PRODUCT SUMMARY

FLOW • LEVEL • PRESSURE • TEMPERATURE • ACCESSORIES

WWW.KOBOLDUSA.COM
The KOBOLD Group’s production plants are located all over the world.

For almost 40 years, KOBOLD has been a world leader in process measurement and control solutions. We offer one of the industry’s broadest lines of sensors, switches, and transmitters to measure and control flow, pressure, level, and temperature. The KOBOLD brand is synonymous with quality, craftsmanship, technological advancement, and cost effectiveness.

KOBOLD instrumentation has historically set the bar for innovation and excellence, helping to shape the field of industrial instrumentation into what it is today. Always on the leading edge, we offer a comprehensive portfolio of reliable instrumentation that is found in a vast array of applications all over the world. Our technologies offer a solution-oriented way to control the most diverse variables.
MEASURE, CONTROL, AUTOMATE

KOBOLD’s technical solutions can be easily integrated into a wide variety of systems in many industrial sectors. Thanks to internationally recognized BUS interfaces, most of our models can be easily adapted into already established automated processes. Our innovative instrumentation delivers the highest standards of service and can handle complex processes. Because our solutions are both sophisticated and easy to use, they are very popular among end users.

YOU ARE OUR PRIORITY

Our years of experience and excellence in customer service and technical support have built our reputation as the partner of choice. Serving and supporting our customers and our products is our priority. Our expert engineers are ready to help you choose your KOBOLD solution, and their experience is an asset that we are proud of. We are here to help you select the best solution for your application, and eliminate the challenges in selecting equipment that is both optimal and economical.

ABOVE AND BEYOND THE STANDARD

While KOBOLD offers a wide variety of instrumentation that meets most standard application needs, we are also able to meet extraordinary application needs that can be hard to find solutions for. Our familiarity with exotic materials allows us to offer solutions for variables that are frequently hard to accommodate. Because we are the manufacturer, we also have the flexibility of being able to provide customized solutions in certain circumstances, based on the exact application needs.
THE KOBOLD PRODUCT LINE:

Flow...................... 6 - 30

Level.................... 31 - 37

Pressure.................. 38 - 42

Temperature............ 43 - 45

Accessories............ 46 - 47

Feature Icons: Look for our "at a glance" icons in our product listings

- High Quality - Low Cost
- Stainless Steel Design
- For Chemicals
- Shock Resistant
- Heating Jacket
- Battery Powered/External Power Supply
- Battery Powered
- Sensor Supply
- Installation Under Process Conditions
- Scalable Analog Output
- Rotatable Display
- Configurable Display
- Bi-directional
- Resettable and Grand Total
- Configurable Outputs
- Operational with Gloves
- Temperature and Pressure Measurement
- Temperature and Flow Measurement
- Energy Measurement
- Space Saver
- NFC
## Quick Reference Product Table

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**Brand Directory:**

Tri-Clamp® is a registered trademark of Tri-Clover Inc. of the Alfa-Laval Group. Trogamid® is a registered trademark of Evonik Resource Efficiency GmbH. Hastelloy® is a registered trademark of Haynes International Inc.

Ryton® is a registered trademark of Chevron Phillips Chemical Company. Monel® is a registered trademark of Special Metals Corporation.
WE EXCEL IN FLOW SOLUTIONS

KOBOLD offers a wide variety of flowmeters, flow regulators, flow indicators, flow switches, flow monitors, and flow sensors. Our flow instrumentation line includes a wide variety of technologies such as: variable area, ultrasonic, mass flow, thermal dispersion, turbine, electromagnetic, vortex, oval gear, positive displacement, differential pressure, Coriolis, helical or screw gear, rotameter, rotary piston, baffle plate, calorimetric, paddle wheel, and multi-parameter meters. We also offer portable and clamp-on instrumentation for short term installations. There are also models for accommodating bi-directional measurement. KOBOLD has a wide variety of instrumentation that is compatible with common communication protocols, such as HART®, PROFIBUS®, Foundation Fieldbus®, and Modbus®.

