

Pressure measurement comparison.

Parameters Types	Pressure range	Temperature range	Accuracy	Sensitivity to shock and vibration
Manometers	0.1–140 psig (0.7–980 KPag)	ambient	±0.02 in (0.5 mm)	poor
Bourdon tubes (dia-phragm, bellows)	0.01–14,500 psig (0.07–101,500 Kpag)	200°F (90°C) max	±0.05% of full scale	fair
Capacitive	0.01–600 psig (0.07–4,200 KPag)	0–165°F (-18–74°C)	±0.05%–0.2% of span	fair
Differential Transformer	30–10,000 psig (210–70,000 KPag)	0–165°F (-18–74°C)	±0.5% of span	poor
Force Balance	1–5,000 psig (7–35,000 KPag)	40–165°F (4–74°C)	±0.05% of span	poor
Piezoelectric	0.1–6,000 psig (0.7–42,000 KPag)	-450–400°F (-270–200°C)	±0.1–1% of span	very good
Potentiometer	5–10,000 psig (35–70,000 KPag)	-65–300°F (-54–150°C)	±1% of span	poor
Strain Gage—Unbonded	0.5–10,000 psig (3.5–70,000 KPag)	-320–600°F (-195–315°C)	±0.1–0.25% of span	good
Strain Gage—Bonded foil	5– 10,000 psig (35–70,000 KPag)	-65–250°F (-54–121°C)	±0.1%–0.5% of span	very good
Strain Gage—Thin film	15– 5000 psig (105–35,000 Kpag)	-320–525°F (-195–274°C)	±0.1%–0.25% of span	very good
Strain Gage—Diffused semi-conductor	15–5000 psig (105–35,000 Kpag)	-65–250°F (-54–121°C)	±0.1%–0.25% of span	very good