



## Conductivity Measurements

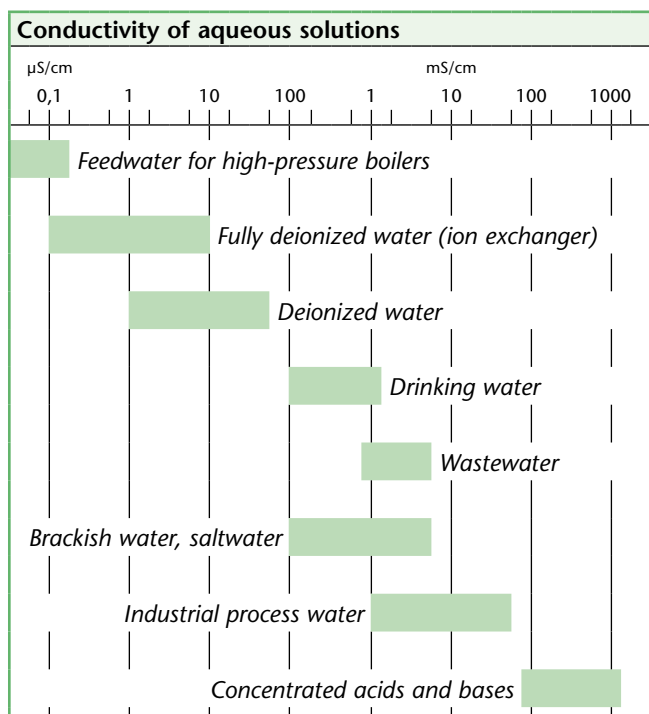
### Conductivity Meters – The Electrolytical Conductivity

Conductivity is a parameter used to measure electrical properties of a solution. The more salt, acid or alkali in a solution, the greater its conductivity. The unit of conductivity is S/m, often also S/cm.

The scale for aqueous solutions begins with pure water at a conductivity of 0.05  $\mu\text{S/cm}$  (25 °C/77 °F). Naturally occurring waters such as drinking water or surface water have a conductivity in the range 100 – 1000  $\mu\text{S/cm}$ . At the upper end of the chart some acids and bases can be found.

Conductivity measurements are used for applications such as in the production of ultrapure water or determining the salinity of saltwater.

Conductivity is measured by making a measurement of the electrical resistance. The simplest kind of measuring cell used consists of two similar electrodes. An alternating voltage applied to one of the electrodes causes the ions in the solution to migrate towards the electrodes. The more ions in the solution, the greater the current which flows between the electrodes. The instrument measures the current and uses Ohm's law to calculate first the conductance of the solution and then – by taking the cell data into account – the conductivity.



## Application Range Conductivity Measurements

● Recommended by WTW    ○ Conditionally applicable    – Not recommended

Application Range	inoLab®						Portable meters		
	Cond 720/ 7200*	Cond 730/ 7300*	Cond 740/ 7400*	pH/ION/ Cond 750/ 7500*	Profiline Cond 1970i	VARIO® C <sub>ond</sub>	Cond 3110	Cond 3210	Cond 3310
Routine measurement	●	-	-	-	-	●	●	●	-
Routine measurement with documentation	-	●	●	●	●	-	-	-	●
AQA with documentation	-	●	●	●	●	-	-	-	●
R&D high precision	-	●	●	●	●	-	-	●	●
Control measurements	-	●	●	●	●	●	-	●	●
LIMS connection	-	●	●	●	●	-	-	-	○
Quality assurance	-	●	●	●	●	-	-	●	●
Training	●	●	●	●	○	●	●	●	○
Service	-	-	-	-	●	●	●	●	●
Laboratory measurements	●	●	●	●	●	●	-	-	○
Field measurements	-	-	-	-	●	-	●	●	●
Depth measurements	-	-	-	-	●	-	-	-	-
External control/ PC connection/ PC control	-	●	●	●	●	-	-	-	●
Salinity/TDS measurement	●	●	●	●	●	●	only SAL	●	●
Specific resistance	●	●	●	●	-	-	-	●	●
Suitable for pharmacopeia	●	●	●	●	●	-	-	●	●
Measurement of ultrapure water	●	●	●	●	●	●	-	●	●
Trace conductivity	●	●	●	●	●	-	-	●	●
<i>see page</i>	52	52	53	66	54	57	55	56	56

