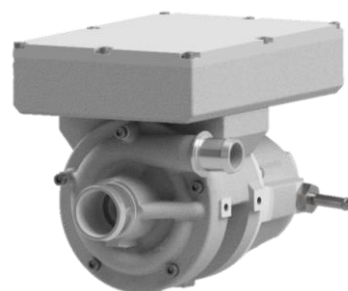


CTi-2001 integrated turbo compressor system

Electrical turbo compressor with air bearings for the air supply of 20 - 30 kW fuel cells in fuel cells in fork lifts and range extenders. Alternative applications include the circulation and compression of various gases and refrigerants.

- High-speed air bearings for oil-free operation
- Continuous and non-pulsing air supply
- Aerodynamic optimization and integration of power electronics for highest total efficiency and lowest ratio of volume and weight versus pressure and mass flow



Specifications turbo compressor system	
Model	CTi-2001
Maximum pressure ratio	2.5
Maximum mass flow	40 g/s
Maximum speed	170,000 rpm
Acceleration time ¹	< 1.8 s
Maximum converter DC input power	5.5 kW
High-voltage input range (unrestricted operation)	65 – 100 VDC
Low-voltage input range	8 – 32 VDC
Communication interface	CAN 2.0A/B (500 kbps), RS232-USB (service interface)
Ambient temperature range	-30 – 85°C
Protection class	IP67
Mechanical mounting	4 x M4 x 6
Dimensions (L x W x H)	287 x 189 x 208 mm
Weight	8.6 kg

Compressor air interfaces	
Inlet air fluid temperature	-30 – 55°C
Inlet air fluid pressure	0.79 – 1.05 bara
Interface inlet	Clamp and hose (ID = 45 mm)
Interface outlet	Clamp and hose (ID = 28 mm)

¹ 20 to 80% of maximum speed

All rights reserved. All information in this document is based on Celeroton TurboCell's best knowledge and is not to be considered as a warranty or quality specification. The information given is designed as a guidance and customers are requested to check the suitability and usability of the product in their specific application with consulting Celeroton TurboCell. The information herein is subject to change without notification.

Cooling interface

Liquid	Inhibited 50%/50% water glycol mixture
Coolant temperature	Full performance: -20 – 65°C Start-up capable: -30°C
In-/outlet connector type	Clamp and hose acc. to SAE J1231 430192
Tube ID	10 mm

High-voltage interface

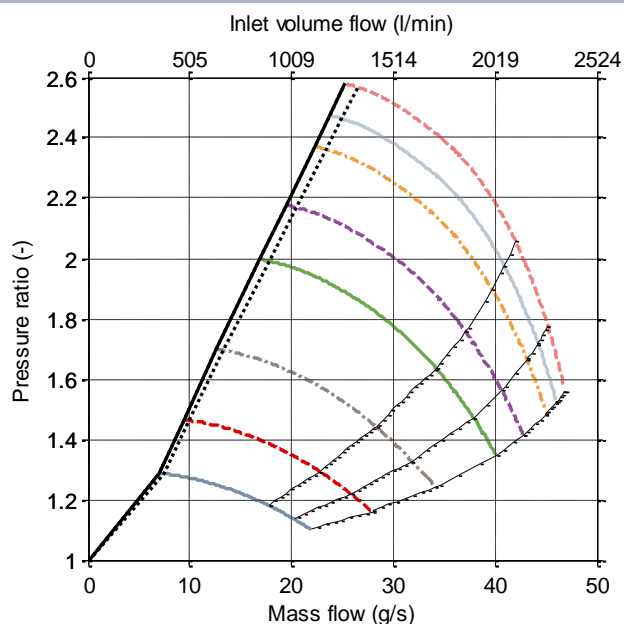
Connector type	Amphenol/Excel-Mate
2 x high-voltage input	HV+, HV-
Cable type (recommended)	2 x 25 mm ² , shielded
Grounding thread	M4 x 6

