Hydraulic Hookload Sensor

Measures the weight on bit and hookload or the weight of the drillstem and associated components suspended from the hook

Applications

- Conventional pressure and temperature regimes
- High-pressure/high-temperature (HPHT) wells with temperatures up to 356°F (180°C)

Features and Benefits

- Easy installation and simple startup
- Very stable output signal
- 4- to 20-mA standard output transducer

Tool Description

The hydraulic hookload sensor is a pressure transducer that measures the weight on bit and hookload or the weight of the drillstem and associated components suspended from the hook. The sensor enables hookload calculations by transferring raw measurements to standard surface-logging software. The sensor is tied into the dead line anchor and mounted into the hydraulic system of the drilling rig. Direct measurement of pressure on the rig dead line gives the most accurate indication of hookload and weight on bit.

Certifications

The hydraulic hookload sensor meets the following certification standards:

- Explosion proof for Class I, Division I, Groups B, C, and D
- Dust-ignition proof for Class II and Class III, Division 1, Groups E, F, and G
- Suitable for NEMA 4X indoor and outdoor hazardous locations

The enclosure meets the following certification standards:

- NEMA 4X, IP67, CSA Enclosure Type 4x
- BASEEFA ATEX Intrinsic Safety
- Certificate No.: BAS00ATEX1166X, Markings: II 1 G
- ATEX Ex ia IIC T5, –67°F ≤ Tamb ≤ 104°F (–55°C ≤ Tamb ≤ 40°C)
- ATEX Ex ia IIC T4, –67°F ≤ Tamb ≤ 158°F (–55 °C ≤ Tamb ≤ 70 °C)
- CE 1180

With the Weatherford hydraulic hookload sensor installed, direct measurement of pressure on the rig dead line most accurately indicates the hookload and weight on bit.

Weatherford®

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Specifications

Brand	Rosemount, Model 2088
Diaphragm	Isolating diaphragm polysilicon sensor
Sensor fluid	Silicon fluid
Range	0 to 800 psi (0 to 5,515.8 kPa)
Overpressure	1,600 psi (11,031.6 kPa)
Supply voltage	18 to 32 Vdc
Output signal	4 to 20 mA, HART
Resolution	±0.2% of SPAN
Response	200 ms
Sensitivity	0.16 psi (1.1 kPa)
Stability	±0.10 psi (0.7 kPa) for 12 months
Operating temperature	–40 to 185°F (–40 to 85°C)
Operating humidity	0 to 100% relative humidity
Vibration	2 g (15 to 150 Hz)
Output	All SLS operating systems
ANAX JDE number	1343995