.07	0.07	0.08	0.09	0.10	0.06	0.06	0.07	0.08	0.09	0.09	0.04	0.05	0.05	0.06	0.07	0.07
AA/AN/AAC/ANC	1/8	0.10	0.11	0.13	0.14	0.16	0.17	0.10	0.11	0.12	0.14	0.15	0.16	0.07	0.09	0.10	0.11	0.12	0.13
AA/AN/AAC/ANC/AFA	1/4	0.17	0.20	0.22	0.25	0.28	0.30	0.17	0.20	0.22	0.24	0.27	0.29	0.13	0.15	0.17	0.19	0.21	0.22
AA/AN/AAC/ANC/AFA	3/8	0.28	0.32	0.36	0.40	0.44	0.48	0.27	0.31	0.35	0.39	0.43	0.46	0.21	0.24	0.27	0.30	0.33	0.36
AA/AN/AAC/ANC/AFA	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.39	0.45	0.50	0.56	0.61	0.66	0.30	0.34	0.38	0.43	0.47	0.51
AA/AN/AAC/ANC/AFA	3/4	0.59	0.68	0.76	0.85	0.93	1.01	0.57	0.66	0.74	0.82	0.90	0.98	0.44	0.51	0.57	0.63	0.69	0.75
AA/AN/AAC/ANC/AFA	1	0.83	0.95	1.07	1.19	1.31	1.41	0.80	0.93	1.03	1.16	1.27	1.37	0.62	0.71	0.80	0.89	0.97	1.05
AA/AN/AAC/ANC/AFA	3 1/4	1.01	1.17	1.31	1.46	1.60	1.73	0.98	1.13	1.27	1.42	1.55	1.68	0.75	0.87	0.97	1.09	1.19	1.29
AA/AN/AAC/ANC/AFA	1 1/2	1.20	1.39	1.55	1.73	1.90	2.05	1.17	1.35	1.50	1.68	1.84	1.99	0.90	1.03	1.16	1.29	1.42	1.53
AA/AN/AAC/ANC/AFA	2	1.64	1.90	2.12	2.37	2.60	2.81	1.59	1.84	2.06	2.30	2.52	2.72	1.23	1.41	1.58	1.77	1.94	2.09

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
AA/AN/AFA	1/14	0.03	0.03	0.04	0.04	0.05	0.05	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.02	0.02	0.02	0.02	0.02
AA/AN/AAC/ANC	1/8	0.05	0.06	0.06	0.07	0.08	0.09	0.04	0.04	0.05	0.05	0.06	0.06	0.02	0.03	0.03	0.03	0.03	0.04
AA/AN/AAC/ANC/AFA	1/4	0.09	0.10	0.11	0.13	0.14	0.15	0.07	0.07	0.08	0.09	0.10	0.10	0.04	0.05	0.05	0.06	0.06	0.06
AA/AN/AAC/ANC/AFA	3/8	0.14	0.16	0.18	0.20	0.22	0.24	0.11	0.12	0.13	0.15	0.16	0.17	0.07	0.07	0.08	0.09	0.10	0.10
AA/AN/AAC/ANC/AFA	1/2	0.20	0.23	0.26	0.29	0.32	0.35	0.15	0.17	0.19	0.21	0.22	0.24	0.09	0.11	0.12	0.13	0.14	0.15
AA/AN/AAC/ANC/AFA	3/4	0.30	0.34	0.38	0.43	0.47	0.51	0.22	0.25	0.28	0.31	0.33	0.35	0.14	0.15	0.17	0.19	0.20	0.22
AA/AN/AAC/ANC/AFA	1	0.42	0.48	0.54	0.60	0.66	0.71	0.31	0.35	0.39	0.43	0.46	0.50	0.19	0.22	0.24	0.27	0.29	0.31
AA/AN/AAC/ANC/AFA	3-1/4	0.51	0.59	0.66	0.74	0.81	0.88	0.39	0.43	0.48	0.53	0.57	0.61	0.24	0.27	0.30	0.33	0.35	0.38
AA/AN/AAC/ANC/AFA	1-1/2	0.61	0.70	0.79	0.88	0.96	1.04	0.46	0.51	0.57	0.63	0.68	0.72	0.28	0.32	0.35	0.39	0.42	0.45
AA/AN/AAC/ANC/AFA	2	0.83	0.96	1.07	1.20	1.32	1.42	0.62	0.70	0.78	0.86	0.92	0.99	0.39	0.43	0.48	0.53	0.57	0.61

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.



# BALANCED PORTED VALVE CAPACITY TABLES

## R-12 BALANCED PORTED VALVES (TONS) B / HF / TRAE / T SERIES

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/4	0.30	0.35	0.39	0.43	0.47	0.51	0.30	0.35	0.39	0.43	0.47	0.51	0.28	0.32	0.36	0.40	0.44	0.48
BA/BN	1/2	0.57	0.66	0.74	0.82	0.90	0.97	0.56	0.65	0.72	0.81	0.89	0.96	0.54	0.62	0.70	0.78	0.85	0.92
BA/BN	1	0.90	1.04	1.16	1.30	1.42	1.54	0.88	1.02	1.14	1.27	1.39	1.50	0.84	0.97	1.08	1.21	1.33	1.43
BA/BN	1-1/4	1.20	1.39	1.55	1.73	1.90	2.05	1.17	1.35	1.51	1.69	1.85	2.00	1.13	1.30	1.46	1.63	1.79	1.93
BA/BN	1-1/2	1.51	1.74	1.95	2.18	2.39	2.58	1.48	1.71	1.91	2.14	2.34	2.53	1.42	1.64	1.83	2.05	2.25	2.43
BA/BN	2	1.83	2.11	2.36	2.64	2.89	3.13	1.80	2.08	2.32	2.60	2.85	3.07	1.72	1.99	2.22	2.48	2.72	2.94
BA/BN	2-1/2	2.37	2.74	3.06	3.42	3.75	4.05	2.33	2.69	3.01	3.36	3.68	3.98	2.23	2.57	2.88	3.22	3.53	3.81
BA/BN	3	3.00	3.46	3.87	4.33	4.74	5.12	2.94	3.39	3.80	4.24	4.65	5.02	2.82	3.26	3.64	4.07	4.46	4.82
BA/BN	3-1/2	3.73	4.31	4.82	5.38	5.90	6.37	3.66	4.23	4.73	5.28	5.79	6.25	3.51	4.05	4.53	5.07	5.55	5.99
HF	1/8	0.17	0.20	0.22	0.25	0.27	0.29	0.17	0.20	0.22	0.25	0.27	0.29	0.16	0.18	0.21	0.23	0.25	0.27
HF	1/4	0.32	0.37	0.41	0.46	0.51	0.55	0.31	0.36	0.40	0.45	0.49	0.53	0.30	0.35	0.39	0.43	0.47	0.51
HF	1/2	0.57	0.66	0.74	0.82	0.90	0.97	0.56	0.65	0.72	0.81	0.89	0.96	0.54	0.62	0.70	0.78	0.85	0.92
HF	1	0.88	1.02	1.14	1.27	1.39	1.50	0.86	0.99	1.11	1.24	1.36	1.47	0.82	0.95	1.06	1.18	1.30	1.40
HF	1-1/4	1.18	1.36	1.52	1.70	1.87	2.02	1.16	1.34	1.50	1.67	1.83	1.98	1.11	1.28	1.43	1.60	1.76	1.90
HF	1-1/2	1.51	1.74	1.95	2.18	2.39	2.58	1.48	1.71	1.91	2.14	2.34	2.53	1.42	1.64	1.83	2.05	2.25	2.43
HF	2	2.00	2.31	2.58	2.89	3.16	3.42	1.96	2.26	2.53	2.83	3.10	3.35	1.88	2.17	2.43	2.71	2.97	3.21
HF	3-1/2	3.55	4.10	4.58	5.12	5.61	6.06	3.48	4.02	4.49	5.02	5.50	5.94	3.34	3.86	4.31	4.82	5.28	5.70
HF	5	4.94	5.70	6.38	7.13	7.81	8.44	4.85	5.60	6.26	7.00	7.67	8.28	4.65	5.37	6.00	6.71	7.35	7.94
HF	6	6.26	7.23	8.08	9.04	9.90	10.69	6.13	7.08	7.91	8.85	9.69	10.47	5.88	6.79	7.59	8.49	9.30	10.04
HF	9	9.28	10.72	11.98	13.39	14.67	15.85	9.10	10.51	11.75	13.13	14.39	15.54	8.73	10.08	11.27	12.60	13.80	14.91
HF	12	12.22	14.11	15.78	17.64	19.32	20.87	11.98	13.83	15.47	17.29	18.94	20.46	11.49	13.27	14.83	16.58	18.17	19.62
TRAE+	7-1/2	7.14	8.24	9.22	10.31	11.29	12.19	7.00	8.08	9.04	10.10	11.07	11.95	6.71	7.75	8.66	9.69	10.61	11.46
TRAE+	10	10.41	12.02	13.44	15.03	16.46	17.78	10.20	11.78	13.17	14.72	16.13	17.42	9.78	11.29	12.63	14.12	15.46	16.70
TRAE+	12	11.62	13.42	15.00	16.77	18.37	19.84	11.39	13.15	14.70	16.44	18.01	19.45	10.92	12.61	14.10	15.76	17.27	18.65
TRAE+	18	17.61	20.33	22.73	25.42	27.84	30.07	17.26	19.93	22.28	24.91	27.29	29.48	16.55	19.11	21.37	23.89	26.17	28.26
TRAE+	25	24.20	27.94	31.24	34.93	38.26	41.33	23.73	27.40	30.64	34.25	37.52	40.53	22.75	26.27	29.37	32.84	35.97	38.85
TRAE	30	32.67	37.72	42.18	47.16	51.66	55.79	32.03	36.99	41.35	46.23	50.64	54.70	30.72	35.47	39.66	44.34	48.57	52.46
TRAE	35	35.64	41.15	46.01	51.44	56.35	60.87	34.94	40.35	45.11	50.43	55.24	59.67	33.51	38.69	43.26	48.37	52.98	57.23
TRAE	40	42.41	48.97	54.75	61.21	67.06	72.43	41.58	48.01	53.68	60.02	65.74	71.01	39.88	46.05	51.48	57.56	63.06	68.11
TJR	8	8.89	10.27	11.48	12.83	14.06	15.18	8.72	10.07	11.26	12.59	13.79	14.89	8.36	9.65	10.79	12.07	13.22	14.28
TJR	11	10.65	12.30	13.75	15.37	16.84	18.19	10.44	12.06	13.48	15.07	16.51	17.83	10.01	11.56	12.92	14.45	15.83	17.10
TER	13	13.31	15.37	17.18	19.21	21.04	22.73	13.05	15.07	16.85	18.84	20.63	22.29	12.51	14.45	16.15	18.06	19.78	21.36
TER	15	15.73	18.16	20.31	22.70	24.87	26.86	15.42	17.81	19.91	22.26	24.38	26.33	14.79	17.08	19.09	21.35	23.39	25.26
TER	20	21.18	24.46	27.34	30.57	33.49	36.17	20.76	23.97	26.80	29.96	32.82	35.45	19.91	22.99	25.70	28.74	31.48	34.00
TER	25	27.23	31.44	35.15	39.30	43.05	46.50	26.69	30.82	34.46	38.52	42.20	45.58	25.60	29.56	33.05	36.95	40.48	43.72
TIR	35	31.29	36.13	40.40	45.16	49.47	53.44	23.63	27.29	30.51	34.11	37.36	40.36	31.29	36.13	40.40	45.16	49.47	53.44
THR	45	42.35	48.90	54.67	61.13	66.96	72.33	41.52	47.94	53.60	59.93	65.65	70.91	39.82	45.98	51.41	57.48	62.96	68.01
THR	55	51.43	59.39	66.40	74.23	81.32	87.83	50.42	58.22	65.09	72.78	79.72	86.11	48.35	55.83	62.42	69.79	76.45	82.57
TMR	55	60.50	69.86	78.11	87.32	95.66	103.32	59.32	68.50	76.58	85.62	93.79	101.31	56.89	65.69	73.44	82.11	89.95	97.16

NOTE: Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV per ARI 750-2001.



Capacity  
Tables (kW)

**R-12 BALANCED PORTED VALVES (TONS) B / HF / TRAE / T SERIES (CONTINUED)**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.20	0.22	0.25	0.27	0.30	0.32	0.13	0.15	0.16	0.18	0.19	0.21
BA/BN	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.38	0.42	0.48	0.52	0.56	0.60	0.24	0.27	0.30	0.33	0.35	0.38
BA/BN	1	0.75	0.87	0.97	1.08	1.19	1.28	0.58	0.65	0.73	0.79	0.86	0.92	0.38	0.42	0.48	0.52	0.56	0.60
BA/BN	1-1/4	1.00	1.15	1.29	1.44	1.58	1.71	0.78	0.87	0.98	1.07	1.15	1.23	0.51	0.57	0.64	0.70	0.75	0.81
BA/BN	1-1/2	1.26	1.45	1.63	1.82	1.99	2.15	0.99	1.11	1.24	1.36	1.46	1.57	0.64	0.72	0.80	0.88	0.95	1.01
BA/BN	2	1.53	1.77	1.98	2.21	2.42	2.61	1.20	1.34	1.50	1.64	1.77	1.90	0.78	0.87	0.98	1.07	1.15	1.23
BA/BN	2-1/2	1.98	2.29	2.56	2.86	3.13	3.38	1.55	1.73	1.94	2.12	2.29	2.45	1.01	1.13	1.26	1.38	1.49	1.60
BA/BN	3	2.50	2.89	3.23	3.61	3.95	4.27	1.96	2.19	2.45	2.68	2.90	3.10	1.27	1.42	1.59	1.74	1.88	2.01
BA/BN	3-1/2	3.11	3.59	4.01	4.49	4.92	5.31	2.44	2.73	3.05	3.34	3.61	3.86	1.58	1.77	1.98	2.16	2.34	2.50
HF	1/8	0.14	0.16	0.18	0.20	0.22	0.24	0.11	0.12	0.14	0.15	0.16	0.17	0.07	0.08	0.09	0.10	0.10	0.11
HF	1/4	0.27	0.31	0.35	0.39	0.43	0.46	0.21	0.23	0.26	0.29	0.31	0.33	0.14	0.16	0.18	0.19	0.21	0.22
HF	1/2	0.48	0.55	0.62	0.69	0.76	0.82	0.38	0.42	0.48	0.52	0.56	0.60	0.24	0.27	0.30	0.33	0.35	0.38
HF	1	0.73	0.84	0.94	1.05	1.15	1.25	0.57	0.64	0.71	0.78	0.84	0.90	0.37	0.41	0.46	0.51	0.55	0.59
HF	1-1/4	0.98	1.13	1.27	1.41	1.55	1.67	0.77	0.86	0.96	1.05	1.14	1.22	0.50	0.56	0.63	0.68	0.74	0.79

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV per ARI 750-2001.

