



Product Information Document Gallery, Gallery Plus and Gallery Plus Beermaster

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Contents

Chapter 1	Intended audience.....	1
Chapter 2	Purchase order requirements.....	3
Chapter 3	Ordering codes for Gallery analyzers.....	5
Chapter 4	Ordering codes for Gallery Plus analyzers.....	7
Chapter 5	Ordering codes for Gallery Plus Beermaster (BCM) analyzers.....	9
Chapter 6	PC accessories - geographical settings.....	11
Chapter 7	Consumables.....	13
Chapter 8	Start-up kits.....	17
Chapter 9	Installation, periodical maintenance and upgrade kits for trained service engineers.....	19
Chapter 10	Interference filters.....	25
Chapter 11	Filter sets' wavelengths in nm.....	27
Chapter 12	System reagent documents.....	29
Chapter 13	Warranty and advice for returning electrodes.....	31
	Advice for returning electrodes.....	31
Chapter 14	Installation warranty for ECM electrodes.....	33
Chapter 15	Installation warranty to BCM column.....	35
Chapter 16	Warranty and advice for returning spare parts.....	37
	Advice for returning spare parts.....	37
	Gallery - 5/10 systems - recommended spare parts.....	38
	Gallery Plus - 5/10 systems - recommended spare parts.....	40
	Gallery Plus Beermaster - 5/10 systems - recommended spare parts.....	42
Appendix 1	System reagents for food and other sample materials.....	45
Appendix 2	System reagents for water/environmental samples.....	51
Appendix 3	Shipping and storing temperature for industrial products.....	55

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Intended audience

The intended audience of this document is the commercial organization.

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Purchase order requirements

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

- complete invoicing address
- complete delivery address (no P.O. Box)
- VAT number for European Union countries
- contact person with contact details
- purchase order number
- ordering code
 - analyzer
 - PC accessories
 - Start-up kit
 - Installation Qualification Kit
 - consumables
 - reagents
- 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 Helsinki 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 in 1 – 2 days after we have received your Purchase Order.

Purchase order should be sent by e-mail to customerservice.fi@thermofisher.com

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Ordering codes for Gallery analyzers



Table 1. Gallery ordering codes

Ordering code	Item
9861 0001	Gallery
9861 1001	Gallery with ECM unit

Table 2. Analyzer package includes

Item	PCS	Also available separately
Analyzer	1	
PC unit	1	
Binder (contains Image DVD, Manufacturing certificate, Empty USB flash drive for data saving)	1	
Spare water container	1	SP06814
Sample racks	6	SP06666
Reagent racks	3	SP06662
Analyzer power cable	1	

3 Ordering codes for Gallery analyzers

Ordering codes for Gallery analyzers

Item	PCS	Also available separately
Workstation power cable	1	
USB cable	1	
PC-accessories as ordered		

Table 3. Shipping information

Item	Description
Shipping box	122x82x125 cm
Total weight	180 kg

See detailed dimensions information from Installation manual.

Note It is recommended to have UPS for power loss protection in analyzer and workstation. Connect UPS only to the workstation, monitor and analyzer. Do not connect UPS to the printer. Minimum recommendation for UPS is 1500 VA.

Table 4. All Gallery models

Ordering code	Product name	Internal use description
9861 0001-1	Gallery	Water filters set
9861 0001-2	Gallery	Wine filters set
9861 0001-3	Gallery	Juice filters set
9861 0001-4	Gallery	Enzymes/Food filters set
9861 0001-5	Gallery	Beer filters set
9861 1001-1	Gallery	ECM unit and Water filters set
9861 1001-2	Gallery	ECM unit and Wine filters set
9861 1001-3	Gallery	ECM unit and Juice filters set
9861 1001-4	Gallery	ECM unit and Enz/Food filters set
9861 1001-5	Gallery	ECM unit and Beer filters set

Ordering codes for Gallery Plus analyzers



Table 5. Gallery Plus ordering codes

Ordering code	Item
9862 0001	Gallery Plus
9862 1001	Gallery Plus with ECM unit

Table 6. Analyzer package includes

Item	PCS	Also available separately
Analyzer	1	
PC unit	1	
Binder (contains Image DVD, Manufacturing certificate, Empty USB flash drive for data saving)	1	
Spare water container	1	SP00580
Sample racks	6	SP06666
Reagent disc 42 position	1	
Analyzer power cable	1	
Workstation power cable	1	

4 Ordering codes for Gallery Plus analyzers

Ordering codes for Gallery Plus analyzers

Item	PCS	Also available separately
USB cable	1	
PC-accessories as ordered		

Table 7. Shipping information

Item	Description
Shipping box	122x82x125 cm
Total weight	200 kg

See detailed dimensions information from Installation manual.

Note It is recommended to have UPS for power loss protection in analyzer and workstation. Connect UPS only to the workstation, monitor and analyzer. Do not connect UPS to the printer. Minimum recommendation for UPS is 1500 VA.

Table 8. All Gallery Plus models

Ordering code	Product name	Internal use description
9862 0001-1	Gallery Plus	Water filters set
9862 0001-2	Gallery Plus	Wine filters set
9862 0001-3	Gallery Plus	Juice filters set
9862 0001-4	Gallery Plus	Enz/Food filters set
9862 0001-5	Gallery Plus	Beer filters set
9862 1001-1	Gallery Plus	ECM unit and Water filters set
9862 1001-2	Gallery Plus	ECM unit and Wine filters set
9862 1001-3	Gallery Plus	ECM unit and Juice filters set
9862 1001-4	Gallery Plus	ECM unit and Enz/Food filters set
9862 1001-5	Gallery Plus	ECM unit and Beer filters set

Ordering codes for Gallery Plus Beermaster (BCM) analyzers



Table 9. Gallery Plus Beermaster (BCM) ordering codes

Ordering code	Item
9862 2001	Gallery Plus Beermaster with the BCM unit

Note It is recommended to order the 2D scanner to ease the BC system liquid data entry. The 2D scanner is available separately or with PC accessories kits.

Table 10. Analyzer package includes

Item	PCS	Also available separately
Analyzer	1	
PC unit	1	
Binder (contains Image DVD/memory stick, Manufacturing certificate, Empty USB flash drive for data saving)	1	
Spare water container	1	SP00580

5 Ordering codes for Gallery Plus Beermaster (BCM) analyzers

Ordering codes for Gallery Plus Beermaster (BCM) analyzers

Item	PCS	Also available separately
Sample racks	6	SP06666
Reagent racks	3	SP06662
BCM column installed	1	986226
Reagent disc 42 positions	1	
Bottle closure assembly	1	
BC system liquid bottle holder	1	
Sample Prep Block	1	986336
Holder - Sample Prep Block	2	SP00563
Analyzer power cable	1	
Workstation power cable	1	
USB cable	1	
PC-accessories as ordered		

Table 11. Shipping information

Item	Description
Shipping box	122x82x125 cm
Total weight	200 kg

See detailed dimensions information from Installation manual.

Note It is recommended to have UPS for power loss protection in analyzer and workstation. Connect UPS only to the workstation, monitor and analyzer. Do not connect UPS to the printer. Minimum recommendation for UPS is 1500 VA.