For conductivity measurements with multi-parameter instruments, see pages 8 and 62

Application Range	KLE 325	TetraCon®			LR		TA 197 LF	TetraCon®	LR
Sensors		325	325/S	DU/T	325/01	325/001		925	925/01
Chemical water	○	○	-	●	-	-	-	○	-
Ultrapure water (Pharmacopeia)	-	-	-	-	●	●	-	-	-
Ground water	●	●	-	-	-	-	●	●	-
Surface water	●	●	-	-	-	-	-	●	-
Depth measurements (barrages)	-	○	-	-	-	-	●	○	-
Laboratory measurements	●	●	-	-	●	●	-	●	●
Food industry (juices)	-	●	-	○	-	-	-	●	-
Swimming pools	●	●	-	○	-	-	-	●	-
Pharmaceuticals	○	●	-	○	●	○	-	●	●
Cosmetics/detergents	-	-	●	-	-	-	-	-	-
Semi-conductor industry	-	-	-	-	●	●	-	-	●
Paint/varnish (water-soluble)	-	●	○	-	-	-	-	●	-
Electroplating	-	●	-	-	-	-	-	●	-

applicable instruments:

- ① ProfilLine Cond, 3110, 3210, 3310
- ② all analog instruments except VARIO®
- ③ all analog instruments except VARIO® + Cond 3110
- ④ Cond 197i / 1970i

\* North American version

only MultiLine® IDS



Parameter  
pH  
ORP  
ISE  
Dissolved Oxygen (D.O.)  
Conductivity  
Multi-parameter  
Data logger/flow + level  
BOD/Respiration  
Photometers  
Turbidity  
Colony Counter  
Software/Printers

# Laboratory Conductivity Meters

Conductivity is an important parameter in monitoring water quality. In the laboratory sector this parameter has increased in importance since the introduction of pharmacopeia standards for pharmaceutical water. WTW inoLab® laboratory conductivity instruments meet all the requirements for measurements according to this standard.

## inoLab® Cond 720/7200\*

- Application specific displays
- Touch-sensitive keypad with pressure point and tactile response
- Battery or AC power operation

### Simple and reliable

Routine laboratory conductivity meter with large multi-functional display, simultaneous display of temperature and automatic temperature compensation. 20 °C or 25 °C (68 °F or 77 °F) can be set as reference temperature. Both TDS and salinity measurements are possible as well as conductivity and temperature. The ability to set different cell constants means that other special conductivity cells can be connected, including the TetraCon® 325 4-electrode conductivity cell and LR 325/01 ultrapure water conductivity cell.



## inoLab® Cond 730/7300\*

- Simplified operator convenience
- GLP documentation via PC or optional built-in printer
- Meets all the requirements according to pharmacopeia

### Compact and precise

Standard laboratory conductivity meter with large multifunctional display, simultaneous display of temperature and automatic temperature compensation. The data logging capability and the real-time clock allows for all GLP functions. Data output can take place via the optional built-in printer on thermal paper accepted for use for official documents or via the built-in RS 232 digital interface via a PC or external printer.

20 °C or 25 °C (68 °F or 77 °F) can be set as reference temperature. Both TDS and salinity measurements are possible as



well as conductivity and temperature. The ability to set different cell constants means that other special conductivity cells can be connected as well as the TetraCon® 325 4-electrode conductivity cell and LR 325/01 ultrapure water conductivity cell.

