



Tailor made solutions

One-stop testing technology ranging from hand-work places to extensive test installations

Leak tests

Flow tests

Functional tests

Turnkey solutions for diverse branches of industry

The testing device is only the first step to the solution of your test task. Only the perfect interaction of all systems and components which are participate in the test process guarantees a save and smoothly quality testing in your production process.

We supply turnkey solutions for various branches of industry, be it a simple test fixture, a complete hand-work place or a multi-functional testing installation.

- **Leakage tests**
- **Flow tests**
- **Functional tests and other fluid, mechanical, electrical or optical tests**

can be freely combined, if required also with adjustment or assembly processes.

Our experience for decades in manufacturing of test stands enables us to offer the most extensive range with an optimal cost-performance ratio.



Careful support, individual consulting, high quality and comprehensive service go without saying for us, and constitute the basis for a long-lasting co-operation.





Automotive parts

Articulation lever
Battery containers
Brake boosters
Brake pipes
Clutch disks
Converters
Coolers
Cylinder head gaskets
Exhaust systems
Fuel filters
Glow plugs
Hydraulic valve
Pin joint lever
Pistons
Pneumatic springs
Pressure control valves
Pumps
Solenoidvalves
Steerings
Suction modules
Toothed wheels
Truck air-break valves
Truck air-dryer
Turbo-superchargers
Window lifters
Wiper motors
...

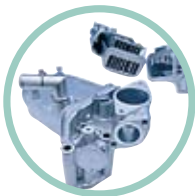
Assembly, setting and inspection device for pressure control valves

- Pressing of seat and cone in pre-assembly station
- Setting of relief pressure and leakage test
- Pressure generation using high pressure compressor for 200 bar
- 4-position indexing table with manual loading
- Internal part handling using gripper system
- Settings fixation with laser welding
- Automatic good/bad sorting
- Complete control from industrial PC



Assembly and test equipment for articulation lever

- Fully automated gauging of shape and position tolerance with inductive sensors
- Attendance check of drills
- Fully automated assembling of two-piece clips
- Fully automated and positioned joining and assembling of sockets with bushings
- Automatic recognition of left and right version
- Part feed using 4 spiral conveyors
- 2-station swivel table with flexible 2-fold test nest
- General control by industrial PC



Diecast parts

Ball valves
Cylinder heads
Engine housings
Fittings
Gearbox casing
Bearing case
Pump casing
Simple diecast parts
Suction lid
Suction manifolds
Valve housing
...

Leakage test station for diecast parts

- Typical standard inspection station for diecast parts or similar parts
- Semiautomatic fixture in drawer technique, therefore no safety door required
- Marking of OK parts using spring marking punch
- Total control via leakage testing unit
- Complete pneumatic equipment including maintenance unit and valve island by Festo
- Inspection station is transportable



Test device for suction lid

- Surface inspection of top and bottom side and perimeter
- Integration of image processing software
- Cycle time approx. 0.7 s per part
- Part feeding via slope conveyor and 2-lane spiral conveyor
- 2x4 position indexing table each with 3-camera system
- Automatic parts sorting via good/bad shunt
- Enumerated filling of various packaging units
- Can be retooled for different formates using change parts
- Machine control by PLC



Plastic parts

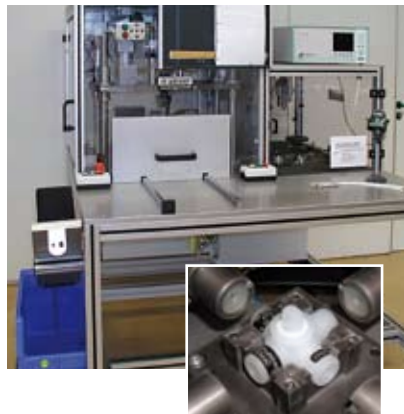
Activated carbon filters
 Antenna housings
 Ball valves
 Battery valves
 Brake fluid tanks
 Cosmetic bottles
 Cylinder head lid
 Extrusion-coated connectors
 Fuel distributor rails
 Fuel tanks
 Gas masks
 Heating elements
 Motorcycle cockpit
 Pressure compensation elements
 Cylinder head cover
 ...

