The ME series of Gefran, are pressure transmitters for using in High temperature environment. The main characteristic of this series is the capability to read temperature of the media up to 400°C. The constructive principle is based on the hydraulic transmission of the pressure. The fluid-filled system assures the temperature stability. The physical measure is transformed in a electrical measure by means the strain-gauge technology.

**MAIN FEATURES**

- Pressure ranges from:
  - 0-35 to 0-2000 bar / 0-500 to 0-30000 psi
- Accuracy: < ±0.25% FSO (H); < ±0.5% FSO (M)
- Fluid-filled system for temperature stability
- Mercury filling volume:
  - ME0 (30mm³); ME1, ME2, ME3 (40mm³)
  - 1/2-20UNF, M18x1.5 standard threads; other types available on request
- Autozero function on board / external option
- Drift Autocompensation function (SP version)
- Standard diaphragm is 15-5 PH stainless steel with GTP+ coating
- 17-7 PH corrugated diaphragm with GTP+ coating for ranges below 100 bar-1500 psi

**GTP+ (advanced protection)**
Coating with high resistance against corrosion, abrasion and high temperature

**AUTOZERO FUNCTION**

All signal variations in the absence of pressure can be eliminated by using the Autozero function. This function is activated by closing a magnetic contact located on the transmitter housing. The procedure is permitted only with pressure at zero.

**AUTOCOMPENSATES INFLUENCE OF MELT TEMPERATURE**

Thanks to internal self-compensation, the MSP series transmitter cancels the effect of pressure signal variation caused by variation of Melt temperature. This reduces at the minimum the read error caused by heating of the filling fluid (typical of all sensors built with "filled" technology).

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy (1)</td>
<td>H &lt; ±0.25% FSO (100...2000 bar)</td>
</tr>
<tr>
<td>Resolution</td>
<td>Infinite</td>
</tr>
<tr>
<td>Measurement range</td>
<td>0.35 to 0.2000 bar</td>
</tr>
<tr>
<td>Maximum overpressure (without degrading performances)</td>
<td>2 x FS above 1000bar/15000psi</td>
</tr>
<tr>
<td>Measurement principle</td>
<td>Extensimetric</td>
</tr>
<tr>
<td>Power supply</td>
<td>1...30Vdc</td>
</tr>
<tr>
<td>Maximum current absorption</td>
<td>32mA</td>
</tr>
<tr>
<td>Insulation resistance (at 50Wrc)</td>
<td>&gt;1000 MOhm</td>
</tr>
<tr>
<td>Output signal Full Scale (FSO)</td>
<td>20mA</td>
</tr>
<tr>
<td>Zero balance (tolerance ± 0.25% FSO)</td>
<td>4mA</td>
</tr>
<tr>
<td>Zero signals adjustment (tolerance ± 0.25% FSO)</td>
<td>Autozero function</td>
</tr>
<tr>
<td>Span adjustment within ± 5% FSO</td>
<td>See Manual</td>
</tr>
<tr>
<td>Maximum allowed load</td>
<td>See diagram</td>
</tr>
<tr>
<td>Response time (10...90% FSO)</td>
<td>1msec</td>
</tr>
<tr>
<td>Output noise (RMS 10-400Hz)</td>
<td>&lt; 0.025% FSO</td>
</tr>
<tr>
<td>Calibration signal</td>
<td>80% FSO</td>
</tr>
<tr>
<td>Output short circuit ingress and reverse polarity protection</td>
<td>YES</td>
</tr>
<tr>
<td>Compensated temperature range</td>
<td>0...±85°C</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>-30...+105°C</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>-40...+125°C</td>
</tr>
<tr>
<td>Thermal drift in compensated range:</td>
<td>Zero / Calibration / Sensibility: -0.02% FSO</td>
</tr>
<tr>
<td>Diaphragm maximum temperature</td>
<td>400°C / 750°F</td>
</tr>
<tr>
<td>Zero drift due to change in process temperature (zero)</td>
<td>&lt; 0.02 bar/°C</td>
</tr>
<tr>
<td>Zero drift temperature for Autocompensated version (SP) within the temperature range 20°C-400°C inclusive the drift temperature of the housing</td>
<td>&lt; 0.003 bar/°C 100 ≤ p &lt; 500 bar 0.0014 %FS/°C p ≥ 500 bar</td>
</tr>
</tbody>
</table>
| Standard material in contact with process medium | Diaphragm:
|                                              | - 15-5 PH with GTP+ coating
|                                              | - 17-7 PH corrugated diaphragm with GTP+ coating for ranges <100 bar (1500psi)
| Stanford (with 6-pole female connector)      | Stem:
|                                              | 17-4 PH                                            |
| Thermocouple (model ME2)                      | B Type J (isolated junction)                      |
| Protection degree                             | IP65                                              |

FSO = Full scale output

(1) BFSL method (Best Fit Straight Line): includes combined effects of Non-Linearity, Hysteresis and Repeatability.
**MECHANICAL DIMENSIONS**

**NOTE**: dimensions refer to rigid stem length option “4” (153 mm – 6”)

**WARNING**: For installation use a maximum tightening torque of 56 Nm (500 in-lb)
ELECTRICAL CONNECTIONS

CURRENT OUTPUT (4...20mA, two wires)

**LOAD DIAGRAM**

The diagram shows the optimum ratio between the load and supply voltage of the 4...20mA transmitter.

