

CAREL



connectivity, monitoring and remote management systems
electronic expansion valves and drivers



E⁵V, E⁶V and E⁷V
electronic expansion valves

carel.com

E⁵V, E⁶V, E⁷V - high performance for efficient evaporator control

The E⁵V, E⁶V, E⁷V range of valves extends the CAREL offering to high capacity systems, up to 2000 kW

- optimum control of air-conditioning units;
- high activation speed;
- flow in both directions;
- copper fittings for easy welding



The E⁵V, E⁶V and E⁷V valves are designed for use on chillers, heat pumps or reverse cycle units, thanks to the possibility of flow in both directions.

This range of valves is focused on ensuring the energy saving requirements that are typical of these systems, in which the electronic valve solution is now the market norm.

The valves cover a wide range of cooling capacities, up to 600 kW for the E⁵V, 1300 kW for the E⁶V and 2000 kW for the E⁷V (R407c; T_c= 38 °C; T_e= 4.4 °C; subc= 1 °K).

All the valves - E⁵V, E⁶V and E⁷V - are modular, made using removable components that can be assembled during installation. This type of solution simplifies system maintenance and inspection. All the valves also come with the sight glass already incorporated, making it easy to check the position of the actuator and at the same time acting as a refrigerant flow indicator. These valves feature an innovative design that allows in-line installation for complete pressure balance.



Easy installation and maintenance

The valve kinematic mechanism can be easily removed, simplifying welding by avoiding the risk of damage and allowing replacement if needed.



High reliability and high quality materials

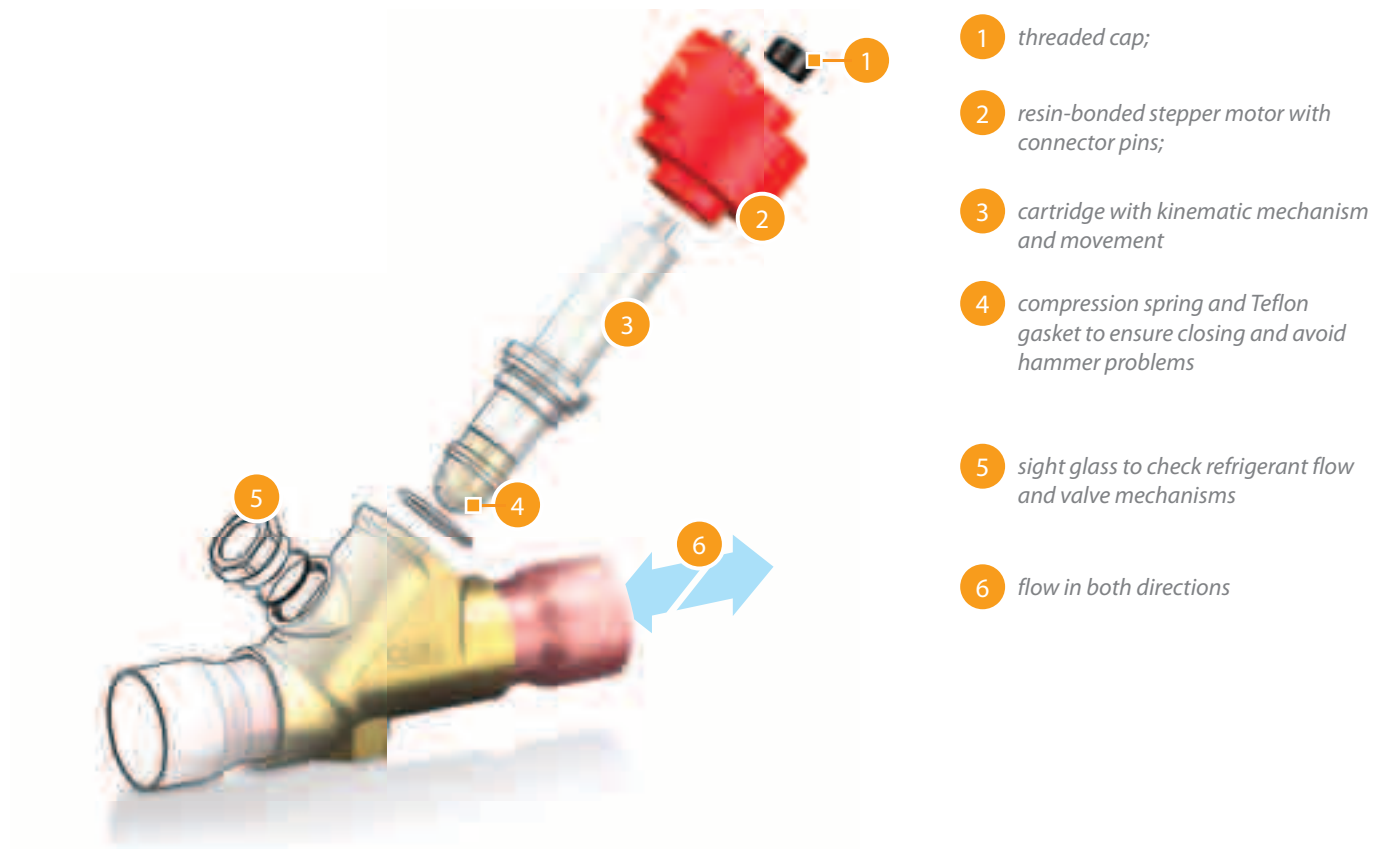
The valve kinematic mechanism is made entirely from high quality materials. The construction without reduction gears means the mechanism is reliable and long-lasting, guaranteeing extended product life.



