

# pH & Conductivity

The following pages contain a variety of instruments for the measurement of pH values as well as conductivity in microSiemens.

PHX 800 as a standard testing device for the pH values. TDS 3 as a standard testing device for microSiemens/cm<sup>2</sup>.

For professional use one can select from the following range: PHT 810 pH meter instrument and PHT 830 pH meter, temperature compensated, with a variety of different electrodes, and the CT 830 conductivity measurement instrument, temperature compensated.



PHT 810  
pH Meter




PHT 830  
pH Meter



CT 830  
Conductivity Meter



pH and  
Conductivity  
Standard Tester

The extended product range of  provides you with additional solutions for your major challenges in pH and conductivity measurement. For more information go to [www.WTW.com](http://www.WTW.com).



# pH and Conductivity Meter and Tester

Find your perfect meter:

Meter	Parameter	Measurement range	Probe type	Probe connection
PHT 810 pH Meter	pH	0 pH ... 14 pH	Various electrodes available	BNC
PHT 830 pH Meter	pH	0 pH ... 14 pH	pH-electrode with plastic shaft	Plug BK 6-pin
PHX 800 pH Tester	pH	0 pH ... 14 pH	Integrated electrode	-
CT 830 Conductivity Meter	Conductivity	0 ... 200 $\mu$ S, 0 ... 2,000 $\mu$ S, 0 ... 20 mS, 0 ... 500 mS	Graphite electrode	Plug BK 6-pin
TDS 3 Conductivity Tester	Conductivity	0 ... 1,999 $\mu$ S, 0 ... 19.99 mS	Integrated electrode	-



## PHT 830 pH Meter with temperature compensation



- Configuration directly on device using 5 buttons and display
- Graphic LCD display with backlight
- Logging function
- Temperature compensated
- Software connection by IF 830, Winlog.pro, Winlog.med, Winlog.validation



### Technical Data

Measurement range	pH:	0 pH ... 14 pH
	mV:	-1,999 mV ... 1,999 mV
	Temperature:	-10 °C ... +100 °C
Resolution	pH:	0.01 pH;
	mV:	1 mV
	Temperature:	0.1 °C
Accuracy	pH:	± 0.03 (± 2 pH-units)
	Temperature:	± 0.1 °C
Memory		4,000 values
Temperature		-10 °C ... +100 °C
Display		128 x 64 Pixel, backlight
Interface		USB "Interface HMG USB"
Battery		3 Batteries Type AA, IEC R6, LR6, 1.5 V
Ambient		-10 °C ... +55 °C (+14 °F ... +131 °F)
Relative humidity		< 95 % (non-condensing)
Connectors		Plug BK 6 pin (4 pin interface)
Housing		ABS plastic
Protection class		IP65
Dimension (L x W x D)		200 x 95 x 40 mm
Weight		290 g
Factory calibration certificate		pH 4.01 and pH 6.86

### The set contains:

- PHT 830 pH Meter
- pH electrode, depending on Set type
- Buffer solution pH 4, pH 7, pH 9
- KCl solution
- Carrying case

Type	Description	Part No.
PHT 830 SET 1	pH Meter with plastic electrode	1340-5812
PHT 830 SET 2	pH Meter with glass electrode	1340-5813
PHT 830 SET 3	pH Meter with penetration electrode	1340-5814

## CT 830 Conductivity Meter with auto range



- Configuration directly on device using 5 buttons and display
- Graphic LCD display with backlight
- Logging function
- Temperature compensated
- Software connection by IF 830, Winlog.pro, Winlog.med, Winlog.validation



