



Pressure Measurement in the Offshore Area



Application:

Subsea gauge as control instrument to a depth of 3000 m (10000 ft)

for manufacturers and operators of remote-controlled, camera-monitored hydraulic tools or devices for the operation of subsea pipelines or drilling equipment in the offshore area

As example serves the oil catastrophe in the Gulf of Mexico. It caused major damage in the waters, the flora and fauna. In order to avoid such natural disasters in the future, work is being done on the improvement of oil collection systems in case of a potential subsea oil spill. In consequence, pressure gauges also have to meet highest demands.



The problem:

Difficult geohydraulic conditions are prevailing when drilling and producing oil and gas. The rock layers are under a high pressure caused by fluids in rock pores. Due to oil, gas and water, critical conditions can develop, especially during deepwater drillings.

Blow-out-Preventers (BOPs) are installed directly above the well to make the drilling safer. BOPs are a series of shut-off valves. These are controlled and activated by pressure gauges. In case of an oil or gas blow-out, the BOP is designed to seal the well and thus prevent the oil from spilling into the ocean.

BOPs are very large and difficult to install. At great depths, the difficulties increase, also with regard to the functionality of the instruments.

In addition to BOPs, there are also other fields of application in the oil and gas production where pressure gauges are used under water:

- ◆ **Production trees** – serve as well closure after successful drilling for crude oil or natural gas
- ◆ **Remotely Operated Vehicle (ROV)**
- ◆ **Subsea pumping facilities**

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Our solution:

As the drilling takes place in ever greater depths, the functionality of the instruments has to stand the test.

Our pressure gauge, especially designed for subsea application, withstands these difficult conditions to a water depth of 3000 m (10000 ft). But also salt water must not corrode the instruments, which is why we use appropriate materials to ensure the continuous operation of the instruments in this environment.

Under such harsh process conditions our instrument operates accurately and reliably.

The displayed values are transmitted by cameras and still have to be easily readable. Due to our special pointer and scale design, the values can be read precisely, even in great water depths.

Our advantages at a glance:

- ◆ Applicable to a water depth of 3000 m (10000 ft)
- ◆ Case filling for robust process conditions due to primarily hydraulic applications
- ◆ Black dial, white scale and pointer for exact reading of the indicated values

Our instrument in detail:

To a water depth of 3000 m (10000 ft.): **RChG 100 / RChG 160 – 3 rFr**
(for further details see data sheet 1810)

- ◆ Accuracy class 1.0 (DIN EN 837-1)
- ◆ Bayonet ring case stainless steel 304
- ◆ Case filling glycerin
- ◆ Nominal case size 100, 160 mm (4, 6")
- ◆ Wetted parts stainless steel 316L
- ◆ Case configuration lower back connection (r)
- ◆ Front flange for panel mounting (Fr)
- ◆ Pressure range, e.g.
 - 0 – 160 bar to 0 – 2500 bar
 - 0 – 2000 psi to 0 – 35000 psi
- ◆ Process connection according to data sheet 1810
- ◆ Window polycarbonate
- ◆ Dial aluminium black, scale and pointer white
- Options:
 - ◆ Case stainless steel 316L
 - ◆ Other process connections, e.g. high-pressure connection male and female thread e.g. for 1/4" tube with 60° cone for PN ≥ 60 bar



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