BAT-sensor

Groundwater monitoring and testing

The *BAT*-sensor combined with the *BAT*-filter tip measures accurately and against low costs the pore pressure in the ground.

This unique, re-usable sensor is equipped with a 24-bit AD converter, microprocessor, clock, network controller and memory chip. Without difficult conversion factors, this Intelligent Sensor (IS) immediately displays the measured pressure in the engineering unit kPa (mH$_2$O). After finishing the pore pressure measurement you can easily retrieve the sensor and use it again at another site.

The *BAT*-sensor has also been equipped with a temperature gauge, which measures the temperature at the end of the sensor.

In combination with the IS-battery holder the *BAT*-sensor can be used as stand-alone sensor or inter-connected with other sensors in a fully digital network, in combination with the *IS*- module.

With an additional permeability set the *BAT*-system offers the extra possibility to determine the permeability of the soil and/ or to collect accurate groundwater samples.

Technical specifications *BAT*®-sensor	
Pressure range	0...5 bar (absolute)
Burst pressure	16 bar
Pressure hysteresis (0 → P$_{max}$ → 0)	≤ 0.1%
Linearity error	≤ 0.15 % (tested)
Temperature range (operating)	-20 °C to + 80 °C
Temperature accuracy	± 0.5 °C
Electrostatic discharge	2500V
Memory	≈ 6,500 measurements
Power consumption	≤ 30 mA with 15V (operating)
Protection rating	IP 68 according to DIN 40 050/IEC 529
Material	Stainless steel 316
Weight sensor	224 gram
Dimensions sensor	Ø 22 mm, length 170 mm
Dimensions sensor incl. transducer assembly	Ø 22 mm, max. length 248 mm
Weight set	988 gram
Dimensions of weight set	Ø 23 mm, length 415 mm
Standard cable length	10 m or 20 m
Extra	Standpipe sensor protection cap

Accessories	
ISB.00010 *BAT*®-filter tip MkIII	POM with porous HDPE filter
ISB.00020 *BAT*®-filter tip MkIII STS (stainless steel)	Stainless steel SS2343 with porous HDPE filter
ISB.00025 *BAT*®-filter tip MkIII Vadose	POM with fine porous ceramic filter
ISB.00360 *IS*-battery holder	1 D-size Alkaline battery (operating time ≈ 4 months) 1 D-size Lithium battery (operating time ≈ 8 months)
ISB.00080 *BAT* Permeability kit and sample kit	
ISB.00330 *IS*-field unit Programming, read-out unit incl. internal air pressure sensor	
ISB.00357 *IS*-module	Internet Solar Module