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-22 BALANCED PORTED VALVES (TONS) B | HF | TFE | TRAE | T SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.39	0.45	0.50	0.56	0.62	0.67	0.39	0.45	0.50	0.56	0.61	0.66	0.38	0.44	0.49	0.55	0.60	0.65
BA/BN	1	0.75	0.87	0.97	1.08	1.19	1.28	0.74	0.85	0.95	1.06	1.16	1.26	0.72	0.83	0.93	1.04	1.14	1.23
BA/BN	1-1/2	1.16	1.34	1.50	1.67	1.83	1.98	1.15	1.32	1.48	1.65	1.81	1.96	1.12	1.29	1.45	1.62	1.77	1.91
BA/BN	2	1.56	1.80	2.01	2.25	2.47	2.66	1.53	1.77	1.98	2.21	2.42	2.62	1.50	1.73	1.94	2.17	2.37	2.56
BA/BN	2-1/2	1.96	2.26	2.53	2.83	3.10	3.35	1.94	2.24	2.50	2.80	3.06	3.31	1.89	2.18	2.44	2.73	2.99	3.23
BA/BN	3	2.38	2.75	3.07	3.44	3.76	4.06	2.35	2.71	3.03	3.39	3.71	4.01	2.29	2.64	2.96	3.31	3.62	3.91
BA/BN	4	3.08	3.56	3.98	4.45	4.87	5.26	3.04	3.51	3.92	4.38	4.80	5.19	2.97	3.43	3.83	4.29	4.70	5.07
BA/BN	5	3.90	4.50	5.03	5.63	6.17	6.66	3.85	4.45	4.97	5.56	6.09	6.57	3.75	4.33	4.84	5.41	5.93	6.40
BA/BN	6	4.85	5.60	6.26	7.00	7.67	8.28	4.78	5.52	6.17	6.90	7.56	8.16	4.67	5.39	6.03	6.74	7.38	7.98
HF	1/4	0.22	0.25	0.28	0.32	0.35	0.38	0.22	0.25	0.28	0.31	0.34	0.37	0.21	0.24	0.27	0.30	0.33	0.36
HF	1/2	0.42	0.48	0.54	0.61	0.66	0.72	0.41	0.47	0.53	0.59	0.65	0.70	0.40	0.46	0.52	0.58	0.63	0.68
HF	1	0.75	0.87	0.97	1.08	1.19	1.28	0.74	0.85	0.95	1.06	1.16	1.26	0.72	0.83	0.93	1.04	1.14	1.23
HF	1-1/2	1.14	1.32	1.47	1.65	1.80	1.95	1.12	1.30	1.45	1.62	1.78	1.92	1.10	1.27	1.42	1.59	1.74	1.88
HF	2	1.53	1.77	1.98	2.21	2.42	2.61	1.52	1.75	1.96	2.19	2.40	2.59	1.48	1.71	1.91	2.14	2.34	2.53
HF	2-1/2	1.96	2.26	2.53	2.83	3.10	3.35	1.94	2.25	2.51	2.81	3.07	3.32	1.89	2.18	2.44	2.73	2.99	3.23
HF	3	2.59	2.99	3.34	3.74	4.10	4.42	2.56	2.96	3.31	3.70	4.05	4.38	2.50	2.89	3.23	3.61	3.95	4.27
HF	5-1/2	4.61	5.32	5.95	6.65	7.29	7.87	4.56	5.27	5.89	6.59	7.21	7.79	4.44	5.13	5.73	6.41	7.02	7.58
HF	8	6.42	7.41	8.29	9.27	10.15	10.96	6.34	7.33	8.19	9.16	10.03	10.83	6.18	7.14	7.98	8.92	9.77	10.55
HF	10	8.13	9.39	10.50	11.73	12.85	13.88	8.06	9.30	10.40	11.63	12.74	13.76	7.83	9.04	10.11	11.30	12.38	13.37
HF	15	12.05	13.91	15.56	17.39	19.05	20.58	11.91	13.77	15.40	17.22	18.86	20.37	11.61	13.41	14.99	16.76	18.36	19.83
HF	20	15.87	18.33	20.49	22.91	25.09	27.10	15.68	18.07	20.20	22.58	24.74	26.72	15.28	17.64	19.73	22.05	24.16	26.10
TFE	8	6.30	7.27	8.13	9.09	9.96	10.76	6.23	7.19	8.04	8.99	9.85	10.64	6.07	7.01	7.84	8.76	9.60	10.37
TFE	10	8.63	9.97	11.14	12.46	13.65	14.74	8.53	9.85	11.01	12.31	13.48	14.56	8.31	9.60	10.73	11.99	13.14	14.19
TFE	12	10.71	12.37	13.83	15.46	16.93	18.29	10.59	12.23	13.67	15.28	16.74	18.08	10.32	11.92	13.32	14.90	16.32	17.62
TFE	20	16.35	18.88	21.11	23.60	25.85	27.92	16.17	18.67	20.87	23.33	25.56	27.61	15.75	18.19	20.33	22.73	24.90	26.90
TRAE+	10	9.27	10.70	11.97	13.38	14.66	15.83	9.16	10.58	11.83	13.23	14.49	15.65	8.93	10.31	11.53	12.89	14.12	15.25
TRAE+	15	13.52	15.61	17.45	19.51	21.38	23.09	13.36	15.43	17.25	19.29	21.13	22.82	13.02	15.03	16.81	18.79	20.59	22.24
TRAE+	20	15.09	17.42	19.48	21.78	23.86	25.77	14.91	17.22	19.25	21.52	23.58	25.47	14.53	16.78	18.76	20.97	22.97	24.81
TRAE+	30	22.87	26.41	29.53	33.01	36.16	39.06	22.60	26.10	29.18	32.62	35.74	38.60	22.02	25.43	28.43	31.78	34.82	37.61
TRAE+	40	31.43	36.29	40.58	45.37	49.70	53.68	31.07	35.88	40.11	44.84	49.12	53.06	30.27	34.95	39.08	43.69	47.86	51.70
TRAE	50	42.43	48.99	54.78	61.24	67.09	72.46	41.94	48.42	54.14	60.53	66.31	71.62	40.87	47.19	52.76	58.99	64.62	69.80
TRAE	60	46.28	53.44	59.75	66.80	73.18	79.04	45.75	52.82	59.06	66.03	72.33	78.13	44.58	51.48	57.55	64.35	70.49	76.13
TRAE	70	55.09	63.61	71.12	79.52	87.10	94.08	54.45	62.87	70.29	78.59	86.09	92.98	53.06	61.27	68.50	76.59	83.90	90.62
TJR	14	11.55	13.34	14.91	16.67	18.26	19.73	11.42	13.18	14.74	16.48	18.05	19.50	11.13	12.85	14.37	16.06	17.60	19.01
TJR	18	13.83	15.97	17.85	19.96	21.87	23.62	13.67	15.79	17.65	19.73	21.62	23.35	13.32	15.38	17.20	19.23	21.06	22.75
TER	22	17.29	19.96	22.32	24.96	27.34	29.53	17.09	19.73	22.06	24.66	27.02	29.18	16.65	19.23	21.50	24.03	26.33	28.44
TER	26	20.43	23.59	26.38	29.49	32.30	34.89	20.19	23.32	26.07	29.15	31.93	34.49	19.68	22.72	25.41	28.41	31.12	33.61
TER	35	27.50	31.75	35.50	39.69	43.48	46.97	27.18	31.39	35.09	39.23	42.98	46.42	26.49	30.59	34.20	38.24	41.88	45.24
TER	45	35.36	40.83	45.65	51.04	55.91	60.39	34.95	40.36	45.12	50.45	55.26	59.69	34.06	39.33	43.97	49.16	53.85	58.17
TIR	55	43.22	49.91	55.80	62.38	68.34	73.81	42.72	49.33	55.15	61.66	67.54	72.96	41.63	48.07	53.74	60.09	65.82	71.10
THR	75	55.01	63.52	71.02	79.40	86.98	93.95	54.37	62.78	70.19	78.47	85.96	92.85	52.98	61.18	68.40	76.47	83.77	90.48
THR	85	66.79	77.12	86.23	96.40	105.60	114.07	66.02	76.23	85.23	95.29	104.39	112.75	64.33	74.28	83.05	92.85	101.71	109.86
TMR	100	78.58	90.74	101.45	113.42	124.25	134.20	77.67	89.68	100.27	112.11	122.81	132.64	75.69	87.40	97.72	109.25	119.68	129.27

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV per ARI 750-2001.

**R-22 BALANCED PORTED VALVES (TONS) B / HF / TFE / TRAE / T SERIES (CONTINUED)**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.34	0.39	0.44	0.49	0.54	0.58	0.27	0.30	0.34	0.37	0.40	0.43	0.18	0.20	0.23	0.25	0.27	0.28
BA/BN	1	0.65	0.75	0.84	0.94	1.03	1.11	0.52	0.58	0.65	0.71	0.77	0.82	0.34	0.38	0.43	0.47	0.50	0.54
BA/BN	1-1/2	1.02	1.18	1.32	1.47	1.61	1.74	0.81	0.91	1.01	1.11	1.20	1.28	0.53	0.59	0.66	0.73	0.78	0.84
BA/BN	2	1.36	1.57	1.76	1.96	2.15	2.32	1.08	1.21	1.35	1.48	1.60	1.71	0.71	0.79	0.89	0.97	1.05	1.12
BA/BN	2-1/2	1.72	1.99	2.22	2.48	2.72	2.94	1.37	1.53	1.71	1.88	2.03	2.17	0.90	1.01	1.13	1.23	1.33	1.42
BA/BN	3	2.08	2.40	2.69	3.00	3.29	3.55	1.66	1.86	2.08	2.27	2.46	2.62	1.09	1.22	1.36	1.49	1.61	1.72
BA/BN	4	2.69	3.11	3.47	3.88	4.25	4.59	2.15	2.40	2.69	2.94	3.18	3.40	1.41	1.58	1.76	1.93	2.09	2.23
BA/BN	5	3.40	3.93	4.39	4.91	5.38	5.81	2.72	3.04	3.40	3.72	4.02	4.30	1.79	2.00	2.24	2.45	2.65	2.83
BA/BN	6	4.23	4.88	5.46	6.11	6.69	7.22	3.38	3.78	4.23	4.63	5.00	5.34	2.23	2.49	2.79	3.05	3.30	3.53
HF	1/4	0.19	0.22	0.25	0.27	0.30	0.32	0.15	0.17	0.19	0.21	0.22	0.24	0.10	0.11	0.13	0.14	0.15	0.16
HF	1/2	0.36	0.42	0.46	0.52	0.57	0.61	0.29	0.32	0.36	0.40	0.43	0.46	0.19	0.21	0.24	0.26	0.28	0.30
HF	1	0.65	0.75	0.84	0.94	1.03	1.11	0.52	0.58	0.65	0.71	0.77	0.82	0.34	0.38	0.43	0.47	0.50	0.54
HF	1-1/2	1.00	1.15	1.29	1.44	1.58	1.71	0.79	0.88	0.99	1.08	1.17	1.25	0.52	0.58	0.65	0.71	0.77	0.82
HF	2	1.34	1.55	1.73	1.93	2.12	2.29	1.07	1.20	1.34	1.47	1.58	1.69	0.70	0.78	0.88	0.96	1.04	1.11
HF	2-1/2	1.72	1.99	2.22	2.48	2.72	2.94	1.37	1.53	1.71	1.88	2.03	2.17	0.90	1.01	1.13	1.23	1.33	1.42
HF	3	2.26	2.61	2.92	3.26	3.57	3.86	1.81	2.02	2.26	2.48	2.68	2.86	1.19	1.33	1.49	1.63	1.76	1.88
HF	5-1/2	4.03	4.65	5.20	5.82	6.37	6.88	3.22	3.60	4.03	4.41	4.76	5.09	2.12	2.37	2.65	2.90	3.14	3.35
HF	8	5.61	6.48	7.24	8.10	8.87	9.58	4.48	5.01	5.60	6.13	6.63	7.08	2.95	3.30	3.69	4.04	4.36	4.66
HF	10	7.10	8.20	9.17	10.25	11.23	12.13	5.67	6.34	7.09	7.76	8.39	8.97	3.73	4.17	4.66	5.11	5.52	5.90
HF	15	10.53	12.16	13.59	15.20	16.65	17.98	8.40	9.39	10.50	11.50	12.42	13.28	5.53	6.18	6.91	7.57	8.18	8.74
HF	20	13.86	16.00	17.89	20.01	21.91	23.67	11.06	12.37	13.83	15.14	16.36	17.49	7.28	8.14	9.10	9.97	10.77	11.51
TFE	8	5.50	6.35	7.10	7.94	8.70	9.39	4.39	4.91	5.49	6.01	6.49	6.94	2.89	3.23	3.61	3.96	4.27	4.57
TFE	10	7.54	8.71	9.73	10.88	11.92	12.88	6.02	6.73	7.53	8.24	8.90	9.52	3.96	4.43	4.95	5.42	5.86	6.26
TFE	12	9.35	10.80	12.07	13.50	14.78	15.97	7.47	8.35	9.34	10.23	11.05	11.81	4.92	5.50	6.15	6.74	7.28	7.78
TFE	20	14.28	16.49	18.44	20.61	22.58	24.39	11.40	12.75	14.25	15.61	16.86	18.02	7.51	8.40	9.39	10.28	11.11	11.87
TRAE+	10	8.10	9.35	10.46	11.69	12.81	13.83	6.47	7.23	8.09	8.86	9.57	10.23	4.26	4.76	5.33	5.83	6.30	6.74
TRAE+	15	11.80	13.63	15.23	17.03	18.66	20.15	9.42	10.53	11.78	12.90	13.93	14.89	6.21	6.94	7.76	8.50	9.18	9.82
TRAE+	20	13.18	15.22	17.02	19.02	20.84	22.51	10.52	11.76	13.15	14.41	15.56	16.63	6.93	7.75	8.66	9.49	10.25	10.96
TRAE+	30	19.97	23.06	25.78	28.82	31.58	34.11	15.94	17.82	19.93	21.83	23.58	25.20	10.50	11.74	13.13	14.38	15.53	16.60
TRAE+	40	27.45	31.70	35.44	39.62	43.40	46.88	21.92	24.51	27.40	30.02	32.42	34.66	14.43	16.13	18.04	19.76	21.34	22.82
TRAE	50	37.06	42.79	47.84	53.49	58.60	63.29	29.59	33.08	36.99	40.52	43.76	46.79	19.48	21.78	24.35	26.67	28.81	30.80
TRAE	60	40.42	46.67	52.18	58.34	63.91	69.03	32.27	36.08	40.34	44.19	47.73	51.02	21.25	23.76	26.56	29.10	31.43	33.60
TRAE	70	48.11	55.55	62.11	69.44	76.07	82.16	38.41	42.94	48.01	52.60	56.81	60.73	25.29	28.28	31.61	34.63	37.40	39.99
TJR	14	10.09	11.65	13.03	14.56	15.95	17.23	8.05	9.00	10.06	11.02	11.91	12.73	5.30	5.93	6.63	7.26	7.84	8.38
TJR	18	12.08	13.95	15.60	17.44	19.10	20.63	9.64	10.78	12.05	13.20	14.26	15.24	6.35	7.10	7.94	8.70	9.39	10.04
TER	22	15.10	17.44	19.49	21.79	23.88	25.79	12.05	13.47	15.06	16.50	17.82	19.05	7.94	8.88	9.93	10.87	11.74	12.55
TER	26	17.84	20.60	23.03	25.75	28.21	30.47	14.25	15.93	17.81	19.51	21.08	22.53	9.38	10.49	11.73	12.84	13.87	14.83
TER	35	24.02	27.74	31.01	34.67	37.98	41.02	19.18	21.44	23.98	26.26	28.37	30.33	12.63	14.12	15.79	17.29	18.68	19.97
TER	45	30.88	35.66	39.87	44.57	48.83	52.74	24.66	27.57	30.83	33.77	36.47	38.99	16.24	18.16	20.30	22.24	24.02	25.68
TIR	55	37.75	43.59	48.74	54.49	59.69	64.47	30.13	33.69	37.66	41.26	44.56	47.64	19.84	22.18	24.80	27.17	29.34	31.37
THR	75	48.04	55.47	62.02	69.34	75.96	82.04	38.35	42.88	47.94	52.51	56.72	60.64	25.26	28.24	31.58	34.59	37.36	39.94
THR	85	58.33	67.35	75.30	84.19	92.23	99.62	46.57	52.07	58.21	63.77	68.88	73.63	30.67	34.29	38.34	42.00	45.36	48.49
TMR	100	68.63	79.25	88.60	99.06	108.51	117.21	54.79	61.26	68.49	75.02	81.04	86.63	36.08	40.34	45.10	49.40	53.36	57.05

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV per ARI 750-2001.

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-134a BALANCED PORTED VALVES (TONS) B / HF / TFE / TRAE / T SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.37	0.43	0.48	0.53	0.59	0.63	0.37	0.43	0.48	0.53	0.59	0.63	0.35	0.40	0.45	0.51	0.55	0.60
BA/BN	3/4	0.71	0.82	0.92	1.02	1.12	1.21	0.70	0.81	0.90	1.01	1.11	1.20	0.67	0.77	0.86	0.97	1.06	1.14
BA/BN	1	1.11	1.28	1.43	1.60	1.76	1.90	1.09	1.26	1.41	1.57	1.72	1.86	1.04	1.20	1.34	1.50	1.64	1.78
BA/BN	1-1/2	1.48	1.71	1.91	2.14	2.34	2.53	1.45	1.67	1.87	2.09	2.29	2.48	1.39	1.61	1.79	2.01	2.20	2.37
BA/BN	2	1.87	2.16	2.41	2.70	2.96	3.19	1.84	2.12	2.38	2.66	2.91	3.14	1.76	2.03	2.27	2.54	2.78	3.01
BA/BN	2-1/4	2.27	2.62	2.93	3.28	3.59	3.88	2.22	2.56	2.87	3.20	3.51	3.79	2.13	2.46	2.75	3.07	3.37	3.64
BA/BN	3	2.94	3.39	3.80	4.24	4.65	5.02	2.88	3.33	3.72	4.16	4.55	4.92	2.75	3.18	3.55	3.97	4.35	4.70
BA/BN	3-1/2	3.72	4.30	4.80	5.37	5.88	6.35	3.64	4.20	4.70	5.25	5.76	6.22	3.48	4.02	4.49	5.02	5.50	5.94
BA/BN	4-1/4	4.62	5.33	5.96	6.67	7.30	7.89	4.53	5.23	5.85	6.54	7.16	7.74	4.33	5.00	5.59	6.25	6.85	7.39
HF	1/4	0.21	0.24	0.27	0.30	0.33	0.36	0.21	0.24	0.27	0.30	0.33	0.36	0.20	0.23	0.26	0.29	0.32	0.34
HF	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.39	0.45	0.50	0.56	0.62	0.67	0.37	0.43	0.48	0.53	0.59	0.63
HF	3/4	0.71	0.82	0.92	1.02	1.12	1.21	0.70	0.81	0.90	1.01	1.11	1.20	0.67	0.77	0.86	0.97	1.06	1.14
HF	1	1.09	1.26	1.41	1.57	1.72	1.86	1.06	1.22	1.37	1.53	1.68	1.81	1.02	1.18	1.32	1.47	1.61	1.74
HF	1-1/2	1.46	1.69	1.88	2.11	2.31	2.49	1.43	1.65	1.85	2.06	2.26	2.44	1.37	1.58	1.77	1.98	2.17	2.34
HF	1-3/4	1.87	2.16	2.41	2.70	2.96	3.19	1.84	2.12	2.38	2.66	2.91	3.14	1.76	2.03	2.27	2.54	2.78	3.01
HF	2-1/2	2.47	2.85	3.19	3.57	3.91	4.22	2.42	2.79	3.12	3.49	3.83	4.13	2.32	2.68	3.00	3.35	3.67	3.96
HF	4	4.40	5.08	5.68	6.35	6.96	7.51	4.31	4.98	5.56	6.22	6.81	7.36	4.12	4.76	5.32	5.95	6.51	7.04
HF	6	6.12	7.07	7.90	8.83	9.68	10.45	6.00	6.93	7.75	8.66	9.49	10.25	5.74	6.63	7.41	8.28	9.08	9.80
HF	7-1/2	7.75	8.95	10.01	11.19	12.25	13.24	7.59	8.76	9.80	10.96	12.00	12.96	7.26	8.38	9.37	10.48	11.48	12.40
HF	11	11.50	13.28	14.85	16.60	18.18	19.64	11.26	13.00	14.54	16.25	17.80	19.23	10.77	12.44	13.90	15.55	17.03	18.39
HF	14	15.13	17.47	19.53	21.84	23.92	25.84	14.82	17.11	19.13	21.39	23.43	25.31	14.18	16.37	18.31	20.47	22.42	24.22
TFE	6	6.01	6.94	7.76	8.67	9.50	10.26	5.89	6.80	7.60	8.50	9.31	10.06	5.63	6.50	7.27	8.13	8.90	9.62
TFE	8	8.23	9.50	10.62	11.88	13.01	14.06	8.06	9.31	10.41	11.63	12.74	13.77	7.71	8.90	9.95	11.13	12.19	13.17
TFE	10	10.22	11.80	13.19	14.75	16.16	17.45	10.01	11.56	12.92	14.45	15.83	17.10	9.57	11.05	12.35	13.81	15.13	16.34
TFE	15	15.60	18.01	20.14	22.52	24.67	26.64	15.28	17.64	19.73	22.05	24.16	26.10	14.61	16.87	18.86	21.09	23.10	24.95
TRAE+	9	8.84	10.21	11.41	12.76	13.98	15.10	8.66	10.00	11.18	12.50	13.69	14.79	8.29	9.57	10.70	11.97	13.11	14.16
TRAE+	13	12.89	14.88	16.64	18.61	20.38	22.01	12.63	14.58	16.31	18.23	19.97	21.57	12.08	13.95	15.60	17.44	19.10	20.63
TRAE+	14	14.39	16.62	18.58	20.77	22.75	24.58	14.09	16.27	18.19	20.34	22.28	24.06	13.48	15.57	17.40	19.46	21.31	23.02
TRAE+	22	21.81	25.18	28.16	31.48	34.48	37.25	21.36	24.66	27.58	30.83	33.77	36.48	20.43	23.59	26.38	29.49	32.30	34.89
TRAE+	30	29.98	34.62	38.70	43.27	47.40	51.20	29.36	33.90	37.90	42.38	46.42	50.14	28.09	32.44	36.26	40.54	44.41	47.97
TRAE	40	40.48	46.74	52.26	58.43	64.00	69.13	39.64	45.77	51.18	57.22	62.68	67.70	37.92	43.79	48.95	54.73	59.96	64.76
TRAE	45	44.15	50.98	57.00	63.73	69.81	75.40	43.24	49.93	55.82	62.41	68.37	73.85	41.36	47.76	53.40	59.70	65.40	70.64
TRAE	50	52.54	60.67	67.83	75.83	83.07	89.73	51.46	59.42	66.43	74.28	81.37	87.88	49.22	56.83	63.54	71.04	77.82	84.06
TJR	11	11.02	12.72	14.23	15.91	17.42	18.82	10.79	12.46	13.93	15.57	17.06	18.43	10.32	11.92	13.32	14.90	16.32	17.62
TJR	13	13.19	15.23	17.03	19.04	20.86	22.53	12.92	14.92	16.68	18.65	20.43	22.07	12.36	14.27	15.96	17.84	19.54	21.11
TER	16	16.49	19.04	21.29	23.80	26.07	28.16	16.15	18.65	20.85	23.31	25.54	27.58	15.45	17.84	19.95	22.30	24.43	26.39
TER	19	19.49	22.51	25.16	28.13	30.82	33.29	19.09	22.04	24.65	27.55	30.18	32.60	18.26	21.08	23.57	26.36	28.87	31.18
TER	25	26.23	30.29	33.86	37.86	41.47	44.80	25.69	29.66	33.17	37.08	40.62	43.87	24.58	28.38	31.73	35.48	38.86	41.98
TER	31	33.73	38.95	43.55	48.69	53.33	57.60	33.03	38.14	42.64	47.67	52.23	56.41	31.60	36.49	40.80	45.61	49.96	53.97
TIR	45	41.23	47.61	53.23	59.51	65.19	70.41	40.37	46.62	52.12	58.27	63.83	68.94	38.62	44.59	49.86	55.74	61.06	65.96
THR	55	52.47	60.59	67.74	75.73	82.96	89.61	51.38	59.33	66.33	74.16	81.24	87.75	49.15	56.75	63.45	70.94	77.71	83.94
THR	68	63.71	73.57	82.25	91.96	100.73	108.81	62.40	72.05	80.56	90.07	98.66	106.57	59.69	68.92	77.06	86.16	94.38	101.94
TMR	68	74.95	86.54	96.76	108.18	118.51	128.00	73.41	84.77	94.77	105.96	116.07	125.37	70.22	81.08	90.65	101.35	111.03	119.92

