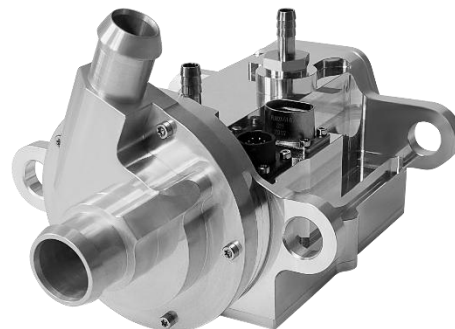


## CTi-110x integrated turbo compressor system

Electrical turbo compressor with air bearings for the air supply of 5 - 15 kW fuel cells with applications mainly in material handling, stationary, and drone applications. Alternative applications include the circulation and compression of various gases and refrigerants.

- Turbo compressor with aerodynamic optimization and integration of power electronics for highest total efficiency and lowest ratio of volume and weight versus pressure and mass flow
- Aerodynamic variants available for pressure ratios from 1.6 to 1.9 at mass flows ranging from 8 to 18 g/s
- High-speed gas bearings for oil free operation
- Continuous and non-pulsing air supply
- Designed for 48 V, 80 V or 96 V nominal battery voltage (unrestricted operation for DC input voltage 40 - 110 V)



### Specifications turbo compressor system

#### Model CTi-1100

Maximum pressure ratio	1.9 at 13 g/s
Maximum mass flow	17 g/s

#### Model CTi-1101

Maximum pressure ratio	1.6 at 18 g/s
Maximum mass flow	25 g/s

#### Model CTi-1102

Maximum pressure ratio	1.8 at 8 g/s
Maximum mass flow	14 g/s

Maximum speed	260,000 rpm
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Acceleration time <sup>1</sup>	< 2.0 s
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Maximum converter DC input power	1.5 kW
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High-voltage input range (unrestricted operation)	40 – 110 VDC
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Low-voltage input range	8 – 32 VDC
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Communication interface	CAN 2.0A/B (500 kbps), RS232-USB (service interface)
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Ambient temperature range	-20 – 85°C
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Protection class	IP67
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Mechanical fixation	4x brackets, through hole
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Dimensions (L x W x H)	242 x 188 x 155 mm
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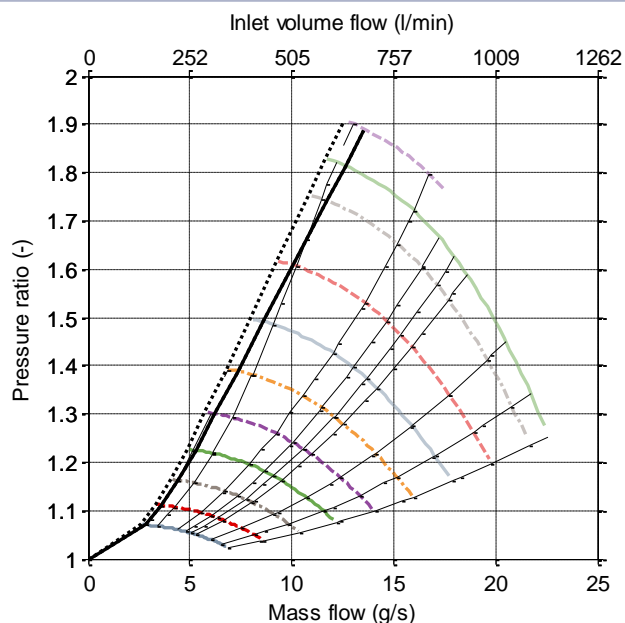
Weight	3.6 kg
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<sup>1</sup> 20 to 80% of maximum speed

