
ABB MEASUREMENT & ANALYTICS

Measurement made easy

In space, on the ocean floor and
everywhere in between



Expertise in technology

More than a century of experience

To operate any process efficiently, it is essential to measure, actuate, record and control. In selecting ABB you are choosing a partner who is offering the best measurement and analytical solution for your needs, enabling maximum return on your investment. When investing in ABB's measurement and analytical solutions you are receiving the best technology, reliability and service in the business.

Research and development is a vital source of ABB's technology leadership. ABB constantly builds on the foundation of existing technologies for new applications, and continues to develop the breakthrough technologies needed to meet the challenges of the future. ABB and its heritage companies have been leaders in innovation and technology for more than 100 years.

Aztec

Bailey

BOMEM

Bush Beach Engineering
Limited

**FISCHER
& PORTER**

Hartmann & Braun

K-TEK

Kent

LG R
Los Gatos Research
A MEMBER OF THE ABB GROUP

Pressductor®

SENSYCON

Schoppe & Faeser

Spirit
A MEMBER OF THE ABB GROUP

Taylor

TBI-Bailey

TORBAR
FLOWMETERS LTD

TOTALFLOW
MEASUREMENT & CONTROL SYSTEMS

Comprehensive measurement solutions

Serving your industry

- 01 Water and waste water
- 02 Power and industrial steam
- 03 Chemical and petrochemical
- 04 Oil and gas
- 05 Pulp and paper
- 06 Minerals
- 07 Metals
- 08 Food, beverage and pharmaceuticals
- 09 Marine

ABB's measurement and analytical products provide world-class measurement solutions for any industry, utility or municipality. Latest innovations deliver technological solutions to make it easier for you to run your plant. ABB's measurement and analytical products are based on common technology, providing a common look and feel and method of operation. This results in products that are easy to configure, easy to integrate, and easy to maintain.

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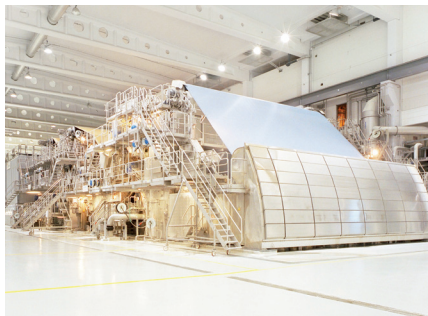
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Enabling energy efficient operation

Measurement that makes a difference

Measure greenhouse gases from space? Absolutely.

ABB's advanced remote sensing technologies are the main components on the first satellite devoted to monitoring greenhouse gases from space. ABB's interferometer is at the heart of the Japanese IBUKI (GOSAT mission) satellite and will provide precise data from 56,000 observation points, enabling improved decision making on measures to curb emissions and global warming.

Best energy efficiency

ABB's measurement and analytical products, solutions and services are designed to help you to make the most of your resources by improving performance while lowering environmental impact. By reducing power consumption and losses, improving productivity and managing equipment more effectively, ABB technologies can reduce energy waste and maximize the productivity of the energy value chain.

Optimize performance while reducing operating costs? Certainly.

ABB's award winning Cylmate® diesel engine performance monitoring system is the most advanced system for continuous diesel engine

performance monitoring. A unique combination of measurements, plus advanced mathematical modeling of the engine, provide accurate, real-time data that delivers the best of both worlds – improved reliability and reduced operating costs.

Best reliability

With many measurement and analytical products still operating perfectly after decades, ABB has built a reputation on reliability. Many products feature fieldbus communications that, when connected to ABB's asset management solutions, tell you how they are operating, when they were last calibrated and even when they need maintenance.

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 “ABB has supported us with technology for the last ten years, making a continuous expansion and upgrade of the system possible.”

Javier Pellón, Technical Manager, ENAGAS



Delivering increased productivity

Sustainable automation solutions

Measure flow, pressure and temperature on the ocean floor? Definitely.

ABB flowmetering technology is used to solve sub-sea monitoring problems right at the source. It is a proven and reliable solution for measuring flow, pressure, and temperature at extreme depths in sub-sea applications. ABB measurement technology is recognized for being the most innovative and toughest in the business. It is providing a solution for your most difficult and challenging applications.