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV per ARI 750-2001.

**R-134a BALANCED PORTED VALVES (TONS) B | HF | TFE | TRAE | T SERIES (CONTINUED)**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.29	0.33	0.37	0.42	0.46	0.50	0.22	0.25	0.28	0.30	0.33	0.35	0.13	0.15	0.16	0.18	0.19	0.21
BA/BN	3/4	0.55	0.64	0.71	0.79	0.87	0.94	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
BA/BN	1	0.86	0.99	1.11	1.24	1.36	1.47	0.64	0.72	0.80	0.88	0.95	1.01	0.39	0.44	0.49	0.53	0.58	0.62
BA/BN	1-1/2	1.14	1.32	1.47	1.65	1.80	1.95	0.85	0.95	1.06	1.16	1.26	1.34	0.52	0.58	0.65	0.71	0.77	0.82
BA/BN	2	1.44	1.66	1.86	2.08	2.28	2.46	1.08	1.21	1.35	1.48	1.60	1.71	0.66	0.74	0.83	0.90	0.98	1.04
BA/BN	2-1/4	1.75	2.02	2.26	2.53	2.77	2.99	1.31	1.46	1.64	1.79	1.94	2.07	0.80	0.89	1.00	1.10	1.18	1.26
BA/BN	3	2.27	2.62	2.93	3.28	3.59	3.88	1.69	1.89	2.11	2.31	2.50	2.67	1.04	1.16	1.30	1.42	1.54	1.64
BA/BN	3-1/2	2.87	3.31	3.71	4.14	4.54	4.90	2.14	2.39	2.68	2.93	3.17	3.38	1.31	1.46	1.64	1.79	1.94	2.07
BA/BN	4-1/4	3.57	4.12	4.61	5.15	5.64	6.10	2.66	2.97	3.33	3.64	3.93	4.21	1.63	1.82	2.04	2.23	2.41	2.58
HF	1/4	0.16	0.18	0.21	0.23	0.25	0.27	0.12	0.13	0.15	0.16	0.18	0.19	0.07	0.08	0.09	0.10	0.10	0.11
HF	1/2	0.31	0.36	0.40	0.45	0.49	0.53	0.23	0.26	0.29	0.31	0.34	0.36	0.14	0.16	0.18	0.19	0.21	0.22
HF	3/4	0.55	0.64	0.71	0.79	0.87	0.94	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
HF	1	0.84	0.97	1.08	1.21	1.33	1.43	0.63	0.70	0.79	0.86	0.93	1.00	0.38	0.42	0.48	0.52	0.56	0.60
HF	1-1/2	1.13	1.30	1.46	1.63	1.79	1.93	0.84	0.94	1.05	1.15	1.24	1.33	0.52	0.58	0.65	0.71	0.77	0.82
HF	1-3/4	1.44	1.66	1.86	2.08	2.28	2.46	1.08	1.21	1.35	1.48	1.60	1.71	0.66	0.74	0.83	0.90	0.98	1.04
HF	2-1/2	1.91	2.21	2.47	2.76	3.02	3.26	1.42	1.59	1.78	1.94	2.10	2.25	0.87	0.97	1.09	1.19	1.29	1.38
HF	4	3.39	3.91	4.38	4.89	5.36	5.79	2.53	2.83	3.16	3.46	3.74	4.00	1.55	1.73	1.94	2.12	2.29	2.45
HF	6	4.72	5.45	6.09	6.81	7.46	8.06	3.52	3.94	4.40	4.82	5.21	5.57	2.16	2.41	2.70	2.96	3.19	3.42
HF	7-1/2	5.98	6.91	7.72	8.63	9.46	10.21	4.46	4.99	5.58	6.11	6.60	7.05	2.74	3.06	3.43	3.75	4.05	4.33
HF	11	8.87	10.24	11.45	12.80	14.02	15.15	6.62	7.40	8.28	9.06	9.79	10.47	4.06	4.54	5.08	5.56	6.00	6.42
HF	14	11.67	13.48	15.07	16.84	18.45	19.93	8.71	9.74	10.89	11.93	12.88	13.77	5.34	5.97	6.68	7.31	7.90	8.44
TFE	6	4.64	5.36	5.99	6.70	7.34	7.92	3.46	3.87	4.33	4.74	5.12	5.47	2.12	2.37	2.65	2.90	3.14	3.35
TFE	8	6.35	7.33	8.20	9.17	10.04	10.84	4.74	5.30	5.93	6.49	7.01	7.49	2.91	3.25	3.64	3.98	4.30	4.60
TFE	10	7.88	9.10	10.17	11.37	12.46	13.46	5.88	6.57	7.35	8.05	8.70	9.30	3.61	4.04	4.51	4.94	5.34	5.71
TFE	15	12.03	13.89	15.53	17.36	19.02	20.55	8.97	10.03	11.21	12.28	13.27	14.18	5.51	6.16	6.89	7.54	8.15	8.71
TRAE+	9	6.82	7.88	8.80	9.84	10.78	11.65	5.09	5.69	6.36	6.97	7.53	8.05	3.12	3.49	3.90	4.27	4.61	4.93
TRAE+	13	9.94	11.48	12.83	14.35	15.72	16.98	7.42	8.30	9.28	10.16	10.97	11.73	4.55	5.09	5.69	6.23	6.73	7.19
TRAE+	14	11.1	12.82	14.33	16.02	17.55	18.96	8.28	9.26	10.35	11.34	12.25	13.09	5.08	5.68	6.35	6.96	7.51	8.03
TRAE+	22	16.82	19.42	21.71	24.28	26.59	28.73	12.55	14.03	15.69	17.18	18.56	19.84	7.70	8.61	9.63	10.54	11.39	12.17
TRAE+	30	23.12	26.70	29.85	33.37	36.56	39.48	17.25	19.29	21.56	23.62	25.51	27.27	10.59	11.84	13.24	14.50	15.66	16.74
TRAE	40	31.21	36.04	40.29	45.05	49.35	53.30	23.29	26.04	29.11	31.89	34.45	36.82	14.29	15.98	17.86	19.57	21.14	22.59
TRAE	45	34.04	39.31	43.95	49.13	53.82	58.13	25.40	28.40	31.75	34.78	37.57	40.16	15.59	17.43	19.49	21.35	23.06	24.65
TRAE	50	40.52	46.79	52.31	58.49	64.07	69.20	30.23	33.80	37.79	41.39	44.71	47.80	18.55	20.74	23.19	25.40	27.44	29.33
TJR	11	8.50	9.81	10.97	12.27	13.44	14.52	6.34	7.09	7.93	8.68	9.38	10.02	3.89	4.35	4.86	5.33	5.75	6.15
TJR	13	10.17	11.74	13.13	14.68	16.08	17.37	7.59	8.49	9.49	10.39	11.23	12.00	4.66	5.21	5.83	6.38	6.89	7.37
TER	16	12.72	14.69	16.42	18.36	20.11	21.72	9.49	10.61	11.86	12.99	14.04	15.01	5.82	6.51	7.28	7.97	8.61	9.20
TER	19	15.03	17.36	19.40	21.69	23.76	25.67	11.21	12.53	14.01	15.35	16.58	17.72	6.88	7.69	8.60	9.42	10.18	10.88
TER	25	20.23	23.36	26.12	29.20	31.99	34.55	15.09	16.87	18.86	20.66	22.32	23.86	9.26	10.35	11.58	12.68	13.70	14.64
TER	31	26.01	30.03	33.58	37.54	41.13	44.42	19.41	21.70	24.26	26.58	28.71	30.69	11.91	13.32	14.89	16.31	17.62	18.83
TIR	45	31.79	36.71	41.04	45.88	50.26	54.29	23.72	26.52	29.65	32.48	35.08	37.50	14.56	16.28	18.20	19.94	21.53	23.02
THR	55	40.46	46.72	52.23	58.40	63.97	69.10	30.19	33.75	37.74	41.34	44.65	47.73	18.53	20.72	23.16	25.37	27.41	29.30
THR	68	49.13	56.73	63.43	70.91	77.68	83.91	36.66	40.99	45.83	50.20	54.22	57.96	22.50	25.16	28.13	30.81	33.28	35.58
TMR	68	57.80	66.74	74.62	83.43	91.39	98.71	43.12	48.21	53.90	59.04	63.78	68.18	26.47	29.59	33.09	36.25	39.15	41.85

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-290 BALANCED PORTED VALVES (TONS) B SERIES AND H SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F					40°F					20°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.36	0.42	0.47	0.53	0.58	0.62	0.36	0.41	0.46	0.52	0.56	0.61	0.34	0.39	0.44	0.49	0.54	0.58
BA/BN	3/4	0.69	0.80	0.89	1.00	1.10	1.18	0.68	0.78	0.88	0.98	1.07	1.16	0.65	0.75	0.84	0.94	1.03	1.11
BA/BN	1-1/4	1.08	1.25	1.39	1.56	1.71	1.84	1.06	1.22	1.36	1.53	1.67	1.81	1.01	1.17	1.30	1.46	1.60	1.73
BA/BN	1-3/4	1.44	1.67	1.87	2.09	2.28	2.47	1.41	1.63	1.83	2.04	2.24	2.42	1.35	1.56	1.75	1.95	2.14	2.31
BA/BN	2-1/4	1.82	2.11	2.35	2.63	2.88	3.12	1.79	2.06	2.31	2.58	2.82	3.05	1.71	1.97	2.20	2.46	2.70	2.92
BA/BN	2-3/4	2.21	2.55	2.85	3.19	3.50	3.78	2.16	2.50	2.79	3.12	3.42	3.70	2.07	2.39	2.67	2.99	3.27	3.53
BA/BN	3-1/2	2.86	3.30	3.69	4.13	4.52	4.88	2.80	3.23	3.62	4.04	4.43	4.78	2.68	3.09	3.46	3.86	4.23	4.57
BA/BN	4-1/2	3.63	4.19	4.68	5.23	5.73	6.19	3.55	4.10	4.58	5.12	5.61	6.06	3.39	3.92	4.38	4.90	5.37	5.80
BA/BN	5-3/4	4.50	5.20	5.81	6.50	7.12	7.69	4.41	5.09	5.69	6.36	6.97	7.53	4.21	4.87	5.44	6.08	6.66	7.20
HF	1/4	0.20	0.24	0.26	0.29	0.32	0.35	0.20	0.23	0.26	0.29	0.32	0.34	0.19	0.22	0.25	0.28	0.30	0.33
HF	1/2	0.39	0.45	0.50	0.56	0.61	0.66	0.38	0.44	0.49	0.55	0.60	0.65	0.36	0.42	0.47	0.52	0.57	0.62
HF	3/4	0.69	0.80	0.89	1.00	1.10	1.18	0.68	0.78	0.88	0.98	1.07	1.16	0.65	0.75	0.84	0.94	1.03	1.11
HF	1	1.06	1.22	1.37	1.53	1.67	1.81	1.04	1.20	1.34	1.50	1.64	1.77	0.99	1.14	1.28	1.43	1.57	1.69
HF	1-1/2	1.43	1.65	1.85	2.06	2.26	2.44	1.40	1.62	1.81	2.02	2.21	2.39	1.34	1.55	1.73	1.93	2.12	2.29
HF	2	1.83	2.11	2.36	2.64	2.90	3.13	1.79	2.07	2.31	2.59	2.84	3.06	1.71	1.98	2.21	2.47	2.71	2.93
HF	2-1/2	2.42	2.79	3.12	3.49	3.82	4.12	2.36	2.73	3.05	3.41	3.74	4.04	2.26	2.61	2.92	3.26	3.57	3.86
HF	4-1/2	4.30	4.96	5.55	6.20	6.80	7.34	4.21	4.86	5.43	6.07	6.65	7.19	4.02	4.64	5.19	5.81	6.36	6.87
HF	6-1/2	5.98	6.90	7.71	8.63	9.45	10.21	5.85	6.76	7.55	8.45	9.25	9.99	5.59	6.46	7.22	8.07	8.84	9.55
HF	8	7.59	8.76	9.80	10.95	12.00	12.96	7.43	8.58	9.59	10.72	11.75	12.69	7.10	8.20	9.17	10.25	11.23	12.13
HF	12	11.24	12.97	14.51	16.22	17.77	19.19	11.00	12.70	14.20	15.88	17.40	18.79	10.52	12.14	13.58	15.18	16.63	17.96
HF	16	14.74	17.02	19.03	21.27	23.30	25.17	14.43	16.66	18.63	20.83	22.82	24.65	13.79	15.93	17.81	19.91	21.81	23.56

