

process measurement solutions



The power industry capability catalogue



Measurement and control

Coal storage



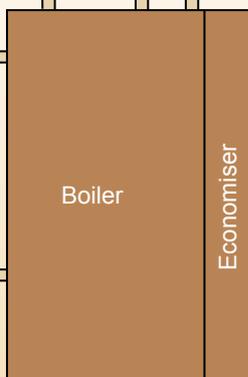
Oil storage



Gas metering

Fossil fuel

Nuclear
Magnox
AGR
PWR



Steam Generation

Fuel storage and preparation

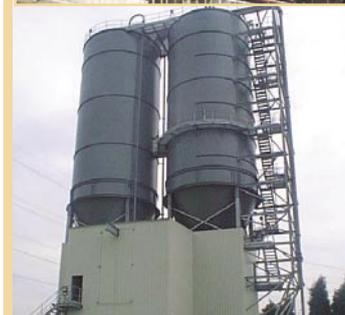
<i>Oil tanks</i>	Level indication, ultrasonic MCU900 controller
<i>Coal Bunkers</i>	Level indication, Radar MRL700 transmitter
<i>Oil tank alarm</i>	Float switches, vibrating fork switches
<i>PVF mills</i>	Fuel & mill pressure & flow: 9000/4301 Series transmitters Fuel & air flow - KB Series averaging pitot tube, orifice plates, venturis
<i>Fuel quality checking/mgmt</i>	Vibrating fork density and viscosity Series 7812, 3098, 7829
<i>Gas & steam flow</i>	Flow computers

Reactor

<i>Coolant pressure</i>	9000/4301 Series pressure transmitters
<i>Flow</i>	turbine flowmeters, AC600 clamp-on ultrasonic flowmeter
<i>Coolant pumps</i>	Lube oil level: float switches
<i>Sumps</i>	Level indication, magnetic level gauge
<i>Low level waste</i>	Service and commissioning
<i>Spent fuel handling</i>	MSP level systems, Electropulse fail-safe level alarm, Hi-Sens high alarm

Boiler/Steam Drum

<i>Steam drum</i>	Hydrastep water/steam monitoring systems Pressure & level: 9000/4301 Series transmitters
<i>Boiler feedwater</i>	Performance test venturis and nozzles ASME PCT6
<i>Superheater</i>	Pressure: 9000/4301 Series transmitters
<i>De-super heater</i>	Pressure: 9000/4301 Series transmitters
<i>Furnace</i>	Pressure & flow: 9000/4301 Series
<i>Steam lines</i>	Steam flow: KB Series averaging pitot flowmeter
<i>Flue gas</i>	KB Series, tube densitometers
<i>Bled steam lines</i>	Hydractect electronic gauging system
<i>Temperature</i>	Thermowells, RTDs
<i>Data acquisition</i>	Isolated Measurement Pods (IMPs)



