

Oil and Gas

Advanced sensor technologies for reliable measurements



Baumer

Passion for Sensors



Baumer – just rely on our technological advantage

Sophisticated and proven products, top precision and expert consultancy – Baumer 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.

Precise sensors and measuring systems for the petrochemical industry

The demanding requirements of the petrochemical 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 Baumer 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 safety standards.

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

The optimum sensor solution for every production process

It is a long way from crude oil to the end product. Baumer as a trusted partner and industry expert knows about the demands of each petrochemical segment 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 Baumer sensor solutions.

Encoder

Gas Filled and Bimetal
Thermometer

Pressure Switch

Pressure Transmitter



Reliable results even under extreme conditions



Invented by Eugène Bourdon, this method for measuring boiler pressure with the Bourdon tube is still the essential component of precise mechanical pressure measuring instruments.

The company founded by Eugène Bourdon, now Baumer Bourdon Haenni SAS, has become a "center of competence" within the Baumer Group. Baumer has improved on the benefits of the Bourdon measuring instruments and incorporated the latest technological advances in the field. Only Baumer offers you the Bourdon original.



Baumer Huebner – Rely on the market leader in HeavyDuty technology! Baumer Heavy-Duty encoders merge excellent signal quality with extreme mechanical resilience, top-grade immunity against electromagnetic fields and reliable measurements in the harshest environments.

This is our contribution to ensure dependable operation and maximum uptime of your systems – for years to come.