PC accessories - geographical settings

Code	Device	Power-cord	Keyboard
9860 113	Touch-screen, 2D scanner	EUR	GE
9860 213	Flat-screen, 2D scanner	EUR	GE
9860 313	Touch-screen	EUR	GE
9860 413	Flat-screen	EUR	GE
9860 114	Touch-screen, 2D scanner	EUR	FR
9860 214	Flat-screen, 2D scanner	EUR	FR
9860 314	Touch-screen	EUR	FR
9860 414	Flat-screen	EUR	FR
9860 115	Touch-screen, 2D scanner	EUR	SCE
9860 215	Flat-screen, 2D scanner	EUR	SCE
9860 315	Touch-screen	EUR	SCE
9860 415	Flat-screen	EUR	SCE
9860 111	Touch-screen, 2D scanner	EUR	US
9860 211	Flat-screen, 2D scanner	EUR	US
9860 311	Touch-screen	EUR	US
9860 411	Flat-screen	EUR	US
9860 132	Touch-screen, 2D scanner	UK	UK
9860 232	Flat-screen, 2D scanner	UK	UK
9860 332	Touch-screen	UK	UK
9860 432	Flat-screen	UK	UK

6 PC accessories - geographical settings

PC accessories - geographical settings

Code	Device	Power-cord	Keyboard
9860 121	Touch-screen, 2D scanner	US	US
9860 221	Flat-screen, 2D scanner	US	US
9860 321	Touch-screen	US	US
9860 421	Flat-screen	US	US
9860 141	Touch-screen, 2D scanner	AUS/CN	US
9860 241	Flat-screen, 2D scanner	AUS/CN	US
9860 341	Touch-screen	AUS/CN	US
9860 441	Flat-screen	AUS/CN	US
9860 131	Touch-screen, 2D scanner	UK	US
9860 231	Flat-screen, 2D scanner	UK	US
9860 331	Touch-screen	UK	US
9860 431	Flat-screen	UK	US
9860 116	Touch-screen, 2D scanner	EUR	RUS
9860 216	Flat-screen, 2D scanner	EUR	RUS
9860 316	Touch-screen	EUR	RUS
9860 416	Flat-screen	EUR	RUS

Consumables

Table 12. Consumables for Gallery

Ordering code	Item		In stock*/In stock for ECM customers**	Separately ordered D.G.R***
986540	DECACELL cuvettes	5400 tests	•/•	
989220	0,5 ml sample cups	1000 pcs	•/•	
989221	2 ml sample cups	1000 pcs	•/•	
984618	4 ml sample cups	1000 pcs	•/•	
984619	7 ml tubes	1000 pcs	•/•	
984050	10 ml reagent bottles	5 pcs	•/•	
981456	20 ml reagent bottles	16 pcs	•/•	
981459	20 ml reagent bottles brown	16 pcs		
984030	Washing solution 4.5%	4 x 20 ml	•/•	•
980929	Washing solution 4.5%	6 x 100 ml	•/•	•
980659	Cleansing solution	100 ml	/•	
981712	Tubing maintenance solution	6 x 20 ml	•/•	
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	/•	
984335	ECM conductivity 0.1 standard	1 pc	/•	
984336	ECM conductivity 1.4 standard	2 x 60 ml	/•	

7 Consumables

Consumables

Ordering code	Item		In stock*/In stock for ECM customers**	Separately ordered D.G.R***
984337	ECM conductivity 13 standard	2 x 60 ml	/•	
984338	ECM conductivity 112 standard	1 pc	/•	
984340	ECM prime	4 x 20 ml	/•	
984998	ECM rinse liquid	4 x 400 ml	/•	
984717	Bag for ECM Reference	5 x 2 ml	/•	
984996	Reference electrode	1 pc	/•	
984997	pH electrode	1 pc	/•	
SP06662	Reagent rack	3 pcs		
SP06666	Sample rack 9 - standard	6 pcs		
SP06699	Sample rack 9 - blue	3 pcs		
SP06618	Sample rack 18 - non-barcoded	3 pcs		
SP15010	Tube Support Plate	6 pcs		
SP06814	Spare water container (basic)	1 pc		
SP00580	Spare water container (plus)			

* Recommended to have in stock.

**Recommended to have in stock for customers having ECM unit.

***These solutions must be ordered separately and must be transported by air freight following the Dangerous Goods Regulations (D.G.R.) given by IATA.

Table 13. Consumables for Gallery Plus Beermaster

Ordering code	Item		In stock*	Separately ordered D.G.R**
986540	DECACELL cuvettes	5400 tests	•	
989220	0,5 ml sample cups	1000 pcs	•	
989221	2 ml sample cups	1000 pcs	•	
984618	4 ml sample cups	1000 pcs	•	

Ordering code	Item		In stock*	Separately ordered D.G.R.**
984619	7 ml tubes	1000 pcs	•	
984050	10 ml reagent bottles	5 pcs	•	
981456	20 ml reagent bottles	16 pcs	•	
981459	20 ml reagent bottles brown	16 pcs		
984030	Washing solution 4.5%	4 x 20 ml	•	•
980929	Washing solution 4.5%	6 x 100 ml	•	•
981712	Tubing maintenance solution	6 x 20 ml	•	
984353	BC system liquid	1000 ml	•	•
984354	BC diluent	4 x 9 ml	•	•
984355	BC eluent	20 x 15 ml	•	•
986226	BCM column	1 pc		
986336	Sample prep block	2940 cells	•	
SP00563	Holder sample prep block	2 pcs		
SP06662	Reagent rack	3 pcs		
SP06666	Sample rack 9 - standard	6 pcs		
SP06699	Sample rack 9 - blue	3 pcs		
SP06618	Sample rack 18 - non-barcoded	3 pcs		
SP15010	Tube Support Plate	6 pcs		
SP00580	Spare water container	1 pc		

* Recommended to have in stock.

**These solutions must be ordered separately and must be transported by air freight following the Dangerous Goods Regulations (D.G.R.) given by IATA.

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Start-up kits

Table 14. Start-up kit (986100)

Ordering code	Item	
986100	Start-up kit	1 pc
Consists of:		
981712	Tubing maintenance solution	6 x 20 ml
986540	DECACELL cuvettes	5400 tests
989221	2 ml sample cups	1000 pcs
981456	20 ml reagent bottles	16 pcs

Table 15. Complete start-up kit (986101)

Ordering code	Item	
986101	Complete start-up kit	1 pc
Consists of:		
981712	Tubing maintenance solution	6 x 20 ml
986540	DECACELL cuvettes	5400 tests
989221	2 ml sample cups	1000 pcs
984618	4 ml sample cups	1000 pcs
984619	7 ml tubes	1000 pcs
981456	20 ml reagent bottles	16 pcs
984050	10 ml reagent bottles	5 pcs

Table 16. ECM start-up kit (986200)

Ordering code	Item	
986200	ECM start-up kit	1 pc
Consists of:		

8 Start-up kits

Start-up kits

Ordering code	Item	
984996	Reference electrode	1 pc
984997	pH electrode	1 pc
984399	EC Assembly	1 pc
SP09701	Spacer slice 9 mm	1 pc
980659	Cleansing solution	100 ml
984340	ECM prime	4 x 20 ml
984998	ECM rinse liquid	4 x 400 ml

Note The Washing solution kits 984030 and 980929 must be ordered separately.

Installation, periodical maintenance and upgrade kits for trained service engineers

Table 17. Installation and qualification kit for all Gallery models

Ordering code	Spare part
981704	Installation qualification kit - Dispensing

Table 18. Periodical maintenance kit for Gallery without ECM

Ordering code	Spare part
SP98002	Complete PM kit without ISE/ECM (type 861/863)
Consists of:	
981269	Syringe 500 uL
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle
SP09592	Dispensing tubes without ISE/ECM, platform type 861/863
SP11257	Dispensing probe

Table 19. Periodical maintenance kit for Gallery with ECM

Ordering code	Spare part
SP98001	Complete PM kit for Gallery with ECM
Consists of:	
981269	Syringe 500 uL
SP06189	ECM dispensing probe
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle
SP07184	Tube set for ECM dispenser

9 Installation, periodical maintenance and upgrade kits for trained service engineers

Installation, periodical maintenance and upgrade kits for trained service engineers

Ordering code	Spare part
SP10054	Dispensing tubes with ECM, platform type 861/863
SP11257	Dispensing probe

Table 20. Periodical maintenance kit for Gallery Plus without ECM

Ordering code	Spare part
SP98006	PLUS Complete preventive maintenance kit without ISE/ECM/BCM
Consists of:	
2 x 981269	Syringe 500 uL
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle
SP09591	Dispensing tubes without ISE/ECM/BCM, platform type 862/864
2 x SP11257	Dispensing probe

Table 21. Periodical maintenance kit for Gallery Plus with ECM

Ordering code	Spare part
SP98005	Complete PM kit for Gallery Plus with ECM
Consists of:	
2 x 981269	Syringe 500 uL
SP06189	ISE/ECM dispensing probe
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle
SP07184	Tube set for ECM dispenser
SP10053	Dispensing tubes with ISE/ECM, platform type 862/864
2 x SP11257	Dispensing probe

Table 22. Periodical maintenance kit for Gallery water without ECM

Ordering code	Spare part
SP98004	Complete preventive maintenance kit water without ECM

9 Installation, periodical maintenance and upgrade kits for trained service engineers

Installation, periodical maintenance and upgrade kits for trained service engineers