Best technology

For over 100 years ABB has been dedicated to developing technology focused on increasing productivity. All ABB products are designed with ease of use in mind, from cell-phone inspired keypads to wireless communications. This provides technology that saves time and money in installation, operation and training for your personnel.

Save 6 million liters of drinking water per year? Naturally.

ABB flowmeters are helping the Saudi Arabian capital, Riyadh, to cut leakage in its water distribution network by approximately

40 percent. The flowmeters were repeatedly selected for their outstanding accuracy and performance. ABB has the world's largest offering of flowmeters, with an unrivalled number of well-proven measuring principles, type variants and applications.

Best sustainability

ABB's measurement and analytical products are designed to help you increase productivity and profitability in a sustainable way. From fuel saving devices for ship engines and power plant boilers, to devices that help reduce environmental impact from water treatment and smoke stacks. ABB was one of the first automation companies to embrace sustainability and make it part of the company's identity.

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“ABB's flow meters dropped steam losses to lower than 5%, enabling us to recover USD 1.3 million in billings.”

Pat Dillon, Electrical and Control Engineer,
Virginia Commonwealth University



Instrumentation, control and electrification

Excellent project execution

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01 ABB's comprehensive offering for large multiscope projects

As a leader in automation and power systems, ABB offers a wide portfolio of products and services tailored to meet the demands of any industry.

ABB's leading position in instrumentation, control, and electrification (ICE) enables you to benefit by integrating the plant's automation and electrification systems into a common platform for large multiscope projects. ABB minimizes your risk by providing integrated products and solutions as the Main Automation Contractor (MAC) and the Main Electrical Contractor (MEC). This reduces the cost and complexity of projects and results in a system that is easy to maintain and provides opportunities for optimizing energy at the plant. As one of the world's leading suppliers of measurement products, ABB uses its extensive systems engineering capabilities to develop specific solutions to meet the demands of any customer.

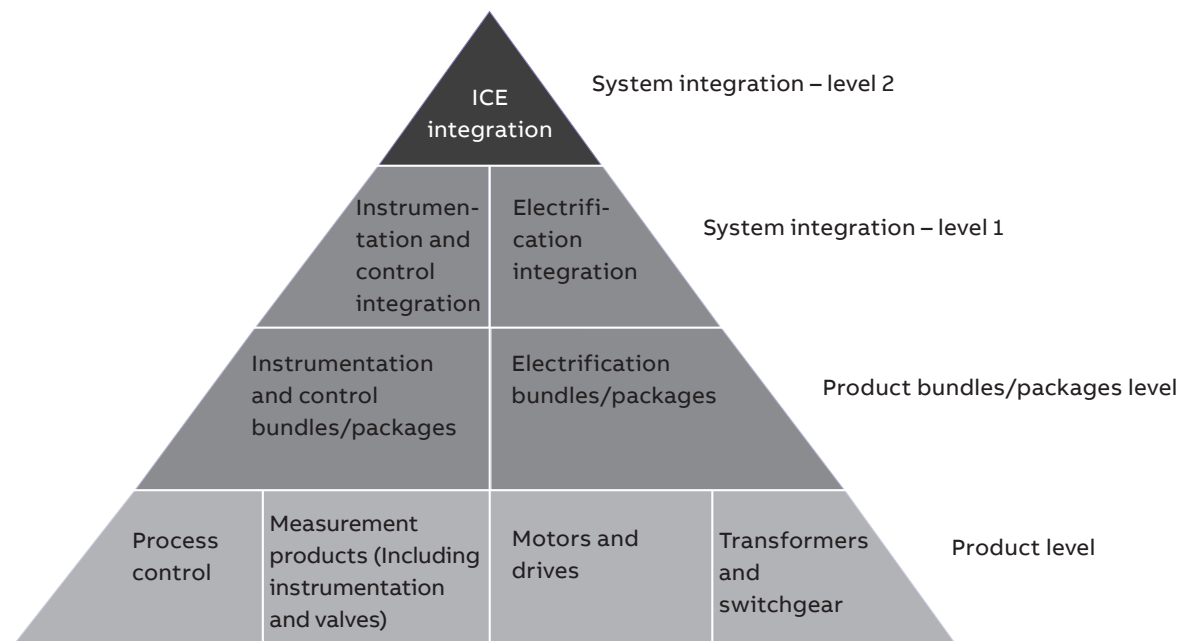
Benefits using the ABB integrated approach:

- Lower project risk: everything working right the first time
- Improved schedules: engineering, commissioning and start-up time reduced
- Lower costs: reduced spending on engineering, start-up and maintenance
- Increased productivity: total plant availability and through-put improve maximization of the plants profit margin
- Best use of technology: truly integrated best-in-class and fit-for-purpose solutions that 'build-in' long-term benefits
- Project execution excellence: a single integrated team with global reach and resources
- Life-cycle management: from competency to post commissioning support to full service

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“The ability to provide a total solution should be a primary factor for any user choosing a manufacturing system partner.”

Source: ARC

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Services for measurement and analytics

Performance optimization solutions

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01 ABB service – value added services for bottom-line results.

Dedicated to optimizing your plant productivity and performance, ABB's services enable improved utilization and performance of your automation equipment, processes and personnel. ABB provides support from the planning phase right through to commissioning and servicing.

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ABB is the largest automation service company* in the world offering a full range of services to help support your plant, including start-up services, project management, asset optimization, maintenance and training.

*Source: ARC 2014

ABB's service specialists are strategically located to support all products and systems globally. ABB's broad scope of services lays the foundation for end-to-end support for your enterprise.

ABB's performance optimization services:

- Consulting
- Installation and commissioning
- Maintenance and field services
- Asset management systems
- Fieldbus and wireless solutions
- Project execution
- Migration and upgrades
- Repairs and calibration
- Spare parts and consumables
- Support, remote service, and training
- Maintenance support agreements



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Analytical measurement

Maximize quality and productivity

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01 Analytical instruments for water and waste, steam and ultrapure water

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02 Analytical shelter with gas analyzers and gas chromatograph

As the world's leading supplier of liquid and gas analytical technologies, ABB offers an unmatched line of analytical instruments. These solutions are designed to maximize your product quality and minimize your plant maintenance. ABB is your single source supplier of analytical measurement products.

ABB's analytical measurements portfolio:

- Continuous gas analyzers
- Gas chromatography
- Spectrometers (FT-IR and FT-NIR) and Photometers- Water analyzers
- Dissolved organics and nitrate
- pH and redox
- Conductivity and resistivity
- Colormetric analyzers
- Chlorine and ozone analyzers
- Turbidity
- Dissolved oxygen
- Ion selective
- Analytical system integration
- Cavity Enhanced Laser Analyzers
- Reid Vapor Pressure analyzers

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“ABB's analyzer precisely matched the level of coagulant dosing enabling us to reduce chemical usage by over USD 304,650 per year.”

Andrew Wetherill,
Operational Scientist, Yorkshire Water

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Measurement made easy

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01 ABB analytical measurement – your partner in advanced analytical solutions

ABB's analytical solutions provide real-time analysis in a variety of industries and applications. These liquid and gas analytical products enable cost-effective measurements in order to monitor product quality, meet process requirements, control chemical usage and conform to local and global environmental regulations.

Maximize your product quality

Whether you are producing ethylene or drinking water, ABB has the right analyzer technology to help you maximize your product quality. High product quality impacts your ability to set price, satisfy your customers and reduce the costs associated with poor quality. Contact ABB for help in maximizing your product quality using analyzers.

Meet process requirements

Enable the efficient operation of your process by analyzing key areas and ensuring they are operating in the optimum way.

Chemical imbalances, pH issues and incorrect dosages can lead to degraded or even dangerous process conditions. ABB has the expertise to ensure your process is operating at optimal efficiency.

Control chemical usage

Incorrect chemical dosage costs you money, could be dangerous and can negatively impact the environment. ABB offers a full line of analyzers to monitor applications and help optimize chemical usage. Contact ABB for solutions to help conserve natural and financial resources.

Regulatory compliance

ABB is your partner in meeting the ever-increasing regulatory requirements for your industry. We offer a full line of analyzers to help monitor emissions, optimize combustion and analyze discharges into the environment. Avoid regulatory fines and penalties with ABB's analyzer solutions.