*\* North American version*

## inoLab® Cond 740/7400\*

- Meets all the requirements according to pharmacopeia
- TDS and salinity measurement
- External control with MultiLab® pilot via PC



### With Terminal or PC software: flexible and powerful

High-performance laboratory conductivity meter with graphic display and digital recorder function, simultaneous display of temperature, and automatic temperature compensation. A built-in data logger and a real-time clock allows for all QA conforming functions. The optional built-in printer allows data printout on thermal paper accepted for use in official documents. 20 °C or 25 °C (68 °F or 77 °F) can be set as reference temperature. Both TDS and salinity measurements are possible as well as conductivity and temperature. The ability to set different cell constants means that other special conductivity cells can be connected as well as the TetraCon® 325 4-electrode conductivity cell and LR 325/01 ultrapure water conductivity cell.

A PC keyboard interface allows an external keyboard or a barcode reader to be connected.

### Additional features

- Built-in digital recorder
- Real-time graphic display
- User selectable languages
- Multi-level GLP functions (password-protected operator levels)
- Limit input with acoustic alarm
- Meets all the requirements according to pharmacopeia
- Free-of-charge software downloads for MultiLab® pilot or terminal

## Technical Data

Model	Cond 720/7200* and Cond 730/7300*	Cond 740/7400*
<b>Range/Resolution</b>	<b>Conductivity</b> 0.0 µS/cm ... 500 mS/cm in 5 measuring ranges or AutoRange additionally for K = 0.1 cm <sup>-1</sup> : 0.00 µS/cm ... 19.99 µS/cm K = 0.01 cm <sup>-1</sup> : 0.000 µS/cm ... 1.999 µS/cm <b>Temperature</b> -5.0 ... +105.0 °C (23 ... 221 °F) <b>Salinity</b> 0.0 ... 70.0 <b>TDS</b> 0 ... 1999 mg/l <b>Resistivity</b> 0.000 ... 1999 MΩcm	<b>Conductivity</b> 0.0 µS/cm ... 2000 mS/cm in 5 measuring ranges or AutoRange additionally for K = 0.1 cm <sup>-1</sup> : 0.00 µS/cm ... 20.00 µS/cm K = 0.01 cm <sup>-1</sup> : 0.000 µS/cm ... 2.000 µS/cm <b>Temperature</b> -5.0 ... +105.0 °C (23 ... 221 °F) <b>Salinity</b> 0.0 ... 70.0 <b>TDS</b> 0 ... 2000 mg/l <b>Resistivity</b> 0.000 ... 2000 MΩcm
<b>Accuracy (±1 digit)</b>	<b>Conductivity</b> ± 0.5% of value <b>Temperature</b> ± 0.1 K	
<b>Reference temperature</b>	20 °C or 25 °C (68 ... 77 °F) selectable	
<b>Cell constants</b>	With calibration 0.450...0.500 and 0.800...1.200 cm <sup>-1</sup> , fixed: 0.01 cm <sup>-1</sup> freely adjustable 0.25 ... 2.5 cm <sup>-1</sup> and 0.09 ... 0.11 cm <sup>-1</sup>	
<b>Temperature compensation</b>	Automatic or switched off	
<b>Temperature coefficient</b>	• Non-linear function for natural water to EN 27 888 • Linear compensation from 0.001 ... 2.999%/K • No compensation	
<b>Calibration</b>	With 0.01 mol KCl	

## Ordering Information

inoLab® Laboratory Conductivity Meter SETs – with universal power supply 100-240 VAC (50/60 Hz) included	Order No.
inoLab® Cond 720/7200* SET 1 Simple and reliable conductivity meter, including TetraCon® 325, including accessories, without passive multi-function box	1C10-0111
inoLab® Cond 730/7300* SET 1 Compact precision conductivity meter, including TetraCon® 325, passive multi-function box and accessories	1C20-0111
inoLab® Cond 740P/7400P* SET 1 The intelligent conductivity measuring station, terminal with integrated printer, including TetraCon® 325 und accessories	1C31-0111
inoLab® Box Passive multi-function box, not included in inoLab® Cond 720/7200* SETs	109 810



