INFORMATION
PROCESS ANALYSIS
ON-SITE ANALYSERS
AMTAX SC + PHOSPHAX SC



Short paths—optimal results

On-site analysers for Ammonium and Phosphate

HACH LANGE

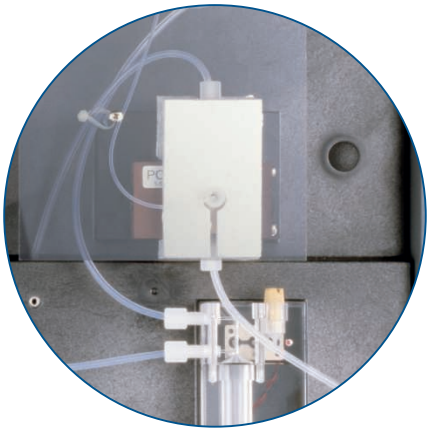
UNITED FOR WATER QUALITY

At the right place in the process: AMTAX sc and PHOSPHAX sc

”On-site” means measuring Ammonium and Phosphate in the tank. The main advantage is that short sample paths give quick, undistorted results. This is the idea behind the new digital analyser generation from HACH LANGE—AMTAX sc and PHOSPHAX sc.
The concept is a practical, logical extension of the proven AMTAX and PHOSPHAX series. It combines all the advantages: the high precision of an analyser and the simplicity of a probe.



The design of the analysis and reagent systems is the same in the AMTAX sc and PHOSPHAX sc, and provides permanent accessibility and complete transparency: The AMTAX sc measures the NH_4-N concentration with a gas-sensitive electrode (GSE)



The difference in the PHOSPHAX sc: a two-beam photometer with LEDs determines the PO_4-P concentration

Combined advantages: analyser and probe in one

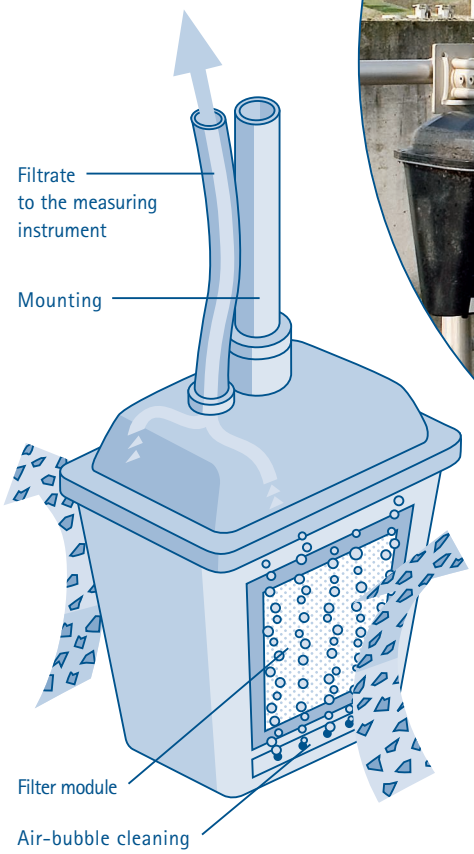
The exact, accurate measurement of an analyser, installed at the side of the tank like a probe! These advantages are combined in the SC analysers for the determination of NH_4-N and PO_4-P. AMTAX sc and PHOSPHAX sc are designed to be installed at the measuring location. They carry out measurements exactly at the right point in the process, and their high-precision analysis is unaffected by external interferences. Moreover, they are simple to assemble and operate. With their SC technology, they are ready for use in the network of the SC controller.

Save investment costs: NH_4 and PO_4 analysers on site

The AMTAX sc and PHOSPHAX sc need no separate analysis location. Climate-dependant wet-chemical analysis used to require cost-intensive and time-consuming additional construction measures. But HACH LANGE now protects the core of the proven AMTAX and PHOSPHAX series with a weather-proof, lockable housing. Moreover, the operation of the electronic and analysis systems is safeguarded both passively (insulation) and actively (temperature control). The sample and the measured value are therefore not influenced by external factors.