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Flow measurement

Unrivalled application expertise

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01 CoriolisMaster in a process industry application

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02 Totalflow XSeries RTU in a natural gas multi-well PAD application

ABB’s knowledge about flow measurement and management is unmatched. Over the decades, ABB has developed an unrivalled understanding of customers’ challenges and developed innovative solutions to meet them. You have access to over 100 years of flow measurement and control experience to help you save cost and increase profits.

ABB’s flow measurement portfolio:

- Electromagnetic flowmeters
- Vortex and swirl flowmeters
- Differential pressure flowmeters
- Variable area flowmeters
- Coriolis mass flowmeters
- Thermal mass flowmeters
- Liquid & Gas Flow computers
- Natural gas chromatographs

ABB’s natural gas measurement portfolio:

- Flow computers
- Remote Terminal Units (RTUs)
- Liquid level sensors
- Wireless IO for remote systems
- API 21.1 compliant gas host system

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“ABB’s ProcessMaster enables users to operate more efficiently, reduce costs, increase profitability while meeting the needs of even the most demanding applications.”

Processing Magazine Breakthrough Products of the Year

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“ABB has provided DCP with accurate and reliable gas measurement products. Their flow computers have met our measurement needs as well as supplying a very detailed audit trail for our customers.”

Steve Harless, Sr. Director-Measurement, DCP Midstream

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Measurement made easy

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01 ABB flowmeters –
intuitive measurement
from the masters of flow

ABB's flowmeter portfolio contains breakthrough product innovations designed to solve problems, increase profits and save costs. Contact ABB for all your flow measurement, distribution and control needs.

Flow measurement solutions for tough applications

ABB offers flow solutions for many tough applications, such as abrasive fluids, high pressure or temperature, noisy environments and remote locations. Let ABB help you solve your difficult flow measurement challenges.

Flow measurement solutions for increasing profit From custody transfer applications where higher accuracy maximizes revenue to new applications for smart flow measurement that impact your bottom line, ABB has the right technology to maximize your profits. Ask the flow experts to help you make more money from your plant.

Flow measurement solutions for saving cost ABB's flow technology includes systems that help detect leaks in drinking water infrastructure, to remote flow computers that feature self diagnostics and health status. ABB's flow technology is designed to minimize operating costs and save you money through smart engineering and application expertise.



Field instruments and devices

The control you need to succeed

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01 Temperature
measurement of
a process gas

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02 Damper actuator

To operate any process efficiently, it is essential to measure, actuate, record and control. ABB offers a full line of field instruments and devices to provide the control you need and return on investment you expect.

ABB's portfolio for valve automation:

- Continuous electrical actuators and pneumatic actuators
- Electro-pneumatic, pneumatic, and digital positioners
- I/P signal converters

ABB's pressure measurement:

- Absolute, gauge and differential pressure transmitters – IEC 61508 SIL2/3 certified pressure transmitters and switches
- Multivariable transmitters
- Interface level/density transmitters
- Pressure measurement remote seals
- Pressure measurement accessories
- Pneumatic pressure transmitters

ABB's temperature measurement:

- Universal temperature sensors
- High-temperature sensors
- Temperature sensors for sanitary applications
- Mineral isolated temperature sensors

- Thermowells
- Temperature transmitters
- IEC 61508 SIL2/3 certified temperature sensors and transmitters

ABB's portfolio of recorders and controllers:

- Process controllers and indicators
- Paperless Recorders
- Paper chart recorders
- Field mountable indicators and controllers

ABB's portfolio of level measurement:

- Magnetic level gauges
- Magnetostrictive and guided wave radar level transmitters– Laser and scanner level transmitters
- Ultrasonic, capacitance and vibrating fork level transmitters and switches
- Rotating paddle and thermal dispersion level switches
- IEC 61508 SIL2/3 certified level transmitters

