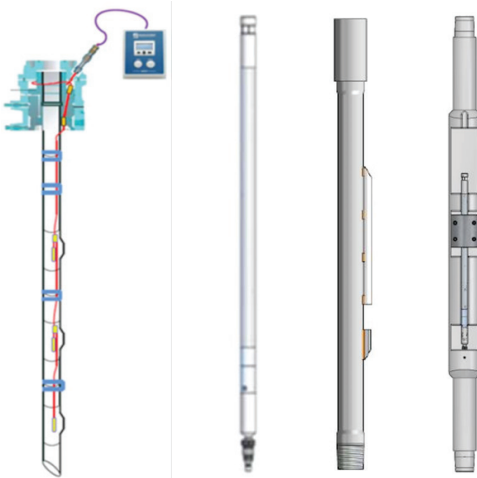


# BlueFin's Sapphire Gauge

Proprietary piezo-resistive technology to digitize pressure and temperature data downhole



Permanent Sapphire Pressure Gauges use proprietary piezo-resistive technology to digitize pressure and temperature data downhole and then transmit to the surface using a high speed, digital telemetry link.

Gauges connect to the Carrier using a Pressure Testable AUTOCLAVE metal-to-metal seal connection. Several designs are available as tubing-ported or annular-ported built as Full Body Carriers, Machined Coupling Carriers or Welded Lug Carriers.

The TEC cable connects to the gauge using a choice of "cable-heads" – sweet or sour, 1/4" or 1/8" – in addition, a range of pressure testable cable-heads are available when using 1/4" TEC cable.

The surface acquisition unit (SAU) provides power and acts as a memory for downhole gauges in permanent completions as well as providing the communications hub for SCADA or real-time transmission. The SAU links to the gauges downhole through the Tubing Encapsulated Cable (TEC) and the Well-Head Outlet (WHO). The SAU can also be used to program and interrogate the downhole Permanent Pressure Gauges.

## SOLUTIONS

- Downhole Pressure & Temperature

## ADVANTAGES

- Piezo Hybrid Gauges – based on Silicone Sapphire Piezo-Resistive transducer to deliver near Quartz performance at a lower cost.
- Suited for long term data quality and reliability.
- The SAU can be powered using grid power or solar power.