VT Series Turbine Flow Sensors

<table>
<thead>
<tr>
<th>Model</th>
<th>Economy-priced type for standard and serial application</th>
<th>High pressures, high temperatures, fuels</th>
<th>Magnet-free rotor, high measurement accuracy, high resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT H 15 MS  (Brass)</td>
<td>±1% of range/ ±0.2%</td>
<td>±0.5% of range/ ±0.1%</td>
<td></td>
</tr>
<tr>
<td>VT 15 K 5 (Plastic PO)</td>
<td>±0.5% of range/ ±0.1%</td>
<td>±0.5% of range/ ±0.1%</td>
<td></td>
</tr>
<tr>
<td>VT 15 MS (Stainless steel)</td>
<td>±0.5% of range/ ±0.1%</td>
<td>±0.5% of range/ ±0.1%</td>
<td></td>
</tr>
</tbody>
</table>

**Accuracy/ Repeatability**
- ±3% of measured value
- ±0.5% of range/ ±0.2%

**Sensor**
- Hall effect sensor
- Inductive proximity switch

**Pulse rate/ K-factor**
- 855 pulses/ liter
- 915 pulses/ liter

**Measurement range**
- With special bearings for low flow rates with continuous flow max. 20/l/min

**Signal output**
- Starting from 0.3/m/min

**Nominal pressure**
- PN 10
- Pmax = 300
- PN 10

**Max. medium temperature**
- 85°C
- 150°C
- 85°C

**Power supply**
- 4.5-24V DC
- 10-30V DC

DN25, 1-1/4” BSP (4-160L/min)

- Accuracy: ±3% of measured value
- Reproducibility: ±0.5%
- Pulse rate/ K-factor: 65 pulses/ Liter
- Signal output: <1/l/min

DN40, 2” BSP (0.4-25m³/min)

- Accuracy: ±5% of the measured value between 0.4-3m³/h
- ±3% of the measured value between 3-25m³/h
- Reproducibility: ±0.5%
- Pulse rate/ K-factor: 26.6 pulses/ liter
- Signal output starting from: 0.1m³/h

Pressure Calibrator

- Pressure reference work together with test pump for calibrating pressure gauge

<table>
<thead>
<tr>
<th>Type</th>
<th>Medium</th>
<th>Measuring Range, bar</th>
<th>Pressure adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>P40</td>
<td>Air</td>
<td>-1 (-950mbar) to 40</td>
<td>By handle</td>
</tr>
<tr>
<td>P350</td>
<td></td>
<td>0 to 350</td>
<td></td>
</tr>
<tr>
<td>P700</td>
<td>Distilled water or hydraulic oil</td>
<td>0 to 400 (with distilled water)</td>
<td>0 to 700 (with hydraulic oil)</td>
</tr>
<tr>
<td>P1000</td>
<td></td>
<td>0 to 400 (with distilled water)</td>
<td>0 to 1000 (hydraulic oil)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Medium</th>
<th>Measuring Range, bar</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>Fluid or gas</td>
<td>-1 to 400</td>
<td>±0.5% FS ±1 digit</td>
</tr>
<tr>
<td>D</td>
<td>Fluid or gas</td>
<td>-1/3 to 1/4</td>
<td>±1.0% FS ±1 digit</td>
</tr>
<tr>
<td>L</td>
<td>Special oil</td>
<td>-1 to 1</td>
<td>±0.025% FS ±1 digit</td>
</tr>
<tr>
<td>PC700+</td>
<td>Special oil</td>
<td>0 to 200</td>
<td>±0.025% FS ±1 digit</td>
</tr>
</tbody>
</table>
MH3700 Series Digital Temperature Meter

MH3710 (standard) (Not included sensor probe)
- 1 x mini-DIN-socket
- Measuring range/ resolution: 200~850°C/0.1°C, -199.99~199.99°C/0.01°C
- Accuracy: ±0.015% FS ±1 digit
- Function: °C/°F unit conversion, Max-Min value memory, hold function

MH3750 (same as 3710, but additional logger-, alarm- and clock-functions) (Not included sensor probe)
- Memory: 99 data sets, CYCL, 16384 data sets
- Alarm, real time clock
- Optional accessories: software and connecting cable (for data analysis in computer)

MH3300 Series Digital Humidity and Temperature Meter

MH3300 (standard) (Not included sensor probe)
- 1 x mini-DIN-socket
- Measuring range/ resolution:
  - Humidity: 0~100% TH/ 0.1%RH
  - Temperature: -40.0~120.0°C/0.1°C
- Surface temperature: -80.0~250.0°C/0.1°C
- Accuracy: Humidity: ±0.1% FS ±1 digit
  - Temperature: ±0.2% FS ±1 digit
- Function: °C/°F unit conversion, Max-Min memory, hold function, daw point calculation

MH3350 (not included probe) (same as 3300, but additional logger-, alarm- and clock function) (Not included sensor probe)
- Memory set: 16200 data set
- Alarm, real time clock
- Software for data analysis

MH3100 Series Digital Pressure Gauge

MH3310 (not included external sensor)
- 1 x mini-DIN-socket
- Differential pressure, absolute pressure, air pressure, vacuum measurement
- Accuracy: ±0.1% FS ±1 digit
- Function: Unit conversion (Mbar, bar, Pa, kPa, mmHg, PSI), Max-Min value Memory, hold function, daw point calculation

Interchangeable sensor (for MH3110, with different measuring range)

MSD1098, Nylon type
- Accuracy: ±0.2% FS
- Measuring range: -1~10 bar (rel.)

