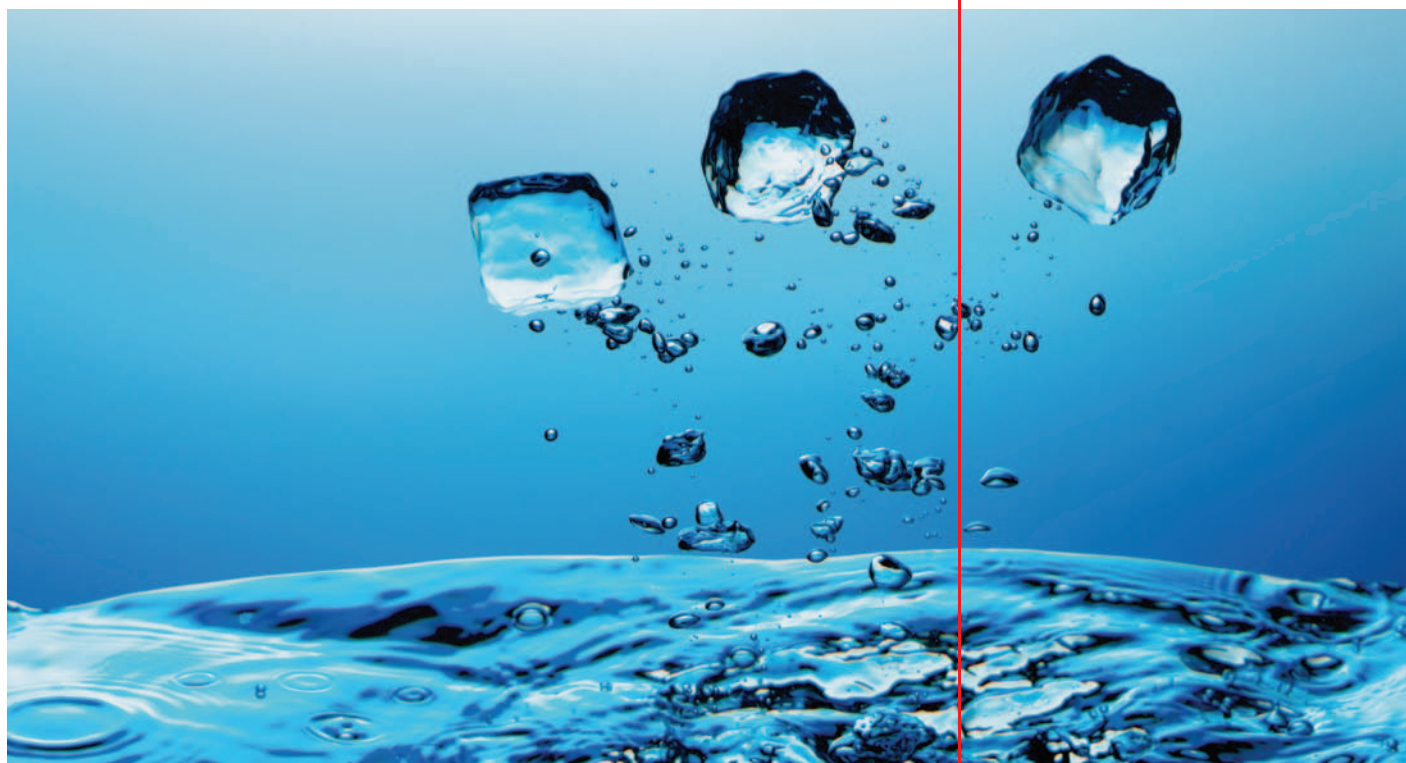


Analytix *LabInfo*



AQUANAL® Spectro 3 Photometer

A sophisticated solution for water analysis, AQUANAL® Spectro 3 photometer can be used with both AQUANAL®-plus and AQUANAL®-professional reagents. Operations in UV and infrared spectral range are possible.

The microprocessor-controlled AQUANAL® Spectro 3 Photometer offers a complete solution for water and wastewater testing. It can be used with AQUANAL®-plus as well as all AQUANAL®-professional and AQUANAL®-professional Vario H reagents. This unit contains a comprehensive user guide to simplify its handling.