Turbine Hall

Turbines
Generator

HP & LP Heaters

Hydrogen
de-training
Feedheating

De-aerator

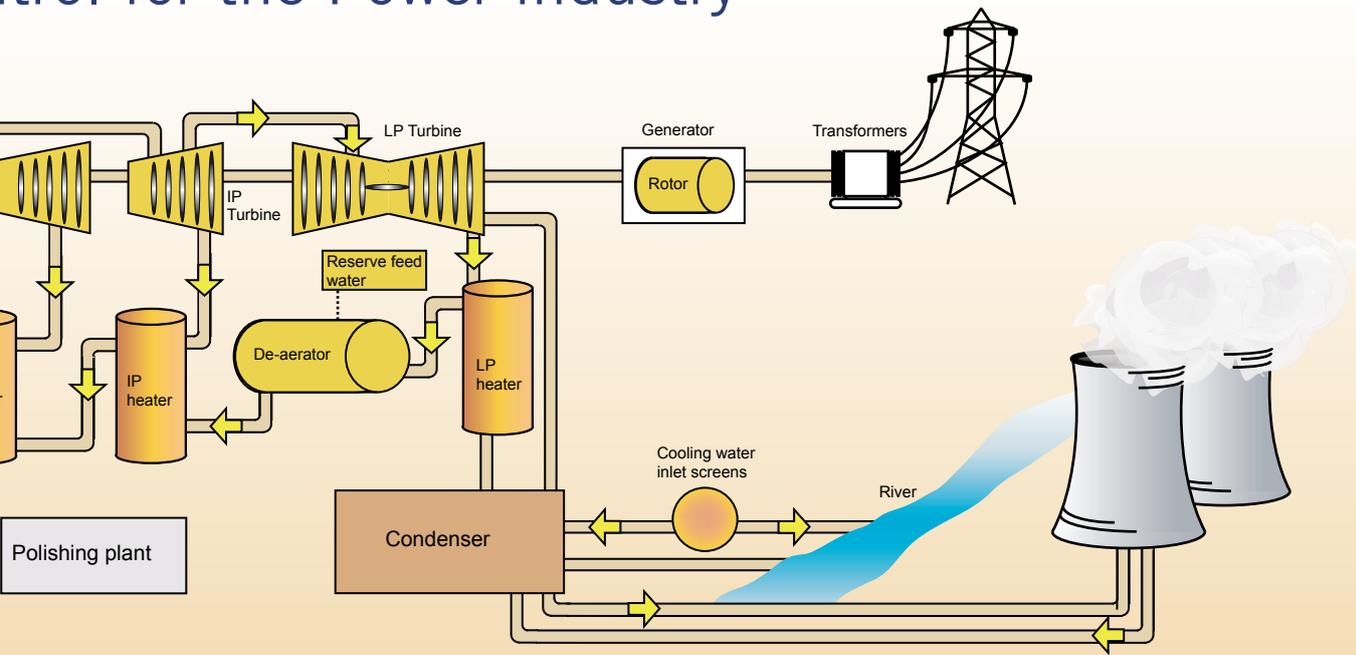
Circulating pump
Pump protection

Condenser
Water level

Circulating water
pressure
Flow balancing

FGD Process
Flue gas
Slurry

Control for the Power industry



Electricity Generation

Pressure: 9000/4301 Series transmitters

Coolant & lube oil reservoir level: S500 float switches

Coolant temperature: Isolated measurement pods (IMPs)

Hydrastep water/steam monitoring systems, float switches

MLT100 displacer level transmitters

Level detection & alarm: S500 float switches

Level indication & alarm: S500 float switches

Hydrastep water/steam monitoring systems, float switches

Pressure, 9000/4301 Series transmitters

Vibrating fork switches

Level indication & alarm: S500 float switches

Level indication: magnetic level gauge, float switches

Hydrastep water/steam monitoring systems

Pressure, 9000/4301 Series transmitters

Vibrating fork switches

Hydrastep water/steam monitoring systems

Magnetic level gauge, Float switches

9000/4301 Series pressure transmitters

9000/4301 Series pressure transmitters

Hydrastep water/steam monitoring systems

Magnetic level gauge, Float switches

9000/4301 Series pressure transmitters

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9000/4301 Series pressure transmitters

