



TresCon[®] Uno

Online-Analysis –

reliable · compact · economical

- Reliable TresCon[®] Technology
- Compact dimensions
- Economical
- Simple operation
- Easy to Use
- Easy Service Access
- Connection to PROFIBUS-DP possible



The new TresCon[®] Uno uses a single channel version of our popular multi channel TresCon[®] Analyzer.

The TresCon[®] Uno instruments are designed for control and monitoring at waste water treatment plants. The compact size of TresCon[®] Uno at a reasonable price offers to the user a good price-performance-ratio for the measurement of nutrient parameters.

System Description:

TresCon[®] Uno consists of a basic unit ①, an analyzer-module ②, and a reagent tray ③. System can be wall mounted.



TresCon[®] OP 210

TresCon[®] OP 210

Phosphate Analyzer Module



On-line orthophosphate measurement

- Control or feedback control of chemical phosphate precipitation, e.g. precipitating agent addition with simultaneous precipitation
- Monitoring biological phosphate elimination
- Measuring the phosphate pollution in natural waters
- Monitoring the phosphate concentration in the drinking water

Measuring Principle

The PO₄ module uses the vanadate/molybdate method (yellow method) for determining the orthophosphate content. A reagent reacts with phosphate in the sample to color the sample solution yellow. The intensity of this color is recorded photometrically and evaluated as a measure of the phosphate content.

- Yellow method
- Continuous background compensation
- Continuous/Discontinuous operation selectable
- Can be used in weakly polluted water without sample preparation

Technical Data OP 210

Resolution (Display)	Measuring range 1: 0.01 mg/l or µmol/l Measuring range 2: 0.1 mg/l or µmol/l Measuring range 3: 0.1 mg/l or µmol/l
Coefficient of variation for method	2% (for all measuring ranges)
Response time	< 3 min to measured value (after alteration in concentration at module input)
Measuring interval	Quasi-continuous measurement; 5, 10, 15, 20, 25 or 30 min settings
Calibration	Automatic 2-point calibration (time and interval selectable)
Background correction	Continuous background compensation based on new WTW algorithm
Sample input	Approx. 0.06 l/h, solid content <50 mg/l (e.g. sewage treatment plant effluent)
Consumption	Reagent, 10 l: 60/155/310/465 days with cont. /10/20/30 min measuring intervals Standard B 1.5 l: 90 days with 24 h calibration interval Cleaning solution, 1.5 l: 45 days with 24 h cleaning interval
Maintenance interval	Every 6 months

Measuring Range 1		
	mg/l	µmol/l
PO ₄ -P	0.05 - 3.00	1.5 - 100
PO ₄	0.15 - 9.00	1.5 - 100
Measuring Range 2		
	mg/l	µmol/l
PO ₄ -P	0.1 - 10.0	3 - 320
PO ₄	0.3 - 30.0	3 - 320
Measuring Range 3		
	mg/l	µmol/l
PO ₄ -P	0.1 - 25.0	3 - 800
PO ₄	0.3 - 80.0	3 - 800

Ordering Information OP 210

Separate TresCon [®] analyzer module for Orthophosphate for extension of an existing TresCon [®] system (requires 1 measuring place)		Order No.
OP 210/ MB 1	Module for Orthophosphate: Measuring range 1	820 004
OP 210/ MB 2	Module for Orthophosphate: Measuring range 2	820 005
OP 210/ MB 3	Module for Orthophosphate: Measuring range 3	820 006
TresCon [®] -basic instrument with analysis module OP 210 for ortho-phosphate (wall mounting, space for 2 further modules)		Order No.
TresCon [®] P 211/MB1	Orthophosphate, Measuring range 1	8A-40030
TresCon [®] P 211/MB2	Orthophosphate, Measuring range 2	8A-50030
TresCon [®] P 211/MB3	Orthophosphate, Measuring range 3	8A-60030
TresCon [®] Uno single parameter system ortho-phosphate with analysis module OP 210		Order No.
TCU/P211-MB1	TresCon [®] Uno for Orthophosphate: Measuring range 1	820 104
TCU/P211-MB2	TresCon [®] Uno for Orthophosphate: Measuring range 2	820 105
TCU/P211-MB3	TresCon [®] Uno for Orthophosphate: Measuring range 3	820 106
Accessories and Consumables see brochure "Product Details"		