\* North American version

# Portable Conductivity Meters

## ProfiLine Conductivity Field Meters

The WTW conductivity meter ProfiLine Cond 1970i, supplied with integrated powerful NiMH rechargeable batteries, is both waterproof (IP 66) and submersible (IP 67). Along with an 800 data file data logger, a real time clock and recorder output, the ProfiLine Cond 1970i conforms to all GLP requirements.

### ProfiLine Cond 1970i

- Highly precise, indestructible, waterproof
- Large, silicone keys for field use
- Large, easy-to-read display
- Measurement down to depths of 100 m (330 ft)

Convenient handle and carrying strap included.

The Cond 1970i is suitable for depth measurements down to 100 m (330 ft) in combination with the TA 197 LF depth armature.



### TA 197 LF

Conductivity depth armature TA 197 LF with built-in temperature probe, up to 100 m (330 ft) cable with waterproof plug (IP 67), pressure-resistant steel armor (material VA 1.4571) with screw-off protective hood, pressure-resistant to max. 10 bar, fits into small boreholes (2" dia.).

### Technical Data

Model		ProfiLine Cond 1970i
Range/ Resolution	Conductivity	0.0 µS/cm ... 500 mS/cm in 5 measuring ranges or AutoRange,, 0.00 ... 19.99 µS/cm for K=0.1 cm <sup>-1</sup> , 0.000 ... 1.999 µS/cm for K=0.01 cm <sup>-1</sup>
	Temperature	-5.0 °C ... +105.0 °C (23 ... 221 °F)
	Salinity	0.0 ... 70.0
	TDS	0 ... 1999 mg/l
Accuracy (±1 digit)	Conductivity	±0.5% of value
	Temperature	± 0.1 K
Reference temperature	20 °C or 25 °C (68 ... 77 °F), selectable	
Cell constants	With calibration 0.450...0.500 and 0.800...1.200 cm <sup>-1</sup> , fixed: 0.01 cm <sup>-1</sup> freely adjustable 0.25 ... 2.5 cm <sup>-1</sup> and 0.09 ... 0.11 cm <sup>-1</sup>	
Temperature compensation	Automatic, can be switched off	
Temperature coefficient	<ul style="list-style-type: none"> <li>• Non-linear function for natural waters to EN 27 888 coefficient and ultrapure water function</li> <li>• Linear compensation from 0.01 ... 2.99%/K</li> <li>• No compensation</li> </ul>	

### Ordering Information

Portable Conductivity Field Meter – with universal power supply 100-240 VAC (50/60 Hz) included	Order No.
ProfiLine Cond 1970i Robust, waterproof, submersible conductivity meter	3C30-010



For depth armatures down to 100 m (330 ft), see WTW Product Details

**NEW**

Portable Meters

### ProfiLine 3000 Series

Conductivity measurement made simple: the Cond 3110 is a rugged and waterproof device for portable conductivity measurement. Easy-to-use, with preset nLF temperature compensation according to EN 27888 for measuring in wastewater and natural waters.

#### ProfiLine Cond 3110

- For KLE 325 or TetraCon® 325 cells
- Automatic temperature compensation
- Salinity measurement



Complete as SET



Parameter
pH
ORP
ISE
Dissolved Oxygen (D.O.)
<b>Conductivity</b>
Multi-parameter
Data logger/flow + level
BOD/Respiration
Photometers
Turbidity
Colony Counter
Software/Printers

**NEW**

**ProfiLine Cond 3210/3310**

- Special cells can be connected
- Also measures specific resistance and TDS
- For measurements according to pharmacopeia



The versatile Cond 3210: Easily perform conductivity measurements in a wide variety of samples with either two- and/or four-electrode cells using this flexible meter, which offers the additional option of measuring with linear or without temperature compensation.

