EasyClean

EasyClean Systems for Sensor Cleaning and Calibration

Reduced Maintenance Costs

Increased Lifespan of Sensor

Higher Product Yield

Improved Process Reliability

Increased Operational Safety

Process Reliability
Through Automation

METTLER TOLEDO

Solutions Proven in Practice
and Safe for Your Process

METTLER TOLEDO's wide range of analytical sensors allows you to improve your process efficiency and safety. Our EasyClean automated sensor cleaning systems takes this further by increasing sensor lifetime, lowering maintenance costs, and reducing personnel exposure to hazardous conditions. All EasyClean systems can be easily integrated into your processes.

Higher Product Yield Through Improved Process Reliability
The proven automation systems from METTLER TOLEDO reliably clean and calibrate (pH electrodes only) sensors to maximize measurement uptime and free personnel for other tasks. At the same time, extensive diagnosis and alarm functions help improve product reliability and increase product yield, as incidents are quickly detected and appropriate actions can be implemented.

Reduced Maintenance Costs
EasyClean sensor cleaning and calibration systems allow you to reduce maintenance costs of your measurements while improving operational safety. You achieve a safer work environment and increase measurement point effectiveness.

Longer Lifespan of Sensors
Also, for measurements in aggressive media with high pressures and temperatures, the sensor life can be increased significantly through automatic cleaning and calibration. Furthermore, due to an automatic system it is possible to insert the sensor into the process only when measurement is required. When not needed, it can be stored in the flushing chamber of the housing.

Chemical industry   Pharmaceutical industry   Food and beverage industry   Pulp and paper industry

EasyClean Series – System Solutions for Any Requirement

– EasyClean 400:
  Fully automatic cleaning and calibration systems reduce the maintenance costs of pH measuring points to an absolute minimum. EasyClean 400 X has been developed especially for explosion hazardous areas.
– EasyClean 200 e:
  Flushing of sensors with water and additional cleaning with cleaning agent in case of heavily contaminated sensors.
– EasyClean 100 and 150:
  Automatic flushing of sensor with water or air.

EasyClean system solutions from METTLER TOLEDO – designed to meet your requirements.

	EC 400 (X)	EC 200 e	EC 150	EC 100
Functionality				
Flushing	●	●	●	●
Cleaning	●	●		
Calibration	●			
System integration	●	●		
PROFIBUS PA / FOUNDATION fieldbus	●			
Ex-areas	●			
Housing				
InDip 550				●
InTrac 7XX e	●[1]	●[2]	●	
Transmitter				
M300		●	●	●
M400		●	●	●
M700 (X)	●	●	●	●
M800		●	●	●
Sensor				
pH	●	●	●	●
O$_2$		●	●	●
CO$_2$		●	●	●
Turbidity		●	●	●
Conductivity		●	●	●

1   With pneumatic position indicators
2   With inductive position indicators

EasyClean 400
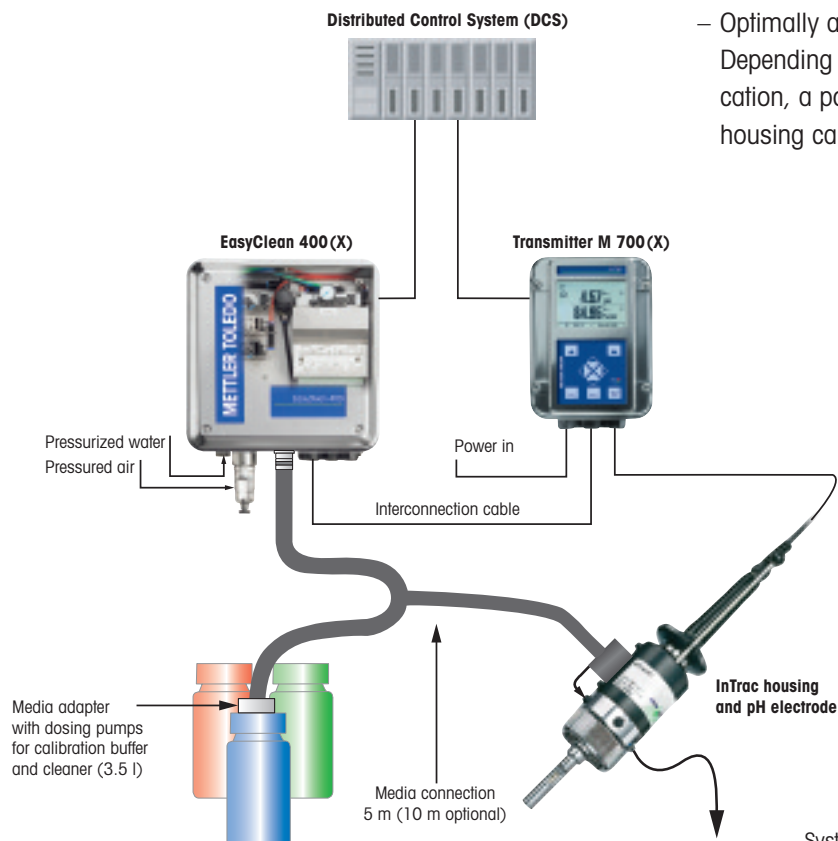## Flexible, for Highest Demands