Ordering code	Spare part
Consists of:	
981269	Syringe 500 uL
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle
SP09592	Dispensing tubes without ISE/ECM, platform type 861/863
SP11253	Dispensing probe (water)

Table 23. Periodical maintenance kit for Gallery water with ECM

Ordering code	Spare part
SP98003	Complete preventive maintenance kit water with ECM
Consists of:	
981269	Syringe 500 uL
SP07466	White Assembly B
984399	EC Assembly
SP06189	ISE/ECM dispensing probe
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle
SP07184	Tube set for ECM dispenser
SP10054	Dispensing tubes with ISE/ECM, platform type 861/863
SP11253	Dispensing probe (water)

Table 24. Periodical maintenance kit for Gallery Plus water without ECM

Ordering code	Spare part
SP98008	Complete preventive maintenance kit water without ECM
Consists of:	
2 x 981269	Syringe 500 uL
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle

9 Installation, periodical maintenance and upgrade kits for trained service engineers

Installation, periodical maintenance and upgrade kits for trained service engineers

Ordering code	Spare part
SP09591	Dispensing tubes without ISE/ECM, platform type 862/864
2 x SP11253	Dispensing probe (water)

Table 25. Periodical maintenance kit for Gallery Plus water with ECM

Ordering code	Spare part
SP98007	Complete preventive maintenance kit water with ECM
Consists of:	
2 x 981269	Syringe 500 uL
SP07466	White Assembly B
984399	EC Assembly
SP06189	ISE/ECM dispensing probe
SP06817	Air filters (3 pcs)
SP07153	Mixing paddle
SP07184	Tube set for ECM dispenser
SP10053	Dispensing tubes with ISE/ECM, platform type 862/864
2 x SP11253	Dispensing probe (water)

Table 26. Periodical maintenance kit for Gallery Plus Beermaster

Ordering code	Spare part
SP98009	Beermaster Complete preventive maintenance kit
Consists of:	
2 x 981269	Syringe 500 uL
SP11257	Dispensing probe (2 pcs)
SP07729	BCM probe
SP06817	Air filter (3 pcs)
SP07153	Mixing paddle
SP08018	BCM tubing

9 Installation, periodical maintenance and upgrade kits for trained service engineers

Installation, periodical maintenance and upgrade kits for trained service engineers

Ordering code	Spare part
SP12770	Dispensing tubes with BCM, platform type 862

Table 27. Upgrade kits

Ordering code	Upgrade kit
SP10973	Touchscreen
SP10992	2D scanner
SP15946	Main cover gas spring and locking mechanism upgrade kit
SP15945	Main cover gas spring and locking mechanism upgrade kit Plus
SP06730	ECM Upgrade kit for Gallery
SP07022	ECM Upgrade kit for Gallery Plus

Note Upgrade kits include all required parts.

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Interference filters

Code	Wavelengths
SP10830	275 nm
SP10841	340 nm
SP10842	380 nm
SP16604	400 nm
SP10843	405 nm
SP15440	410 nm
SP17366	412 nm
SP17367	415 nm
SP10844	420 nm
SP10860	430nm
SP17368	435 nm
SP10845	450 nm
SP13341	460 nm
SP10846	480 nm
SP10847	492 nm
SP03581	500 nm
SP10848	510 nm
SP18329	515 nm
SP10849	520 nm
SP17369	535 nm
SP10850	540 nm
SP18330	543 nm

10 Interference filters

Interference filters

Code	Wavelengths
SP10861	550 nm
SP17370	560 nm
SP18331	570 nm
SP10851	575 nm
SP18332	580 nm
SP10852	600 nm
SP10853	620 nm
SP17501	630 nm
SP17371	635 nm
SP14256	645nm
SP18333	652 nm
SP10854	660 nm
SP14257	665nm
SP17354	669 nm
SP10855	700 nm
SP10856	750 nm
SP16331	810 nm
SP17372	820 nm
SP12845	880 nm

Note For all filters the tolerance at the center is ± 2 nm.

Filter sets' wavelengths in nm

Table 28.

Water (-1)	Wine (-2)	Juice (-3)	Enzymes / Food (-4)	Beer (-5)	Beermaster (-6)
--	--	--	--	--	275
340	340	340	340	340	340
--	--	--	405	405	405
420	420	420	420	--	--
--	--	--	--	430	430
480	--	480	--	--	--
--	--	492	--	--	--
510	510	510	510	--	--
--	520	520	520	520	520
540	540	540	540	540	540
575	575	575	575	575	575
600	600	600	600	600	600
620	620	620	--	--	--
660	660	660	660	660	660
700	700	--	700	700	700
--	750	--	--	--	--
880	--	--	--	--	--

New filter sets are in constant development. If you have special needs or any kind of questions concerning filters, please send an e-mail to system.support.fi@thermofisher.com.

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System reagent documents

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

- Safety Data sheets
- Inserts
- Value sheets
- Certificates of Analysis

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Warranty and advice for returning electrodes

- Advice for returning electrodes

Advice for returning electrodes

Electrodes with the documents can be sent directly to our attention. There is no need for a RMA (Return Material Authorization) number for the return of electrodes. All of the correctly returned electrodes will be tested and a decision for the claim will be done within two (2) months after arrival.

The warranty claim is valid, only if the pre-requisites below are met:

1. The electrode has been handled and installed according to the manufacturer's instructions (refer to instrument specific Reference or Operation Manual).
2. The last possible installation date from the package label (install before) has been followed. Electrodes have to be stored at 2...8 °C before installation.
3. The Installation warranty for electrodes form is properly filled.
4. All items listed below are returned with the electrode
 - filled installation warranty form
 - the electrode
 - in case of the reference electrode, place a paperclip to the reference electrode solution bag to ensure liquid flow to the chamber
 - calibration printouts of first calibration
 - the most recent calibration or printout of the problem
5. All necessary items have to be returned latest after two months the electrode has been replaced or before that if the guarantee period expires.

Please return the electrodes with the documents to:

Thermo Fisher Scientific
Analyzer Support, 3 D
Ratastie 2
FI-01620 Vantaa
Finland

For more information, please feel free to contact us at system.support.fi@thermofisher.com

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IN THE EVENT OF UNSATISFACTORY FUNCTIONING OF THE ELECTRODE, FOR VALID WARRANTY IT IS PROVIDED THAT:

1. The electrode has been handled and installed according to the manufacturer's instructions (analyzer's specific Installation or Operation Manual).
2. The last possible installation date from the package label (install before) has been followed. Electrodes have to be stored at 2...8 °C before installation.
3. This form is properly filled.
4. All items listed below are returned to the importer of the electrode
 - this form
 - the electrode,
 - In case of reference electrode, place paperclip to reference electrode solution bag to ensure liquid flow to chamber.
 - calibration printouts of first calibration
 - the most recent calibration or printout of the problem.
5. All necessary items have to be returned within the guarantee period given for each specific product (see Table 1).

TABLE 1: GUARANTEE PERIODS FOR ELECTRODES			
Electrodes for	Code (check the appropriate product)	Type / Name of electrode	Guarantee period (after installation)
Gallery, Gallery Plus	<input type="checkbox"/> 984997	ECM pH Electrode	6 months
	<input type="checkbox"/> 984996	ECM Reference Electrode	2 months

DISTRIBUTOR AND CUSTOMER DETAILS	
Distributor:	Customer:
Address:	
Install before date:	
Installation date:	Date of defect:
Serial number of the electrode: (printed on packages and bottom of electrode, 6-8 digits)	
Please, describe the type of defect:	

Action(s) taken trying to remove the problems

- Extra washings (using Washing /Cleansing Solution)
- Extra prime with ECM Prime
- Calibrated several times

Analyzer type

- Gallery
- Gallery Plus

Analyzer serial number

Software version

Reference electrode

- Yes No Crystals seen in chamber
- Yes No Electrode is filled properly
- Yes No Air in the tubing or chamber
- Yes No Reference filling solution bag is properly in place
- Yes No Outer surface of the reference electrode is clean and dry

Other electrodes

- Yes No Air bubbles seen in electrode
- Yes No All necessary O-rings between electrodes are in place
- Yes No All electrode cables are properly in place

Prime solution and QC Controls

What kind of prime sample and QC controls are in use

- Prime sample **ECM Prime (984340)**
- QC controls commercial control, please specify _____
- Matrix type other, please specify _____

Calibration

- please enclose calibration printouts from before and after the problem

Problems in control or sample measurements for pH measurement

- level too low
- level too high
- unstable measurement
- variation too high
- Other, please specify

Measurements

- Please enclose problem description print

Please specify the sample matrix _____

How many samples run per day (average) _____

Please return the electrodes with the document to:

Thermo Fisher Scientific
 Analyzer Support, 3D
 Ratastie 2
 FI -01620 Vantaa
 Finland

**IN THE EVENT OF UNSATISFACTORY FUNCTIONING OF THE BCM COLUMN,
FOR VALID WARRANTY IT IS PROVIDED THAT:**

1. The BCM Column has been handled and installed according to the manufacturer's instructions.
2. The last possible installation date from the package label (install before) has been followed.
3. This form is properly filled.
4. All items listed below are returned to the importer of the BCM Column
 - this form
 - the BCM Column
 - calibration printouts of first calibration
 - the most recent calibration or printout of the problem.
5. All necessary items have to be returned latest after two months the BCM Column has been replaced or before that if the guarantee period expires.

