MULTI-PURPOSE
in top design

Pipe tests
Gas leakage
2 channel diff. pressure
Temperature
Humidity
Barom. pressure
Flow speed

MFplus
The versatile instrument around the flue gas measurement
ALL IMPORTANT MEASUREMENTS WITH ONLY ONE INSTRUMENT

**MF plus**

**PRESSURE measurement**
- Measurement of relative humidity, temperature and barometric pressure.
- High precision, by using either internal or external sensors.

**TEMPERATURE measurement**
- Measurement of temperature using thermocouples with 2 standard K-type sockets.

**GAS LEAKAGE detection**
- Detection of gas leakage using HC-sniffer with cable and flexible detector head.

**FLOW-SPEED measurement**
- Measurement of flow speed using vane probe or Pitot tube with flow rate calculation.

**HUMIDITY measurement**
- Measurement of relative humidity, temperature and barometric pressure.

**PIPE tests**
- Special options for German measuring applications at gas installations according to TRGI. (load- and gas tightness tests as well as amount of leakage detection).

**4-Pa test**
- Checking of combustion air supply at ambient air depended heat systems.

* option
**OUTSTANDING ADVANTAGES:**

- Well-designed, light-weight, robust enclosure
- Super bright, color 3.5" TFT display
- Dirt and moisture resistant keypad
- Robust stainless steel connectors
- High energy NiMh battery
- Measuring data storage
- Data logging function (2 GB SD card)
- Data transfer to PC using USB or Bluetooth connections
- Print-outs with IR-Speedprinter

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### Model

**PRESSURE/TEMPERATURE**

**Standard functions:**

- Pressure / Diff. pressure measurement
- Temperature measurement
- Differential temperature measurement
- SD card and data logging software
- Transfer of measuring results to PC using USB interface
- Print-out of measuring results with IR-speedprinter

**Optional functions:**

- Simultaneous measurement of 2 differential pressures (4 connectors)
- Gas leakage detection using HC-detector (HC-sniffer)
- Flow speed measurement (Pitot tube or vane probe)
- Measurement of relative humidity, temperature and barometric pressure
- 4 Pa-test
- External connector press. sensors >1 bar
- Bluetooth wireless data transfer to PC

### Model

**TRGI**

**Standard functions:**

- Pipe test according TRGI
- Loading test (TRGI)
- Tightness test (TRGI)
- Pressure / Diff. pressure measurement
- Temperature measurement / differential temperature measurement
- SD card and data logging software
- Transfer of measuring results to PC using USB interface
- Print-out of measuring results with IR-speedprinter

**Optional functions:**

- Gas leakage detection using HC-detector (HC-sniffer)
- Flow speed measurement (Pitot tube or vane probe)
- Measurement of relative humidity, temperature and barometric pressure
- 4 Pa-test
- External connector press. sensors > 1 bar
- Bluetooth wireless data transfer to PC

*TRGI* = technical regulations for gas installations in Germany
## Technical specifications

### MFplus

**Multi-purpose instrument**

Instrument with up to 7 functions

### Measurement components:

<table>
<thead>
<tr>
<th></th>
<th>range</th>
<th>accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure measurement (internal)</td>
<td>± 100 hPa</td>
<td>± 0,25 % reading</td>
</tr>
<tr>
<td></td>
<td>± 250 hPa</td>
<td>± 2 % reading</td>
</tr>
<tr>
<td></td>
<td>± 1 bar</td>
<td>± 2 % reading</td>
</tr>
<tr>
<td>Pressure measurement (external)</td>
<td>0 ... 5 bar</td>
<td>± 10 mbar or 1 % reading*</td>
</tr>
<tr>
<td></td>
<td>0 ... 25 bar</td>
<td>± 50 mbar or 1 % reading*</td>
</tr>
<tr>
<td></td>
<td>0 ... 40 bar</td>
<td>± 100 mbar or 1 % reading*</td>
</tr>
<tr>
<td>Leakage amount</td>
<td>0 ... 8 l/h</td>
<td>± 0,2 l or 5 % reading*</td>
</tr>
<tr>
<td>Loading test</td>
<td>0 ... 1.500 hPa</td>
<td>± 4 hPa or 2 % reading*</td>
</tr>
<tr>
<td>Tightness test</td>
<td>0 ... 200 hPa</td>
<td>± 0,5 hPa or 3 % reading*</td>
</tr>
<tr>
<td>Humidity</td>
<td>3 ... 98 %</td>
<td>± 3 % RH</td>
</tr>
<tr>
<td>Barometric pressure</td>
<td>300 ... 1.200 hPa</td>
<td>± 3 hPa</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>- 20 ... + 80 °C</td>
<td>± 1 °C</td>
</tr>
<tr>
<td>Flow speed – with Pitot tube</td>
<td>1 ... 40 m/s</td>
<td>± 1 m/s or 1 % reading*</td>
</tr>
<tr>
<td>– with vane probe</td>
<td>0,25 ... 3 m/s</td>
<td>± 0,1 m/s or ± 3 % reading*</td>
</tr>
<tr>
<td></td>
<td>3,1 ... 35 m/s</td>
<td>± 0,3 m/s or ± 1 % reading*</td>
</tr>
<tr>
<td>Leakage detection</td>
<td>5 ... 20.000 ppm</td>
<td></td>
</tr>
<tr>
<td>Differential temperature</td>
<td>up to 650 °C or up to 1.300 °C (with suitable probes)</td>
<td>± 1 °C or 1 % reading*</td>
</tr>
</tbody>
</table>

### General specifications:

| Operation temperature | + 5 ... + 45 °C, max. 95 % RH, none condensing |
| Storage temperature | - 20 ... + 50 °C |
| Ambient conditions | not in aggressive, corrosive or high dust ambience, not for use in hazardous areas |
| Power supply | NiMH battery, 15 h operation |
| Mains | wall-plug grid power supply 100 ... 240 Vac / 50 ... 60 Hz, 12 V DC/5A |
| Type of protection | IP 20 |
| Weight | approx. 470 g |
| Dimensions | (B x H x T) 90 x 205 x 38 mm |

*which ever is larger!*