RB AUTOMATION

- Flow
- Pressure
- Level
- Temperature

Process Instrumentation

About Us

We are a team of Passionate people whose goal is to improve everyone's life, through Innovative systems. We build great system to solve your business problems. Our systems are designed for companies willing to optimize their performance.

FLOW SENSORS & METER

R B Automation continues set the standard with flow sensing solution with various ways like positive displacement Oval gear flow meter, electromagnetic flow meter, turbine flow meter, helical flow meter, flow switches.

1. Oval Gear Flow Sensor

Principle of Measurement:

Oval gear flowmeters are categorised as positive displacement flow technology. When liquid flows through this type of positive displacement flowmeter, two oval geared rotors measure a constant volume per rotation within a precisely machined measuring chamber. With each rotation, a constant volume of liquid is measured. The rotation of the oval gears is sensed via magnets embedded within the rotors. These magnets transmit a high resolution pulse output. The output signal can be process externally via a remote display controller or PLC or via a variety of output/ display options available as accessories attached to the flowmeters.

Technical Parameters	
Measurement range	0.5 - 36 l/h ... 150 - 2500 l/min liquid
Viscosity range	Up to 1,00,000,00 cp
Accuracy	0.2% to 1% of reading
Operating temperature	150^{0}C max.
MOC	Aluminium & stainless steel
Signal Output	Pulse / 4-20 mA / reed / display
Connection	G1/8 to G4 female thread
Max. Pressure	400 Bar

Area of application:

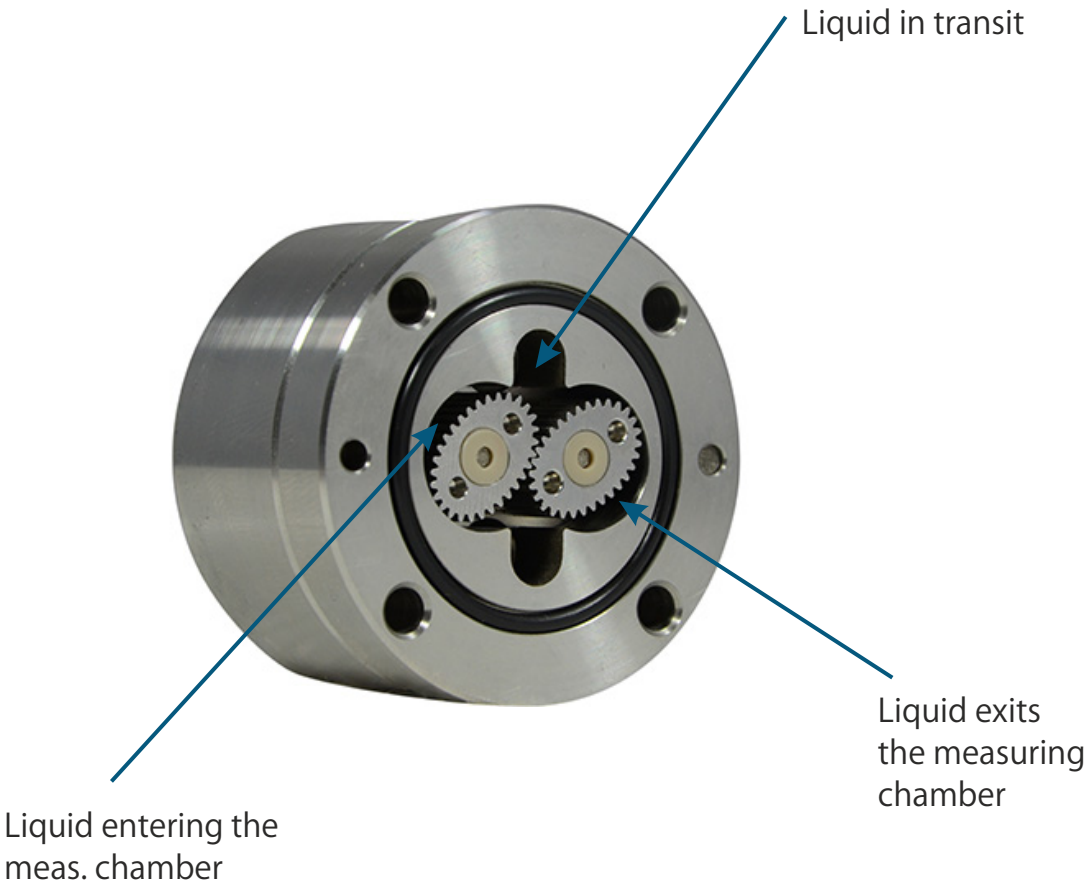
For all viscous, Non abrasive clean liquids like: petroleum, Oil, Chemical, Graces, Fuels, Ink, Pastes.