TABLE 1: GUARANTEE PERIOD FOR BCM Column			
BCM Column for	Code	Type / Name	Guarantee period (after installation)
Gallery Plus Beermaster	<input type="checkbox"/> 986226	BCM Column	6 months or 2000 measurements

CUSTOMER DETAILS	
Customer:	
Address:	
Install before date:	
Installation date:	Date of defect:
Serial number of the BCM Column:	
Please, describe the type of defect:	

Problems in control or sample measurements

- level too low
- level too high
- variation too high
- Other, please specify

Measurements

please enclose problem description print

Samples

Beer

Wort

Other, please specify _____

Calibration

please enclose calibration printouts before and after the problem

How many samples run per day (average) _____

What is the sample pretreatment used, please specify for each sample type

Please return the BCM Column with the document to:

Thermo Fisher Scientific
Analyzer Support, 3D
Ratastie 2
FI -01620 Vantaa
Finland

Warranty and advice for returning spare parts

- Advice for returning spare parts
- Gallery - 5/10 systems - recommended spare parts
- Gallery Plus - 5/10 systems - recommended spare parts
- Gallery Plus Beermaster - 5/10 systems - recommended spare parts

Advice for returning spare parts

Inform the reason for returning and you will receive the authorization number (RMA-number) and additional shipping instructions.

Conditions for the returned spare parts to be accepted:

- Return Material Authorization (R.M.A.) number mentioned with the parts
- Items should be returned to the factory within 3 (three) months from the date RMA-number has been issued.
- Warranty claims and returns must be reported within 1 (one) month after discovering the failure.

❖ RETURN

If you want to return goods to the factory (error in ordering or delivery) not considered as a warranty cases.

- Contact Customer Service (customerservice.fi@thermofisher.com) to receive authorization to returning material (RMA-number).
- Shipment should be sent with a Proforma invoice and mention the RMA-number as a reference.
- Returned goods must be in new-like condition
- Returned goods will be inspected and compensated accordingly.
- We do not accept perishable goods to be returned, such as reagents, calibrators, standards, controls and other solutions.

❖ WARRANTY

If you want to return parts under warranty.

- Contact System Support (system.support.fi@thermofisher.com) to receive authorization to returning material (RMA-number).
- The WARRANTY CLAIM TECHNICAL SHEET properly filled in.

16 Warranty and advice for returning spare parts

Gallery - 5/10 systems - recommended spare parts

- 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, the returned goods will be inspected and compensated accordingly.
- 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

Table 29. Warranty periods

Analyzer	one (1) year warranty, refer to your agreement for details.
Spare parts	three (3) months warranty, refer to your agreement for details.
Electrodes	See Installation warranty for electrodes

Note Replacements will not be sent free of charge before inspection of claimed goods.

Gallery - 5/10 systems - recommended spare parts

Spare part	Description	5 systems	10 systems	PM part	Water*	ECM**
SP12312	Background barcode sticker	1pcs	1pcs			
SP09158	Bolt Thermistor	1pcs	1pcs			
SP09473	Bolt Thermistor 2	1pcs	1pcs			
SP10111	Bolt Thermistor 3	1pcs	1pcs			
SP98001	Complete PM kit for Gallery with ECM	1pcs	1pcs	•		•
SP98002	Complete PM kit for Gallery without ECM	1pcs	1pcs	•		
SP98003	Complete PM kit for Water Gallery with ECM	1pcs	1pcs	•	•	•
SP98004	Complete PM kit for Water Gallery without ECM	1pcs	1pcs	•	•	

16 Warranty and advice for returning spare parts

Warranty and advice for returning spare parts

Spare part	Description	5 systems	10 systems	PM part	Water*	ECM**
SP09853	Component board CANUSB4	1pcs	1pcs			
SP07033	Component board CONTROL4	1pcs	1pcs			
SP08684	Component board ISEAMP4	1pcs	1pcs			•
SP06862	Component board MEAS4	1pcs	1pcs			
SP06861	Component board MOTOR4	1pcs	2pcs			
SP08334	Component board SURF4	1pcs	1pcs			
SP08579	Cooling unit	1pcs	1pcs			
SP10193	Cover Sensor	1pcs	1pcs			
SP11257	Dispensing Probe	1pcs	2pcs	•		
SP11253	Dispensing Probe (Water)	1pcs	2pcs	•	•	
SP06189	Dispensing Probe ECM	1pcs	1pcs	•		•
SP10054	Dispensing tubes with ECM	1pcs	1pcs	•		•
SP09592	Dispensing tubes without ECM	1pcs	1pcs	•		
SP08997	FMI pump	1pcs	1pcs			
SP06743	Hatch Lock	--	1pcs			
981704	IQ-kit dispensing	1pcs	2pcs			
SP07153	Mixing paddle	1pcs	1pcs	•		
SP09052	Opto Switch Assembly	1pcs	1pcs			
SP09053	Opto Switch Assembly 2	1pcs	1pcs			
SP09196	Opto Switch Assembly 3	1pcs	1pcs			
SP10075	Opto Switch Assembly 4	1pcs	1pcs			
SP06242	Photometric head assembly	--	1pcs			
SP06685	Pressure sensor unit	1pcs	1pcs			
SP06662	Reagent Racks, 3 pcs (incl. label sheets)	--	1pcs			
SP06666	Sample Racks, 6 pcs (incl. label sheets)	--	1pcs			
981269	Syringe 500 µl	1pcs	2pcs	•		

16 Warranty and advice for returning spare parts

Gallery Plus - 5/10 systems - recommended spare parts

Spare part	Description	5 systems	10 systems	PM part	Water*	ECM**
SP07184	Tube set for ECM Dispenser	1pcs	1pcs	•		•
SP04287	Tubing connectors (100 pcs)	1pcs	1pcs			
SP09004	Water / waste sensor (cable not included)	--	1pcs			
SP06814	Water container assembly 5L	--	1pcs			

* Recommended to have in stock for customers with water Galleries.

** Recommended to have in stock for customers with ECM unit.

Gallery Plus - 5/10 systems - recommended spare parts

Spare part	Description	5 systems	10 systems	PM part	Water*	ECM**
SP12312	Background barcode sticker	1pcs	1pcs			
SP09158	Bolt Thermistor	1pcs	1pcs			
SP09473	Bolt Thermistor 2	1pcs	1pcs			
SP10111	Bolt Thermistor 3	1pcs	1pcs			
SP98005	Complete PM kit for Gallery PLUS with ECM	1pcs	1pcs	•		•
SP98006	Complete PM kit for Gallery PLUS without ECM	1pcs	1pcs	•		
SP98007	Complete PM kit for Water Gallery PLUS with ECM	1pcs	1pcs	•	•	•
SP98008	Complete PM kit for Water Gallery PLUS without ECM	1pcs	1pcs	•	•	
SP09853	Component board CANUSB4	1pcs	1pcs			
SP07033	Component board CONTROL4	1pcs	1pcs			
SP08684	Component board ISEAMP4	1pcs	1pcs			•
SP06862	Component board MEAS4	1pcs	1pcs			
SP06861	Component board MOTOR4	1pcs	2pcs			
SP08334	Component board SURF4	1pcs	1pcs			

