

B Series Thermo™ - expansion valves

For over widely varying operating conditions.

The B Series is a balanced ported valve. Typical applications include: refrigerated cases, coolers, freezers, ice machines and air conditioning systems. B Series valves operate over widely varying operating conditions.

Features

- Stainless steel power element prevents corrosion and valve failure
- Hermetic, leak-free construction
- Compact size allows installation in limited spaces
- Bi-Flow capability allows one valve to control the superheat in both cooling and heating modes for heat pump applications
- Balanced port construction compensates for changes in operating pressures due to varying ambients, gas defrost, heat reclaim, or widely varying evaporator loads

Specifications

- Maximum working pressure: 700 psig



Options

- ZW195 charge available for R-410 air conditioning application
- ZAA charge for R410A is applicable to heat-pump, also available for air conditioning and refrigerated cases
- External or internal equalizer
- Bleed type pressure equalization available to accommodate PSC type compressors
- SAE or ODF connections standard – Chatleff or Aeroquip are available
- Adjustable or non-adjustable superheat

Model nomenclature example: BAEB 1/2HCA5FT3/8X1/2ODFS/T

B	A	E	B	1/2	H	CA	5 FT	3/8 x 1/2	ODF	S/T
Series	Superheat Adjustment	Equalizer	Bleed hole	Capacity	Refrigerant code	Charge code	Capillary tube length	Inlet x outlet connection sizes	Connection type	Configuration
Hermetic Balanced Port Design	A = Adjustable N = Non-Adjustable	E=External (Omit for Internal)	(Optional) (Omit for No Bleed Hole)	Nominal Rating in Tons (See Nominal Capacity Table Below)	+F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A Z = R-410A B = R-448A/ R-449A D = R-450A/ R-513A T = R-290	C = Medium Temp CA = Heat Pump W(MOP) ¹ = Press. Limiting Z = Low Temp A = Medium & Low Temp	30 IN & 5 FT (std)	1/4 X 3/8 3/8 X 1/2 1/2 X 5/8 5/8 X 7/8	SAE=Flare ODF = Solder	S/T = Straight-Thru ANG = 90° Angle

Not available for sale in the aftermarket.

+ = R-12 and R134a are interchangeable refrigerant charges

* = R-507, R-502 and R404A are interchangeable refrigerant charges

• = R-22/R-290 and R-407C are interchangeable refrigerant charges

¹ Maximum operating pressure

BA/BN Series – nominal* capacity table in Tons (kW)

R-12	R-134a	R-450A/R-513A	R-22/R-290/R-407C	R-410A	R-502/R-404A/R-507	**R-448A/R-449A
1/4 (0.9)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)	1/2 (1.8)	1/4 (0.9)	1/2 (1.8)
1/2 (1.8)	3/4 (2.7)	1/2 (1.8)	1 (3.5)	1 (3.5)	1/2 (1.8)	1 (3.5)
1 (3.5)	1 (3.5)	3/4 (2.7)	1-1/2 (5.3)	1-1/2 (5.3)	1 (3.5)	1-1/2 (5.3)
1-1/4 (4.4)	1-1/2 (5.3)	1 (3.5)	2 (7.0)	2 (7.0)	1-1/4 (4.4)	2 (7.0)
1-1/2 (5.3)	2 (7.0)	1-1/2 (5.3)	2-1/2 (9.0)	3 (11.0)	1-1/2 (5.3)	2-1/2 (8.8)
2 (7.0)	2-1/4 (8.0)	1-3/4 (9.5)	3 (11.0)	3-1/2 (12.0)	2 (7.0)	3 (11.0)
2-1/2 (9.0)	3 (11.0)	2-1/4 (8.0)	4 (14.0)	4-1/2 (16.0)	2-1/2 (9.0)	4 (14.0)
3 (11.0)	3-1/2 (12.0)	3 (11.0)	5 (17.0)	6 (21.0)	3 (11.0)	5 (17.5)
3-1/2 (12.0)	4-1/4 (15.0)	3-1/2 (12.0)	6 (21.0)	7-1/2 (26.0)	4 (14.0)	6 (21.0)

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

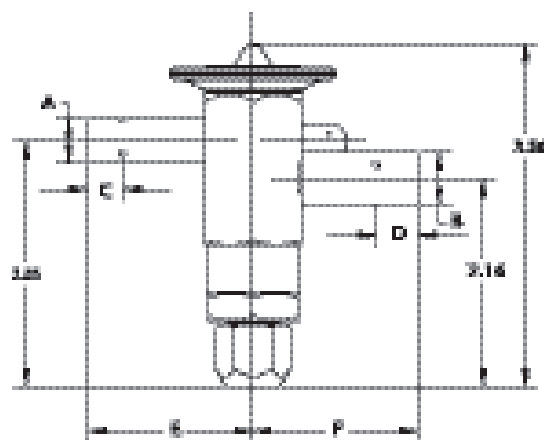
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BA dimensional data (in.)