Where to use

Liquid filling machine for measure quantity,
Dosing application in chemical batch,
Bulk quantity measurement in line
Fuel Consumption

Operation

Liquid Filling machine for measure quantity,
Dosing application in chemical batch,
Bulk quantity measurement in line
Fuel Consumption



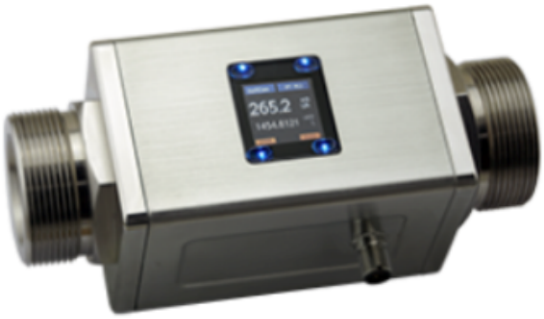
2. Electromagnetic Flow Meter

The new flowmeter MIM was developed for measuring and monitoring smaller- and mediumsized flow of conductive liquids in pipes.

The device operates according to the electromagnetic measurement principle. According to Faraday's Law of magnetic induction, a voltage is induced in a conductor moving through a magnetic field. The electrically conductive measuring agent acts as the moved conductor. The voltage induced in the measuring agent is proportional to the flow velocity and is therefore a value for the volumetric flow. The flowing media must have a minimum conductivity. The induced voltage is picked up by two sensing electrodes which are in contact with the measuring agent and sent to the measuring amplifier.

The flow rate will be calculated based on the cross sectional area of the pipe.

The measurement is not depending on the process liquid and its material properties such as density, viscosity and temperature. Two given outputs can be set to be switch, analogue or frequency. Also a dosing function can be selected, where output 1 is set as switch NPN/PNP/PP and output 2 is set as control input.