### Technical Data

Measurement range	0 ... 200 $\mu$ S 0 ... 2,000 $\mu$ S	TDS 0 ... 200 mg/l TDS 0 ... 2,000 mg/l
Resolution	0.1 $\mu$ S; 1 $\mu$ S	
Accuracy	Conductivity: Temperature:	$\pm$ 0.5 % full scale $\pm$ 0.1 $^{\circ}$ C
Memory	4,000 values	
Temperature	-10 $^{\circ}$ C ... +100 $^{\circ}$ C	
Display	128 x 64 Pixel, backlight	
Interface	USB "Interface HMG USB"	
Battery	3 Batteries Type AA, IEC R6, LR6, 1.5 V	
Ambient	-10 $^{\circ}$ C ... +55 $^{\circ}$ C (+14 $^{\circ}$ F ... +131 $^{\circ}$ F)	
Relative humidity	< 95% (non-condensing)	
Connectors	Plug BK 6 pin (4 pin interface)	
Housing	ABS plastic	
Protection class	IP65	
Dimension (L x W x D)	200 x 95 x 40 mm	
Weight	290 g	
Factory calibration certificate	5 $\mu$ S/cm and 1,413 $\mu$ S/cm	

### The set contains:

- CT Conductivity Meter
- Conductivity electrode
- Calibration solution  
1413  $\mu$ S/cm
- Carrying case

Type	Description	Part No.
CT830 SET	Conductivity Meter	1340-5835

## Various electrodes for PHT 830

### AT 830 pH K Binder

Temperature compensated  
Housing material: plastic  
Cable length: 150 cm  
Diameter: 12 mm  
Shaft length: 120 mm



### AT 830 pH G Binder, laboratory electrode

Temperature compensated  
Shaft housing material: glass  
Cable length: 100 cm  
Shaft diameter: 12 mm  
Shaft length: 120 mm



### AT 830 pH E Binder, penetration electrode

Temperature compensated for measurements in semi-solid food products and other materials.

Housing material: glass  
Cable length: 100 cm  
Shaft/electrode diameter: 15 mm/5 mm  
Shaft/electrode length: 65 mm/12 mm



Technical Data	AT 830 pH K	AT 830 pH G	AT 830 pH E
pH measurement range	0 pH ... 14 pH	0 pH ... 14 pH	2 pH ... 13 pH
Temperature measurement range	0 °C ... +100 °C (+32 °F ... +212 °F)	0 °C ... +100 °C (+32 °F ... +212 °F)	+5 °C ... +80 °C (+41 °F ... +176 °F)
Electrolyte	Gel	Gel	Referid®

Type	Description	Part No.
AT 830 pH K Binder	Plastic electrode	1339-0661
AT 830 pH G Binder	Measurement electrode for laboratories	1339-0662
AT 830 pH E Binder	Penetration electrode	1339-0663

## Electrode for CT 830

### AT 830 C Binder

Temperature compensated  
Housing material: plastic  
Cable length: 150 cm  
Diameter: 12 mm  
Shaft length: 120 mm



Technical Data	AT 830 C
Conductivity measurement range	0 μS ... 500 mS
Temperature measurement range	0 °C ... +100 °C (+32 °F ... +212 °F)

Type	Description	Part No.
AT 830 C Binder	Plastic electrode	1339-0660

## Interface cable for PHT 830 and CT 830

### EBI IF 830

For reading out the memory of the PHT 830 and CT830

- Software connection  
Winlog.pro, Winlog.med,  
Winlog.validation



Type	Description	Part No.
EBI IF 830	Interface for PHT 830 and CT 830	1340-6011

## PHX 800 Basic pH Tester with acoustic signal



- Automatic deactivation
- Battery charge indicator
- Replaceable battery

### Technical Data

pH measurement range	0 pH ... 14 pH
pH measurement accuracy	0.1 pH
pH resolution	±0.2 pH
Operating temperature	0 °C ... +50 °C (+32 °F ... +122 °F)
Storage temperature	-25 °C ... +60 °C (-13 °F ... +140 °F)
Housing material	ABS plastic
Dimension (L x W x H)	170 x 32 x 15 mm
Weight	Approximately 70 g
Battery	1.5 V A76/LR44
Battery lifetime	Approximately 150 hours
Deactivation	Automatically after 15 minutes