Automatically store or transmit data series: The Cond 3310 corresponds with the Cond 3210, with the added feature of an interval-controlled data logger. With a large memory

capacity and a waterproof USB interface, the Cond 3310 is ideal for collecting large amounts of data, such as pumping tests that require date, time and ID number.

**Technical Data**

Model	Cond 3110	Cond 3210	Cond 3310	
<b>Range/Resolution/Accuracy</b>	<b>Conductivity</b> 0.0 ... 1000 mS/cm ±0.5 % of value <b>Temperature</b> -5.0 °C ... +105.0 °C ±0.1 °C (23 ... 221 °F) <b>Salinity</b> 0.0 ... 70.0 (nach IOT) <b>TDS</b> – <b>Resistivity</b> –	0.0 ... 1000 mS/cm ±0.5 % of value 0.000 ... 1.999 µS/cm (for K=0.01 cm <sup>-1</sup> ) 0.00 ... 19.99 µS/cm (for K=0.1 cm <sup>-1</sup> ) -5.0 °C ... +105.0 °C ±0.1 °C (23 ... 221 °F) 0.0 ... 70.0 (according to IOT) 0 ... 1999 mg/l, 0 ... 199.9 g/l, 0.00 ... 999 MΩcm		
<b>Reference temperature</b>	20 °C or 25 °C (68 ... 77 °F), selectable	20 °C or 25 °C (68 ... 77 °F), selectable		
<b>Cell constant</b>	<b>fixed:</b> 0.475 cm <sup>-1</sup> <b>with calibration:</b> 0.450 ... 0.500 cm <sup>-1</sup> , 0.800 ... 0.880 cm <sup>-1</sup> <b>adjustable:</b> –	0.475 cm <sup>-1</sup> , 0.010 cm <sup>-1</sup> 0.450 ... 0.500 cm <sup>-1</sup> , 0.800 ... 0.880 cm <sup>-1</sup> 0.090 ... 0.110 cm <sup>-1</sup> , 0.250 ... 25.000 cm <sup>-1</sup>		
<b>Temperature compensation</b>	Automatic	Automatic / manually selectable		
<b>Temperature coefficient</b>	• Non-linear function for natural waters (nLF) to EN 27 888	• Non-linear function for natural waters (nLF) to EN 27 888 and ultrapure water function • Linear compensation from 0.000 ... 3.000 %/K • No compensation	• Linear compensation from 0.000 ... 10.000 %/K • No compensation	
<b>Memory/Logger</b>	–	Manual 200	Manual 200/5000 automatic	
<b>Display</b>	7-Segment LCD, customized	LCD Graphic, backlit		
<b>Continuous operation</b>	Up to 1000 hrs.	Up to 800 hrs. without/100 hrs. with backlight		

**Ordering Information**

ProfiLine Portable Conductivity Meter SETs		Order No.
<b>Cond 3110 SET 1</b>	Robust and waterproof battery-operated portable conductivity meter, including TetraCon® 325, professional case and accessories	2CA101
<b>Cond 3210 SET 1</b>	Robust and waterproof battery-operated portable conductivity meter with data logger, including TetraCon® 325, professional case and accessories	2CA201
<b>Cond 3310 SET 1</b>	Robust and waterproof battery-operated portable conductivity meter with data logger and USB mini B interface, including TetraCon® 325, professional case and accessories	2CA301



For other measuring cells in SET, see WTW Product Details

## VARIO® C<sub>ond</sub>

- Touch screen
- Large operating range
- Plug-in cells – no cables

**Simple measurement at your fingertips – now also available for conductivity measurement**

VARIO® C<sub>ond</sub> is an outstanding value. This economical meter is ideal for use in process control monitoring or anywhere that a small, accurate meter is needed. The VARIO® is small, light, handy, waterproof and has a robust firm-grip rubber armor.

