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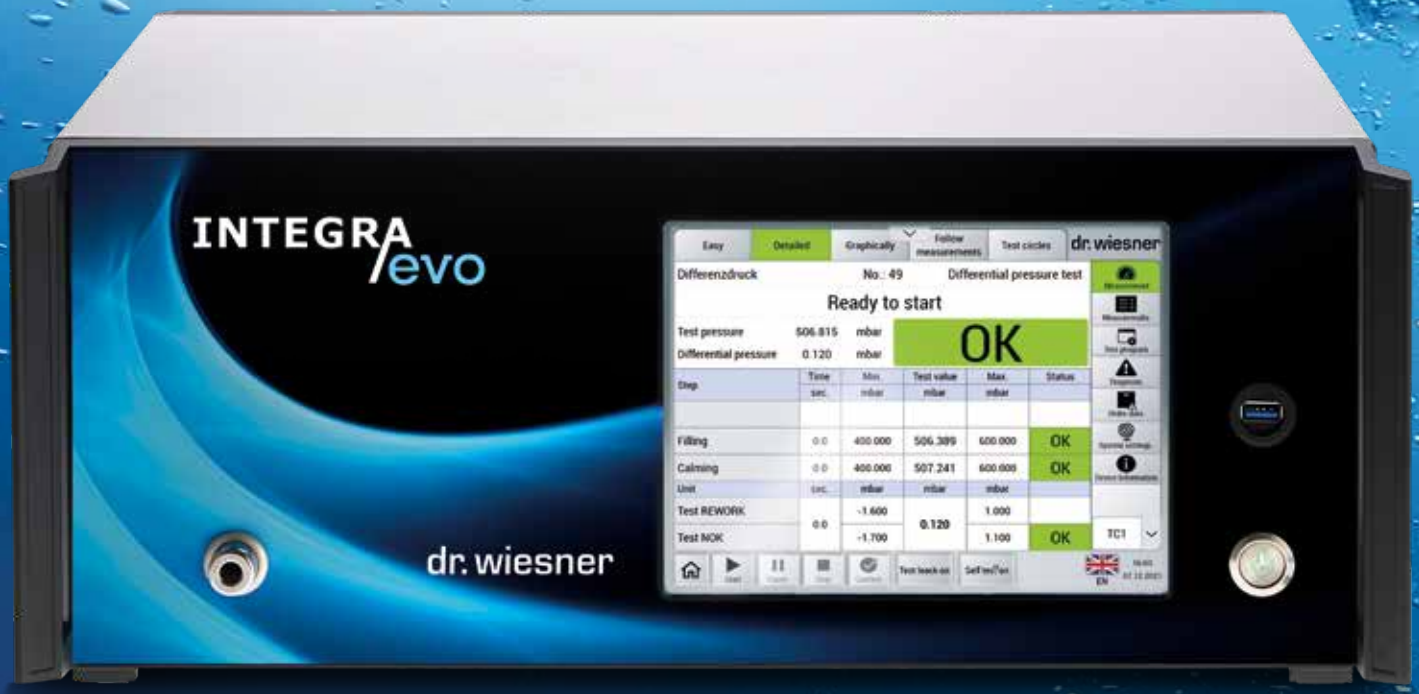
INTEGRA evo

THE SCALABLE SOLUTION FOR INDUSTRIAL LEAK TESTING



INTEGRA evo - sustainable, flexible, future-proof

INTEGRA *evo* is an indispensable tool for anyone who needs reliable and precise tests.

With advanced technology and user-optimised functions, it delivers precise results for industry, laboratory and R&D applications.
It helps to complete testing tasks faster and more efficiently.

Our INTEGRA *evo* grows with your needs and is always ready for something new!

Digital I/O for machine control, analogue inputs for additional measuring devices (e.g. temperature sensors).

Additional test circuits through EtherCAT interface: Combination of different test methods possible.

Flexible customer-specific adaptations through PLC software. Possibility to use INTEGRA *evo* as a central control unit for testing systems.

Minimal d dsowntime and maintenance costs thanks to proven standard components.

Stable internal volume owing to special design: The results are highly reproducible with minimal scatter.

The new INTEGRA *evo* can be customised quickly and flexibly for various pressure and measuring ranges - also, in terms of accuracy through more responsive sensor technology.

At the same time, a wide range of options and accessories is available, including digital interfaces, analogue measuring cards and additional functions.

