

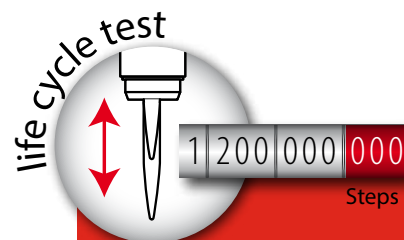


CAREL

E⁴V-F

The hermetic valve
for medium-capacity chillers

Connected Efficiency



Precise control

E4V-F guarantees equipercetile control, thus ensuring the highest precision at each specific flow-rate.

This feature is especially effective at part loads, as typically occurs in variable flow-rate circuits, including those with inverter compressors, an area in which CAREL has acquired considerable experience.

E4V-F is a bidirectional valve, giving high performance and precise control in both directions of flow.

Performance

E4V-F ensures perfect CAREL-quality tightness, even with very high pressure differentials, being able to manage a maximum working pressure of up to 48 barg, with UL certification.

The patented design (patented in Europe, USA and China), modern manufacturing procedures and strict quality controls ensure that CAREL performance is maintained throughout the valve's lifetime.

Part numbers

To simplify materials-logistics management, E4V-F is available in separate packs of valves and stators.

In accordance with the CAREL development procedure, E4V-F has also undergone lifetime testing to confirm reliable operation even after 1.2 billion steps completed in the most demanding working conditions.

Technical specifications table

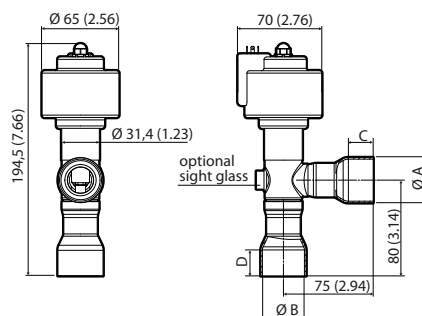
Refrigerants	Group 1 (hazardous refrigerants): R1234yf, R32, R290, R452B, R454B, R600, R600a...
	Group 2 (non-hazardous refrigerants): R1234ze, R134a, R404A, R407C, R407H, R410A, R427A, R452A, R744...
Maximum working pressure (Ps/MWP):	Group 1 (hazardous refrigerants): 48 barg (696 psi _g); E4V**FST**: 31 barg (450 psi _g) Group 2 (non-hazardous refrigerants): 48 barg (696 psi _g)
Maximum operating pressure differential (MOPD):	E4V65F: 40 bar / 580 PSI E4V85F: 40 bar / 580 PSI E4V95F: 35 bar / 507 PSI
Operating cinditions	Room: -30T70°C (-22T158°F) Refrigerant: -40T70°C(-400T158°F)
Leakage values:	Internal: <25 g/min of N2 at 30 bar pressure differential in direct flow mode
Control characteristic:	Equipercetile
Number of control steps:	480
Valve member stroke length:	14 mm
Life test (number of complete cycles):	1 million
Direction of flow:	Both direct and reverse
Ingress protection against water (%):	IP67
Available fittings (ODF):	E4V**FSS**: Ø28 mm E4V**FST**: Ø35 mm (1.3/8") E4V**FWS**: 1.1/8"
Certification	CE/PED: Art. 4, par. 3; E4V**FST** with Group 1 fluids: Cat. I UL USA: File nr. YIOZ2.E304579

Cooling capacity kW (tonnes)

	R410A	PROPANE (R290)	R32	R134a	R1234yf	R1234ze
E4V65F	172 (48,9)	139 (39,5)	254 (72,2)	98 (27,8)	70 (19,9)	68(19,3)
E4V85F	229 (65,1)	185 (52,6)	338 (96,1)	131 (37,2)	94 (26,7)	91 (25,8)
E4V95F	330 (93,8)	267 (75,9)	487 (138,5)	188 (53,4)	135 (38,3)	132 (37,5)

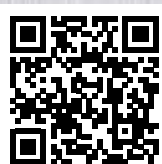
Cooling capacity calculated in the following conditions: tevap = 4.4°C (40°F), tcond = 38°C (100°F), SC = 1.0K (1.8°R).

