Melt Pressure Gauges

Melt Pressure Gauge Styles for Extrusion Processing

Tempco's Melt Pressure Gauges provide highly reliable, maintenance free, local pressure indications for extrusion and other plastics processes. The sensing diaphragm is designed for minimum deflection, maximum durability, and maximum overload capability.

Two models are available with three styles each:

- **Mechanical Gauge Model**
- **Digital Gauge Model with alarm and retransmission**

Style 1 A 6" rigid stem unit for standard installations

Style 2 A 30" flexible capillary with stainless steel armored jacket between the gauge housing and the stem to allow greater installation flexibility in tight places or for easier viewing and durability.

Style 3 The third style provides all the features of the 30" flexible capillary model with the addition of a thermocouple (J-type) output for temperature. (Not displayed directly on digital models.)

All models are rugged, totally self contained and allow extrusion processors to benefit from the significantly improved efficiency that goes with pressure monitoring—at about half the cost of strain gauge melt pressure transducers for the mechanical gauge.

Optional diaphragm materials are available for applications that require extra abrasion and/or corrosion resistance. Refer to page 12-19 for available material options.

Mechanical Melt Pressure Gauge

Design Features

- *No Power (or Wiring) Required*
- *No Maintenance, No Grease*
- *Electron Beam Welded*
- *150% Overload Capability without Damage*
- *Greater than 180° Movement for Optimum Readability*
- *Stainless Steel Construction*
- *5.44"/138.2mm Diameter Face*
- *An Economical Alternative for Many Applications*

Specifications

Linearity, Repeatability, Hysteresis: . . . .L<± 1.0% FSO
Measurement Range: . . . . . .0-5000 PSI / 0-350 bar to 0-10000 PSI / 0-700 bar
Maximum overpressure: . . . . . .1.5 x FSO
Measurement principle: . . . . . .Bourdon tube
Maximum housing temperature: . . . . . .185°F / 85°C
Maximum diaphragm temperature: . . . .750°F / 400°C
Standard diaphragm material: . . . . . .15-5 PH Stainless Steel with Armoloy coating
Standard style 3 thermocouple: . . . . . .Type J (isolated junction)

Digital Melt Pressure Gauge

Design Features

- *Better than ±0.50% Accuracy*
- *Economically Priced vs. Separate Transducer and Display*
- *Electron Beam Welded*
- *200% Overload Capability without Damage*
- *15-5 Stainless Steel Diaphragm with Armoloy coating standard*
- *Alarm Provides no/nc, 5A 115/240Vac High Pressure Only Relay*
- *115 VAC standard, 230 VAC Optional*
- *5.44"/138.2mm Diameter Face*
- *An Economical Alternative for many Applications*
- *Standard 4-20 mA Retransmission*

Specifications

Linearity, Repeatability, Hysteresis: . . . .M<± 0.50% FSO
Measurement Range: . . . . . .See ordering chart
Maximum overpressure: . . . . . .2 x FSO
Measurement principle: . . . . . .Strain gauge / bridge circuit
Power supply: . . . . . .115 or 220 VAC (factory set)
Pressure retransmission: . . . . . .4-20 ma (650W max. load)
Maximum housing temperature: . . . . . .130°F / 55°C
Maximum diaphragm temperature: . . . .750°F / 400°C
Standard diaphragm material: . . . . . .15-5 PH Stainless Steel with Armoloy coating
below 1000 PSI/70 bar: . . . . . .17-7 PH SS Ti Ni coated
Standard style 3 thermocouple: . . . . . .Type J (isolated junction)
Alarm: . . . . . .High only, no/nc, 5A 115/240Vac

Melt Pressure Gauges Standard Sizes and Ranges

Mechanical Gauges

Part Number	Style	Pressure Range	Stem Length
PDG00104	6" Rigid	0-5000	6 in.
PDG00105	6" Rigid	0-10000	6 in.
PDG00102	Armor cable	0-5000	6 in.
PDG00103	Armor cable	0-10000	6 in.
PDG00106	Armor / J tc	0-5000	6 in.
PDG00107	Armor / J tc	0-10000	6 in.

Digital Readout Gauges

Part Number	Style	Pressure Range	Stem Length
PDG00501	6" Rigid	0-5000	6 in.
PDG00502	6" Rigid	0-10000	6 in.
PDG00503	Armor cable	0-5000	6 in.
PDG00504	Armor cable	0-10000	6 in.
PDG00505	Armor / J tc	0-5000	6 in.
PDG00506	Armor / J tc	0-10000	6 in.

Note: All standard flexible armor cable units are 30" long.

Gauges have standard 1/2-20UNF drill pattern; see page 12-21.

Ordering Code: PDG – 1 2 3 4 5

Model and Style *BOX 1*

A1 = Mechanical, Rigid Stem
A2 = Mechanical, Rigid + Flexible Armor Tubing
A3 = Mechanical gauge with Type J Thermocouple
B1 = Digital, Rigid Stem
B2 = Digital, Rigid + Flexible Armor Tubing
B3 = Digital Gauge with Type J Thermocouple

Pressure Range *BOX 2*

Mechanical

PSI
A = 0-5000
B = 0-10000

Bar
C = 0-350
D = 0-700

Digital - PSI
A = 0-500
B = 0-750
C = 0-1000
D = 0-1500
E = 0-3000
F = 0-5000
G = 0-7500
H = 0-10000
J = 0-15000
K = 0-20000

Bar Pressure Ranges Available Upon Request. Consult Tempco for Additional Information.

Stem Length *BOX 3*

1 = 6 inches *(Most Common)*
2 = 12.5 inches

Flex Length *BOX 4*

00 = None *(Styles A1 & B1)*
30 = 30 Inches*

**Other sizes can be made on special request.*

Diaphragms *BOX 5*

Standard Diaphragm Construction

A = Stainless Steel (.0045") with Armoloy coating *(Most Common)*

Optional Materials and Coatings

B = 0.0045" Hastelloy®
C = 0.008" Chromium Nickel
D = 0.0045" Chromium Nickel
E = 0.006" Inconel® with Titanium Aluminum Nitride
F = 0.0045" Titanium Nitride
G = 0.008" Titanium Nitride

Note: All digital gauges have one alarm and pressure retransmission.

Ordering Information

Melt Pressure Gauges are offered with the options listed in the worksheet above. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements and a part number will be assigned.

Part Numbers for commonly used Melt Pressure gauges can be found in table above.

Standard lead time is stock to 3 weeks.