Test equipment for ball valves

- Testing according to the differential-pressure method
- Test pressure 6 bar and 10 bar
- Detectable leakage rate 0.036 cc/min
- Semi-automatic fixture for manually loading
- Suitable for more than 500 variants
- Adjustment of ball valve by using a step motor
- Discharging chute for NOK parts
- Sequential control by leakage testing system

INTEGRA

- Scanner for collection of test number
- Interface for remote maintenance



Teststation for cylinder head cover

- Leakage and functional test in 3 steps with leakage testing system **INTEGRA** and additional test circuit
- Attendance and assembling check of rubber elements and screws with vision system
- Simulation of tighten forces by pneumatic/hydraulically press
- Manually loading on pneumatic cross slide
- Part number recognition by Data-Matrix code
- Part handling via electric/pneumatically linear unit with vacuum gripper system
- Marking of OK parts using scratch stamping
- Bad parts management using controlled trays



Sanitary products

Aerators
 Bathroom fittings
 Boilers
 Built-in parts
 Hand showers
 Hoses
 Kitchen roses
 Reflux valves
 Thermostatic valves
 Water taps
 ...

Function test installations for shower panels and shower temple columns

with integrated water circulation

- Measurement of pressure and temperature at inflow
- Measurement of mixed water temperature
- Functional tests of illumination, valves and spray nozzles



Function test stand for thermostatic valves

Fully automated test stand with integrated water circulation and water treatment.

Test of thermostatic cartridges for

- Setting range
- Safety shut-off
- Control behavior for pressure variations

Automatic part handling, individual marking of test pieces with individual data storage.



Medical products

Hose bays
Inhalators

...

We also carry out projects in the area of leakage and flow testing, e.g. on medical tube systems taking into consideration the special requirements of medical technology.



Functional tests of inhalation systems

- Dynamic flow development under different inhalation conditions
- Pressure conditions at the inhalation system
- Particle distribution for powder inhalators
- Degree of active ingredient removal for powder inhalators
- Continuity tests for long time removals
- Opening and operation force or momentum



Project handling according to GAMP regulations

- User Requirement Specification (URS)
- Design Specification (FDS/SDS)
- Design Qualification (DQ)
- Factory Acceptance Test (FAT)
- Installation Qualification (IQ)
- Operational Qualification (OQ)



Other branches

Cooling systems
Eye washers
Entryphones
Faucets
Filter caps
Flowmeter
Gas heating systems
Gas masks
Military components
Pressure cooking pots and covers
Vacuum cleaner components
Ventilation systems
Washing machine accessories
Water filters

...



Bursting strength test equipment for flowmeter

- Bursting strength test with maximum 160bar distribution pressure
- Hydraulic drives for clamping and sealing elements
- Clamping forces up to 320kN
- Automatic adjusting for specimen with nominal width from 1/2" to 6"
- Maximum clamping length 1400mm
- Weight of specimen up to 250kg
- Soundproof work area for additional adjusting
- Parameterisation and general control by industrial PC

Test equipment for filter caps

- Leakage and volume testing by differential pressure method
- Part fixing with drawer technique
- Quick changeable sealing head
- Automatic type recognition
- Air conditioning by sterile filter for food suitability
- General control using Leakage Testing System **INTEGRA**



For any demand the suitable device

Our extensive product range offers seven different type series with up to 50 different standard versions. According to the required range of functions and ease of use you can choose from a basic device for the workshop up to the newest high-end system for most sophisticated testing tasks.

All devices have excellent performances regarding the measuring resolution and the robustness, they are easy to use and have manifold abilities of data communication.

And if you need something very special, we are able to offer specific devices with custom made applications as well.

A multitude of useful accessories like calibration and monitoring tools, vacuum generators, remote controls and many other things completes the range of test devices.



Leakage testing system **INTEGRA**

high-capacity testing system for all usual testing methods

- full-graphical colour display
- up to 3 independent test circuits run capable
- 255 test programs storable
- self-optimisation autoTune (option)
- communication via intermountable bus-coupling-modules
- freely programmable device control
- freely programmable specific test processes



Leakage testing system **LTS 670**

approved leakage testing system for differential-pressure method or relative-pressure method

- 64 test programs storable
- text indicator on the LCD-display in different languages
- with statistical evaluation of the measurement values



Leakage testing system **LTS 670L**

cost-efficient single-purpose leakage testing device for differential-pressure method or flow measurement

- available in many variants
- for overpressure or vacuum
- optionally including digital I/O interface



Leakage testing device **LTS compact**

cost-efficient single-purpose leakage testing device based on the relative-pressure method

- available for overpressure or vacuum
- serial interface included
- optionally including digital I/O interface



Flow testing device **LTS 673**

optimized for testing large volume components using flow measuring

- principal application is the test of mufflers and catalytic converter systems, and ventilation components
- with custom-programmable inputs and outputs
- highly flexible due to 64 parameter sets



Bubble tester type **6.3**

pneumatically controlled leakage testing device based on the bubbling through method for workshop and production

- visual leakage control via air bubbles in water inspection glass
- easiest operation
- no wet parts anymore
- no power supply necessary
- compact and portable device

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