**Miniature precision**

The globally renowned measurement cell TetraCon® 325 was modified exclusively for the VARIO® C<sub>ond</sub>. With an extra ultrapure water cell and flow vessel the VARIO® C<sub>ond</sub> is uniquely suited for ultrapure water analysis.

With increased precision through the omission of cable connectors, the VARIO® C<sub>ond</sub> is an appropriate solution for servicing and maintaining water treatment equipment. No matter whether using it for pure water measurement in semi-conductor industry or in cell culture laboratories, the pure water conductivity cell with flow-through vessel always allows a rapid and easy control measurement.



**Long lasting power.**

VARIO® C<sub>ond</sub> offers up to 500 hours of continuous operation with just one standard battery. The low-power technology shuts down the device after 10 minutes in standby. Changing the battery is quick and easy.

Technical Data	
Model	VARIO® C <sub>ond</sub>
Range/Resolution	[µS/cm] 0.00 ... 19.99 (when using module LR01 V) 0.0 ... 199.9 0 ... 1999
	[mS/cm] 0.00 ... 19.99 0.0 ... 199.9
Resistivity [kΩcm]	0.000 ... 1.999 0.00 ... 19.99 0.0 ... 199.9 0 ... 1999
Resistivity [MΩcm]	0.000 ... 1.999 0.0 ... 199.9 0 ... 1999
SAL	0.0 ... 70.0 according IOT
TDS [mg/l]	0 ... 1999
T [°C/°F]	-5.0 ... +105.0/23 ... 221

Ordering Information		Order No.
VARIO® C <sub>ond</sub>		
VARIO® C <sub>ond</sub> SET A	VARIO® C <sub>ond</sub> in the portable case set, incl. 4-electrode cell and KCl solution 0.01 mol/l	2X00-001A
VARIO® C <sub>ond</sub> SET B	VARIO® C <sub>ond</sub> in the portable case set, incl. ultrapure water cell and flow-through vessel	2X00-001B

For other accessories, see WTW Product Details

Parameter

pH

ORP

ISE

Dissolved Oxygen (D.O.)

Conductivity

Multi-parameter

Data logger/flow + level

BOD/Respiration

Photometers

Turbidity

Colony Counter

Software/Printers



# Conductivity Cells

The TetraCon® 4-electrode system sets the standard for professional conductivity measurements. When compared to conventional 2-electrode conductivity cell, the TetraCon® cells offer a high degree of precision, wider measuring range and minimal immersion depth needed for measuring. Additionally, these superior cells eliminate errors caused by polarization effects, and from dirty samples.

## TetraCon®

In comparison with conventional measuring cells with 2 electrodes, the TetraCon® conductivity cell offers numerous technical advantages:

- Highest degree of precision and linearity by optimized cell geometry
- Extremely large measuring range with just one cell
- Long-term cell constant stability with high-quality abrasion-resistant graphite electrodes
- With built-in temperature probe
- Smallest immersion depth possible
- No measuring errors even with very dirty electrodes – contact resistance on the electrode surface is automatically compensated
- No measuring errors from cable influences
- No measuring errors from primary or secondary polarization effects
- No measuring errors due to contact with side walls or base of measuring vessels
- Robust, unbreakable epoxy body