KOBOLD is able to accommodate most common liquid application media, such as: oils, lubricants, water, wastewater, chemicals, corrosives, abrasives, coolant, paints, coatings, adhesives, sealants, and fuels. Our instrumentation can also handle most types of gaseous media, such as: steam, clean gas, dirty gas, ammonia gas, combustible gas, compressed air, natural gas, and nitrogen flow. KOBOLD flow instrumentation can be found providing dependable and lasting service in common application fields, such as: irrigation, oil and gas, automotive, power generation, general manufacturing, machining, cement/aggregates, chemicals, petrochemicals, test measurement, laboratories, research and development, aerospace, HVAC, water, wastewater, building automation, pulp and paper, metals, mining, surface treatment, semiconductors, pumping, agriculture, marine, aviation, boilers, brewing, refrigeration, turbines, utilities, and welding.
Superior Flow Regulation:
Unlike other models, our unique REG design does not use any rubber. Temperature, chemical influence, and aging affect the molecular structure of rubber and reduces its elasticity. Once the rubber is compromised the flow can no longer be regulated. Our all metal design provides reliable service. The REG excels in protecting pumps from water hammer, cavitation, and overheating from sudden lack of flow. They are also extremely useful in guaranteeing maintenance free and tamper proof allocation of flow for water circuits subject to uneven distribution.

Features:
- Provides a Constant Flow Rate
- Lifelong Service Provides Significant Cost Savings
- Ideal for Batching, Distribution, and Restriction
- Protects Against Water Hammer, Overheating, and Overload
- Simple and Effective
- Flow is Limited, Regardless of Pressure Fluctuations
- High Quality Stainless Steel Build
- Completely Maintenance-free
- No Auxiliary Power Needed to Operate
- Secure from Tampering or Manipulation
- Uniform Supply for Multiple Consumers

Differential Pressure Curve

Example of a flow rate of 4 GPM in relation to a fixed orifice
New for 2019 is the KOBOLD MIS, a full bore electromagnetic flowmeter featuring the unique and versatile electronics module from the new and popular MIM model. Like the MIM, the MIS can accommodate all flow directions due to the rotating digital TFT display screen. The rugged flow bodies, built off of our our reliable EPS model, are made of cast steel.

With elements borrowed from the MIM and EPS models, the new MIS model is a unique, economical and competent full bore electromagnetic flowmeter, suitable for a wide range of standard applications.

Also for 2019, both the MIM and the MIS models will feature a convenient IO-Link, especially useful for Industry 4.0 compliance. Analog, frequency, and pulse outputs are standard along with alarm, batching, and totalizing features.

If a higher technical specification is required, such as HART® or ATEX, or larger pipe sizes up to 24”, the KOBOLD EPS with the new UMF2 electronics covers all the bases. For applications requiring an insertion meter, the KOBOLD PIT is ideal.
The new MIM magmeter delivers a revolutionary design for measuring and monitoring the flow and temperature of conductive liquids in pipes. The compact design offers exceptional features and functions, at an economical price.

Engineered to exceed the competition, the MIM triumphs with: a superior measuring accuracy, four times the turndown ratio, easy onsite programming, batching functionality, and bi-directional flow measurement.

The MIM is built to last, with a rugged stainless steel body. The multiparameter, touch screen display is both configurable and rotatable.

The MIM is an ideal solution for a variety of applications; with ranges from 0.48...48 GPH to 0.8...200 GPM, temperatures up to 280 °F, and pressures up to 230 PSI.

Learn More on Page 24
Viscous Media has Met its Match

DON Oval Gear Flowmeter

The economical DON and DON-H oval gear, positive displacement flowmeters are the preferred choice for measuring clean, low and high viscosity liquids. They deliver precision measurement over a very wide range of viscosities, up to 1,000,000 cPs. Media properties have a minimal effect on the performance.