EasyClean 400 is used for fully automatic cleaning and calibration of pH measuring points. In combination with the M700 transmitter and the InTrac 7XX e retractable housing it provides a flexible system solution which can either be implemented into continuous or batch measurements.

EasyClean 400 is versatile in its application. It offers multiple control possibilities and can be programmed extensively. Furthermore, a version for applications in explosion hazardous areas is available. The connection to a supervisory process control system can easily be realized in a conventional way, via FOUNDATION fieldbus™, or PROFIBUS® PA.

Your Advantages
– Minimum maintenance costs by fully automatic cleaning and calibration of the sensor
– Optimal adaptation to the process conditions thanks to freely programmable sequences
– High flexibility thanks to free choice of individually programmable intervals or weekly programs
– Low maintenance costs through minimum consumption of buffer and cleaning solution
– Flexible system integration
– EasyClean 400 X guarantees a safe application in explosion hazardous areas
– Optimally adapted housing. Depending on the field of application, a polished or coated housing can be applied

Distributed Control System (DCS)

EasyClean 400 (X)

Transmitter M 700 (X)

Pressurized water
Pressured air

Power in

Interconnection cable

Media adapter with dosing pumps for calibration buffer and cleaner (3.5 l)

Media connection 5 m (10 m optional)

InTrac housing and pH electrode

System overview EasyClean 400

EasyClean 200 e
Fully Automated Rinsing and Cleaning

The EasyClean 200 e systems fully automate rinsing and cleaning procedures for pH, ORP, dissolved oxygen, CO_2, conductivity, and turbidity sensors. EasyClean 200 e greatly reduces maintenance requirements and improves performance.

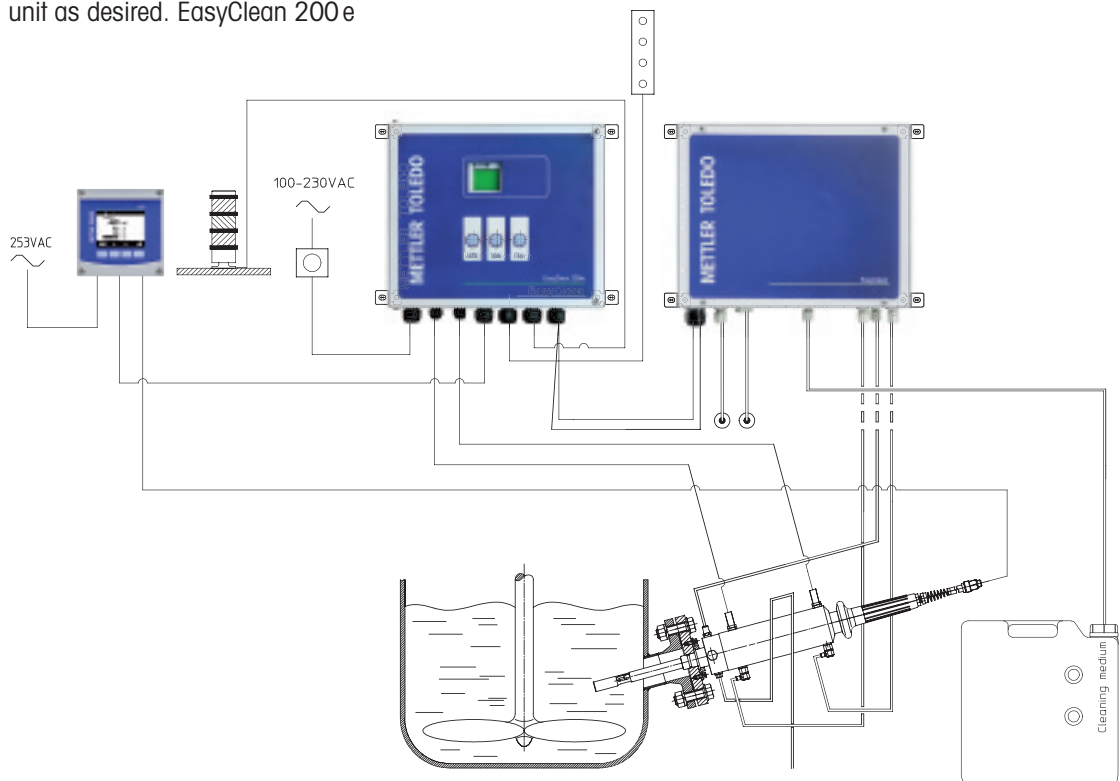### Individual Sensor Flushing and Cleaning for Heavily Contaminated Processes

