ILK Dresden
Institut für Luft- und Kältetechnik
Gemeinnützige Gesellschaft mbH

Performance tests of refrigerant compressors

Does your compressor perform well?

We support the industry in its effort to develop energy-efficient refrigeration systems and heat pumps.

The ILK Dresden offers the following services for you:

For single- or two-stage compressors we determine the refrigerating capacity, power absorbed, COP, volumetric and isentropic efficiency in accordance with the standards DIN EN 13771-1 and DIN EN 12900.

Following compressor types could be tested:

- open compressors
- semi-hermetic
- hermetic

The tests are carried out at gas-loops with partial condensation (Fig 1) respectively at complete refrigeration cycles (Fig. 2).
Source of the refrigerant property data is the library ASEREP of ASERCOM.

As a matter of course the calibration status of our measuring system is always up to date.

Test rigs

Fig 1: Up to 15 kW refrigerating capacity

Fig 2: Up to 100 kW refrigerating capacity

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Performance range of the test rigs

Displacement [m^3/h]	Refrigerating capacity [kW]	Refrigerants
… 2	… 0,4	R134a, R600a, HFO 1234yf
3 … 10	… 15	R134a, R404a, R152a, HFO 1234yf, R452A, propane
10 … 80	… 100	R134a, R404a, R407C, …, R410A, (R22)
50 … 200	… 200	R134a, R404a
3 … 20	… 30	R744

(Refrigerating capacity depends on the operating point)

Additional offerings

- long-term switching tests
- torque measurements
- oil circulation in the system
- tests with speed control (frequency converter)
- acoustics (third or octave frequency band)
    - on the test rig: DIN EN ISO 9614 or
    - in a reverberation room (with gas loop): DIN EN ISO 3741 (cl. 1, 100Hz ... 20kHz)
- vibration measurements from 3Hz ... 20kHz (line spectrum)
- measuring of pulsations in piping

For further information please contact us directly:

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Non-Profit Company of Limited Liability

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