Standard capacity is rated at 100F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.28	0.32	0.36	0.40	0.44	0.47	0.22	0.25	0.28	0.31	0.33	0.35	0.15	0.17	0.19	0.20	0.22	0.24
BA/BN	3/4	0.53	0.61	0.68	0.76	0.83	0.90	0.42	0.48	0.53	0.58	0.63	0.67	0.28	0.32	0.36	0.39	0.42	0.45
BA/BN	1-1/4	0.82	0.95	1.06	1.19	1.30	1.40	0.66	0.74	0.83	0.91	0.98	1.05	0.44	0.50	0.55	0.61	0.66	0.70
BA/BN	1-3/4	1.10	1.27	1.42	1.59	1.74	1.88	0.89	0.99	1.11	1.21	1.31	1.40	0.59	0.66	0.74	0.81	0.88	0.94
BA/BN	2-1/4	1.39	1.60	1.79	2.00	2.20	2.37	1.12	1.25	1.40	1.53	1.65	1.77	0.75	0.84	0.94	1.02	1.11	1.18
BA/BN	2-3/4	1.68	1.94	2.17	2.43	2.66	2.87	1.36	1.52	1.69	1.86	2.00	2.14	0.91	1.01	1.13	1.24	1.34	1.43
BA/BN	3-1/2	2.18	2.51	2.81	3.14	3.44	3.72	1.75	1.96	2.19	2.40	2.59	2.77	1.17	1.31	1.47	1.61	1.74	1.86
BA/BN	4-1/2	2.76	3.19	3.56	3.98	4.37	4.72	2.22	2.49	2.78	3.04	3.29	3.52	1.49	1.66	1.86	2.04	2.20	2.35
BA/BN	5-3/4	3.43	3.96	4.42	4.95	5.42	5.85	2.76	3.09	3.45	3.78	4.08	4.36	1.85	2.07	2.31	2.53	2.73	2.92
HF	1/4	0.16	0.18	0.20	0.22	0.25	0.27	0.13	0.14	0.16	0.17	0.19	0.20	0.08	0.09	0.10	0.11	0.12	0.13
HF	1/2	0.29	0.34	0.38	0.42	0.47	0.50	0.24	0.27	0.30	0.32	0.35	0.37	0.16	0.18	0.20	0.22	0.23	0.25
HF	3/4	0.53	0.61	0.68	0.76	0.83	0.90	0.42	0.48	0.53	0.58	0.63	0.67	0.28	0.32	0.36	0.39	0.42	0.45
HF	1	0.81	0.93	1.04	1.16	1.27	1.38	0.65	0.73	0.81	0.89	0.96	1.03	0.43	0.49	0.54	0.59	0.64	0.69
HF	1-1/2	1.09	1.26	1.41	1.57	1.72	1.86	0.88	0.98	1.10	1.20	1.30	1.39	0.59	0.66	0.73	0.80	0.87	0.93
HF	2	1.39	1.61	1.80	2.01	2.20	2.38	1.12	1.26	1.40	1.54	1.66	1.78	0.75	0.84	0.94	1.03	1.11	1.19
HF	2-1/2	1.84	2.12	2.37	2.65	2.91	3.14	1.48	1.66	1.85	2.03	2.19	2.34	0.99	1.11	1.24	1.36	1.47	1.57
HF	4-1/2	3.27	3.78	4.22	4.72	5.17	5.59	2.63	2.95	3.29	3.61	3.90	4.17	1.76	1.97	2.20	2.41	2.61	2.79
HF	6-1/2	4.55	5.25	5.87	6.57	7.19	7.77	3.66	4.10	4.58	5.02	5.42	5.79	2.45	2.74	3.07	3.36	3.63	3.88
HF	8	5.78	6.67	7.46	8.34	9.13	9.87	4.65	5.20	5.82	6.37	6.88	7.36	3.11	3.48	3.89	4.26	4.61	4.92
HF	12	8.55	9.88	11.04	12.35	13.53	14.61	6.89	7.70	8.61	9.43	10.19	10.89	4.61	5.16	5.76	6.31	6.82	7.29
HF	16	11.22	12.96	14.49	16.20	17.74	19.16	9.04	10.10	11.29	12.37	13.36	14.29	6.05	6.76	7.56	8.28	8.95	9.56

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-290	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.22	1.14	1.07	1.00	0.93	0.85	0.78	0.70

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-404A/R-507 BALANCED PORTED VALVES (TONS) B / HF / TFE / TRAE / T SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.29	0.33	0.37	0.42	0.46	0.50	0.22	0.25	0.28	0.30	0.33	0.35	0.13	0.15	0.16	0.18	0.19	0.21
BA/BN	3/4	0.55	0.64	0.71	0.79	0.87	0.94	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
BA/BN	1	0.86	0.99	1.11	1.24	1.36	1.47	0.64	0.72	0.80	0.88	0.95	1.01	0.39	0.44	0.49	0.53	0.58	0.62
BA/BN	1-1/2	1.14	1.32	1.47	1.65	1.80	1.95	0.85	0.95	1.06	1.16	1.26	1.34	0.52	0.58	0.65	0.71	0.77	0.82
BA/BN	2	1.44	1.66	1.86	2.08	2.28	2.46	1.08	1.21	1.35	1.48	1.60	1.71	0.66	0.74	0.83	0.90	0.98	1.04
BA/BN	2-1/4	1.75	2.02	2.26	2.53	2.77	2.99	1.31	1.46	1.64	1.79	1.94	2.07	0.80	0.89	1.00	1.10	1.18	1.26
BA/BN	3	2.27	2.62	2.93	3.28	3.59	3.88	1.69	1.89	2.11	2.31	2.50	2.67	1.04	1.16	1.30	1.42	1.54	1.64
BA/BN	3-1/2	2.87	3.31	3.71	4.14	4.54	4.90	2.14	2.39	2.68	2.93	3.17	3.38	1.31	1.46	1.64	1.79	1.94	2.07
BA/BN	4-1/4	3.57	4.12	4.61	5.15	5.64	6.10	2.66	2.97	3.33	3.64	3.93	4.21	1.63	1.82	2.04	2.23	2.41	2.58
HF	1/4	0.16	0.18	0.21	0.23	0.25	0.27	0.12	0.13	0.15	0.16	0.18	0.19	0.07	0.08	0.09	0.10	0.10	0.11
HF	1/2	0.31	0.36	0.40	0.45	0.49	0.53	0.23	0.26	0.29	0.31	0.34	0.36	0.14	0.16	0.18	0.19	0.21	0.22
HF	3/4	0.55	0.64	0.71	0.79	0.87	0.94	0.41	0.46	0.51	0.56	0.61	0.65	0.25	0.28	0.31	0.34	0.37	0.40
HF	1	0.84	0.97	1.08	1.21	1.33	1.43	0.63	0.70	0.79	0.86	0.93	1.00	0.38	0.42	0.48	0.52	0.56	0.60
HF	1-1/2	1.13	1.30	1.46	1.63	1.79	1.93	0.84	0.94	1.05	1.15	1.24	1.33	0.52	0.58	0.65	0.71	0.77	0.82
HF	1-3/4	1.44	1.66	1.86	2.08	2.28	2.46	1.08	1.21	1.35	1.48	1.60	1.71	0.66	0.74	0.83	0.90	0.98	1.04
HF	2-1/2	1.91	2.21	2.47	2.76	3.02	3.26	1.42	1.59	1.78	1.94	2.10	2.25	0.87	0.97	1.09	1.19	1.29	1.38
HF	4	3.39	3.91	4.38	4.89	5.36	5.79	2.53	2.83	3.16	3.46	3.74	4.00	1.55	1.73	1.94	2.12	2.29	2.45
HF	6	4.72	5.45	6.09	6.81	7.46	8.06	3.52	3.94	4.40	4.82	5.21	5.57	2.16	2.41	2.70	2.96	3.19	3.42
HF	7-1/2	5.98	6.91	7.72	8.63	9.46	10.21	4.46	4.99	5.58	6.11	6.60	7.05	2.74	3.06	3.43	3.75	4.05	4.33
HF	11	8.87	10.24	11.45	12.80	14.02	15.15	6.62	7.40	8.28	9.06	9.79	10.47	4.06	4.54	5.08	5.56	6.00	6.42
HF	14	11.67	13.48	15.07	16.84	18.45	19.93	8.71	9.74	10.89	11.93	12.88	13.77	5.34	5.97	6.68	7.31	7.90	8.44
TFE	6	4.64	5.36	5.99	6.70	7.34	7.92	3.46	3.87	4.33	4.74	5.12	5.47	2.12	2.37	2.65	2.90	3.14	3.35
TFE	8	6.35	7.33	8.20	9.17	10.04	10.84	4.74	5.30	5.93	6.49	7.01	7.49	2.91	3.25	3.64	3.98	4.30	4.60
TFE	10	7.88	9.10	10.17	11.37	12.46	13.46	5.88	6.57	7.35	8.05	8.70	9.30	3.61	4.04	4.51	4.94	5.34	5.71
TFE	15	12.03	13.89	15.53	17.36	19.02	20.55	8.97	10.03	11.21	12.28	13.27	14.18	5.51	6.16	6.89	7.54	8.15	8.71
TRAE+	9	6.82	7.88	8.80	9.84	10.78	11.65	5.09	5.69	6.36	6.97	7.53	8.05	3.12	3.49	3.90	4.27	4.61	4.93
TRAE+	13	9.94	11.48	12.83	14.35	15.72	16.98	7.42	8.30	9.28	10.16	10.97	11.73	4.55	5.09	5.69	6.23	6.73	7.19
TRAE+	14	11.1	12.82	14.33	16.02	17.55	18.96	8.28	9.26	10.35	11.34	12.25	13.09	5.08	5.68	6.35	6.96	7.51	8.03
TRAE+	22	16.82	19.42	21.71	24.28	26.59	28.73	12.55	14.03	15.69	17.18	18.56	19.84	7.70	8.61	9.63	10.54	11.39	12.17
TRAE+	30	23.12	26.70	29.85	33.37	36.56	39.48	17.25	19.29	21.56	23.62	25.51	27.27	10.59	11.84	13.24	14.50	15.66	16.74
TRAE	40	31.21	36.04	40.29	45.05	49.35	53.30	23.29	26.04	29.11	31.89	34.45	36.82	14.29	15.98	17.86	19.57	21.14	22.59
TRAE	45	34.04	39.31	43.95	49.13	53.82	58.13	25.40	28.40	31.75	34.78	37.57	40.16	15.59	17.43	19.49	21.35	23.06	24.65
TRAE	50	40.52	46.79	52.31	58.49	64.07	69.20	30.23	33.80	37.79	41.39	44.71	47.80	18.55	20.74	23.19	25.40	27.44	29.33
TJR	11	8.50	9.81	10.97	12.27	13.44	14.52	6.34	7.09	7.93	8.68	9.38	10.02	3.89	4.35	4.86	5.33	5.75	6.15
TJR	13	10.17	11.74	13.13	14.68	16.08	17.37	7.59	8.49	9.49	10.39	11.23	12.00	4.66	5.21	5.83	6.38	6.89	7.37
TER	16	12.72	14.69	16.42	18.36	20.11	21.72	9.49	10.61	11.86	12.99	14.04	15.01	5.82	6.51	7.28	7.97	8.61	9.20
TER	19	15.03	17.36	19.40	21.69	23.76	25.67	11.21	12.53	14.01	15.35	16.58	17.72	6.88	7.69	8.60	9.42	10.18	10.88
TER	25	20.23	23.36	26.12	29.20	31.99	34.55	15.09	16.87	18.86	20.66	22.32	23.86	9.26	10.35	11.58	12.68	13.70	14.64
TER	31	26.01	30.03	33.58	37.54	41.13	44.42	19.41	21.70	24.26	26.58	28.71	30.69	11.91	13.32	14.89	16.31	17.62	18.83
TIR	45	31.79	36.71	41.04	45.88	50.26	54.29	23.72	26.52	29.65	32.48	35.08	37.50	14.56	16.28	18.20	19.94	21.53	23.02
THR	55	40.46	46.72	52.23	58.40	63.97	69.10	30.19	33.75	37.74	41.34	44.65	47.73	18.53	20.72	23.16	25.37	27.41	29.30
THR	68	49.13	56.73	63.43	70.91	77.68	83.91	36.66	40.99	45.83	50.20	54.22	57.96	22.50	25.16	28.13	30.81	33.28	35.58
TMR	68	57.80	66.74	74.62	83.43	91.39	98.71	43.12	48.21	53.90	59.04	63.78	68.18	26.47	29.59	33.09	36.25	39.15	41.85

Note: Standard capacity is rated at 100F liquid inlet and 40F evaporator temperature; with 100 Psi pressure drop across the TXV per ARI 750-2001.



**R-404A/R-507 BALANCED PORTED VALVES (TONS) B / HF / TFE / TRAE / T SERIES (CONTINUED)**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/4	0.24	0.28	0.31	0.35	0.38	0.41	0.19	0.21	0.24	0.26	0.28	0.30	0.12	0.13	0.15	0.16	0.18	0.19
BA/BN	1/2	0.45	0.52	0.58	0.65	0.71	0.77	0.36	0.40	0.45	0.49	0.53	0.57	0.23	0.26	0.29	0.31	0.34	0.36
BA/BN	1	0.71	0.82	0.92	1.02	1.12	1.21	0.55	0.61	0.69	0.75	0.81	0.87	0.36	0.40	0.45	0.49	0.53	0.57
BA/BN	1-1/4	0.94	1.09	1.21	1.36	1.49	1.61	0.74	0.83	0.93	1.01	1.09	1.17	0.48	0.54	0.60	0.66	0.71	0.76
BA/BN	1-1/2	1.19	1.37	1.54	1.72	1.88	2.03	0.93	1.04	1.16	1.27	1.38	1.47	0.61	0.68	0.76	0.84	0.90	0.96
BA/BN	2	1.44	1.66	1.86	2.08	2.28	2.46	1.13	1.26	1.41	1.55	1.67	1.79	0.74	0.83	0.93	1.01	1.09	1.17
BA/BN	2-1/2	1.87	2.16	2.41	2.70	2.96	3.19	1.47	1.64	1.84	2.01	2.17	2.32	0.96	1.07	1.20	1.31	1.42	1.52
BA/BN	3	2.36	2.73	3.05	3.41	3.73	4.03	1.85	2.07	2.31	2.53	2.74	2.93	1.21	1.35	1.51	1.66	1.79	1.91
BA/BN	4	2.94	3.39	3.80	4.24	4.65	5.02	2.31	2.58	2.89	3.16	3.42	3.65	1.51	1.69	1.89	2.07	2.23	2.39
HF	1/8	0.13	0.15	0.17	0.19	0.21	0.22	0.10	0.11	0.13	0.14	0.15	0.16	0.07	0.08	0.09	0.10	0.10	0.11
HF	1/4	0.25	0.29	0.32	0.36	0.40	0.43	0.20	0.22	0.25	0.27	0.30	0.32	0.13	0.15	0.16	0.18	0.19	0.21
HF	1/2	0.45	0.52	0.58	0.65	0.71	0.77	0.36	0.40	0.45	0.49	0.53	0.57	0.23	0.26	0.29	0.31	0.34	0.36
HF	1	0.69	0.80	0.89	1.00	1.09	1.18	0.54	0.60	0.68	0.74	0.80	0.85	0.35	0.39	0.44	0.48	0.52	0.55
HF	1-1/4	0.93	1.07	1.20	1.34	1.47	1.59	0.73	0.82	0.91	1.00	1.08	1.15	0.48	0.54	0.60	0.66	0.71	0.76
HF	1-1/2	1.19	1.37	1.54	1.72	1.88	2.03	0.93	1.04	1.16	1.27	1.38	1.47	0.61	0.68	0.76	0.84	0.90	0.96
HF	2	1.57	1.81	2.03	2.27	2.48	2.68	1.23	1.38	1.54	1.68	1.82	1.94	0.81	0.91	1.01	1.11	1.20	1.28
HF	3-1/2	2.80	3.23	3.61	4.04	4.43	4.78	2.19	2.45	2.74	3.00	3.24	3.46	1.43	1.60	1.79	1.96	2.11	2.26
HF	5	3.89	4.49	5.02	5.61	6.15	6.64	3.05	3.41	3.81	4.18	4.51	4.82	2.00	2.24	2.50	2.74	2.96	3.16
HF	7	4.93	5.69	6.36	7.12	7.80	8.42	3.87	4.33	4.84	5.30	5.72	6.12	2.53	2.83	3.16	3.46	3.74	4.00
HF	10	7.31	8.44	9.44	10.55	11.56	12.48	5.73	6.41	7.16	7.85	8.47	9.06	3.75	4.19	4.69	5.13	5.55	5.93
HF	13	9.62	11.11	12.42	13.89	15.21	16.43	7.55	8.44	9.44	10.34	11.17	11.94	4.93	5.51	6.16	6.75	7.29	7.80
TFE	5	3.82	4.41	4.93	5.51	6.04	6.52	3.00	3.35	3.75	4.11	4.44	4.74	1.96	2.19	2.45	2.68	2.90	3.10
TFE	7	5.23	6.04	6.75	7.55	8.27	8.93	4.10	4.58	5.13	5.61	6.06	6.48	2.68	3.00	3.35	3.67	3.96	4.24
TFE	9	6.50	7.51	8.39	9.38	10.28	11.10	5.10	5.70	6.38	6.98	7.54	8.06	3.33	3.72	4.16	4.56	4.93	5.27
TFE	14	9.92	11.45	12.81	14.32	15.68	16.94	7.78	8.70	9.73	10.65	11.51	12.30	5.08	5.68	6.35	6.96	7.51	8.03
TRAE+	8	5.62	6.49	7.26	8.11	8.89	9.60	4.41	4.93	5.51	6.04	6.52	6.97	2.88	3.22	3.60	3.94	4.26	4.55
TRAE+	12	8.20	9.47	10.59	11.84	12.97	14.00	6.43	7.19	8.04	8.80	9.51	10.17	4.20	4.70	5.25	5.75	6.21	6.64
TRAE+	14	9.15	10.57	11.81	13.21	14.47	15.63	7.18	8.03	8.98	9.83	10.62	11.35	4.69	5.24	5.86	6.42	6.94	7.42
TRAE+	20	13.87	16.02	17.91	20.02	21.93	23.69	10.88	12.16	13.60	14.90	16.09	17.20	7.11	7.95	8.89	9.74	10.52	11.24
TRAE+	30	19.06	22.01	24.61	27.51	30.14	32.55	14.95	16.71	18.69	20.47	22.11	23.64	9.77	10.92	12.21	13.38	14.45	15.45
TRAE	35	25.73	29.71	33.22	37.14	40.68	43.94	20.19	22.57	25.24	27.65	29.86	31.92	13.19	14.75	16.49	18.06	19.51	20.86
TRAE	40	28.07	32.41	36.24	40.52	44.38	47.94	22.02	24.62	27.53	30.15	32.57	34.82	14.39	16.09	17.99	19.70	21.28	22.75
TRAE	50	33.41	38.58	43.13	48.22	52.83	57.06	26.20	29.29	32.75	35.88	38.75	41.43	17.13	19.15	21.41	23.46	25.34	27.08
TJR	9	7.01	8.09	9.05	10.12	11.08	11.97	5.50	6.15	6.88	7.53	8.13	8.70	3.59	4.01	4.49	4.92	5.31	5.68
TJR	12	8.39	9.69	10.83	12.11	13.27	14.33	6.58	7.36	8.23	9.01	9.73	10.40	4.30	4.81	5.38	5.89	6.36	6.80
TER	14	10.48	12.10	13.53	15.13	16.57	17.90	8.22	9.19	10.28	11.26	12.16	13.00	5.30	5.93	6.63	7.26	7.84	8.38
TER	16	12.39	14.31	16.00	17.88	19.59	21.16	9.72	10.87	12.15	13.31	14.38	15.37	6.35	7.10	7.94	8.70	9.39	10.04
TER	21	16.68	19.26	21.53	24.08	26.37	28.49	13.08	14.62	16.35	17.91	19.35	20.68	8.55	9.56	10.69	11.71	12.65	13.52
TER	27	21.45	24.77	27.69	30.96	33.92	36.63	16.82	18.81	21.03	23.03	24.88	26.59	11.00	12.30	13.75	15.06	16.27	17.39
TIR	37	26.21	30.26	33.84	37.83	41.44	44.76	20.56	22.99	25.70	28.15	30.41	32.51	13.44	15.03	16.80	18.40	19.88	21.25
THR	48	33.36	38.52	43.07	48.15	52.75	56.97	26.17	29.26	32.71	35.83	38.71	41.38	17.10	19.12	21.38	23.42	25.29	27.04
THR	60	40.51	46.78	52.30	58.47	64.05	69.18	31.77	35.52	39.71	43.50	46.99	50.23	20.77	23.22	25.96	28.44	30.72	32.84
TMR	60	47.66	55.03	61.53	68.79	75.36	81.39	37.38	41.79	46.73	51.18	55.29	59.10	24.43	27.31	30.54	33.45	36.13	38.63

