

CT-3001

Highly compact, high-speed, electrically driven radial turbo compressor with air bearings for the air supply of fuel cell systems.

- High-speed gas bearings for oil-free operation
- Lowest ratio of volume and weight versus pressure and mass flow due to highest speeds
- Aerodynamic and electromagnetic optimization for highest total efficiency
- Integrated temperature measurement for overload protection
- Compatible to converter CC-3000/CC-3001



Specifications turbo compressor

Maximum pressure ratio	2.7
Maximum mass flow	210 g/s
Maximum isentropic overall efficiency ¹	69%
Maximum speed	130,000 rpm
Maximum converter input power	21 kW
Weight	18.5 kg (excl. cable)
Dimensions (L x W x H)	370 x 192 x 215 mm (14.6 x 7.6 x 8.5 inch)

Cooling

Coolant	50%/50% water glycol mixture
Coolant temperature	-20 – 55 °C
In-/Outlet connector type	According to SAE J1231 430192
Tube ID	16 mm

Electrical interface

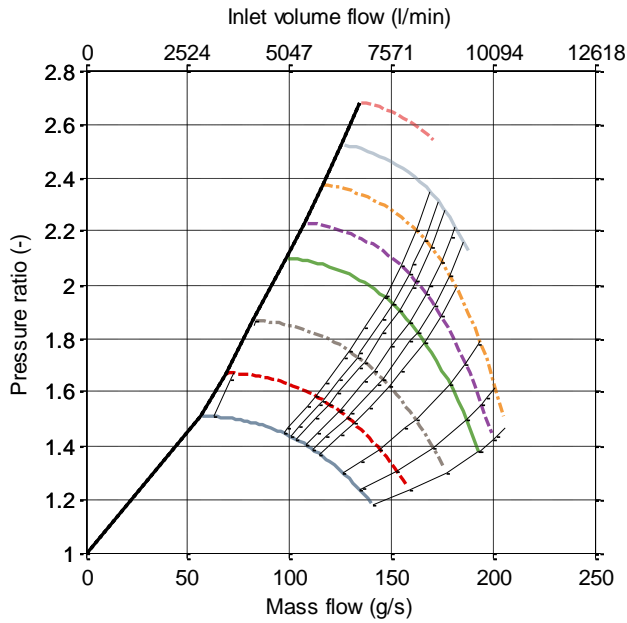
Connection type	Motor and sensor connector
Motor connector	Amphenol/PowerLok 4.0
Sensor connector	Amphenol/Eco-Mate RM

¹Isentropic overall efficiency including aerodynamic, motor and bearing efficiency

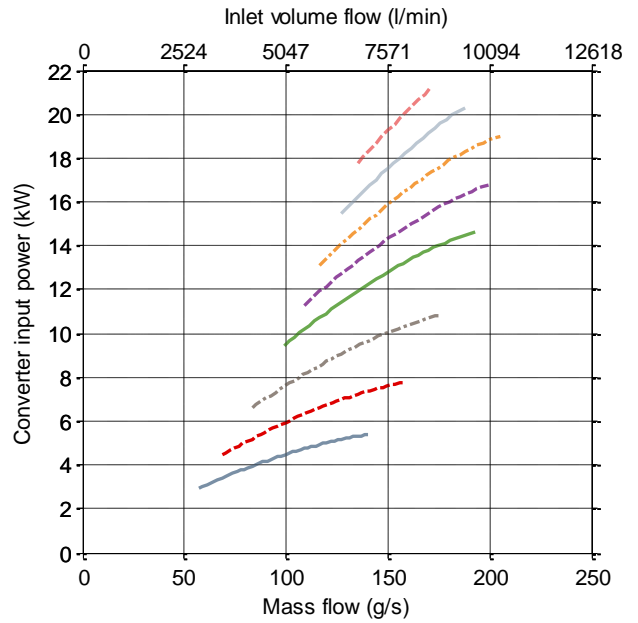
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Compressor map: operation with converter CC-3001

