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# New New Instruments

## IQ SENSOR NET – the multi-parameter measuring system

**NEW**

### ...uniquely adaptable

Unlimited possibilities with a completely new type of system. You can put together your own custom-made solution for your measuring problem from the IQ SENSOR NET building blocks.

#### Convincing arguments at a glance:

- One measuring system for all parameters
- Parameters can be grouped together as required
- Up to 20 sensors can be connected
- System easily extended by modules
- Built-in lightning protection
- Digital signal transmission

The IQ SENSOR NET is a logical digital and modular designed system which convinces because of its extreme degree of flexibility and economical viability.

Please refer to page 254 ff. for details



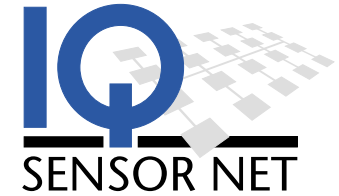
### IQ SENSOR NET – the interactive CD-ROM

Please ask for the free-of-charge CD with the request card at the end of the catalog.



# NEW

## On-line measurement of turbidity and solids



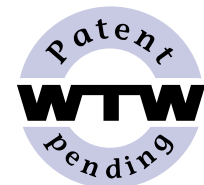
### ... uniquely cleaning

Optical sensors with a revolutionary new technique

#### Highlights at a glance:

- Needs **very little maintenance** thanks to new type of keeping clean system without any mechanically moving parts
- Measurements according to EN ISO 7027
- Scratchproof sapphire measuring window
- High operating reliability owing to Sensor-Check function
- Highly accurate factory calibration
- Long-term stability

Please refer to page 266 ff. for details



# New Instruments

## The new WTW handheld meters

**NEW**



Proven quality  
in a new look

### Series 3

The Series 3 WTW handheld meters are a family of portable innovative instruments which optimally combine measuring accuracy, reliability, operating comfort and flexibility.

Whether for pH/mV, ORP or ISE determinations, or for measuring temperature, oxygen, conductivity or salinity, either singly or combined – Series 3 offers you a total of 3 function levels with which you can easily solve all your measuring problems.

The 315i, 330i and 340i Series of handheld meters represent three different performance levels: from a very easy-to-use basic instrument up to a high-end instrument with at least 500 data sets according to GLP guidelines.

#### 315i Series

## Routine

The 315i Series handheld meter family guarantees comfortable measurements at an extremely favorable price. Good handling and simplified calibration functions facilitate easy on-site work; ideal for daily routine measurements.

The 315i Series include an exclusive case, stand, beaker and all the necessary calibration and cleaning solutions.

#### 330i Series

## Classic

The new 330i Series handheld meters for high-accuracy field measurements. With all measuring functions, time-proven calibration procedures and at least 500 data sets these models replace the very successful 330 Series of instruments.

The 330i Series include an exclusive case, stand, beaker and all the necessary calibration and cleaning solutions.

#### 340i Series

## Professional

The instruments of the 340i family combine measuring comfort with up-to-date documentation. Bidirectional interface for communication and external control; storage for at least 500 data sets for GLP-conform data processing according to AQA and GLP/GMP.

The 340i Series include an exclusive case, stand, beaker and all the necessary calibration and cleaning solutions.

### inoLab® BOD/BSB Level 3

"Dilution BOD" according to EN 1899-1 with the new calculation software in the inoLab® terminal and the active BOD multifunction box.

The following performance features allow easy BOD<sub>n</sub> measurements:

- Up to 5 samples for dilution water
- Up to 30 measuring samples
- Up to 18 dilutions per measuring sample
- Up to 7 storable routines
- Adjustable incubation time, 5 ... 30 days
- Protocol with calculated BOD values and all relevant data

This laboratory oxygen meter has been specially developed for BOD<sub>n</sub> measurements. A special software allows BOD<sub>n</sub> determination according to EN 1899-1. You can store your own routines for frequently occurring dilution ratios.

The inoLab® BOD/BSB Level 3 can also be used as a conventional high-end oxygen meter.

For further information please refer to page 110.



### ...uniquely communicative

#### inoLab® pilot Software for inoLab® Level 3

inoLab® pilot, the free-of-charge software package for all inoLab® Level 3 systems, can be downloaded from the Internet

With its pull-down menus inoLab® pilot makes both configuration and calibration easier. It controls the measurement and carries out data transfer and storage. The data can be shown online as a table or graph or off-line transferred to a printer.

