Conductivity Cells

TetraCon®

For more than 50 years WTW has been one of the leading manufacturers world-wide of precision conductivity meters and cells. The TetraCon® 4-electrode system is the result of our commitment to quality and sets a new standard for professional conductivity measurements. 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 sensor as standard
- Smallest immersion depth possible
- No measuring errors even with very dirty electrode – 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	VARIO C_{cond}	Cond 315i	LF 315	LF 318	LF 320/323/325	LF 330/340A	Cond 330i/340i	inoLab® Cond, pH/Cond, Multi	LF 537	LF 538	LF 539	LF 3000	MultiLab® 540	MultiLab® P4/P5	MultiLine® P4, Multi 340i, Multi 197i	MultiLine® P3 pH/LF, pH/Cond 340i	Multi 350i	LF 197	LF 597	Cond 197i
LTA 1			②	②	②	②	②	②	●	●	②					②	②			②
LTA 10									●		●	●	②				②			
LR 01/T									●		●	●		●						
KLE 1/T									●		●	●		●						
KLE 315			●																	
TetraCon® 96									●		●	●		●						
TetraCon® 96-1,5									●		●	●		●						
TetraCon® 325		●		●	●	●	●	●		●			●		●	●	●	●	●	●
TA 197 LF																		●		●
TetraCon® 325/Pt													●							
TetraCon® DU/T					⑤	⑤	⑤	⑤	④	⑤	④	④	⑤	④			⑤	⑤	⑤	⑤
TetraCon® DU/TH					⑤	⑤	⑤	⑤	④	⑤	④	④	⑤	④			⑤	⑤	⑤	⑤
LR 325/01		●			●	●	●	●		●			●				●	●	●	●
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 sensor **TFK 325** or **TFK 150**
④ Connection cable **KKDU**
⑤ Connection cable **KKDU 325**

Conductivity Cells

	Standard conductivity cell TetraCon® 325	TetraCon® V	Special conductivity cell TetraCon® 325/S	Ultrapure water conductivity cell LR 325/01	LR01 V	Trace conductivity cell LR 325/001	Conductivity flow-through cell TetraCon® DU/T
Order No.	**301 960**	**301 990**	**301 602**	**301 961**	**301 992**	**301 962**	**301 252****
Electrode material	Graphite		Graphite	V4A steel		V4A steel	Graphite
Flow-thru vessel	–		–	–		V4A steel	–
Shaft material	Epoxy		Epoxy	V4A steel		V4A steel	Epoxy
Shaft length	4.72 in (120 mm)		4.72 in (120 mm)	4.72 in (120 mm)		4.72 in (120 mm)	6.10 in (155 mm)
Cell constant	K = 0.475 cm^{-1}		K = 0.491 cm^{-1}	K = 0.1 cm^{-1}		K = 0.01 cm^{-1}	K = 0.778 cm^{-1}
Diameter	0.60 in (15,3 mm)		0.60 in (15,3 mm)	0.47 in (12 mm)		0.79 in (20 mm)	–
Cable length	4.9 ft (1.5 m)		4.9 ft (1.5 m)	4.9 ft (1.5 m)		4.9 ft (1.5 m)	3.3 ft (1 m) (only with KKDU 325)
Measuring range	1 µS/cm ... 2 S/cm*		1 µS/cm ... 2 S/cm*	0.001 µS/cm ... 200 µS/cm		0.0001 µS/cm ... 30 µS/cm	1 µS/cm ... 2 S/cm*
Temperature range	32 ... 212 °F (0 ... 100 °C)		32 ... 212 °F (0 ... 100 °C)	32 ... 212 °F (0 ... 100 °C)		32 ... 212 °F (0 ... 100 °C)	32 ... 140 °F (0 ... 60 °C)
Filling volume	–		–	17 ml (without sensor)		ca. 10 ml (without sensor)	7 ml
Min./max. immersion depth	36/120 mm	40 mm	40/120 mm	30/120 mm	40 mm	40/120 mm	–

* Measuring range depends on particular instrument, ** Adapter cable KKDU 325 (order no. 301 963), length 3.3 ft (1 m), is necessary for the connection

For additional special measuring cells or other cable lengths see brochure "Product Details"

USP 28 and accessories

Calibration and testing agents

Kit for measuring conductivity according to USP 28

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 µS standard with accuracy ±2 % and 6R/SET/LabTesting set

Calibration standard 100 µS/cm

Shelf life 2 years,
NIST traceable with accuracy ±3 %

Calibration standard 5 µS/cm

Shelf life 1 year,
NIST traceable with accuracy ±2 %

Ordering-Information

Kit for measuring the conductivity according to USP 28		Order no.
USP Kit 1	Kit for measuring conductivity according to USP 28, consisting of LR 325/01 Ultrapure water cell, D01/T Glass flow-through vessel, NIST traceable 5 µS standard with accuracy ±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		
KS 100µS	Calibration standard 100 µS/cm, shelf life 2 years, NIST traceable with accuracy ±3% (300 ml)	300 578
KS 5µS	Calibration standard 5 µS/cm, shelf life 1 year, NIST traceable with accuracy ±2% (300 ml)	300 580
EP/SET	Calibration and platinization set (6 x 50 ml bottles calibration and control standard, KCl 0.01 mol/l, 30 ml platinizing solution, 1 calibration vessel), only for platinized cells	300 570
E/SET	Calibration set (6 x 50 ml bottles calibration and control standard, KCl 0.01 mol/l)	300 572

USP 28 and accessories

Conductivity measuring kit according to USP 28, with stainless steel flow-through vessel for pharmaceutical water.

Flow-through vessels

Ordering Information

for LTA 1, LTA, LTA 01 and TFK 530		Order no.
D 530	Flow-through vessel of transparent PVC, suitable for conductivity cells and temperature sensors, I.D. 44 mm, V*=97 ml	108 060
for TetraCon® 325		
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		
D 1/T	Flow-through vessel, glass I.D. 24 mm, V*=36 ml	302 730
for LR 01/T and LTA 01		
D 01/T	Flow-through vessel, glass I.D. 18 mm, V*=17 ml	302 750

V*: filling volume without sensor