



Aquakem Discrete Photometric Analyzers

Advice for Ordering

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Appendix A System Reagents for Water Samples

1. GENERAL

1.1 Intended audience

The intended audience of this document is the commercial organization.

1.2 Purchase order requirements:

Purchase order must be in written form in English and it must include the following information:

- complete invoicing address
- complete delivery address (no P.O. Box)
- VAT number
- contact person with valid contact details
- purchase order number
- code number
- quantity
- complete item description in English
- price
- currency
- terms of payment
- requested delivery time
- requested method of transportation
- terms of delivery (Incoterms 2000)
- requested special documents / certificates, if any
- special instructions for shipping, customs etc., if any

Please note, that terms of delivery is FCA Vantaa and buyer is responsible for insurance and freight charges. With mutual agreement terms of delivery can be changed and costs will be added to invoice.

You will receive our Order Confirmation by fax / e-mail in 1 – 2 days after we have received your Purchase Order.

1.3 Your contacts

1.3.1 Purchase order to Customer Service to be sent to

Common inbox: customerservice.fi@thermofisher.com

Tel. +358 10 329 200

1.3.2 Support desks

Product and technical support: questions regarding reagents, applications, software use and installation, hardware, spare parts

system.support.fi@thermofisher.com

1.3.3 Training sessions registration:

trainings.cdx.fi@thermofisher.com

2. THERMO SCIENTIFIC AQUAKEM ANALYZERS

2.1 Thermo Scientific Aquakem models Year 2015

Ordering code	Analyzer model	Shipping box details for the analyzer	
		Size / cm	Total Weight / kg
984206	Aquakem 200	200 x 105 x 150	239
984207	Aquakem 200 Cd	200 x 105 x 150	239
984200	Aquakem 250	200 x 105 x 150	239
984201	Aquakem 250 Cd	200 x 105 x 150	239
984215	Aquakem 600	200 x 105 x 150	482
984217	Aquakem 600 Cd	200 x 105 x 150	482
984216	Aquakem 600 A	200 x 105 x 150	482
984218	Aquakem 600 Cd A	200 x 105 x 150	482

A= Automation



Aquakem 200 /250



Aquakem 600 A

2.2 Differences between the Aquakem models

Units / models	Aquakem 200	Aquakem 250	Aquakem 600
Dispensing needle(s)	1	1	2
Mixing paddle(s)	- (needle mixing)	1	2
Incubator: positions/ number of tests	6/ 72	6/ 72	20/240
Cuvettes storage	300+ 300	300+ 300	300+ 1800
Calibrator / Controls positions	On segments	On segments	39 Disk positions + on segments
STAT (urgent samples) positions	5	5	6
Reagents on board	35	35	45
Sample barcode reader	internal	internal	internal
Reagent barcode reader	external	external	internal
Cd option availability	YES	YES	YES
Automation option availability (factory installed)	NO	NO	YES
Integrated PC workstation	NO	NO	YES
Touch-screen (factory installed)	NO	NO	YES
Back-up battery in the analyzer	NO	NO	YES

2.2.1 UPS selection recommendations

We recommend to select UPS with the following requirements, to support analyzer power + monitor power + PC * 1,4 and practical added with margin 30%.

- Thus Aquakem 200/250 could be $(300 + 100 + 300) * 1,4 = 1000 \text{ VA} + \text{margin} = 1,3\text{kVA}$. The power should last 3-5 minutes with 60% of max power load.
- Thus Aquakem 600 could be $(700 + 100 + 300) * 1,4 = 1540 \text{ VA} + \text{margin} = 2\text{kVA}$. The power should last 3-5 minutes with 60% of max power load.

3. AQUAKEM ANALYZERS IN GENERAL

Aquakem is a dedicated analyzer for all water and environmental automated photometric applications. See below for the special details.

Aquakem analyzers conforms to

- CAN/CSA-C22.2 No. 61010-1-04
- UL Std. No. 61010-1 (2nd Edition)
- FCC 47CFR Part 15, subpart B
- 2006/95/EC Low Voltage Directive
- 2004/108/EC EMC Directive

3.1 Marketing material availability

Our documents can be downloaded from the website at <http://www.e-labeling.eu/TSE>.

- Safety Data sheets
- Inserts
- Certificates of Analysis

The brochure of analyzers is available under the code N08007.

Analyzer specification sheets are

- Aquakem 200 N08096
- Aquakem 250 N08097
- Aquakem 600 N08098

3.2 Thermo Scientific Aquakem analyzers, included items

Aquakem instrument	Only in 200/250 models	Only in 600 models
Workstation PC	With flat screen	With touch-screen
USB memory keys (2 pieces, one for analyzer adjustments and for saving customer Database)		
HASP Dongle		
Cables		
External barcode reader for reagents	YES	
Waste/water container (3 pcs)		
Set of waste bags	50 pieces	60 pieces
Carton waste box		30 pieces
Sample segments 5/7 ml	6 pieces	10 pieces
Tray for corks 45 positions	1 piece	NONE
Set of tools		
Customer Information ring folder:		
User's Manual and LIMS & LAS Manual on CD		
Aquakem Software CD		
PC image DVD/Memory stick		
Manufacturing certificate		
Accuracy results		
Installation instructions (IQ/OQ)		
Keyboard stickers		
Cd option items	Aq. 200 Cd/ Aq 250 Cd	Aq 600 Cd
KUSTI Aliquot segments with numbers and barcodes - 984074	2 pieces 984041 1 pc 984075	2 pieces 984041 1 pc 984075
Square screw-top bottle 250 ml	2 pcs	2 pcs
KUSTI Aliquot (92 Aliquot positions)- 984100	(1 box = 100 pcs=9200 pos)	(1 box = 100 pcs= 9200 pos.)
Automation-option		Only model 600
KUSTI Aliquot segments with numbers and barcodes	NONE	6 pieces
		1 box = 100 pcs

4. ITEM COMPATIBILITY AND TO BE ORDERED SEPARATELY

4.1 Aquakem analyzer codes and kit compatibility

Ordering code	Analyzer	Workstation PC	Start-up kit	6 months Maintenance kit	12 months Maintenance kit
984206	Aquakem 200	Included	984164	984036	984296
984207	Aquakem 200 Cd	Included	984203	984036 + 984189 (Cd)	984296 + 984190 (Cd)
984200	Aquakem 250	Included	984164	984115	984297
984201	Aquakem 250 Cd	Included	984203	984115 + 984189 (Cd)	984297 + 984190 (Cd)
984215	Aquakem 600	Integrated	984165	984282	984298
984217	Aquakem 600 Cd	Integrated	984204	984282 + 984189 (Cd)	984298 + 984190 (Cd)
984216	Aquakem 600 A	Integrated	984165	984282 + 984284 (A)	984298 + 984284 (A)
984218	Aquakem 600 Cd A	Integrated	984204	984282 + 984189 (Cd) + 984286 (A)	984298 + 984190 (Cd) + 984286 (A)

For all models, see the table:

Code	Item
981577	Accuracy solution kit for service use

Software related items:

Code	Item
984129	1 pc of latest Aquakem Software CD 1 pc of latest User Manual CD - Installation instructions
984195	Software Package for Distributor If additional Aquakem sw copies are needed for a personal computer for <i>sales personnel or service personnel personal usage</i>, a version with Objectivity license and HASP Dongle must be ordered. NOTE: An agreement must be signed and returned to Thermo Fisher Scientific Oy before any Software and Dongles are sent. system.support.fi@thermofisher.com. Delivery includes: - Software Agreement between Thermo and Distributor before shipment of package 1 pc of latest Aquakem Software CD (inc obj license) 1 pc of latest User Manual CD - HASP Dongle - Installation instructions
N07907	HASP Dongle. To order this please contact system.support.fi@thermofisher.com

5. CONTENTS OF THE KITS

5.1 Start up kit

This is to be ordered separately.

