

## LEGAL REQUIREMENTS FOR GAS PIPING CHECKS

As a working sheet of the "Deutsche Vereinigung des Gas- und Wasserfachs" (DVGW) the Technical Regulations for Gas Installations (TRGI) constitute a binding and important prescription for the concerned crafts.

According to TRGI, gas pipes must be checked along the different stages of their installation. This also applies for the renovation and maintenance of buildings.

During the building shell phase, a **stress test** is performed. The gas pipes material strength and the stability of the connections are checked before plastering or coverage. A 1000 hPa test pressure is then applied to the new installed pipes -without fittings and gas appliances-, air or an inert gas serving hereby as test medium. The pressure should not drop during 10 minutes. The pressure meter must have a resolution of at least 0.1 hPa.

The **tightness check** is applied to test the tightness of the pipes and fittings without the gas appliances being installed. The pressure has to keep stable during 10 minutes testing time (depending on facility volume), this by a test pressure of 150 hPa. Also in this application the pressure meter must have a minimum resolution of 0.1 hPa.

The final examination is performed with a visual check. In "normal" operation the **usability test** is done with the purpose of tracking down possible leakages. The gas loss in a pipe can be determined in litre per hour by the instrumentation.

Besides -of course- absolute tightness conditions, a loss of less than one litre per hour is still within tolerance and the new installation will be certified an unrestricted usability qualification. Between one and five litres loss means a reduced usability capacity. Further operation is then allowed over a repair time limited to four weeks. Subsequently the full tightness must be verified applying the tightness check.

At a loss of five litres or more, the gas pipe will be locked as unsuitable for usability.

### ECOM-DPK/V3 PRESSURE CHECK KIT FOR USABILITY TEST

- 1 piece ecom-DP differential pressure instrument, range 0-1.5 bar
  - 3 pcs connection hoses each 1.2 m long with quick-fitting
  - 1 piece each conic test stopple 1/2" - 3/4" and 3/4" - 1 1/4"
  - 1 piece crosspiece with safety
  - 1 piece compressed-air pump for build-up of test pressure in pipe
  - 1 piece one-pipe counter cap with swivel nut R2" and quick fittings
  - 1 piece each high-pressure test stopple 3/8" to 1/2" and 3/8" to 3/4" with quick-fittings
  - Operation manual & calibration certificate
  - Delivered in robust plastics transport case
- Dimensions case: approx. 530 x 400 x 120 mm (L x B x H)
- Weight: approx. 4.5 kg



### TECHNICAL DATA ECOM-DPK

Range:	0-1500 hPa
Resolution:	0.1 hPa
Accuracy:	± 3% of measurement value
Indication:	Graphic display window approx. 43 x 28 mm Resolution 128 x 64 Pixel.
Power supply:	3 one-way batteries 1.5V AA (Mignon) or 3 batteries 1.2V AA NiMH (metal hydride)
Battery charging:	Battery charging and operation with commercial USB charger possible
Surrounding temp.:	0°C to 50°C
Operating temperature:	0°C to +40°C
Positioning:	Integral magnet for fixation at metal surfaces
Dimensions:	approx. 170 x 75 x 35 mm (L x W x H)
Weight:	approx. 300 g
Delivery:	Incl. 2 PU connection hoses with quick-fittings, 3 batteries and manual

### SHORT PRODUCT APPLICATION FIELD ECOM-DPK

Chimney draught measurement	●
Fine pressure measurement	×
Gas burner adjustment (flow, plant, idle and nozzle pressure)	✓
Check of burner blower performance	✓
Stress test	✓
Tightness test	✓
Usability test (sampling container non compulsory)	×
Heating Check	×
4 Pa test	×
Flow measurement	×
Online data recording	✓
2nd pressure sensor for parallel measurements	●
Differential temperature	×

✓ = suitable ● = option × = not suitable

## Application and components



By works at gas pipes please respect the legal safety instructions!

### Standard



#### ecom-DP

Handy differential pressure instrument with automatic check programmes



#### 3 connection hoses

each 1.2 m long with quick-fitting



#### Compressed-air pump

for build-up of test pressure in gas pipe



#### Conic test stopples

1/2" - 3/4" and 3/4" - 1 1/4", for usability and pressure tests



#### Crosspiece with safety valve

for flexible connection by various measurement duties



#### One-pipe counter cap

with swivel nut R 2" and quick fittings for usability and pressure tests



#### High-pressure test stopples

3/8" to 1/2" and 3/8" to 3/4" with quick-fitting

### Option



#### Detector ecom-LSG

for identification of leakages also to hardly accessible installations thanks to swan-neck



