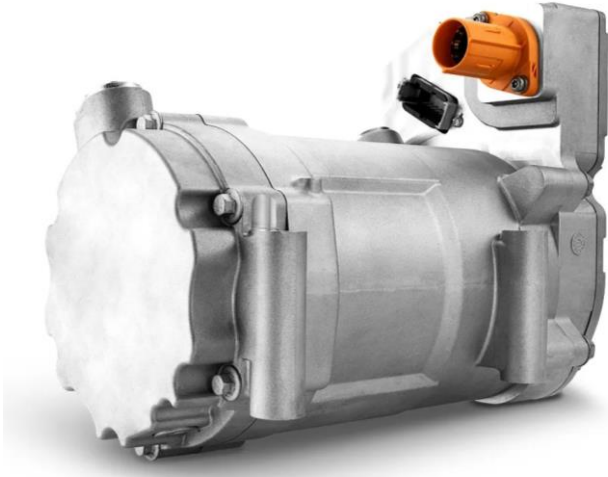


HV-EC

HIGH VOLTAGE - ELECTRIC COMPRESSORS



- High Voltage (400 & 850 VDC)
- 34 cc, 46 cc, 60 cc and 120 cc variants
- Cooling loads up to 29 kW
- For BTMS and Cabin HVAC within various EV platforms.
- Compact, robust design
- Long service life
- Versatile and efficient
- R134a and R1234yf Refrigerant
- CAN controlled
- High ingress protection rating IP6K9K

Calatherm's high-voltage electric compressors are engineered to support next-generation thermal systems in electric, hybrid and fuel-cell zero-emission vehicles. Designed for high efficiency and long service life, these compressors deliver stable cooling performance under demanding duty cycles.

The range includes a 400 VDC variant for mid capacity requirements, and three 850 VDC variants for mid to high capacity cooling requirements, with volumes of 34 cc, 46 cc, 60 cc and 120 cc supporting cooling capacities up to 29 kW. All models feature intelligent CAN control for smart modulation and integration with vehicle thermal control units. Units are compatible with R134a and R1234yf refrigerants, allowing flexibility across global regulatory and performance requirements.

Calatherm can provide application support, from compressor selection to engineering integration, ensuring optimal compatibility with customer requirements, such as cabin cooling and battery thermal management system (BTMS).

BENEFITS

- High voltage systems generally require less electrical energy for equivalent cooling, compared with low voltage compressors, improving system efficiency.
- Helps keep battery and cabin temperatures optimal in extreme hot/cold environments, which protects battery life and improves vehicle comfort.
- Electric compressors tend to run quieter and with fewer moving parts than conventional belt-driven compressors.
- Automotive design and robust components contribute to longer operational life and less frequent servicing compared with older solutions.
- CAN communication makes it easier for OEMs to integrate with modern vehicle control systems.

TECHNICAL SPECIFICATION

Style	Inline, Scroll	Inline, Scroll	Inline, Scroll	Inline, Scroll	Inline, Scroll
Displacement	34 cc	34 cc	46 cc	60 cc	120 cc
High voltage power	210 – 455 VDC	450 – 850 VDC	450 – 850 VDC	450 – 850 VDC	450 – 850 VDC
Low voltage power	16 – 32 VDC	9 – 32 VDC	9 – 32 VDC	9 – 32 VDC	9 – 32 VDC
Current Limit	25 A	13 A	20 A	25 A	45 A
Cooling capacity	8.5 kW	8.5 kW	11 kW	14.4 kW	29 kW
Compressor speed	1,000~8,500 rpm	1,000~8,500 rpm	1,000~8,500 rpm	1,000~8,500 rpm	1,000~8,500 rpm
Refrigerants	R134a, R1234yf	R134a, R1234yf	R134a, R1234yf	R134a, R1234yf	R134a, R1234yf
Oil type	PAG: PSR1	PAG: PSR1	PAG: PSR1	PAG: PSR1	PAG: PSR1
IP classification	IPx7, IP6K9K	IPx7, IP6K9K	IPx7, IP6K9K	IPx7, IP6K9K	IPx7, IP6K9K
Communication	CAN	CAN/LIN	CAN/LIN	CAN/LIN	CAN/LIN
Weight	6.5 kg	6.5 kg	8 kg	11 kg	23.2 kg
Dimensions	Length	235 mm	237 mm	249 mm	263 mm
	Width	150 mm	150 mm	172 mm	186 mm
	Height	195 mm	195 mm	210 mm	240 mm

OUTLINE DIMENSIONS

Note that the below image is representative of the 34cc variant.