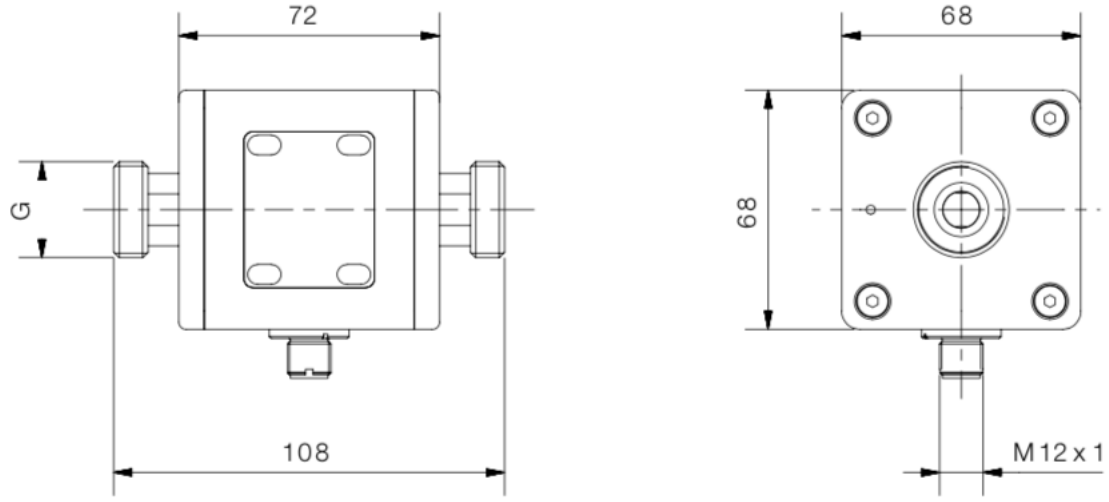


Technical Parameters

Measurement range	0.04 - 10 l/m ... 3 - 750 l/min
Viscosity range	> 20 micro S
Accuracy	0.2% to 1% of reading
Operating temperature	150^{0}C max.
MOC	Stainless steel
Signal Output	Pulse / 4-20 mA / reed / display
Connection	G1/8 to G4 male thread
Max. Pressure	400 Bar

Significant Characteristics

- Stainless steel design
- Flow- and temperature measurement
- Monitoring, dosing and transmitter function
- Dosing function with external control input
- Coloured, multi-parameter configurable TFT-display, rotatable in 90° steps
- Bidirectional measuring
- Intuitive setup menu via 4 optical touch keys
- 2 configurable outputs (pulse-/frequency-/alarm- and analogue output)
- Grand and resettable totaliser



3. Turbine Flow Sensor

Principle of Measurement:

Turbine flow meter use the mechanical energy of the flowing fluid to rotor a rotor at an angular velocity proportional to the fuild flow rate/ the velocity of the fluid in the flow path. Through pick up coil the angular velocity for rotor generate of an electrical signal.so flow rate is directly related to the frequency of electric signal

Technical Parameters	
Measurement range	40 - 400 l/h ... 80000 - 800000 l/h liquid
Repeatability	0.5%
Accuracy	0.5% to 1% of reading
Operating temperature	100°C max.
MOC	Stainless steel
Signal Output	Pulse NPN
Connection	G1/2 to G8 thread / Flange
Max. Pressure	60 Bar

Area of application:

For all liquid, Non abrasive clean liquids like: petroleum, Oil, Chemical, Fuels, Ink.

Where to use:

Liquid filling machine for measure quantity, Dosing application in chemical batch, Bulk quantity measurement in line

4. Helical Flow Meter

Principle of Measurement:

Helical flowmeters are categorised as positive displacement flow technology. When liquid flows through this type of positive displacement flowmeter, Helical rotors measure a constant volume per rotation within a precisely machined measuring chamber. With each rotation, a constant volume of liquid is measured.This flow meter specially for replace Oval gear flow meter in some application where liquid is not pure and require easy and low pressure drop behaviour.

Technical Parameters	
Measurement range	40 - 400 l/h ... 80000 - 800000 l/h liquid
Repeatability	0.1%
Accuracy	0.25% to 1% of reading
Operating temperature	100^{0}C max.
MOC	Stainless steel
Signal Output	Pulse NPN
Connection	G1/2 to G8 thread / Flange
Max. Pressure	60 Bar

Area of application:

For all liquid, Non abrasive clean liquids like: petroleum, Oil, Chemical, Fuels, Ink.

Where to use:

Liquid filling machine for measure quantity, Dosing application in chemical batch, Bulk quantity measurement in line

5. Thermal Flow Sensor

Principle of Measurement:

The sensor tip integrates both a temperature sensing and heating element warming up the tip at regular intervals. After the heating phase, the media-specific cooling behaviour is identified under consideration of temperature drop, reference temperature and the medium's heating capacity. The measured result is proportional to the flow rate of the medium. It is either provided at the analog output or may serve as switching output trigger.

Technical Parameters	
Measurement range	10 to 400 cm/s
Temperature range	125°C
Accuracy	2% of full scale
MOC	Stainless Steel
Signal Output	4-20 mA/ 0-10 Vdc / PNP / NPN
Connection	G1/2" / Triclover
Max. Pressure	100 Bar

Area of application:

- For water & coolant without OIL.

Where to use:

- Monitoring of cooling circuits
- Spray jet monitoring in cleaning machine
- Dry run protection of pump

6. Flow Switch

Principle of Measurement:

Depending on the flow velocity/flow throughput, the baffle plate is deflected and it moves over the balance arm the permanent magnet into the operating range of the reed contact mounted outside the process fluid.