An integrated diaphragm pump feeds cleaning agent to the flushing chamber. The adjustable cleaning agent soaking time ensures optimal cleaning. The cleaning cycle can either be triggered by the wash contact of the transmitter or released manually at the EasyClean control unit as desired. EasyClean 200 e features strict separation of the electronics from all wet areas.

Your Advantages
– Modular configuration provides many installation options
– Accessories available for customized installation and operational requirements
– Configured for immediate operation
– Easily customized for special requirements
– Manual operation override if desired
– Fully automated operation for pH, ORP, dissolved oxygen, CO_2, conductivity, and turbidity sensors
– Optimal cleaning effect due to the adjustable residence time

System overview EasyClean 200 e

EasyClean 150 and 100
Automated Sensor Flushing and Cleaning

EasyClean 150: Easy and Safe Flushing of Sensors with Water

EasyClean 150 is a cost-effective unit for the automatic flushing of sensors with water. It can be operated with any pneumatic retractable housing, controls the insertion and exiting of the housing and monitors the flushing function.

EasyClean 150 is suitable for any applications in which the use of water alone as a cleaning medium is sufficient.

Characteristics

– Automatic sensor flushing
  with water
– Integrated housing control

EasyClean 100: Continuous Cleaning of Sensors in Waste Water Applications

EasyClean 100 has been developed to clean sensors installed in immersion housings. A specially designed spray head directs a jet of compressed air or flushing water at the sensing end of the sensor. The assembly configuration ensures that the sensor is effectively cleaned under water. Through the cavitation effect induced by air bubbles impacting around the sensor tip, deposits on the sensitive surface areas of the sensor are loosened and swept away.

Characteristics

– Cleaning of sensor with air
  or water
– Maintenance-free component
– Flushing directly in the process

EasyClean System Components
Quality Which Sets Standards

Transmitters

The M700 transmitter features
a highly modular, multi-parameter
design. The flexible hardware
and software concept can be easily
adapted to new requirements,
and the various communication
possibilities facilitate trouble-free
system integration.

The proven M400 transmitter line
is reliable and safe in operation.
It utilizes a self-explaining user
interface and several possibilities
of diagnosis.

The M300 transmitter series com-
bines robustness with ease of use.
High versatility and reliability make
this instrument the ideal choice for
your basic process applications.

Housings

Remarkable features of InTrac
housings are their reliability and
high safety standards.
For wetted parts, various materials
are available and the process
connections including flanges,
hygienic adaptations or
complete flow through housings
permit multiple applications.

Sensors

pH electrodes from METTLER
TOLEDO are designed for a variety
of applications. They ensure stable
and precise measurement values
whether in biotechnology,
food industry, or in demanding
chemical processes.

When combined with the Easy-
Clean 400 they provide a fully
automated pH measurement,
cleaning and calibration system.

With EasyClean 100, 150 and
200 e, oxygen, conductivity, turbid-
ity, and CO_2 measuring points can
also be automated in addition to pH.

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