16 Warranty and advice for returning spare parts

Warranty and advice for returning spare parts

Spare part	Description	5 systems	10 systems	PM part	Water*	ECM**
SP08579	Cooling unit	1pcs	1pcs			
SP10193	Cover Sensor	1pcs	1pcs			
SP00580	Diluent container assembly 7,7L, Plus	--	1pcs			
SP11257	Dispensing probe	1pcs	3pcs	•		
SP11253	Dispensing Probe (Water)	1pcs	3pcs	•	•	
SP06189	Dispensing probe ECM	2pcs	1pcs	•		•
SP10053	Dispensing tubes with ECM (PLUS)	1pcs	1pcs	•		•
SP09591	Dispensing tubes without ECM (PLUS)	1pcs	1pcs	•		
SP08997	FMI pump	1pcs	1pcs			
SP06743	Hatch Lock	--	1pcs			
981704	IQ-kit dispensing	1pcs	2pcs			
SP07153	Mixing paddle	1pcs	1pcs	•		
SP09052	Opto Switch Assembly	1pcs	1pcs			
SP09053	Opto Switch Assembly 2	1pcs	1pcs			
SP09196	Opto Switch Assembly 3	1pcs	1pcs			
SP10075	Opto Switch Assembly 4	1pcs	1pcs			
SP06242	Photometric head assembly	--	1pcs			
SP06685	Pressure sensor unit	1pcs	1pcs			
SP06662	Reagent Racks, 3 pcs (incl. label sheets)	--	1pcs			
SP06666	Sample Racks, 6 pcs (incl. label sheets)	--	1pcs			
981269	Syringe 500 µl	2pcs	3pcs	•		
SP07184	Tube set for ECM Dispenser	1pcs	1pcs	•		•
SP04287	Tubing connectors (100 pcs)	1pcs	1pcs			
SP09004	Water / waste sensor (cable not included)	--	1pcs			

* Recommended to have in stock for customers with water Galleries.

** Recommended to have in stock for customers with ECM unit.

16 Warranty and advice for returning spare parts

Gallery Plus Beermaster - 5/10 systems - recommended spare parts

Gallery Plus Beermaster - 5/10 systems - recommended spare parts

Spare part	Description	5 systems	10 systems	PM part
SP12312	Background barcode sticker	1pcs	1pcs	
SP08018	BCM Tubing	1pcs	1pcs	•
SP09158	Bolt Thermistor	1pcs	1pcs	
SP09473	Bolt Thermistor 2	1pcs	1pcs	
SP10111	Bolt Thermistor 3	1pcs	1pcs	
SP07805	Bottle cap BC system	--	1pcs	
SP98009	Complete PM kit for Beermaster	1pcs	1pcs	•
SP09853	Component board CANUSB4	1pcs	1pcs	
SP07033	Component board CONTROL4	1pcs	1pcs	
SP06862	Component board MEAS4	1pcs	1pcs	
SP06861	Component board MOTOR4	1pcs	2pcs	
SP08334	Component board SURF4	1pcs	1pcs	
SP08579	Cooling unit	1pcs	1pcs	
SP10193	Cover Sensor	1pcs	1pcs	
SP00580	Diluent container assembly 7,7L, Plus	--	1pcs	
SP11257	Dispensing probe	2pcs	3pcs	•
SP07729	Dispensing probe BCM	1pcs	1pcs	•
SP12770	Dispensing tubes with BCM	1pcs	1pcs	•
SP08997	FMI pump	1pcs	1pcs	
SP06743	Hatch Lock	--	1pcs	
981704	IQ-kit dispensing	1pcs	2pcs	
SP07153	Mixing paddle	1pcs	1pcs	•
SP09052	Opto Switch Assembly	1pcs	1pcs	

16 Warranty and advice for returning spare parts

Warranty and advice for returning spare parts

Spare part	Description	5 systems	10 systems	PM part
SP09053	Opto Switch Assembly 2	1pcs	1pcs	
SP09196	Opto Switch Assembly 3	1pcs	1pcs	
SP10075	Opto Switch Assembly 4	1pcs	1pcs	
SP06242	Photometric head assembly	--	1pcs	
SP06685	Pressure sensor unit	1pcs	1pcs	
SP06662	Reagent Racks, 3 pcs (incl. label sheets)	--	1pcs	
SP06666	Sample Racks, 6 pcs (incl. label sheets)	--	1pcs	
981269	Syringe 500 µl	2pcs	3pcs	•
SP04287	Tubing connectors (100 pcs)	1pcs	1pcs	
SP09004	Water / waste sensor (cable not included)	--	1pcs	

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Discrete Industrial Analyzer System Reagents for Food and Other Sample Materials

Analyte	Code	Product name	Max. nbr. of tests/kit ⁽¹⁾	Method	Sample matrix	Interference filter nm ⁽²⁾	Test ranges	Unit
Acetaldehyde	984347	Acetaldehyde	250	Enzymatic test with acetaldehyde dehydrogenase	Food & beverage	340 / -	2-500	mg/L
	984396 ⁽³⁾	Acetaldehyde standard, 100 mg/L	-					
Acetic acid	984318	Acetic Acid	300	Enzymatic test with acetate kinase	Food & Beverage	340 / -	0.04-3.00	g/L
	984303 ⁽⁴⁾	Acetic acid	1000					
	984356	Acetic Acid (ACS)	150	Enzymatic test with acetyl-coenzyme A synthetase (ACS)	Food & Beverage	340 / -	0.04-3.00	g/L
Alpha-Amino Nitrogen	984342	Alpha-Amino Nitrogen (NOPA)	300	Colorimetric test with OPA (o-Phthaldialdehyde) and NAC (N-acetylcysteine)	Food & Beverage	340 / 700 (750)	20-300	mg/L
	984394 ⁽³⁾	NOPA Standard, 150 mg/L	-					
Alpha-Amylase	984329	Alpha-Amylase	780	Enzymatic test with ethylidene-pNP-G7 (E-pNP-G7) as the substrate	Enzyme, detergent	405 / -	10-24000	U/l
Ammonia	984320	Ammonia	300	Enzymatic test with glutamate dehydrogenase	Food & Beverage	340 / -	10-420	mg/L
	984766 ⁽⁴⁾	Ammonia	1000					
L-Ascorbic acid	984635	L-Ascorbic acid	250	Colorimetric test with the tetrazolium salt MTT	Food & Beverage	575 / -	50-2500	mg/L
L-Asparagine	984319 ⁽⁵⁾	L-Asparagine/L-Aspartic-Acid	350	Enzymatic test with malate hydrogenase and L-asparaginase	Food & Beverage	340 / -	20-500	mg/L
	981842	Washfluid	-					

L-Aspartic Acid	984319 ⁽⁵⁾	L-Asparagine/L-Aspartic-Acid	350	Enzymatic test with malate hydrogenase	Food & Beverage	340 / -	20-500	mg/L
Bitterness ⁽⁶⁾	984353	BC System liquid	360	Column extraction of bittering components from beer and wort and subsequent photometric determination	Beer, Wort	275 / -	5-100	BU
	984354	BC Diluent						
	984355	BC Eluent						
Calcium	984361	Calcium (Ca)	350	Colorimetric test with Arsenazo III	Food & Beverage	660 / -	10-200	mg/L
Citric Acid	984327	Citric acid	250	Enzymatic test with citrate lyase	Food & Beverage	340 / -	15-5000	mg/L
Cholesterol	984324	Cholesterol Food	300	Enzymatic test with cholesterol oxidase, peroxidase and with colorimetric indicator chinonimin	Food & Beverage	540 / -	20-1000	mg/L
	984391 ⁽³⁾	Cholesterol Food Std, 2000 mg/L	-					
Copper	984628	Copper	300	Colorimetric test with DiBr-PAESA	Food & Beverage	600 / -	0.05-3.5	mg/L
	984385 ⁽³⁾	Copper Standard, 5 mg/L	-					
	981842	Washfluid	-					
Ethanol	984300	Ethanol	300	Enzymatic test with alcohol-dehydrogenase	Food & Beverage	340 / -	0.01-10	g/L
	984384 ⁽³⁾	Alcohol Standard. 0.5 g/L						
D-Fructose	984302	D-Fructose	300	Enzymatic test with hexokinase, phosphoglucose isomerase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.7-200	g/L
	984380 ⁽³⁾	Sugar Combination Std, 0.500 g/L	-					
(1,3/1,4)-Beta-Glucan	984305	Beta-Glucan (High MW)	350	Novel colorimetric test	Food & Beverage	405 / 600	15-500	mg/L
	984383 ⁽³⁾	Beta-Glucan Standard, 500 mg/L	-					
D-Gluconic Acid	984710	D-Gluconic Acid	250	Enzymatic test with 6-P-gluconate-dehydrogenase and gluconate kinase	Food & Beverage	340 / 750 (700)	50-5000	mg/L