Selection Guide																	
Measuring cell	MultiLine® Multi 3410/3420/3430	ProfilLine Cond 3110	ProfilLine Cond 3210/3310	VARIO® C <sub>ond</sub>	Cond 315i	LF 318	LF 320/323/325	LF 330/340A	Cond 330i/340i	inoLab® Cond, pH/Cond, Multi	LF 3000	MultiLab® 540	MultiLine® P4, Multi 340i, Multi 197i, Multi 1970i	MultiLine® P3 pH/LF, pH/Cond 340i	Multi 350i	LF 197, LF 597	Cond 1970i/197i
KLE 325		●	●														
LTA 1			②			②	②	②	②	②				②	②		②
LR 01/T											●						
TetraCon® 325, TetraCon® 325/C		●	●		●	●	●	●	●	●		●	●	●	●	●	●
▣ <sub>B</sub> TetraCon® 925	●																
TA 197 LF																●	●
TetraCon® DU/T			⑤				⑤	⑤	⑤	⑤	④	⑤			⑤	⑤	⑤
TetraCon® DU/TH			⑤				⑤	⑤	⑤	⑤	④	⑤			⑤	⑤	⑤
LR 325/01			●		●		●	●	●	●		●			●	●	●
▣ <sub>B</sub> LR 925/01	●																
LR 325/001			●					●	●	●		●			●		●
TetraCon® 325/S			●					●	●	●		●			●	●	●
ConOx															●		
TetraCon® V				●													
LR01 V				●													

**Adapter (possible conversion with cell constants) is required:**

② Adapter cable K/LTA together with temperature probe TFK 325 or TFK 150  
 ④ Connection cable KKDU  
 ⑤ Connection cable KKDU 325



Conductivity Cells								
Application	Standard	Universal		Special	Ultrapure Water		Trace	Flow-through
	KLE 325	TetraCon® 325	TetraCon® V	TetraCon® 325/S	LR 325/01	LR 01 V	LR 325/001	TetraCon® DU/T
Order No.	301 995	301 960	301 990	301 962	301 961	301 992	301 962	301 252**
Electrode material	Graphite	Graphite		Graphite	V4A steel		V4A steel	Graphite
Flow-through vessel	–	–		–	–		V4A steel	–
Shaft material	Epoxy	Epoxy		Epoxy	V4A steel		V4A steel	Epoxy
Shaft length	120 mm (4.72 in)	120 mm (4.72 in)		120 mm (4.72 in)	120 mm (4.72 in)		120 mm (4.72 in)	155 mm (6.10 in)
Cell constant	$K = 0.84 \text{ cm}^{-1}$	$K = 0.475 \text{ cm}^{-1}$		$K = 0.491 \text{ cm}^{-1}$	$K = 0.1 \text{ cm}^{-1}$		$K = 0.01 \text{ cm}^{-1}$	$K = 0.778 \text{ cm}^{-1}$
Diameter	15.3 mm (0.60 in)	15.3 mm (0.60 in)		15.3 mm (0.60 in)	12 mm (0.47 in)		20 mm (0.79 in)	–
Cable length	1.5 m (4.9 ft)	1.5 m (4.9 ft)		1.5 m (4.9 ft)	1.5 m (4.9 ft)		1.5 m (4.9 ft)	1 m (3.3 ft) (only with KKDU 325)
Measuring range	1 $\mu\text{S/cm}$ ... 20 $\text{mS/cm}$	1 $\mu\text{S/cm}$ ... 2 $\text{S/cm}^*$		1 $\mu\text{S/cm}$ ... 2 $\text{S/cm}^*$	0.001 $\mu\text{S/cm}$ ... 200 $\mu\text{S/cm}$		0.0001 $\mu\text{S/cm}$ ... 30 $\mu\text{S/cm}$	1 $\mu\text{S/cm}$ ... 2 $\text{S/cm}^*$
Temperature range	0 ... 80 °C (32 ... 176 °F)	0 ... 100 °C (32 ... 212 °F)		0 ... 100 °C (32 ... 212 °F)	0 ... 100 °C (32 ... 212 °F)		0 ... 100 °C (32 ... 212 °F)	0 ... 60 °C (32 ... 140 °F)
Filling volume	–	–		–	17 ml (without sensor)		ca. 10 ml (without sensor)	7 ml
Min./max. immersion depth	36/120 mm (1.42/4.72 in.)	36/120 mm (1.42/4.72 in.)	40 mm (1.57 in.)	40/120 mm (1.57/4.72 in.)	30/120 mm (1.18/4.72 in.)	40 mm (1.57 in.)	40/120 mm (1.57/4.72 in.)	–

