

ROC GAUGES

WellSystem utilizes Wood Group Production Technology's permanent downhole quartz gauge for real data acquisition, reservoir temperature and pressure monitoring, and multi-zone applications.

WGPT's Digital (ROC-D) gauge offers an industry-leading downhole electronic solution, allowing multiple sensors on the same cable, and providing a field-proven platform for new sensors. ROC standard downhole gauges -Analogue (ROC-A) and Digital (ROC-D) incorporate a resonating quartz crystal with a well-proven record in downhole applications.

The gauge electronics convert the resonator frequencies to a proprietary protocol prior to transmission to surface. The transducer and electronic circuitry are housed in stainless steel to NACE MR-01-75 standards and contained in an Argon filled housing to prevent moisture contamination. All primary seals are electron beam welds, or metal to metal seals with both PTFE/spring seal and elastomeric seal back ups.



ROC – A Specifications

ANALOGUE (ROC-A)

Electrical

Power supply voltage:	26 volts DC
Current consumption:	15mA
Maximum update rate:	Pressure and Temperature reading every 1 second
Response time in FS step:	< 1 second to 99.5% FS
Maximum cable length:	30,000 ft (using Well dynamic downhole cable)

Sensor Performance Characteristics

	Pressure	Temperature
Range:	0 – 10Kpsi, 16Kpsi, 20Kpsi	0 – 180deg C
Accuracy:	< 0.02% FS	+/- 1deg C
Repeatability:	< 0.01% FS	< 0.01deg C
Resolution:	0.01 psi	0.00 deg C
Acceleration Sensitivity:	< 0.02 psi / g	
Drift:	< 2 psi / yr	

Physical Specification

OD:	1.25"
Length:	44"
Collapse Pressure:	16,722 psi, 17-4 pH ST ST (yield 105,000 psi) 21,940 psi Inc.718 (yield 135,000psi) 35,753 psi, MP35N (yield 220,000 psi)
Mechanical Shock:	100 g, 2.0mSec half-sine
Vibration:	10.0g RMS, 3 axis

ROC – D Specifications

DIGITAL (ROC-D)

Electrical

Power supply voltage:	48 volts DC
Current consumption:	20mA awake, 6mA sleep mode)
Maximum update rate:	Pressure and Temperature reading every 1 second
Response time in FS step:	< 1 second to 99.5% FS
Maximum cable length:	3 Gauges at 30,000 ft 6 Gauges at 20,000ft

Sensor Performance Characteristics

	Pressure	Temperature
Range:	0 – 10Kpsi, 16Kpsi, 20Kpsi	0 – 180deg C
Accuracy:	< 0.02% FS	+/- 1deg C
Repeatability:	< 0.01% FS	< 0.01deg C
Resolution:	0.01 psi	0.00 deg C
Acceleration Sensitivity:	< 0.02 psi / g	
Drift:	< 2 psi / yr	

Physical Specification

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