Technical Parameters	
Switching range	2.5 - 4.8 ….. 383-533 L/min water
Temperature range	100^{0}C
MOC	Stainless Steel / Brass
Signal Output	Contact NO/NC
Connection	G1/4" ….G 1 1/2"
Max. Pressure	250 Bar

Area of application:

- For water & coolant without OIL.

Where to use:

- Monitoring of cooling circuits
- Spray jet monitoring in cleaning machine
- Dry run protection of pump

PRESSURE TRANSMITTER

Baumer's electronic pressure transmitters prove their precision and reliability every single day in thousands of applications. Whether for high-speed applications in plastic injection moulding machines or in food processing production or for heavy-duty use in the petroleum industry. Our customers have already been relying on this for decades.

1. Economic Series

Main features :

- OEM application
- Excellent price/performance ratio
- Stainless steel Construction

Application :

- Pneumatic
- HVAC
- Factory automation
- Energy

Technical Parameters

Measurement range	-1…0 Bar to 0…200 Bar
Measuring Principle	Thick film on Ceramic
Accuracy	0.5% of reading
Operating temperature	85^0 C max
MOC	Process connection : SS316 Housing : SS304 Diaphragm : Ceramic
Signal Output	4-20 mA
Power Supply	11…30 Vdc
Connection	G1/4 thread

2. Heavy Duty Pressure Transmitter

Main features :

- Robust stainless steel design
- Compact design
- Media temperature up to 150^{0}C

Application :

- Hydraulic machine
- Heavy duty machine
- Injection moulding machine Technical

Technical Parameters

Measurement range	0 … 25 Bar to 0…1000 Bar
Measuring Principle	Resistive thin film
Accuracy	0.5% of reading
Operating temperature	Up to 150^{0} C max.
MOC	Process connection : SS316 Housing : SS304 Diaphragm : SS316
Signal Output	4-20 mA / 0-10 Vdc / 0 - 5 Vdc
Power Supply	9…36 Vdc
Connection	G1/4 thread

3. Intrinsically Safe Pressure Transmitter

Main features :

- Robust stainless steel design
- Intrinsically safe version
- Available with Marine Approval

Application :

- Chemical
- Pneumatic
- Industrial gas
- Shipbuilding

Technical Parameters

Measurement range	0 … 25 mBar to 0…600 Bar
Measuring Principle	Thick film on Ceramic
Accuracy	0.3% of reading
Operating temperature	Up to 85^{0} C max.
MOC	Process connection : SS316 Housing : SS316 Diaphragm : Ceramic
Signal Output	4-20 mA / 0-10 Vdc
Power Supply	11…28 Vdc
Connection	G1/4 & G1/2 thread

4. Flush diaphragm Pressure transmitter

Main features :

- Stainless steel design
- Flush diaphragm
- Intrinsically safe version
- Available with Marine Approval

Application :

- For viscous material
- Heavy fluid such as Paint, pulp
- Refrigeration field

Technical Parameters

Measurement range	0 … 1.6 Bar to 0…600 Bar
Measuring Principle	Ceramic TRANSBAR sensing element
Accuracy	0.3% of reading
Operating temperature	Up to 70^{0} C max.
MOC	Process connection : SS316 Housing : SS316 Diaphragm : Ceramic
Signal Output	4-20 mA / 0-10 Vdc
Power Supply	11…28 Vdc
Connection	G1/4 & G1/2 thread

5. Hygienic Pressure Transmitter

Main features :

- Stainless steel design
- Triclover connection
- High temperature resistance for SIP & CIP process
- Surface roughness of flush Process connection Ra<0.8 For highest hygienic requirements
- Excellent active temperature compensation for increased process Stability
- External programming of zero point and span with programmer

Application :

- Food
- biotechnology
- Pharmaceutical
- Beverages

Technical Parameters

Measurement range	-1 …0 to 0…40 Bar
Measuring Principle	Piezoresistive silicon sensor
Accuracy	0.25% of reading
Operating temperature	Up to 150^{0} C max.
MOC	Process connection : SS316L Housing : SS316L Diaphragm : SS316L or hastelloy -C
Signal Output	4-20 mA / 0-10 Vdc
Power Supply	8…30 Vdc
Connection	Triclover connection. 1 1/2”

6. Digital Pressure Gauge

Our electronic digital pressure gauge prove their precision and reliability every single day in thousands of applications. Whether for high accuracy applications in testing machines or for heavy-duty use in the industry. Our customers have already been relying on this for decades.