#### Well laid out

All display modules are arranged as independent windows which can be moved about as required. Each window has its own menu bar with which setting for the measurement can be made quickly and conveniently. Additional graphic symbols, on-line help texts and a large measurement display round off the picture.



#### Graphic

A comfortable digital recorder is used as a graphic support for data monitoring. The complete measuring procedure is shown in real-time mode. Apart from zoom and scrolling functions, individual values can be displayed or limiting values laid down via the cursor. The window technique allows graphs to be shown and the stored measurements to be superimposed.

# New Instruments

## Turbidity measurement

### New portable Turb 350 IR Turbidity Meter

- Simple operation
- Automatic 1-4 point calibration
- Automatic measuring range switching
- Waterproof housing
- Professional carrying case



**NEW**

The Turb 350 IR is a portable turbidity meter with the accuracy of a laboratory instrument. With its infrared LED it is suitable for measurements according to ISO 7027 / DIN/EN 27 027 (EN ISO 7027).

For further information please refer to page 176.

## Sample digestion

### New thermoreactors

- 3 models – from routine up to professional
- Built-in timer function
- For temperatures up to 170 °C (CR 3200, CR 4200)
- Meet safety guidelines
- Programmable (CR 3200, CR 4200)
- Thermoblocks can be controlled separately (CR 4200)
- Built-in safety cover

Thermoreactors are needed for sample digestion for COD, total-N, total-P as well as for the determination of heavy metals. The models range from a routine instrument for water/wastewater analysis up to a professional model with separately controlled thermoblocks. Professional models CR 3200 and CR 4200 additionally allow the storage of user-defined digestion programs. The temperature can be selected in a range from room temperature up to 170 °C; all relevant safety guidelines are met as a matter of course.

For further information please refer to page 150.



**NEW**

## Homogenizers

- Complete sets
- Model with rechargeable batteries for on-site use
- Powerful motor
- Speed range  
10 500 ... 39 000 min<sup>-1</sup>
- Dispersing tools made of high-quality stainless steel



# NEW

Homogenizers are used for the homogenization of samples, e.g. for COD or total-N determinations according to DIN 38 402 A30.

Solid constituents also make a contribution to these parameters. Dispersing systems homogenize and mix the sample so that reproducible results can be obtained.

For further information please refer to page 136.

## TresCon® analyzers

State-of-the-art on-line measuring technology

### Total phosphorus module

Only one analysis module is available for the on-line analysis of total phosphorus. Special feature: both the digestion and the analysis of total-P can be carried out on-line according to the relevant DIN instructions.

- On-line analysis of total-P

- Efficient thermochemical digestion
- Molybdenum blue method for analysis
- Measurements every 10 min
- Complete determination of total-P according to DIN

For further information please refer to page 314.

### Total nitrogen

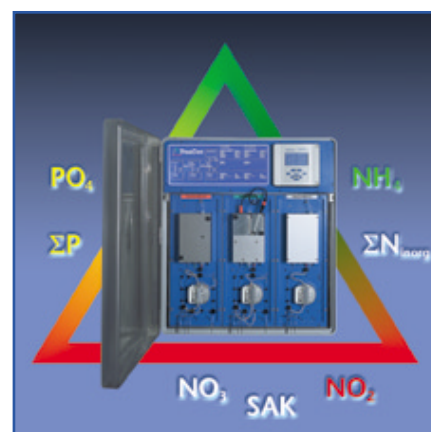
TresCon® uses the analytical data from NH<sub>4</sub>-N, NO<sub>x</sub>-N and NO<sub>2</sub>-N to calculate on-line the total inorganic dissolved nitrogen of a sample as well as the nitrate concentration without the nitrite fraction.

- Balancing the analytical data NO<sub>x</sub>-N, NO<sub>2</sub>-N and NH<sub>4</sub>-N

- On-line determination of total-N according to the German general wastewater management regulations, appendix 1
- Display as virtual analytical module

For further information please refer to page 316.