Pressure Gauge with Chemical Seal

Differential Pressure Transmitter with Chemical Seal

Safety Pressure Gauge

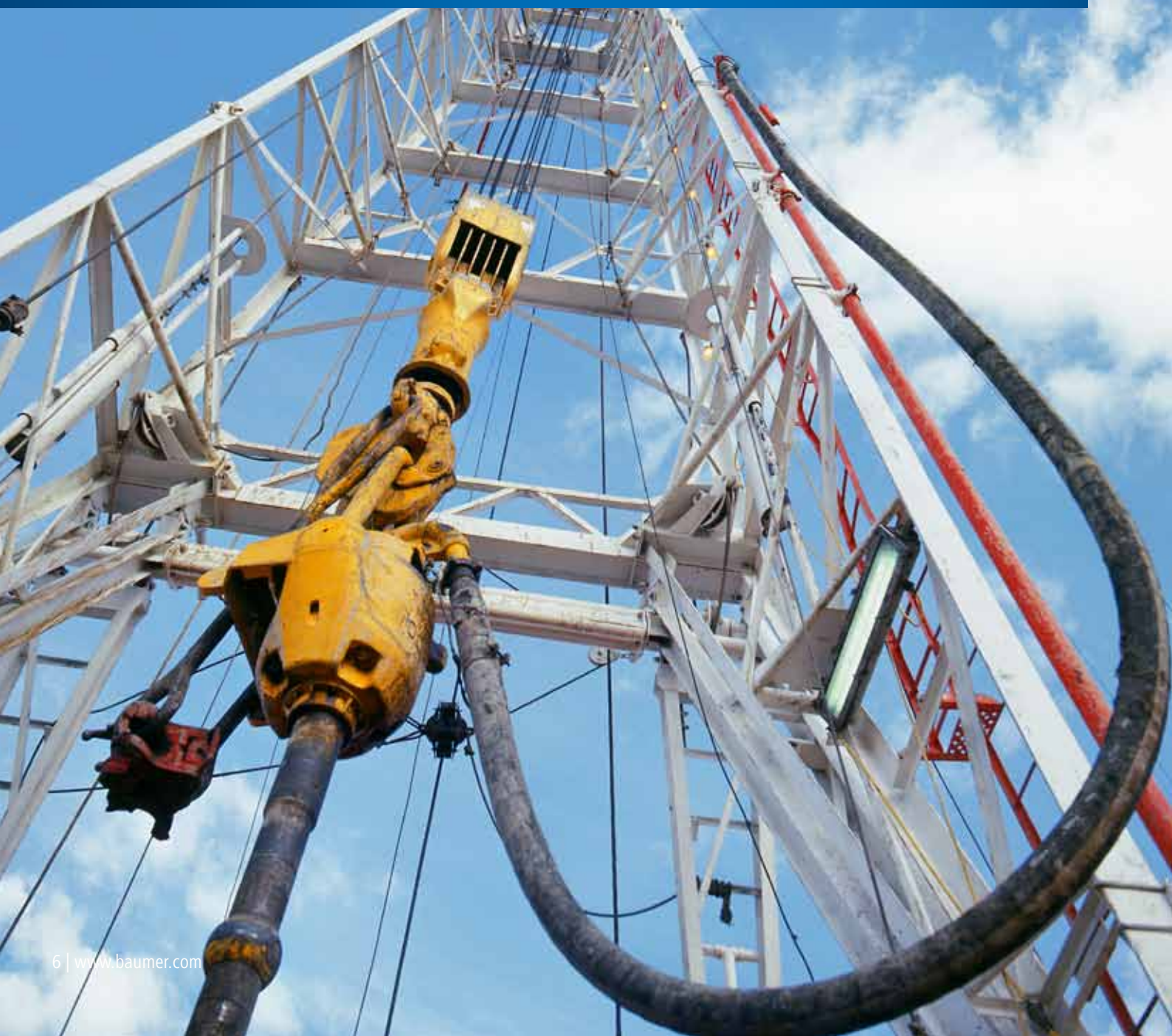
Differential Pressure Gauge



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 mean highly demanding requirements for technology. Only robust and reliably functioning equipment can ensure safety here.

Baumer is a leading provider in the field of Motion Control and Process Instrumentation, offering the largest product portfolio worldwide and selection of industry-specific solutions. As the technological leader in the area of HeavyDuty and Offshore Equipment with more than 20 years of experience in explosion protection, Baumer encoders and measurement equipment stand for superior reliability and safety.



A strong partner to meet your greatest challenges

For several decades Baumer has been a leading supplier to the Oil and Gas industry. With the broad product portfolio in the field of Motion Control and Process Instrumentation worldwide, and the largest selection of specialized solutions, Baumer provides custom sensors solutions aimed at these industry-specific requirements, which can be adapted to individual customer requirements.

For more information please visit: www.baumer.com/oil-gas

Selected products for demanding applications:



Drawworks HS35 – incremental encoder for speed and position feedback

- Intrinsically safe hollow shaft encoder
- Programmable, index, and output voltage level
- Extremely robust ShaftLock bearing design
- Isolated shaft inserts for increased bearing lifetime
- ATEX EEx ia IIC T4
- US-Standards Class I/II, Division 1, Group A, B, C, D / E, F, G (Certification pending)



Top Drive

EEx HOG 161 – incremental encoder for motor feedback

- Explosion proof hollow shaft encoder
- Special bearing design allows high shaft loads
- Fast and flexible installation due to swivel connection box
- Special line drivers for long cable distances
- ATEX II 2G EEx de IIC T6



Crane Control X 700 – shaft encoder for absolute positioning

- Explosion proof multiturn encoder
- Robust stainless steel housing
- Various interface options e.g. DeviceNet, Profibus, Ethernet/IP
- Integrated diagnostics e.g. position consistency and multiturn error detection
- 200 g shock resistance
- ATEX I/II 2 GD EEx d IIC T6



HDmag – motor feedback encoder without bearing

- Non-contact magnetic scanning
- Absolute and incremental variants
- Extremely durable and free of maintenance
- Reliable output even under extreme conditions
 - Increased tolerance for shaft movement
 - Aggressive environments e.g. oil, dust, water
 - Strong shocks and vibrations
- Especially designed for motors with large shafts



Blow out preventer BOP MEX8 – mechanical pressure gauges for pressure measurement

- Stainless steel housing and sensing element (Monel available)
- 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



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 are certified with 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 highly robust – Baumer measuring sensors provide reliable operations in the most difficult situations.