Low-voltage interface

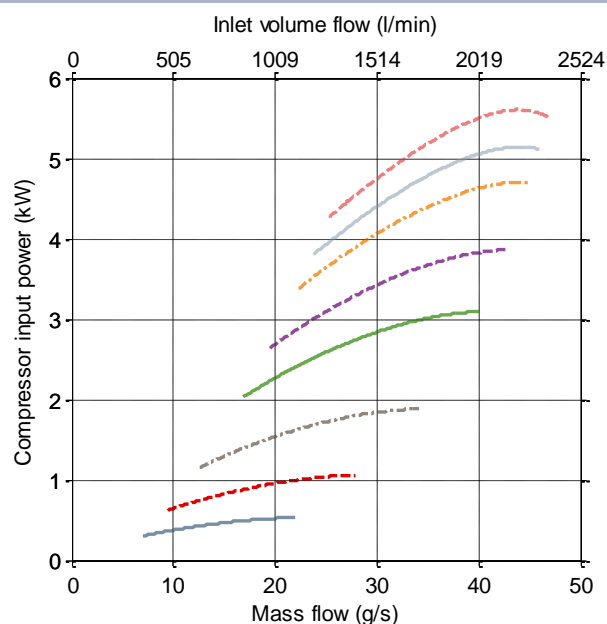
Connector type	TE Connectivity/AMPSEAL 14 Pos.
2 x low-voltage supply	LV+, LV-
3 x CAN interface	CAN_H, CAN_L, CAN_GND
3 x RS232-USB (service interface)	TX, RX, GND
2 x High-voltage interlock	HVIL+, HVIL-
1 x PE	Protective earth

Compressor map: overpressure operation - CTi-2001

Pressure ratio versus mass flow

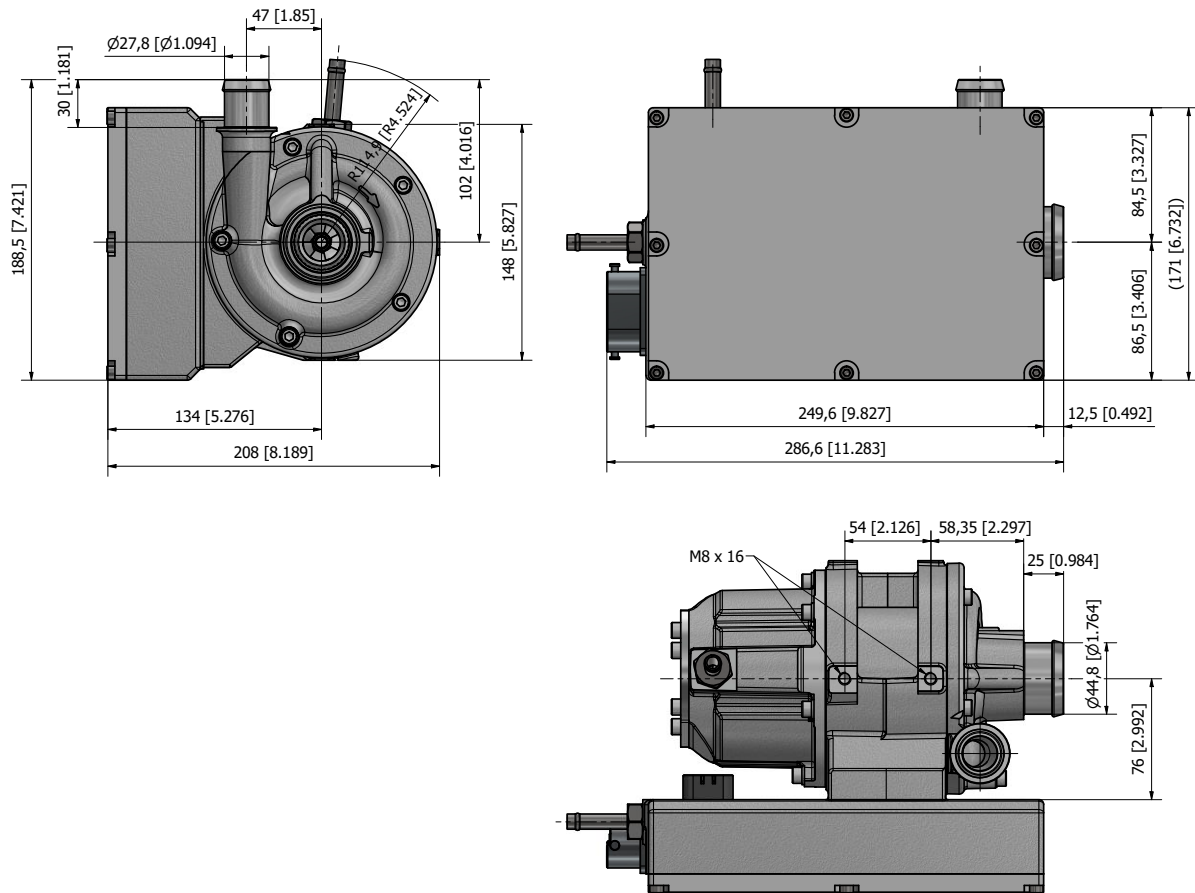


Compressor input power versus mass flow



All rights reserved. All information in this document is based on Celeroton TurboCell's best knowledge and is not to be considered as a warranty or quality specification. The information given is designed as a guidance and customers are requested to check the suitability and usability of the product in their specific application with consulting Celeroton TurboCell. The information herein is subject to change without notification.

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, 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 TurboCell directly.