

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

Features

- Stainless steel power element eliminates corrosion and prevents 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



Options

- ZW195 charge available for R-410A systems
- 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

Specifications

- Maximum working pressure: 700 psig

Nomenclature example: BAEB 1/2 HCA 5 FT 3/8 x 1/2 ODF S/T

B	A	E	B	1/2	H	CA	5 FT	3/8 x 1/2	ODF	S/T
Valve Series Hermetic Balanced Port Design	Superheat Adjustment A = Adjustable N = Non-Adjustable	Equalizer E=External (Omit for Internal)	Bleed Hole (optional) (Omit for no bleed hole)	Capacity Nominal Rating in Tons (See nominal capacity table below)	Refrigerant Code +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	Charge Code C = medium temp CA = heat pump W(MOP) = press. limiting Z = low temp	Capillary Tube Length 30 IN & 5 FT (std)	Inlet x Outlet Connection Sizes 1/4 x 3/8 3/8 x 1/2 1/2 x 5/8 5/8 x 7/8	Connection Type SAE=flare ODF = solder	Configuration S/T = straight-thru ANG = 90° angle

+ = R-12, R-134a, R-450A and R-513A are interchangeable refrigerant charges
 * = R-507, R-502, R-404A, R-448A, R-449A and R-404A are interchangeable refrigerant charges
 • = R-22 and R-407C are interchangeable refrigerant charges

BA/BN Series – Nominal* Capacity Table in Tons (kW)

R-12	R-134a	R-450A/R-513A	R-22/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)	1½ (5.3)	1½ (5.3)	1 (3.5)	1½ (5.3)
1¼ (4.4)	1½ (5.3)	1 (3.5)	2 (7.0)	2 (7.0)	1¼ (4.4)	2 (7.0)
1½ (5.3)	2 (7.0)	1½ (5.3)	2½ (9.0)	3 (11.0)	1½ (5.3)	2½ (8.8)
2 (7.0)	2¼ (8.0)	1¾ (9.5)	3 (11.0)	3½ (12.0)	2 (7.0)	3 (11.0)
2½ (9.0)	3 (11.0)	2½ (8.0)	4 (14.0)	4½ (16.0)	2½ (9.0)	4 (14.0)
3 (11.0)	3½ (12.0)	3 (11.0)	5 (17.0)	6 (21.0)	3 (11.0)	5 (17.5)
3½ (12.0)	4 (15.0)	3½ (12.0)	6 (21.0)	7½ (26.0)	4 (14.0)	6 (21.0)

All capacities shown are at 100°F condensing, 40°F evaporator temperature.

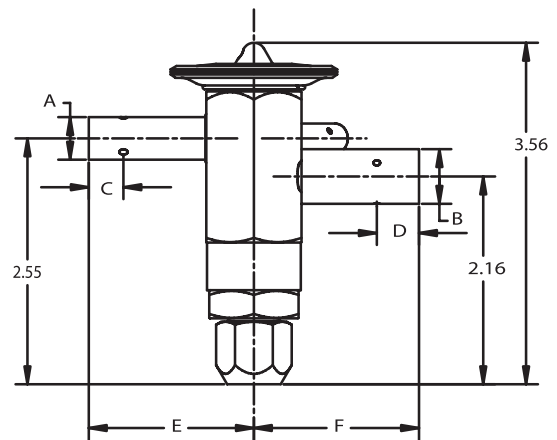
*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750

** Use SZ charge for all R-448A/R-449A applications. Recommend oversizing the valve capacity by 50% for low temperature applications.

BA/BN Dimensional Data (in)

BAE							
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(E) Dimensional Diagram

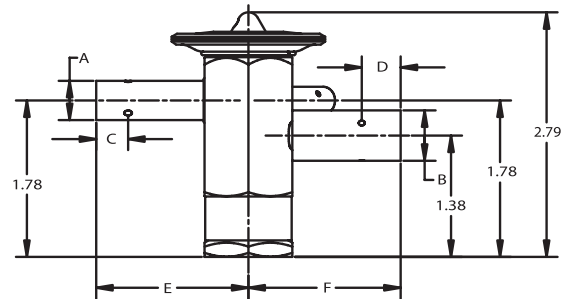


ODF CONNECTIONS
STRAIGHT-THRU CONFIGURATION ONLY

BN(E) Dimensional Data (in)

BAE							
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

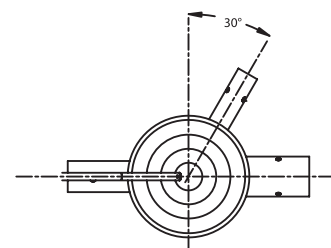
BN(E) Dimensional Diagram



ODF CONNECTIONS
STRAIGHT-THRU CONFIGURATION ONLY

Remote Bulb Tubing Length 30" or 5' Standard

BA(E) & BN(E) Remote Bulb Dimensions		
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)		