Pressure ratio versus mass flow



Converter input power versus mass flow

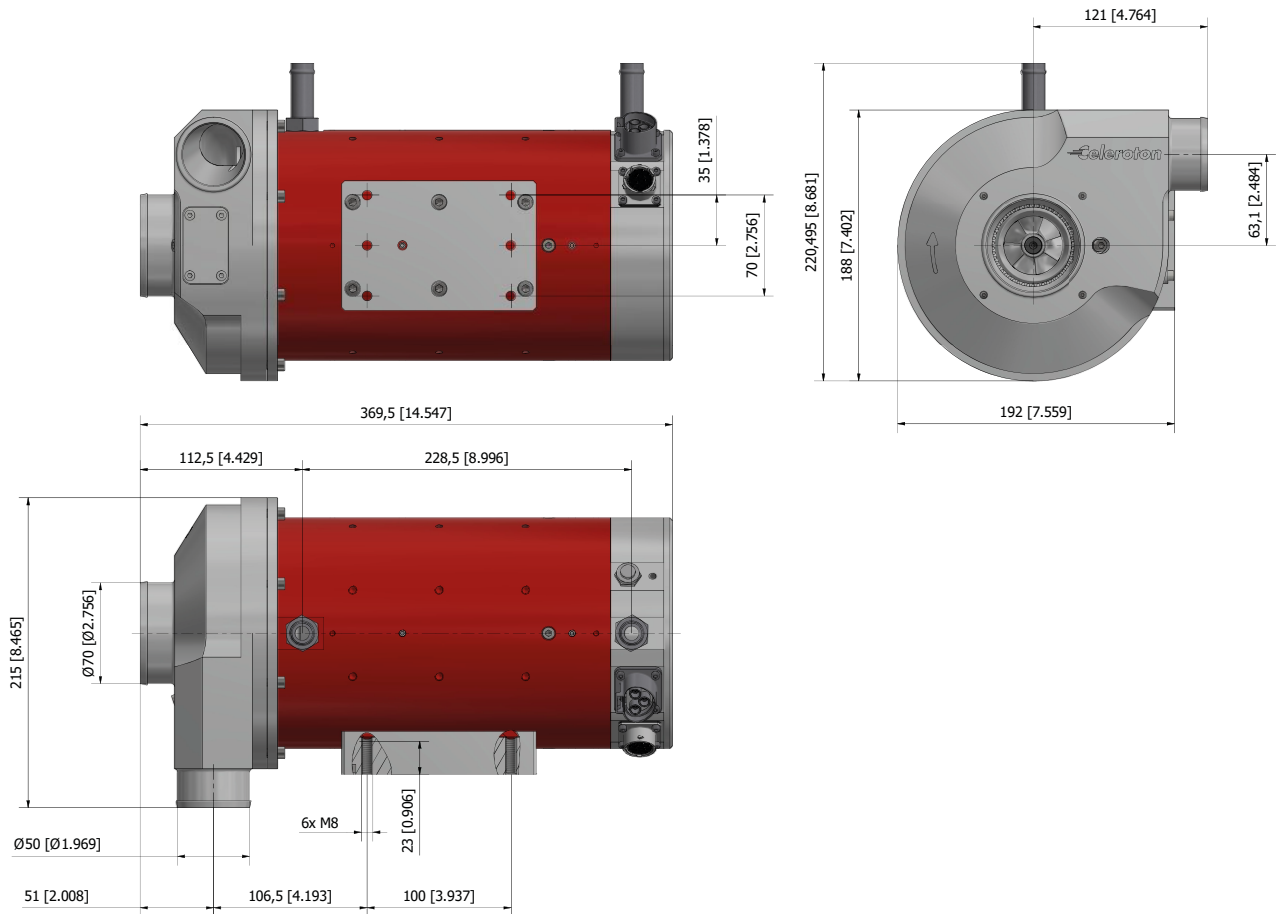


Order codes: CT-3001

Ordering information	Article number
CT-3001	4010035
CT-3001 with CC-3000 (200 – 450 VDC)	4040045
CT-3001 with CC-3001 (400 – 750 VDC)	4040047

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Drawing in mm [inch]



The specifications and compressor maps in this document refer to air (ISO 8778) at the inlet of the compressor: temperature: $T = 20^{\circ}\text{C}$, absolute pressure: $p_{in} = 1 \text{ bar}$.



Depending on custom specific operation conditions such as e.g. gas inlet pressure and temperature, humidity, cooling conditions, the operation in environmental conditions with vibrations and/or depending on the combination of the compressor and the corresponding Celeroton converter, the compressor maps shown in this document may be different or may have additional limitations.

For technical details and further information, please refer to the user manual or contact Celeroton directly.