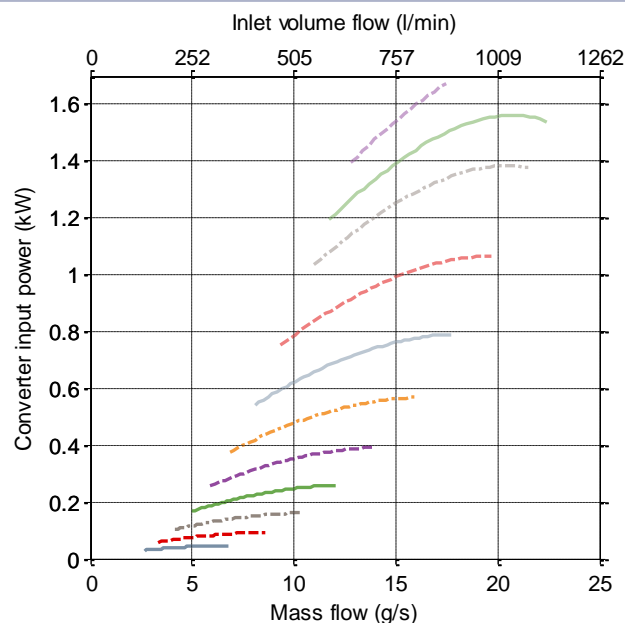
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## Compressor map: overpressure operation - CTi-1100

