

"it-01-EX"

THE EXPLOSION PROOF FILTER INTEGRITY TESTER (ATEX-ZONE 1-T4)



FLOW TEST
FILTER INTEGRITY TEST SOLUTIONS



www.flow-test.com



info@flow-test.de



+49-5121 1023233



FILTER INTEGRITY TESTER "IT-01-EX"

PRODUCT DESCRIPTION

The Explosion Proof Filter Integrity Tester

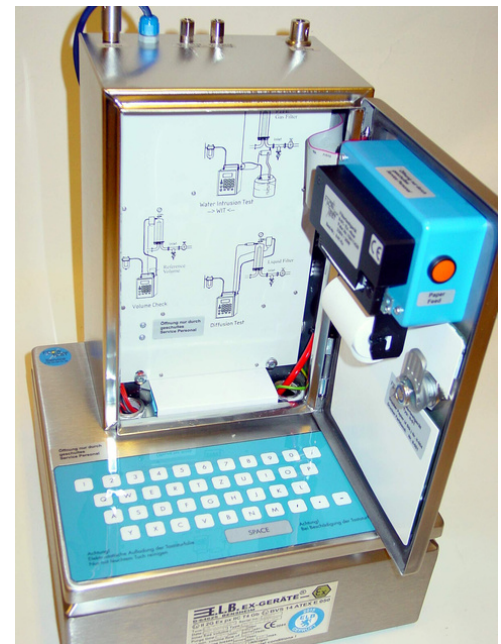
"IT-01-Ex" is specially designed for testing filters in explosive environments (**EX-Zone 1-T4**).

In addition to integrity tests this instrument is capable of checking unknown volumes (e.g. the upstream volume of filter systems between **0,1 – 35L**) and can be also used as a calibration pressure gauge (**0-4 barg**)



TEST CAPABILITIES

- The Diffusion Test (Forward-Flow)
- The Pressure Drop Test
- The Bubble Point Test
- The Diffusion and Bubble Point Test
- The Water Intrusion Test (WIT)



INDUSTRIES

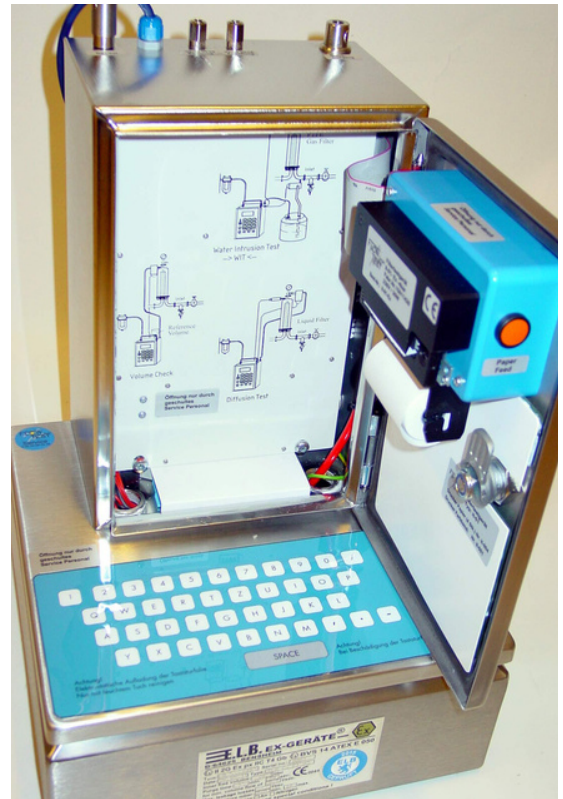
Explosive environments (**EX-Zone 1-T4**)



FILTER INTEGRITY TESTER "IT-01-EX"

BENEFITS

- ATEX approved for explosive environments
- Compact design and weight allow using it in inaccessible places.
- Stainless steel, splash protected cabinet.
- User-friendly interface that requires minimal training of operations.
- Easy to use and program.
- Automated testing.
- Configurable to automatically flush and drain filters.
- Capable of checking unknown volumes (e.g. the upstream volume of filter systems between 0,1-35L) and can be used as a calibration pressure gauge (0-4 barg).
- Integrated printer allows printing test results in the place of testing.
- Up to 100 filter test programs can be stored in the instrument memory and an unlimited amount on a PC.
- All necessary measuring devices are calibrated and certified by DKD (Deutscher-Kalibrier-Dienst).
A regular control of all calibration devices is guaranteed.
- High reliability of the instrument guarantees its long operation.



PRINTER & SOFTWARE

The integrated printer is splash protected and located inside the cabinet behind its front door.
(No Thermal Printer!)

Short operation instruction is shown inside the cabinet, behind its front door.

Up to **100 Filter Test Programs** can be stored in the instrument memory.

External Connections!

A Software (**Windows – XP/7/10**) for the Central Administration of Filter Test Programs is available.

The FDA guideline 21 CFR 11:
A Software version for this standard is available.

Up to **40 Filter Test Records** can be stored in the instrument memory (**only with CFR-version**).