Main features :

- Operated with and 24 vdc power supply
- Excellent price/performance ratio
- Stainless steel Construction
- Also available with Inbuilt Battery

Application :

- Calibration
- HVAC
- Factory automation
- Testing equipment

Technical Parameters

Measurement range	-1…0 Bar to 0…1000 Bar
Measuring Principle	Thick film on Ceramic / silicon
Accuracy	0.5% of reading
Operating temperature	85^{0} C max.
MOC	Process connection : SS316 Housing : SS304 Diaphragm : Ceramic / silicon
Power Supply	11…30 Vdc / Battery operated
Connection	G1/4 thread

LEVEL SENSING

R B Automation continues set the standard with level sensing solution with various ways like Hydrostatic level transmitter, Ultrasonic, Laser & level switch.

1. Hydrostatic level sensor

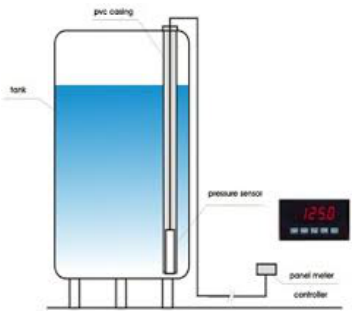
Hydrostatic level transmitter feature reliable and Highly accurate liquid level measurement for water, diesel, gasoline and mild corrosive liquid.

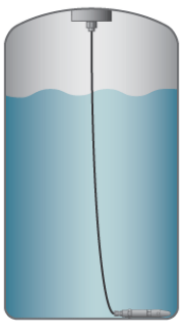
This series adopt stainless steel housing, high Performance sensor and ASIC to ensure a wide range of application.vented inside cable are provided as air reference.

Application :

- Liquid height measurement in tank
- Bore well level measuring
- Continues level monitoring of liquid

Technical Parameters	
Measurement Range	0 to 1…200 mH20
Overload Pressure	1.5 times of full range
Accuracy	0.25% F.S / 0.5% F.S
Operating temperature	-40°C to 80° C
MOC	Body SS 304 / Diaphragm SS316l / PTFE
Signal Output	4-20 mA 2 wire
Power Supply	10 -30 Vdc
Response Time	10 ms





2. Level Switch

Based on the new frequency sweep technology, Our level switches are suitable for highviscosity fluids as well as for solid or liquid materials.

As they are unaffected by liquid turbulence, sedimentation or air bubbles, nor indeed by foam or suspended particles, they are suitable for even the most difficult applications. In comparison to other measurement methods, such as vibrating forks, conductive, ultrasonic or optical sensors, frequency sweep technology has some important benefits: no vibrating parts, no sensitivity to changes in conductivity, temperature or pressure. The level switches can be programmed on site and are well suited for separating fluids.

Technical Parameters	
Measurement	Pin Point Detection
Repeatability	±1 mm
Operating temperature	-40^{0}to 85^{0} C
MOC	SS316 & PEEK
Signal Output	PNP/NPN
Power Supply	12..30 Vdc
Responce time	0.1 sec
Ele. Connection	M12 4 pin connector

Product Highlight

- Save detection of liquids,
- Bulk-solids and powders short immersion length excellent cleanability
- Ability for differentiation between foam and liquid
- Not sensitive to adherent or sticky media
- Status signalling by bright, blue LED Compact stainless steel housing,
- Sealed up to IP69K Measures media with DC-values >1.5 (Dielectric Constant)

Application :

- Solid & Liquid level detection
- Foam detection
- Media separation
- Differentiation between two very similar media

3. Ultrasonic Level Sensor

Distance-measuring ultrasonic sensors are real all-round talents

Ultrasonic distance measuring sensors provide information on an absolute position of a target or moving object. For glossy surfaces, transparent objects or in environments with a high degree of dust and humidity, ultrasonic technologies are often the only alternative to mechanical probing.