MSD350MRE, stainless steel type
- Accuracy: ±0.2% FS
- Measuring range: 0~350mbar (rel.)

Universal Calibrator

MC50 (accuracy: ±0.017% of rdg. +K, resolution: 5 digit)
- Simultaneous simulation and measuring of programmable test points
- Signals:
  - TC: Types J/K/T/R/S/B/C/U/L/N/E
  - Temperature adjustable in 0.1-steps
  - RTD: Pt100/Pt100/Pt200/Pt500/Pt1000/Ni100/Ni120/Ni1000/Cu10/Cu50
  - Different temperature ranges according to DIN, IEC, JIS etc.
  - Temperature –coefficients adjustable
  - Temperatures adjustable in 0.01-steps
- Ω: resistance 0~400 Ω/0~4000 Ω
  - Resistance resistances adjustable within m Ω-range
- mA: Current 0(4)~20mA, 25mA
  - Current adjustable within mA-range
- MV: Voltage 0~100 mV
  - Voltages adjustable within µV-range
- V: Voltage 0~10 V, 25V, 50V
  - Voltages adjustable within µV-range
- Hz: Frequency 1~20kHz
  - Frequency adjustable in 0.01 Hz-steps

Pocket calibrator

UC RTD, signal: RTD (accuracy:±0.012%rdg +K)

UC TC, signal: TC (accuracy: ±0.020%rdg +K)

UC mAV, Signal: Current and voltage (accuracy: ±0.015%rdg + K)
Exact temperature measuring and monitoring are “musts” in applications crucial to operational safety of machinery, ships and industrial installations. Regular inspection of the temperature sensors used in these applications is absolutely essential for economic and technical-safety reasons and is already prescribed as obligatory in many sectors. E.g. Temperature calibrators for applications in: energy-production and energy distribution sector, chemical and petrochemical industry, pharmaceutical industry, food industry and a great deal more.

**TP 38000 series Temperature calibrator**
- The tank of the temperature calibrator provide accurate and stable temperature for calibrating the sensor probe
- Thermocouples (TC) of the types K, J, N, E, R, T, B, S, and U
- Resistance thermometers (RTD): Pt 100, Pt 500 and Pt 1000 in 2, 3 or 4 wire
- Optional accessories: 1. Adaptor sleeves with inside diameter between 1.5mm and 25mm in steps of 0.5mm
- 2. Software for setting temperature, processing report
- 3. DKD-Certificate (acc.guidline DKD-R5-4), Sika work certificate

<table>
<thead>
<tr>
<th>Model</th>
<th>TP38 165</th>
<th>TP38 600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>-30°C ~165°C</td>
<td>+40°C ~600°C</td>
</tr>
<tr>
<td>Tolerance</td>
<td>±0.1K</td>
<td>±0.1K</td>
</tr>
<tr>
<td>Stability</td>
<td>±0.01K</td>
<td>±0.03K</td>
</tr>
<tr>
<td>Resolution</td>
<td>±0.01K</td>
<td></td>
</tr>
<tr>
<td>No. of test piece</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tank bore/ depth</td>
<td>28mm dia/150mm depth</td>
<td></td>
</tr>
<tr>
<td>Computer interface</td>
<td>RS-232C</td>
<td></td>
</tr>
</tbody>
</table>

**TP17000 Series Temperature Calibrator**
- Test piece fixture:
  - adapter sleeves: Inside diameter between 1.5mm and 2.5mm in steps of 0.5mm

<table>
<thead>
<tr>
<th>Model</th>
<th>TP17450</th>
<th>TP17450S</th>
<th>TP17650S</th>
<th>TP17650</th>
<th>TP17650M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>Ambient temperature to 450°C</td>
<td>Ambient temperature to 650°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bath temperature control</td>
<td>Digital PID controller, automatic fine adjustment with softstart for fan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tolerance</td>
<td>±0.6°C</td>
<td>±0.3°C</td>
<td>±0.4°C</td>
<td>±0.8°C</td>
<td>±1°C</td>
</tr>
<tr>
<td>Stability</td>
<td>±0.1°C</td>
<td>±0.05°C</td>
<td>±0.05°C</td>
<td>±0.1°C</td>
<td>±0.1°C</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.1°C</td>
<td>1°C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test piece fixture
- Block material: Brass
- Bock bore/ depth: 60mm dia./150mm 28mm dia./150mm

**TP M(S) Series micro calibration bath**
- Different calibration liquids with different calibration range can be covered for immersion thermometer or sensor probe
- Durable aluminum tank
- Optional accessory: Silicon oil (1L/ bottle)

<table>
<thead>
<tr>
<th>Model</th>
<th>TP M 165S</th>
<th>TP M 225S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>-30°C ~165°C</td>
<td>Ambient temperature ~225°C</td>
</tr>
<tr>
<td>Tolerance</td>
<td>±0.1°C</td>
<td>±0.2°C</td>
</tr>
<tr>
<td>Stability</td>
<td>±0.05°C</td>
<td>±0.05°C</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.1°C</td>
<td>0.1°C</td>
</tr>
</tbody>
</table>

Test piece fixture
- Tank material: Aluminum
- Tank bore/ depth: 60mm dia./150mm 170mm