Connection Size		A	B	C MIN	D MIN	E	F
Inlet	Outlet						
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.32	1.70	1.73
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.73	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.41	1.73	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.41	0.41	1.73	1.73
1/2 ODF	5/8 ODF	0.50	0.63	0.41	0.50	1.73	1.75
5/8 ODF	5/8 ODF	0.63	0.61	0.50	0.50	1.75	1.75
5/8 ODF	7/8 ODF	0.63	0.88	0.50	0.62	1.75	1.73

BA dimensional diagram

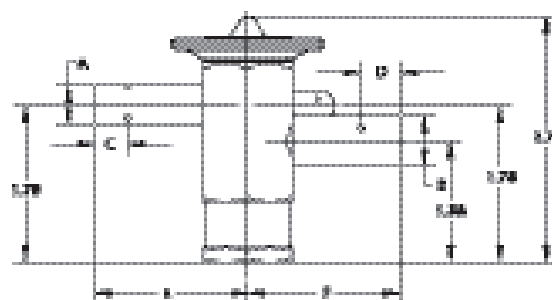


BAE
ODF CONNECTIONS
STRAIGHT-THRU CONFIGURATION ONLY

BN dimensional data (in.)

Connection size		A	B	C MIN	D MIN	E	F
Inlet	Outlet						
1/4 ODF	3/8 ODF	0.25	0.38	0.31	0.32	1.70	1.73
3/8 ODF	3/8 ODF	0.38	0.38	0.32	0.32	1.73	1.73
3/8 ODF	1/2 ODF	0.38	0.50	0.32	0.41	1.73	1.73
1/2 ODF	1/2 ODF	0.50	0.50	0.41	0.41	1.73	1.73
1/2 ODF	5/8 ODF	0.50	0.63	0.41	0.50	1.73	1.75
5/8 ODF	5/8 ODF	0.63	0.61	0.50	0.50	1.75	1.75
5/8 ODF	7/8 ODF	0.63	0.88	0.50	0.62	1.75	1.73

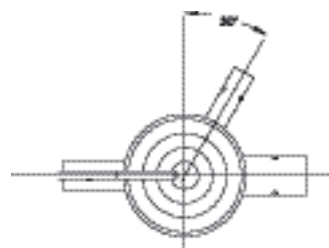
BN dimensional diagram



BNE
ODF CONNECTIONS
STRAIGHT-THRU CONFIGURATION ONLY

Remote bulb tubing length 30" or 5' standard

BA & BN Remote bulb dimensions (in.)		
Refrigerant charge	Length	Diameter
HCA, HAA	2.31	0.75
MC, MZ, MW (MOP), RW (MOP)	2.09	0.50
RC, SC, SZ, SW (MOP),		
PC, PZ, PW (MOP)		