The Start-up kits contain items to be considered as spare parts.

984164 Start-up kit for Aquakem 200 and 250		
Part no.	Description	Qty
984000	Multicell cuvettes (40 x 25 pcs)	1 pc
981456	Reagent plastic vessel, 20 ml (16 pcs)	1 pc
981455	Reagent plastic vessel, 60 ml (12 pcs)	1 pc
989221	Sample cups 2 ml (1000 pcs)	1 pc
984618	Sample cups 4 ml (1000 pcs)	1 pc
984619	Sample tubes 7 ml (1000 pcs)	1 pc
981481	Halogen lamp	1 pc
984077	Pump tube/K20 ISE wash	1 pc
984030	Washing solution 4,5 %, 4×20 ml	2 pcs

984165 Start-up kit for Aquakem 600 and 600A		
Part no.	Description	Qty
984000	Multicell cuvettes (40 x 25 pcs)	1 pc
981456	Reagent plastic vessel, 20 ml (16 pcs)	1 pc
981455	Reagent plastic vessel, 60 ml (12 pcs)	1 pc
989221	Sample cups 2 ml (1000 pcs)	1 pc
984618	Sample cups 4 ml (1000 pcs)	1 pc
984619	Sample tubes 7 ml (1000 pcs)	1 pc
981481	Halogen lamp	1 pc
981342	Pump tube / ismap. / Lilac-lilac	2 pcs
984030	Washing solution 4,5 %, 4×20 ml	2 pcs

984203 Start-up kit for Aquakem 200 Cd and 250 Cd		
Part no.	Description	Qty
984000	Multicell cuvettes (40 x 25 pcs)	1 pc
984100	KUSTI Aliquot (92 Aliquot positions)	1 box = 100 pcs
NC05303	Square screw-top bottle 250 ml	1 pc
981456	Reagent plastic vessel, 20 ml (16 pcs)	1 pc
981455	Reagent plastic vessel, 60 ml (12 pcs)	1 pc
989221	Sample cups 2 ml (1000 pcs)	1 pc
984618	Sample cups 4 ml (1000 pcs)	1 pc
984619	Sample tubes 7 ml (1000 pcs)	1 pc
981481	Halogen lamp	1 pc
984077	Pump tube/K20 ISE wash	1 pc
984030	Washing solution 4,5 %, 4×20 ml	2 pcs

984204 Start-up kit for Aquakem 600 Cd and 600 Cd A		
Part no.	Description	Qty
984000	Multicell cuvettes (40 x 25 pcs)	1 pc
984100	KUSTI Aliquot (92 Aliquot positions)	1 box = 100 pcs
NC05303	Square screw-top bottle 250 ml	1 pc
981456	Reagent plastic vessel, 20 ml (16 pcs)	1 pc
981455	Reagent plastic vessel, 60 ml (12 pcs)	1 pc
989221	Sample cups 2 ml (1000 pcs)	1 pc
984618	Sample cups 4 ml (1000 pcs)	1 pc
984619	Sample tubes 7 ml (1000 pcs)	1 pc
981481	Halogen lamp	1 pc
981342	Pump tube / ismap. / Lilac-lilac	2 pcs
984030	Washing solution 4,5 %, 4×20 ml	2 pcs

5.2 Maintenance kits

Please note that 6 and 12 month Maintenance kits are the same for Arena analyzers, Aquakems and all clinical Konelab models. Kit names may slightly differ from the list (e.g. 12 Months Maintenance kit for Konelab 60 is 12 Months Maintenance kit for Konelab 60/60i, i stating for clinical chemistry ISE, ion selective electrode model). *New model mean the workstation PC is integrated.*

6 Month Maintenance Kits				
Code	Model	Includes	Description	Qty
984036	200	984072	Diluent & wash tubes for Konelab 20	1 pc
		981481	Halogen lamp	1 pc
984115	250	984105	Diluent tubes K20XT	1 pc
		981481	Halogen lamp	1 pc
984282	600 (new model)	984281	Diluent & wash complete tubing kit	1 pc
		981481	Halogen lamp	1 pc
984284	Automation (new model)	984284	Tubing kit	1 pc
984189	Cd-option	984146	Cd tubing kit	1 pc
		984194	Cd tubing coupling body	1 pc
		984188	Column close ends	2 pcs
984007	600 (old model)	984021	Diluent & wash complete tubing kit	1 pc
		981481	Halogen lamp	1 pc
984069	Automation (old model)	984069	Tubing kit KUSTI	1 pc

12 Month Aquakem Maintenance Kits				
Code	Model	Includes	Description	Qty
984296	200	984015	Syringe 500 µl grip fix	1 pc
		SP07360	Dispensing needle	1 pc
		984072	Diluent tubes for K20	1 pc
		984071	Drain & waste tubes for K20	1 pc
		981481	Halogen lamp	1 pc
		840551	Ground wire 500 mm	1 pc
984297	250	981481	Halogen lamp	1 pc
		984012	Mixing paddle	1 pc
		SP07360	Dispensing needle	1 pc
		984122	500 µl Syringe AD	1 pc
		984105	Diluent tubes for K20XT	1 pc
		984106	Drain / waste tubes for KL20XT	1 pc
984298	600 (new model)	981269	Syringe 500 µl	2 pcs
		SP07360	Dispensing needle	2 pcs
		984021	Diluent and wash tubes	1 pc
		984022	Drain & waste tubes	1 pc
		981481	Halogen lamp	1 pc
		984012	Mixing paddle	2 pcs
984286	Automation	984284	KUSTI complete tubing PRIME	1 pc
		984099	KUSTI Dispensing needle PRIME	1 pc
984190	Cd-option	984146	Cd tubing kit	1 pc
		984194	Cd tubing coupling body	1 pc
		984188	Column close ends	2 pc
		984011	Dispensing Needle ISE	1 pc
984299	600 (old model)	981269	Syringe 500 µl	2 pcs
		SP07360	Dispensing needle	2 pcs
		984021	Diluent and wash tubes K60	1 pc
		984022	Drain / waste tubes K60	1 pc
		981481	Halogen lamp	1 pc
		984012	Mixing paddle	2 pcs
984076	Automation	984073	Dispensing needle KUSTI	1 pc
		984069	Tubing kit KUSTI	1 pc

5.2.1 New ordering codes available:

- ❖ Aquakem dispensing needle (ordering code 984294) is still available separately.
- ❖ 12 month Aquakem Maintenance Kits ordering codes 984296, 984297, 984298 and 984299.