Operation safe and Service friendly:

Many automatic diagnosis functions help the user with operation and maintenance. The modular design allows for the quick and easy exchange or replacement of modules.

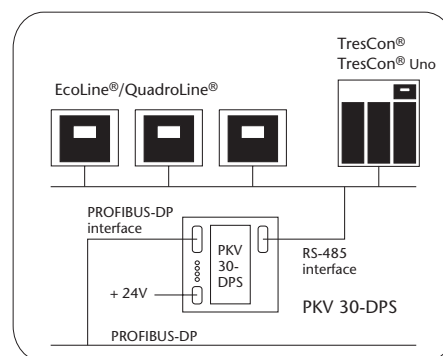
Maintenance and Service

TresCon® systems are service-friendly requiring little or no maintenance. The numerous useful system functions are easily accessed and changed. The operator is also prompted as to service intervals automatically. It has also been designed for easy access and maintenance.

The Instruments include:

- big graphical display
- three 0/4-20 mA outputs
- 12 relay interfaces
- RS 232 interfaces
- RS 485 interfaces
- different controller functions (PID, pulse-width, frequency)

Connection to PROFIBUS-DP via Protocol Converter



Technical Data

	TresCon® Uno	
Measuring ranges	Ammonium:	0.10 ... 1000 mg/l NH ₄ -N
	Nitrate:	0.10 ... 60 mg/l NO ₃ -N
	Nitrite:	0.05 ... 1.200 mg/l NO ₂ -N
	Orthophosphate Range 1:	0.05 ... 3.00 mg/l PO ₄ -P
	Orthophosphate Range 2:	0.10 ... 10.0 mg/l PO ₄ -P
	Orthophosphate Range 3:	0.10 ... 25.0 mg/l PO ₄ -P
	Nitrate/SAC:	0.10 ... 60 mg/l NO ₃ -N / 0.10 ... 200 m ⁻¹
Calibration	Automatic 2-point-calibration (works calibration for N211 and S211)	
Measurement intervals	Cont., 5, 10, 15, 20, 25, 30 min to be set depending on the parameter	
Sample preparation	Depending on the application: none, PurCon® or PurCon® IS	
Mains	230 VAC ± 10%; 50 Hz / 115 VAC ± 10%; 50/60 Hz	
Operation temperature:	32 ... 104 °F (0 ... 40 °C)	
Dimensions, weight (W x H x D, lb/kg)	Analyzer:	24.1 x 30.5 x 13 in. (612 x 775 x 329 mm), approx. 77.2 lb/35 kg
	Reagent tray:	23.2 x 2 x 14.2 in. (590 x 50 x 360 mm), approx. 37.5 lb/17 kg

Ordering Information

			Order No.
TCU/A111	TresCon® Uno - Ammonium	NH ₄ -N	820 101
TCU/N211	TresCon® Uno - Nitrate	NO ₃ -N	820 102
TCU/N511	TresCon® Uno - Nitrite	NO ₂ -N	820 103
TCU/P211-MB1	TresCon® Uno - Orthophosphate Range 1	PO ₄ -P/MB1	820 104
TCU/P211-MB2	TresCon® Uno - Orthophosphate Range 2	PO ₄ -P/MB2	820 105
TCU/P211-MB3	TresCon® Uno - Orthophosphate Range 3	PO ₄ -P/MB3	820 106
TCU/S211	TresCon® Uno - Nitrate/SAC	NO ₃ -N / SAC	820 107