D-Glucose	984304	D-Glucose	300	Enzymatic test with hexokinase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.1-160	g/L
	984764 ⁽⁴⁾	D-Glucose	1000					
	984380 ⁽³⁾	Sugar Combination Std, 0.500 g/L	-					
D-Glucose & D-Fructose	984314	D-Glucose+D-Fructose	300	Enzymatic test with hexokinase, phosphoglucose isomerase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.04-200	g/L
	984313 ⁽⁴⁾	D-Glucose+D-Fructose	1000					
	984380 ⁽³⁾	Sugar Combination Std, 1.0 g/L	-					
D-Glucose & D-Fructose & Sucrose	984317	D-Glucose+D-Fructose+Sucrose	300	Enzymatic test with beta-fructosidase (Invertase), hexokinase, phosphoglucose isomerase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.24-200	g/L
	984301 ⁽⁴⁾	D-Glucose+D-Fructose+Sucrose	1000					
	984380 ⁽³⁾	Sugar Combination Std, 1.5 g/L	-					
Glycerol	984316	Glycerol	300	Enzymatic test with glycerokinase, ADP dependent hexokinase and glucose-6-phosphate-dehydrogenase	Food & Beverage	340 / -	0.07-30	g/L
	984765 ⁽⁴⁾	Glycerol	1000					
	984386 ⁽³⁾	Glycerol Standard, 0.2 g/L	-					
L-Glutamic Acid	984636 ⁽⁵⁾	L-Glutamic Acid	300	Enzymatic test with glutamate dehydrogenase	Food & Beverage	492 / -	0.01-6	g/L
Beta-Hydroxybutyric Acid	984325	β- Hydroxybutyrate	300	Enzymatic test with D-3-hydroxybutyric-dehydrogenase and nitrotetrazolium blue	Food & Beverage	540 / -	10-350	mg/L
	984392 ⁽³⁾	β- Hydroxybutyrate Std, 100 mg/L						
Iron	984326	Total Iron (Fe)	850	Colorimetric test with Ferene S	Food & Beverage	600 / -	0.03-5.5	mg/L
D-Isocitric acid	984322	D-Isocitric Acid	300	Enzymatic test with isocitrate-dehydrogenase	Food & Beverage	340 / -	10-600	mg/L
D-Lactic Acid	984306	D-Lactic Acid	300	Enzymatic test with D-lactate-dehydrogenase	Food & Beverage	340 / -	25-1600	mg/L
	984382 ⁽³⁾	Acid Combination Std, 200 mg/L	-					
L-Lactic Acid	984308	L-Lactic Acid	300	Enzymatic test with L-lactate-dehydrogenase	Food & Beverage	340 / -	20-1600	mg/L
	984382 ⁽³⁾	Acid Combination Std, 200 mg/L	-					

Lactose	984323	Lactose (Glucose) ⁽⁸⁾	300	Enzymatic test with galactosidase (Lactase), hexokinase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / -	0.05-15	g/L
	984767 ⁽⁴⁾	Lactose (Glucose) ⁽⁸⁾	1000					
	984390 ⁽³⁾	Lactose Standard, 1.00 g/L	-					
Lipase	984315	Lipase	500	Colorimetric test with methylresorufin	Enzyme, detergent	575 / -	up to 60	mg/100 g
Magnesium	984358	Magnesium (Mg)	350	Colorimetric test with Xylidyl Blue I	Food & Beverage	510 / -	10-400	mg/L
L-Malic Acid	984310	L-Malic Acid	300	Enzymatic test with L-malate-dehydrogenase and glutamate-oxalacetate-transaminase	Food & Beverage	340 / 700 (750)	0.05-20	g/L
	984311 ⁽⁴⁾	L-Malic Acid	1000					
	984382 ⁽³⁾	Acid Combination Std, 0.500 g/L	-					
Oxalic Acid	984348	Oxalic Acid	250	Enzymatic test with oxalate oxidase	Food & Beverage	600 / 700	2-100	mg/L
	984393 ⁽³⁾	Oxalic Acid Standard, 45 mg/L	-					
pH	984349	pH (Colorimetric)	330	Colorimetric test with pH indicator dyes	Beer, Wort	575 / 700	2-7.2	pH at 37 °C
	984331 ⁽³⁾	ECM pH 4 Standard	-					
	984332 ⁽³⁾	ECM pH 7 Standard	-					
Polyphenols	984346	Total Polyphenol	280	Colorimetric test with Folin-Ciocalteu reagent	Food & Beverage	700 / -	50-3000	mg/L as Gallic acid
Potassium	984307	Potassium	300	Turbidimetric test with tetraphenylborate	Food & Beverage	540 / -	50-2500	mg/L
Proteins	984328	Total Protein (Biuret)	450	Colorimetric test with Biuret	Food & Beverage	540 / 700	0.5-15	g/L
Sulfur dioxide	984634	SO2 Free	430	Colorimetric test with pararosaniline	Food & Beverage	575 / 750 (700)	2-150	mg/L
	984345	SO2 Total	300	Colorimetric test with DTNB				
Sucrose	984312	Sucrose (Total Glucose) ⁽⁸⁾	300	Enzymatic test with beta-fructosidase, hexokinase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.1-100	g/L
	984380 ⁽³⁾	Sugar Combination Std, 0.75 g/L	-					

Tartaric Acid	984309	Tartaric acid ⁽⁵⁾	480	Colorimetric test with ammonium monovanadate	Food & Beverage	540 / -	0.5-12	g/L
Total Acids	984632	Total Acids (Wine pH 7)	400	Colorimetric tests with bromothymol blue	Food & Beverage	620 / 700 (750)	1-18	g/L as Tartaric acid
	984633	Total Acids (Juice pH 8)	400				0.5-12	g/L as Sulfuric acid
Urea	984321	Urea (Ammonia) ⁽⁹⁾	300	Enzymatic test with urease and glutamate dehydrogenase	Food & Beverage	340 / -	10-720	mg/L
	984388 ⁽³⁾	Urea Standard	-					

NOTE:

1. Number of tests/ kit is test flow dependent number.
2. λ_1/λ_2 (main/side wavelength in nm), alternative wavelength provided in brackets (λ)
3. Standard solution for method calibration, concentrations are Lot dependent
4. Arena kits only
5. Kit contains a standard solution for calibration
6. Method available for the Gallery Plus Beermaster with BCM analyzer only
7. Separate low range application available
8. D-Glucose result is needed for Sucrose and Lactose calculation from assayed Glucose
9. Ammonia result is needed for Urea calculation from assayed Ammonia

NIST traceable standards for ECM measurements

Parameter	Code	Product name	Kit size
pH	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
Conductivity (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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thermofisher.com/discreteanalysis

Discrete Industrial Analyzer System Reagents for Water/Environmental Samples

Analyte	Code ⁽¹⁾	Product name	Kit size	Max. nbr. of tests/kit ⁽²⁾	Reference ⁽³⁾	Sample matrix	Interference filter nm ⁽⁴⁾	MDL ⁽⁵⁾ mg/L	Test ranges up to mg/L	
									Low range	High range
Alkalinity	984623	Alkalinity R1	4 x 20 mL	975	-	Drinking, ground and surface water	600 / 880	3.4 as CaCO ₃ ^(a)	-	400
	984624	Alkalinity R2	4 x 20 mL	780				5.4 as CaCO ₃ ^(b)		
Ammonia	984362	Ammonia R1	125 mL	2000	ISBN 0117516139 ISO 7150 DIN 38 406 ISO 15923-1	Drinking, ground, surface and waste water	660 / -	0.0005 as N ^(a)	1.0 ⁽⁷⁾	10.0
	984363	Ammonia R2	4 x 20 mL	1300				0.0016 as N ^(b)		
	984720 ⁽⁶⁾	Ammonium (as N) Std	500 mL	-						
	984728 ⁽⁶⁾	Ammonium (as NH ₄) Std	500 mL	-						
Calcium	984361	Calcium (Ca)	3 x 20 mL	350	Tietz Fundamentals of Clinical Chemistry 5th Ed.	Drinking, ground, surface and waste water	660 / -	1.16 ^(a)	-	1000
Chloride	984364	Chloride R1	4 x 20 mL	500	ISBN 0117516260 SM 4500Cl-E EPA 325.2 EN ISO 15682 ISO 15923-1	Drinking, ground, surface, waste and saline water	480 / -	0.035 ^(a)	100 ⁽⁷⁾	500 ⁽⁷⁾ 1000 ⁽⁸⁾
	984365	Chloride R1L	20 x 20 mL	2500				0.349 ^(b)		
	984721 ⁽⁶⁾	Chloride Std	500 mL	-						
Hexavalent Chromium	984357	Chromium (VI)	4 x 20 mL	480	SM 3500 Cr-B SW 7196 A DIN EN ISO 23913:2009 ISO 11083	Drinking, ground, surface and waste water	540 / 880	0.0026 ^(a)	0.1	1.0