Filter probe in service position:
the complete system is installed tank-side and requires very little space



Immersed in the water:
While the low-maintenance filter probe continuously samples the water, air bubbles prevent the formation of any coatings

On-site tank-side installation in a weatherproof housing
➔ **Undistorted sample with minimum effort—no additional construction measures**

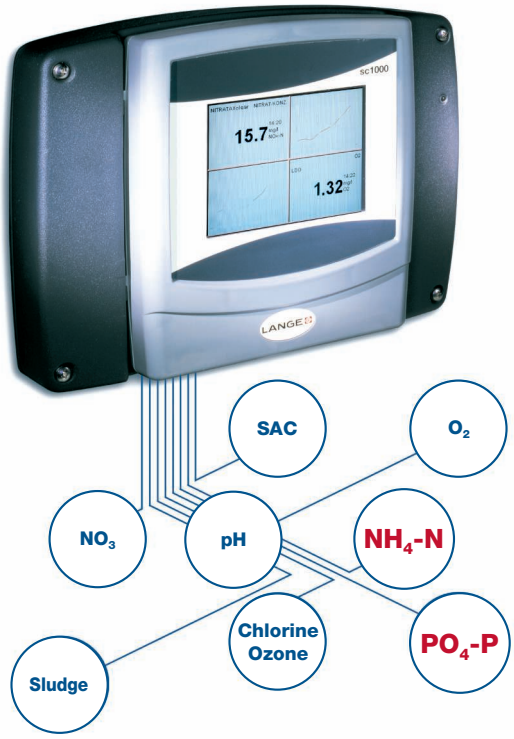
Simple and direct like a probe
➔ **Uncomplicated handling during measurement and installation**

Exact and accurate like an analyser
➔ **Transparent, high quality measurement technology brings reliable values with the shortest of response times**

Flexible installation
➔ **Easy to integrate into existing and new plants**

Measurement of Ammonium and Phosphate on the SC platform

The SC platform is leading-edge technology from HACH LANGE with the universal controller concept for all probes and analysers. This future-safe technology has now been extended to cover Ammonium and Phosphate—two key parameters in water and wastewater analysis.
AMTAX sc and PHOSPHAX sc are the first members of a new analyser generation for process measurement technology. It offers all the advantages of SC technology, as the instruments are freely combinable with all the sensors in the network or can be used as a stand alone solution. NH_4 and PO_4 measurement is therefore flexible in practice and cuts costs.



Flexible in the SC system: AMTAX sc and PHOSPHAX sc can be combined with all sensors via the SC controller

Up to eight sensors on one SC controller per measuring location
➔ **Cuts costs**

Plug and play with SC controller
➔ **Simple to install and operate and therefore quickly ready for operation**

