

## Measure wireless quartz gauge

Real-time, actionable pressure measurements in any environment during Symphony live downhole reservoir testing

**Temperature:**  
up to 392 degF [200 degC]

**Pressure:**  
up to 30,000 psi [207 MPa]

**Real-time transmission autonomy:**  
up to 365 days

### Applications

- Downhole reservoir testing
- Exploration or appraisal testing
- Extreme HPHT and hostile wells

### How it improves wells

Measure wireless quartz gauges are seamlessly integrated into the Symphony\* live downhole reservoir testing toolstring to provide real-time pressure and temperature measurements that enable seeing beyond the near-wellbore area. With this wealth of information, operators can identify reservoir features in detail and detect seemingly minor pressure fluctuations that can have a significant affect on field development plans.

The Measure wireless quartz gauge is connected to the Signature\* quartz gauge family and united by Muzic\* wireless telemetry to provide full resolution data to surface, ensuring consistent interpretation.

### How it works

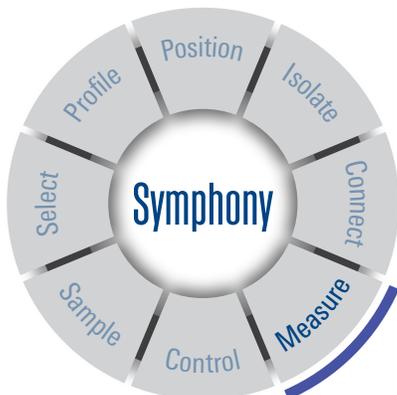
The entire Symphony testing toolstring is monitored by Measure wireless quartz gauges during downhole reservoir testing. Each gauge can be interrogated independently for real-time or historical pressure or temperature data. Long-life proprietary batteries power the gauges to reliably and continuously acquire high-quality measurements. The robust gauges also incorporate a durable all-ceramic multichip module (MCM), securely housed in welded steel housing to prevent contamination and safeguard your data.

### What it replaces

Conventional memory data acquisition means that operators have to wait until the testing toolstring is returned to surface to access their test data. With real-time Symphony testing data from the Measure wireless quartz gauges, you can make informed decisions to improve the well testing experience and make sure your well test objectives are optimally achieved.

Measure Wireless Quartz Gauge Tool Specifications		
Description	Standard	HPHT
Temperature rating, <sup>†</sup> degF [degC]	330 [165]	392 [200]
Pressure rating, psi [MPa]	18,000 [124]	30,000 [207]
Wireless autonomy, days <sup>†</sup>	20	30 to 365
Max. OD, in [mm]	1.25 [31.8]	1.25 [31.8]
Length, in [mm]	70.2 [1,783]	70.2 [1,783]
Weight, lbm [kg]	11 [5]	11 [5]
Service	NACE H <sub>2</sub> S	NACE H <sub>2</sub> S
Recommended gauges	TQPR or TUPR	TUPR or THQR
Conveyance	Clamped or gauge carrier	Clamped or gauge carrier

<sup>†</sup> Depends on well conditions and on individual job parameters.



*The Measure gauge holds four individual quartz gauges for reliable accuracy, consistency, and simultaneous monitoring.*

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## Signature Quartz Gauge Metrology<sup>†</sup>

Model	TQPR Signature Quartz Gauge	TUPR Signature HP* High-Pressure Quartz Gauge	THQR Signature HPHT* High-Pressure, High-Temperature Quartz Gauge
<b>Pressure</b>			
Accuracy	±3.2 psi [±22 kPa]	±0.015% full scale <sup>‡</sup>	±0.015% full scale <sup>‡</sup>
Resolution, psi [kPa]	0.005 [0.03]	0.01 [0.07]	0.01 [0.07]
Calibration range, psi [MPa]	Atmospheric to 16,000 [110]	Atmospheric to 30,000 [207]	Atmospheric to 30,000 [207]
Drift at pressure and temperature rating, % full scale/yr	<0.020	<0.025	<0.025
<b>Temperature</b>			
Accuracy, degF [degC]	±0.4 [±0.2]	±0.4 [±0.2]	±0.4 [±0.2]
Resolution, degF [degC]	0.002 [0.001]	0.002 [0.001]	0.002 [0.001]
Calibration range, <sup>§</sup> degF [degC]	77–347 [25–175]	77–347 [25–175]	95–410 [35–210]
Drift, degF/year [degC/yr]	<0.2 [<0.1]	<0.2 [<0.1]	<0.2 [<0.1]
Scanning rate	0.1 s to 10 min	0.1 s to 10 min	0.1 s to 5 s

<sup>†</sup> See [Signature quartz gauge](#) for full specifications and metrology.

<sup>‡</sup> Accuracy of high-pressure quartz sensor is dependent on calibrated range of gauge.

<sup>§</sup> Calibration range can be extended to 32 degF [0 degC] on request for seabed operations.