BNE
TOP VIEW SHOWING
EXTERNAL EQUALIZER LOCATION

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Ordering information

Refrigerant	Series	Tons*	Charge	Connections	Cap tube	PCN
R-410A	BAE	1-1/2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065876
		2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065877
		3	ZW195	3/8 X 1/2 ODF S/T	5 FT	065878
		4-1/2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065880
		6	ZW195	1/2 X 3/8 ODF S/T	5 FT	065886
		7-1/2	ZW195	5/8 X 7/8 ODF S/T	5 FT	066088
	BAEB	1-1/2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065336
		2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065337
		3	ZW195	3/8 X 1/2 ODF S/T	5 FT	065338
		4-1/2	ZW195	3/8 X 1/2 ODF S/T	5 FT	065339
		6	ZW195	3/8 X 1/2 ODF S/T	5 FT	065340
			ZW195	1/2 X 3/8 ODF S/T	5 FT	065978
	BAE	1	ZAA	3/8 X 1/2 ODF S/T	30 IN	066860
		1-1/2	ZAA	3/8 X 1/2 ODF S/T	30 IN	066861
			ZAA	3/8 X 1/2 ODF S/T	5 FT	066862
			ZAA	3/8 X 1/2 ODF S/T	5 FT	066897
		2	ZAA	3/8 X 1/2 ODF S/T	5 FT	066863
			ZAA	3/8 X 1/2 ODF S/T	5 FT	066864
		3	ZAA	3/8 X 1/2 ODF S/T	30 IN	066865
			ZAA	3/8 X 1/2 ODF S/T	5 FT	066866
			ZAA	3/8 X 1/2 ODF S/T	5 FT	066898
		3-1/2	ZAA	3/8 X 1/2 ODF S/T	30 IN	066867
			ZAA	3/8 X 1/2 ODF S/T	5 FT	066868
		4-1/2	ZAA	3/8 X 1/2 ODF S/T	5 FT	066870
			ZAA	3/8 X 1/2 ODF S/T	30 IN	066871
			ZAA	3/8 X 1/2 ODF S/T	5 FT	066899
		6	ZAA	1/2 X 5/8 ODF S/T	30 IN	066872
		7-1/2	ZAA	1/2 X 7/8 ODF S/T	5 FT	066873
			ZAA	5/8 X 7/8 ODF S/T	5 FT	066874
			ZAA	5/8 X 7/8 ODF S/T	5 FT	066900
R-12 R-134a	BAE	1	MC	3/8 X 1/2 ODF S/T	30 IN	061967
		2	MC	3/8 X 1/2 ODF S/T	30 IN	062830
		3	MC	3/8 X 1/2 ODF S/T	30 IN	063201

Refrigerant	Series	Tons *	Charge	Connections	Cap tube	PCN
R-407C R-22	BAE	1	NC	3/8X1/2 ODF S/T	30IN	66875
		1-1/2	NC	3/8X1/2 ODF S/T	30IN	66876
			NC	3/8X1/2 ODF S/T	5FT	66901
		2	NC	3/8X1/2 ODF S/T	30IN	66877
			NC	3/8X1/2 ODF S/T	5FT	66902
		2-1/2	NC	3/8X1/2 ODF S/T	30IN	66878
		3	NC	1/2X5/8 ODF S/T	5FT	66879
		4	NC	1/2X5/8 ODF S/T	5FT	66880
		5	NC	1/2X5/8 ODFS/T	5FT	66881
		6	NC	1/2X5/8 ODFS/T	5FT	66882
		1	HCA	3/8 X 1/2 ODF S/T	30 IN	63200
		1-1/2	HCA	3/8 X 1/2 ODF S/T	30 IN	61954
		2	HCA	3/8 X 1/2 ODF S/T	30 IN	61955
			HCA	1/2 X 1/2 ODF S/T	5 FT	63018
		2-1/2	HCA	3/8 X 1/2 ODF S/T	30 IN	61956
			HCA	1/2 X 5/8 ODF S/T	30 IN	61962
			HW100	3/8 X 1/2 ODF S/T	30 IN	62616
		3	HCA	3/8 X 1/2 ODF S/T	30 IN	61957
			HCA	1/2 X 5/8 ODF S/T	5 FT	63019
			HW100	3/8 X 1/2 ODF S/T	30 IN	62372
		4	HCA	3/8 X 1/2 ODF S/T	30 IN	61958
			HCA	5/8 X 5/8 ODF S/T	5 FT	63020
			HW100	3/8 X 1/2 ODF S/T	30 IN	62373
		5	HCA	3/8 X 1/2 ODF S/T	5 FT	62839
			HCA	1/2 X 5/8 ODF S/T	5 FT	61964
			HW100	3/8 X 1/2 ODF S/T	30 IN	62374
		6	HCA	1/2 X 5/8 ODF S/T	5 FT	62736
	BNE	4	HCA	3/8 X 3/8 ODF S/T	30 IN	63132
	BAEB	1-1/2	HCA	3/8 X 1/2 ODF S/T	30 IN	62789
		2	HCA	3/8 X 1/2 ODF S/T	30 IN	62790
		3	HCA	3/8 X 1/2 ODF S/T	30 IN	61968
			HCA	1/2 X 5/8 ODF S/T	5 FT	63348
		4	HCA	3/8 X 1/2 ODF S/T	30 IN	63939
		5	HCA	3/8 X 1/2 ODF S/T	5 FT	61980
			HCA	1/2 X 1/2 ODF S/T	30 IN	63128
		6	HCA	1/2 X 1/2 ODF S/T	30 IN	63940
			HCA	1/2 X 5/8 ODF S/T	5 FT	64805