Equipercetile profile

Guarantees precise control even when operating at part load.

Components



Technical specifications

E⁵V-E⁶V-E⁷V technical specifications

Compatibility	R22, R134a, R407C, R410A, R404A, R507A, R417A
Maximum operating pressure (MOP)	up to 45 bar (653 psi)
Maximum operating press. diff. (MOPD)	28 bar (406 psi) for E6V and E7V; 35 bar (508 psi) for E5V
P.E.D.	fluid group 2, category I
Refrigerant temperature	-20T65 °C (-4T149°F)
Room temperature	-10T50 °C (14T122°F)

Contact CAREL INDUSTRIES for different operating conditions or alternative refrigerants

Double pole low voltage stator E⁵V-E⁶V-E⁷V

Phase current	450 mA
Control frequency	50 Hz (up to 150 Hz for emergency closing)
Phase resistance (25 °C)	36 Ohm ±100%
Index of protection	IP65 with E2VCON****, IP67 with E2VCAB***
Step angle	15° for E5V and E6V; 7,5° for E7V;
Linear progress/step	0,03 mm (0,0012 inch)
Connections	4 wires (AWG 18/22)
Complete closing steps	500
Control steps	480

Cooling capacity (kw)

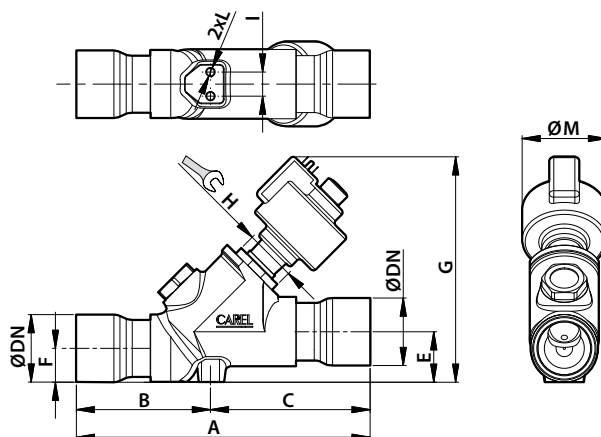
	R22	R407c	R410a	R134a	R404a	R507a	R417
E5V	630	640	750	475	450	440	460
E6V	1060	1080	1260	811,5	755	740	769
E7V	2200	2240	2620	1662	1560	1529	1600

Codes

E5VA5AST00	electronic expansion valve size 150 with sight glass and 35-35 mm ODF copper fittings
E6VB2ASV00	electronic expansion valve size 200 with sight glass and 42-42 mm ODF copper fittings
E7VC1ASZ00	electronic expansion valve size 310 with sight glass and 54-54 mm ODF copper fittings

Dimensions

Valve type	DN	A	B	C	E	F	G	H	I	L	M
E5VA5AST00	35mm (1,38inch)	165mm (6,50inch)	75mm (2,95inch)	90mm (3,54inch)	26mm (1,02inch)	18mm (0,71inch)	144,1mm (5,67inch)	26mm (1,02inch)	12mm (0,47inch)	M5	56mm (2,20inch)
E6VB2ASV00	42mm (1,65inch)	195mm (7,68inch)	89mm (3,50inch)	106mm (4,17inch)	33,5mm (1,32inch)	22,5mm (0,89inch)	149,7mm (5,89inch)	34mm (1,34inch)	16mm (0,63inch)	M6	56mm (2,20inch)
E7VC1ASZ00	54mm (2,13inch)	233mm (9,17inch)	108mm (4,25inch)	125mm (4,92inch)	33,5mm (1,32inch)	22,5mm (0,89inch)	152,8mm (6,02inch)	42mm (1,65inch)	16mm (0,63inch)	M6	64mm (2,52inch)



Headquarters ITALY

CAREL INDUSTRIES HQs
Via dell'Industria, 11
35020 Brugine - Padova (Italy)
Tel. (+39) 0499 716611
Fax (+39) 0499 716600
carel@carel.com

Sales organization

CAREL Asia
www.carel.com

CAREL Australia
www.carel.com.au

CAREL China
www.carel-china.com

CAREL Deutschland
www.carel.de

CAREL France
www.carelfrence.fr

CAREL Iberica
www.carel.es

CAREL India
www.carel.in

CAREL HVAC/R Korea
www.carel.com

CAREL Russia
www.carelrussia.com

CAREL South Africa
www.carelcontrols.co.za

CAREL Sud America
www.carel.com.br

CAREL U.K.
www.careluk.co.uk

CAREL U.S.A.
www.carelusa.com

Affiliates

CAREL Czech & Slovakia
www.carel-cz.cz

CAREL Korea (for retail market)
www.carel.co.kr

CAREL Ireland
www.carel.com

CAREL Thailand
www.carel.co.th

CAREL Turkey
www.carel.com.tr