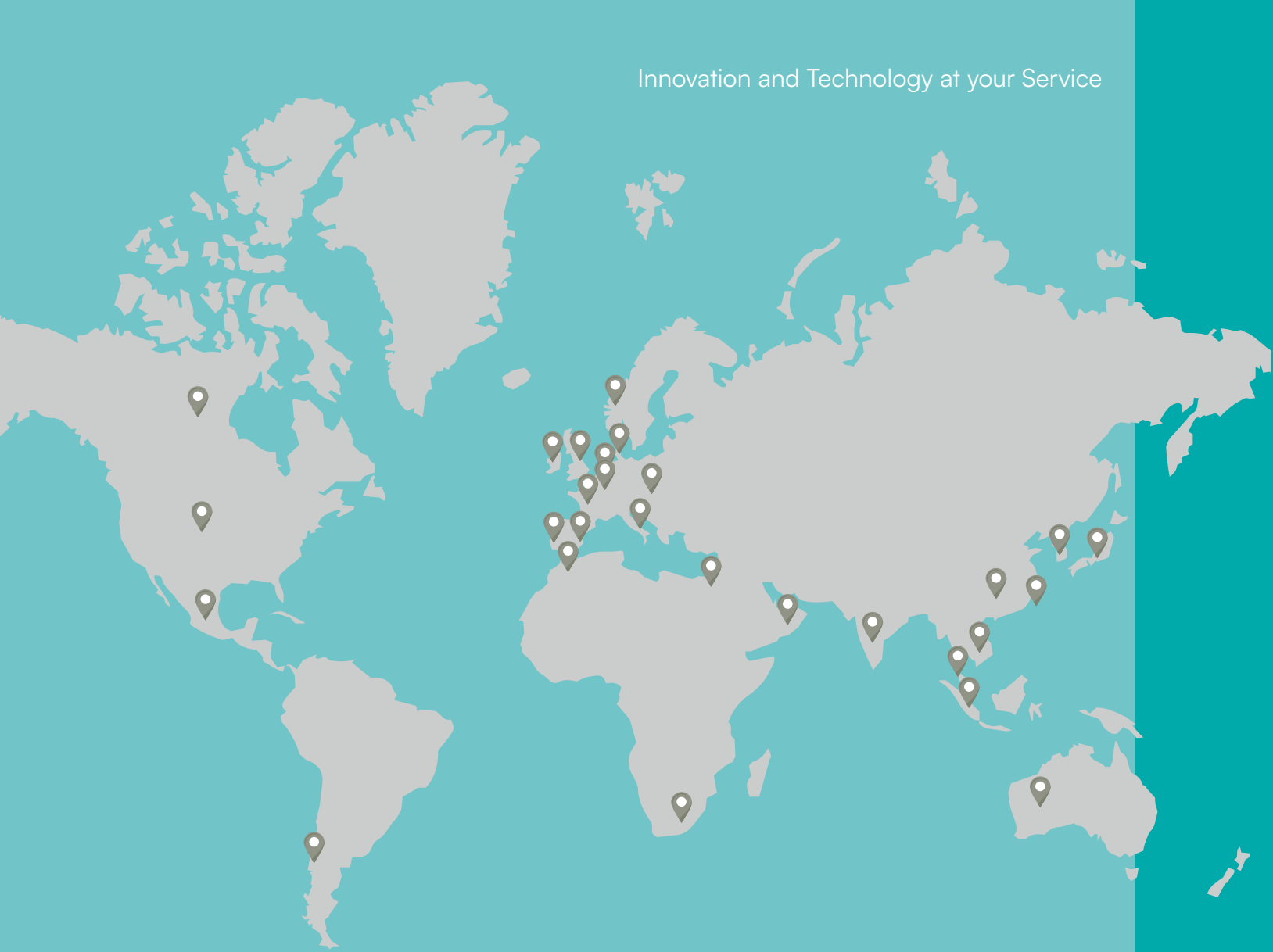




Instran®

NEXUS

On-line Analyzer:
Smarter nutrient control with ammonia and
phosphate monitoring



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ONLINE AMMONIA AND PHOSPHATE ANALYZER

Two nutrients. Two technologies. One smart platform.