5.3 Cadmium Up-grade Kits

Note: You need to order Start up Kit for Cd option and prepare the Cd column, we supply only empty glass column.

984143 Cadmium Up-grade kit for Aquakem 200				
Part no.	Description			Qty
840359	Board Surf 1			1 pc
840364	Board Motor3			1 pc
840496	Dispensing cover			1 pc
840546	ISE needle unit			1 pc
840794	ISE diluent pump cable			1 pc
841225	FMI 100 µl pump			1 pc
841387	ISE front plate K20			1 pc
841389	K20 STD cover			1 pc
841451	KUSTI Segment			2 pcs
841458	Peristaltic pump			1 pc
842004	Motor cable			1 pc
984208	Empty column			1 pc
984194	Cd tubing coupling body			2 pcs
N08204	Cadmium Set	840000	Dispensing driving unit	1 pc
		840020	Encoder unit 6,35	1 pc
		840281	Washing station	1 pc
		N03225	Arm Cadmium	1 pc
		N03342	Cadmium tubing	1 pc
NC01180	Adapter plate			1 pc
NC05303	Square screw top bottle 250 ml			1 pc
984100	KUSTI Seg. -92 Aliquot pos (100 pcs)			1 pc
984074	KUSTI Aliquot segments			2 pcs
984075	Numbers and barcodes (0-50)			1 pc

984144 Cadmium Up-grade kit for Aquakem 250				
Part no.	Description			Qty
840359	Board Surf 1			1 pc
840364	Board Motor3			1 pc
840496	Dispensing cover			1 pc
840546	ISE needle unit			1 pc
840794	ISE diluent pump cable			1 pc
841225	FMI 100 µl pump			1 pc
841889	ISE front plate 2			1 pc
841389	K20 STD cover			1 pc
841451	KUSTI Segment			2 pcs
841458	Peristaltic pump			1 pc
842004	Motor cable			1 pc
984208	Empty column			1 pc
984194	Cd tubing coupling body			2 pcs
N08204	Cadmium Set	840000	Dispensing driving unit	1 pc
		840020	Encoder unit 6,35	1 pc
		840281	Washing station	1 pc
		N03225	Arm_Cadmium	1 pc
		N03342	Cadmium tubing	1 pc
NC01180	Adapter plate			1 pc
NC05303	Square screw top bottle 250 ml			1 pc
984100	KUSTI Seg. -92 Aliquot pos (100 pcs)			1 pc
984074	KUSTI Aliquot segments			2 pcs
984075	Numbers and barcodes (0-50)			1 pc

984145 Cadmium Up-grade kit for Aquakem 600				
Part no.	Description			Qty
840359	Board Surf 1			1 pc
840357	Board ISEAMP1			
840358	Board ISE3			
840364	Board Motor3			1 pc
840330	HEDS-Motor cable			
840794	ISE diluent pump cable			1 pc
840546	ISE needle unit			1 pc
670393	Syringe 500µl			1 pc
840956	Board CONN1-8			1 pc
841225	FMI 100 µl pump			1 pc
841387	ISE front plate K20			1 pc
840496	Dispensing motor unit cover			1 pc
841451	KUSTI Segment			2 pcs
842004	Motor cable			1 pc
984208	Empty column			1 pc
984194	Cd tubing coupling body			2 pcs
N08204	Cadmium Set	840000	Dispensing driving unit	1 pc
		840020	Encoder unit 6,35	1 pc
		840281	Washing station	1 pc
		N03225	Arm_Cadmium	1 pc
		N03342	Cadmium tubing	
841979	Adapter set to ISE option			1 pc
NC05303	Square screw top bottle 250 ml			2 pc
984100	KUSTI Seg. -92 Aliquot pos (100 pcs)			1 pc
984074	KUSTI Aliquot segments			2 pcs
984075	Numbers and barcodes (0-50)			1 pc

5.4 Accuracy Solution Kit

981577 Analyzer Accuracy Solution Kit	
Includes:	Qty
Accuracy Solution Kit	1 pc
Accuracy Solution Kit protocol	1 pc
Package insert	1 pc

The Konelab Instrument Accuracy Testing Kit (981577) is available to check the accuracy of the Aquakem instrument after e.g. 12 months service. This kit is designed originally for the needs of clinical chemistry. All tested features are worst case tests.

5.5 USB-CAN and Workstation Kits

Kit will **replace internal pc if it breaks down** and workstation has **Windows NT operating system**. (Note: NT does not support USB port). Internal PC will be replaced with *KL30/60 USB-CAN AND WS KIT*.

SP-00084 USB-CAN AND WS KIT for Aquakem 600 (old models)		
Code	Description	Qty
N/A	Aquakem DVD image	1 pc
N/A	Installation instructions	1 pc
N/A	Ultra Small Form Factor (USFF) Dell PC	1 pc
N/A	Symbol stickers for Keyboard	
N/A	USB-serial adapter for PC	1 pc
SP-00077	KL30/60 USB-CAN KIT	1 pc

Kit below will **replace internal pc if it breaks down** and workstation has **Windows XP operating system**. Internal PC will be replaced with *USB-CAN KIT + CAN cable 600*. Suitable XP workstation in use: PC Dell GX260, SX280, GX620.

SP-00077 KL30/60 USB-CAN KIT		
Code	Description	Qty
N/A	USB-CAN kit	1 pc
N/A	CABLE CAN 600	1 pc
N/A	Installation instructions	1 pc
Additionally needed:		Installed in the analyzer, Aquakem sw 6.5 AQ2 or higher

N03945 USB-CAN Kit for older Aquakem 200/250	
When replacing the workstation PC from Aquakem 200/250 models, older models require additionally a USB-CAN kit. The reason is that the USB-CAN kit replaced the RTX software in the older analyzers. See NTU 20/2004 for more details.	



USB-CAN module with
USB cable

Wall-suspension
element

USB memory
stick 64 Mb

With Kit below you can **replace Dell Workstation PC if it breaks** down.

SP-00091 Kit to replace Aquakem Workstation PC		
Code	Description	Qty
N/A	Aquakem DVD Image	1 pc
N/A	Ultra Small Form Factor (USFF) Dell PC	1 pc
N/A	USB-serial adapter for PC	1 pc
N/A	Installation instructions	1 pc

If more information is needed, contact system.support.fi@thermofisher.com

5.6 Aquakem system reagent kits

These reagents must be transported by air freight following the Dangerous Goods Regulations (D.G.R.) given by IATA.