Common Media: Oil, Grease, Paste, Petroleum, and Fuels

The DON and DON-H flowmeters are built with stainless steel or aluminum bodies and are easy to install in small spaces. They can be used with vertical or horizontal flows and no flow profile conditioning is required. They are available with: a pulse output, an LCD display, 4-20 mA, alarms, and mechanical totalizers. Optional features include: cooling fins, check valves, and bi-directional flow sensing with an optional quadrature output.

Line sizes are available from 1/8" to 4", in both NPT and ANSI flange fittings. Flow ranges are from 0.13 to 9.5 GPH up to 40 to 660 GPM. Models are available for temperatures up to 300 degrees Fahrenheit and pressures up to 1,450 PSIG. Higher pressure models are also available up to 5,800 PSIG. The DON delivers excellent accuracy at 0.5% to 1% of the reading.

Precision Machined Oval Gears

DON and DON-H oval gear flowmeters contain two oval gear rotors that measure a constant volume per rotation. The rotation is detected via magnets embedded within the rotors that transmit a high resolution pulse output.
The new HPC breaks the barriers of low-flow measurement for Coriolis flow meters. Most low-flow options employ a single tube design where external interference increases dramatically, requiring costly decoupling. Another challenge most low-flow options face is that the weight influence of the sensor coils compared to the pipe diameter limits the potential design size. The patented, revolutionary design of the HPC employs lightweight magnets that are mounted onto the pipes themselves.

This provides the sensor with significantly noise-reduced and predictable dynamic behavior, capable of functioning at higher frequencies, further decoupling the sensor’s measurement from any external vibrations. The HPC also integrates up to 4 sensor coils which increases the resolution accordingly.

HPC sensor coils are mounted between the pipes, not on them. This new concept delivers an extremely small meter with exceptional accuracy and resistance to external interference.

Using state of the art technology, KOBOLD is positioned to quickly overcome the barriers of challenging applications, delivering optimum customer-oriented solutions.
Flow - Variable Area

KSR/SVN - Flow Switch for Water or Air

- Materials: Stainless Steel, Glass, FKM
- Micro-flow Switches
- Control for Very Small Flow Rates
- Proximity Switch or Reed Contact
- Vertical Connection for Inline Mounting
- Anodized Aluminum Housing

Water: 0.03...4 GPH
Air: 0.1...13 SCFH
\( t_{\text{max}} \) 160 °F; \( p_{\text{max}} \) 230 PSIG
Connection: 1/4" NPT

KSV - Economical Micro-Flowmeter

- Polysulfone Body; Brass or SS Fittings
- Excellent Resistance to Acids and Alkalines
- Compact
- Easy to Read
- Easy Installation
- Convenient Panel Mount
- Highly Repeatable
- Optional Needle Valve

Water: 0.04...0.4 GPH to 2...20 GPH
Air: 0.3...3 SCFH to 10...100 SCFH
\( t_{\text{max}} \) 150 °F; \( p_{\text{max}} \) 43 PSIG
Connection: 1/2" NPT
Accuracy: ± 2 - 2.5%, \( q_{G} \) = 50%

KFR - Acrylic Flowmeter for Liquid or Gas

- Material: Clear Acrylic
- Clear, Easy to Read Scales
- Compact Size, Low Cost
- Durable Construction
- Metric Scales Available
- Inherently Stable Float Design
- Bridges Micro-flow and Large Ranges
- With or Without Control Valves
- PVC or Metal Fittings for Durability

Water: 0.2...2 GPH to 2...20 GPM
Air: 0.1...1 SCF to 10...100 SCFM
\( t_{\text{max}} \) 150 °F; \( p_{\text{max}} \) 145 PSIG
Connection: 1/8" NPT
Accuracy: ± 2–5% of Full Scale

KSK - All-Plastic Flowmeter with Optional Switch

- Materials: Polyamide, Polysulfone
- Compact Design
- Polysulfone Version Highly Resistant to Acidic and Alkaline Solutions
- Transistor or Reed Switch Contacts
- Can be used to Monitor and Alarm for Flow Upset Conditions
- LED Switching Indication Available
- Vertical, Flow Up Orientation