#### Infrared thermal printer

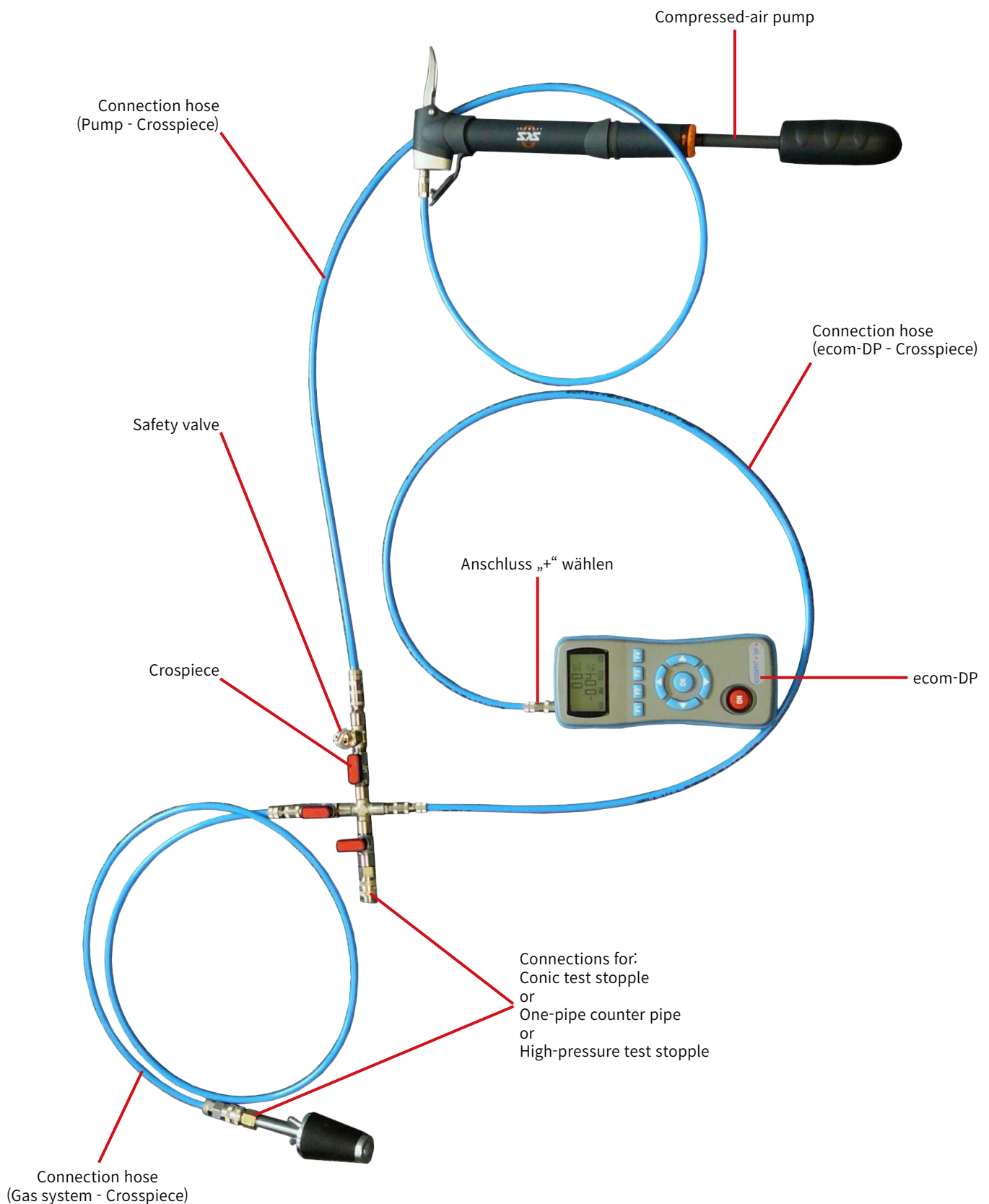
for documentation of test results

Design ecom-DP



### Connections

Please connect the components as shown on below plan.





## GAS LEAK DETECTION ACCESSORY

### ECOM-LSG GAS LEAK DETECTOR, WITH BAR INDICATION

The ecom-LSG gas leak detector is designed for the **fast** and **reliable location** of **leaks at gas installations**. Reverse to leak detection sprays which cause seals e.g. made out of hemp to swell up and can then reseal for a short time, leak detection with the ecom-LSG is easy and uncomplicated. The device indicates existing gas concentrations directly on the display and warns thru an **optical** as well as an **acoustical** signal. The sensitivity of the sensor can be adjusted in such a way that even small leakages can be easily detected.

The sensing head is mounted on a **flexible swan neck** so that even barely accessible parts of the installation can be reached without difficulty. The ecom-LSG is powered by two one-way micro batteries; alternatively a charger including rechargeable micro batteries is also available as an option.

