CETA®

Application Software
CETA Soft 2G for free!

DKD   ilac-MRA   (((DAkkS
Deutsche
Akkreditierungsstelle
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Leak Tester CETATEST 525

The CETATEST 525 with differential pressure sensor is a full automatically working leak tester for the detection of untight parts within the cycle time of the production process. The differential pressure method is used here. This is based on comparing the pressures in the test part volume and in a leak-tight reference volume. The use of fast-switching solenoid valves in combination with a very small internal measuring circuit volume makes the CETATEST 525 particularly suitable for very short test processes. The CETATEST 525 is available in two different types:
The type "pressure decay measurement" can be used for leak tests of very small test parts in high speed production.
The configuration "sealed components - high resolution" can be used for test parts which cannot be filled, so called "sealed components". It is possible to detect very small ratios of test part volumes (0.03 ml < ΔV < 1.0 ml).

System architecture

Industrial PC: Quad Core CPU, 1.8 GHz, 4 GB RAM, 128 GB SSD,
Micro-controller system for the test process control: 32-bit ARM µC / 84 MHz

Signal processing

Fast 24-bit A/D converter, real-time processing of measurement signals

Valve type

Small volume sliding valve

System features

Low intrinsic volume of the measuring circuit, Volume minimisation for the purpose of resolution optimisation, Integrated security functions

Pressure sensors

Gauge pressure sensor
Differential pressure sensor

Measurement ranges

± 500 Pa / ± 5,000 Pa (display resolution: 0.1 Pa, internal resolution: effectively 0.01 Pa)

Result units

Pa, hPa, PSI, Pa/s, hPa/s, mbar • l/s, ml/min, ml/h, l/min, l/h, mmHg, mmWs, Torr

Pressure ranges

-1 bar, 200 mbar, 1 bar, 6 bar,
negative and positive gauge pressure ranges can be combined
(e.g. -1 bar / +1bar)
other pressure ranges on request

Maximum Deviations

Gauge pressure: 1 % *
Specification for combined devices based on positive gauge pressure
Differential pressure: 0.5 %
referred to measuring range

Test modes

Pressure decay
Sealed component - high resolution

Additional functions

Standard: prefill, pulsing, smooth filling, variable zero point
Optional: program series, temperature compensation, test repetition, automatic test time adjustment, free programmable control valves

Operation

Touch screen, dual jog dial, separate start / stop buttons, password protected user levels
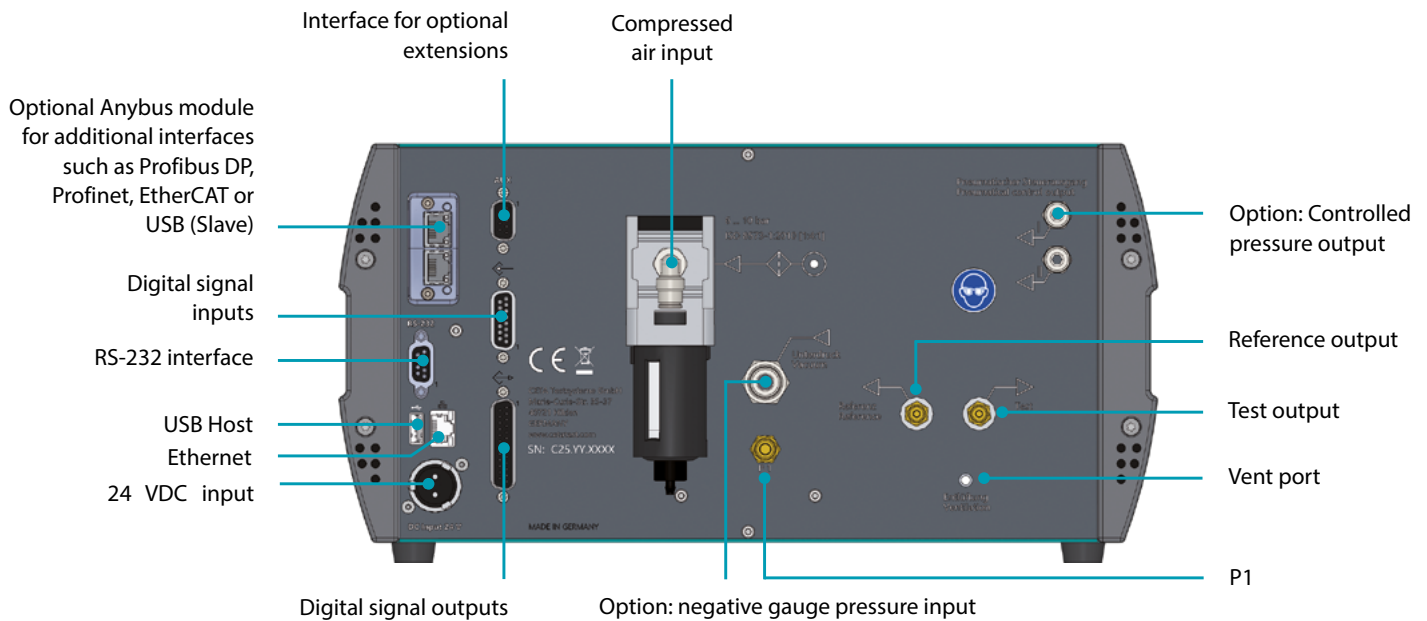
Display