DGR reagents

984363	Ammonia R2
984354	BC Diluent
984355	BC Eluent
984364	Chloride R1
984365	Chloride R1L
984357	Chromium (VI)
984706	Iron (Ferrous) R1
984366	Phosphate R1
984367	Phosphate R1L
984371	TON R3
984372	TON R3L
984350	TON Vanadium R1
984351	TON Vanadium R2

5.7 Accuracy Solution Kit – ordering code 981577

The total shelf life time is 9 months, which decreases the minimum shelf life time to 1 month. These solutions should be ordered prior to scheduled preventive maintenance.

6. SERVICE PARTS, CONSUMABLES AND ACCESSORIES

6.1 Aquakem 200, 250, and 600 service parts to always have in stock

Part name might be non-descriptive. All parts are designed to be compatible with instruments types Aquakem, Arena and Konelab.

- Tubes, needles, paddles, syringes etc. are not included. See accessories & consumables list.
- This is the estimated need for 1-3 installed analyzers.

Code	Item	Aquakem 200	Aquakem 250	Aquakem 600 (old model)	Aquakem 600 (new design)	Main stock	Car stock
984068	20 / 30 / 60 FMI pump tubes	X	X	X	X	1	1
984072	20 diluent and wash tubes	X				1	1
984071	20 drain / waste tubes	X				1	
N05944	20 syringe teflon block	X				1	
984105	20XT diluent and wash tubes		X			1	1
984106	20XT drain / waste tubes		X			1	
N02144	20XT syringe teflon block		X			1	
SP-00077	30/60 USB-CAN kit (Replaces Internal PC in old 30/60)			X	X	1	
984021	60 (old model) diluents and wash tubes			X		1	1
984022	60 (old model) drain/waste tubes			X		1	
984294	Aquakem dispensing needle new	X	X	X	X	2	1
984284	Automation (KUSTI) complete tubing for Aquakem 600 A				X	1	
984099	Automation (KUSTI) dispensing needle for Aquakem 600 A (new)				X	1	
984073	Automation (KUSTI) dispensing needle for Konelab Aquakem 600 (old model)			X		1	
984069	Automation (KUSTI) tubing kit			X		1	
984042	Barcode labels for sample segment 1-50 & 0 (30/60)				X		
984039	Barcode labels for segment (1-50) & (0) (20/20XT)	X	X				
SP840653	Barcode reader upgrade kit (20/20XT/30/60)	X	X	X	X		
470005	Battery Pb 12V 12Ah			X	X		
892076	Bushing 30mm (wash/diluent canister)	X	X	X	X		
852169	Cable can 600			X			
N05513	Cable clot (PRIME 30/60)				X		
540780	Cable Ethernet 5m	X	X	X	X		
840691	Cable extension 1500	X	X	X	X	1	
840380	Cable extension 600	X	X	X	X	1	
842001	Cable Extention (20XT storage thermistor)	X	X	X	X		
840330	Cable Feedback sensor	X	X	X	X	1	
N01076	Cable Front switch (KL60 power Alpha 1000)	X	X	X	X		
841949	Cable Front switch (KL60)			X			
SP07665	Cable Front switch (PRIME 60)				X		
888822	Cable Halogen lamp	X	X	X	X		
N01124	Cable Heating (20/20XT/30 Incubator)	X	X				
840333	Cable Heating (60 Incubator)			X	X	1	
840335	Cable Heating (disp / meas channels)	X	X	X	X	1	
841514	Cable INOUT-CANBIAS	X	X				
SP-00062	Cable kit Incubator (KL20/30)	X	X			1	1

Code	Item	Aquakem 200	Aquakem 250	Aquakem 600 (old model)	Aquakem 600 (new design)	Main stock	Car stock
840398	Cable Latch motor extension (60)			X	X	1	
840346	Cable MIXER arm (20XT/30/60)		X	X	X	1	1
N01098	Cable power unit-main switch KL60 (K379)			X			
841394	Cable SURF-MOTOR (20)	X				1	
N02791	Cable SURF-MOTOR (20XT/30/60)		X	X	X		
840340	Cable SURF-MOTOR-TEMP (ISE/CD)	X	X	X	X	1	
841516	Cables Cover left KL20/20XT (K331, K332, K333)	X	X				
841517	Cables Cover right KL20/20XT (K334, K335, K336)	X	X				
841462	Cables for Fan KL20/20XT (K275, K276, K277, K349)	X	X				
840864	Cables POWCAN - cooling unit (KL30/60 K215, K216)			X		1	
SP00659	Component board CANBIAS3	X	X			1	
840961	Component board CONN1-6	X	X	X	X	1	1
840956	Component board CONN1-8	X	X	X	X	1	1
SP00658	Component board INOUT3A	X	X	X	X	1	
SP00656	Component board INOUT3R	X	X	X	X		
840946	Component board LED1-1	X	X	X	X		
SP840366	Component board MB1-3		X	X	X		
SP840365	Component board MB1-9	X	X	X	X		
SP840364	Component board MOTOR3	X	X	X	X	1	1
SP00655	Component board MOTOR3R	X	X	X	X		
SP840356	Component board PHOTO3	X	X	X	X	1	
SP840354	Component board PHOTREF1	X	X	X	X	1	
SP840355	Component board PHOTSIG1	X	X	X	X	1	
SP840361	Component board POWCAN3			X	X	1	
SP840359	Component board SURF1	X	X	X	X	1	
840363	Component board TEMP3	X	X	X	X	1	
SP07034	Component board TEMP3R	X	X	X	X		
884323	Condensor lens	X	X	X	X		
N04809	Cooling unit of reagent storage			X	X	2	
N04810	Cooling unit of sample storage			X	X	1	
841489	Cooling unit (includes fan)	X	X			1	
546035	Cord Mains 3x0.75mm2 3.2m	X	X	X	X		
840496	Cover (Dispensing drive unit)	X	X	X	X		
841954	Cover 1 (20/20XT/30 measuring channel)	X	X				
840844	Cover 3 (20/20XT/KL30 incub/cuv loader)	X	X				
841423	Cover dispenser (20)	X					
840853	Cover dispenser (20XT/30)		X				
840804	Cover dispenser (60)			X	X		
NC06298	Cuvette "door" hinge (K20/20XT)	X	X				
840634	Cuvette arm (20,20XT,30)	X	X				
840076	Cuvette arm (60)			X	X		
840233	Cuvette feeder (KL60)			X			
840511	Cuvette loader (KL20/20XT/30)	X	X				
SP00459	Cuvette loader cover hinge (KL20/20XT)	X	X				
840221	Cuvette magazine (60)			X			
840198	Cuvette pusher (KL60)			X			
SP-00097	Diluent & waste canister kit	X	X	X	X		

