

ELECTRONIC EXPANSION VALVES: High Efficiency Products



	Valve Type ¹	Key words	Drive type	Performance						Fittings				Leakage rate			Refrigerants ⁷	
				Capacity ²	KV	MWP ³	MOPD ⁴	Refrigerant Temperature	Environment Temperature	Material	Ø	Connection	Mechanical Strainer	Internal ⁵ Direct Flow	Internal ⁵ Reverse Flow	External ⁶	PED Group 2	PED Group 1
				[kW] [Tons]	[m³/h] [GPM]	[barg] [PSig]	[bar] [PSI]	[°C] [°F]	[°C] [°F]					[cm³/min]	[cm³/min]	[gr/year]		
STANDARD	E2V - F	OEM design Hermetic SS Body	Unipolar or Bipolar	0.2÷58.5 0.056÷16.6	0.01÷0.37 0.01÷0.43	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	35 508	-40÷70 -40÷158	-30÷70 -22÷158	Copper	8mm IDM 3/8" 1/2" 10mm IDM 12mm 16mm	Brazing	Optional	< 50	< 50	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R507A R452A R513A R744	R1234yf R32 R290 R600 R600a R452B R454A R454B R454C R455A
	E2V - B/U	All application Hermetic SS Body	Unipolar or Bipolar	0.2÷58.5 0.056÷16.6	0.01÷0.37 0.01÷0.43	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	35 508	-40÷70 -40÷158	-30÷70 -22÷158	Brass Copper	10mm 12mm 16mm 3/8" 3/8" - 1/2"	Brazing	Optional	< 50	< 50	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R507A R452A R513A R744	R1234yf R32 R290 R600 R600a R452B R454A R454B R454C R455A
	E2V - Z	Demountable Modular install IP69k stator OneBodySize Filter included	Unipolar or Bipolar	0.25÷69.6 0.071÷19.8	0.012÷0.44 0.012÷0.55	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	35 508	-40÷70 -40÷158	-30÷70 -22÷158	Copper	12mm 16mm 5/8"	Brazing	AISI 304 150µm	< 50	< 50	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R507A R452A R513A R744	R1234yf R32 R290 R600 R600a
	E3V - B	All application Hermetic SS Body	Unipolar or Bipolar	6÷201 1.7÷57.3	0.31÷1.27 0.36÷1.46	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	40 580	-40÷70 -40÷158	-30÷70 -22÷158	Copper	16mm 5/8" 22mm 7/8"	Brazing	Optional	< 100	< 100	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R507A R452A R513A R744	R1234yf R32 R290 R600 R600a R452B R454A R454B R454C R455A
	E3V - S	Demountable Modular install Filter included	Unipolar or Bipolar	11÷210 3.1÷60.1	0.53÷1.33 0.61÷1.53	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	35 508	-40÷70 -40÷158	-30÷70 -22÷158	Copper	16mm 5/8" 22mm 7/8"	Brazing	AISI 304 150µm	< 100	< 100	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R452A R507A R513A	R1234yf
	E4V	Demountable Modular install	Bipolar	36÷403 10.3÷114.8	1.77÷2.55 2.05÷2.95	45 (UL) - 45 (PED) 650 (UL) - 650 (PED)	35 508	-40÷70 -40÷158	-30÷70 -22÷158	Copper	28-35mm 1.1/8-1.3/8"	Brazing	n.a	< 50	< 80	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R452A R507A R513A	R1234yf
	E4V - F	OEM design Hermetic	Bipolar	34÷360 9.7÷102.6	1.68÷2.28 1.94÷2.64	48 (UL) - 48 (PED) 696 (UL) - 696 (PED)	40 580	-40÷70 -40÷158	-30÷70 -22÷158	Copper	28mm 1.1/8" 1.3/8"	Brazing	n.a	< 50	< 80	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R452A R507A R513A	R1234yf R32 R290 R600 R600a R452B R454A R454B R454C R455A
	E5V	Modular install SightGlass Big capacities	Bipolar	86÷965 24.5÷275.0	4.2÷6.1 4.8÷7.1	45 (UL) - 45 (PED) 650 (UL) - 650 (PED)	35 508	-40÷70 -40÷158	-30÷70 -22÷158	Copper	1.3/8"	Brazing	n.a	< 100	< 200	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R452A R507A R513A	R1234yf
	E6V		Bipolar	194÷1850 55.3÷527.0	9.5÷11.7 11.0÷13.5	45 (UL) - 45 (PED) 650 (UL) - 650 (PED)	28 406	-40÷70 -40÷158	-30÷70 -22÷158	Copper	1.3/8" 42mm 1.5/8"	Brazing	n.a	< 100	< 200	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R452A R507A R513A	R1234yf