Pressure ratio versus mass flow



Converter input power versus mass flow

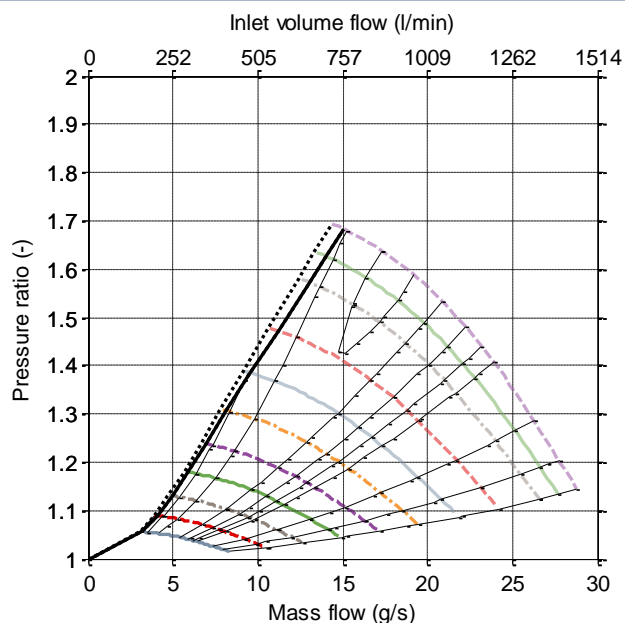


Pressure ratio versus mass flow

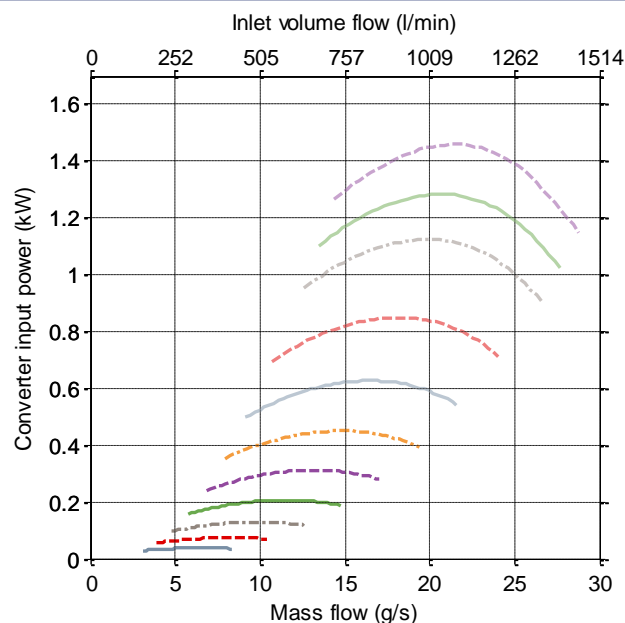
Converter input power versus mass flow

## Compressor map: overpressure operation - CTi-1101

Pressure ratio versus mass flow



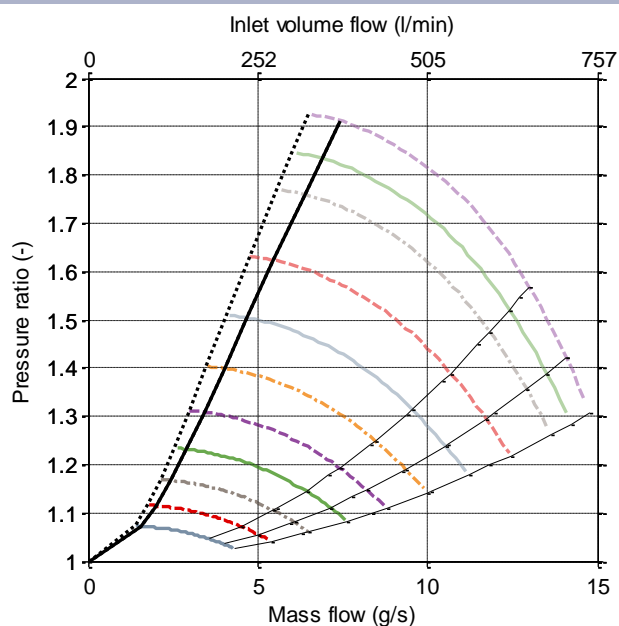
Converter input power versus mass flow



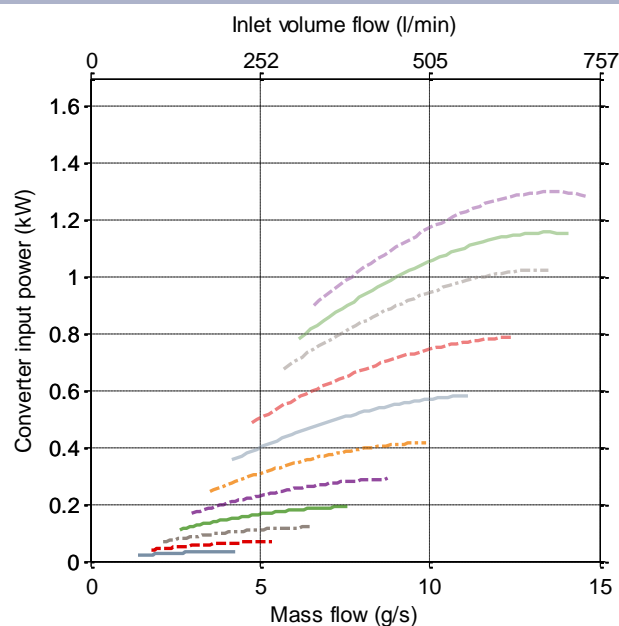
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## Compressor map: overpressure operation - CTi-1102

Pressure ratio versus mass flow



Converter input power versus mass flow



### Compressor air interfaces

Inlet air fluid temperature	-20 – 55°C
Inlet air fluid pressure	0.79 – 1.05 bara
Interface inlet	Clamp and hose (ID = 34 mm)
Interface outlet	Clamp and hose (ID = 25 mm)

### Cooling interfaces

Liquid	Inhibited 50%/50% water glycol mixture
Coolant temperature	-20 – 75 °C
In-/outlet connector	Clamp and hose (ID = 13 mm)