Code	Item	Aquakem 200	Aquakem 250	Aquakem 600 (old model)	Aquakem 600 (new design)	Main stock	Car stock
984281	Diluent/wash tubes PRIME				X	1	1
840078	Dispensing channel (60)			X	X		
840000	Dispensing drive unit	X	X	X	X		
840492	Drain cup	X	X	X	X		
984283	Drain/waste tubes PRIME				X	1	
840046	Driving unit (30/60)			X	X		
841360	Driving Unit (KL20/20XT)	X	X				
570264	Fan DC 24V / 3.6W, size 9*9 cm all fans	X	X	X	X	1	
N06936	Feedback sensor for incubator				X	1	
840020	Feedback sensor with holder	X	X	X	X	1	1
840058	Feedback sensor with holder, driving unit	X	X	X	X	1	
841225	FMI 100 µl pump	X	X	X	X	1	
840382	Foil resistor (KL60, PRIME 60)			X	X		
984066	Funnel (waste canister)						
511141	Fuse 40A			X	X		
675504	Gas cylinder 35N	X	X	X		2	
NC02719	Gas cylinder 75N				X	2	
840551	Ground wire 500 mm	X				2	1
981481	Halogen lamp, EMC model	X	X	X	X	5	1
674680	Hinge for cover			X		2	
21009959-00	Incubating disc assy (PRIME 60)				X		
841310	Incubator (20/20XT/30)	X	X				
21009952-00	Incubator case				X	2	1
21009955-00	Incubator collar				X	2	1
SP09955	Incubator collars (PRIME 60)				X		
612010	Incubator cover screw (one screw)	X	X				
893717	Incubator cover, metal (KL20/20XT/30)	X	X				
22000058-00	Incubator discshaft (PRIME 60)				X		
841767	Incubator insulation cover (20XT/KL30)	X					
SP-00084	KL30/60 USB-CAN and ws kit, Aquakem	X	X	X	X		
840328	Knob (30/60 segment/cuvette cover)	X	X	X	X		
840120	Lamp house	X	X	X	X		
830062	Lamp spring	X	X	X	X		
842110	Lever arm (20/20XT/KL30 cuvette loader)	X	X				
752312	Lubrication oil	X	X	X	X		
840088	Measuring channel (60)			X			
886060	Measuring head	X	X	X	X		
N09699	Measuring/incubator channel (20)	X					
N09700	Measuring/Incubator Channel (20XT/KL30)		X				
984012	Mixing paddle (20XT/30/60 old) (1 PC)		X	X	X	2	1
840674	Motor (30/60 syringe, 60 rotation unit)			X	X		
570114	Motor 1.4A	X	X	X	X	1	
570117	Motor 1.4A	X	X	X	X	1	
570116	Motor 1.4A double shaft	X	X	X	X	1	
N06840	Motor 1.4A double shaft (PRIME 60)				X		
570118	Motor 1.8A	X	X	X	X	1	
840460	Motor cd-chopper	X	X	X	X	1	

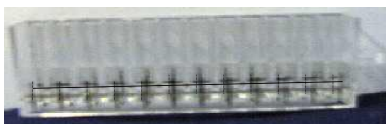
Code	Item	Aquakem 200	Aquakem 250	Aquakem 600 (old model)	Aquakem 600 (new design)	Main stock	Car stock
840396	Motor latch			X	X	1	
840367	Motor mixer		X	X	X	1	1
841396	Motor mixer	X				1	
N06913	Mover motor / cuvette mover				X	1	
840239	Mover unit (KL60)			X			
21009610-00	Mover unit (PRIME 60)				X		
888681	Opticfiber 0,65m			X			
841353	Opticfiber 1,20m	X	X		X	1	
841501	Opto cable (20/20XT syringe unit)	X	X				
840302	Opto cable 620	X	X	X	X	2	1
840348	Opto cable 80 (mixer, 20 disp, PRIME covers)	X	X	X	X	1	1
841226	Opto cable FMI	X	X	X	X		
840338	Opto dispenser tilt	X	X	X	X	1	1
840378	Opto reflective sensor	X	X	X	X	1	1
840417	Optocable wide gap 620	X	X	X	X	1	1
841458	Peristaltic pump (20/20XT)	X	X				
840131	Peristaltic pump (30/60)			X	X		
N01054	Power supply 1000W for KL60 (see NTU 16/03)			X		1	
575004	Power supply 300W 28V	X	X			1	
N06843	Power supply 700W				X	1	
SP-00061	Power unit kit 1000W for KL60 (see NTU 16/03)			X		1	
681793	Precision ball slide (arms, KL60 feeder)	X	X	X	X	1	1
NC02713	Prime wheel assembly				X		
980306	Pump tube / grey-grey (2 pcs)			X	X	2	1
981342	Pump tube wash / ismap. / lilac-lilac (2 pcs)			X	X	2	1
SP-00102	Reagent Fans and Adapters (KL20/20XT)	X	X				
140374	Resistor (frame)	X	X	X	X		
840214	Rotation unit (60)			X			
840263	Segment Adapter (sample tube)	X	X	X	X		
585202	Silicon paste	X	X	X	X		
N06921	Spring (PRIME 60 mover)				X		
888114	Surface detector/diluent	X	X	X	X	1	
888109	Surface detector/waste	X	X	X	X	1	
981269	Syringe 500 µl (FOR 30/60)			X	X	1	1
984122	Syringe 500 µl AD (FOR 20XT)		X			1	1
984015	Syringe 500 µl GRIP FIX (FOR 20)	X				1	1
840133	Syringe unit (30/60)			X	X		
841459	Syringe unit (KL20)	X					
N02136	Syringe unit (KL20XT)		X				
840847	Thermistor 250mm			X	X	2	1
840790	Thermistor CABLE 100mm	X	X	X	X	1	1
NC02089	Tiller assembly (for PRIME canisters)				X		
840213	Timing Belt 1097.5mm (KL60 pusher)			X		1	
680029	Timing Belt 1300mm (cuvette loader 20/30)	X	X			1	
680049	Timing Belt 230mm (KL60 rotation unit, Disp drive unit horiz)	X	X	X	X	1	
680026	Timing Belt 245mm (60 incub, driving units all)	X	X	X	X	1	