7-inch color screen, various graphical diagrams (measurement curves, histogram, measurement series overview), list of results

System monitoring

Self-tightness test, logging of valve switching times, Still-Alive-Check with differential pressure sensor monitoring, automatic function control (option), control of the compressed air supply, consecutive zero results

Memory

For more than 1 million measurement results, 256 individually parameterizable test programs with alpha-numeric program names, export / import of test programs via device interfaces or by usage of a USB storage device

* referred to full scale value

Interface for optional extensions

Compressed air input

Optional Anybus module for additional interfaces such as Profibus DP, Profinet, EtherCAT or USB (Slave)

Digital signal inputs

RS-232 interface

USB Host

Ethernet

24 VDC input

Digital signal outputs

Option: negative gauge pressure input

Option: Controlled pressure output

Reference output

Test output

Vent port

P1

Interfaces

I/O interface for start/stop/reset, program selection, device status, system errors, test results (pass/fail)
RS-232, USB (host), Ethernet and optional interfaces allow additional functions like parameterisation, measurement results, detailed information in real time (e. g. measurement curve), failure messages

An optional Anybus module can be used to implement additional interfaces such as Profibus DP, Profinet, EtherCAT or USB (Slave).
The CETATEST 525 is fully interface compatible with the CETATEST 515 and well prepared for Industry 4.0 requirements.

Further functions

Result statistics, cycle counter, recording of measurement series and measurement curves, Dynamic Link Library (DLL) for RS-232 interface programming, integration of test part image / barcode / QR code, user administration, export of test parameters, measurement curves and measurement series to USB storage media, nominal pressure optimization

User support

Automatic parameter determination, Leak rate set-up wizard, Teach-in mode, Maintenance monitoring, Overview of parameter changes

Power supply / Power consumption

Test device: 24 VDC / max. 50 W
External power supply (optional)
Input 100 - 240 VAC / 47 - 63 Hz
Output 24 VDC

Air supply

6 - 10 bar, min. 0.5 bar above test pressure resp. 50 mbar below evacuation pressure
Quality or purity according to
ISO 8573-1:2010 [1: 4: 1]

Pneumatic connections

Input (compressed air supply):
6 mm plug-in fitting
Port for test part: 6 x 1 mm fitting,
Clamping ring 6 mm, 4 mm, 3 mm (option),
up to three pneumatically driven outputs (option)

DAkkS calibration and DAkkS certificate

All new devices will be delivered free of charge with DAkkS calibration certificate according to DIN EN ISO/IEC 17025.

Dimensions and weight

W x H x D: 367 mm x 183 mm (4 U) x 435 mm
Weight: approx. 12,5 kg

Scope of delivery

Special packaging, documentation on device, DAkkS calibration certificate, EU declaration of conformity, D-Sub-plug, digital input and output cable, spare sealing caps and spare caps for union, nuts coupling or spare clamp rings

Warranty

3 years in case of yearly maintenance, optional prolongation to 5 years

Accessories (optional)

Power supply, power cord, filter combination, test leak, leaktight 3/2-way valve, application software CETA Soft 2G available on request free of charge, scanner interface, remote control panel, further accessories in the CETA accessories catalogue

Subject to modification due to technical progress | August 2023