Performance features

- Switchable test leak
- Self-test
- Graphically displayed test progress
- Ring buffer for 5,000 data records
- Up to 1,000 test programs storable
- External data save function
- Statistics function
- Parameter change via Profinet
- Access via web browser
- OPC-UA capable (optional)
- Integrated scanner functionality (Recording serial numbers)

Testing methods

- Differential pressure test
- Relative pressure test
- Back pressure test
- Ramp function test
- Burst pressure test
- Opening pressure test
- Testing of hermetically closed test specimens

Standard measuring ranges

- -1 to 0 bar
  -1 to 3 bar
  0 to 1 bar
  0 to 6 bar
  0 to 10 bar
  0 to 16 bar
- Other test pressure ranges on request

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State-of-the-art connectivity

Intuitive touch screen operation

OPTIMISED FOR EFFICIENT TEST PROCEDURES

Developed for Industry 4.0 applications

- Suitable for network operation
- Remote maintenance and update capability
- Self-diagnosis function
- Maintenance and service counter
- Extended diagnostics for faster troubleshooting
- Traceability of each test specimen possible

Communication environment and network capability

- Network connection/Automation via Ethernet, EtherCAT and Profinet
- OPC-UA capable
- Digital I/O interfaces available
- RS232
- USB 2.0 /3.0

PLC

- Digital I/Os for machine control
- Analogue inputs for additional measuring devices, e.g. temperature measurement
- EtherCAT interfaces

User-friendly operation

- Self-explanatory user interface
- Quick access to functions thanks to optimised operating elements
- Operation and configuration via web browser
- Simultaneous display of several test circuits
- Remote control (accessory)

Optional displays

- On integrated display
- On external monitor
- Via remote desktop
- With Wi-Fi Direct on tablet or mobile phone

Special features

- Classification:
  - OK
  - rework
  - fine leak
  - gross leak
- Internal system control with valve monitoring
- Calculated pressure correction
- Adjustable small quantity suppression
- **Interface compatibility with earlier INTEGRA systems**

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Longevity

Supports resource-saving products -
and helps to manufacture them safely

Modifiability

Configurable to meet new
requirements

Future-proof

Customisability to changing test
applications

FUEL CELL STACKS
FULLY AUTOMATIC TESTING

INTEGRA fuel cell evo

INTEGRA *evo fuel cell* has been further developed from the new INTEGRA *evo* for testing fuel cell stacks. With this system, the leak test to the outside and the internal leak test are fully automated. These procedures are performed safely, quickly and efficiently in a single pass, without the risk of overloading the stack.

The fully automatic leak test of fuel cell stacks is an important step in quality assurance and reliability of fuel cell systems.

This test procedure ensures that individual cells in the stack have no leaks that could lead to a loss of hydrogen or other gases.

TESTING TECHNOLOGY FOR INDUSTRY 4.0

INTEGRA evo

INTEGRA *evo* is the result of continuing development of the INTEGRA and INTEGRA *NG* series, which have been established on the market for many years.

It combines our company's experience of more than 50 years in the field of leak testing with the latest control and communication technologies - to implement IoT and Industry 4.0 and adapt the required testing tasks to your production flow as flexibly as possible.

Test leaks for every test situation

Test leaks are used to simulate leaks when adjusting or monitoring leak testers. They are integrated into the test line, either in place of a test specimen or parallel to a leak-tight test specimen. A fixed flow resistance is specified by a capillary matched to the desired leak rate.

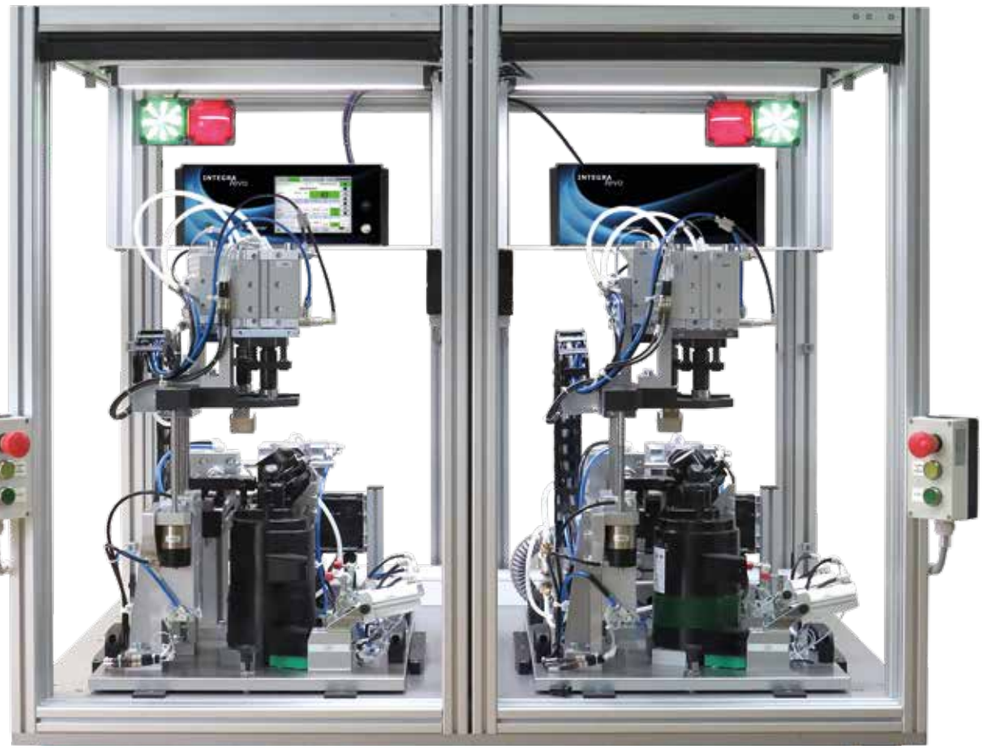
The capillary is fitted in a metal housing and protected from contamination by a filter. Our test leaks are characterised by easy handling, a long service life and long-term stability.

