

Oil and Gas

Process Instruments for reliable measurements.





just rely on our technological advantage.

Sophisticated and proven products, top precision and expert consultancy we meets all these demands in every respect. Our broad product portfolio provides optimally suited, dependable solutions, which provide a one-stop solution to meet your individual requirements. Our longstanding expertise, practical insights and technological supremacy give you the control you need to maximize production and equipment performance and to reduce downtime and maintenance to a minimum. Operating worldwide and present across the globe, we are always close to provide you with competent on-site support. The customer is at the very heart of our services, and our level of commitment is characterized by taking swift and effective action to respond to our customers' needs.

The demanding requirements of the industry in terms of functionality and material call for dependable and ultra-precise sensor solutions which ensure proper operation even under extreme conditions – and the sensors match them all. Thanks to our in-depth application knowledge we provide hands-on and application-specific solutions to enhance the efficiency of your manufacturing processes in compliance with stringent and traceability demands.

In partnership with you, we are collaborating towards innovative approaches to find just the right solution for your application. Sensors will dependably monitor any process with utmost precision – for man, machine and the environment.



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Process Instrument solutions for every production process.

It is a long way from crude oil to the end product. We as a trusted partner and industry expert knows about the demands of each exploration and production process and will support you throughout all project stages with absolutely reliable, high-performance sensor technology. Whether it comes to dependable process control in drilling and oil production, to reliable monitoring of the refining process or to transport and storage in compliance with the prevailing standards – you can always rely on the top-grade quality of our Process Instruments.

Differential pressure transmitter with chemical seal

Gas filled and bimetal thermometer

Thermocouples

Temperature switch

Pressure switch

Pressure transmitter
Thermowell





Prepared for any requirement.



Multi or single pole – Temperature measurement in various application

T02 – Thermocouple assembly with protecting tube

- Single/double protecting tube
- Flanged/screwed connection
- Assembly with KER 710 or KER 610 tube for high temperature application
- Available with various element sizes from 0.5 mm
- Various options available for connections and sheath diameters
- Enclosures (head) – IP65, IP66, IP67, IP68, IIA, IIB, IIC etc.
- Transmitter output 4 – 20 mA (optional)
- Reliable and consistent output under extreme conditions



Blow out preventer BOP

MEX8 – mechanical pressure gauges for pressure measurement

- Stainless steel housing and sensing element
- Suitable for aggressive atmospheres and fluids
- Resistant to transient overpressure
- Panel mounting and other dial diameters available
- Fillable with dampening fluid
- Conforms to EN837-1 and PED97/23/CE
- Atex EC II 2 GD



R02 – RTD assembly with N-U-N connection

- Mineral insulated cable
- Elements – Pt 100, Pt 500, Pt 1000 etc.
- Spring loaded construction for better contact with thermowell
- Available with various element sizes from 3 mm
- Various options available for connections and sheath diameters
- Enclosures (head) – IP65, IP66, IP67, IP68, IIA, IIB, IIC etc.
- Transmitter output 4 – 20 mA (optional)
- Reliable and consistent output under extreme conditions
- Nipple-Union-Nipple Extension



Quick connection safety gauge

MEP5-OD

- OD connection for double compression fitting
- For corrosive gasses and liquids
- Class 1 according to EN 837-1
- Safety version S3 according to EN 837-1
- Option: liquid-filled for applications with pulsations or vibrations
- Option: case material 1.4404 (316L) for aggressive atmosphere



Drilling Onshore and Offshore.

Onshore and offshore drilling is a difficult challenge for both man and machine. Explosive gases, strong vibrations, extreme weather conditions and a salty, corrosive atmosphere impose extremely demanding requirements for technology. Only robust and reliably functioning equipment can ensure safety here.



Wellhead

MPx6 series – safety pressure gauges for pressure measurement

- Safety pattern gauge with solid front and blowout back
- Special materials for aggressive media and environments
 - Polypropylene or phenol housing
 - Stainless steel or Monel sensing elements
- Over pressure protection up to 130 %
- Adjustable zero point
- Fillable with dampening fluid or dashpot option
- NACE conformity



Process skids

MEX3 panel mounted

- Stainless steel housing and sensing element (Monel available)
- Suitable for aggressive atmospheres and fluids
- Resistant to transient overpressure
- Dial diameters 63 mm
- Fillable with dampening fluid
- Conforms to EN837-1 and PED97/23/CE Atex EC II 2 GD

A strong partner to meet your greatest challenges

For several decades Original has been a leading supplier to the Oil and Gas industry. With the broad product portfolio in the field of Process Instrumentation, We provides solutions to industry-specific requirements.