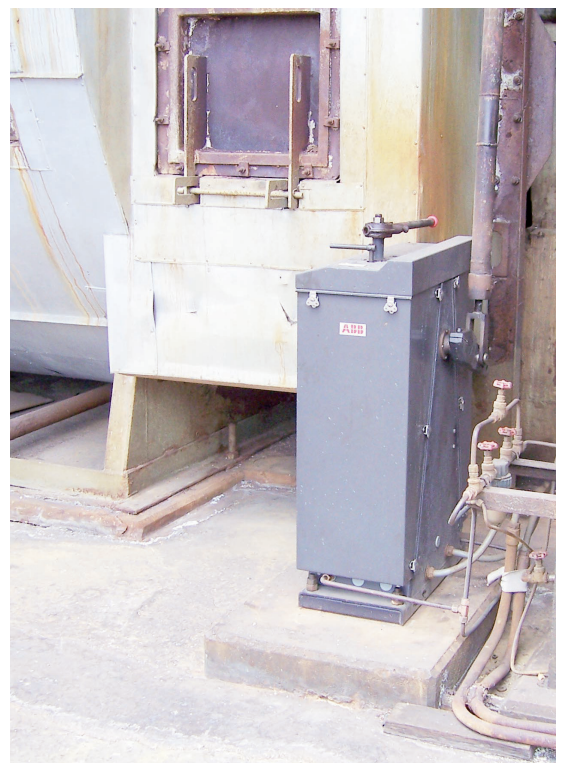
ABB's portfolio of device management:

- Fieldbus and wireless solutions
- Scalable asset & device management
- Asset vision software
- Mobility handhelds

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Measurement made easy

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01 Choose from a complete portfolio of cutting-edge solutions to actuate, measure, record and control

Measure

With its pressure, temperature and level measurement portfolio, ABB offers an unmatched selection of transmitter and sensor solutions. The transmitters feature a common HMI to maximize ease of use and reduce training requirements. They feature modular leading-edge electronics, so that upgrading and replacing the electronics and communications is plug and play simplicity.

Sensors are available in many sizes and are recognized for being some of the most durable on the market. A comprehensive line of contact and non-contact level technologies provide repeatable solutions for reliable inventory and process control.

3D laser scanner technology delivers quick accurate measurement of bulk solids. Wireless pressure and temperature transmitters save wiring costs.

Actuate

ABB's actuators and positioners are the best choice for efficient valve and damper automation and monitoring in any application. You benefit from ABB's extensive knowledge in the field of valve automation products, proven over many years in numerous applications for a wide range of industries.

Record and control

ABB manufactures and markets a wide range of industrial recorders and controllers, from the latest high visibility, secure paperless recorders to single and dual loop controllers and indicators. The extensive portfolio provides solutions that can be used across a wide spectrum of applications, even in the harshest of environments. All ABB recorders and controllers have a high degree of dust and water protection with clear and bright displays so that process status can be seen at a glance.

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Force measurement

Durable Pressductor technology

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01 Stressometer
installation in rolling
mill for stainless steel

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02 PillowBlock
Tensiometer installation
in paper mill

ABB's market leading Pressductor® technology has been renowned in the metals and paper industries for its durability, accuracy and reliability for over 50 years. Now its sensor technology is being used in many new applications to help improve your business.

ABB's force measurement portfolio:

- Rolling mill products
- Flatness measurement
- Thickness gauging
- Roll force measurement
- Strip tension measurement
- Strip width and position measurement –
- Web tension measurement
- Diesel engine performance monitoring –
- Weighing

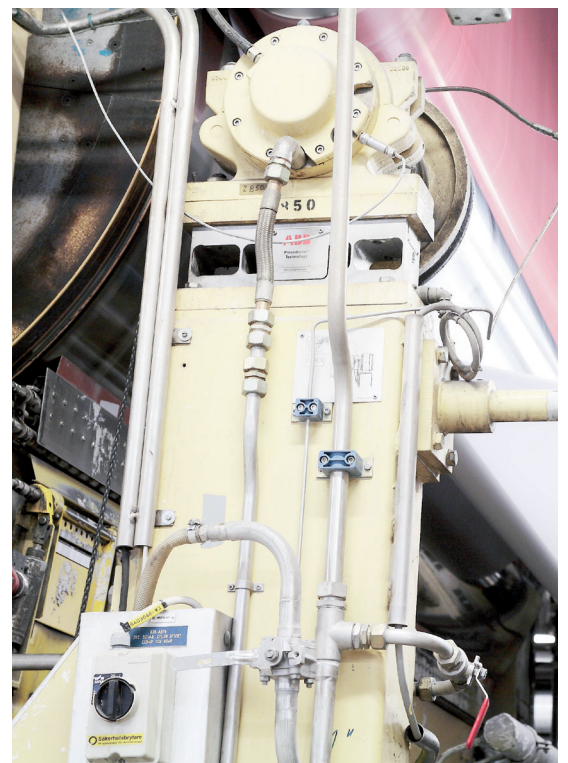
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“We can definitely justify the investment. Improved quality, higher speeds, shorter lead times, less transport and also a productivity gain.”