Process control through measurement of NH_4 and PO_4
➔ **Process optimisation**

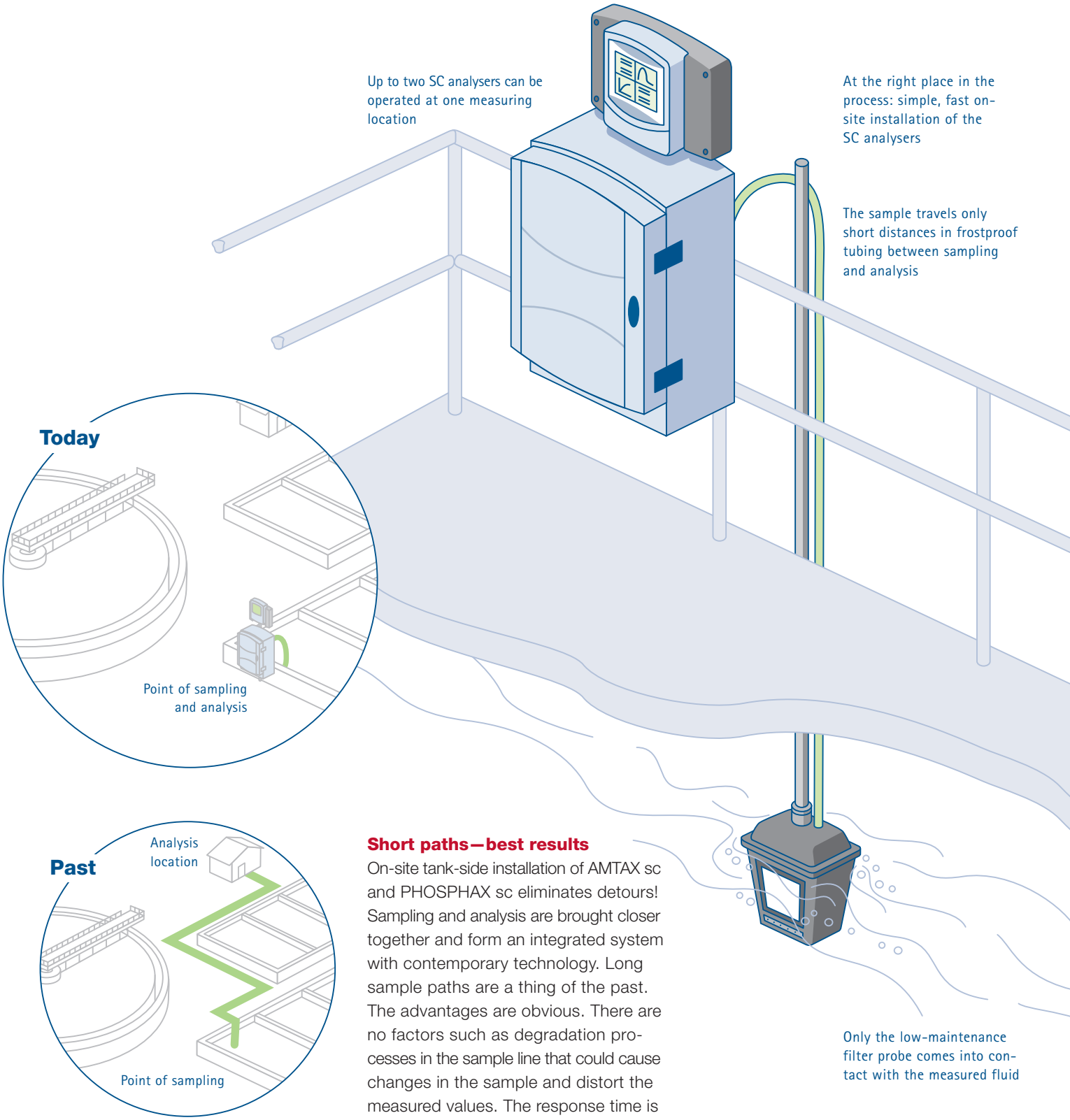
NH_4 and PO_4 measurement SC compatible

AMTAX sc and PHOSPHAX sc speak the language of the SC technology. This means that they can share a SC controller with up to eight sensors. The SC analysers profit from the convenient handling of the SC controller and the uniform user interface: an intuitively operated colour touchscreen, where measured values and time course curves are displayed.

Wide measuring range for all applications

Thanks to their wide measuring range (0.05 to 1,000 mg/l NH_4-N and 0.05 to 50 mg/l PO_4-P), the new analysers are extremely versatile. They can also be used for exact determinations at the limits of water and wastewater analysis.
This means that, for example, NH_4, O_2 and PO_4 can be monitored in parallel in standard processes in the activated sludge stage of municipal and industrial sewage treatment plants. The sensors operate either in a network or as a stand alone solution.