Production.

Reliability and precision – vital features of sensor technology in the field of Oil and Gas extraction. Our sensors hold up in environments where corrosive and aggressive materials are present and provide the required certifications for hazardous areas. Whether the installation has high pressure or high temperature, our sensors will meet your requirements, as our robust devices use the required compatible materials.

Designed to withstand high pressure and high temperatures, easy to read and extremely robust Process Instruments provide reliable operation in the most difficult situations.



Temperature measurement on FPSO

TBI/TBHI – bimetal temperature gauges with AGF thermowell

- Temperature range from -70 to $+600$ °C
- Class 1 accuracy up to $+250$ °C
- 135 % over temperature protection
- Every angle construction
- Stabilized pointer for increased resistance against vibrations
- ATEX Zone 1 certification

complies with norms and approvals

Our excellence in product quality has won us recognition with prestigious certification from many different regulatory bodies.





Worldwide certified quality.

Triphasic separators – separation of oil, water and gas

Pressure measurement using stainless steel MEX5 – pressure gauge with D820 chemical seal

- Suitable for corrosive atmospheres and fluids
- Resistant to transient overpressure
- Fully welded process connection
- Fillable with dampening fluid
- Conforms to EN837-1 and PED97/23/CE
- ATEX EC II 2 GD



PBMN – intrinsically safe pressure transmitter for electronic pressure measurement on the choke manifold

- Measurement of vacuum, absolute or gauge pressure
- Piezoresistive silicon technology
- External adjustment of zero and span as standard
- Highly resistant to severe process conditions
- ATEX II 1 G/D Ex ia IIC T5 or T6



Pressure, level and flow measurement in various processes

MFT – Differential pressure gauge

- Low differential and high static pressure
- Sensing element in stainless steel, Monel or Hastelloy
- Can be fitted with chemical seal



Wellhead

MPx6 series – safety pressure gauges for pressure measurement

- Safety pattern gauge with solid front and blowout back
- Special materials for aggressive media and environments
 - Polypropylene or phenol housing
 - Stainless steel or Monel sensing elements
- Over pressure protection up to 130 %
- Adjustable zero point
- Fillable with dampening fluid or dashpot option
- NACE conformity





Always a step ahead.



Gas lift, water and steam injection

MIX7 – pressure gauge for pressure measurement on pumps and compressors

- Resistant to transient overpressure
- Excellent accuracy
- Various pressure ranges and connection types
- Fillable with damping liquid
- ATEX EC II 2 GD



Wellhead control panel

WPG3 – All stainless steel welded pressure gauge (63 mm)

- Suitable for well head control panel application (onshore and offshore) for control, monitoring and safety of Oil and Gas production wells
- Fully laser-welded panel to case
- Suitable for aggressive atmospheres and fluids
- Liquid-filled for applications with pulsations and vibrations
- Conforms to EN 837-1
- Available case material 1.4401 (AISI 316) for aggressive atmosphere



PBMN – intrinsically safe pressure transmitter for electronic pressure measurement on the choke manifold

- Measurement of vacuum, absolute or gauge pressure
- Piezoresistive silicon technology
- External adjustment of zero and span as standard
- Extremely resistant to severe process conditions
- ATEX II 1 G/D Ex ia IIC T5 or T6



WPG5 – All stainless steel welded pressure gauge (100 mm)

- Suitable for well head control panel application (onshore and offshore) for control, monitoring and safety of Oil and Gas production wells
- Fully laser-welded panel to case
- Suitable for aggressive atmospheres and fluids
- Liquid-filled for applications with pulsations and vibrations
- Conforms to EN 837-1
- Available with material 1.4401 (AISI 316) for aggressive atmospheres



Secondary recovery and well services.

Extreme durability and high precision: Whether onshore or offshore, in pressure, level or temperature measuring – We offers products with anti-corrosion coating to ensure impermeability and sealing capabilities throughout the entire service life of the product.