Service and commissioning

Density transducers

MCU900 ultrasonic Level measurement

Series 9700 Hydrostatic level transmitter

AC600 Clamp-on ultrasonic flowmeter

Associated Processes

Auxiliary Plant

Standby generators

Oil tank levels

Sump levels

Firefighting

Reserve tanks

Dust collector

Boiler house

Leak detection

Interface detection

Level pressure & flow served by many products:-

float switches, Mobrey boiler controls

Pressure transmitters

Hydrostatic contents gauges

Turbine meters, AC600 clamp-on flow

Ultrasonic point level switches

Radar, displacer level transmitters

Cooling water

Intake screens

Shut off gates

Inlet flow

Flow balancing

Blanket level detection

Flow

Flow

Flow

Flow

Oil/water interface alarm

Oil/water interface alarm

Differential level MCU902

Hydraulic oil level, level gauges

Coolant water flow, AC600 clamp-on ultrasonic flowmeter

9000/4301 Series pressure transmitters

Inlet water: ultrasonic sludge sensors

AC600 clamp-on ultrasonic flowmeter

MCU900 ultrasonic level meter

Ultrasonic sensors and displacer level transmitters MLT100

Water treatment

Sumps & run off

Storage tanks

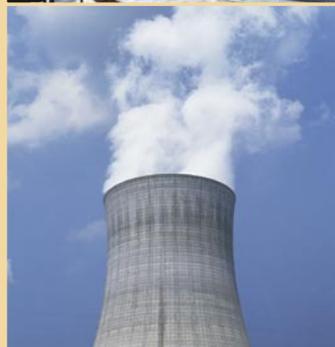
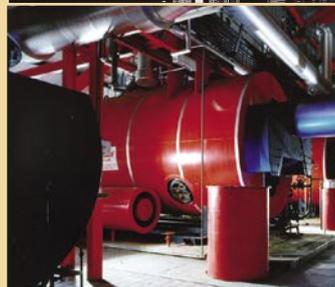
MCU900 Level measurement

MSP400 ultrasonic level transmitter

MCU900 level measurement

Hydrostatic contents gauges

Series 4301 intelligent pressure transmitters



level ... flow ... pressure ... density ... viscosity ... boilers

cut short ↙



Density transducers

- ▶ High accuracy and resolution
- ▶ Continuous measurement
- ▶ Fast response
- ▶ Intrinsically safe
- ▶ Long term stability

Viscometers

- ▶ On-line real time viscosity
- ▶ Minimal maintenance required
- ▶ Field proven
- ▶ Better than 1% accuracy

Flow computers

- ▶ Liquid and gas single and multistream applications
- ▶ Automatic product detection
- ▶ Transactions and batching
- ▶ Report generation
- ▶ International standards: ISO, AGA, API, NMI, S-GERG

Temperature measurement

- ▶ Complete assemblies with a range of terminal heads including digital mounts, RTD's and multipoints
- ▶ Explosion proof, intrinsically safe and weatherproof applications

Displacer level transmitter MLT100

- ▶ Level, contents or interface duty
- ▶ 2 Wire 24V dc loop powered
- ▶ 4-20mA output
- ▶ HART digital communications
- ▶ Hazard area certification
- ▶ Fast and simple calibration in tank or on bench
- ▶ Non-interactive zero and span
- ▶ Direct or external chamber mounting
- ▶ Optional local indicator
- ▶ Range to 3m (longer on request)
- ▶ Pressure and temperature to 200 bar and 300°C



Ultrasonic point level

- ▶ Failsafe ultrasonic level switch systems
- ▶ High or low level fail-safe
- ▶ Low maintenance, no moving parts
- ▶ 2 Wire systems for maximum signal integrity
- ▶ Models for low and high temperature applications
- ▶ Wide range of purpose designed sensors with remote or integral electronics

Suspended solids monitoring & control

- ▶ Built-in display, control and alarm options
- ▶ Simple menu driven programming
- ▶ Local programming via a membrane key pad
- ▶ Fully configurable output functions
- ▶ Accuracy +/- 1db
- ▶ IP65 wall mounting enclosures
- ▶ 4-20mA output options

Ultrasonic level measurement and control

- ▶ Customised user profiles for complex tank shapes and flow structures
- ▶ Internal or external temperature compensation
- ▶ Process variable displayed in any engineering units
- ▶ 4-20mA output
- ▶ 5 Relays for alarm or pump control duty
- ▶ IP65 enclosure
- ▶ RS232 Comms options available