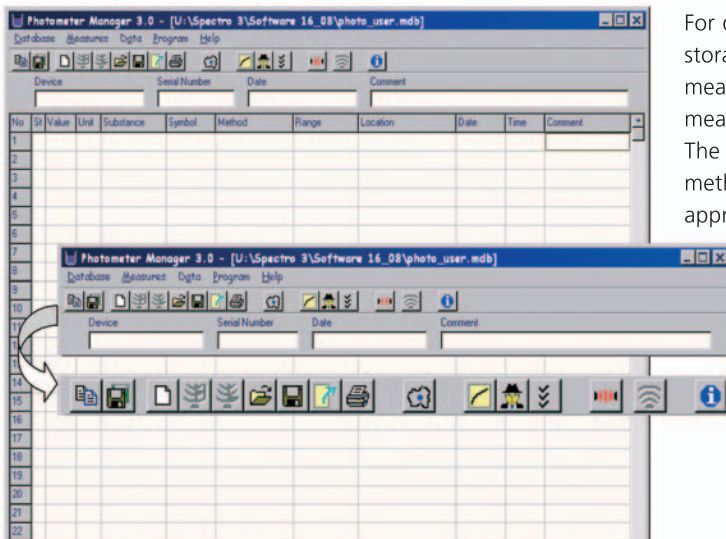
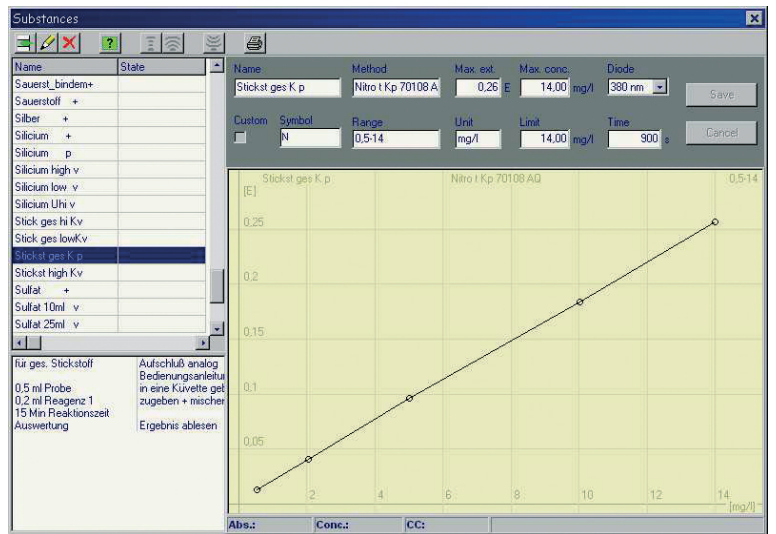
The photometer operates with a combined light emitting diode (LED) and filter technology. Its measuring range reaches from 380 up to 810 nm with nine different diodes. Excellent reproducibility and a small slit width guarantee precise measuring results. Light emitting diodes emit a stable light and consume only little energy, allowing this unit to be used for longer period of time. An advanced optical design and additional interference filter improving its precision have been developed especially for the AQUANAL® Spectro 3 Photometer. The unit is equipped with a large graphic LCD display with a resolution of 128 x 64 pixels.

AQUANAL® Spectro 3 Photometer is supplied with already 90 methods to be used with the AQUANAL® tests.

The software allows you to create and save up to 60 curves for your specific needs.

In the Spectro 3, up to 150 methods can be stored with the respective help texts in up to six languages. With the function "Favorites" each user can select the curves used most frequently. This selection can be changed at any time.

The software for the Spectro 3 Photometer can be operated with Windows 98 or later versions, but the computer must contain an infrared interface.



For documentation purposes the Spectro 3 contains two kinds of data storage. The first is a normal memory, to which you can transfer the measured values by pressing the "MEM" key. This memory can save 1000 measured values.

The results are saved in the memory indicating the respective curve, method, result, time, date and place (optional). The results are GLP-approved, i.e. by means of the software they can be transferred to a read-out file on the computer.

The second memory is the history function. In the history function the last fifty values measured with the photometer are saved. From the history memory, results can also be filed in the memory at a later time.

The screenshot shows a Microsoft Excel spreadsheet titled 'Moppel' with a data table for 'Spectro 3'. The table has columns for No, SI, Value, Unit, Substance, Symbol, Method, Range, Location, Date, Time, and Comment. The data includes measurements for Iron (Eisen) and Phosphate (Phosphat) with various methods and ranges.