Temperature measurement in harsh environments

T02 – Thermocouple assembly with protecting tube

- Single/double protecting tube
- Flanged/screwed connection
- Assembly with KER 710 or KER 610 tube for high temperature application
- Available with various element sizes from 0.5 mm
- Various options available for connections and sheath diameters
- Enclosures (head) – IP 65, IP 66, IP 67, IP 68, IIA, IIB, IIC etc.
- Transmitter output 4 – 20 mA (optional)
- Reliable and consistent output under extreme conditions



R02 – RTD assembly with N-U-N connection

- Mineral insulated cable
- Elements – Pt 100, Pt 500, Pt 1000 etc.
- Spring loaded construction for better contact with thermowell
- Available with various element sizes from 3 mm
- Various options available for connections and sheath diameters
- Enclosures (head) – IP 65, IP 66, IP 67, IP 68, IIA, IIB, IIC etc.
- Transmitter output 4 – 20 mA (optional)
- Reliable and consistent output under extreme conditions
- Nipple-Union-Nipple Extension

We make the best even better

We expertise in Process Instruments with a large selection of products developed to date, has been repeatedly verified by our satisfied customers. We meet your needs for high quality solutions when it comes to measuring of temperature, level or pressure even in the most demanding environments.



Hydrogen compressor for distillate hydrocracker



MEP5 – safety pressure gauge for pressure measurements

- Safety pattern gauge with solid front and full blowout back
- Wetted parts in stainless steel or Monel
- Special compensating diaphragm ensures high accuracy
- Available with threaded connection
- Baffle wall blowout back to prevent personal injury of the operator
- S3 safety standard according to EN 837-1
- NACE conformity
- ATEX

Utilities, cogeneration plant, other utility pumps, water decantation and desulphurization, filter survey



MX7 – Differential pressure gauge

- Bellows sensing elements
- For corrosive process fluids and atmospheres
- Fillable with dampening fluid
- 316L stainless steel casing
- Can be fitted with chemical seal
- Radial or parallel connection

Smart transmitters to separate corrosive media

D9xx series – chemical seals

- Suitable for process pressure transmitters
- Different wetted part materials available
- High temperature applications up to + 400 °C
- Complete assembly with flushing ring and drain/vent valves
- Pressure rating up to class 2500
- Pressure range from 10 mbar to 420 bar
- NACE conformity
- Heat tracing optional on flanges and capillaries





Refineries.

In refineries thousands of measuring instruments for both pressure and temperature must meet one basic requirement: zero failure! has been a leading supplier to the Oil and Gas industry, continuously improving and expanding our portfolio for several decades. Whether it comes to temperature or pressure temperature instruments and safety pressure gauges with improved protection of operator and environment provide customized solutions for all measuring tasks.

Pressure, level and flow measurement in various processes



MFT – Differential pressure gauge

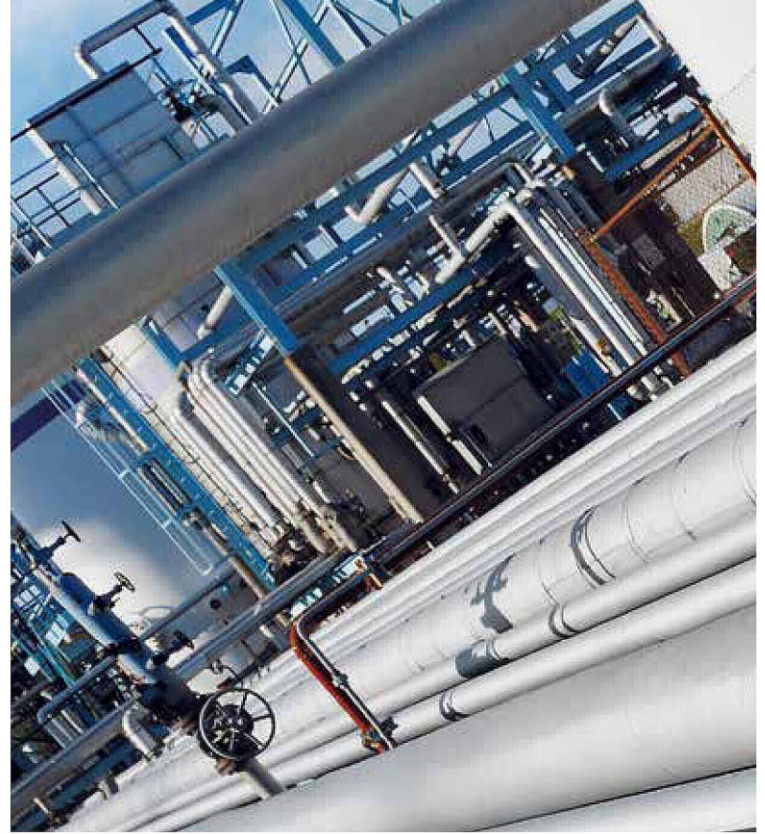
- Low differential and high static pressure
- Sensing element in stainless steel, Monel or Hastelloy
- Can be fitted with chemical seal