Code	Item	Aquakem 200	Aquakem 250	Aquakem 600 (old model)	Aquakem 600 (new design)	Main stock	Car stock
680018	Timing Belt 317mm (Mover)			X		1	
680022	Timing Belt 330mm (Incubator 20/20XT/30)	X	X			1	
680048	Timing Belt 380mm (Disp drive unit vertical)	X	X	X	X	1	
680027	Timing Belt 420mm (Cuvette arm 60)			X	X	1	
N06910	Timing Belt 420mm (pusher)				X		
680023	Timing Belt 600mm (Cuvette arm 20/20XT/30)	X	X			1	
840104	Timing belt pulley	X	X	X	X		
SP10322	Tube fitting (100 pieces)	X	X	X	X		
SP04287	Tubing connectors (100 pieces)	X	X	X	X		
N03945	USB-CAN kit	X	X	X	X	1	
SP06246	Washing cup (Mixer & ISE)	X	X	X	X		
SP06247	Washing cup, dispenser	X		X	X		
840281	Washing station / Mixer / ISE	X	X	X	X	1	
840285	Washing unit / dispenser	X		X	X	1	
N02110	Washing unit double (20XT)		X			1	
SP08127	Washingstation upgrade kit (dispenser)	X		X	X		
SP08096	Washingstation upgrade kit (ISE/Mixer)	X	X	X	X		
673308	Vibration damper (7mm)	X	X	X	X		
SP-00091	Workstation PC exchange, Aquakem	X	X	X	X		

886655 Adjusting tool set



Code	Item
585202	Silicon paste
981614	Lithium grease
752312	Lubrication oil silicon



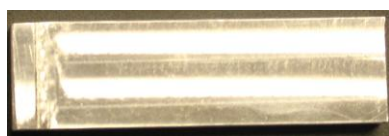
891792	Crosshair cuvette measuring/sample/reagent unit arm mechanical height adjustment
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830413	Metal cuvette for cuvette arm incubator / cuv. loader mechanical adj.
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886650	Feeler gauge 0.1 / 0.2 mm between incub./cuv.loader back wall and cuvette
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NC04652	Incubator adjusting tool for Konelab PRIME 60 (Aquakem 600)
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841270	Reflecting opto adjustment tool
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6.2 Aquakem 200, 250, and 600 consumables to always have in stock

Consumption may be dependent on the laboratory size, sample material, or other conditions.

Code	Item	Approximate consumption
	<i>Maintenance kits</i>	One of each / year/ installed analyzer.
984000	Multicell cuvettes (1000 pcs, enough for 12.000 tests)	app. 1 pc / analyzer / month
984100	KUSTI/Automation Segment with aliquoting positions (100 pcs = 92 X 100 sample positions)	
	<i>Sample cups and tubes</i>	
989220	Sample cups 0.5 ml (1000 pcs)	
989221	Sample cups 2.0 ml (1000 pcs)	app. 5 – 10 pcs / year
984618	Sample cups 4.0 ml (1000 pcs)	
984619	Test tubes 7 ml (1000 pcs)	
	<i>Reagent vials</i>	
984050	Reagent glass vessel, 10 ml (5 pcs)	
981456	Reagent plastic vessel, 20 ml (16 pcs)	
981455	Reagent plastic vessel, 60 ml (12 pcs)	
984111	Amber glass vessels (brown, 20ml, 12 pcs with caps)	

Additional items (Note: some also available in the Maintenance kits):

Code	Description	Approximate consumption
984294	AQUAKEM Dispensing needle <i>new</i>	1 – 2 pcs / year / dispenser
981481	Halogen lamp	2 – 4 pcs / year / analyzer
981269	Syringe 500 µl	1 – 2 pcs / year / syringe unit
984015	Syringe 500 µl Grip fix	1 – 2 pcs / year / 200
984072	200 Diluent and Wash tubings	2 – 3 pcs / year / 200
984021	600 Diluent and wash tubings	2 – 3 pcs / year / 600
980306	Pump tube dil. (grey-grey, 2 pcs)	2 – 4 pcs / year / analyzer
981342	Pump tube wash/ismap. (lilac-lilac, 2 pcs)	2 – 3 pcs / year / analyzer
952085	Waste disposal unit (30 pcs)	
952086	Plastic Garbage bag (60 pcs)	

Cadmium option related consumables (Note: some also available in the Maintenance kits):

Code	Description	
984208	Cadmium column empty	
984194	Coupling body	
984188	Column closings (2 per column)	
984011	Dispensing needle ISE	
984146	Cadmium tubing	
NC05303	Square screw-top bottle 250 ml	

6.3 Accessories

6.3.1 Filters

All filter positions are filled. It is possible to change all others but not Black, Empty and 340, 405, 575 (used in Accuracy measurements). Filter belonging to basic configuration is marked with X.

Interference Filters		Basic config	Interference Filters		Basic config
Code	Wavelength (nm)		Code	Wavelength (nm)	
886087	340	X	N03584	570	
886631	365		886097	575	X
886089	380		N03585	580	
886093	405	X	N03586	590	
N03578	414		N03587	595	
841658	420	X	886098	600	X
886094	450		886099	620	
842079	460	X	842080	630	X
886632	480	X	N03588	650	
N03579	492		886633	660	X
N03581	500		N03590	690	
886095	510		886100	700	X
841659	520	X	N03591	750	
886096	540	X	841660	800	
N03582	550		842026	880	X
N03583	560				

For availability and price for filters not listed (note that all filters *must be between 340-880nm*), please contact system.support.fi@thermofisher.com before placing the order.

For filters that are not in basic configuration delivery time is longer than for basic configuration filters. For non basic filters a separate quotation is needed.

Below is a list for example of filter specifications. Please note that this information can change without any prior notice. Kindly contact service support desk at system.support.fi@thermofisher.com, if you need to remove the filters. Filter lot number is seen in the filter ring, they are coded with numbers like F0306A 4509 021. Numbers underlined here indicate the wavelength (450 nm).

Nominal wavelength / nm	Wavelength tolerance ± nm	Bandwidth	
		FWHM ¹ / nm	FWTM ² / nm
340	2	8	12
365	2.5	8	12
380	2.5	8	12
405	2.5	8	12
420	5	10	15
450	5	10	15
460	5	10	15
480	5	10	15
510	5	10	15
520	5	10	15
540	5	10	15
575	5	10	15
600	5	10	15
620	5	10	15
630	5	10	15
660	5	10	15
700	5	10	15
800	5	12	20
880	5	12	20

¹FWHM = Full width half maximum ² FTHM = Full width tenth maximum

If detailed filter specifications and scanning results are needed, please make the request while ordering the analyzer / filter. Kindly contact system.support.fi@thermofisher.com before ordering.

6.3.2 Other items

981615

Tray for corks 45 positions no sticker included.



981616

Tray for reagent vessels 24 positions: 12 x 20 ml & 12 x 60 ml.

981617

Tray for reagent vessels 16 positions: 8 x 60 ml & 8 x 20 ml.



984018

Tool for tube positioning.



981470

Table rack. Sample cups rack holding 20 cups.