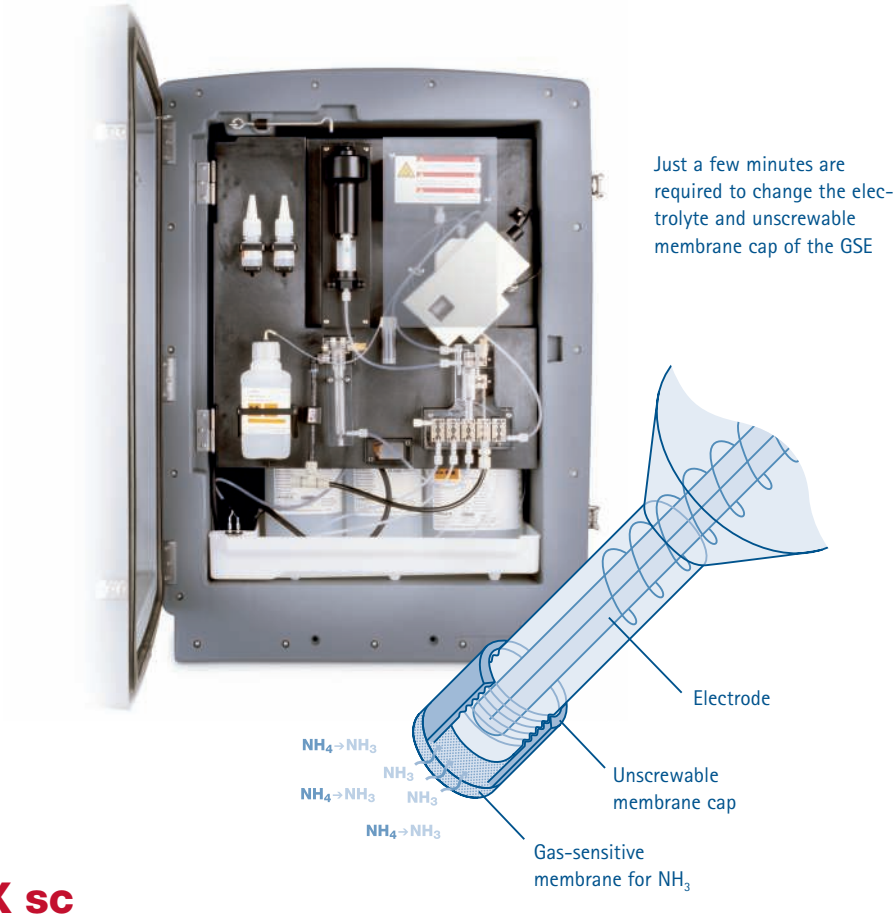
On site—no detours



Short paths—best results

On-site tank-side installation of AMTAX sc and PHOSPHAX sc eliminates detours! Sampling and analysis are brought closer together and form an integrated system with contemporary technology. Long sample paths are a thing of the past. The advantages are obvious. There are no factors such as degradation processes in the sample line that could cause changes in the sample and distort the measured values. The response time is also faster: only 5 minutes from sampling to measured value!

AMTAX sc



Just a few minutes are required to change the electrolyte and unscrewable membrane cap of the GSE

Wide measuring range and maximum precision

The AMTAX sc measures the Ammonium concentration with a gas-sensitive electrode (GSE). The Ammonium in the sample is first converted to gaseous Ammonia. Only the NH_3 gas passes through the gas-permeable membrane of the electrode and is detected. This method guarantees a wide measuring range and is less susceptible to cross-sensitivity methods that make use of an ion-selective electrode (ISE).