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-407A BALANCE PORTED VALVES (TONS) B SERIES AND H SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F					40°F					20°F							
		PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)					PRESSURE DROP ACROSS VALVE (PSI)							
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.39	0.45	0.51	0.57	0.62	0.67	0.39	0.45	0.50	0.56	0.61	0.66	0.37	0.43	0.48	0.54	0.59	0.63
BA/BN	1	0.75	0.86	0.96	1.08	1.18	1.27	0.73	0.85	0.95	1.06	1.16	1.25	0.71	0.81	0.91	1.02	1.12	1.21
BA/BN	1-1/2	1.16	1.34	1.50	1.68	1.84	1.98	1.14	1.32	1.47	1.65	1.81	1.95	1.10	1.27	1.42	1.59	1.74	1.88
BA/BN	2	1.55	1.79	2.01	2.24	2.46	2.65	1.53	1.76	1.97	2.21	2.42	2.61	1.47	1.70	1.90	2.12	2.33	2.51
BA/BN	2-1/2	1.96	2.27	2.53	2.83	3.10	3.35	1.93	2.23	2.49	2.78	3.05	3.29	1.86	2.14	2.40	2.68	2.94	3.17
BA/BN	3	2.38	2.75	3.07	3.43	3.76	4.06	2.34	2.70	3.02	3.37	3.70	3.99	2.25	2.60	2.91	3.25	3.56	3.84
BA/BN	4	3.08	3.55	3.97	4.44	4.87	5.26	3.02	3.49	3.91	4.37	4.78	5.17	2.91	3.36	3.76	4.20	4.60	4.97
BA/BN	5	3.90	4.51	5.04	5.63	6.17	6.66	3.84	4.43	4.95	5.54	6.06	6.55	3.69	4.26	4.77	5.33	5.84	6.30
BA/BN	6	4.84	5.59	6.25	6.99	7.66	8.27	4.76	5.50	6.15	6.87	7.53	8.13	4.58	5.29	5.92	6.61	7.25	7.83
HF	1/4	0.22	0.25	0.28	0.32	0.35	0.38	0.22	0.25	0.28	0.31	0.34	0.37	0.21	0.24	0.27	0.30	0.33	0.36
HF	1/2	0.42	0.48	0.54	0.60	0.66	0.71	0.41	0.47	0.53	0.59	0.65	0.70	0.39	0.45	0.51	0.57	0.62	0.67
HF	1	0.75	0.86	0.96	1.08	1.18	1.27	0.73	0.85	0.95	1.06	1.16	1.25	0.71	0.81	0.91	1.02	1.12	1.21
HF	1-1/2	1.14	1.31	1.47	1.64	1.80	1.94	1.12	1.29	1.44	1.62	1.77	1.91	1.08	1.24	1.39	1.55	1.70	1.84
HF	2	1.54	1.78	1.99	2.22	2.43	2.63	1.51	1.75	1.95	2.18	2.39	2.58	1.46	1.68	1.88	2.10	2.30	2.49
HF	2-1/2	1.97	2.28	2.54	2.84	3.12	3.37	1.94	2.24	2.50	2.80	3.06	3.31	1.86	2.15	2.41	2.69	2.95	3.18
HF	3	2.60	3.00	3.35	3.75	4.11	4.44	2.55	2.95	3.30	3.69	4.04	4.36	2.46	2.84	3.17	3.55	3.89	4.20
HF	6	4.62	5.34	5.97	6.67	7.31	7.90	4.55	5.25	5.87	6.56	7.19	7.76	4.37	5.05	5.65	6.31	6.92	7.47
HF	8	6.43	7.42	8.30	9.28	10.17	10.98	6.32	7.30	8.16	9.12	9.99	10.79	6.08	7.02	7.85	8.78	9.62	10.39
HF	10	8.16	9.43	10.54	11.78	12.91	13.94	8.03	9.27	10.36	11.58	12.69	13.71	7.72	8.92	9.97	11.15	12.21	13.19
HF	15	12.09	13.96	15.61	17.45	19.12	20.65	11.88	13.72	15.34	17.15	18.79	20.30	11.44	13.21	14.77	16.51	18.09	19.54
HF	20	15.86	18.31	20.47	22.89	25.07	27.08	15.59	18.00	20.12	22.50	24.65	26.62	15.00	17.32	19.37	21.66	23.72	25.62

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.34	0.39	0.44	0.49	0.54	0.58	0.26	0.29	0.33	0.36	0.39	0.41	0.17	0.19	0.21	0.23	0.25	0.27
BA/BN	1	0.65	0.74	0.83	0.93	1.02	1.10	0.50	0.55	0.62	0.68	0.73	0.78	0.32	0.36	0.40	0.44	0.47	0.51
BA/BN	1-1/2	1.01	1.16	1.30	1.45	1.59	1.72	0.77	0.86	0.96	1.06	1.14	1.22	0.50	0.56	0.63	0.68	0.74	0.79
BA/BN	2	1.34	1.55	1.74	1.94	2.13	2.30	1.03	1.15	1.29	1.41	1.53	1.63	0.67	0.75	0.84	0.92	0.99	1.06
BA/BN	2-1/2	1.70	1.96	2.19	2.45	2.68	2.90	1.30	1.46	1.63	1.79	1.93	2.06	0.84	0.94	1.06	1.16	1.25	1.34
BA/BN	3	2.06	2.38	2.66	2.97	3.25	3.51	1.58	1.77	1.98	2.16	2.34	2.50	1.02	1.14	1.28	1.40	1.51	1.62
BA/BN	4	2.66	3.07	3.44	3.84	4.21	4.55	2.04	2.29	2.56	2.80	3.02	3.23	1.32	1.48	1.66	1.81	1.96	2.09
BA/BN	5	3.37	3.90	4.36	4.87	5.34	5.76	2.59	2.90	3.24	3.55	3.83	4.10	1.68	1.88	2.10	2.30	2.48	2.66
BA/BN	6	4.19	4.84	5.41	6.05	6.62	7.16	3.22	3.60	4.02	4.41	4.76	5.09	2.08	2.33	2.61	2.85	3.08	3.30
HF	1/4	0.19	0.22	0.25	0.27	0.30	0.32	0.15	0.16	0.18	0.20	0.22	0.23	0.09	0.10	0.12	0.13	0.14	0.15
HF	1/2	0.36	0.42	0.46	0.52	0.57	0.61	0.28	0.31	0.35	0.38	0.41	0.44	0.17	0.20	0.22	0.24	0.26	0.28
HF	1	0.65	0.74	0.83	0.93	1.02	1.10	0.50	0.55	0.62	0.68	0.73	0.78	0.31	0.35	0.39	0.43	0.46	0.50
HF	1-1/2	0.98	1.14	1.27	1.42	1.56	1.68	0.76	0.85	0.95	1.04	1.12	1.20	0.48	0.53	0.60	0.65	0.71	0.76
HF	2	1.33	1.54	1.72	1.92	2.10	2.27	1.02	1.14	1.28	1.40	1.51	1.62	0.65	0.72	0.81	0.89	0.96	1.02
HF	2-1/2	1.70	1.97	2.20	2.46	2.70	2.91	1.31	1.46	1.64	1.79	1.94	2.07	0.83	0.93	1.03	1.13	1.22	1.31
HF	3-1/2	2.25	2.60	2.90	3.24	3.55	3.84	1.73	1.93	2.16	2.36	2.55	2.73	1.09	1.22	1.36	1.50	1.61	1.73
HF	6	4.00	4.62	5.16	5.77	6.32	6.83	3.07	3.43	3.84	4.21	4.54	4.86	1.94	2.17	2.43	2.66	2.87	3.07
HF	8-1/2	5.56	6.42	7.18	8.03	8.79	9.50	4.27	4.78	5.34	5.85	6.32	6.75	2.70	3.02	3.38	3.70	4.00	4.27
HF	10-1/2	7.06	8.15	9.12	10.19	11.17	12.06	5.42	6.06	6.78	7.43	8.02	8.58	3.43	3.84	4.29	4.70	5.07	5.42
HF	16	10.46	12.08	13.50	15.09	16.54	17.86	8.03	8.98	10.04	11.00	11.88	12.70	5.08	5.68	6.35	6.96	7.51	8.03
HF	20	13.72	15.84	17.71	19.80	21.69	23.43	10.54	11.78	13.17	14.43	15.58	16.66	6.66	7.45	8.33	9.12	9.86	10.54

**REFRIGERANT LIQUID TEMPERATURE CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-407A	1.78	1.70	1.63	1.55	1.47	1.40	1.32	1.24	1.16	1.08	1.00	0.92	0.83	0.75	0.66

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-407C BALANCED PORTED VALVES (TONS) B / HF/ TFE / TRAE / T SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.38	0.44	0.49	0.55	0.60	0.65	0.37	0.43	0.48	0.53	0.59	0.63	0.36	0.42	0.46	0.52	0.57	0.61
BA/BN	1	0.72	0.83	0.93	1.04	1.14	1.23	0.70	0.81	0.90	1.01	1.11	1.20	0.68	0.79	0.88	0.98	1.08	1.16
BA/BN	1-1/2	1.12	1.29	1.45	1.62	1.77	1.91	1.10	1.27	1.42	1.59	1.74	1.88	1.05	1.21	1.36	1.52	1.66	1.79
BA/BN	2	1.49	1.72	1.92	2.15	2.36	2.54	1.47	1.70	1.90	2.12	2.32	2.51	1.41	1.63	1.82	2.04	2.23	2.41
BA/BN	2-1/2	1.88	2.17	2.43	2.71	2.97	3.21	1.85	2.14	2.39	2.67	2.93	3.16	1.78	2.06	2.30	2.57	2.81	3.04
BA/BN	3	2.28	2.63	2.94	3.29	3.60	3.89	2.24	2.59	2.89	3.23	3.54	3.83	2.15	2.48	2.78	3.10	3.40	3.67
BA/BN	4	2.96	3.42	3.82	4.27	4.68	5.06	2.90	3.35	3.74	4.19	4.59	4.95	2.79	3.22	3.60	4.03	4.41	4.76
BA/BN	5	3.74	4.32	4.83	5.40	5.91	6.39	3.67	4.24	4.74	5.30	5.80	6.27	3.52	4.06	4.54	5.08	5.57	6.01
BA/BN	6	4.65	5.37	6.00	6.71	7.35	7.94	4.57	5.28	5.90	6.60	7.23	7.80	4.38	5.06	5.65	6.32	6.93	7.48
HF	1/4	0.21	0.24	0.27	0.30	0.33	0.36	0.21	0.24	0.27	0.30	0.33	0.36	0.20	0.23	0.26	0.29	0.32	0.34
HF	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.39	0.45	0.50	0.56	0.62	0.67	0.38	0.44	0.49	0.55	0.60	0.65
HF	1	0.72	0.83	0.93	1.04	1.14	1.23	0.70	0.81	0.90	1.01	1.11	1.20	0.68	0.79	0.88	0.98	1.08	1.16
HF	1-1/2	1.09	1.26	1.41	1.57	1.72	1.86	1.07	1.24	1.38	1.54	1.69	1.83	1.03	1.19	1.33	1.49	1.63	1.76
HF	2	1.47	1.70	1.90	2.12	2.32	2.51	1.44	1.66	1.86	2.08	2.28	2.46	1.39	1.61	1.79	2.01	2.20	2.37
HF	2-1/2	1.88	2.17	2.43	2.71	2.97	3.21	1.85	2.14	2.39	2.67	2.93	3.16	1.78	2.06	2.30	2.57	2.81	3.04
HF	3	2.49	2.88	3.21	3.59	3.94	4.25	2.44	2.82	3.15	3.52	3.86	4.17	2.35	2.71	3.03	3.39	3.72	4.01
HF	5-1/2	4.43	5.12	5.72	6.39	7.00	7.57	4.34	5.01	5.60	6.26	6.86	7.41	4.17	4.82	5.38	6.02	6.59	7.12
HF	8	6.16	7.11	7.95	8.89	9.74	10.52	6.05	6.99	7.81	8.73	9.57	10.33	5.81	6.71	7.50	8.39	9.19	9.92
HF	10	7.80	9.01	10.07	11.26	12.33	13.32	7.65	8.83	9.88	11.04	12.10	13.06	7.35	8.49	9.49	10.61	11.62	12.55
HF	15	11.57	13.36	14.94	16.70	18.29	19.76	11.35	13.11	14.65	16.38	17.95	19.38	10.90	12.59	14.07	15.73	17.23	18.62
HF	20	15.22	17.57	19.65	21.97	24.06	25.99	14.94	17.25	19.29	21.56	23.62	25.51	14.35	16.57	18.53	20.71	22.69	24.51
TFE	8	6.05	6.99	7.81	8.73	9.57	10.33	5.94	6.86	7.67	8.57	9.39	10.14	5.70	6.58	7.36	8.23	9.01	9.73
TFE	10	8.28	9.56	10.69	11.95	13.09	14.14	8.13	9.39	10.50	11.73	12.85	13.88	7.80	9.01	10.07	11.26	12.33	13.32
TFE	12	10.28	11.87	13.27	14.84	16.25	17.56	10.09	11.65	13.03	14.56	15.95	17.23	9.69	11.19	12.51	13.99	15.32	16.55
TFE	20	15.69	18.12	20.26	22.65	24.81	26.80	15.40	17.78	19.88	22.23	24.35	26.30	14.79	17.08	19.09	21.35	23.39	25.26
TRAE+	10	8.90	10.28	11.49	12.85	14.07	15.20	8.73	10.08	11.27	12.60	13.80	14.91	8.39	9.69	10.83	12.11	13.27	14.33
TRAE+	15	12.97	14.98	16.74	18.72	20.51	22.15	12.73	14.70	16.43	18.37	20.13	21.74	12.22	14.11	15.78	17.64	19.32	20.87
TRAE+	20	14.48	16.72	18.69	20.90	22.89	24.73	14.21	16.41	18.35	20.51	22.47	24.27	13.64	15.75	17.61	19.69	21.57	23.29
TRAE+	30	21.94	25.33	28.32	31.67	34.69	37.47	21.45	24.77	27.69	30.96	33.92	36.63	20.68	23.88	26.70	29.85	32.70	35.32
TRAE+	40	30.16	34.83	38.94	43.53	47.69	51.51	29.60	34.18	38.21	42.72	46.80	50.55	28.43	32.83	36.70	41.04	44.95	48.55
TRAE	50	40.71	47.01	52.56	58.76	64.37	69.53	39.97	46.15	51.60	57.69	63.20	68.26	38.37	44.31	49.54	55.38	60.67	65.53
TRAE	60	44.41	51.28	57.33	64.10	70.22	75.84	43.59	50.33	56.27	62.92	68.92	74.44	41.86	48.34	54.04	60.42	66.19	71.49
TRAE	70	52.85	61.03	68.23	76.28	83.56	90.26	51.88	59.91	66.98	74.88	82.03	88.60	49.82	57.53	64.32	71.91	78.77	85.08
TJR	14	11.08	12.79	14.30	15.99	17.52	18.92	10.88	12.56	14.05	15.70	17.20	18.58	10.45	12.07	13.49	15.08	16.52	17.85
TJR	18	13.27	15.32	17.13	19.15	20.98	22.66	13.03	15.05	16.82	18.81	20.60	22.25	12.51	14.45	16.15	18.06	19.78	21.36
TER	22	16.59	19.16	21.42	23.95	26.23	28.33	16.28	18.80	21.02	23.50	25.74	27.80	15.63	18.05	20.18	22.56	24.71	26.69
TER	26	19.60	22.63	25.30	28.29	30.99	33.47	19.24	22.22	24.84	27.77	30.42	32.86	18.48	21.34	23.86	26.67	29.22	31.56
TER	35	26.39	30.47	34.07	38.09	41.73	45.07	25.90	29.91	33.44	37.38	40.95	44.23	24.87	28.72	32.11	35.90	39.32	42.47
TER	45	33.93	39.18	43.80	48.97	53.65	57.95	33.30	38.45	42.99	48.06	52.65	56.87	31.98	36.93	41.29	46.16	50.56	54.62
TIR	55	41.47	47.89	53.54	59.86	65.57	70.82	40.71	47.01	52.56	58.76	64.37	69.53	39.08	45.13	50.45	56.41	61.79	66.74
THR	75	52.78	60.95	68.14	76.18	83.45	90.14	51.81	59.83	66.89	74.78	81.92	88.48	49.74	57.43	64.21	71.79	78.65	84.95
THR	100	64.08	73.99	82.73	92.49	101.32	109.44	62.91	72.64	81.22	90.80	99.47	107.44	60.40	69.74	77.98	87.18	95.50	103.15
TMR	100	75.39	87.05	97.33	108.82	119.20	128.75	74.01	85.46	95.55	106.82	117.02	126.40	71.06	82.05	91.74	102.57	112.36	121.36

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.