# NEW



# WTW

## About us

### Company highlights

- 1945** Company founded by Dr. Karl E. Slevogt.
- 1948** Renamed to Wissenschaftlich-Technische-Werkstätten (WTW).
- 1954** Introduction of first WTW pH meter.
- 1965** Introduction of first WTW oxygen meter
- 1976** Bavarian State Award for the Combibox compact multi-parameter system.
- 1982** Introduction of the first zero-current-free (stable zero point) oxygen sensor in the world.
- 1983** Start of WTW's on-line measuring technology program.
- 1986** First company to offer a 3-electrode oxygen sensor (TriOxmatic®)
- 1987** First company to offer a 4-electrode conductivity sensor for water analysis (TetraCon®)
- 1988** Foundation of WTW Austria.
- 1989** Foundation of WTW France.
- 1993** First manufacturer of O<sub>2</sub>, pH and conductivity measuring systems to be certified to ISO 9001.
- 1994** Foundation of WTW Italy.
- 1996**
  - Introduction of the mercury-free OxiTop® system for manometric BOD determination.
  - First company to offer monitors with built-in lightning protection.
- 1997**
  - Foundation of WTW USA.
  - Foundation of WTW Czech Republic.
- 1998**
  - Introduction of the PurCon sample preparation system as a replacement for conventional filtration systems.
  - First WTW spectrophotometer.
- 1999** "Innovations that make sense": the new laboratory instruments of the inoLab® family with their 3 function levels set new standards for the analytical measurement of pH, oxygen, conductivity and temperature as well as for ISE and multi-parameter measurements
- 2000** ...uniquely flexible  
Introduction of TresCon® – the modular analytical system for the continuous measurement of ammonium, nitrite, nitrate, phosphate
- 2001**
  - ...uniquely adaptable:  
IQ SENSOR NET – the multi-parameter measuring system offers unlimited possibilities for on-line measurements
  - ...uniquely cleaning:  
The new VisoTurb and ViSolid turbidity and solid sensors with their revolutionary ultrasonic keeping clean system give "low-maintenance" a completely new meaning.

Water analysis and WTW – for more than 55 years a successful symbiosis in Germany, Europe and the rest of the world.

Medium-sized in the best sense of the word. An independent company with obligations only to its customers and employees; flexible and innovative, with roots and its own identity.



### Uniquely independent ...

To be independent when making corporate decisions is for WTW one of the fundamental requirements for being able to work successfully and for demonstrating our reliability to our customers.

Regardless of short-term shareholder expectations WTW can concentrate its whole strength on offering innovations to its customers in order to help them to solve their problems. The IQ SENSOR NET system solution presented for the first time in this catalog is an example of a far-sighted company policy bringing long-term benefits to the customers, the environment and our employees.



## Uniquely customer-oriented...

Our customers and their problems are the focal point of all our activities. This begins with the analysis of their problems, the development of the necessary suitable products and includes the provision of both comprehensive advice before purchase and after-sales service.

In more than 100 countries worldwide WTW distributors or the WTW subsidiaries in Austria, the Czech Republic, France, Italy, Slovakia and the USA are working with more than 1000 dealers to ensure competent advice and rapid product availability throughout the world.

The WTW Seminar Center with its local events is the correct contact for all customers who want to undergo further training.

At the WTW Customer Care Center you will always find a competent partner to help you with any questions. If a new or unknown problem should occur our application laboratory and its technicians are also available to work out the solutions you need.



## Uniquely innovative...

Innovative force is created from enthusiasm for the job, openness to the requirements of the market and the latest technological trends and taking pleasure in cooperating with customers, users and employees of other organizational units. Short communication paths, low hierarchies and the lack of over-organization at WTW provide the ideal nourishment from which innovations have grown at regular intervals throughout the past 55 years and made their marks on the market.

That each year more than 10% of the turnover is invested directly in research and development is a matter of course for WTW. More than 16% of all company employees work in the innovative sector and ensure that the number of applications for patents and registered designs, both national and international, will stay on that high level of performance as for the past 55 years.



