



ABB MEASUREMENT & ANALYTICS

ProcessMaster electromagnetic flowmeter

The perfect fit for the
oil and gas industry



Expertise in measurement technology

Serving the oil and gas industry

For decades ABB's flow measurement products deliver reliability, accuracy, repeatability and easy maintenance. Customers worldwide benefit from our application-oriented know-how and comprehensive service.

To learn more about our extensive portfolio, visit:
abb.com/measurement



Reliable, safe and easy to use

The proven flow measurement solution

ABB has responded to the needs of the oil and gas industry adding features to the practice proven ProcessMaster electromagnetic flowmeter-range in order to serve the industries' demanding flow measurement applications.



Optimized performance

Increased profitability with ABB's ProcessMaster range of flowmeters

Long service life, robustness and low maintenance are requirements that ProcessMaster meets without compromise. Optimum process reliability and uptime are provided across all applications in oil and gas:

- Slurries such as drilling mud
- Mixtures of fluids such as oil/water plus sand or produced water plus sand
- Injection fluids including sand and chemical additives for lubrication and corrosion prevention
- Sludge or sludge-like wastewater from produced water treatment
- Operating conditions such as high pressure or entrained gas in the fluid
- Harsh environmental conditions like heat, moisture, vibration, explosive or corrosive atmosphere

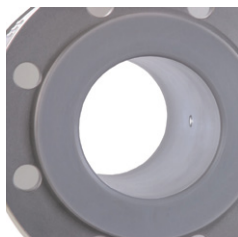
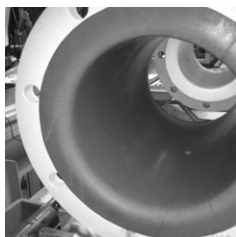


Robust design for long service life

Designed for reliability

The ProcessMaster flow sensor is designed for reliability in demanding operating conditions of oil and gas industry applications.

- Long lasting sensor lining materials withstand abrasion and corrosion, resulting in longest sensor service life and enabling minimal maintenance
- Option for vacuum-resistant liner
- No additional pressure drop from protrusions into the pipe
- Option for self-cleaning measuring electrodes preventing from issues with build-up of oil
- Double sealed measuring electrodes minimize the risk for leakage and enhance reliability
- Option for all 316 stainless steel construction for corrosive offshore atmosphere
- Option for fully welded sensor made from 316 material
- Protection of internal sensor components against moisture and vibration with potted Ex sensor



Intuitive navigation and configuration

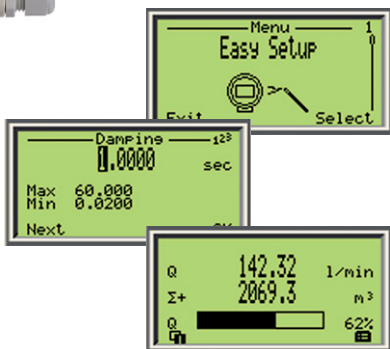
Start saving time and money from day one

The user-friendly interface allows quick and simple data entry for all process parameters. Easy Set-up guides the operator step by step through the parameterization without the need for intensive training 'Through-the-glass' functionality enables full, secure, local configuration without the need for opening the housing.

For ProcessMaster, powerful does not mean complicated. Take advantage of simple installation, commissioning, configuration and maintenance – start saving time and money from day one.



Easy Set-up



Powerful and flexible transmitter

One version fits all and minimizes inventory

All product versions utilize a common electronics cartridge to lower inventory costs and spare parts. This same cartridge can be deployed in integral and remote installations – including hazardous area locations – and features active/passive current and pulsed outputs. Standard HART protocol enables online modification and monitoring of parameters.



Continuous self-diagnostics help prevent cost intensive breakdowns

ProcessMaster monitors its own operation and your process providing the right information to keep the process up and running. Alarms and warnings are shown as clear text messages allowing maintenance crews to recognize critical factors and to take corrective actions at an early stage to minimize downtimes.