#### TECHNICAL DATA ECOM-LSG

Indication range:	up to 0.5% CH <sub>4</sub>
Reaction time:	< 2 seconds
Indication:	Bar diagram, backlit display, size approx. 20 x 7 mm 1 - 14 bars (10 bars approx. 1000 ppm CH <sub>4</sub> )
Warning:	Optical and acoustical
Warm-up time:	Approx. 3 minutes
Power supply:	2 one-way batteries Micro (AAA) or 2 rechargeable batteries Micro (AAA)
Battery autonomy:	> 8 hours
Operation temperature:	-5°C to +40°C
Dimensions:	Housing approx. 155 x 35 x 22 mm Swan neck length approx. 355 mm
Weight:	Approx. 200 g
Delivery:	Incl. 2 one-way batteries, testing bottle, spare sensing head, protection sleeve and manual



**EXTREMELY**  
complete



## ECOM-LSG POWER SUPPLY ACCESSORIES

### BATTERY CHARGER

- Power supply via included charger or car adaptor cable (optional)
- For batteries type 1.2V AAA NiCd or 1.2V AAA NiMH
- Delivered with 2 batteries NiMH
- Dimensions: approx. 70 x 70 x 80 mm (L x W x H)
- Weight: approx. 0.4 kg



### CAR CHARGING ADAPTER CABLE (via cigarette lighter)

- Helix cable, length (in rest position) approx. 70 cm
- Weight: approx. 0.1 kg
- Use via battery charger



### RECHARGEABLE BATTERY MICRO (AAA) NIMH

- Instead of one-way battery (2 pieces needed)



## ECOM-LSG ACOUSTIC ACCESSORY

### STEREO EARPHONE\*

For perception of acoustic warning in case of noisy surroundings

- With volume regulation
- Length: approx. 1 m
- Weight: approx. 15 g



\* CAUTION: Do not use any other earphone make, otherwise risk of damage!

## DATA OUTPUT / TRANSFER ACCESSORY

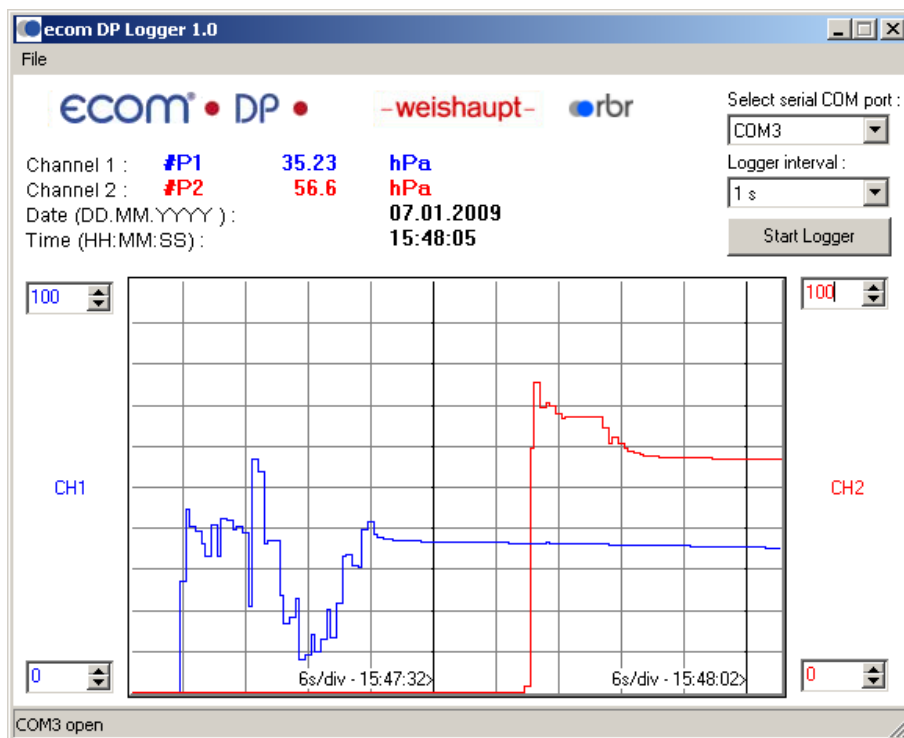
### ECOM-P, INFRARED THERMAL PRINTER

For the documentation of the measured values

- Weight: approx. 350 g
- Dimensions: approx. 77 x 77,5 x 40 mm
- Delivered with 1 printer roll and batteries



## Data logger program „ecom-DP Logger“



The measured value process of the **ecom-DP** can be logged with the help of the data logger program „ecom-DP Logger“. The program can be loaded free of charge from the download area of the rbr homepage [www.rbr.de](http://www.rbr.de). To transfer the data a USB cable (kind becomes. - No.: 55818) and a driver (free download from [www.seic.co.kr](http://www.seic.co.kr)) is needed. The measured value rows can be stored in the xls format (Excel).



The USB cable can be used as the power supply for the ecom DP. Therefore the function „Battery loading“ must be adjusted on „no“ when using 1,5 V AA (Mignon) batteries!