**R-407C BALANCED PORTED VALVES (TONS) B | HF| TFE | TRAE | T SERIES (CONTINUED)**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.30	0.35	0.39	0.43	0.47	0.51	0.23	0.26	0.29	0.31	0.34	0.36	0.14	0.16	0.18	0.19	0.21	0.22
BA/BN	1	0.57	0.66	0.74	0.82	0.90	0.97	0.43	0.48	0.54	0.59	0.64	0.68	0.27	0.30	0.34	0.37	0.40	0.43
BA/BN	1-1/2	0.89	1.03	1.15	1.28	1.41	1.52	0.68	0.76	0.85	0.93	1.01	1.08	0.43	0.48	0.54	0.59	0.64	0.68
BA/BN	2	1.19	1.37	1.54	1.72	1.88	2.03	0.90	1.01	1.13	1.23	1.33	1.42	0.57	0.64	0.71	0.78	0.84	0.90
BA/BN	2-1/2	1.50	1.73	1.94	2.17	2.37	2.56	1.14	1.27	1.43	1.56	1.69	1.80	0.72	0.80	0.90	0.99	1.06	1.14
BA/BN	3	1.82	2.10	2.35	2.63	2.88	3.11	1.38	1.54	1.73	1.89	2.04	2.18	0.87	0.97	1.09	1.19	1.29	1.38
BA/BN	4	2.35	2.71	3.03	3.39	3.72	4.01	1.79	2.00	2.24	2.45	2.65	2.83	1.13	1.26	1.41	1.55	1.67	1.79
BA/BN	5	2.98	3.44	3.85	4.30	4.71	5.09	2.27	2.54	2.84	3.11	3.36	3.59	1.43	1.60	1.79	1.96	2.11	2.26
BA/BN	6	3.70	4.27	4.78	5.34	5.85	6.32	2.82	3.15	3.53	3.86	4.17	4.46	1.77	1.98	2.21	2.42	2.62	2.80
HF	1/4	0.17	0.20	0.22	0.25	0.27	0.29	0.13	0.15	0.16	0.18	0.19	0.21	0.08	0.09	0.10	0.11	0.12	0.13
HF	1/2	0.32	0.37	0.41	0.46	0.51	0.55	0.24	0.27	0.30	0.33	0.35	0.38	0.15	0.17	0.19	0.21	0.22	0.24
HF	1	0.57	0.66	0.74	0.82	0.90	0.97	0.43	0.48	0.54	0.59	0.64	0.68	0.27	0.30	0.34	0.37	0.40	0.43
HF	1-1/2	0.87	1.00	1.12	1.26	1.38	1.49	0.66	0.74	0.83	0.90	0.98	1.04	0.42	0.47	0.53	0.58	0.62	0.66
HF	2	1.17	1.35	1.51	1.69	1.85	2.00	0.89	1.00	1.11	1.22	1.32	1.41	0.56	0.63	0.70	0.77	0.83	0.89
HF	2-1/2	1.50	1.73	1.94	2.17	2.37	2.56	1.14	1.27	1.43	1.56	1.69	1.80	0.72	0.80	0.90	0.99	1.06	1.14
HF	3	1.98	2.29	2.56	2.86	3.13	3.38	1.51	1.69	1.89	2.07	2.23	2.39	0.95	1.06	1.19	1.30	1.41	1.50
HF	5-1/2	3.52	4.06	4.54	5.08	5.57	6.01	2.68	3.00	3.35	3.67	3.96	4.24	1.69	1.89	2.11	2.31	2.50	2.67
HF	8	4.90	5.66	6.33	7.07	7.75	8.37	3.73	4.17	4.66	5.11	5.52	5.90	2.35	2.63	2.94	3.22	3.48	3.72
HF	10	6.20	7.16	8.00	8.95	9.80	10.59	4.72	5.28	5.90	6.46	6.98	7.46	2.97	3.32	3.71	4.07	4.39	4.70
HF	15	9.20	10.62	11.88	13.28	14.55	15.71	7.01	7.84	8.76	9.60	10.37	11.08	4.41	4.93	5.51	6.04	6.52	6.97
HF	20	12.11	13.98	15.63	17.48	19.15	20.68	9.22	10.31	11.53	12.63	13.64	14.58	5.81	6.50	7.26	7.96	8.59	9.19
TFE	8	4.81	5.55	6.21	6.94	7.61	8.21	3.66	4.09	4.58	5.01	5.41	5.79	2.31	2.58	2.89	3.16	3.42	3.65
TFE	10	6.59	7.61	8.51	9.51	10.42	11.25	5.02	5.61	6.28	6.87	7.42	7.94	3.16	3.53	3.95	4.33	4.67	5.00
TFE	12	8.18	9.45	10.56	11.81	12.93	13.97	6.23	6.97	7.79	8.53	9.21	9.85	3.92	4.38	4.90	5.37	5.80	6.20
TFE	20	12.49	14.42	16.12	18.03	19.75	21.33	9.51	10.63	11.89	13.02	14.07	15.04	5.98	6.69	7.48	8.19	8.84	9.46
TRAE+	10	7.08	8.18	9.14	10.22	11.19	12.09	5.39	6.03	6.74	7.38	7.97	8.52	3.39	3.79	4.24	4.64	5.01	5.36
TRAE+	15	10.32	11.92	13.32	14.90	16.32	17.62	7.86	8.79	9.83	10.76	11.63	12.43	4.95	5.53	6.19	6.78	7.32	7.83
TRAE+	20	11.52	13.30	14.87	16.63	18.21	19.67	8.77	9.81	10.96	12.01	12.97	13.87	5.52	6.17	6.90	7.56	8.16	8.73
TRAE+	30	17.46	20.16	22.54	25.20	27.61	29.82	13.30	14.87	16.63	18.21	19.67	21.03	8.37	9.36	10.46	11.46	12.38	13.23
TRAE+	40	24.00	27.71	30.98	34.64	37.95	40.99	18.28	20.44	22.85	25.03	27.04	28.90	11.50	12.86	14.38	15.75	17.01	18.18
TRAE	50	32.40	37.41	41.83	46.77	51.23	55.33	24.67	27.58	30.84	33.78	36.49	39.01	15.53	17.36	19.41	21.27	22.97	24.56
TRAE	60	35.34	40.81	45.62	51.01	55.88	60.35	26.91	30.09	33.64	36.85	39.80	42.55	16.94	18.94	21.18	23.20	25.05	26.78
TRAE	70	42.06	48.57	54.30	60.71	66.50	71.83	32.03	35.81	40.04	43.86	47.37	50.64	20.16	22.54	25.20	27.61	29.82	31.88
TJR	14	8.82	10.18	11.39	12.73	13.95	15.06	6.72	7.51	8.40	9.20	9.94	10.63	4.23	4.73	5.29	5.79	6.26	6.69
TJR	18	10.56	12.19	13.63	15.24	16.70	18.03	8.04	8.99	10.05	11.01	11.89	12.71	5.06	5.66	6.33	6.93	7.48	8.00
TER	22	13.20	15.24	17.04	19.05	20.87	22.54	10.05	11.24	12.56	13.76	14.86	15.89	6.33	7.08	7.91	8.67	9.36	10.01
TER	26	15.60	18.01	20.14	22.52	24.67	26.64	11.88	13.28	14.85	16.27	17.57	18.78	7.48	8.36	9.35	10.24	11.06	11.83
TER	35	21.00	24.25	27.11	30.31	33.20	35.86	15.99	17.88	19.99	21.90	23.65	25.28	10.06	11.25	12.58	13.78	14.88	15.91
TER	45	27.00	31.18	34.86	38.97	42.69	46.11	20.56	22.99	25.70	28.15	30.41	32.51	12.94	14.47	16.18	17.72	19.14	20.46
TIR	55	33.00	38.11	42.60	47.63	52.18	56.36	25.13	28.10	31.41	34.41	37.17	39.73	15.82	17.69	19.78	21.66	23.40	25.01
THR	75	42.00	48.50	54.22	60.62	66.41	71.73	31.98	35.75	39.98	43.79	47.30	50.56	20.13	22.51	25.16	27.56	29.77	31.83
THR	100	51.00	58.89	65.84	73.61	80.64	87.10	38.84	43.42	48.55	53.18	57.45	61.41	24.44	27.32	30.55	33.47	36.15	38.64
TMR	100	60.00	69.28	77.46	86.60	94.87	102.47	45.69	51.08	57.11	62.56	67.58	72.24	28.76	32.15	35.95	39.38	42.54	45.47

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-407H (TONS) BALANCE PORTED VALVES - B-SERIES AND H-SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.46	0.54	0.60	0.67	0.73	0.79	0.46	0.53	0.59	0.66	0.72	0.78	0.44	0.51	0.57	0.64	0.70	0.76
BA/BN	1	0.88	1.02	1.14	1.27	1.39	1.50	0.87	1.00	1.12	1.25	1.37	1.48	0.84	0.97	1.09	1.22	1.33	1.44
BA/BN	1-3/4	1.37	1.58	1.77	1.98	2.17	2.34	1.35	1.56	1.75	1.95	2.14	2.31	1.31	1.52	1.69	1.89	2.08	2.24
BA/BN	2	1.84	2.12	2.37	2.65	2.90	3.14	1.81	2.09	2.34	2.61	2.86	3.09	1.76	2.03	2.27	2.53	2.78	3.00
BA/BN	3	2.32	2.68	2.99	3.35	3.67	3.96	2.29	2.64	2.95	3.30	3.61	3.90	2.22	2.56	2.86	3.20	3.51	3.79
BA/BN	3-1/2	2.81	3.24	3.63	4.06	4.44	4.80	2.77	3.20	3.58	4.00	4.38	4.73	2.69	3.10	3.47	3.88	4.25	4.59
BA/BN	4-1/2	3.63	4.20	4.69	5.25	5.75	6.21	3.58	4.14	4.63	5.17	5.67	6.12	3.48	4.01	4.49	5.02	5.50	5.94
BA/BN	6	4.61	5.32	5.95	6.65	7.29	7.87	4.55	5.25	5.87	6.56	7.19	7.76	4.41	5.09	5.69	6.36	6.97	7.53
BA/BN	7-1/2	5.72	6.61	7.39	8.26	9.05	9.77	5.64	6.52	7.28	8.14	8.92	9.64	5.47	6.32	7.06	7.90	8.65	9.34
HF	1/4	0.24	0.28	0.31	0.35	0.38	0.41	0.24	0.27	0.31	0.34	0.38	0.41	0.23	0.27	0.30	0.33	0.36	0.39
HF	1/2	0.46	0.53	0.59	0.66	0.72	0.78	0.45	0.52	0.58	0.65	0.71	0.77	0.44	0.50	0.56	0.63	0.69	0.75
HF	1	0.82	0.94	1.06	1.18	1.29	1.40	0.81	0.93	1.04	1.16	1.28	1.38	0.78	0.90	1.01	1.13	1.24	1.34
HF	1-1/2	1.25	1.44	1.61	1.80	1.97	2.13	1.23	1.42	1.59	1.78	1.95	2.10	1.19	1.38	1.54	1.72	1.89	2.04
HF	2	1.69	1.95	2.18	2.44	2.67	2.88	1.67	1.92	2.15	2.40	2.63	2.84	1.62	1.87	2.09	2.33	2.55	2.76
HF	2-3/4	2.16	2.50	2.79	3.12	3.42	3.69	2.13	2.46	2.75	3.08	3.37	3.64	2.07	2.39	2.67	2.99	3.27	3.53
HF	3-1/2	2.85	3.29	3.68	4.11	4.51	4.87	2.81	3.25	3.63	4.06	4.45	4.80	2.73	3.15	3.52	3.94	4.31	4.66
HF	6-1/2	5.07	5.86	6.55	7.32	8.02	8.66	5.00	5.78	6.46	7.22	7.91	8.55	4.85	5.60	6.27	7.01	7.67	8.29
HF	9	7.05	8.14	9.11	10.18	11.15	12.05	6.96	8.03	8.98	10.04	11.00	11.88	6.75	7.79	8.71	9.74	10.67	11.53
HF	11-1/2	8.96	10.34	11.56	12.93	14.16	15.30	8.83	10.20	11.41	12.75	13.97	15.09	8.57	9.90	11.06	12.37	13.55	14.64
HF	17	13.26	15.31	17.12	19.14	20.97	22.65	13.08	15.11	16.89	18.88	20.69	22.34	12.69	14.65	16.38	18.32	20.07	21.67
HF	22	17.40	20.09	22.46	25.11	27.51	29.71	17.16	19.81	22.15	24.77	27.13	29.31	16.65	19.22	21.49	24.03	26.32	28.43

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.40	0.46	0.51	0.57	0.62	0.67	0.31	0.34	0.38	0.42	0.45	0.48	0.19	0.22	0.24	0.27	0.29	0.31
BA/BN	1	0.75	0.87	0.97	1.08	1.19	1.28	0.58	0.65	0.72	0.79	0.86	0.92	0.37	0.41	0.46	0.50	0.55	0.58
BA/BN	1-3/4	1.17	1.35	1.51	1.69	1.85	2.00	0.90	1.01	1.13	1.24	1.34	1.43	0.57	0.64	0.72	0.79	0.85	0.91
BA/BN	2	1.56	1.81	2.02	2.26	2.47	2.67	1.21	1.35	1.51	1.65	1.79	1.91	0.77	0.86	0.96	1.05	1.14	1.21
BA/BN	3	1.98	2.28	2.55	2.85	3.12	3.37	1.53	1.71	1.91	2.09	2.26	2.41	0.97	1.08	1.21	1.33	1.43	1.53
BA/BN	3-1/2	2.39	2.77	3.09	3.46	3.79	4.09	1.85	2.07	2.31	2.53	2.73	2.92	1.18	1.31	1.47	1.61	1.74	1.86
BA/BN	4-1/2	3.10	3.58	4.00	4.47	4.90	5.29	2.39	2.67	2.99	3.27	3.54	3.78	1.52	1.70	1.90	2.08	2.25	2.40
BA/BN	6	3.93	4.54	5.07	5.67	6.21	6.71	3.03	3.39	3.79	4.15	4.48	4.79	1.93	2.16	2.41	2.64	2.85	3.05
BA/BN	7-1/2	4.88	5.63	6.30	7.04	7.71	8.33	3.76	4.21	4.70	5.15	5.57	5.95	2.39	2.68	2.99	3.28	3.54	3.79
HF	1/4	0.21	0.24	0.27	0.30	0.33	0.35	0.16	0.18	0.20	0.22	0.23	0.25	0.10	0.11	0.13	0.14	0.15	0.16
HF	1/2	0.39	0.45	0.50	0.56	0.62	0.67	0.30	0.34	0.38	0.41	0.44	0.48	0.19	0.21	0.24	0.26	0.28	0.30
HF	1	0.70	0.81	0.90	1.01	1.10	1.19	0.54	0.60	0.67	0.74	0.80	0.85	0.34	0.38	0.43	0.47	0.51	0.54
HF	1-1/2	1.07	1.23	1.38	1.54	1.68	1.82	0.82	0.92	1.03	1.13	1.22	1.30	0.52	0.59	0.65	0.72	0.77	0.83
HF	2	1.44	1.66	1.86	2.08	2.28	2.46	1.11	1.24	1.39	1.52	1.64	1.76	0.71	0.79	0.88	0.97	1.05	1.12
HF	2-3/4	1.84	2.13	2.38	2.66	2.92	3.15	1.42	1.59	1.78	1.95	2.11	2.25	0.91	1.01	1.13	1.24	1.34	1.43
HF	3-1/2	2.43	2.81	3.14	3.51	3.85	4.15	1.88	2.10	2.35	2.57	2.78	2.97	1.20	1.34	1.49	1.64	1.77	1.89
HF	6-1/2	4.33	5.00	5.59	6.25	6.84	7.39	3.34	3.74	4.18	4.58	4.94	5.28	2.13	2.38	2.66	2.91	3.15	3.36
HF	9	6.02	6.95	7.77	8.69	9.51	10.28	4.65	5.20	5.81	6.36	6.87	7.35	2.96	3.31	3.70	4.05	4.37	4.68
HF	11-1/2	7.64	8.82	9.87	11.03	12.08	13.05	5.90	6.60	7.38	8.08	8.73	9.33	3.76	4.20	4.69	5.14	5.55	5.94
HF	17	11.32	13.07	14.61	16.33	17.89	19.32	8.74	9.77	10.92	11.96	12.92	13.82	5.56	6.22	6.95	7.62	8.23	8.79
HF	22	14.84	17.14	19.16	21.42	23.47	25.35	11.46	12.81	14.33	15.69	16.95	18.12	7.29	8.16	9.12	9.99	10.79	11.53

**REFRIGERANT LIQUID TEMPERATURE CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-407H	1.65	1.59	1.52	1.46	1.40	1.33	1.27	1.20	1.13	1.07	1.00	0.93	0.86	0.79	0.71

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-410A BALANCED PORTED VALVES (TONS) B SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																							
		50 °F								40 °F								20 °F							
		PRESSURE DROP ACROSS VALVE (PSI)								PRESSURE DROP ACROSS VALVE (PSI)								PRESSURE DROP ACROSS VALVE (PSI)							
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285			
BA/BN	1	0.8	1.0	1.1	1.2	1.3	1.4	1.6	0.8	1.0	1.1	1.2	1.3	1.4	1.5	0.8	0.9	1.1	1.1	1.3	1.4	1.5			
	1-1/2	1.3	1.6	1.8	1.9	2.2	1.4	1.6	1.3	1.6	1.7	1.9	2.1	2.3	2.5	1.3	1.5	1.7	1.8	2.1	2.2	2.4			
	2	1.8	2.2	2.5	2.6	3.0	3.2	3.5	1.8	2.2	2.4	2.6	3.0	3.2	3.5	1.7	2.1	2.4	2.6	2.9	3.1	3.4			
	3	2.3	2.8	3.1	3.3	3.8	4.1	4.5	2.3	2.8	3.1	3.3	3.8	4.1	4.4	2.2	2.7	3.0	3.2	3.7	4.0	4.3			
	3-1/2	3.0	3.6	4.0	4.3	5.0	5.3	5.8	2.9	3.6	4.0	4.3	4.9	5.3	5.7	2.9	3.5	3.9	4.2	4.8	5.1	5.6			
	4-1/2	4.1	5.0	5.6	6.0	6.9	7.4	8.0	4.1	5.0	5.6	6.0	6.9	7.3	8.0	4.0	4.9	5.5	5.9	6.7	7.2	7.8			
	6	5.1	6.1	6.9	7.4	8.5	9.0	9.9	5.0	6.1	6.8	7.3	8.4	9.0	9.8	4.9	5.9	6.7	7.2	8.2	8.8	9.6			
	7-1/2	6.2	7.5	8.5	9.1	10.4	11.1	12.1	6.2	7.5	8.4	9.0	10.3	11.0	12.0	6.0	7.3	8.2	8.8	10.1	10.8	11.8			