Radar level transmitters

- ▶ HART digital comms.
- ▶ Certified for use in Zone O hazardous areas
- ▶ Horn antenna option for difficult applications
- ▶ Process seal antenna for non-invasive installation
- ▶ Operating temperature from -40°C to + 400°C



level ... flow ... pressure ... density ... viscosity ... boilers

Mobrey magnetic float level switches



- Simple, rugged and reliable to give alarms in the most arduous environments up to 400°C & 153 bar
- S500 range designed in conjunction with the users for high integrity critical alarm duties
- Used throughout the industry for many years
- Glandless for maximum safety and minimum maintenance
- Materials of manufacture chosen specifically to meet the needs of the industry



Averaging pitot flowmeters

- Low permanent pressure loss resulting in significant energy savings
- Any pipe size from 12mm to 2000mm
- Accuracy +/-1% of rate maintained over a flow turndown of greater than 10 to 1
- Bi-directional flow sensing
- Steam flow monitoring in the boiler house
- Gas flow measurement



Primary flow elements

- Orifice plates and flanges
- Meter runs
- Classical venturis
- ASME PCT6 nozzles
- Dall tubes



Differential pressure, flow and gauge transmitters

- Rugged, reliable and high-performance
- High static pressure ratings
- RFI and Seismic tested to industry standards
- Non-interactive zero and span
- Used throughout the industry for many years



Hydrestep electronic gauging system

- Fail-safe and fault tolerant
- Fault indication on all displays
- Zero maintenance
- Local & remote displays
- Exceptional reliability
- Approved by insurance companies
- No missed incidents



Hydratect steam/water detection system

- Immediate detection of condensate in bled steam lines
- Completely self-checking
- Fail-safe and fault tolerant
- Operation up to 560°C

Hydrostatic level transmitters and gauges

- Flush mount ceramic sensor in tough 316SS body
- 2 Wire 24V dc loop powered
- 4-20mA output proportional to level and contents
- Option of remote non-interactive zero and span
- Wide range of mounting options
- Certified for use in zone 0 hazardous areas
- Submersible models
- Flanged or threaded connections
- Self powered versions



Isolated Measurement Pods (IMPs)

- Distributed data acquisition
- Rugged - environmentally and electrically
- Totally reliable
- Flexible - temperature, strain, digital I/O
- Choice of communications networks



Service capability

In addition to our comprehensive power industry product offering, we offer a full service back-up from our field service arm, Bestobell Service:-

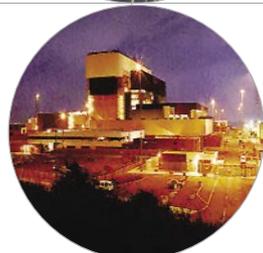


Bestobell Service is the field support division of Solartron Mobrey offering engineering design, supply, installation, commissioning, calibration and ongoing servicing of the company's products.

Bestobell Service and Solartron Mobrey are able to offer a unique approach to the market place with the ability to advise the customer on the best product to use and ensure that installation and commissioning is to the highest possible standard.



Bestobell Service provides engineering expertise at the customer location, bringing together control and instrument technology to automate or monitor plant. Using the extensive range of equipment at Solartron Mobrey's disposal in addition to products from other control, instrument and PLC manufacturers, Bestobell Service gives the complete solution.



The calibration and maintenance capability similarly extends to cover other manufacturers instrumentation. Whatever and wherever the requirement we will be pleased to visit site to develop a solution. We have expertise and many years of experience in the power and steam industry.



With this capability Bestobell Service and Solartron Mobrey offer the ultimate turnkey solution, keeping to a minimum the complexities normally associated with multi-discipline design and installation projects. This service ensures the very best, unique control and instrumentation service available in the UK today. It also provides assurance that whatever the product or application the company will make a commitment to provide the solution to the customer's requirements.



Solartron Mobrey products are available worldwide through subsidiary companies in Belgium, China, France, Germany, Poland, Sweden and the USA, and established distributors in all other countries. Wherever the application or the support need, you can rely upon Solartron Mobrey for a quality service.

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