

Provaset T3D

EQUIPMENT FOR LEAK TESTS
BY DIFFERENTIAL METHOD



HIGH PERFORMANCE
FULLY INTERFACEABLE
COLOUR GRAPHIC DISPLAY
TOUCH SCREEN

- Leak tests with full scale up to 30 bar and in vacuum
- Resolution of 0.1 Pa (0.001 mbar)
- 7" colour LCD display with touchscreen
- 300 test programs
- 300 test sequences
- Electronic pressure regulator
- Digital I/O interfaces for PLCs, RS232/RS485 serial lines, USB for PC and Ethernet



Further information at:
www.tecnasrl.com/products/t3d



Tests

T3D is an innovative device for leak tests by pressure differential method. By measuring the pressure difference between the product being tested and a reference sample, the test times are reduced and the sensitivity is heightened.

The touch interface, with a colour display and the real-time visualization of the tests, makes the programming and the use simple

and immediate. Its high measurement resolution and the test accuracy, in combination with the electronic regulation of the filling pressure, allow to perform not only leak tests but also destructive burst tests, safety valves opening checks, volumetric control, obstruction tests and "in bell" tests on sealed products or by interception method.

The control of external automations, the interface with barcode, Qrcode readers and printers and the possibility to record the tests on USB memories or via Ethernet, make it a complete and suitable instrument for the most modern production applications.

Provaset T3D

SPECIFICATIONS

Power Supply	External 24 Vdc; alternatively 85÷264 Vac, 35W
Compressed Air Line	Dry, non-condensing, 5-micron filtered and oil-free air, compliant with ISO8573-1
Sensor Calibration	Software-guided procedure with sample instruments.
A/D Converter	24 bits
Pressure Regulator	Electronic, with dedicated pressure transducer to visualize the regulated pressure on the display
Keyboard	Resistive touch screen
Display	7" colour TFT LCD display with touchscreen
Indicators	4 LED lights (testing phases, pass/reject outcome)
Test counter	Passed and Rejected totals, resettable to zero Statistic option: mean value, minimum, maximum, standard deviation, normal distribution, CP, CPK, hour production totals
Audible alarm	Built-in beeper with programmable duration
Clock	Date and time, with supercap, max autonomy 7 days
Programmable parameters	300 testing tables with sequential mode, general parameters, volume calculation to indicate the leak rate in cm ³ /min or cm ³ /h
PLC connections	8 photocoupled inputs and 8 photocoupled outputs Each I/O is fully programmable; the control is possible of external automation (coupling, security cage...) without PLC
Data interfaces	Configurable RS232/RS485 serial line USB device interface and Ethernet Protocols: Modbus RTU, CSV ASCII output, barcode, Qrcode, printer
Staubli® Connector	Standard, for Leak Masters
Housing	Unpainted anodized aluminium

Calibration service

Each equipment is accompanied by a calibration certificate released by Tecna srl. According to the requirements of ISO9001 standard, calibration must be verified at specified intervals against national or international test masters. Tecna srl, through its specialized personnel and certified instruments, offers a complete scheduled calibration service.

OPTIONS

- Setup for vacuum test
- 2 programmable pneumatic outputs for external commands (plug/marker)
- I/O expansion: adds digital PLC inputs/outputs (8+8) and a RS232/RS485 serial line
- Additional USB, Ethernet, ProfiBUS or CANbus interfaces for remote control and data collection
- Real time SPC statistical analysis
- Software to manage a label printer and a barcode or Qrcode reader

ACCESSORIES

- Air filters
- Certificated Leak Master to be inserted in the Staubli® connector
- Barcode, Qrcode and printer
- Remote control keypad
- 3-colours indicator light with loud sound alert
- External valve for volume check and tests in sealed "bell"



CUSTOMIZED PROGRAMS FOR PC/HMI TERMINAL

- Software to collect and manage the data of the tests
- Parameter programming and SPC analysis of test data
- Virtual Instrument for National Instruments LabVIEW™ available at request

DIFFERENTIAL PRESSURE DECAY

The testing cycle is based on a comparison between the product being tested and a reference volume. In this way, the effects of the pressure settlement inside the tested product are reduced and the accuracy in detecting a leak rate is increased, achieving excellent results in a quicker interval.

OPERATING PRINCIPLE

Test cycle mainly consists of three phases:

FILLING (time T1):

the product being tested and the reference volume are both filled to the programmed rated test pressure.

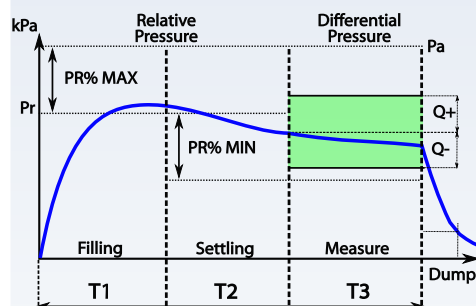
SETTLING (time T2):

this phase is necessary for the settlement of the pressure inside the product being tested.

LEAK MEASUREMENT (time T3):

the pressure differential between the product being tested and the reference volume is measured.

The leak can be expressed as ΔP or calculated in cm³/min or cm³/h.



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