Baumer complies with norms and approvals

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



For more information please visit: www.baumer.com/oil-gas

Selected products for demanding applications:



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



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
- Conforms to NACE standard



PBMX – 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



Temperature measurement on FPSO
TBI/TBHI – bimetal temp. 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



Secondary Recovery and Well Services

Extreme durability and high precision:

Whether onshore or offshore, in pressure or distance measuring – Baumer offers products in specialized housings with anti-corrosion coating to ensure impermeability and sealing capabilities throughout the entire service life of the product.



Selected products for demanding applications:



Wireline, Coiled Tubing
G25 – incremental encoder for exact position and speed feedback

- Intrinsically safe shaft encoder
- Extremely robust ShaftLock bearing design
- Durable housing with anti-corrosion coating
- Precise, jitter free scanning technology
- ATEX EEx ia IIC T4
- US-Standards Class I/II, Division 1, Group A, B, C, D / E, F, G (Certification pending)



PBMN – transmitter for pressure measurement on pumps Stimulation, Fracturings

- Measurement of vacuum, absolute or gauge pressure
- Very high accuracy
- Excellent long term stability
- Full welded design
- Current and voltage output signal



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





Our customers benefit from our innovative products

We are permanently working to ensure that our products are designed for our customers' special requirements. Reliability, for instance. Thanks to the proven innovative Baumer ShaftLock technology in the bearing design, our encoders hold up and last longer even under the most difficult conditions.

For more information please visit: www.baumer.com/oil-gas

Refineries

In refineries thousands of measuring instruments for both pressure and temperature must meet one basic requirement: zero failures! Baumer has been a leading supplier to the oil and gas industry, continuously improving and expanding our portfolio for several decades. Be it measuring pressure with special safety pressure gauges developed for the improved protection of operator and environment or temperature measurements. Baumer provides custom solutions for all measuring tasks.



Raising safety standards with robust and reliable equipment

We are continually examining, developing, and testing our product portfolio to meet increasingly demanding safety requirements. We for instance, adapt materials of pressure gauges and the design of diaphragm seals to aggressive process fluids and therefore ensure more reliability and safety.

For more information please visit: www.baumer.com/oil-gas

Selected products for demanding applications:



Hydrogen compressor for distillate hydrocracker
MEP5 – safety pressure gauge for pressure measuring

- Safety pattern gauge with solid front and full blowout back
- Wetted parts in stainless steel or Monel
- Special compensating diaphragm ensures high accuracy
- Available in thread connection
- Baffle wall blow out back prevent risk of injuries for operators
- S3 safety standard according to EN 837
- NACE conformity
- ATEX



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

MX7 – Differential pressure gauge

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



Power control of pumps
EEx OG 9 – incremental encoder

- Explosion proof shaft encoder
- Robust housing
- HeavyDuty bearings allow high shaft loads
- High power line driver for long cable distances
- ATEX II 2G EEx de IIC T6



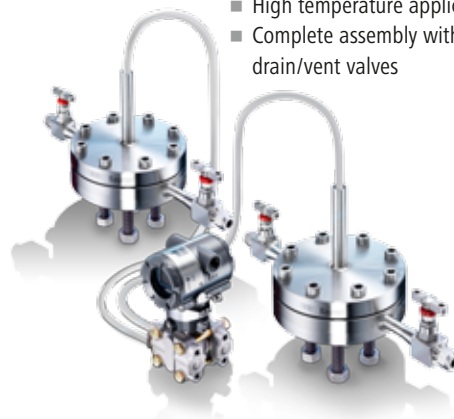
Pressure, level and flow measurement in various refining processes

MFT – Differential pressure gauge

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

D900 – chemical seal

- Suitable with process pressure transmitters
- Different wetted part materials available
- High temperature applications up to +400 °C
- Complete assembly with flushing ring and drain/vent valves



Seals and transmitters during the filling operation.