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																					
		0 °F							-20 °F							-40 °F							
		PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)							
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285	
BA/BN	1	0.8	0.9	1.0	1.1	1.3	1.4	1.5	0.7	0.9	1.0	1.1	1.2	1.3	1.4	0.7	0.9	1.0	1.0	1.2	1.3	1.4	
	1-1/2	1.2	1.5	1.7	1.8	2.0	2.2	2.4	1.2	1.4	1.6	1.7	2.0	2.1	2.3	1.1	1.4	1.6	1.7	1.9	2.0	2.2	
	2	1.7	2.1	2.3	2.5	2.8	3.0	3.3	1.6	2.0	2.3	2.4	2.8	3.0	3.2	1.6	1.9	2.2	2.3	2.7	2.8	3.1	
	3	2.2	2.6	3.0	3.2	3.6	3.9	4.2	2.1	2.5	2.9	3.1	3.5	3.8	4.1	2.0	2.5	2.8	3.0	3.4	3.6	3.9	
	3-1/2	2.8	3.4	3.8	4.1	4.7	5.0	5.5	2.7	3.3	3.7	4.0	4.5	4.8	5.3	2.6	3.2	3.6	3.8	4.4	4.7	5.1	
	4-1/2	3.9	4.7	5.3	5.7	6.5	7.0	7.6	3.8	4.6	5.2	5.5	6.3	6.8	7.4	3.6	4.4	5.0	5.3	6.1	6.5	7.1	
	6	4.8	5.8	6.5	7.0	8.0	8.5	9.3	4.6	5.6	6.3	6.8	7.7	8.3	9.0	4.5	5.4	6.1	6.5	7.5	8.0	8.7	
	7-1/2	5.9	7.1	8.0	8.6	9.8	10.5	11.4	5.7	6.9	7.8	8.3	9.5	10.2	11.1	5.5	6.6	7.5	8.0	9.2	9.8	10.7	

**R-410A BALANCED PORTED VALVES (TONS) NXT SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																							
		50 °F								40 °F								20 °F							
		PRESSURE DROP ACROSS VALVE (PSI)								PRESSURE DROP ACROSS VALVE (PSI)								PRESSURE DROP ACROSS VALVE (PSI)							
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285			
NXT Series	1/2	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.4	0.5	0.5	0.5	0.6	0.7	0.7			
	1	0.7	0.8	0.9	1.0	1.2	1.2	1.3	0.7	0.8	0.9	1.0	1.1	1.2	1.3	0.7	0.8	0.9	1.0	1.1	1.2	1.3			
	1-1/2	1.0	1.3	1.4	1.5	1.7	1.9	2.0	1.0	1.2	1.4	1.5	1.7	1.8	2.0	1.0	1.2	1.4	1.5	1.7	1.8	2.0			
	2	1.4	1.7	1.9	2.0	2.3	2.5	2.7	1.4	1.7	1.9	2.0	2.3	2.4	2.7	1.3	1.6	1.8	2.0	2.2	2.4	2.6			
	3	2.1	2.5	2.8	3.0	3.5	3.7	4.0	2.1	2.5	2.8	3.0	3.4	3.7	4.0	2.0	2.4	2.7	2.9	3.4	3.6	3.9			
	4	2.8	3.3	3.8	4.0	4.6	4.9	5.4	2.7	3.3	3.7	4.0	4.6	4.9	5.3	2.7	3.2	3.7	3.9	4.5	4.8	5.2			
	5	3.5	4.2	4.7	5.0	5.8	6.2	6.7	3.4	4.1	4.7	5.0	5.7	6.1	6.7	3.3	4.1	4.6	4.9	5.6	6.0	6.5			
	6	4.1	5.0	5.7	6.1	6.9	7.4	8.1	4.1	5.0	5.6	6.0	6.9	7.3	8.0	4.0	4.9	5.5	5.9	6.7	7.2	7.8			
	7	4.8	5.9	6.6	7.1	8.1	8.6	9.4	4.8	5.8	6.5	7.0	8.0	8.6	9.3	4.7	5.7	6.4	6.8	7.8	8.4	9.1			
	8	5.8	7.0	7.9	8.5	9.7	10.4	11.3	5.7	7.0	7.8	8.4	9.6	10.3	11.2	5.6	6.8	7.7	8.2	9.4	10.1	11.0			
	10	7.1	8.6	9.7	10.4	11.9	12.7	13.9	7.1	8.5	9.6	10.3	11.8	12.6	13.8	6.9	8.4	9.4	10.1	11.6	12.4	13.5			
	12	8.7	10.6	11.9	12.7	14.6	15.6	17.0	8.6	10.5	11.8	12.6	14.5	15.5	16.9	8.5	10.2	11.6	12.4	14.2	15.1	16.5			
	15	10.2	12.4	14.0	14.9	17.1	18.3	19.9	10.1	12.3	13.8	14.8	16.9	18.1	19.7	9.9	12.0	13.5	14.5	16.6	17.7	19.3			

**R-410A BALANCED PORTED VALVES (TONS) NXT SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																				
		0 °F							-20 °F							-40 °F						
		PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)						
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285
NXT Series	1/2	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.3	0.4	0.5	0.6	0.6	0.6	0.7
	1	0.7	0.8	0.9	1.0	1.1	1.2	1.3	0.6	0.6	0.9	0.9	1.1	1.1	1.2	0.6	0.7	0.8	0.9	1.0	1.1	1.2
	1-1/2	1.0	1.2	1.3	1.4	1.6	1.8	1.9	0.9	1.1	1.3	1.4	1.6	1.7	1.8	0.9	1.1	1.2	1.3	1.5	1.6	1.8
	2	1.3	1.6	1.8	1.9	2.2	2.3	2.5	1.3	1.5	1.7	1.8	2.1	2.3	2.5	1.2	1.5	1.7	1.8	2.0	2.2	2.4
	3	2.0	2.4	2.7	2.9	3.3	3.5	3.8	1.9	2.3	2.6	2.8	3.2	3.4	3.7	1.8	2.2	2.5	2.7	3.1	3.3	3.6
	4	2.6	3.2	3.6	3.8	4.4	4.7	5.1	2.5	3.1	3.5	3.7	4.2	4.5	4.9	2.4	3.0	3.3	3.6	4.1	4.4	4.8
	5	3.3	3.9	4.5	4.8	5.5	5.8	6.4	3.2	3.8	4.3	4.6	5.3	5.7	6.2	3.0	3.7	4.2	4.5	5.1	5.5	5.9
	6	3.9	4.7	5.3	5.7	6.5	7.0	7.6	3.8	4.6	5.2	5.5	6.3	6.8	7.4	3.7	4.4	5.0	5.3	6.1	6.5	7.1
	7	4.8	5.9	6.6	6.7	8.1	8.6	9.4	4.4	5.4	6.0	6.5	7.4	7.9	8.6	4.3	5.2	5.8	6.2	7.1	7.6	8.3
	8	5.5	6.6	7.5	8.0	9.2	9.8	10.7	5.3	6.4	7.2	7.7	8.9	9.5	10.3	5.1	6.2	7.0	7.5	8.6	9.2	10.0
	10	6.7	8.1	9.2	9.8	11.3	12.0	13.1	6.5	7.9	8.9	9.5	10.9	11.7	12.7	6.3	7.6	8.6	9.2	10.5	11.2	12.3
	12	8.2	10.0	11.3	12.0	13.8	14.7	16.1	8.0	9.7	10.9	11.7	13.4	14.3	15.6	7.7	9.3	10.5	11.2	12.9	13.8	15.0
	15	9.6	11.7	13.2	14.1	16.1	17.3	18.8	9.3	11.3	12.8	13.7	15.6	16.7	18.2	9.0	10.3	12.3	13.2	15.1	15.1	17.6

NOTE: Standard capacity is rated at 100°F liquid inlet and 40°F evap temperature; with 160 psi pressure drop across TXV per ARI-750-2001. These ratings assume vapor free liquid entering the thermal expansion valve.

**R-410A BALANCE PORTED VALVES (TONS) TFE SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																				
		50 °F							40 °F							20 °F						
		PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)						
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285
TFES	12	8.1	9.9	11.1	11.9	13.6	14.6	15.9	8.1	9.8	11.0	11.8	13.5	14.5	15.7	7.9	9.6	10.8	11.5	13.2	14.1	15.4
	16	12.4	15.0	16.9	18.1	20.7	22.1	24.1	12.3	14.8	16.7	17.9	20.5	21.9	23.9	12.0	14.5	16.4	17.5	20.1	21.5	23.4
	20	13.3	16.1	18.2	19.5	22.3	23.8	26.0	13.2	16.0	18.1	19.3	22.1	23.6	25.8	12.9	15.7	17.7	18.9	21.6	23.1	25.2

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																				
		0 °F							-20 °F							-40 °F						
		PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)							PRESSURE DROP ACROSS VALVE (PSI)						
		75	110	140	160	210	240	285	75	110	140	160	210	240	285	75	110	140	160	210	240	285
TFES	12	7.7	9.3	10.5	11.2	12.9	13.8	15.0	7.5	9.0	10.2	10.9	12.5	13.3	14.5	7.2	8.7	9.8	10.5	12.0	12.9	14.0
	16	11.7	14.1	16.0	17.1	19.5	20.9	22.8	11.3	13.7	15.5	16.5	18.9	20.2	22.1	10.9	13.2	14.9	15.9	18.3	19.5	21.3
	20	12.6	15.2	17.2	18.4	21.1	22.5	24.5	12.2	14.8	16.7	17.8	20.4	21.8	23.8	11.8	14.3	16.1	17.2	19.7	21.1	22.9

NOTE: Standard capacity is rated at 100 °F liquid inlet and 40 °F evap temperature; with 160 psi pressure drop across TXV per ARI 750-2001. These ratings assume vapor free liquid entering the thermal expansion valve.

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	50	60	70	80	90	100	110	120	130	140	100	110	120	130	140
R-410A	1.37	1.30	1.23	1.15	1.08	1.00	0.92	0.84	0.75	0.65	1.00	0.93	0.86	0.79	0.71

These factors include corrections for liquid refrigerant density and net refrigeration effect, and are based on an average evaporator temperature of 0°F with a maximum 7°F Change in Superheat. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82	0.75
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	0.93	0.85	0.78	0.71
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70	0.50
R-450A/R-513A	1.73	1.65	1.58	1.51	1.44	1.36	1.29	1.22	1.15	1.07	1.00	0.93	0.85	0.78	0.70
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.

**R-448A / R-449A (TONS) BALANCE PORTED VALVES - B SERIES AND H SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/2	0.40	0.46	0.52	0.58	0.64	0.69	0.40	0.46	0.51	0.57	0.63	0.68	0.39	0.45	0.50	0.56	0.61	0.66
BA/BN	1	0.76	0.88	0.99	1.10	1.21	1.30	0.76	0.87	0.97	1.09	1.19	1.29	0.74	0.85	0.95	1.06	1.17	1.26
BA/BN	1-1/2	1.19	1.37	1.53	1.72	1.88	2.03	1.18	1.36	1.52	1.70	1.86	2.01	1.15	1.33	1.48	1.66	1.82	1.96
BA/BN	2	1.59	1.84	2.05	2.30	2.51	2.72	1.57	1.82	2.03	2.27	2.49	2.69	1.54	1.77	1.98	2.22	2.43	2.62
BA/BN	2-1/2	2.01	2.32	2.59	2.90	3.18	3.43	1.99	2.29	2.57	2.87	3.14	3.39	1.94	2.24	2.50	2.80	3.07	3.31
BA/BN	3	2.43	2.81	3.14	3.51	3.85	4.16	2.41	2.78	3.11	3.48	3.81	4.11	2.35	2.71	3.04	3.39	3.72	4.02
BA/BN	4	3.15	3.64	4.06	4.54	4.98	5.38	3.12	3.60	4.02	4.50	4.93	5.32	3.04	3.51	3.93	4.39	4.81	5.19
BA/BN	5	3.99	4.61	5.15	5.76	6.31	6.82	3.95	4.56	5.10	5.70	6.25	6.75	3.86	4.45	4.98	5.57	6.10	6.59
BA/BN	6	4.96	5.72	6.40	7.15	7.84	8.46	4.90	5.66	6.33	7.08	7.75	8.38	4.79	5.53	6.18	6.91	7.57	8.18
HF	1/4	0.22	0.26	0.29	0.32	0.36	0.38	0.22	0.26	0.29	0.32	0.35	0.38	0.22	0.25	0.28	0.31	0.34	0.37
HF	1/2	0.43	0.49	0.55	0.61	0.67	0.73	0.42	0.49	0.54	0.61	0.67	0.72	0.41	0.47	0.53	0.59	0.65	0.70
HF	1	0.76	0.88	0.99	1.10	1.21	1.30	0.76	0.87	0.97	1.09	1.19	1.29	0.74	0.85	0.95	1.06	1.17	1.26
HF	1-1/2	1.16	1.34	1.50	1.68	1.84	1.99	1.15	1.33	1.49	1.66	1.82	1.97	1.13	1.30	1.45	1.62	1.78	1.92
HF	2	1.57	1.82	2.03	2.27	2.49	2.69	1.56	1.80	2.01	2.25	2.46	2.66	1.52	1.76	1.96	2.20	2.40	2.60
HF	2-1/2	2.02	2.33	2.60	2.91	3.19	3.44	2.00	2.30	2.58	2.88	3.15	3.41	1.95	2.25	2.51	2.81	3.08	3.33
HF	3-1/2	2.66	3.07	3.43	3.84	4.20	4.54	2.63	3.04	3.40	3.80	4.16	4.49	2.57	2.97	3.32	3.71	4.06	4.39
HF	6	4.73	5.46	6.11	6.83	7.48	8.08	4.68	5.41	6.04	6.76	7.40	8.00	4.57	5.28	5.90	6.60	7.23	7.81
HF	8-1/2	6.58	7.60	8.49	9.50	10.40	11.23	6.51	7.52	8.40	9.40	10.29	11.12	6.36	7.34	8.20	9.17	10.05	10.85
HF	10-1/2	8.35	9.65	10.78	12.06	13.21	14.27	8.27	9.55	10.67	11.93	13.07	14.12	8.07	9.32	10.42	11.65	12.76	13.78
HF	16	12.37	14.28	15.97	17.85	19.56	21.13	12.24	14.14	15.80	17.67	19.36	20.91	11.95	13.80	15.43	17.25	18.89	20.41
HF	20-1/2	16.23	18.74	20.95	23.42	25.65	27.71	16.06	18.54	20.73	23.18	25.39	27.42	15.67	18.10	20.24	22.62	24.78	26.77

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature: with 100 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/2	0.38	0.44	0.49	0.54	0.60	0.64	0.34	0.39	0.43	0.47	0.51	0.54	0.23	0.26	0.29	0.32	0.34	0.37
BA/BN	1	0.72	0.83	0.93	1.03	1.13	1.22	0.65	0.73	0.82	0.90	0.97	1.04	0.44	0.49	0.55	0.61	0.65	0.70
BA/BN	1-1/2	1.12	1.29	1.44	1.61	1.77	1.91	1.02	1.14	1.27	1.40	1.51	1.61	0.69	0.77	0.86	0.94	1.02	1.09
BA/BN	2	1.49	1.73	1.93	2.16	2.36	2.55	1.36	1.53	1.71	1.87	2.02	2.16	0.92	1.03	1.15	1.26	1.36	1.46
BA/BN	2-1/2	1.89	2.18	2.44	2.72	2.98	3.22	1.72	1.93	2.15	2.36	2.55	2.72	1.16	1.30	1.45	1.59	1.72	1.84
BA/BN	3	2.29	2.64	2.95	3.30	3.62	3.91	2.09	2.33	2.61	2.86	3.09	3.30	1.41	1.58	1.76	1.93	2.09	2.23
BA/BN	4	2.96	3.42	3.82	4.27	4.68	5.05	2.70	3.02	3.38	3.70	4.00	4.27	1.82	2.04	2.28	2.50	2.70	2.88
BA/BN	5	3.75	4.33	4.84	5.41	5.93	6.41	3.43	3.83	4.28	4.69	5.07	5.42	2.31	2.59	2.89	3.17	3.42	3.66
BA/BN	6	4.66	5.38	6.01	6.72	7.36	7.95	4.25	4.75	5.32	5.82	6.29	6.72	2.87	3.21	3.59	3.93	4.25	4.54
HF	1/4	0.21	0.24	0.27	0.31	0.33	0.36	0.19	0.22	0.24	0.26	0.29	0.31	0.13	0.15	0.16	0.18	0.19	0.21
HF	1/2	0.40	0.46	0.52	0.58	0.63	0.68	0.37	0.41	0.46	0.50	0.54	0.58	0.25	0.28	0.31	0.34	0.36	0.39
HF	1	0.72	0.83	0.93	1.03	1.13	1.22	0.65	0.73	0.82	0.90	0.97	1.04	0.44	0.49	0.55	0.61	0.65	0.70
HF	1-1/2	1.09	1.26	1.41	1.58	1.73	1.87	1.00	1.12	1.25	1.37	1.48	1.58	0.67	0.75	0.84	0.92	1.00	1.07
HF	2	1.48	1.71	1.91	2.14	2.34	2.53	1.35	1.51	1.69	1.85	2.00	2.14	0.91	1.02	1.14	1.25	1.35	1.44
HF	2-1/2	1.89	2.19	2.45	2.73	3.00	3.24	1.73	1.93	2.16	2.37	2.56	2.74	1.17	1.31	1.46	1.60	1.73	1.85
HF	3-1/2	2.50	2.88	3.23	3.61	3.95	4.27	2.28	2.55	2.85	3.12	3.37	3.61	1.54	1.72	1.93	2.11	2.28	2.44
HF	6	4.45	5.13	5.74	6.42	7.03	7.59	4.06	4.54	5.07	5.56	6.00	6.42	2.74	3.06	3.43	3.75	4.05	4.33
HF	8-1/2	6.18	7.14	7.98	8.92	9.77	10.56	5.64	6.31	7.06	7.73	8.35	8.92	3.81	4.26	4.76	5.22	5.64	6.03
HF	10-1/2	7.85	9.06	10.13	11.33	12.41	13.41	7.17	8.01	8.96	9.81	10.60	11.33	4.84	5.41	6.05	6.63	7.16	7.65
HF	16	11.62	13.42	15.01	16.78	18.38	19.85	10.61	11.87	13.27	14.53	15.70	16.78	7.17	8.01	8.96	9.81	10.60	11.33
HF	20-1/2	15.25	17.61	19.68	22.01	24.11	26.04	13.92	15.56	17.40	19.06	20.59	22.01	9.40	10.51	11.75	12.87	13.90	14.86

**REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F														
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
R-448A/R-449A	1.71	1.64	1.57	1.50	1.43	1.36	1.29	1.22	1.15	1.07	1.00	0.92	0.85	0.77	0.69

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.