IDS Conductivity Cells see page 15

For additional special measuring cells or other cable lengths, see WTW Product Details

\* Measuring range depends on particular instrument,

\*\* Adapter cable KKDU 325 (order no. 301 963), length 1 m (3.3 ft), is necessary for the connection

# Ultrapure Water According to Pharmacopeia

## Calibration and testing agents

### Kit for ultrapure water according to pharmacopeia

This kit contains LR 325/01 Ultrapure water cell, D01/T flow-through vessel made of glass (USP-KIT 1) or stainless steel (USP-KIT 2), NIST traceable 5  $\mu\text{S}$  standard with accuracy  $\pm 2\%$  and 6R/SET/LabTesting set



Ultrapure water cell LR 325/01 with glass flow-through vessel



Conductivity measuring kit ultrapure water measuring according to pharmacopeia, with stainless steel flow-through vessel for pharmaceutical water.

### Calibration standard 100 $\mu\text{S}/\text{cm}$

Shelf life 2 years,  
NIST traceable with accuracy  $\pm 3\%$

### Calibration standard 5 $\mu\text{S}/\text{cm}$

Shelf life 1 year,  
NIST traceable with accuracy  $\pm 2\%$

## Ordering Information Calibration and Testing Agents

Kit for measuring the conductivity according to pharmacopeia		Order No.
USP Kit 1	Kit for measuring conductivity according to pharmacopeia, consisting of LR 325/01 Ultrapure water cell, D01/T glass flow-through vessel, NIST traceable 5 $\mu\text{S}$ standard with accuracy $\pm 2\%$ and 6R/SET/LabTesting set	300 569
USP Kit 2	As USP Kit 1, but flow-through vessel made of stainless steel instead of D01/T	300 568
Calibration agents		Order No.
KS 100 $\mu\text{S}$	Calibration standard 100 $\mu\text{S}/\text{cm}$ , shelf life 2 years, NIST traceable with accuracy $\pm 3\%$ (300 ml)	300 578
KS 5 $\mu\text{S}$	Calibration standard 5 $\mu\text{S}/\text{cm}$ , shelf life 1 year, NIST traceable with accuracy $\pm 2\%$ (300 ml)	300 580
E-SET Trace	Calibration set (6 x 50 ml bottles calibration and control standard, KCl 0.01 mol/l), NIST traceable with accuracy $\pm 0.5\%$	300 572

## Flow-through vessels



Trace conductivity cell LR 325/001  
with stainless steel flow-through vessel



Glass flow-through vessel D01/T  
with ultrapure water cell LR 01 V

Parameter

pH

ORP

ISE

 Dissolved  
Oxygen  
(D.O.)

Conductivity

 Multi-  
parameter

 Data logger/  
flow + level

 BOD/  
Respiration

Photometers

Turbidity

 Colony  
Counter

 Software/  
Printers

**Ordering Information Flow-through Vessels**

For LTA 1, LTA, LTA 01 and TFK 530		<b>Order No.</b>
D 530	Flow-through vessel of transparent PVC, suitable for conductivity cells and temperature probes, I.D. 44 mm, V*=97 ml	108 060
For TetraCon® 325		<b>Order No.</b>
D 201	Flow-through vessel of transparent PVC, I.D. 18 mm, V*=13 ml	203 730
For TetraCon® 96, LTA 100 and KLE 1		<b>Order No.</b>
D 1/T	Flow-through vessel, glass I.D. 24 mm, V*=36 ml	302 730
For LR 01/T and LTA 01		<b>Order No.</b>
D 01/T	Flow-through vessel, glass I.D. 18 mm, V*=17 ml	302 750

V\* = filling volume without sensor