

ACP (E) AUTOMATIC EXPANSION VALVE

Emerson Climate Technologies' ACP is an Automatic Expansion Valve developed for small cooling units where the heat load is reasonably constant. The ACP is ideal for room air conditioners, domestic refrigerators, drink or food dispensers, ice cream cabinets, bottle coolers, home freezers, ice cube makers, ice cream freezers, and milk coolers.



FEATURES AND SPECIFICATIONS

- ☆ Small, compact size adapts to any installation
- ☆ Friction-free floating design
- ☆ Can be used as a small capacity hot gas bypass valve
- ☆ Covers multiple capacity ranges
- ☆ Angle or straight-thru style
- ☆ Internal or external equalizer
- ☆ SAE or ODF connections
- ☆ Fully adjustable from 0-80 psig (factory setting 40 psig)
- ☆ Wrench flats on inlets and outlets
- ☆ Available with fixed setting/non-adjustable
- ☆ Maximum working pressure: 450 psig
- ☆ Maximum working temperature: 300°F
- ☆ UL file number: SA5312
- ☆ CSA file number: LR44005
- ☆ CRN file number: OC0824.9 (see page A)

ACP (E) NOMINAL CAPACITY* TABLE IN TONS AND (kWatts)

VALVE	R12/R134a	R407C/R22	R502/R404A/R507	R410A
	PRESSURE DROP ACROSS VALVE — PSI			
	60	100	100	160
ACP(E)1	.31(1.1)	.44(1.5)	.29(1.0)	.38
ACP(E)2	.41(1.4)	.57(2.0)	.38(1.3)	.51
ACP(E)3	.65(2.3)	.91(3.2)	.61(2.1)	.80
ACP(E)4	.90(3.1)	1.30(4.5)	.87(3.0)	1.10
ACP(E)5	1.40(4.9)	1.96(6.8)	1.31(4.5)	1.70
ACP(E)6	1.90(6.6)	2.67(9.3)	1.78(6.2)	2.30
ACP(E)7	2.30(8.0)	3.28(11.4)	2.19(7.6)	2.80
ACP(E)8	2.70(9.4)	3.75(13.0)	2.50(8.7)	3.30
ACP(E)9	3.80(13.2)	5.32(18.5)	3.55(12.3)	4.70

*All capacities shown are at 100°F Condensing, 40°F Evaporator Temperature, with a solid column of liquid at the valve inlet.

NOMENCLATURE EXAMPLE: ACPE 6 SAE EE 1/4 x 3/8 ODF ANG

ACP	E	6	SAE EE	1/4	x	3/8	ODF	ANG
Valve Series	External Equalizer (optional)	Port Size (diameter) see table below	External Equalizer Type	Inlet Connection Size (inches)		Outlet Connection Size (inches)	Connection Type ODF or SAE	Body Style ANG = Angle S/T = Straight-thru

ACP (E) DIRECT ACTING, HOT GAS REGULATOR

Direct acting, hot gas bypass regulator is designed for small capacity systems.

ORDERING INFORMATION

HOT GAS BYPASS NOMINAL CAPACITY TABLE IN TONS (kW)

VALVE	PORT DIA. (inches)	R-12	R-134a	R-22	R-407C	R-507/404A	R-502
ACP(E)-1	.047	0.05 (0.17)	0.07 (0.24)	0.09 (0.31)	0.09 (0.31)	0.09 (0.31)	0.08 (0.28)
ACP(E)-2	.059	0.07 (0.24)	0.09 (0.31)	0.12 (0.42)	0.12 (0.42)	0.11 (0.38)	0.11 (0.38)
ACP(E)-3	.101	0.12 (0.42)	0.16 (0.56)	0.22 (0.76)	0.22 (0.76)	0.20 (0.69)	0.20 (0.69)
ACP(E)-4	.113	0.18 (0.62)	0.23 (0.80)	0.32 (1.11)	0.32 (1.11)	0.28 (0.97)	0.29 (1.01)
ACP(E)-5	.125	0.28 (0.97)	0.37 (1.28)	0.50 (1.74)	0.50 (1.74)	0.45 (1.56)	0.45 (1.56)
ACP(E)-6	.140	0.38 (1.32)	0.50 (1.74)	0.69 (2.39)	0.69 (2.39)	0.60 (2.08)	0.63 (2.19)
ACP(E)-7	.169	0.55 (1.91)	0.71 (2.46)	0.98 (3.40)	0.98 (3.40)	0.90 (3.12)	0.89 (3.09)
ACP(E)-8	.196	0.65 (2.26)	0.84 (2.91)	1.20 (4.16)	1.20 (4.16)	1.00 (3.47)	1.00 (3.47)
ACP(E)-9	.228	0.75 (2.60)	0.98 (3.40)	1.40 (4.86)	1.40 (4.86)	1.20 (4.16)	1.20 (4.16)

All capacities shown are at 40°F Evaporator Temperature, 100°F Condensing temperature, Valve Full Open, Compressor Discharge Temperature is 50°F higher than Isentropic Compression and 25°F Superheat at the compressor inlet.

The R-12, R-134a capacities ▲P = 80 psi (560 kPa)
The R-22, R-407C capacities ▲P = 125 psi (875 kPa)
The R-404A, R-507, R-502 capacities ▲P = 135 psi (945 kPa)

For conditions other than nominal, divide required capacity by the appropriate multiplier found on page 70 of the Catalogue.

PCN	DESCRIPTION
046838	ACP 1 IE 1/4 x 3/8-1/2 SAE ANG
057233	ACP 1 IE 1/4 x 3/8 ODF S/T
047680	ACP 1 IE 1/4 x 3/8 ODF S/T
047651	ACP 2 IE 1/4 x 3/8 ODF ANG
046840	ACP 3 IE 1/4 x 3/8 SAE ANG
047105	ACP 4 IE 1/4 x 3/8 ODF ANG
047284	ACP 5 IE 1/4 x 3/8 ODF ANG
053374	ACP 5 IE 3/8 x 3/8 ODF ANG
047653	ACP 6 IE 1/4 x 3/8 SAE ANG
047654	ACP 7 IE 3/8 x 1/2 ODF ANG
047285	ACP 7 IE 3/8 x 3/8-1/2 SAE ANG
047655	ACP 8 IE 3/8 x 1/2 ODF ANG
057771	ACP 9 IE 1/2 x 5/8 ODF ANG
047658	ACP 9 IE 3/8 x 3/8-1/2 SAE ANG
047280	ACPE 1 SAE EE 1/4 x 3/8 SAE S/T
047790	ACPE 7 SAE EE 3/8 x 1/2 ODF ANG
047657	ACP 9 IE 3/8 x 1/2 ODF ANG
058674	ACPE 9 SAE EE 1/2 x 5/8 ODF S/T