Fluoride	984629	Fluoride R1	4 x 20 mL	2200						
	984630	Fluoride R2	4 x 20 mL	4800						
	984631	Fluoride R3	4 x 20 mL	2200						
	984733	Fluoride Std	100 mL	-						
Iron (Ferrous)	984706	Iron (Ferrous) R1	4 x 20 mL	1900						
	984707	Iron (Ferrous) R2	4 x 20 mL	1080						
Magnesium	984358	Magnesium (Mg)	8 x 11 mL	350						
Nitrite	984371	TON R3	4 x 20 mL	1000						
	984372	TON R3L	20 x 20 mL	5000						
	984723 ⁽⁶⁾	Nitrite (as N) Std	500 mL	-						
	984722 ⁽⁶⁾	Nitrite (as NO ₂) Std	500 mL	-						
Nitrate (TON Hyd)	984369	TON R1	125 mL	1300						
	984370	TON R2	4 x 20 mL	750						
	984652	TON R2XL	6 x 60 mL	3400						
	984371	TON R3	4 x 20 mL	1000						
	984372	TON R3L	20 x 20 mL	5000						
	984725 ⁽⁶⁾	Nitrate (as N) Std	500 mL	-						
Nitrate (TON Enz)	984187	TON Enz	20 mL	275						
	984371	TON R3	4 x 20 mL	760						
	984725 ⁽⁶⁾	Nitrate (as N) Std	500 mL	-						
	984724 ⁽⁶⁾	Nitrate (as NO ₃) Std	500 mL	-						

Nitrate (TON Vanadium)	984350	TON-V R1	4 x 10 mL	360	NEMI ⁽⁹⁾ : Nitrate via manual Vanadium (III) reduction	Drinking, ground, surface, waste and saline water	540 / -	0.0007 as N ^(a)	0.4	50
	984351	TON-V R2	4 x 10 mL	500						
	984725 ⁽⁶⁾	Nitrate (as N) Std	500 mL	-						
	984724 ⁽⁶⁾	Nitrate (as NO ₃) Std	500 mL	-						
Phosphate	984366	Phosphate R1	4 x 20 mL	2300	ISBN 0117515825 SM 4500 P-E EPA 365.1 EN ISO 6878 ISO 15923-1	Drinking, ground, surface, waste and saline water	880 / -	0.0004 as P ^(a) 0.0036 as P ^(b)	1.0 ⁽⁷⁾	10.0
	984367	Phosphate R1L	20 x 20 mL	11700						
	984368	Phosphate R2	4 x 20 mL	3000						
	984729 ⁽⁶⁾	Phosphate (as PO ₄) Std	500 mL	-						
	984726 ⁽⁶⁾	Phosphate (as P) Std	500 mL	-						
Silica	984625	Silica R1	4 x 20 mL	970	USGS I-2700-85 EPA 370.1 SM 4500 SiO ₂ -D ISO 15923-1	Drinking, ground, surface, waste and saline water	700 / 420	0.01 as SiO ₂ ^(a) 0.05 as SiO ₂ ^(b)	-	80
	984626	Silica R2	4 x 20 mL	1950						
	984627	Silica R3	4 x 20 mL	1950						
Sulphate	984648	Sulphate R1	4 x 20 mL	1100	ISBN 0117533406 SM 4500 SO ₄ ²⁻ E EPA 375.4 DIN 38405-D 5-2 ISO 15923-1	Drinking, ground, surface and waste water	420 / -	0.26 ^(a)	100 ⁽⁷⁾	500
	984649	Sulphate R1XL	6 x 60 mL	5100						
	984727 ⁽⁶⁾	Sulphate Std	500 mL	-						
Total Hardness	984620	Total Hardness R1	4 x 20 mL	1100	EPA 130.1	Drinking, ground and surface water	620 / 880	2 as CaCO ₃ ^(a) 10 as CaCO ₃ ^(b)	-	500
	984621	Total Hardness R2	4 x 20 mL	975						
	984622	Total Hardness R3	4 x 20 mL	4300						
Urea ⁽¹⁰⁾	984321	Urea (Ammonia)	3 x 16 mL R1 3 x 4.5 mL R2 3 x 4.5 mL R3	775	Enzymatic urease method	Swimming pool water	340 / -	-	-	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 21st edition (APHA, AWWA, WEF)
SW refers to Standard Methods for Water and Waste Water
Methods are adapted for discrete analyzers from referred standards.

4. λ_1/λ_2 (main/side wavelength in nm)
5. 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.
 - a) MDL = 3.14 x SD (blank/std sample, n = 7)
 - b) MDL = 3 x SD + average (blank sample, 3-5 batches, n = 30-50)
6. NIST Traceable standard solution
7. Application for the Gallery analyzers
8. Application for the Aquakem analyzers
9. See www.nemi.gov
10. Ammonia result is needed for Urea calculation from assayed Ammonia
11. Nitrate Elimination Company, Inc. (NECI). "Method for Nitrate Reductase Nitrate-Nitrogen Analysis of Drinking Water," February 2016.
12. See www.usgs.gov

NIST traceable standards for ECM measurements

Parameter	Code	Product name	Kit size
pH	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
Conductivity (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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SHIPPING AND STORING TEMPERATURE FOR INDUSTRIAL PRODUCTS

The given performance claims for Thermo Scientific™ Gallery™, Arena™ and Aquakem™ system kits are valid only when kits are shipped and stored according to the temperature instructions given in these tables.

Table 1. Industrial reagent kits for food and other sample material

CODE	TEST	STORE AT	Accepted abnormal shipping conditions			Other remarks
			35... 37 °C		-20°C	
			max 7 days	max 3 days	max 3 days	
984300	Ethanol	2...8 °C	Y	N/A	N	Don't freeze
984301	D-Glucose+D-Fructose+Sucrose	2...8 °C	Y	N/A	N	Don't freeze
984302	D-Fructose	2...8 °C	Y	N/A	N	Don't freeze
984303	Acetic Acid	2...8 °C	Y	N/A	Y	
984304	D-Glucose	2...8 °C	Y	N/A	N	Don't freeze
984305	Beta-Glucan (High MW)	2...8 °C	Y	N/A	Y	Light sensitive
984306	D- Lactic Acid	2...8 °C	N	Y	Y	Don't freeze
984307	Potassium	15...25 °C	Y	N/A	Y	
984308	L-Lactic Acid	2...8 °C	Y	N/A	Y	
984310	L-Malic Acid	2...8 °C	Y	N/A	Y	
984311	L-Malic Acid	2...8 °C	Y	N/A	Y	
984312	Sucrose (Total Glucose)	2...8 °C	Y	N/A	N	Don't freeze
984313	D-Glucose + D-Fructose	2...8 °C	Y	N/A	N	Don't freeze
984314	D-Glucose + D-Fructose	2...8 °C	Y	N/A	N	Don't freeze
984315	Lipase	2...8 °C	Y	N/A	N	Don't freeze
984316	Glycerol	2...8 °C	Y	N/A	Y	
984317	D-Glucose+D-Fructose+Sucrose	2...8 °C	Y	N/A	N	Don't freeze
984318	Acetic Acid	2...8 °C	Y	N/A	Y	
984319	L-Asparagine / L-Aspartic acid	2...8 °C		Under evaluation		
984320	Ammonia	2...8 °C		Under evaluation		
984321	Urea (Ammonia)	2...8 °C	Y	N/A	Y	
984322	D-Isocitric Acid	2...8 °C	N	N	Y	
984323	Lactose (Glucose)	2...8 °C	Y	N/A	N	Don't freeze
984324	Cholesterol	2...8 °C	Y	N/A	N	Don't freeze
984325	Beta-Hydroxybutyrate	2...8 °C		Under evaluation		
984326	Total Iron	2...8 °C	Y	N/A		
984327	Citric Acid	2...8 °C	Y	N/A	Y	Light sensitive
984328	Total Protein(Biuret)	2...25 °C	Y	N/A	Y	Light sensitive and don't freeze
984329	Alpha-Amylase	2...8 °C	Y	N/A	N	Don't freeze
984342	Alpha Amino Nitrogen (NOPA)	2...8 °C		Under evaluation		Light sensitive and don't freeze
984345	SO2 Total	2...8 °C	Y	N/A	Y	
984346	Total Polyphenol	15...25 °C	Y	N/A	Y	
984347	Acetaldehyde	2...8 °C	Y	N/A	Y	
984348	Oxalic Acid	2...8 °C	Y	N/A	Y	