Dimensions



Hermetic electronic valve code

Part number	Description	A	B	C	D
E4V65FSSB1	E4V-65 - Ø28 mm ODF, without stator - without moisture indicator - multiple pack of 5 pieces	Ø28 mm (1.10")		18,5mm (0.73")	
E4V85FSSB1	E4V-85 - Ø28 mm ODF - without stator - without moisture indicator - multiple pack of 5 pieces				
E4V95FSSB1	E4V-95 - Ø28 mm ODF - without stator - without moisture indicator - multiple pack of 5 pieces				
E4V65FSSA1	E4V-65 - Ø28 mm ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4V85FSSA1	E4V-85 - Ø28 mm ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4V95FSSA1	E4V-95 - Ø28 mm ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4V65FWSB1	E4V-65 - 1.1/8" ODF - without stator - without moisture indicator - multiple pack of 5 pieces	1.1/8" (Ø28 mm)		0.73" (18,5 mm)	
E4V85FWSB1	E4V-85 - 1.1/8" ODF - without stator - without moisture indicator - multiple pack of 5 pieces				
E4V95FWSB1	E4V-95 - 1.1/8" ODF - without stator - without moisture indicator - multiple pack of 5 pieces				
E4V85FWSA1	E4V-85 - 1.1/8" ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4V85FWSA1	E4V-85 - 1.1/8" ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4V95FWSA1	E4V-95 - 1.1/8" ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4V85FSTB1	E4V-85 - Ø35 mm (1.3/8") ODF - without stator - without moisture indicator - multiple pack of 5 pieces	Ø35 mm (1.3/8")		23 mm (0.91")	
E4V85FSTB1	E4V-95 - Ø35 mm (1.3/8") ODF - without stator - without moisture indicator - multiple pack of 5 pieces				
E4V85FSTA1	E4V-85 - Ø35 mm (1.3/8") ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4V95FSTA1	E4V-95 - Ø35 mm (1.3/8") ODF - without stator - with moisture indicator - multiple pack of 5 pieces				
E4VSTA0101	Stator for E4VF - E4VB 2.0 - E4VH 2.0 multiple pack of 5 pieces				



CAREL exv lab is the tool that helps users select and use CAREL valves. It is a web environment where both expert designers and novice users can find tools to select the right valve for their application, and identify the possible operating range of the EXV.