Unique production methods

Continues the tradition of the famous tube, adding on cutting-edge production and quality methods. All steps are monitored and documented, a unique method in order fulfilment within the production system. Closely intertwining the methodologies of Lean Management.

Transportation.

All over the globe, pipelines are the preferred means of transporting liquids or gases from their point of origin to the point of distribution. Explosion-proof sensors comply with the relevant standards to ensure safe processes in pipeline operation, from pipeline control and pumping on to compressor stations and delivery terminals.



Pipeline monitoring



MPx6 series – safety pressure gauges for pressure measurement

- Safety pattern gauge with solid front and blowout back
- Special materials for aggressive media and environments
 - Polypropylene or phenol housing
 - Stainless steel or Monel sensing elements
- Over pressure protection up to 130 %
- Adjustable zero point
- Fillable with dampening fluid or dashpot option
- NACE conformity

First-class solutions for extreme conditions

Highly available and reliable systems have been developed to guarantee that the strict requirements for the transportation of liquids and gases are met to monitor the movement of different fluid compositions. Instruments are used for leak detection and location, temperature tracking, pump monitoring and operations improvements

Temperature control in water and waste water treatment

RT2E – switch

- Compact temperature switch
- Good vibration resistance, Measuring ranges: $-40 \dots +350 \text{ }^{\circ}\text{C}$
- Stem 9.5 mm (rigid or with capillary)
- ATEX II2 GD Ex d IIC T5 or T6





We are measurably better.

Fluid pressure monitoring



MEP5 – safety pressure gauge for pressure measurement

- Safety pattern gauge with solid front and full blowout back
- Wetted parts in stainless steel or Monel
- Special compensating diaphragm ensures high accuracy
- Available with threaded connection
- Baffle wall blowout back to prevent personal injury of the operator
- S3 safety standard according to EN 837-1
- NACE conformity
- ATEX

Various temperature application

TSF – gas filled thermometer

- Temperature range from -200 to $+800$ °C
- Accuracy class 1
- Flexible system with fix stem or capillary tube
- Wide range of diameters: 63, 80, 100, 160 and 250 mm
- All stainless steel design
- Electrical contacts available



Pumping station

RP2E – pressure switch

- Resistant to transient overpressure
- Various process and electrical connectivity options
- Large range of micro switches with different power ratings
- Suitable to fit with chemical seals
- ATEX II 2 G/D Ex d IIC T5 or T6



Pipeline monitoring in control cabinets

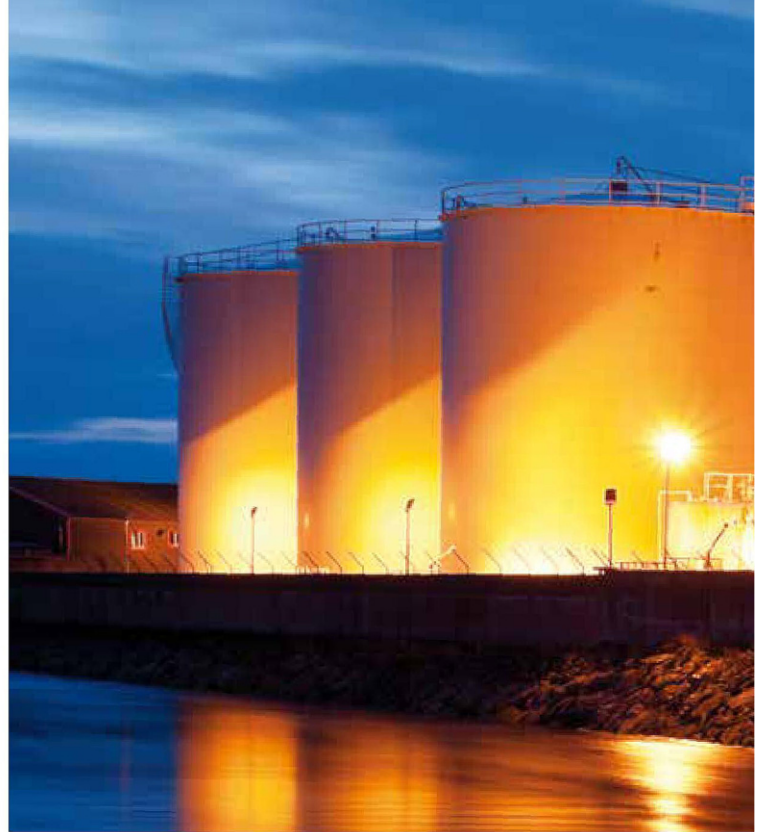
X910 – explosion-proof pressure transmitter for electronic pressure measurement