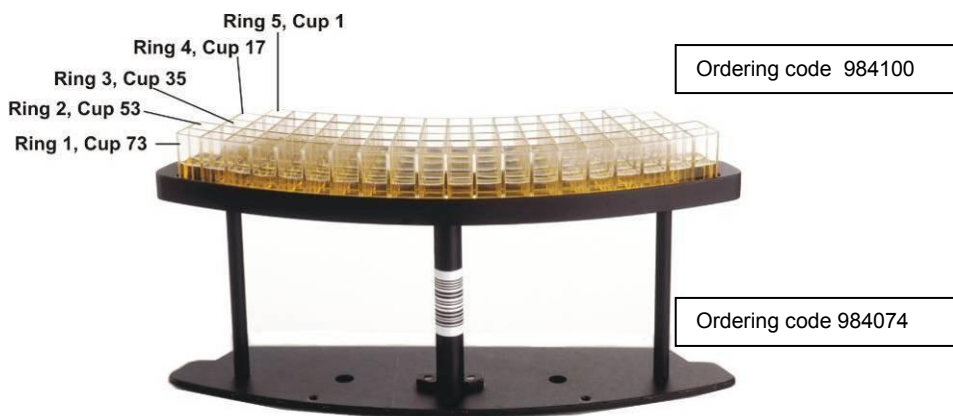


6.3.3 Segments

Note: Segments available separately are always unlabelled.

984100 Automation Segment with aliquoting positions.

Contains 92 sample positions, volumes 300-1000 μ l can be used, dead volume app. 100 μ l. Fits all Aquakem models.



984074 Segment holder

Note: unlabelled, use label numbers starting with 9 (3 numbers; 900-999).

984075 Barcode labels for KUSTI segment (# 0) (901-950)

984041 Sample segment for 5 / 7 ml tubes.

Cups 0.5 ml, 2 ml and 4 ml can be fitted. This model is included in the analyzer delivery.



Additionally order:

984039 200/250 Barcode labels for segment (# 0) (1-50) or

984042 600 Barcode labels for segments (# 0) (1-50)

984051 Sample segment for 10 ml tubes.



Additionally order:

984039 200/250 Barcode labels for segment (# 0) (1-50) or

984042 600 Barcode labels for segments (# 0) (1-50)

6.3.6 MOTORS AND BELTS

Code	Motor type	Module	Aquakem model
570114	Motor 1.4 A	Dispenser / Mixer motor unit Y (vertical)	ALL
		Incubator unit	200 / 250
		Measuring channel	200
		Cuvette mover	600
		Cuvette pusher	600 old and new
570116	Motor DS 1.4 A	Dispenser / Mixer motor unit FII (horizontal)	ALL
		Measuring channel	250
		Filter wheel	ALL
570117	Motor 1.4 A	Segment loader	600 old and new
		Measuring channel	600 old and new
		Peristaltic pump	600 old and new
		Dispensing channel	600 old and new
570118	Motor 1.8 A	Driving unit Reagent / Sample disk	ALL
		Incubator disk	600 old and new
840674	Motor Powermax	Rotation unit	600 old and new
		Syringe unit	600 old and new

Code	Belt type	Module	Aquakem model
680018	Belt 317mm	Mover unit	600 old
680022	Belt 330mm	Incubator unit	200 / 250
680023	Belt 600mm	Measuring channel	200 / 250
680026	Belt 245mm	Driving unit Reagent / Sample disk	ALL
		Incubator disk	600 old
680027	Belt 420mm	Dispensing channels	600 old
		Measuring channel	600 old
680048	Belt 380mm	Dispenser / Mixer motor unit Y (vertical)	ALL
680029	Belt 1300mm	Cuvette loader	200 / 250
680049	Belt 230mm	Dispenser motor / Mixer unit FII (horizontal)	ALL
		Rotation unit	600 old
840213	Belt 1097,5mm	Cuvette pusher unit	600 old
N06910	Belt 1260 mm	Gear Belt of cuvette loader	600 new

Note: If the kit is referring to a name PRIME, it means a similar type as model Aquakem 600 or 600 A (new model).

7. ADVICE FOR RETURNING

7.1 RMA-procedure (Return Material Authorization)

For returning goods to the factory, you need to contact first the Customer Service. Inform the reason for returning and you will receive the authorization number (RMA-number) and additional shipping instructions.

- Items should be returned to the factory within 3 (three) months from the date RMA-number has been issued.
- In case of warranty/other type of reclamation, the WARRANTY CLAIM TECHNICAL SHEET must be filled. See the following page.

RETURN

To be used in case you want to return goods to the factory (error in ordering or delivery).

- Shipment should be sent with a Proforma invoice and mention the RMA-number as a reference.
- Please contact immediately after arrival of the goods and follow the shipping instructions
- Received goods must be in new-like condition
- After receipt of the goods you will be credited.

WARRANTY

To be used when you want to return parts under warranty.
Parts returned on warranty bases, should indicate:

- The WARRANTY CLAIM TECHNICAL SHEET properly filled in.
- Return the items in their original condition (i.e. neither stripped, nor fixed)
- Use RMA number as a reference in all documentation
- Follow the shipping instructions.
- Only properly returned material attached with completed warranty documentation will be considered. Once the validity of warranty has been verified, we will credit you for full price
- In case the parts are rejected, we will send them back to you upon your request. Thermo Fisher Scientific Oy will store the parts 1 (one) month after customer has been informed of the rejection

NOTE: Replacements have to be ordered separately and they will be sent at full price.

OTHER RECLAMATIONS

To be used in case you want to return goods to the factory for reclamation feedback.

- Please start the RMA –process immediately after noticing the need for reclamation feedback
- The WARRANTY CLAIM TECHNICAL SHEET must be properly filled in
- Use RMA as a reference in all documentation
- After receipt of the goods, they will be investigated and we will contact you for possible compensation or comments.

8. WARRANTY CLAIM TECHNICAL SHEET

RMA number:	
Customer name:	
Address:	
Instrument type:	Software version:
Serial number:	
Instrument installation date:	
Repair date :	
Part installation date:	
Item	Code
Problem description:	
Repairing description:	
Company/Country:	
Name:	Date:
Return parts to: Thermo Fisher Scientific Oy Myllynkivenkuja 8, 01620 VANTAA Finland	