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. To guarantee a safe process during pipeline operations like pipeline control, pumping or compressor stations and delivery terminals Baumer sensors are designed according to explosion proof standards.

Selected products for demanding applications:



Pumping station
RP2E – pressure switch

- Resistant to short duration overpressure
- Various process and electrical connectivity options
- Huge range of micro switches with different power ratings
- Suitable for fitting 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 ($\pm 10\%$ of range)
- Various electrical connectivity options
- ATEX II 2 G/D Ex d IIC T5 or T6





First-class solutions for extreme conditions

For safety reasons pipelines are equipped with special shutdown and controlling devices. 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. Baumer process instruments are used for leak detection and location, temperature tracking, pump monitoring and operations improvements.

For more information please visit: www.baumer.com/oil-gas



Storage

Protecting people and the environment has absolute priority when dealing with oil and gas. When measuring pressure, temperatures and fill levels, sensors must guarantee a reliable process under the most demanding hazardous area rated conditions.

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, Baumer meets customer expectations and provides on-demand solutions.

For more information please visit: www.baumer.com/oil-gas

Selected products for demanding applications:



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



MEP5 – safety pressure gauge for pressure measuring

- Safety pattern gauge with solid front and full blowout back
- Wetted parts in stainless steel or Monel
- Special compensating diaphragm ensures high accuracy
- Available in thread connection
- Baffle wall blow out back prevent risk of injuries for operators
- S3 safety standard according to EN 837

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



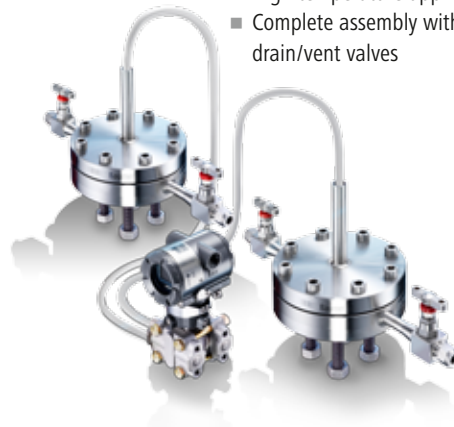
Pipeline monitoring in control cabinets X910 – explosion-proof pressure transmitter for electronic pressure measurement

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



D900 – chemical seal

- Suitable with process pressure transmitters
- Different wetted part materials available
- High temperature applications up to +400 °C
- Complete assembly with flushing ring and drain/vent valves



EPC Contractor Business

Actively present in the EPC business for many years, Baumer is a competent partner through the overall execution of the project: from the offer of products in accordance with the project requirements to the after-sales services.

