

# Pulp & Paper

Perspectives in Liquid Process Analytics

# 11 News

**INGOLD**

Leading Process Analytics

## M400 – the Versatile Transmitter for Advanced Process Measurements

**The new flexible M400 transmitter is designed for demanding applications and features ISM® technology with a new unique Dynamic Lifetime Indicator. It covers pH/ORP, oxygen and conductivity measurements, and accepts analog as well as ISM sensors.**

### M400 – the multi-parameter transmitter for more flexibility

Transmitters have to be convenient in handling, versatile in use and cost saving regarding process optimization and maintenance. The new M400 transmitter from METTLER TOLEDO fulfills all these requirements. The M400 is a single-channel, multi-parameter unit and can handle the parameters

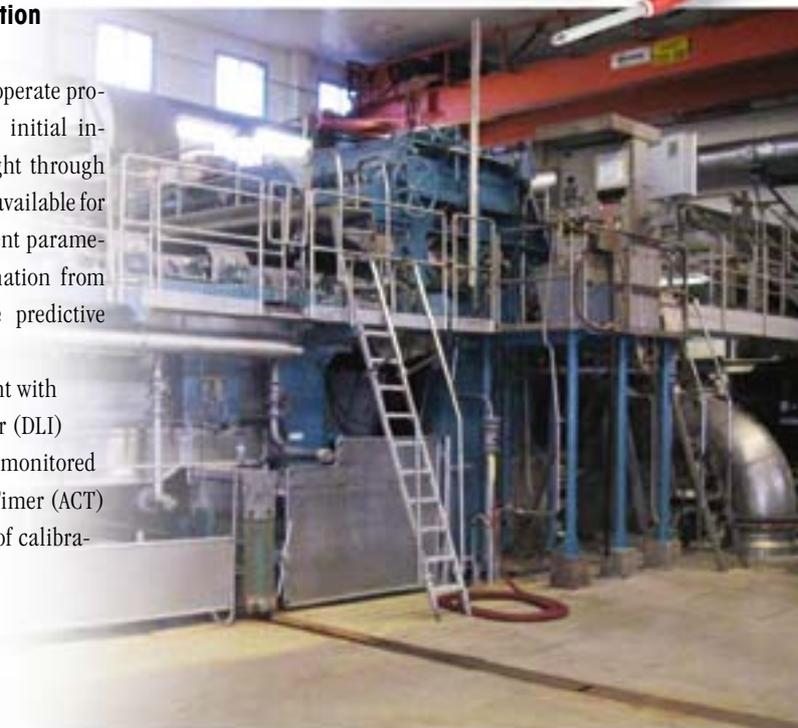
- pH/ORP,
- oxygen or
- conductivity.

As the M400 accepts any analog or innovative digital ISM® sensor (“Intelligent Sensor Management”) the highest possible flexibility is granted.

### Real-time status information with ISM® technology

ISM makes it much easier to operate process analytical systems from initial installation to maintenance right through to sensor replacement. ISM is available for all key analytical measurement parameters. Real-time status information from the ISM sensor allows true predictive maintenance:

- Time for sensor replacement with Dynamic Lifetime Indicator (DLI)
- Time to next calibration is monitored with Adaptive Calibration Timer (ACT)
- Electronic documentation of calibration history



**METTLER TOLEDO**



**iSense**  
ISM Asset Suite

iSense is a very user-friendly and unique software. Just connect your sensor via a USB port to your computer.

### Plug and Measure™ feature minimizes maintenance costs

Plug and Measure allows the user to start measuring within seconds:

- Minimized risk of installation troubles thanks to simplified commissioning
- Up-to-date calibration data are stored in ISM sensors and sent directly to the transmitter

### High reliability even in advanced process applications

Whereas the M300 transmitter is designed for basic process applications, the M400 transmitter is the choice for critical applications in the:

- Pulp and paper, and
- Chemical Industry.



**ISM**

The multi-parameter transmitter M400 is compatible with ISM® electrodes and sensors.

In addition, the unique iSense Asset Suite for pH and DO (to be released in Q4/2008) offers a reliable control calibration in a QA Lab and ensures a fully traceable documentation for each sensor over its lifetime.