<https://exvselectiontool.CAREL.com/ExVLab/>

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For more information

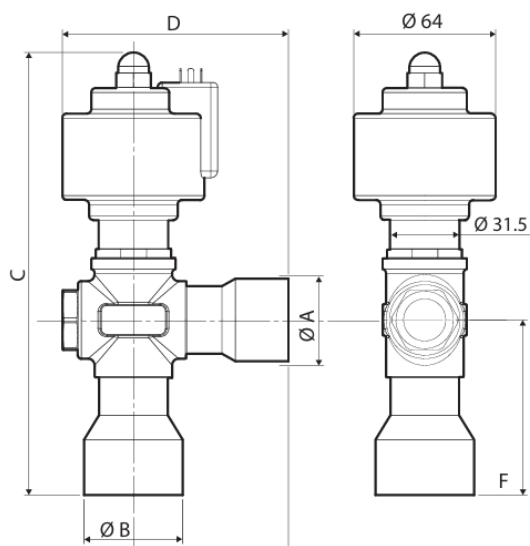
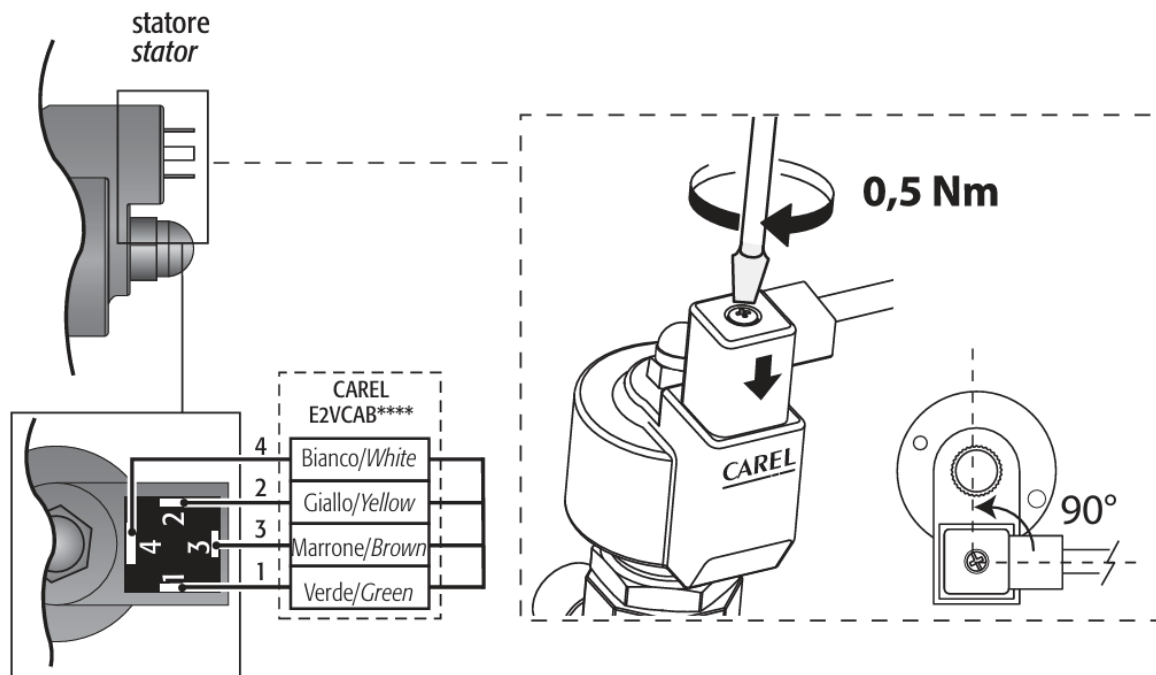
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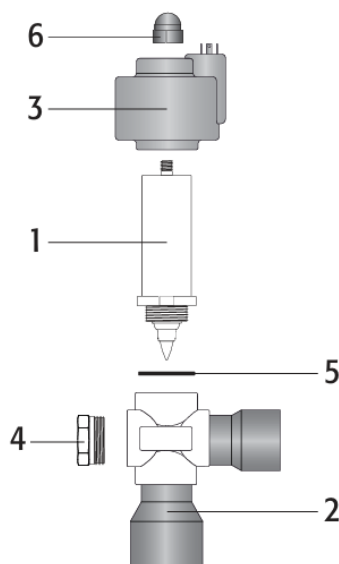
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Connessioni elettriche / Electrical connections



Tipo valvola / Type of valve	A	B	C	D	E	F
E4V85*ST00	28 (1.10)	35 (1.38)	186 (7.33)	88 (3.46)	56 (2.20)	72 (2.83)
E4V95*ST00	28 (1.10)	35 (1.38)	186 (7.33)	88 (3.46)	56 (2.20)	72 (2.83)
E4V85*WT00	28.6 (1-1/8")	35 (1-3/8")	186 (7.33)	88 (3.46)	56 (2.20)	72 (2.83)
E4V95*WT00	28.6 (1-1/8")	35 (1-3/8")	186 (7.33)	88 (3.46)	56 (2.20)	72 (2.83)

