



## THE EXPLOSION PROOF FILTER INTEGRITY TESTER "IT-01-EX"

FOR EXPLOSIVE ENVIRONMENTS (ATEX-ZONE 1 - T4)



## CONTACT US



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# 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.



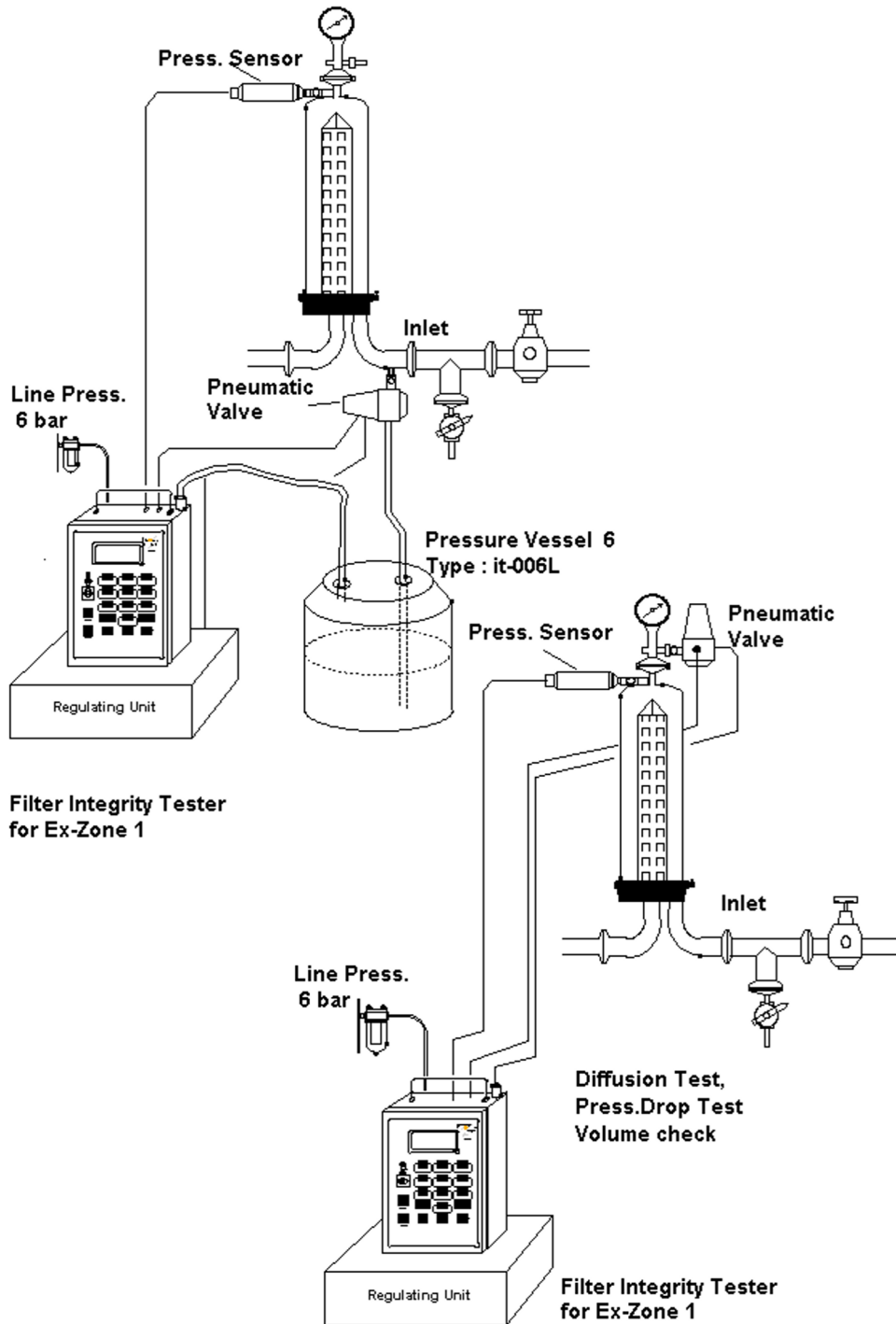
### QUALIFICATIONS (IQ, OQ, PQ)

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: 12.08.14 Time: 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

Kind 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: 12.08.14 Time: 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: 12.08.14 Time: 16:12

Filter System: Washing Machine

Volume: 1896 mL

Test Pressure: 2506 mbar

Sign. Operator: Anja Gehne

## FILTER INTEGRITY TESTER "IT-01-EX"

### SPECIFICATIONS

<b>CABINET MATERIAL:</b>	stainless steel 1.4301 (e-polished)
<b>CABINET DIMENSION: (WITHOUT HANDHOLD, AND HOLDERS)</b>	350x350x550
<b>WEIGHT:</b>	18 kg
<b>PROTECTION CLASS:</b>	IP 65
<b>EX-AREA:</b>	<b>ATEX Zone 1-T4</b>
<b>POWER SUPPLY:</b>	230 V/30W
<b>KEYBOARD:</b>	infrared-alpha numeric (splash protected)
<b>SOFTWARE PROTECTION:</b>	stored in flash EPROM
<b>MATRIX PRINTER:</b>	normal paper, 24 characters/line
<b>AMOUNT OF STORABLE TEST PROGRAMS:</b>	100
<b>AMOUNT OF STORABLE TEST RECORDS:</b>	40 (depending on the instrument Software)
<b>PNEUMATIC CONNECTORS:</b>	Stäubli RBE 03 /stainless steel 1.4404
<b>INTERNAL PRESSURE SENSOR:</b>	0-4 barg; rel. Class 0.5
<b>BAROMETRIC PRESSURE SENSOR:</b>	800-1090 mbar, rel. Class 0.5
<b>EXTERNAL PRESSURE SENSOR:</b>	0-4 barg, rel. Class 0.2
<b>MAIN CPU -BOARD:</b>	HC-12 Motorola
<b>PROGRAM LANGUAGE:</b>	C
<b>DISPLAY:</b>	4 lines illuminated - 20 characters/line
<b>DATA TRANSFER:</b>	RS 232 optical interface on demand
<b>LANGUAGES:</b>	German, English, French, Italian, Spanish, Danish
<b>MEASURING UNITS:</b>	
<b>PRESSURE :</b>	mbar
<b>WATER FLOW:</b>	µL/t (test time)
<b>DIFFUSION:</b>	mL/min (1000 mbar /20°C)
<b>VOLUME:</b>	mL
<b>TEST CAPABILITIES:</b>	The Water Intrusion Test (WIT) The Diffusion Test, The Pressure Drop Test The Bubble Point Test ,The Diff.+Bubble Point Test Volume Measurement
<b>CLEANING OF PNEUMATIC PARTS:</b>	steaming in place of the external sensor and filling valve/flushing of the internal valves (80°C)
<b>MEASURING ACCURACY:</b>	
<b>THE WIT:</b>	4% of actual value >= 0.1mL/min max.resolution 0,005mL
<b>THE DIFFUSION TEST:</b>	5% of actual value >= 5mL/min max.resolution 0,1mL measurement according to DIN 58356 Part 2
<b>THE BUBBLE POINT TEST:</b>	1% F.S.
<b>ENVIRONMENT TEMPERATURE:</b>	5- 40°C
<b>STORAGE TEMPERATURE:</b>	2- 50°C
<b>REL. HUMIDITY:</b>	0-80%

## NOTES

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## YOUR COMPETENT PARTNER IN FILTER INTEGRITY TESTS



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