

DEW POINT MEASUREMENT MODUL FOR SONAR TOOL BSF2



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AREAS OF APPLICATION

To determine the in-situ moisture content, dew point modules are available for the BSF2 sonar tools, which can be used at operating pressures of up to 400 bar. The moisture content of the gas to be analysed is measured using a special ceramic dew point sensor. By incorporating the dew point module into the BSF2 tool, the measurement can be carried out as part of the sonar measurement without additional runs into the well.

The actual sensor and evaluation electronics form a unit as a plug-in board, which is inserted into the module before the measurement. The plug-in boards are calibrated by the manufacturer and supplied with a corresponding certificate.

MEASURING PRINCIPLE

The ceramic dew point sensor indicates the moisture content through its variable resistance and capacitance. These two measured variables are linearised in an evaluation circuit, compensated with the measured temperature values and converted into a current signal proportional to the dew point in °C. The current signals are digitised by the dew point module and recorded by the surface control computer using the CavScan software. Due to its design, the sensor is only slightly cross-sensitive to hydrocarbons, which minimises the influence of hydrate inhibitors, for example, on the measured values.

In addition to the dew point log, the values for temperature and pressure are always measured and recorded. The measured values can be displayed by the CavLog programme as an additional track and converted into an absolute moisture content in accordance with ASTM D 1142-90; the underlying table values are available up to a maximum of 100 bar.

SURVEY PROCEDURE

To prepare for a dew point measurement, the dew point module is added into the BSF2 tool at the intended position. When run into the well or in the cavern, the pressure, temperature and dew point can be recorded at normal log speeds.

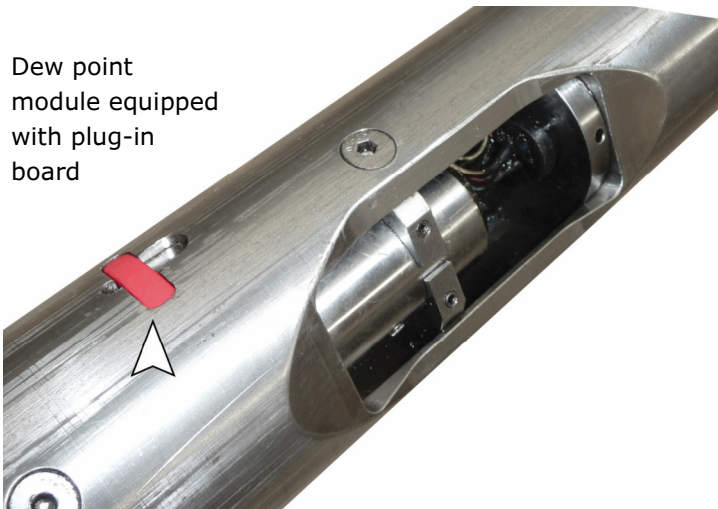
The sensor is not designed to enter the brine-filled sump, but with a careful approach, the dew point sensor can be brought to within less than one metre of the interface.

The measurement results are immediately available.

TECHNICAL SPECIFICATIONS

Length:	0.640 m
Diameter:	70 mm
Weight:	15 kg
Measurement range:	-50 – 30°C T _d
Accuracy:	+/- 2°C T _d
Resolution:	0.2°C T _d
Temperature range:	-5 to +60°C
Pressure range:	up to 400 bar

Dew point
module equipped
with plug-in
board



Plug-in board with
sensor and
evaluation
electronics