TOP VIEW SHOWING
EXTERNAL EQUALIZER LOCATION

Ordering Information

Refrigerant	Series	Tons*	Charge	Connections	Cap Tube	PCN
R-410A	BAE	1½	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
		4½	ZW195	3/8 X 1/2 ODF S/T	5 FT	065880
		6	ZW195	1/2 X 3/8 ODF S/T	5 FT	065586
	BAEB	7½	ZW195	5/8 X 7/8 ODF S/T	5 FT	066088
		1½	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
		4½	ZW195	3/8 X 1/2 ODF S/T	5 FT	065339
R-134a R-12 R-450A R-513A	BAE	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
		¾	MC	3/8 X 1/2 ODF S/T	30 IN	062754
		1	MC	3/8 X 1/2 ODF S/T	30 IN	061967
		1½	MC	3/8 X 1/2 ODF S/T	30 IN	063129
R-22 R-407C	BAE	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
		1	HCA	3/8 X 1/2 ODF S/T	30 IN	063200
		1½	HCA	3/8 X 1/2 ODF S/T	30 IN	061954
			HW100	3/8 X 1/2 ODF S/T	30 IN	062831
		2	HCA	3/8 X 1/2 ODF S/T	30 IN	061955
			HCA	1/2 X 1/2 ODF S/T	5 FT	063018
		2½	HCA	3/8 X 1/2 ODF S/T	30 IN	061956
			HCA	1/2 X 5/8 ODF S/T	30 IN	061962
			HW100	3/8 X 1/2 ODF S/T	30 IN	062616
		3	HCA	3/8 X 1/2 ODF S/T	30 IN	061957
			HCA	1/2 X 5/8 ODF S/T	5 FT	063019
			HW100	3/8 X 1/2 ODF S/T	30 IN	062372
			HCA	3/8 X 1/2 ODF S/T	30 IN	061958
		4	HCA	1/2 X 5/8 ODF S/T	30 IN	061963
			HCA	5/8 X 5/8 ODF S/T	5 FT	063020
			HW100	3/8 X 1/2 ODF S/T	30 IN	062373
			HCA	3/8 X 1/2 ODF S/T	5 FT	062839
		5	HCA	1/2 X 1/2 ODF S/T	5 FT	062852
			HCA	1/2 X 5/8 ODF S/T	5 FT	061964
	HCA		5/8 X 5/8 ODF S/T	5 FT	062838	
	HW100		3/8 X 1/2 ODF S/T	30 IN	062374	
	6	HCA	1/2 X 1/2 ODF S/T	5 FT	062853	
		HCA	1/2 X 5/8 ODF S/T	5 FT	062736	
	BNE	3	HCA	3/8 X 1/2 ODF S/T	5 FT	064166
			HCA	1/2 X 1/2 ODF S/T	5 FT	062289
		4	HCA	3/8 X 3/8 ODF S/T	30 IN	063132
			HCA	3/8 X 1/2 ODF S/T	30 IN	061971
		5	HCA	1/2 X 1/2 ODF S/T	5 FT	062290
			HCA	1/2 X 5/8 ODF S/T	5 FT	065226
	BAEB	1½	HCA	3/8 X 1/2 ODF S/T	30 IN	062789
			HCA	1/2 X 1/2 ODF S/T	30 IN	063006
		2	HCA	3/8 X 1/2 ODF S/T	30 IN	062790
		3	HCA	3/8 X 1/2 ODF S/T	30 IN	061968
			HCA	1/2 X 1/2 ODF S/T	30 IN	063015
		4	HCA	1/2 X 5/8 ODF S/T	5 FT	063348
			HCA	3/8 X 1/2 ODF S/T	30 IN	063939
		5	HCA	1/2 X 1/2 ODF S/T	5 FT	063010
			HCA	3/8 X 1/2 ODF S/T	5 FT	061980
		6	HCA	1/2 X 1/2 ODF S/T	30 IN	063128
HCA			1/2 X 1/2 ODF S/T	30 IN	063940	
HCA			1/2 X 5/8 ODF S/T	5 FT	064805	
	HCA	5/8 X 5/8 ODF S/T	5 FT	065977		

* For interchangeable refrigerant charges R-134a/R-12/R-450A/R-513A, R-404A/R-507/R-502/R-448A/R-449A and R-22/R-407C the tons of capacity shown in the table are for the first (primary) refrigerant listed. Consult the Nominal Capacity Table for determining the tons of capacity for the secondary refrigerants listed.

Example: A 1/4 ton R-12 valve is required. What R-134a ton valve should be selected? **Solution:** From the Nominal Capacity Table, a 1/2 ton R-134a valve is equivalent to a 1/4 ton R-12 valve.