Type	Description	Part No.
PHX 800	Basic pH Tester	1340-5800

## TDS 3 Basic Conductivity Tester Dual Display



- Battery charge indicator
- Replaceable battery

### Technical Data

Measurement range	0 ... 1,999 µS	0 ... 1,999 ppm
	0 ... 19.99 mS	0 ... 19.99 ppt
Measurement accuracy	1 µS	
Resolution	1 µS	
Operating temperature	0 °C ... +50 °C (+32 °F ... +122 °F)	
Storage temperature	-25 °C ... +60 °C (-13 °F ... +140 °F)	
Housing material	ABS plastic	
Dimension (L x W x H)	170 x 32 x 15 mm	
Weight	Approximately 70 g	
Battery	4 x 1.5 V A76/LR44	
Battery lifetime	Approximately 150 hours	

Type	Description	Part No.
TDS 3	Basic Conductivity Tester	1340-5831

## PHT 810 pH Meter with automatic pH calibration



PHT 810



PHT 810 + AT 206



ST 1000



The device has been certified together with the EB 4401 food inspection case (please see page 93).

### Technical Data

pH measurement range	0 pH ... 14 pH
pH measurement accuracy	0.03 pH
pH resolution	0.01 pH
Total memory capacity	Hold, MIN / MAX
Connector	BNC
Battery lifetime	Up to 5 years
Display	LCD, 12 mm
Operating temperature	0 °C ... +50 °C (+32 °F ... +122 °F)
Storage temperature	-25 °C ... +60 °C (-13 °F ... +140 °F)
Dimensions (L x W x H)	110 x 54 x 22 mm
Temperature compensation	Manual
Weight	Approximately 200 g
Certificate	2-point factory calibration certificate (included at pH meter set; pH 4.00 and pH 7.00)

- MIN/MAX and hold options
- Approximately 5 years battery life time

Type	Description	Part No.
PHT 810	pH Meter (without electrode)	1340-5810A
ST 1000	pH Meter Set (consisting of PHT 810, penetration electrode AT 206, punching pin, buffer solutions pH 4 and pH 7, carrying case)	1339-0620A

## Various electrodes for PHT 810

### AT 200 plastic electrode

Housing material: plastic  
 Diameter: 12 mm  
 Shaft length: 120 mm



### AT 201 laboratory electrode

Shaft housing material: glass  
 Shaft diameter: 12 mm  
 Shaft length: 120 mm



### AT 206 penetration electrode

for measurements in semi-solid food products and other materials.  
 Housing material: glass  
 Shaft/electrode diameter: 25 mm/5 mm  
 Shaft/electrode length: 65 mm/12 mm  
 with 1 m cable and BNC plug



Technical Data	AT 200	AT 201	AT 206
pH measurement range	0 pH ... 14 pH	0 pH ... 14 pH	2 pH ... 13 pH
Temperature measurement range	-5 °C ... +80 °C (+23 °F ... +176 °F)	-15 °C ... +130 °C (+5 °F ... +266 °F)	+5 °C ... +80 °C (+41 °F ... +176 °F)
Electrolyte	Gel	Gel	Referid®

Type	Description	Part No.
AT 200	Plastic electrode	1339-0631
AT 201	Measurement electrode for laboratories	1339-0632
AT 206	Penetration electrode	1339-0629

## Accessories for PHT 810



**AG 140** Protective cover for handheld devices, red



**AT 100-PHT** Carrying case



**AT 400** Buffer solution pH 4



**AT 401** Buffer solution pH 7



**AT 405** KCl solution

Type	Description	Part No.
AG 140	Protective cover for handheld devices, red	1340-5005
AT 100-PHT	Carrying case	1340-5091
AT 400	Buffer solution pH 4, 50 ml	1341-3836
AT 401	Buffer solution pH 7, 50 ml	1341-3838
AT 405	KCl solution, 50 ml	1341-3839
pH 9	Buffer solution pH 9, 250 ml	109130
KCL-250	KCL solution 3 mol/l, 250 ml	109705



# Pressure

On the next pages you will find more information about the robust and highly accurate VAM 320 Vacuometer which is also available with EX certification.

## Vacuometer

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### Applications:

- Measurement of low atmosphere pressure
  - Measurement in potentially explosive atmospheres:  $\text{Ex II 2G Ex ib IIC T4 Gb}$  for ambient temperatures up to  $+50\text{ }^{\circ}\text{C}$  ( $+122\text{ }^{\circ}\text{F}$ )
  - Process monitoring
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## Vacuometer