**"IT-01-EX" NEEDS AN EX-PROOFED MAINS CONNECTOR AND A LINE PRESSURE OF 6-8 BARG.
(nitrogen or air)**



FILTER INTEGRITY TESTER "IT-01-EX"

CALIBRATION, MAINTENANCE AND QUALIFICATION

For the first time the sensors and the pressure control system must be checked and calibrated after half a year of their usage then only once a year.

For maintenance and calibration the instrument must be sent back to the manufacturer.

"IT-01-Ex" is designed in accordance with the **ATEX guidelines**, hence it is delivered with **German TÜV** and **British BASEFA Certificates**.

All necessary measuring devices are calibrated and certified by **DKD (Deutscher-Kalibrier-Dienst)**. A regular control of all calibration devices is guaranteed.



QUALIFICATIONS (IQ, OQ, PQ)

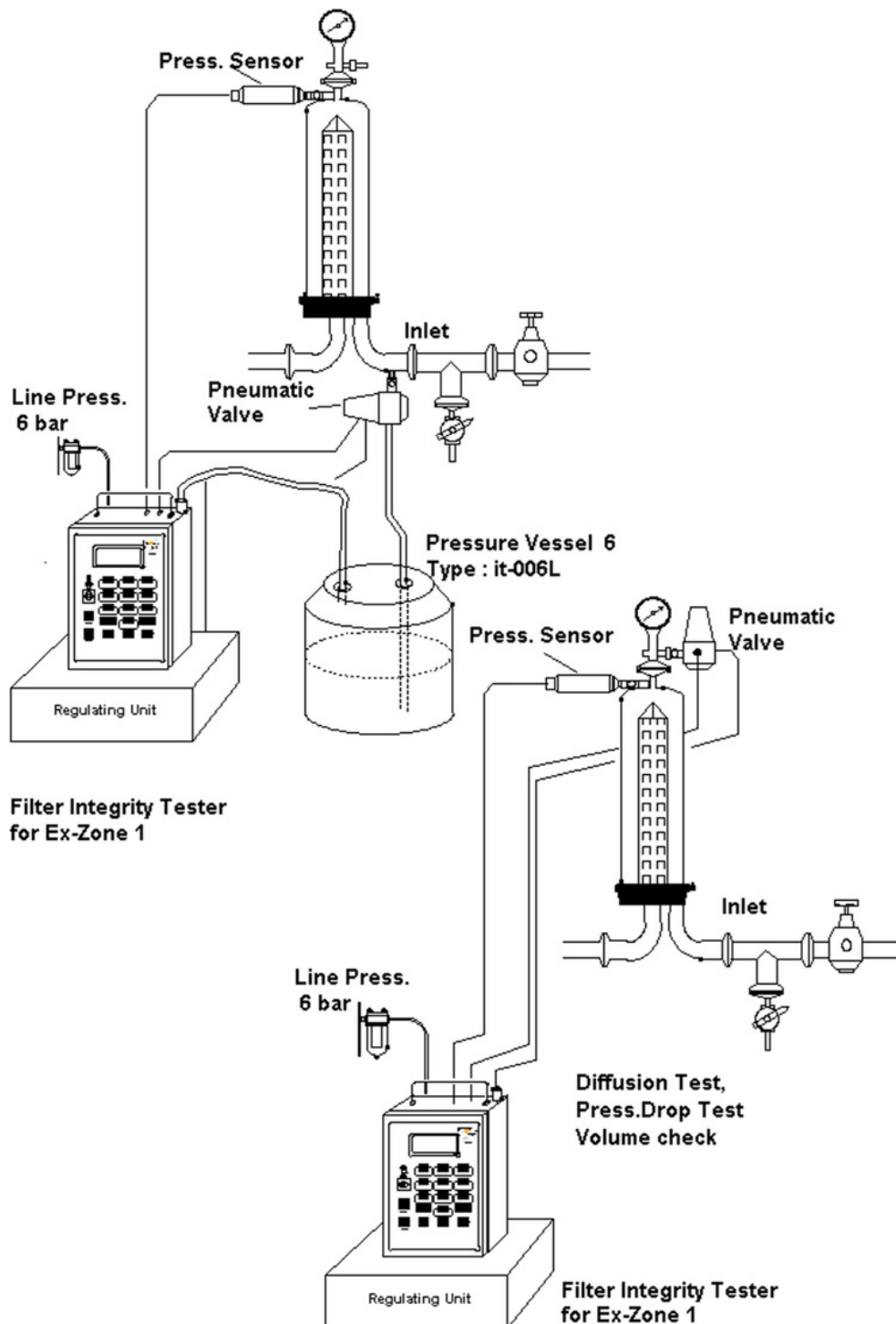
If the "IT-01-Ex" must be qualified by **IQ, OQ** or **PQ**, it is normally carried out in accordance with the user approved qualification schedules.

All documents are prepared in English.