Technical data: AMTAX sc

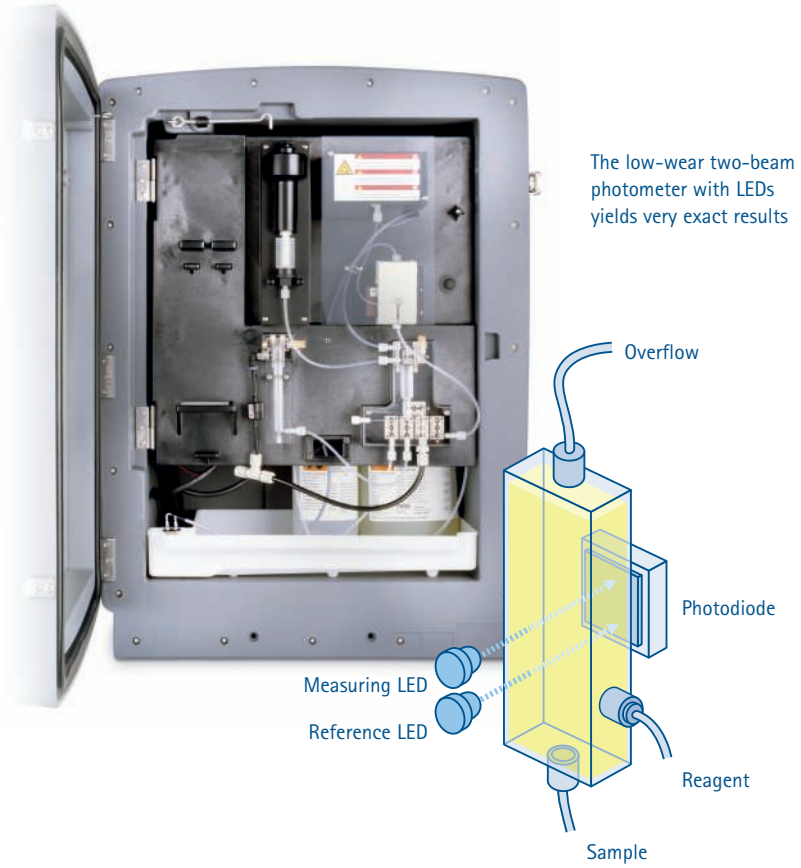
Measurement method	GSE (gas sensitive electrode) with unscrewable membrane cap		
Measuring range	0.05 – 20.0 mg/l NH_4-N	1.0 – 100 mg/l NH_4-N	10 – 1,000 mg/l NH_4-N
Lower limit of detection	0.05 mg/l NH_4-N	1.0 mg/l NH_4-N	10 mg/l NH_4-N
Accuracy	3 % +0.05 mg/l	3 % +1.0 mg/l	4.5 % +10 mg/l
Response time (T90)	5 min. including sample preparation		
Measurement interval	5 – 120 min.		
Special features	Automatic cleaning and calibration, extensive self-diagnosis, optional 2-channel version for continuous sample preparation		
Installation	Wall mountable, rail mountable and mountable on a stand indoors or outdoors (IP 55)		
Dimensions	(W x H x D) 540 x 720 x 390 mm		
Power supply	230 V AC/50 Hz (optional 115 V AC, 50 – 60 Hz), connection on SC 1000 Controller		
Weight	31 kg including reagents		
Ambient temperature	-20 °C to +45 °C		
Sample temperature	+4 °C to +40 °C		
Sample preparation	Filter probe (see below) and continuous sample preparation with FILTRAX, ultrafiltration, etc.		
Operation/Outputs	Through SC controller; outputs: mA, relay, bus		

Technical data: Filter probe for AMTAX sc or PHOSPHAX sc

Functional principle	In-situ membrane filtration; filter modules are exchangeable
Special features	Continuous self-cleaning with air bubbles
Maintenance time	Typically about 0.5 h/month
Installation	Mount in the tank or channel (IP 68)
Dimensions	(W x H x D) 315 x 250 x 120 mm
Weight	Approx. 8 kg

Subject to change without notice

PHOSPHAX sc



The low-wear two-beam photometer with LEDs yields very exact results

More than 50 % less chemicals with proven yellow method

The PHOSPHAX sc determines the Phosphate content by the vanado-molybdate yellow method. A low-maintenance two-beam photometer with LEDs measures the PO_4-specific yellow colour. Before each measurement, it automatically determines the intrinsic colour of the wastewater. This value is taken into account in each determination. Distorted measurement results are therefore excluded. The yellow method requires very little reagent and therefore reduces operating costs considerably.

Technical data: PHOSPHAX sc

Measurement method	Two-beam photometer with LEDs (yellow method)	
Measurement ranges	0.05 – 15.0 mg/l PO_4-P	1.00 – 50.0 mg/l PO_4-P
Lower limit of detection	0.05 mg/l PO_4-P	1.00 mg/l PO_4-P
Accuracy	2 % +0.05 mg/l	2 % +1.0 mg/l
Response time (T90)	5 min. including sample preparation	
Measurement interval	5 – 120 min.	
Special features	Automatic cleaning and calibration, extensive self-diagnosis, optional 2-channel version for continuous sample preparation	
Installation	Wall mountable, rail mountable and mountable on a stand indoors or outdoors (IP 55)	
Dimensions	(W x H x D) 540 x 720 x 390 mm	
Power supply	230 V AC/50 Hz (optional 115 V AC, 50 – 60 Hz), connection on SC 1000 Controller	
Weight	31 kg including reagents	
Ambient temperature	-20 °C to +45 °C	
Sample temperature	+4 °C to +40 °C	
Sample preparation	Filter probe (see left) and continuous sample preparation with FILTRAX, ultrafiltration, etc.	
Operation/Outputs	Through SC controller; outputs: mA, relay, bus	

Subject to change without notice



When the system automatically recognises that the filter performance is deteriorating, ...