- Measurement of vacuum, absolute or gauge pressure
- TRANSBAR® ceramic technology
- Zero adjustment as standard (± 10 % of range)
- Various electrical connectivity options
- ATEX II 2 G/D Ex d IIC T5 or T6



Storage.

Protecting people and the environment has absolute priority when dealing with Oil and Gas. When measuring pressure, temperatures and fill levels, instruments must guarantee reliable processes in hazardous areas with most demanding standards and ratings.



Pressure gauge for corrosive gases and liquids

MEX5 – pressure gauge

- Suitable for corrosive atmospheres and fluids
- Resistant to transient overpressure
- Fully welded process connection
- Fillable with dampening fluid
- Conforms to EN837-1 and PED97/23/CE
- ATEX EC II 2 GD



Pressure gauge for corrosive gases and liquids

MEP5 – safety pressure gauge for pressure measurement

- Safety pattern gauge with solid front and full blowout back
- Wetted parts in stainless steel or Monel
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- Baffle wall blowout back to prevent personal injury of the operator
- S3 safety standard according to EN 837-1
- NACE conformity
- ATEX

Accuracy and safety for meeting your expectations

Storage is necessary to meet seasonal and other fluctuations in demand. For operating storage reservoirs pressure, temperature and level monitoring is essential. In aquifer storages, for instance, the original hydrostatic pressure must be exceeded in order to push the water back. Thanks to accurate and safe instruments, meets customer expectations and provides on-demand solutions.

TSF – gas filled thermometer

- Temperature range from -200 to +800 °C
- Accuracy class 1
- Flexible system with fix stem or capillary tube
- Wide range of diameters: 63, 80, 100, 160 and 250 mm
- All stainless steel design
- Electrical contacts available





Strong partner with strong profile.

Temperature measurement in harsh environment



T02 – Thermocouple assembly with protecting tube

- Single/double protecting tube
- Flanged/screwed connection
- Assembly with KER 710 or KER 610 tube for high temperature application
- Available with various element sizes from 0.5 mm
- Various options available for connections and sheath diameters
- Enclosures (head) – IP 65, IP 66, IP 67, IP 68, IIA, IIB, IIC etc.
- Transmitter output 4 – 20 mA (optional)
- Reliable and consistent output under extreme conditions



R02 – RTD assembly with N-U-N connection

- Mineral insulated cable
- Elements – Pt100, Pt 500, Pt 1000 etc.
- Spring loaded construction for better contact with thermowell
- Available with various element sizes from 3 mm
- Various options available for connections and sheath diameters
- Enclosures (head) – IP 65, IP 66, IP 67, IP 68, IIA, IIB, IIC etc.
- Transmitter output 4 – 20 mA (optional)
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Pipeline monitoring in control cabinets

X910 – explosion-proof pressure transmitter for electronic pressure measurement

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- TRANSBAR® ceramic technology
- Zero adjustment as standard ($\pm 10\%$ of range)
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- ATEX II 2 G/D Ex d IIC T5 or T6

D9xx series – chemical seals

- Suitable for process pressure transmitters
- Different wetted part materials available
- High temperature applications up to $+400^\circ\text{C}$
- Complete assembly with flushing ring and drain/vent valves
- Pressure rating up to class 2500
- Pressure range from 10 mbar to 420 bar
- NACE conformity
- Heat tracing optional on flanges and capillaries





Global network of experts.