FILTER INTEGRITY TESTER "IT-01-EX"

Installation: The Water Intrusion Test (WIT), The Diffusion and Bubble Point Test





FILTER INTEGRITY TESTER "IT-01-EX"

Example: Printout

it-01- Filter Test

Serial No.: 01041434

Program No.: 1

Water Intrusion Test

Date: Time:
12.08.14 14:12

Filter System:
Freeze Dryer Hof

Filter Type:
PALL AB1-PFR

Filter Batch No.:
CT-234567

Product Batch No.:
without

Test Parameters:

Test Gas:
Air

Type of Water:
Tap-Water

Type of Housing:
Flow-Test G-001

Hardware Volume:
646 mL

Test Pressure:
2500 mbar

Stabilization Time:
600 s

Test Time- t:
600 s

Water Flow max.:
3300 µL/t

Test Results:

Test Pressure:
2505 mbar

Pressure Drop:
61 mbar

Water Flow:
1890 µL/t

Test passed

Programmer:
Heinz Rudolph

Sign. Operator:
Anja Gehne

it-01- Filter Test

Serial No.: 0104434

Program No.: 2

Diffusion Test

Date: Time:
12.08.14 15:12

Filter System:
Washing Machine

Filter Type:
PALL AB1-Nylon

Filter Batch No.:
CT-2-RT-67

Product Batch No.:
without

Test Parameters:

Test Gas:
Air

Wetting Medium:
Water

Type of Housing:
Flow-Test G-001

Upstream Volume:
1896 mL

Test Pressure:
2500 mbar

Stabilization Time:
300 s

Test Time- t:
300 s

Diffusion max.:
13 mL/min

Test Results:

Test Pressure:
2505 mbar

Pressure Drop:
61 mbar

Diffusion:
8,9 mL/min

Test passed

Programmer:
Heinz Rudolph

Sign. Operator:
Anja Gehne

it-01- Filter Test

Serial No.: 0104434

Volume Measurement:

Date: Time:
12.08.14 16:12

Filter System:
Washing Machine

Volume:
1896 mL

Test Pressure:
2506 mbar

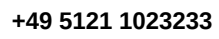
Sign. Operator:
Anja Gehne



FILTER INTEGRITY TESTER "IT-01-EX"

TECHNICAL SPECIFICATION

CABINET MATERIAL:	stainless steel 1.4301 (e-polished)
CABINET DIMENSION: (WITHOUT HANDHOLD, AND HOLDERS)	350x350x550
WEIGHT:	18 kg
PROTECTION CLASS:	IP 65
EX-AREA:	ATEX Zone 1-T4
POWER SUPPLY:	230 V/30W
KEYBOARD:	infrared-alpha numeric (splash protected)
SOFTWARE PROTECTION:	stored in flash EPROM
MATRIX PRINTER:	normal paper, 24 characters/line
AMOUNT OF STORABLE TEST PROGRAMS:	100
AMOUNT OF STORABLE TEST RECORDS:	400 (depending on the instrument Software)
PNEUMATIC CONNECTORS:	Stäubli RBE 03 /stainless steel 1.4404
INTERNAL PRESSURE SENSOR:	0-6 bar; rel. Class 0.5
BAROMETRIC PRESSURE SENSOR:	800-1090 mbar, rel. Class 0.5
EXTERNAL PRESSURE SENSOR:	0-6 bar, rel. Class 0.2
MAIN CPU -BOARD:	CPU-T (ARM-CORTEX 32bit)
PROGRAM LANGUAGE:	C
DISPLAY:	4 lines illuminated - 20 characters/line
DATA TRANSFER:	RS 232 optical interface on demand
LANGUAGES:	German, English, French, Italian, Spanish, Danish
MEASURING UNITS:	mbar
WATER FLOW:	µL/t (test time)
DIFFUSION:	mL/min (1000 mbar /20°C)
VOLUME:	mL
TEST CAPABILITIES:	The Water Intrusion Test (WIT) The Diffusion Test, The Pressure Drop Test The Bubble Point Test ,The Diff.+Bubble Point Test Volume Measurement
CLEANING OF PNEUMATIC PARTS:	steaming in place of the external sensor and filling valve/flushing of the internal valves (80°C)
MEASURING ACCURACY:	
THE WIT:	4% of actual value >= 0.1mL/min max.resolution 0,005mL
THE DIFFUSION TEST:	5% of actual value >= 5mL/min max.resolution 0,1mL measurement according to DIN 58356 Part 2
THE BUBBLE POINT TEST:	1% F.S.
ENVIRONMENT TEMPERATURE:	5- 40°C
STORAGE TEMPERATURE:	2- 50°C
REL. HUMIDITY:	0-80%



This image shows a full page of handwriting practice paper. It features numerous horizontal dashed lines spaced evenly across the entire surface, providing a guide for letter height and placement. The background is plain white, and there are no margins or additional markings present.



YOUR COMPETENT PARTNER IN FILTER
INTEGRITY TESTS



www.flow-test.com



info@flow-test.de



+49 5121 1023233