Water: 0.006...0.05 GPM to 0.44...4.4 GPM
Air: 0.06...0.27 SCF to 3.5...18.3 SCFM
\( t_{\text{max}} \) 140 °F; \( p_{\text{max}} \) 145 PSIG
Connection: 1/8"...1" NPT or Socket Glue-in Connection
Accuracy: ± 2 - 2.5%, \( q_{G} \) = 50%

KSM - All-Plastic Flowmeter with Optional Switch

- Materials: Polyamide, Polysulfone
- For Liquid or Gas
- Direct Reading Scales for Water or Air
- Excellent Choice for Aggressive Media
- Large, Easy to Read Scale
- Shock and Corrosion Resistant
- Two Adjustable Markers
- Optional Reed Switch Contact

Water: 0.06...0.66 GPM to 35...264 GPM
Air: 0.3...3 SCFM to 50...400 SCFM
\( t_{\text{max}} \) 150 °F; \( p_{\text{max}} \) 145 PSIG
Connection: 1/8"...1-1/4" NPT or Socket Glue-in Connection
Accuracy: ± 2 - 2.5%, \( q_{G} \) = 50%

URB - Glass Tube Flowmeter

- Material: PVC
- Operates on the Suspended Float Principle
- Vertical Installation Position
- Flow from Bottom to Top
- Simple, Economical Solution

Water: 2.6...28 GPH to 26...260 GPH
Air: 11...110 SCFH to 110...1,100 SCFM
\( t_{\text{max}} \) 150 °F; \( p_{\text{max}} \) 43 PSIG
Connection: 1/2"...1-1/4" NPT
Accuracy: ± 2 - 2.5%, \( q_{G} \) = 50%

KDF-2/KDG-2 - Micro-Flowmeter and Switch

- Materials: Stainless Steel, Glass, FKM
- Integral Flow Control Valve
- Easy to Read Scale
- Compact Design
- Direct Reading Scales for Water or Air
- Low Flow Switching
- Precision Metering Valve
- Optional Panel Mount Kit
- Optional Adjustable Inductive Proximity Switches (NAMUR Relay Required)

Water: 0.025...2.5 l/h to 16...160 l/h
Air: 0.5...5 Nl/h to 500...5,000 Nl/h
\( t_{\text{max}} \) 100 °C; \( p_{\text{max}} \) 16 bar
Connection: 1/4" NPT, G 1/4, 8 mm Hose
Accuracy: ± 2.5 %, \( q_{G} \) = 50%

KDF-9/KDG-9 - Micro-Flowmeter and Switch

- Materials: Stainless Steel, Glass, FKM
- Integral Flow Control Valve
- Easy to Read Scale
- Direct Reading Scales for Water or Air
- Low Flow Switching
- Precision Metering Valve
- Optional Panel Mount Kit
- Optional Adjustable Inductive Proximity Switches (NAMUR Relay Required)

Water: 0.02...0.25 l/h to 10...100 l/h
Air: 2...20 Nl/h to 300...3,000 Nl/h
\( t_{\text{max}} \) 100 °C; \( p_{\text{max}} \) 16 bar
Connection: 1/4" NPT, G 1/4, 8 mm Hose
Accuracy: ± 3 %, \( q_{G} \) = 50%
Flow - Variable Area

SWK - Compact Variable Area Flowmeter and Switches
- Materials: Brass, Stainless Steel, PVC
- Compact Size
- Low Cost
- High Reliability
- Universal Mounting
- Adjustable Switch or Switch with Indicator
- Operates by the Suspended Float Principle

**Water:** 0.05...0.1 L/min to 13...24 L/min
**t_{max}:** 210 °F; **p_{max}:** 3,600 PSIG
**Connection:** G 1/2
**Accuracy:** ± 4% of Full Scale