Pressure gauge for corrosive gases and liquids

MEX5 – pressure gauge

- Suitable for corrosive atmospheres and fluids
- Resistant to transient overpressure
- Fully welded process connection
- Fillable with dampening fluid
- Conforms to EN837-1 and PED97/23/CE
- ATEX EC II 2 GD



Pressure control in water and waste water treatment plants

RPPN – switch

- Pressure switch for low and high pressure
- Adjustable setpoint(s) and deadband
- Measuring range: –50 ... 0 mbar to 60 ... 600 bar
- Overpressure/static pressure: max. 800 bar
- Excellent repeatability
- IP66



Quick connection safety gauge

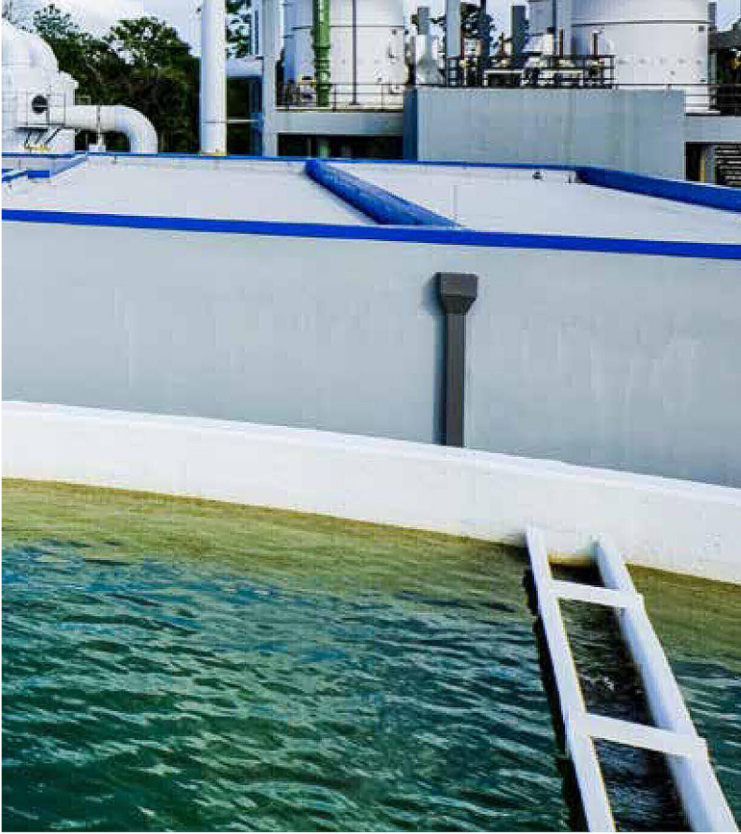
MEP5-OD

- OD connection for double compression fitting
- For corrosive gasses and liquids
- Class 1 according to EN 837-1
- Safety version S3 according to EN 837-1
- Option: liquid-filled for applications with pulsations or vibrations
- Option: case material 1.4404 (316L) for aggressive atmospheres



TBI/TBHI – bimetal temperature gauges with AGF thermowell

- Temperature range from –70 to +600 °C
- Class 1 accuracy up to +250 °C
- 135 % over temperature protection
- Every angle construction
- Stabilized pointer for increased resistance against vibrations
- ATEX Zone 1 certification
- Thermowell in all variation available



Water treatment.

Water is used in all phases of production in the Oil and Gas industry and is an essential component for the process of extraction and treatment. It is also used in large quantities for refining and the production of petrochemicals for cooling water, ballast water and steam generation. Waste and contaminated water must be treated before release to meet international standards for its discharge and to safeguard the environment. With its complete range of pressure and temperature gauges is one of the leaders when it comes to optimum efficiency and performance in water treatment facilities.

Manifold valves, fitting and tubing

AMFD – Pressure accessory



- 2, 3 or sways
- Up to 420 bar
- Process temperature +200 °C
- Full stainless steel
- Various types available

Temperature control in water and waste water treatment plants

RTNY – switch



- Compact temperature switch
- High vibration resistance
- Measuring ranges: -40 ... +350 °C
- Stem 9.5 mm (rigid or with capillary)
- ATEX EEx ia IIC T5 or T6

Sustainable water treatment protecting the environment

The increasing use of water for the production of Oil and Gas is creating the need for progressively more complex water treatment facilities. Environmental legislation is imposing restrictions on water discharge standards and is becoming ever more stringent. With its innovative and precision measurement products, is effectively supporting its customers to meet these standards, reduce energy consumption and to implement environmentally sustainable processes.