TAILOR-MADE COMPLETE SOLUTIONS

The flexible and modular design of the INTEGRA *evo* enables high-quality testing with control of associated testing systems. As shown below with an additional test circuit, it is the ideal solution.

We can offer complete solutions, on request:

- Development of solutions, with feasibility studies if necessary
- High-quality measuring and testing technology
- More than 55 years' experience in mechanical engineering
- After-sales service with remote maintenance, wear diagnosis and maintenance contract
- Calibration service



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INTELLIGENT TESTING TECHNOLOGY FROM THE EXPERTS IN LEAK TESTING

As an expert in industrial leak testing, the name Dr. Wiesner has stood for INNOVATION, QUALITY and RELIABILITY since 1968.

Whether fully automated, semi-automated or manual testing - we supply the right solution for every application.

We were one of the first companies in the world specialised in the industrial testing of fluid measurands, particularly leak tightness and flow rate.

Expertise gained from well over 4,000 applications in virtually every sector of industry.

Technical data

INTEGRA *evo*	
Test methods:	Relative pressure and differential pressure method Mass flow tests, back pressure tests Testing of hermetically sealed components Volume determination Burst pressure / opening pressure test (ramp function) Flow resistance
Power supply	24V DC / 150 W
Connector plug	MC1.5/3-STF-3.81 (Phoenix Contact) included in scope of delivery
Power supply unit	100...240V / 47..63 Hz, 150 W (optional)
Protection class	IP 40
Weight	approx. 15 kg (single version, differential pressure test)
Operating temperature	+10° C to +45° C
Screen resolution	8.5“ touch display 800 x 600 pixels
Interfaces	1 x USB 3.0, type A in front panel 1 x USB 2.0, type A in rear panel 1 x EtherNet RJ-45, IEEE 802.3 1 x EtherCAT out RJ-45, 100 Mbit/s Optional interfaces: DP out Displayport X1 16x Digital I/O SUB-D 37pin. socket X2 8x Digital I/O SUB-D 25pin. socket COM1 RS232 interface SUB-D 9-pin connector Profinet IO RT-Device RJ45 socket Profinet Controller RJ45 socket
Compressed air supply	Inlet filter with hose connection 4/6mm Oil and water-free compressed air (in accordance with DIN ISO 8573-1 class 4), min. 1 bar above test pressure
Test leak connection	Stäubli RBE03 quick coupling in the front panel
Test pressure ranges	-1 to 0 bar 0 to 6 bar -1 to 3 bar 0 to 10 bar 0 to 1 bar 0 to 16 bar Other test pressure ranges on request
Test pressure control	electronical pressure regulation Control accuracy +/-1% FS
Housing dimensions	desktop housing or for 19'' rack Housing 450 x 185 x 380 mm (4 U /84HP)

Options

- Vacuum generation via Venturi nozzle (vacuum devices only)
- Test leak connection switchable (Stäubli RBE03 coupling at the rear)
- Profinet I/O RT-Device RJ45 socket
- Profinet Controller RJ45 socket
- Digital I/O SUB-D 37-pin socket (16 IN / 16 Out)
- Digital I/O SUB-D 25-pin socket (8 IN / 8 Out)
- COM1 serial RS232 interface SUB-D 9-pin plug
- DP Displayport for the use of external touch monitors

Accessories

- External 10“ touch monitor
- Industrial wide-range power supply unit 100...240V / 47..63 Hz, 150 W optionally available
- Remote control 1...16 program selection / Start / Acknowledge / OK-NOK lamps
- UPS battery for buffering the 24VDC supply voltage
- External venting of the test circuit (venting outside the device)
- Test leak EL5102 with Stäubli RBE03 plug 2-fold valve block for external switching to 2 test circuits
- Network switch for max. 7 participants connection via Ethernet interface
- WLAN access point industrial version connection via Ethernet interface

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Leak test | Flow test | Functional test | Testing protective equipment

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