Contenuto della confezione / Contents of the packaging



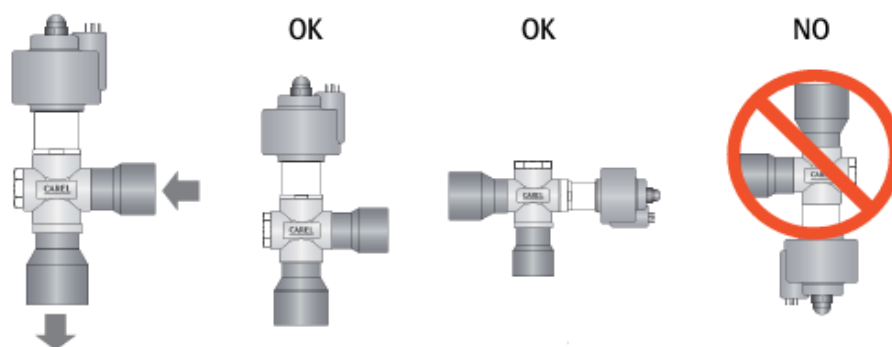
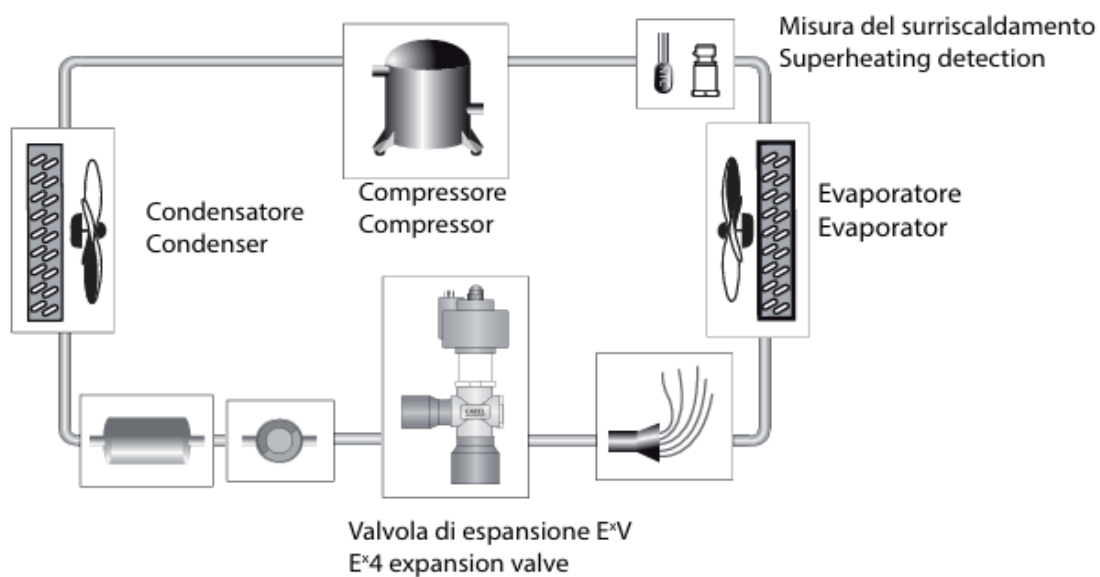
L'imballo della valvola E4V CAREL contiene i seguenti componenti:

- n°1 cartuccia con cinematismo e organo di movimento (stelo di regolazione);
- n°1 corpo con raccordi a saldare per interfaccia con tubazione del circuito;
- n°1 motore passo passo resinato con piedini per connettore;
- n°1 spia di vetro filettata con 1 OR (opzionale);
- n°1 OR per sede di tenuta tra corpo e cartuccia;
- n°1 cappuccio filettato.

The packaging of the Carel E4V valve contains the following components:

- 1 cartridge with kinematic mechanism and movement (control rod);
- 1 body with fittings to be welded to the circuit pipework;
- 1 resin-bonded stepper motor with pins for the connector;
- 1 threaded sight glass with 1 OR (options);
- 1 OR for seal seat between the body and the cartridge;
- 1 threaded cap.

Posizionamento / Positioning



Saldatura e manipolazione / Welding and handling