# Addresses



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**L** = Laboratory and Environment **O** = On-Line Instrumentation

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E-Mail: philip@Merck.com.au

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### Bulgaria

Info on request

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### Egypt

Specialized Lab dealers  
Info on request

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### Great Britain

Specialized Lab dealers  
Info on request

### Great Britain

Pollution and Process  
Monitoring Ltd. (PPM)  
Bourne Enterprise Centre  
Borough Greene, Kent, TN15 8DG  
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Fax: 01732/ 78 01 90  
http:// www.pollution-ppm.co.uk/  
E-Mail: TOC@pollution-ppm.co.uk

### Greece

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### India

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Fax: 02-24 95 45 90  
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### Indonesia

Info on request

### Ireland

Carl Stuart Limited  
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Whitestown, Dublin 24  
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### Israel

Mercury Chemical  
Agencies Ltd.  
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Rosh Ha'Ayin 40851  
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Fax: 3-93 87 174  
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Chuo-Ku, Tokyo 103-0025  
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Fax: 3 3667 8878  
http:// www.network-japan.co.jp/  
E-Mail: tmasaki@mb.infoweb.ne.jp

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06-4658 215 Office  
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Mapo-Ku, 121-210, Seoul  
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Fax: 02-325 2335  
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137-070 # 202, 2 F, Heejung Bldg.  
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 PO Box 12 992  
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 Fax: 09-579-1888  
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 680 Tremaine Avenue  
 PO Box 12 46  
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 Fax: 06-356-7311  
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**Peru** **L**  
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 Tel./Fax: (032) 422 42 52  
 http:// www.pol-eko.com.pl/  
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**Portugal** **O**  
 VC Vibro Control Ltd.  
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 P-2800-526 Cova da Piedade  
 (ALMADA)  
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**Romania**  
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 http:// www.suntex.com.tw/  
 E-Mail: suntex@ms1.hinet.net

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**Venezuela** **L**  
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 11080 Zemun  
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 E-Mail: mediazem@eunet.yu

**Further agencies  
 on request**

# Glossary

## Glossary

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### Test marks, protection classes, warranty



#### IP code (international protection code)

Protection types (EN 60529, IEC 529, DIN VDE 0470)

**1st number:** instrument  
protected against  
entry of solid bodies

- 0 not protected
- 1 with dia. > 50 mm
- 2 with dia. > 12 mm
- 3 with dia. > 2,5 mm
- 4 with dia. > 1,0 mm
- 5 dust protected\*
- 6 dustproof

\* limited amounts of dust  
may enter under certain  
conditions

**2nd number:** protection against water

- 0 not protected
- 1 vertically falling drops
- 2 drops of water at angles of up to 15° to vertical
- 3 drops of water at angles of up to 60° to vertical
- 4 splashes from any direction
- 5 jets of water from any direction
- 6 strong jets of water from any direction
- 7 intermittent submersion (max. 1m deep, 30 min)
- 8 permanent submersion (conditions  
must be specified)

If numbers 7 and 8 are fulfilled this does not necessarily  
mean that numbers 5 or 6 are also fulfilled.



#### CE

This test mark indicates that the product complies with the applicable EU directives.

For WTW products these are:

- Directive 72/23/EEC: Electrical equipment for use within particular voltage limits  
(low-voltage directive)
- Directive 89/336/EEC: Electromagnetic compatibility (EMC directive)



#### GS

The GS test mark stands for "Geprüfte Sicherheit" (tested safety) and certifies that the product is in accordance with the German Instrument Safety Regulations, the German Social Insurance against Occupational Accidents and the relevant DIN and EN standards. Our certification partners, the TÜV Product Service and ITS (Intertek Testing Services), are testing centers approved by the Federal Minister of Labor and Social Affairs.

(e.g. handheld meters: IEC 1010 / class 3  
IEC 529 / IP 66)



#### UL / CUL, ETLus / cETL

These test marks indicate that the national safety standards applicable in the USA and Canada have been complied with.

Our certification partners, UL (Underwriter Laboratories) and ITS (Intertek Testing Services), are officially authorized testing centers in both countries.



#### Ex-Zone 1

Suitable for operation in category 1 explosion-endangered areas  
(DIN VDE 0165).



#### Warranty

If no other agreement has been made we guarantee perfect operation for three years after delivery for instruments supplied by us. Faults resulting from natural wear and tear, improper use/handling or from alterations/repairs carried out by the customer or third parties to the items supplied are excluded from this warranty.



Patent applied for



Patent granted



Quality assurance  
services  
(information on page 185)



Additional information  
worth knowing



Detailed description of  
the instrument



Symbol for Enhanced  
Lightning Protection