No	SI	Value	Unit	Substance	Symbol	Method	Range	Location	Date	Time	Comment	
1									24.08.2005	14:01:19		
3	No	SI	Value	Unit	Substance	Symbol	Method	Range	Location	Date	Time	Comment
4	1	<	0,104	mg/l	Eisen	p	FE ²⁺ p	0,1 - 2,0 mg/l		04.08.2005	11:18:25	
5	2		3,446	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:57:39	
6	3		3,575	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:57:28	
7	4		0,473	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:57:17	
8	5		0,54	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:57:04	
9	6		2,948	mg/l	Phosphat o	p	PO ₄ ³⁻	0,01-5,0 mg/l		04.08.2005	10:55:58	
10	7		3,047	mg/l	Phosphat o	p	PO ₄ ³⁻	0,01-5,0 mg/l		04.08.2005	10:55:47	
11	8		0,474	mg/l	Phosphat o	p	PO ₄ ³⁻	0,01-5,0 mg/l		04.08.2005	10:55:35	
12	9		0,525	mg/l	Phosphat o	p	PO ₄ ³⁻	0,01-5,0 mg/l		04.08.2005	10:55:22	
13	10		3,561	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:54:05	
14	11		3,44	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:53:42	
15	12		0,479	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:52:45	
16	13		0,524	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:52:30	
17	14		0,52	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:52:03	
18	15		0,472	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:51:51	
19	16		0,472	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:51:35	
20	17		0,473	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:49:31	
21	18		0,513	mg/l	Phosphat o	v	PO ₄ ³⁻	0,2 - 5,0 mg/l		04.08.2005	10:49:07	
22	19		0,164	mg/l	Eisen	p	FE ²⁺ p	0,1 - 2,0 mg/l		04.08.2005	10:36:05	
23	20		0,104	mg/l	Eisen	p	FE ²⁺ p	0,1 - 2,0 mg/l		04.08.2005	10:32:51	
24	21		0,163	mg/l	Eisen	p	FE ²⁺ p	0,1 - 2,0 mg/l		04.08.2005	10:32:33	

The Spectro 3 Photometer comes in this package

1	AQUANAL® Spectro 3 Photometer
1	Cover for the cuvette slot
1	External Power pack
4	Batteries (AA, Ni-MH, 2100 mAh), inside the unit
1	Operating instructions (in the box lid)
1	CD-ROM software for the Spectro 3 (in the operating instructions)
1	Cleaning brush
10	Photometer cuvettes (for volumes of 10 mL)
2	Reaction vessels (for volumes of 20 mL)
1	Funnel
1	Cuvette stand
1	USB-to-IrDA-Adapter

Ordering Information

Cat. No.	Product
70403	AQUANAL® Spectro 3 Photometer
37561	Refill pack test tubes 16 mm diameter, 5 pcs

Technical data

Spectral range:	380 nm, 430 nm, 470 nm, 500 nm, 520 nm, 560 nm, 610 nm, 700 nm and 810 nm
Extinction range:	-0.5 – 4.0 E
Electro optic precision:	+/- 1.5 % (in the range of 0.1 – 2.0 E at 20°C)
Photometric precision:	+/- 3 % (in the range of 0.1 – 2.0 E at 20°C)
Cuvette slot:	Round cuvettes with a diameter of 16 mm
Method memory:	Up to 150 methods
Internal memory:	1000 data records
Result memory:	The latest 50 results
Languages:	Up to 6 options for language guidance
Auto-Off time:	Eligible between 1 to 59 minutes
Internal power supply:	4 rechargeable batteries (AA, Ni-MH, 2100 mAh)
External power supply:	9V DC (direct current) 300 mA
Performance	
(100 % charged):	Up to 1000 hours/ 20,000 measurements
Display:	LCD, 128 x 64 pixels, illuminated
Visible display surface:	62 x 40 mm
Interface:	Serial infrared interface
Dimensions:	255 x 93 x 54 mm (L x W x H)
Weight (with batteries):	560 g
Temperature of the work environment:	+ 10°C up to + 40°C
Storage temperature:	- 10°C to + 50°C
Integrated clock and calendar	

Ordering information

You can rely on Sigma-Aldrich for Technical Assistance in choosing and using your AQUANAL® product.
For Technical Assistance, please E-mail us at aquanal@sial.com or contact:

Michael Jeitziner
Product Management
Tel.: ++41 (0)81 755-2805
Fax: ++41 (0)81 755-2848

Petra Haubold
AQUANAL®-Technical Support
Tel.: ++49 (0)5137 8238-643
Fax: ++49 (0)5137 8238-843

www.sigma-aldrich.com/aquanal