► [www.mt.com/m400](http://www.mt.com/m400)

## Service Quality as a Key Value Add for Projects

**A leading pulp and paper manufacturer in Brazil chose METTLER TOLEDO when it decided to double its production capacity. METTLER TOLEDO's competence in analytical measuring systems and the quality of its service were key factors in winning the bid.**

### The pre-expansion scenario

At the time the expansion project started, METTLER TOLEDO was already well established as a supplier of analytical pH and conductivity measuring systems. METTLER TOLEDO was also responsible for sensor and electrode replacement and for the general consulting services.

### The project strategy

The customer – a part of one of Brazil's most important pulp and paper groups – planned not only to procure new equipment but also to minimize the number of

its suppliers. They hired an engineering company responsible for caustification, vaporization, ash leaching and cooking to study the existing situation and if necessary to choose one or other supplier based on an engineering, procurement and construction (EPC) contract. This strategy also included all analytical measuring systems for controlling the different production processes.

### Competence is key for projects

The customer had a good track record with METTLER TOLEDO's with successful

#### Publisher/Production

Mettler-Toledo AG  
Process Analytics  
Im Hackacker 15  
CH-8902 Urdorf  
Switzerland

#### Illustrations

Mettler-Toledo AG  
Henan Nanbei Paper Co  
Ekman, Sweden  
Alcon consulting

Subject to technical changes.  
© Mettler-Toledo AG 07/08  
Printed in Switzerland.

applications using pH and conductivity loops. However, since METTLER TOLEDO sensors were not used to measure other parameters such as flow and pressure, the evaluating engineering company proposed a single-source supplier as replacement.

### **METTLER TOLEDO ousted its competitor**

Challenged by the risk of losing its whole portfolio METTLER TOLEDO submitted its own proposal through another engineering company, effectively challenging the competitor for pH and conductivity technology. In direct comparison with METTLER TOLEDO measuring performance the competitor was eliminated from the bidding for the pH and conductivity systems. The evaluating engineering company recognized that this customer would dangerously sacrifice its process performance if it were targeting a “single source supplier” instead of “measuring performance”.

### **The key for real partnership – after-sales service**

In addition to product performance, it should be emphasized that METTLER TOLEDO’s competent after-sales service was key in winning those applications where robustness and measurement accuracy are needed.



### **All’s well that ends well**

Foregoing the former “single source” strategic concept and considering the stable and successful relationship, the customer decided to continue its partnership with METTLER TOLEDO. Moreover, the large number of pH and conductivity measuring loops already in operation was increased and new opportunities for supplying and servicing these systems, including the replacement of consumables, were created.

### **METTLER TOLEDO solutions**

pH measuring systems installed:

- InPro 4800 SG pH electrode
- pH 2100 e / 2H pH transmitter
- InTrac 787 retractable housing and immersion or stationary housings

Conductivity measuring systems installed:

- InPro 7000, InPro 7108 and InPro 7250 conductivity sensors
- Cond 7100 e / 2H conductivity transmitter

### **System benefits**

#### **■ pH and conductivity transmitter**

Both, pH and conductivity transmitters, communicate using a HART® communications protocol that not only allows onsite transmitter configuration but also increases process safety. HART® also makes it possible to send measurement information such as pH and temperature to a PLC, and to perform sensor diagnostics using the reference system.

#### **■ INGOLD conductivity sensors**

METTLER TOLEDO offers a wide range of conductivity sensors from low conductivity (2-electrode sensors) to high conductivity (inductive sensors) types. Depending on the application it was possible to provide just the right sensor (InPro 7000, InPro 7108 or InPro 7250).

#### **■ INGOLD pH electrode**

The InPro 4800 SG pH electrode is ideal for harsh chemical environment. The very long diffusion path with two electrolyte chambers and a PTFE junction repels dirt.

It is a low-maintenance electrode operating up to 130 °C (266 °F), and up to 13 bar (188 psi).

The use of resistant and reliable sensors in harsh applications is critical to an efficient and low-maintenance measuring concept. It increases productivity and lowers overall production costs.

► [www.mt.com/pro-ph](http://www.mt.com/pro-ph)

► [www.mt.com/cond](http://www.mt.com/cond)

## InPro 7250 PFA – the Problem-Solver for Highly Aggressive Applications

**This robust inductive conductivity sensor is designed for heavy duty chemical applications in pulp & paper processes.**

### Resistance paired with measurement accuracy

The METTLER TOLEDO inductive conductivity sensor InPro 7250 PFA consists of two high precision coils hermetically sealed in a robust and chemically resistant polymer matrix Perfluoroalkoxy (PFA). The sensor carries the same outstanding measurement quality as the PEEK version, but is even more resistant to aggressive chemicals. PFA is inert to strong mineral acids, inorganic bases, inorganic oxidizing agents and to salt solutions.