URM - Glass Tube Flowmeter
- Material: Stainless Steel
- Measures Flow Rates in Closed Pipe Systems
- Designed for Low Operating Pressures
- Large Sight Glass for Direct Observation
- Optional Proximity Switches
- Common Applications: Cooling Circuits, Plant Engineering, Water Treatment, Machine Tools, Solar Heating, Welding, Glass Melting Pots, Extrusion Machines, and Induction Furnaces

**Water:** 0.06...0.6 GPH to 11...110 GPM
**Air:** 0.11...1.1 SCFH to 30...300 SCFM
**t_{max}:** 210 °F; **p_{max}:** 230 PSIG
**Connection:** 1/4...3" NPT
**Accuracy:** ± 2 - 2.5%, \( q_G = 50% \)

URK - Variable Area Flowmeter with Fixed Flange
- Material: Cast Iron, Stainless Steel
- Measures Flow Rates in Closed Pipe Systems
- Designed for Low Operating Pressures
- Large Sight Glass for Direct Observation
- Optional Proximity Switches
- Common Applications: Cooling Circuits, Plant Engineering, Water Treatment, Machine Tools, Solar Heating, Welding, Glass Melting Pots, Extrusion Machines, and Induction Furnaces

**Water:** 0.004...0.04 GPM to 66...220 GPM
**Air:** 0.011...0.11 SCFM to 30...300 SCFM
**t_{max}:** 210 °F; **p_{max}:** 230 PSIG
**Connection:** 1/4"...3" ANSI
**Accuracy:** ± 2 - 2.5%, \( q_G = 50% \)

URL - Glass Tube Flowmeter with Flange
- Materials: PVC, PTFE
- Plastic Version is Chemically Resistant
- Designed for Low Operating Pressures
- Large Sight Glass for Direct Observation
- Optional Proximity Switches
- Common Applications: Cooling Circuits, Plant Engineering, Water Treatment, Machine Tools, Solar Heating, Welding, Glass Melting Pots, Extrusion Machines, and Induction Furnaces

**Water:** 0.26...2.6 GPM to 66...660 GPM
**Air:** 0.35...3.5 SCFH to 350...3,500 SCFM
**t_{max}:** 212 °F; **p_{max}:** 145 PSIG
**Connection:** 1/2"...1-1/2" ANSI
**Accuracy:** ± 2 - 2.5%, \( q_G = 50% \)

V31 - High Accuracy Variable Area Flowmeter/Switch
- Materials: Stainless Steel, PVC, PVDF, PTFE
- For Liquids or Gas
- Scale Shows Flow Rate as Volume
- Borosilicate Glass Tube
- Up to 2 Optional Limit Switches
- Calibrated for Density and Viscosity

**Water:** 0.03...3.3 GPH to 4.4...44 GPM
**Air:** 0.068...0.88 SCFM to 10.6...106 SCFM
**t_{max}:** 176 °F; **p_{max}:** 210 PSIG
**Connection:** 1/4...2" NPT, 1/2...1" ANSI
**Accuracy:** ± 1.6% Liquids, ± 2.5% Gases (VDI)

KDS - All Metal, Low Volume Area Flowmeter
- All-Metal Design in Stainless Steel
- For Liquids or Gas
- For Measurement of Low Flow Rates
- Compact Size
- Rugged Mechanical System with a Low Rate of Wear
- Horizontal or Vertical Connections
- Special Versions for High Pressures

**Water:** 0.026...0.26 GPM to 5...50 GPH
**Air:** 0.011...0.11 SCFM to 30...300 SCFM
**t_{max}:** 200 °F; **p_{max}:** 580/910 PSIG
**Connection:** 1/2...1" NPT
**Accuracy:** ± 3% of Full Scale
**Options:** Analog Output, Inductive Contacts

BGK - All Metal, Low Volume Variable Area Flowmeter
- Material: Stainless Steel
- Measures Low Flow Rates
- For Liquids or Gas
- Compact Size
- Provides Flow Rate in Volume or Mass per Unit of Time
- Rugged Mechanical System
- Low Rate of Wear