Niclas Gustafsson, Manager for Process Development Rolling,
Sapa Heat Transfer

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Measurement made easy

ABB's Stressometer flatness measurement and control systems have been trusted for 40 years to help mills deliver superior quality products. Advanced features like Automatic Flatness Control (AFC) ensure that you maximize efficiency and minimize cost.

Force, tension, position and dimension are critical for you to produce high quality products reliably and repeatedly. That is why ABB markets a series of sensors and controls designed to deliver optimum rolling mill performance.

Today, a wider range of materials must be processed at higher operating speeds – without sacrificing product quality or risking downtime. ABB's web tension measuring systems deliver greater control and reliability than ever before.

ABB's Cylmate® system delivers optimum and reliable engine performance for large diesel engine applications while reducing fuel consumption and emissions.

ABB offers a wide range of weighing solutions for crane, scrap, blast furnace and continuous casting applications. ABB loadcells incorporate high overload capacity, temperature resistance, accuracy and long term reliability.

ABB force measurement – helping thousands of clients all over the world to boost their productivity and yield.

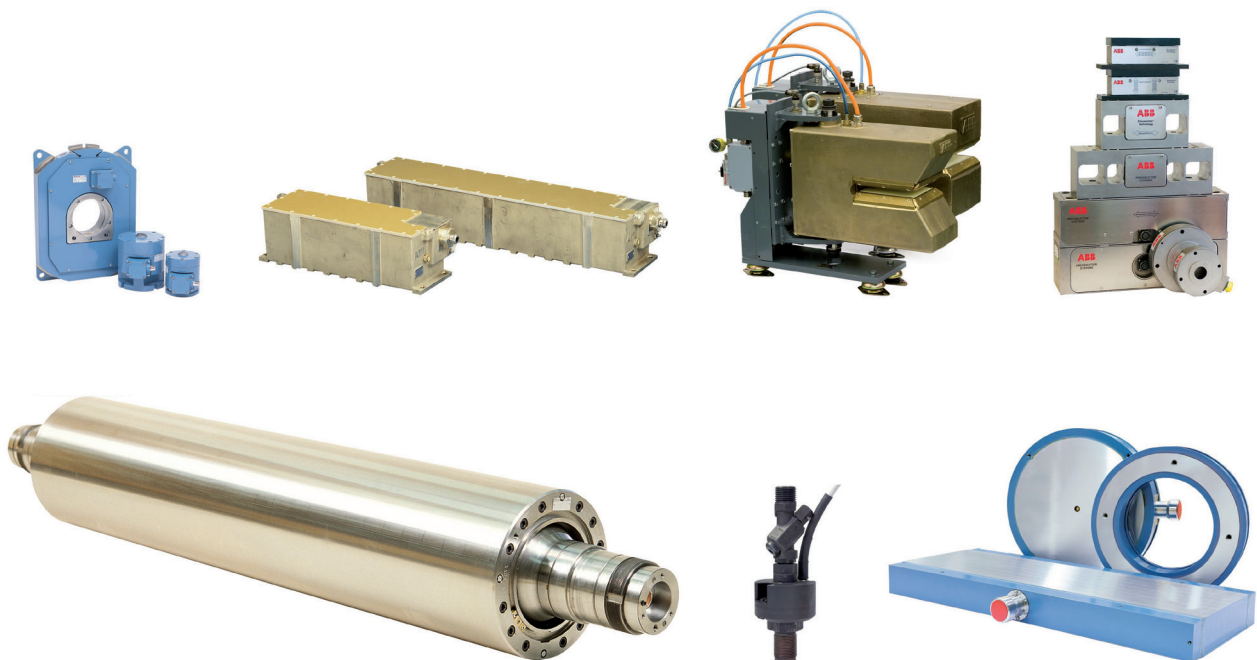


ABB Measurement & Analytics

For your local ABB contact, visit:
www.abb.com/contacts

For more product information, visit:
www.abb.com/measurement

