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# PTCB7000 - Pressure- & Temperature Cycle Test Bench for charge air coolers

## Data Sheet EPE-147413


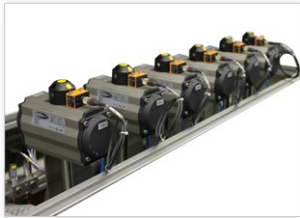


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# PTCB7000 - Pressure- & Temperature Cycle Test Bench for charge air coolers



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 Figure similar

## Test with different pressure curves: Trapez, sine, triangle

Pressure cycle test from 0 to 7 bar  
Charge air temperature from 100 to 300°C  
Ambient atmosphere from 30 to 200°C

### Description

The system serves as a pressure cycle test of charge air coolers at a defined temperature of the charge air and temperature in the test chamber. The test bench was designed to test up to six components simultaneously. The pressure range of the system is 0 to 7 bar. The test pressure can be controlled with a frequency between 0.1 and 1 Hz. The temperature control of the test chamber is in a range between 30 and 200°C and is controlled by an electric heating device in the chamber and a water-cooled heat exchanger in a closed circuit. The following pressure gradients can be controlled via two highly dynamic flow / pressure control valves: Static, Triangular, Trapezoidal or Sinusoidal. The system is controlled by a PC with precise measurement data acquisition hardware and a measurement and control software under LabVIEW.

### Technical Data

#### Measurement sizes

**Temperature test chamber** 30..200°C

Measurement accuracy ±3K

**Charge air temperature** 100..300°C

Measurement accuracy ±3K

**Pressure at low level** 0..7 bar rel.

Measurement accuracy ± 0.1%

**Pressure cycling frequency** 0.1..1 Hz

Static, triangular, trapezoidal and sinusoidal signals

**Number of test items** 1..6

#### Dimensions

**Test bench (L x W x H)** 3200 x 1500 x 2200 mm

**Weight** 1200 kg

### Benefits

- ✓ Pressure cycling tests in the range 0..7 bar
- ✓ Tests with simulated ambient temperatures of 30..200°C
- ✓ Automatic leak test of the components after „x“ cycles
- ✓ Testing of a variety of air-flow components (e.g., engine priming components) for internal pressure cycling under temperature
- ✓ Continuous- / stress test
- ✓ Deterioration



### Special solutions

#### Application examples:



**Automotive and  
Automation**



**Fluid- and  
Valvetechnology**



**Aviation**



**Pharma and  
Medicine**



**Filtertechnology**

#### Application examples:

- Charge air coolers
- Engine intake components
- Heat exchangers
- Pressurized casing
- Reservoir for oil and water
- Valves
- Filter casing



This is only an **example** interpretation and can change according to your needs.



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For special requirements we are happy to advise you. Subject to change. / EPE-147413 / Last update: 03/2018 / V02  
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