



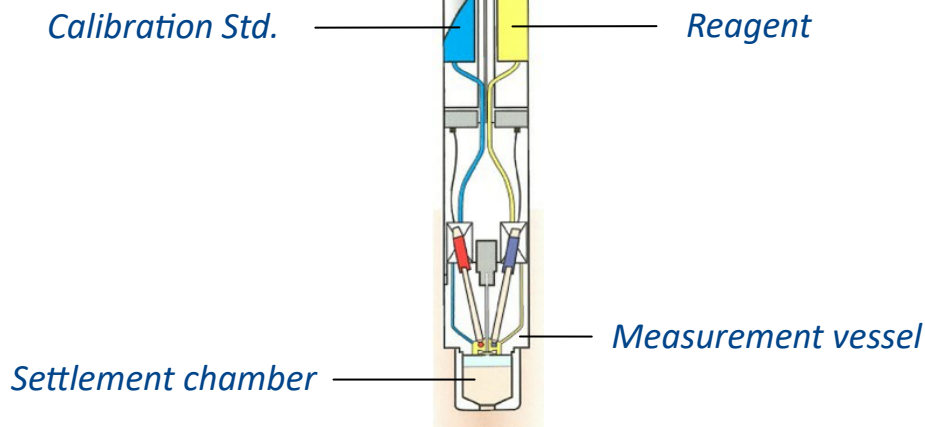
Innovation in Environmental & Process Technology

We **Understand** Water & Waste Water Monitoring

In-Situ Auto-Calibrating Ammonia Measurement - PBS3



- No Sample Pumps
- Auto-cleaning
- Auto-calibration
- No filters
- No Kiosk



PBS in
Final Effluent

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PBS3 is an Insitu Ammonia with auto-calibration with a GSE as the measuring electrode. It is a complete wet chemical analyser + sample preparation system in a single Insitu housing, removing the need for pumps, sample preparation and Kiosks. Sampling is by means of hydrostatic head, which first fills a settlement chamber to reduce solids to a minimum. By opening an integrated air valve settled liquid is then allowed into the measuring chamber, where reagent is dosed and stirred to raise pH to 11.5.



When equilibrium is reached the NH₃-N signal is logged and stored. The system is then pressurised by the on board compressor to evacuate the liquid sample and the whole cycle is repeated. On calibration the sample is retained in the measuring cell and dosed with one and then eight aliquots of high standard, the response being logged on each occasion. The method of standard addition is then applied to calculate the new offset and slope.

The data is logged and displayed in numeric and graphical format. The system is designed for use in activated sludge basins, bed effluents and final effluents.

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System Specification

Operation principle	Gas specific electrode
Range	0.05—up to 1000 mg/l NH ₄ -N
Resolution	0.05 mg/l
Repeatability	3%
Detection Limit	0.05 mg/l
Response Time	3-5 minutes, measurements normally taken at 15 min intervals
Reagent Consumption	0.5—1 Litre / month
Standard Consumption	~ 3 ml standard solution per ay
Calibration Method	Dynamic Standard Addition

Transmitter Specification

Construction	Dimensions	(Power supply included) 325 x 490 x 120 mm (W x H x D) (Without power supply) 240 x 360 x 120 mm (W x H x D)
	Weight	(Power supply included) 8kg (Without power supply) 7.4 kg
	Materials	Aluminium
	Environmental	-5 to +45°C
	Weather Protection	IP54 - Supplied in weatherproof housing
Outputs	Display	LED backlight Sunlight readable TFT display with resistive touch. 24hr graph + current value with 3 digi resolution. 12 Month data storage. Internal dynamic graph with 31 day historical display
	Analogue:	0/4- 20mA, Isolated 500 ohm, 10v max
	Digital:	2 configurable relays - NC, max 0.2a / 50v
	Data storage:	SD Card and USB
	Fieldbus Outputs	Profibus Industrial ethernet - Options
Supply Requirements	Supply voltage:	24v dc / 115 or 230v AC (option) at 50/60 hz
	Load:	30w max

Sensor Assembly Specification

Construction	Materials	Stainless Steel, Acrylic
	Weight	12 kg (filled with reagents)
	Dimensions	830 x 130mm (length x diameter)
	Environmental	IP68
	Standard Umbilical Length	5 metres
Process conditions	Solids to settle	Mixed Liquors, Final effluent, Process bed effluents

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