	E7V		Bipolar	319÷2989 90.9÷851.6	15.6÷18.9 18.0÷21.9	42 (UL) - 45 (PED) 609 (UL) - 650 (PED)	28 406	-40÷70 -40÷158	-30÷70 -22÷158	Copper	1.5/8" 2.1/8"	Brazing	n.a	< 100	< 200	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R452A R507A R513A	R1234yf
E7V TWIN	Bipolar		637÷6234 181.5÷1776.0	15.6÷37.8 18.0÷43.8	25 (UL) - 25 (PED) 360 (UL) - 360 (PED)	28 406	-40÷70 -40÷158	-30÷70 -22÷158	Copper	3" ODF	Brazing	n.a	< 100	< 200	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R452A R507A R513A	R1234yf	
CO ₂	E2V - CS	Hermetic All SS HighPressures TwoFittingsTypes	Bipolar	0.2÷23.72 0.057÷6.76	0.01÷0.15 0.01÷0.29	140 (UL) - 140 (PED) 1305 (UL) - 1305 (PED)	120 1740	-40÷70 -40÷158	-30÷70 -22÷158	AISI 316	10mm 13.1mm IDF	TIG Swagelok	Optional	< 50	< 50	< 2	R134A R22 R404A R407C R407H R410A R417A R507A R744	n.a
	E3V - C	Demountable Filter included HighPressures All SS	Bipolar	7.5÷174.0 2.1÷49.6	0.37÷1.10 0.43÷1.26	120 (UL) - 140 (PED) 1740 (UL) - 2030 (PED)	90 1305	-40÷70 -40÷158	-30÷70 -22÷158	AISI 316	5/8" 7/8"	TIG	AISI 304 150µm	< 150	n.a	< 2	R744	n.a
HOT GAS	E2V - H	HighTemp. Demountable Modular install Filter included	Bipolar	1.1÷74.8 0.03÷21.3	0.05÷0.47 0.058÷0.54	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	35 508	-40÷100 -40÷215	-30÷70 -22÷158	Copper	12mm 16mm 5/8"	Brazing	AISI 304 150µm	n.a	n.a	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R507A R452A R513A R744	R1234yf
	E3V - H	HighTemp. Demountable Modular install Filter included	Bipolar	11÷210 3.1÷59.8	0.53÷1.33 0.61÷1.54	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	35 508	-40÷100 -40÷215	-30÷70 -22÷158	Copper	12mm 16mm 5/8"	Brazing	AISI 304 150µm	n.a	n.a	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R507A R452A R513A	R1234yf
	E4V - H	HighTemp. Demountable Modular install	Bipolar	38÷403 10.8÷114.8	1.88÷2.55 2.16÷2.93	45 (UL) - 45 (PED) 650 (UL) - 650 (PED)	35 508	-40÷100 -40÷215	-30÷70 -22÷158	Copper	28-35mm 1.1/8-1.3/8"	Brazing	n.a	n.a	n.a	< 2	R1234ze R134a R22 R404A R407C R407H R410A R417A R427A R448A R449A R450A R507A R452A R513A	R1234yf
AMMONIA	E2V - BS	Hermetic All SS	Bipolar	0.2÷58.5 0.056÷16.6	0.01÷0.37 0.01÷0.43	45 (UL) - 60 (PED) 650 (UL) - 870 (PED)	26 377	-40÷70 -40÷158	-30÷70 -22÷158	AISI 316	10mm 13.1mm IDF	TIG	Optional	< 50	< 50	< 2	R1234ze R134a R22 R404A R407C R410A R417A R448A R449A R450A R507A R513A R744	R717 R1234yf R290 R600 R600a

Notes:

- H : Hermetic ; D : Demountable
- Capacity refers to : R410A t_{ev} = 7°C (45°F) t_{cond} = 45°C (113°F) SC = 5 K (9°R)
- MWP may decrease for some Group 1 Refrigerants
- MOPD may decrease with bigger orifices for the same valve or certification

- Internal leakage rate of N2 @ DP 30 bar
- External leakage rate of R134a @ P = 45 barg
- Refrigerants list may vary

For further details see products technical leaflets available on our website or contact us at carel@carel.com

Valve proposition	
B/U	Hermetically sealed for all applications
F	Hermetically sealed designed for OEMs
S/Z	Modular installation with filter included
C/CS	For high pressure installations
H	Designed for high temperature applications
E4V, E5V, E6V, E7V	Demountable for high capacity applications

Referring to R410A Tev: 7°C, Tcond: 45°C, SK: 5K					Correction Factors kW = kW _{REF} / CF
R32	R1234yf	R1234ze	R407C	R417A	
0,67	2,05	1,87	1,16	1,50	(kW _{REF} relative to Capacity column)
Referring to R134A Tev: -10°C, Tcond: 45°C, SK: 5K					
R404A	R717	R290	R448A	R449A	
1,14	0,15	0,75	0,81	0,82	