R-450A / R-513A BALANCE PORTED VALVES (TONS) B SERIES AND HF SERIES

Table with columns for Valve Type, Nominal Rating, and Evaporator Temperature (50°F, 40°F, 20°F) with sub-columns for Pressure Drop Across Valve (PSI) at various flow rates (60, 80, 100, 125, 150, 175).

NOTE: Standard capacity is rate at 100F liquid inlet and 40°F evaporator temperature; with 60 psi pressure drop across the TXV.

Table with columns for Valve Type, Nominal Rating, and Evaporator Temperature (0°F, -20°F, -40°F) with sub-columns for Pressure Drop Across Valve (PSI) at various flow rates (60, 80, 100, 125, 150, 175, 200).

REFRIGERANT LIQUID TEMPERATURE VALVE CAPACITY MULTIPLIER CORRECTION FACTORS

Table with columns for Refrigerant Liquid Temperature (0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140) and rows for various refrigerants (R-12, R-134a, R-22, R-404A/R-507, R-450A/R-513A, R-448A/R-449A).

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.



**R-502 BALANCED PORTED VALVES (TONS) B | HF | TFE | TRAE | T SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/4	0.26	0.30	0.34	0.38	0.41	0.44	0.25	0.29	0.32	0.36	0.40	0.43	0.24	0.28	0.31	0.35	0.38	0.41
BA/BN	1/2	0.49	0.57	0.63	0.71	0.77	0.84	0.48	0.55	0.62	0.69	0.76	0.82	0.46	0.53	0.59	0.66	0.73	0.79
BA/BN	1	0.76	0.88	0.98	1.10	1.20	1.30	0.74	0.85	0.96	1.07	1.17	1.26	0.71	0.82	0.92	1.02	1.12	1.21
BA/BN	1-1/4	1.02	1.18	1.32	1.47	1.61	1.74	0.99	1.14	1.28	1.43	1.57	1.69	0.95	1.10	1.23	1.37	1.50	1.62
BA/BN	1-1/2	1.28	1.48	1.65	1.85	2.02	2.19	1.26	1.45	1.63	1.82	1.99	2.15	1.20	1.39	1.55	1.73	1.90	2.05
BA/BN	2	1.55	1.79	2.00	2.24	2.45	2.65	1.52	1.76	1.96	2.19	2.40	2.60	1.45	1.67	1.87	2.09	2.29	2.48
BA/BN	2-1/2	2.01	2.32	2.59	2.90	3.18	3.43	1.97	2.27	2.54	2.84	3.11	3.36	1.88	2.17	2.43	2.71	2.97	3.21
BA/BN	3	2.54	2.93	3.28	3.67	4.02	4.34	2.49	2.88	3.21	3.59	3.94	4.25	2.38	2.75	3.07	3.44	3.76	4.06
BA/BN	4	3.17	3.66	4.09	4.58	5.01	5.41	3.10	3.58	4.00	4.47	4.90	5.29	2.96	3.42	3.82	4.27	4.68	5.06
HF	1/8	0.14	0.16	0.18	0.20	0.22	0.24	0.14	0.16	0.18	0.20	0.22	0.24	0.13	0.15	0.17	0.19	0.21	0.22
HF	1/4	0.27	0.31	0.35	0.39	0.43	0.46	0.27	0.31	0.35	0.39	0.43	0.46	0.25	0.29	0.32	0.36	0.40	0.43
HF	1/2	0.49	0.57	0.63	0.71	0.77	0.84	0.48	0.55	0.62	0.69	0.76	0.82	0.46	0.53	0.59	0.66	0.73	0.79
HF	1	0.74	0.85	0.96	1.07	1.17	1.26	0.73	0.84	0.94	1.05	1.15	1.25	0.70	0.81	0.90	1.01	1.11	1.20
HF	1-1/4	1.00	1.15	1.29	1.44	1.58	1.71	0.98	1.13	1.27	1.41	1.55	1.67	0.93	1.07	1.20	1.34	1.47	1.59
HF	1-1/2	1.28	1.48	1.65	1.85	2.02	2.19	1.26	1.45	1.63	1.82	1.99	2.15	1.20	1.39	1.55	1.73	1.90	2.05
HF	2	1.69	1.95	2.18	2.44	2.67	2.89	1.66	1.92	2.14	2.40	2.62	2.83	1.58	1.82	2.04	2.28	2.50	2.70
HF	3-1/2	3.01	3.48	3.89	4.34	4.76	5.14	2.95	3.41	3.81	4.26	4.66	5.04	2.81	3.24	3.63	4.06	4.44	4.80
HF	5	4.19	4.84	5.41	6.05	6.62	7.16	4.10	4.73	5.29	5.92	6.48	7.00	3.92	4.53	5.06	5.66	6.20	6.69
HF	7	5.30	6.12	6.84	7.65	8.38	9.05	5.19	5.99	6.70	7.49	8.21	8.86	4.96	5.73	6.40	7.16	7.84	8.47
HF	10	7.87	9.09	10.16	11.36	12.44	13.44	7.70	8.89	9.94	11.11	12.17	13.15	7.35	8.49	9.49	10.61	11.62	12.55
HF	13	10.36	11.96	13.37	14.95	16.38	17.69	10.14	11.71	13.09	14.64	16.03	17.32	9.68	11.18	12.50	13.97	15.31	16.53
TFE	5	4.11	4.75	5.31	5.93	6.50	7.02	4.03	4.65	5.20	5.82	6.37	6.88	3.84	4.43	4.96	5.54	6.07	6.56
TFE	7	5.63	6.50	7.27	8.13	8.90	9.62	5.51	6.36	7.11	7.95	8.71	9.41	5.26	6.07	6.79	7.59	8.32	8.98
TFE	9	6.99	8.07	9.02	10.09	11.05	11.94	6.85	7.91	8.84	9.89	10.83	11.70	6.53	7.54	8.43	9.43	10.32	11.15
TFE	14	10.68	12.33	13.79	15.42	16.89	18.24	10.45	12.07	13.49	15.08	16.52	17.85	9.97	11.51	12.87	14.39	15.76	17.03
TRAE+	8	6.05	6.99	7.81	8.73	9.57	10.33	5.93	6.85	7.66	8.56	9.38	10.13	5.66	6.54	7.31	8.17	8.95	9.67
TRAE+	12	8.82	10.18	11.39	12.73	13.95	15.06	8.64	9.98	11.15	12.47	13.66	14.76	8.24	9.51	10.64	11.89	13.03	14.07
TRAE+	14	9.85	11.37	12.72	14.22	15.57	16.82	9.64	11.13	12.45	13.91	15.24	16.46	9.20	10.62	11.88	13.28	14.55	15.71
TRAE+	20	14.93	17.24	19.27	21.55	23.61	25.50	14.61	16.87	18.86	21.09	23.10	24.95	13.95	16.11	18.01	20.14	22.06	23.82
TRAE+	30	20.52	23.69	26.49	29.62	32.44	35.04	20.09	23.20	25.94	29.00	31.77	34.31	19.17	22.14	24.75	27.67	30.31	32.74
TRAE	35	27.70	31.99	35.76	39.98	43.80	47.31	27.12	31.32	35.01	39.14	42.88	46.32	25.88	29.88	33.41	37.35	40.92	44.20
TRAE	40	30.22	34.90	39.01	43.62	47.78	51.61	29.58	34.16	38.19	42.70	46.77	50.52	28.23	32.60	36.44	40.75	44.64	48.21
TRAE	50	35.96	41.52	46.42	51.90	56.86	61.41	35.21	40.66	45.46	50.82	55.67	60.13	35.21	40.66	45.46	50.82	55.67	60.13
TJR	9	7.54	8.71	9.73	10.88	11.92	12.88	7.38	8.52	9.53	10.65	11.67	12.60	7.05	8.14	9.10	10.18	11.15	12.04
TJR	12	9.03	10.43	11.66	13.03	14.28	15.42	8.84	10.21	11.41	12.76	13.98	15.10	8.44	9.75	10.90	12.19	13.35	14.42
TER	14	11.29	13.04	14.58	16.30	17.85	19.28	11.05	12.76	14.27	15.95	17.47	18.87	10.56	12.19	13.63	15.24	16.70	18.03
TER	16	13.34	15.40	17.22	19.25	21.09	22.78	13.06	15.08	16.86	18.85	20.65	22.30	12.48	14.41	16.11	18.01	19.73	21.31
TER	21	17.96	20.74	23.19	25.92	28.40	30.67	17.58	20.30	22.70	25.37	27.80	30.02	16.80	19.39	21.68	24.24	26.56	28.69
TER	27	23.09	26.66	29.81	33.33	36.51	39.43	22.60	26.10	29.18	32.62	35.73	38.60	21.59	24.93	27.87	31.16	34.14	36.87
TIR	37	28.22	32.59	36.43	40.73	44.62	48.19	27.62	31.89	35.66	39.87	43.67	47.17	26.39	30.47	34.06	38.08	41.72	45.06
THR	48	35.91	41.47	46.36	51.83	56.78	61.33	35.15	40.59	45.38	50.73	55.58	60.03	33.58	38.77	43.35	48.47	53.09	57.35
THR	60	43.61	50.36	56.30	62.95	68.95	74.48	42.69	49.29	55.11	61.62	67.50	72.91	40.78	47.09	52.64	58.86	64.48	69.64
TMR	60	51.30	59.24	66.23	74.05	81.11	87.61	50.22	57.99	64.83	72.49	79.40	85.77	47.97	55.39	61.93	69.24	75.85	81.92

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV per ARI 750-2001.



**R-1234yf BALANCE PORTED VALVES (TONS) B SERIES AND H SERIES**

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		50°F						40°F						20°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	60	80	100	125	150	175	60	80	100	125	150	175
BA/BN	1/4	0.15	0.17	0.19	0.22	0.24	0.26	0.15	0.17	0.19	0.21	0.23	0.25	0.11	0.13	0.14	0.16	0.18	0.19
BA/BN	1/2	0.29	0.33	0.37	0.41	0.45	0.49	0.28	0.32	0.36	0.40	0.44	0.47	0.21	0.25	0.27	0.31	0.34	0.36
BA/BN	3/4	0.44	0.51	0.57	0.64	0.70	0.76	0.43	0.50	0.56	0.62	0.68	0.74	0.33	0.38	0.43	0.48	0.52	0.57
BA/BN	1	0.59	0.69	0.77	0.86	0.94	1.02	0.58	0.67	0.74	0.83	0.91	0.99	0.44	0.51	0.57	0.64	0.70	0.76
BA/BN	1-1/4	0.75	0.87	0.97	1.08	1.19	1.28	0.73	0.84	0.94	1.05	1.15	1.24	0.56	0.65	0.72	0.81	0.89	0.96
BA/BN	1-1/2	0.91	1.05	1.17	1.31	1.44	1.55	0.88	1.02	1.14	1.27	1.40	1.51	0.68	0.78	0.88	0.98	1.07	1.16
BA/BN	2	1.18	1.36	1.52	1.70	1.86	2.01	1.14	1.32	1.47	1.65	1.81	1.95	0.88	1.01	1.13	1.27	1.39	1.50
BA/BN	2-1/2	1.49	1.72	1.93	2.15	2.36	2.55	1.45	1.67	1.87	2.09	2.29	2.47	1.11	1.29	1.44	1.61	1.76	1.90
BA/BN	3-1/4	1.85	2.14	2.39	2.67	2.93	3.16	1.80	2.08	2.32	2.59	2.84	3.07	1.38	1.60	1.78	1.99	2.18	2.36
HF	1/8	0.08	0.10	0.11	0.12	0.13	0.14	0.08	0.09	0.11	0.12	0.13	0.14	0.06	0.07	0.08	0.09	0.10	0.11
HF	1/4	0.16	0.18	0.21	0.23	0.25	0.27	0.15	0.18	0.20	0.22	0.24	0.26	0.12	0.14	0.15	0.17	0.19	0.20
HF	1/2	0.29	0.33	0.37	0.41	0.45	0.49	0.28	0.32	0.36	0.40	0.44	0.47	0.21	0.25	0.27	0.31	0.34	0.36
HF	3/4	0.44	0.50	0.56	0.63	0.69	0.74	0.42	0.49	0.55	0.61	0.67	0.72	0.32	0.37	0.42	0.47	0.51	0.55
HF	1	0.59	0.68	0.76	0.85	0.93	1.01	0.57	0.66	0.74	0.82	0.90	0.98	0.44	0.51	0.57	0.63	0.69	0.75
HF	1-1/4	0.75	0.87	0.97	1.09	1.19	1.29	0.73	0.84	0.94	1.06	1.16	1.25	0.56	0.65	0.73	0.81	0.89	0.96
HF	1-3/4	0.99	1.15	1.28	1.43	1.57	1.70	0.96	1.11	1.24	1.39	1.52	1.65	0.74	0.86	0.96	1.07	1.17	1.27
HF	3	1.77	2.04	2.28	2.55	2.80	3.02	1.72	1.98	2.22	2.48	2.71	2.93	1.32	1.52	1.70	1.90	2.09	2.25

Standard capacity is rated at 100°F liquid inlet and 40°F evaporator temperature; with 100 psi pressure drop across the TXV.

VALVE TYPE	NOMINAL RATING	EVAPORATOR TEMPERATURE																	
		0°F						-20°F						-40°F					
		PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)						PRESSURE DROP ACROSS VALVE (PSI)					
		60	80	100	125	150	175	80	100	125	150	175	200	80	100	125	150	175	200
BA/BN	1/4	0.08	0.09	0.10	0.11	0.12	0.13	0.06	0.06	0.07	0.08	0.08	0.09	0.04	0.04	0.04	0.05	0.05	0.06
BA/BN	1/2	0.14	0.17	0.19	0.21	0.23	0.25	0.11	0.12	0.14	0.15	0.16	0.17	0.07	0.08	0.08	0.09	0.10	0.11
BA/BN	3/4	0.23	0.26	0.29	0.32	0.36	0.38	0.17	0.19	0.21	0.23	0.25	0.27	0.10	0.12	0.13	0.14	0.15	0.17
BA/BN	1	0.30	0.35	0.39	0.43	0.48	0.51	0.23	0.25	0.28	0.31	0.33	0.36	0.14	0.16	0.17	0.19	0.21	0.22
BA/BN	1-1/4	0.38	0.44	0.49	0.55	0.60	0.65	0.29	0.32	0.36	0.39	0.42	0.45	0.18	0.20	0.22	0.24	0.26	0.28
BA/BN	1-1/2	0.46	0.53	0.60	0.67	0.73	0.79	0.35	0.39	0.43	0.47	0.51	0.55	0.21	0.24	0.27	0.29	0.32	0.34
BA/BN	2	0.60	0.69	0.77	0.86	0.94	1.02	0.45	0.50	0.56	0.61	0.66	0.71	0.28	0.31	0.35	0.38	0.41	0.44
BA/BN	2-1/2	0.76	0.87	0.98	1.09	1.20	1.29	0.57	0.63	0.71	0.78	0.84	0.90	0.35	0.39	0.44	0.48	0.52	0.56
BA/BN	3-1/4	0.94	1.08	1.21	1.35	1.48	1.60	0.70	0.79	0.88	0.97	1.04	1.11	0.44	0.49	0.54	0.60	0.64	0.69
HF	1/8	0.04	0.05	0.05	0.06	0.07	0.07	0.03	0.04	0.04	0.04	0.05	0.05	0.02	0.02	0.02	0.03	0.03	0.03
HF	1/4	0.08	0.09	0.10	0.12	0.13	0.14	0.06	0.07	0.08	0.08	0.09	0.10	0.04	0.04	0.05	0.05	0.06	0.06
HF	1/2	0.14	0.17	0.19	0.21	0.23	0.25	0.11	0.12	0.14	0.15	0.16	0.17	0.07	0.08	0.08	0.09	0.10	0.11
HF	3/4	0.22	0.25	0.28	0.32	0.35	0.38	0.17	0.19	0.21	0.23	0.25	0.26	0.10	0.11	0.13	0.14	0.15	0.16
HF	1	0.30	0.34	0.38	0.43	0.47	0.51	0.22	0.25	0.28	0.31	0.33	0.35	0.14	0.15	0.17	0.19	0.20	0.22
HF	1-1/4	0.38	0.44	0.49	0.55	0.60	0.65	0.29	0.32	0.36	0.39	0.42	0.45	0.18	0.20	0.22	0.24	0.26	0.28
HF	1-3/4	0.50	0.58	0.65	0.73	0.80	0.86	0.38	0.42	0.47	0.52	0.56	0.60	0.23	0.26	0.29	0.32	0.35	0.37
HF	3	0.90	1.03	1.16	1.29	1.42	1.53	0.67	0.75	0.84	0.92	1.00	1.06	0.42	0.47	0.52	0.57	0.62	0.66

**REFRIGERANT LIQUID TEMPERATURE CORRECTION FACTORS**

	REFRIGERANT LIQUID TEMPERATURE °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-1234yf	1.89	1.80	1.72	1.63	1.54	1.45	1.36	1.27	1.18	1.09	1.00	0.91	0.82	0.72	0.63	

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an average evaporator temperature of 0°F. However, they may be used for any evaporator temperature from -40°F to +40°F since the variation in the actual factors across this range is insignificant.