Thermo Scientific™ Gallery™ and Aquakem™ System Reagents for Water Samples

Product code ⁽¹⁾	Product name	Analyte	Kit size	Number of tests/kit ⁽²⁾	Reference ⁽³⁾	MDL ⁽⁴⁾ mg/L	Test ranges up to mg/L	
							Low range	High range
984623	Alkalinity R1	Alkalinity	4 x 20 mL	975		3.4 ^(a)	-	400
984624	Alkalinity R2		4 x 20 mL	780		5.5 ^(b)		
984362	Ammonia R1	Ammonia	125 mL	2000	ISBN00117516139 ISO 7150	0.0005 ^(a)	1.0 ⁽⁵⁾	10.0 ⁽⁵⁾
984363	Ammonia R2		4 x 20 mL	1300	DIN 38 406 ISO 15923-1	0.0016 ^(b)	10.0 ⁽⁶⁾	375 ⁽⁶⁾
984361	Calcium (Ca)	Calcium	3 x 20 mL	350	Tietz Fundamentals of Clinical Chemistry 4th Ed.	1.16 ^(a)	-	1000 ⁽⁵⁾ 200 ⁽⁶⁾
984364	Chloride R1	Chloride	4 x 20 mL	500	ISBN0117516260 SM 4500Cl- E	0.035 ^(a)	100 ⁽⁵⁾	500 ⁽⁵⁾
984365	Chloride R1L		20 x 20 mL	2500	EPA 325.2 EN ISO 15682 ISO 15923-1	0.349 ^(b)		1000 ⁽⁶⁾
984357	Chromium (VI)	Hexavalent Chromium	4 x 20 mL	480	SM 3500-Cr B SW 7196-A DIN EN ISO 23913:2009 ISO 11083	0.0026 ^(a)	0.1	1.0
984629	Fluoride R1	Fluoride	4 x 20 mL	2200	SM 4500-F E EPA 340.3	0.008 ^(a)	-	2.0
984630	Fluoride R2		4 x 20 mL	4800				
984631	Fluoride R3		4 x 20 mL	2200				
984706	Iron (Ferrous) R1	Iron (Ferrous)	4 x 20 mL	1900	ISO 6332-1988	50 ^(a)	200	5000
984707	Iron (Ferrous) R2		4 x 20 mL	1080	SM 3500-Fe B	40 ^(b)		
984360	Magnesium (Mg)	Magnesium	8 x 10 mL	350	Tietz Fundamentals of Clinical Chemistry 4th Ed.	1.5 ^(a)	-	500 ⁽⁵⁾ 100 ⁽⁶⁾
984371	TON R3	Nitrite	4 x 20 mL	1000	ISBN0117515930 SM 4500NO2 – B	0.0004 ^(a)	-	2.5 ⁽⁵⁾
984372	TON R3L		20 x 20 mL	5000	EPA 354.1 ISO 13395:1996 DIN EN 26777 ISO 15923-1	0.0012 ^(b)		1.5 ⁽⁶⁾
984369	TON R1	Nitrate (TON Hyd)	125 mL	1300	ISBN0117515930 SM 4500 NO3–H ISO 15923-1	0.0006 ^(a) 0.0115 ^(b)	2.5 ⁽⁵⁾	25 ⁽⁵⁾
984370	TON R2		4 x 20 mL	750				50 ⁽⁶⁾
984652	TON R2XL		6 x 60 mL	3400				
984371	TON R3		4 x 20 mL	1000				
984372	TON R3L		20 x 20 mL	5000				
984187	TON Enz	Nitrate (TON Enz)	20 mL	275	ASTM D7781-14 EPA ATP: Nitrogen, Nitrate-Nitrite Method 353.X (EPA approval in process) SM, proposed title: Enzymatic reduction method new method for method 4500-NO3-Nitrogen (Nitrate)	0.0047 ^(a)	5.0 ⁽⁶⁾	2.5 ⁽⁵⁾ 10.0 ⁽⁶⁾
984350	TON-V R1	Nitrate (TON Vanadium)	4 x 10 mL	360	Similar to NEMI ^(®) : Nitrate via manual Vanadium (III) reduction	0.0007 ^(a)	0.4	50
984351	TON-V R2		4 x 10 mL	500				

984366	Phosphate R1	Phosphate	4 x 20 mL	2300	ISBN 0117515825 SM 4500 P – E EPA 365.1 EN ISO 6878 ISO 15923-1	0.0004 ^(a) 0.0036 ^(b)	1.0 ⁽⁵⁾	10.0
984367	Phosphate R1L		20 x 20 mL	11700				
984368	Phosphate R2		4 x 20 mL	3000				
984625	Silica R1	Silica	4 x 20 mL	970	USGS I-2700-85 EPA 370.1 SM 4500-SiO ₂ D ISO 15923-1	0.01 ^(a) 0.05 ^(b)	-	80
984626	Silica R2		4 x 20 mL	1950				
984627	Silica R3		4 x 20 mL	1950				
984648	Sulphate R1	Sulphate	4 x 20 mL	1100	ISBN 0117533406 SM 4500 SO ₄ ²⁻ E EPA 375.4 DIN 38405-D 5-2 ISO 15923-1	0.26 ^(a)	100 ⁽⁵⁾	500
984649	Sulphate R1XL		6 x 60 mL	5100				
984620	Total Hardness R1	Total Hardness	4 x 20 mL	1100	EPA 130.1	2 ^(a) 10 ^(b)	-	500
984621	Total Hardness R2		4 x 20 mL	975				
984622	Total Hardness R3		4 x 20 mL	4300				
984321	Urea (Ammonia)	Urea ⁽⁷⁾	3 x 16 mL R1 3 x 4.5 mL R2 3 x 4.5 mL R3	775	Enzymatic urease method	-	-	2

NOTE:

1. Reagents marked with XL in 60 mL vial sizes, TON R2XL and Sulphate R1XL, are only available for Aquakem systems.
2. Number of tests/ kit is test flow dependent number.
3. ISBN number refers to the UK blue book method
SM refers to Standard Methods for The Examination of Water and Waste Water, the 21th edition (APHA, AWWA, WEF)
SW refers to Standard Methods for Water and Waste Water
Methods are adapted for discrete analyzers from referred standards.
4. MDL, Method detection limit, is the minimum concentration of an analyte that can be identified, measured and reported with 99% confidence that the analyte concentration is greater than zero. Measurements were performed by Gallery.
a) MDL = 3.14 x SD (blank sample, n = 7)
b) MDL = 3 x SD + average (blank sample, 3 batches, n = 30)
5. Application of the Gallery system
6. Application of the Aquakem system
7. Ammonia result is needed for Urea calculation from assayed Ammonia
8. See www.nemi.gov

NIST traceable standard solutions

Product code	Analyte	Volume	Product code	Analyte	Volume
984720	Ammonium (as N) Std	500 mL	984724	Nitrate (as NO ₃) Std	500 mL
984728	Ammonium (as NH ₄) Std	500 mL	984725	Nitrate (as N) Std	500 mL
984721	Chloride Std	500 mL	984726	Phosphate (as PO ₄) Std	500 mL
984733	Fluoride Std	100 mL	984729	Phosphate (as P) Std	500 mL
984722	Nitrite (as NO ₂) Std	500 mL	984727	Sulphate Std	500 mL
984723	Nitrite (as N) Std	500 mL			

NIST traceable standards for pH measurements

984330	ECM pH 2 Standard	2 x 60 mL
984331	ECM pH 4 Standard	2 x 60 mL
984332	ECM pH 7 Standard	2 x 60 mL
984333	ECM pH 10 Standard	2 x 60 mL
984334	ECM pH 12 Standard	2 x 60 mL

NIST traceable standards for Conductivity measurements (mS/cm)

984339	ECM Conductivity 0.08 Standard	2 x 60 mL
984336	ECM Conductivity 1.4 Standard	2 x 60 mL
984337	ECM Conductivity 13 Standard	2 x 60 mL
984338	ECM Conductivity 112 Standard	2 x 60 mL

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