For a correct use, choose any combination of load resistance and supply voltage, in the shaded area.

**AUTOZERO FUNCTION**

The Autozero function is activated through a magnetic contact (external magnet supplied with the sensor).

See the manual for a complete Autozero function explanation.

ACCESSORIES

Connectors
- 6-pin mating connector (IP65 protection degree)
- 8-pin mating connector

Extension cables
- 6-pin connector with 8m (25ft) cable
- 6-pin connector with 15m (50ft) cable
- 6-pin connector with 25m (75ft) cable
- 6-pin connector with 30m (100ft) cable
- 8-pin connector with 8m (25ft) cable
- 8-pin connector with 15m (50ft) cable
- 8-pin connector with 25m (75ft) cable
- 8-pin connector with 30m (100ft) cable

Other lengths

Accessories
- Mounting bracket
- Dummy plug for 1/2-20UNF
- Dummy plug for M18x1.5
- Drill kit for 1/2-20UNF
- Drill kit for M18x1.5
- Cleaning kit for 1/2-20UNF
- Cleaning kit for M18x1.5
- Fixing pen clip
- Autozero pen
- Thermocouple for ME2 model
  - Type "J" (153mm - 6" stem)

Cable color code 6 wires
- Conn.: A, B, C, D, E, F
- Wire: Red, Black, White, Green, Blue, Orange

Cable color code 8 wires
- Conn.: A, B, C, D, E, F, G, H
- Wire: White, Red, Green, Black, Blue, Orange, n.c., n.c.
ORDER CODE

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<tr>
<th>M</th>
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</table>

- Autocompensation (*) SP
- Standard -

(*) available for ranges > to 100 bar
(*) not available for version ME3

- OUTPUT SIGNAL
  - 4...20mA E

- CONFIGURATION
  - Rigid stem 0
  - Rigid stem + flexible 1
  - With thermocouple 2
  - Exposed capillary 3

- CONNECTOR
  - Standard
    - 6 pin 6
    - 8 pin 8

- ACCURACY CLASS
  - 0.25% FSO (ranges ≥ 100 bar/1500 psi) H
  - 0.5% FSO M

- RANGE
  - bar psi
  - 35 B3SU 500 P05C
  - 50 B05D 750 P75D
  - 70 B07D 1000 P01M
  - 100 B01C 1500 P15C
  - 200 B02C 3000 P03M
  - 350 B35D 5000 P05M
  - 500 B05C 7500 P75C
  - 700 B07C 10000 P10M
  - 1000 B01M 15000 P15M
  - 1400 B14C 20000 P20M
  - 2000 B02M 30000 P30M

- FLEXIBLE LENGTH
  - (mm / inches)
    - Standard (ME0)
      - none
    - Standard (ME1, ME2)
      - D 457mm 18"
      - E 610mm 24"
      - F 760mm 30"
    - Standard (ME3)
      - L 711mm 28"

- Available on request
  - A 76mm 3"
  - B 152mm 6"
  - C 300mm 12"
  - G 914mm 36"
  - H 1067mm 42"
  - I 1220mm 48"
  - J 1372mm 54"
  - K 1520mm 60"

- RIGID STEM LENGTH
  - (mm / inches)
    - Standard (ME0, ME1, ME2)
      - 4 153mm 6"
      - 5 318mm 12.5"
    - Standard (ME3)
      - 0 none

- Available on request
  - 1 38mm 1.5"
  - 2 50mm 2"
  - 3 76mm 3"
  - 6 350mm 14"
  - 7 400mm 16"
  - 8 456mm 18"

- THREAD
  - Standard
    - 1 1/2 - 20 UNF
    - 4 M18 x 1.5

Examples

**ME2-6-M-B07C-1-4-D-000**
Melt pressure transmitter with type ‘J’ thermocouple, 4...20mA output, 6-pin connector, 1/2-20UNF thread, 700 bar full scale, 0.5% accuracy class, 153 mm (6”) rigid stem, 457mm (18”) flexible capillary.

**MSPE0-6-M-P03M-1-4-0-000**
Melt pressure transmitter autocompensated version, rigid stem, 4...20mA output, 6-pin connector, 1/2-20UNF thread, 3000 psi full scale, 0.5% accuracy class, 153 mm (6”) rigid stem.

Sensors are manufactured in compliance with:
- EMC compatibility directive
- Machinery directive

Product designed and available in compliance with Directive 2011/65/EU (RoHS II) only for large-scale stationary installation or industrial tools, or for B-to-B laboratory equipments for R&D purposes.

Electrical installation requirements and Conformity certificate are available on our web site: www.gefran.com

**GEFRAN** reserves the right to make any kind of design or functional modification at any moment without prior notice.