AP3900: Laboratory robot for fully automated water analysis

Laboratory robot for water analysis including sample preparation. Modular concept. Basic version contains COD, total P, total N, Ammonium, Nitrate and Nitrite.

- Saves time and costs
- Increases productivity and flexibility
- Highest precision and accuracy due to automated procedures
- Parallel execution of different samples and methods
- Reliable by complete traceability of results
- High safety standard
- Cost effective for 20 or more tests per day

This unique product processes the critical parameters of COD, total P and total N in parallel using our well established, pre-programmed cuvette tests. The control software ensures the optimal sequence for processing all samples to minimise total time to results through sample preparation, digestion of complex samples, waiting times and measurement. Additional samples can be added at any time, even when the sequence is running and the current status of the analysis is accessible any time with a simple mouse click. Rapid yet simple even untrained users are able to enter all necessary information to the system due to the easy-to-use software.

AllPhred demonstrates laboratory automation with AP3900: The QR code leads you to an animation.

Technical Data

Number of cuvette positions
160

Number of heating positions
2 x 24 (optional 2 x 48)

Number of reagent positions
12

Number of sample positions
24 (optional 48 and 100)

Dispenser
Calibrated Hamilton Dispenser 2.5 mL

Dosing system (sample)
Sample - PTFE sheathed needle, ID 2 mm
Stirrer with 9 mm paddle

Dosing system (reagent)
Reagent - pipette tips

Calibration
Range 0.2 - 2.0 mL

Measurement method
Automatic LCK cuvette test (13 mm test tube); 10 times measurement and 2D barcode

Detector
DR3900

Photometric accuracy
1% at 0.5 - 2.0 E

Photometric linearity
< 0.5 % - 2 E

Compressed air pressure
5 bar

Power requirements (Hz)
50/60 Hz

Power requirements (Voltage)
230 V AC

Dimensions (H x W x D)
950 mm x 1290 mm x 840 mm

Temperature
Selectable 40°C, 100°C, 110°C, 148°C and 150°C

Subject to change without notice.

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HACH®
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APC chemistry - exclusively suitable for the laboratory robot

Article number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	GHS hazard code
APC303	Ammonium	2 - 47 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA703	100	GHS05, GHS07, GHS09
APC304	Ammonium	0.015 - 2.0 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA700	100	GHS05, GHS07, GHS09
APC410	Chlorine, free	0.05 - 2.0 mg/L Cl_2	DPD	ISO 7393-1-2-1985, DIN 38408 G4-2	1426810, 1426820	100	GHS05
APC114	COD	150 - 1000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA703	100	GHS05, GHS06, GHS08, GHS09
APC314	COD	15 - 150 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA704	100	GHS05, GHS06, GHS08, GHS09
APC500	COD	0 - 150 mg/L O_2	Dichromate	ISO 15705	LCA704	100	GHS05, GHS06, GHS08, GHS09
APC400	COD	0 - 1000 mg/L O_2	Dichromate	ISO 15705	LCA703	100	GHS05, GHS06, GHS08, GHS09
APC339	Nitrate	0.23 - 13.5 mg/L NO_3-N	2.6-Dimethylphenol	ISO 7890-1-2-1986, DIN 38405 D9-2	LCA703	100	GHS02, GHS05, GHS07
APC340	Nitrate	5 - 35 mg/L NO_3-N	2.6-Dimethylphenol	ISO 7890-1-2-1986, DIN 38405 D9-2	LCA704	100	GHS02, GHS05
APC341	Nitrite	0.015 - 0.6 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA707	100	GHS07
APC342	Nitrite	0.6 - 6.0 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA709	100	GHS07
APC138	Nitrogen total (LATON)	1 - 16 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA709	50	GHS02, GHS05, GHS07, GHS08
APC238	Nitrogen total (LATON)	5 - 40 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA700	50	GHS02, GHS05, GHS07, GHS08
APC338	Nitrogen total (LATON)	20 - 100 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA708	50	GHS02, GHS05, GHS07, GHS08
APC348	Phosphate	0.5 - 5.0 mg/L PO_4-P	Phosphormolybdenum Blue	EN ISO 6878-1-1986, DIN 38405 D11-4	LCA700, LCA707	100	GHS05, GHS07, GHS08
APC349	Phosphate	0.05 - 1.5 mg/L PO_4-P	Phosphormolybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA704, LCA709	100	GHS05, GHS07, GHS08
APC350	Phosphate	2 - 20 mg/L PO_4-P	Phosphormolybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA703, LCA708	100	GHS05, GHS07, GHS08

APC chemistry was specially developed for the AP3900 laboratory robot and only runs on this instrument.
Please note: APC410, APC400 and APC500 require reagent blanks. For these, the number of tests varies.

GHS hazard codes

GHS01 GHS02 GHS03 GHS04 GHS05 GHS06 GHS07 GHS08 GHS09

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