This robust design makes it the ideal solution to in-line chemical concentration control in harsh environments where accurate, fast and economical measurements are requested.

### Chemical processes: Wide coverage of application conditions

In processes where the concentration of caustic is critical to product quality and yield, the InPro 7250 PFA allows reliable process control, even at high temperatures.

Despite sophisticated chemical treatment programs, scaling and fouling of organic nature are common in cooling water systems. Insensitive to fouling and strong acids, the InPro 7250 PFA sensor definitely is a best-practice choice of instrumentation.

### Pulp & paper processes: Higher production uptime

Where high levels of fibers tend to incapacitate conventional electrodes in textile and pulp & paper processes, the InPro 7250 PFA sensor maintains maximum performance.

### Industrial waste water: Monitoring effluents

Continuous monitoring of industrial effluents is a critical factor not only for ecological reasons but also for economic plant operation. Since the inductive conductivity sensor InPro 7250 PFA is not susceptible to fouling, it is particularly well suited for such applications.



Conductivity sensor InPro 7250 PFA.

### Your benefits

- Wide measurement range
- Broad range of applications
- Insensitive to fouling
- Resistant to chemicals even to strong acids
- Highest measurement accuracy
- Attractive price/performance ratio
- Maximum process safety
- Maintenance free



Conductivity transmitter 7100e.

[www.mt.com/inpro7250PFA](http://www.mt.com/inpro7250PFA)

## InTrac 785 for Demanding Chemical Applications

The new InTrac 785 from METTLER TOLEDO is a highly flexible and robust retractable housing for demanding chemical processes. It has been designed for high operational safety and low maintenance.

### InTrac 785 allows in-line sensor operation

The InTrac 785 retractable housing is the easy and economical way of getting access to the sensor without process interruption. Whenever maintenance on the sensor is required, a simple retraction of the sensor and closing the ball valve allows fast sensor access.

### InTrac 785 for harsh applications

Different materials for medium wetted parts enable the use of the housing in harsh applications as commonly found in

- chemical,
- petrochemical and
- pulp and paper applications.

### InTrac 785 – adaptable also to your process

The InTrac 785 allows a wide range of installation possibilities, thanks to the variable insertion length up to 220 mm (8.66") and a wide variety of process connections. Whether the ball valve is already present or if a factory standard needs to be used, the InTrac 785 can also be obtained without ball valve and process connection.

### Flexibility in maintenance intervals

You can gain access to the sensor without interrupting the process. The simple retraction and process sealing via ball valve allows easy maintenance. With the T-handle no tool is required for daily operation and to get sensor access.

### Wide range of installation options

The unique design provides further versatility by accepting any

- pH,
- dissolved oxygen and
- turbidity measurements.

### Increased production uptime

The durable design ensures reliable operation in the most aggressive applications. The housing is available in stainless steel Hastelloy or titanium with Viton® or Kalrez® sealing.

### High operational safety with ball valve

The ball valve is the industry proven solution to separate the process from the environment. The InTrac 785 has been engineered with an integral anti-blowout tip for maximum safety. The ball valve of the InTrac 785 safely isolates the sensor from the process for safe, continuous operation.



► [www.mt.com/intrac785](http://www.mt.com/intrac785)

# Process Analytics Product Catalog

## New Edition 08/09 Available

**Get an overview of the latest INGOLD and THORNTON products available for your process application with the new product catalog 08/09.**

The catalog offers comprehensive overview on product features and specifications, benefits and recommended application areas, order details and much more for process analytics measurement solutions.

The product catalog covers complete measuring solutions for the parameters:

- pH
- Dissolved oxygen and O<sub>2</sub> in gases
- Ozone
- Dissolved CO<sub>2</sub>
- Conductivity
- Turbidity
- TOC
- Flow

The featured product range includes:

- Electrodes / sensors
- Housings
- Process connections
- Transmitters / analyzers
- Cleaning and Calibration systems
- Cables
- Accessories

Order your copy of this useful desk tool today!