Applications for ultrasonic distance measuring sensors include level detection, stack height control as well as absolute position feedback.

Technical Parameters	
Measurement	0 …1 meter & up to 6 meter
Resolution	0.3 to 4 mm
Adjustment	Teach-in
Signal Output	4-20 mA / 0-10 Vdc / switching
Elec. connection	M12 4 Pin / M8 4 Pin
Power Supply	10 -30 Vdc
Response time	<12 ms

Function: Detection of the distance from sensor to object

Application Area: Level measurement, determination of roller diameters and stacking heights

Your Benefits: Precise process control even in difficult environments and with uneven surfaces such as granulates

4. Laser Sensor

Precise distance, spacing and position measurements even on challenging surfaces

- Fast, accuracy in the sub-micrometer range and distances of up to 13 meters
- Reliably even on very rough, shiny or dark surfaces
- Very high ambient light immunity
- Large selection of performance classes, sizes and beam shapes

Technical Parameters	
Measurement	0 …1 meter & up to 13m
Resolution	up to 2 μm
Adjustment	Teach-in
Signal Output	4-20 mA / 0-10 Vdc / switching
Elec. connection	M12 4 Pin / M8 4 Pin
Power Supply	10 -30 Vdc
Response time	0.9 ms to <12 ms

Short Response Times

Measuring cycles as short as 0.9 ms permit accurate measurements even on moving parts.

High Resolution And Linearity

Precise measurements thanks to a very high linearity of ±6 μm at a resolution of up to 2 μm (measured on matte white ceramic).

For Any Surfaces

Intelligent signal processing improves the measurements made on criticalsurfaces.

Teach-in Function

The measuring range can be adjusted within the maximum measuring range by the user with the Teach-in button or via the Teach-in cable. The analog output has its full span within this taught-in range. The factory setting is the maximum measuring range.

Application :

- Distance measurement

5. Bypass Tube Level Sensor

Kobold bypass level indicators are used for continuous measurement, display and monitoring of liquid levels. The bypass tube is attached onto the side wall of the vessel. According to the law of communicating tubes the level in the bypass tube equals the level in the vessel. A float with embedded circular magnets in the bypass tube follows the liquid level and transfers it in a non contacting manner to a display fitted outside the tube or to a monitoring device. The following indication and monitoring devices are available.

Technical Parameters	
Measurement range	3000 mm max.
Pressure Max.	20 bar
Accuracy	1 mm
Operating temperature	-20° to 200° C
MOC	SS316
Signal Output	4-20 mA 2 wire / limit Contact
Power Supply	10 -30 Vdc
Connection	DIN flange DN10…DN25 / ANSI flange 1/2" to 1"

Applications

- Storage tanks
- Tanks on ship
- Mixing vessels
- Water tank

TEMPERATURE SENSOR & TRANSMITTER

Temperature measurement devices for process temperature from -200 to 1800 'c in various application. Available with various output option like inbuilt 4-20 mA.

Main features :

- Compact & light weight
- Available with 4-20 mA & Pt 100 output
- Mounting : Inbuilt with RTD , head mount, din rail mount
- Power Supply : 10 -30

Application :

- Food & Beverages
- Chemical industries
- Pharma
- Waste water treatment plant
- Factory automation

Our Other Products

Control System

- Proximity
- Photoelectric
- Fiber Optic
- Gap
- Encoder

Object Detection

- PLC
- HMI
- Scada
- Servo
- Stepper
- Control Panel

Make your Notes

sales@rbautomate.com

www.rbautomate.com

Admin : B/197, Electronic Estate,
GIDC, Sector-25,Gandhinagar-382025,Gujarat.
Ph. 079-29 75 03 10

Works : B/66, Dev-iLand Estate, Near Zaveri Estate,
Kathwada-bhuwaladi Road, Kathwada GIDC,
Ahmedabad,Gujarat.

CREATIVE • INNOVATION • TEAM WORK