

UNIDIM NID

Leak test with air



LWO
PRÜFAUTOMATION



Leak testing

Hydraulic functional testing

Electropneumatic testing

UNIDIM NID

Nitrogen Density Detection – Leckageprüfung mit Luft

LIWO leak testing systems have been used effectively in industry worldwide for decades. They are synonymous with reliability, robustness and quality. With the new UNIDIM NID, LIWO offers a future-oriented testing machine. On the basis of nitrogen and air, UNIDIM NID guarantees measuring ranges with leakage rates of up to 10^{-5} mbar · l/s, and has clear benefits in a time of scarce resources. This corresponds to a leak size of 0.3 µm.

UNIDIM NID SYSTEMS – QUALITY AND PERFORMANCE

The UNIDIM concept is based on the tried and tested LIWO leak test technology. Through the UNIDIM test module concept, LIWO offers reliable, flexible and low-cost standard cells. Owing to their compact structure and flexible expandability with test chambers and adaptation tools, they can be easily integrated into manual or fully automated assembly lines and are used as high-quality laboratory and development devices. A convenient Windows-based user interface makes process flows easy to understand, document and analyse. The integrated SPC module also allows for the statistical long-term observation of measurement values.

NITROGEN DENSITY DETECTION – LEADING THROUGH INNOVATION

The new NID leak test system (patent pending) uses gas discharges to continuously determine the nitrogen concentration in a test chamber. If nitrogen molecules are discharged from a test piece filled with normal air or nitrogen, they can be detected from the change in nitrogen concentration and represented in the form of a leakage rate.

AREAS OF APPLICATION OF THE NID PROCEDURE

The UNIDIM NID can detect leaks of up to 10^{-5} mbar · l/s, which would conventionally only have been detectable by using expensive trace gas or manual underwater test procedures. The NID system's fully automated operation mode ensures

APPLICATIONS:

- Tablet blister, vials and other packages
- Electronic housing, watches, binoculars, etc.
- Large as transmission, tank, pressure tank

objective and user-independent measurement values even with short test times. Because the procedure means that the temperature has no effect on the measurement process, the NID procedure produces reliable results even in harsh production conditions. Elastic parts can also be tested securely for leaks using the NID procedure.

UNIDIM NID: TECHNICAL INFORMATION

MEASURING EQUIPMENT

Test process	integral leak test
Test gas	dry clean compressed air or N ₂
Measuring range	10^{-1} to 10^{-5} mbar · l/s
Calibration	automatic
Duration of measurement	approx. 5 to 30 sec
Test pressure	up to 10 bar (as standard)
Chamber vacuum	3 mbar absolute
Laser class	no protective measure required
Other media	flushing gas He (small quantity), 3 bar

OPTIONS

Exchangeable chambers, handling system for test pieces and workpiece carriers, magazines, part identification/analysis, remote maintenance, calibrated master parts

CONTROL AND COMPUTER EQUIPMENT

Control equipment	Industry PC, Soft SPS
Network connection	Ethernet (optional)

DIMENSIONS APPROX. mm 1200 x 2200 x 1700