984349	pH (colorimetric)	2...8 °C	Y	N/A	Y	
984353	BC System Liquid	15...25 °C		Under evaluation		
984354	BC Diluent	15...25 °C		Under evaluation		
984355	BC Eluent	15...25 °C		Under evaluation		
984356	Acetic Acid (ACS)	2...8 °C		Under evaluation		
984358	Magnesium (Mg)	2...8 °C		Under evaluation		
984360	Magnesium (Mg)	2...8 °C		Under evaluation		
984361	Calcium (Ca)	2...25 °C	Y	N/A		
984628	Copper	2...8 °C	Y	N/A	Y	
984632	Total Acids (Wine pH 7)	15...25 °C	Y	N/A	Y	
984633	Total Acids (Juice pH 8)	15...25 °C	N	N	N	Don't freeze
984634	SO2 Free	2...8 °C		Under evaluation		
984635	L-Ascorbic acid	2...8 °C	Y	N/A	Y	
984636	L-Glutamic Acid	2...8 °C		Under evaluation		
984710	D-Gluconic acid	2...8 °C		Under evaluation		
984764	D-Glucose	2...8 °C	Y	N/A	N	Don't freeze
984765	Glycerol	2...8 °C	Y	N/A	Y	
984766	Ammonia kit	2...8 °C		Under evaluation		
984767	Lactose (Glucose)	2...8 °C	Y	N/A	N	Don't freeze

Table 2. Industrial standard kits for food and other sample material

CODE	TEST	STORE AT	Accepted abnormal shipping conditions			Other remarks
			35... 37 °C		-20°C	
			max 7 days	max 3 days	max 3 days	
984330	ECM pH 2 Std	15...25 °C	N/A	N/A	N/A	
984331	ECM pH 4 Std	15...25 °C	N/A	N/A	N/A	
984332	ECM pH 7 Std	15...25 °C	N/A	N/A	N/A	
984333	ECM pH 10 Std	15...25 °C	N/A	N/A	N/A	
984334	ECM pH 12 Std	15...25 °C	N/A	N/A	N/A	
984336	ECM Conductivity 1.4 Std	15...25 °C	N/A	N/A	N/A	
984337	ECM Conductivity 13 Std	15...25 °C	N/A	N/A	N/A	
984338	ECM Conductivity 112 Std	15...25 °C	N/A	N/A	N/A	
984339	ECM Conductivity 0.08 Std	15...25 °C	N/A	N/A	N/A	
984380	Sugar Combination Standard	2...8 °C	Y	N/A	Y	
984382	Acid Combination Standard	2...8 °C	Y	N/A	Y	
984383	Beta-Glucan Standard	2...8 °C		Under evaluation		
984384	Alcohol Standard	15...25 °C	Y	N/A	Y	
984385	Copper Standard	2...8 °C		Under evaluation		
984386	Glycerol Standard	2...8 °C	Y	N/A	Y	
984388	Urea Standard	2...25 °C	Y	N/A	Y	
984390	Lactose Standard	2...8 °C	Y	N/A	Y	
984391	Cholesterol Standard	2...8 °C	Y	N/A	Y	
984392	Beta-Hydroxybutyrate Std	2...8 °C	Y	N/A	Y	
984393	Oxalic acid standard	2...8 °C	Y	N/A	Y	
984394	NOPA standard	2...8 °C	Y	N/A	N	Don't freeze
984396	Acetaldehyde standard	2...8 °C	Y	N/A	Y	

Table 3. Industrial reagent kits for water samples

CODE	TEST	STORE AT	Accepted abnormal shipping conditions			Other remarks
			35... 37 °C		-20°C	
			max 7 days	max 3 days	max 3 days	
984187	TON Enz	2...8 °C		N/A		
984350	TON-V R1	-20 °C	N	N	Y	
984351	TON-V R2	-20 °C	N	N	Y	
984357	Chromium (VI)	2...8 °C	Y	Y	Y	
984362	Ammonia R1	2...8 °C	Y	N/A	Y	
984363	Ammonia R2	2...8 °C	N	Y	Y	
984364	Chloride R1	2...8 °C	Y	N/A	Y	
984365	Chloride R1L	2...8 °C	Y	N/A	Y	
984366	Phosphate R1	2...8 °C	Y	N/A	Y	
984367	Phosphate R1L	2...8 °C	Y	N/A	Y	
984368	Phosphate R2	2...8 °C	Y	N/A	Y	
984369	TON R1	2...8 °C	Under evaluation			
984370	TON R2	2...8 °C	Y	N/A	Y	
984371	TON R3	2...8 °C	Y	N/A	Y	
984371	TON R3	2...8 °C	Y	N/A	Y	
984372	TON R3L	2...8 °C	Y	N/A	Y	
984372	TON R3L	2...8 °C	Y	N/A	Y	
984620	Total Hardness R1	2...8 °C	N	N	N	Don't freeze
984621	Total Hardness R2	2...8 °C	N	N	N	Don't freeze
984622	Total Hardness R3	2...8 °C	N	N	N	Don't freeze
984623	Alkalinity R1	2...8 °C	Y	N/A	Y	
984624	Alkalinity R2	2...8 °C	Y	N/A	Y	
984625	Silica R1	2...8 °C	Y	N/A	Y	
984626	Silica R2	2...8 °C	Y	N/A	Y	
984627	Silica R3	2...8 °C	Y	N/A	Y	
984629	Fluoride R1	2...8 °C	Under evaluation			
984630	Fluoride R2	2...8 °C	Under evaluation			
984631	Fluoride R3	2...8 °C	Under evaluation			
984648	Sulphate R1	2...8 °C	N	N	Y	
984649	Sulphate R1XL	2...8 °C	N	N	Y	
984652	TON R2XL	2...8 °C	Y	N/A	Y	
984706	Iron (Ferrous) R1	2...8 °C	N/A	N/A	N/A	
984707	Iron (Ferrous) R2	2...8 °C	N/A	N/A	N/A	

Table 4. NIST traceable standard solutions

CODE	TEST	STORE AT	Accepted abnormal shipping conditions			Other remarks
			35... 37 °C		-20°C	
			max 7 days	max 3 days	max 3 days	
984720	Ammonium (as N) Std	15...25 °C	N/A	N/A	N/A	
984721	Chloride Std	15...25 °C	N/A	N/A	N/A	
984722	Nitrite (as NO ₂) Std	15...25 °C	N/A	N/A	N/A	
984723	Nitrite (as N) Std	15...25 °C	N/A	N/A	N/A	
984724	Nitrate (as NO ₃) Std	15...25 °C	N/A	N/A	N/A	
984725	Nitrate (as N) Std	15...25 °C	N/A	N/A	N/A	
984726	Phosphate (as PO ₄) Std	15...25 °C	N/A	N/A	N/A	
984727	Sulphate Std	15...25 °C	N/A	N/A	N/A	
984728	Ammonium (as NH ₄) Std	15...25 °C	N/A	N/A	N/A	
984729	Phosphate (as P) Std	15...25 °C	N/A	N/A	N/A	
984733	Fluoride Standard	2...25 °C	N/A	N/A	N/A	

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