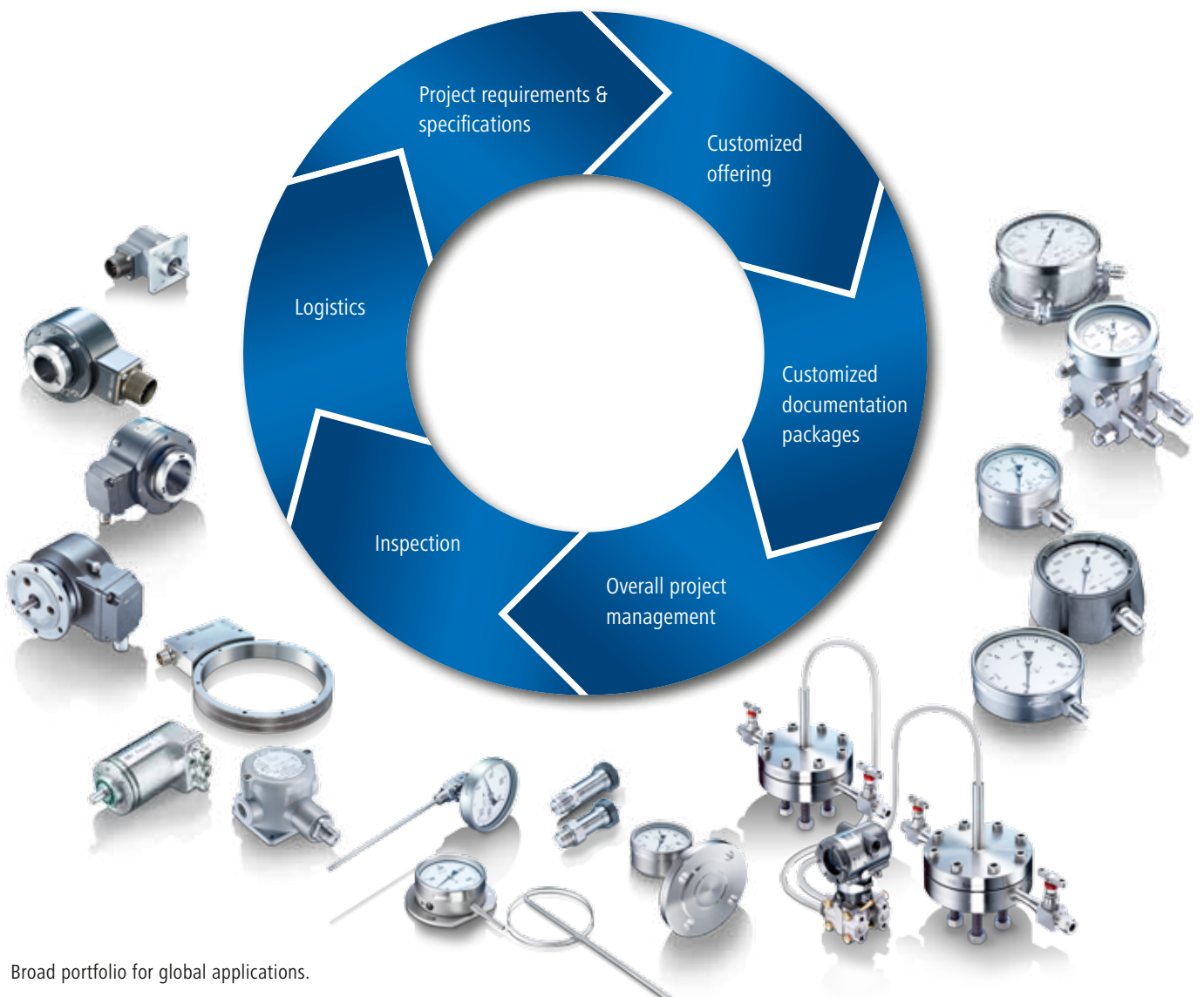


Global project management close to your business

Safety and reliability are key qualities which can never be compromised in process instrumentation. Our proven business model for EPC projects is based on our core competencies of offering customized and innovative solutions, strong knowledge in project management and trusted partnership in focused industry segments.

For more information please visit: www.baumer.com/epc

Meeting your criteria



Broad portfolio for global applications.

Your local Baumer partner.



Africa

Algeria
Cameroon
Côte d'Ivoire
Egypt
Morocco
Reunion
South Africa

America

Brazil
Canada
Colombia
Mexico
United States
Venezuela

Asia

Bahrain
China
India
Indonesia
Israel
Japan
Kuwait
Malaysia
Oman
Philippines
Qatar
Russia
Saudi Arabia
Singapore
South Korea
Taiwan
Thailand
Turkey
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Greece
Guadeloupe
Hungary
Italy
Malta
Martinique
Netherlands
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Poland
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Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
United Kingdom

Oceania

Australia
New Zealand



For more information
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