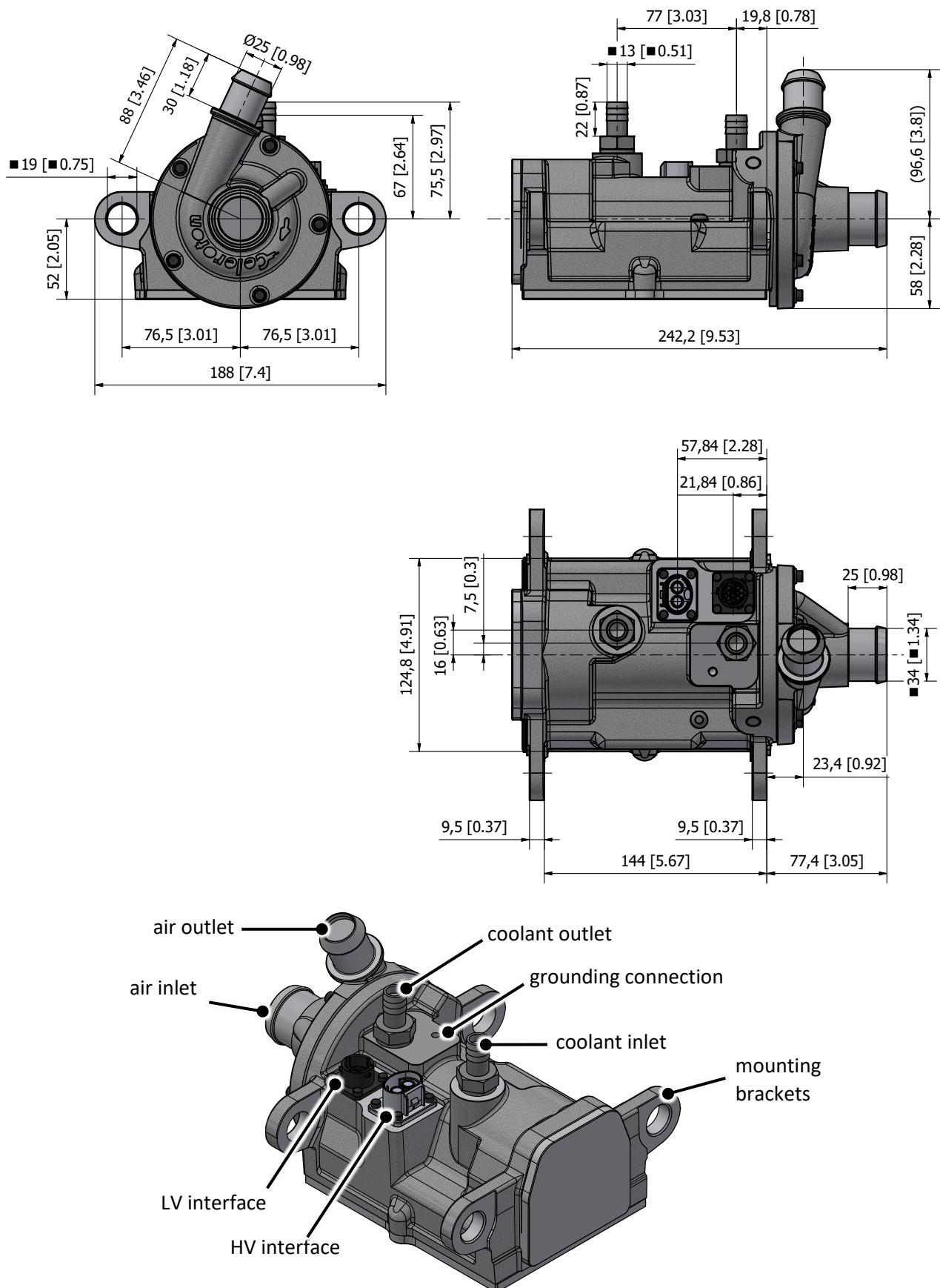
### High-voltage interface

Connector type	Amphenol PowerLok 4.0 (matching cable-side connector: PL182x-60-6)
Cable type	2 x 6 mm <sup>2</sup> , shielded
Grounding	1x M6

### Low-voltage interface

Connector type	Amphenol eco   mate (matching cable-side connector: RTS6BS12N10S03)
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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.

## Order codes

Ordering information	Article number
CTi-1100 - Integrated turbo compressor system	contact sales
CTi-1101 - Integrated turbo compressor system	contact sales
CTi-1102 - Integrated turbo compressor system	contact sales

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