Continuous ammonia and phosphate monitoring in one compact analyzer, designed for efficient nutrient control in wastewater treatment.

A clearer view of nutrient removal

Nutrient removal depends on maintaining the right balance between biological activity, aeration and chemical dosing. When ammonia and phosphate are monitored separately, operators work with fragmented information and additional equipment. INSTRAN NEXUS brings both measurements together in one online analyzer, providing a clearer view of treatment performance while reducing installation requirements, maintenance points and system complexity.

TWO NUTRIENTS ONE COORDINATED ANALYSIS

Ammonia and phosphate require different analytical technologies. INSTRAN NEXUS integrates both within one coordinated platform:

- Ammonia measurement by ion-selective electrode
- Phosphate measurement by colorimetry

The two methods share the main fluidic and electronic components while maintaining dedicated chemistry for each analysis.

- Lower investment
- Smaller footprint
- Simpler installation
- Fewer components to maintain

Less hardware. Fewer maintenance points. Complete nutrient insight.

TURN MEASUREMENTS INTO PROCESS CONTROL

Continuous nutrient data helps operators verify nitrification, optimise aeration, adjust phosphate-removal chemicals and identify process deviations before they affect effluent quality.

- Nitrification and biological nutrient removal
- Aeration and chemical-dosing optimisation
- Effluent quality monitoring
- Faster process troubleshooting

ENGINEERED TO WORK TOGETHER

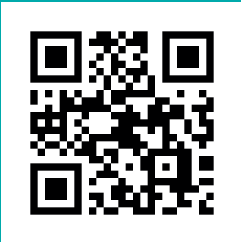
The ammonia electrode is positioned above the maximum liquid level reached during the phosphate reaction, helping protect it from acidic and aggressive colorimetric reagents. After phosphate analysis, the system performs automatic DI-water cleaning followed by a dedicated sample and NaOH reconditioning sequence. This restores the electrode response and prepares it for the next ammonia measurement.

Reliable performance, analysis after analysis.

AUTOMATED FROM SAMPLE TO RESULT

- Automatic calibration
- Automatic cleaning
- Automatic internal dilution
- Automatic electrode reconditioning
- Programmable deep cleaning
- Historical data
- Alarms and diagnostics

AMMONIA + PHOSPHATE.
ONE INTEGRATED
ANALYZER.



View more parameters

READY FOR PLANT INTEGRATION

- 4—20 mA outputs
- Modbus communication
- SCADA connectivity
- Up to four configurable relays
- Remote result visualisation
- Optional IAR-100 continuous-sampling system with 5 µm ceramic filter, commonly required for wastewater applications
- Optional IAR-064 multiplexer for analysis of up to four sample streams (available when all sample streams use the same measuring range).

TECHNICAL SPECIFICATIONS

	Ammonia	Phosphate
Measured species	NH ₃ (g)	PO ₄ ³⁻
Measurement principle	Ion-selective electrode with Standard Known Addition	Colorimetry with automatic sample blank
Measuring range	Configurable (ppm/ppb)	Configurable (ppm/ppb)
User-configurable species	NH ₃ , NH ₄ ⁺ , N—NH ₃	PO ₄ ³⁻ , P—PO ₄
Accuracy	±4.2% of FS or ±30ppb, whichever is greater	±0.65% of FS or ±57 ppb, whichever is greater
Repeatability	<2.5%	<1.5%
Resolution	0.001 / 0.01 / 0.1 ppm, depending on range	0.001 / 0.01 / 0.1 ppm, depending on range
Frequency of Analysis	A combined result every 20 minutes (<i>three ammonia and three phosphate results per hour</i>)	
DI Water consumption	12.5 L quarterly tank	
Phosphate reagent consumption	5L for 3 months fully operation	
Ammonia reagent 1 consumption	5 L for 3 months fully operation	
Ammonia reagent 2 consumption	5 L for 3 months fully operation	
Calibration	Automatic and programmable	
Cleanings	Automatic and programmable	
Validation	Automatic validation sequence, programmable with alarm trigger	
Offset adjustment	Available to reduce the mismatch between laboratory control analysis and continuous analyzer data	
Cabinet	Optional separate cabinet for analyzer + reagents	

NEXUS