Tighter control and less energy consumption

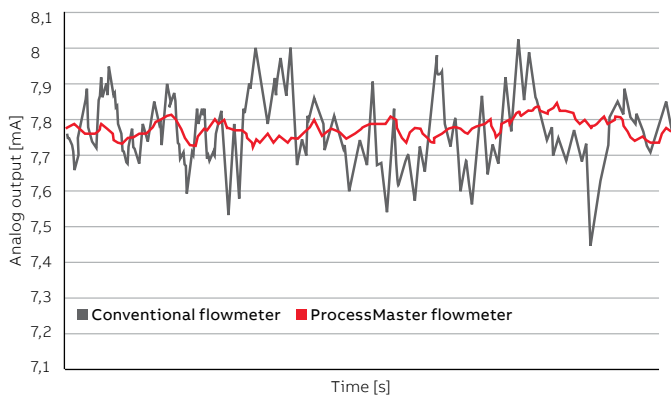
Superior filtering technology makes process control most efficient

ProcessMasters cutting edge filtering technology provides a most stable flow signal output.

Benefits include

- Tighter control of the drilling mud cooling the drill bit
- Process fluid savings and an optimized product quality in applications such as fracking fluid blending
- Reduced control valve energy consumption and wear
- Reduced system stress, resulting in reduced downtime, reduced maintenance, reduced system component replacements

Flow signal output



Easy to understand, simple to operate

Security in the field

Advanced data storage inside the sensor eliminates the need to match sensor and transmitter in the field. The on-board sensor memory eliminates the possible problems associated with pluggable data memory modules and leads to increased speed of start-up.

On initial installation, the self-configuration sequence automatically replicates all data into the transmitter eliminating the opportunity for errors and leading to increased speed of startup. Redundant storage of data in both the sensor and the transmitter memory is continually updated during all operations for integrity of the measurement.



ProcessMaster

for onshore applications

Technical specification at a glance

Accuracy	Standard: 0.4% of rate Optional: 0.2% of rate
Nominal size range	DN 3 to 2000 ($\frac{1}{8}$ to 80 in.)
Nominal pressure	DIN PN 10 to 100 ASME CL 150, 300, 600, 900, 1500, 2500
Lining	Hard rubber (DN 15 to 2000), Soft rubber (DN 50 to 2000), PTFE (DN 10 to 600), PFA (DN 3 to 200), ETFE (DN 25 to 600)
Electrodes	Stainless steel, Hastelloy C, Titanium, Tantalum, Platinum-Iridium
Process connection material	Steel, stainless steel
IP rating	IP 65, IP 67, IP 68
Fluid temperature	-25 to 180 °C (-13 to 356 °F)
Power supply	100 to 230 V AC, 24 V AC/DC
I/Os	Current output, pulse output, Contact output, contact input
Communication	HART protocol (standard), PROFIBUS PA, FOUNDATION Fieldbus
Display	Graphical display, configurable
Transmitter housing design	Integral mount, remote mount design, option for single or dual-compartment housing
Housing material	Sensor housing: aluminum Transmitter housing: aluminium
Ex approvals	ATEX/IEC Zone 1, 2, 21, 22 FM/cFM Cl 1 Div 1 (\leq DN 300), Cl 1 Div 2



ProcessMaster

for offshore applications

Technical specification at a glance

Accuracy	Standard: 0.4% of rate Optional: 0.2% of rate
Nominal size range	DN 25 to 400 (1 to 16 in.)*
Nominal pressure	ASME CL 600, 900, 1500, 2500*
Lining	Hard rubber (DN 25 to 400) ETFE (DN 25 to 400)*
Electrodes	Stainless steel, Hastelloy C*
Process connection material	Stainless steel
IP rating	IP 65, IP 67
Fluid temperature	-25 to 130 °C (-13 to 266 °F)
Power supply	100 to 230 V AC, 24 V AC/DC
I/Os	Current output, pulse output, Contact output, contact input
Communication	HART protocol (standard), PROFIBUS PA, FOUNDATION Fieldbus (option)
Display	Graphical display, configurable
Transmitter housing design	Integral mount dual-compartment housing
Housing material	Sensor housing: SST Transmitter housing: SST
Ex approvals	ATEX/IEC Zone 1, 2, 21, 22 FM/cFM Cl 1 Div 1 (\leq DN 300), Cl 1 Div 2

* others upon request



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