... the filter surfaces can simply be cleaned of deposits



After just a few minutes the filter probe is ready for operation again

Order Information

DESCRIPTION	ART. NO.
AMTAX sc*	
- 0.05 – 20.0 mg/l NH_4-N, with 5m filter probe (230 V AC)	LXV421.99.11001
- 1.0 – 100 mg/l NH_4-N, with 5m filter probe (230 V AC)	LXV421.99.21001
- 10.0 – 1,000 mg/l NH_4-N, with 5m filter probe (230 V AC)	LXV421.99.31001
- 0.05 – 20.0 mg/l NH_4-N, 1-channel version continuous sample	LXV421.99.13001
- 1.0 – 100 mg/l NH_4-N, 1-channel version continuous sample	LXV421.99.23001
- 10.0 – 1,000 mg/l NH_4-N, 1-channel version continuous sample	LXV421.99.33001
- 2-channel versions and 115 V AC power supply	On request
PHOSPHAX sc*	
- 0.05 – 15.0 mg/l PO_4-P, with 5m filter probe (230 V AC)	LXV422.99.11001
- 1.0 – 50.0 mg/l PO_4-P, with 5m filter probe (230 V AC)	LXV422.99.21001
- 0.05 – 15.0 mg/l PO_4-P, 1-channel version continuous sample	LXV422.99.13001
- 1.0 – 50.0 mg/l PO_4-P, 1-channel version continuous sample	LXV422.99.23001
- 2-channel versions and 115 V AC power supply	On request
ACCESSORIES	
AMTAX sc reagent kit 0.05 – 20.0 mg/l NH_4-N	LCW865
AMTAX sc reagent kit 1.0 – 100 mg/l NH_4-N	LCW871
AMTAX sc reagent kit 10.0 – 1,000 mg/l NH_4-N	LCW866
AMTAX sc cleaning solution	LCW867
NH_4-N electrodes	LZY069
Set of electrolyte (3pcs.)/membrane caps (3pcs.)	LCW868
PHOSPHAX sc reagent	LCW869
PHOSPHAX sc cleaning solution	LCW870
Filter probe 230 V AC/50 Hz, 5 m heated tube	LXV429.99.01000
Filter probe 230 V AC/50 Hz, 10 m heated tube	LXV429.99.02000
Filter probe 115 V AC/50 – 60 Hz, 5 m heated tube	LXV429.99.01100
Filter probe 115 V AC/50 – 60 Hz, 10 m heated tube	LXV429.99.02100
Filter module	LZY140
SC 1000 Controller	LXV400 + LXV402
Tank rim mounting for filter probe	LZX414.00.50000
Rail mounting for SC analyser	LZY285

Subject to change without notice. *Other models on request.

HACH LANGE Services

Contact us to place an order, request information or receive technical support.

On-site support by our technical field staff.

Assurance of legal compliance, together with environmental protection through collection of used reagents.

Extended warranty with inspection contract.

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up to date and secure, with downloads, information and shop.

Cost-saving process optimisation with the HACH LANGE trailer.

HACH LANGE—the specialists for water analysis



Everything from a single supplier

Whether field or laboratory analysis, samplers or process measurement technology, HACH LANGE stands for the total spectrum of water analysis—from visual methods to comprehensive systems of reagents, mesurement technology and accessories.

For every application

Solutions from HACH LANGE are tailor-made for wastewater, drinking water or process water—for reliable control of operational processes and monitoring of legally prescribed limit values.

Parameters from A to Z

From ammonium to zinc—consistently user friendly and proven in daily practice. Regulatory bodies and industry know they can rely on HACH LANGE solutions for everything from sample preparation to quality control.

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