**Water:** 0.026...0.26 GPH to 5...50 GPH
**Air:** 0.1...1 SCFH to 20...200 SCFH
**t_{max}:** 210 °F; **p_{max}:** 230 PSIG
**Connection:** 1/2...1" ANSI
**Accuracy:** ± 3% of Full Scale
**Options:** Analog Output, Inductive Contacts

USR - Glass Tube Flowmeters with Manifold Valves
- Material: Brass, PTFE, SS, FKM
- For Water and Water-based Liquids
- For Centralized Flow Measurement, Such as Cooling Systems
- Up to 24 Flowmeters Pre-assembled in a Block
- Glass Tube Allows for Direct Flow Observation
- Independent Control Valves

**Water:** 0.01...0.1 GPM to 0.25...25 GPM
**Connection:** 1/4" NPT
**Outlet Connection:** 1/4" or 3/8" NPT, or Hose Conn.
**Accuracy:** ± 2 - 2.5%, \( q_G = 50% \)

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**Flow - Variable Area**

### UVR/UTR - Glass Tube Variable Area Flowmeter
- Materials: Stainless Steel, POM
- For Liquids or Air
- Simple, Economical
- With or Without Needle Valve
- Low Pressure Loss
- Glass Tube Allows for Direct Observation
- Common Applications: Cooling Water, Gas Monitoring for Burners, Inert Gas Cooling

**Specifications**
- Water: 2.6...28 GPH to 52.8...528 GPH
- Air: 3.5...35 SCF/h to 17...1700 SCF/h
- t_max = 210 °F; p_max = 145 PSI
- Connection: 3/8" NPT, 1/2" NPT
- Accuracy: ± 2 - 2.5%; q_max = 50%

### UTS - Variable Area Flowmeter for Gas Burners
- Materials: Brass, Stainless Steel
- Ideal for Small Installation Spaces
- Easy to Change Measuring Tube
- Impact Resistant Polystyrene Protective Cover
- Vertical Installation Position, Flow From Bottom
- Protection: IP65

**Specifications**
- Water: 0.075...0.35 GPM to 2.5...40 GPM
- Air: 0.008...0.08 SCFM to 0.25...2.5 SCFH
- t_max = 210 °F; p_max = 145 PSI
- Connection: 1/4"...1/2" NPT
- Accuracy: ± 1.6 - 2.2% of Full Scale

### BGN - All Metal, Armored Variable Area Flowmeter
- Materials: SS, Special Materials on Request
- For Vertical Up Installations
- Ideal for Difficult Applications Requiring High Pressure or Temperature, or Low Pressure Loss
- Direct Reading Scales Calibrated for Viscosity, Density, Pressure, and Temperature
- Analog Output, HART®, Profibus-PA® Available
- 316 SS, PTFE-lined SS, Hastelloy® C-22 Tubes

**Specifications**
- Water: 0.002...0.02 GPM to 60...570 GPM
- Air: 0.008...0.08 SCFM to 140...1,400 SCF/h
- t_max = 390 °F; p_max = 580 PSI
- Connection: 1/2"...2" NPT
- Options: Analog Output 4-20 mA, Contacts

### BGF - All Metal, Armored Flowmeter
- Materials: SS, Special Materials on Request
- For Horizontal or Vertical Installations
- Unique Guided Float with Spring Return
- For Liquids or Air
- Simple, Economical
- With or Without Needle Valve
- Low Pressure Loss
- Glass Tube Allows for Direct Observation
- Table-Top Mount Models Available

**Specifications**
- Water: 0.01...0.1 Nm3/h to 0.25...2.5 Nm3/h
- Air: 0.008...0.08 SCFH to 10...130 SCFH
- t_max = 210 °C; p_max = 16 bar
- Connection: 1/4" NPT
- Accuracy: ± 1.6 - 2.2% of Full Scale

### SV/DSV - Float Type Flowmeter and Switch
- Materials: Brass, Stainless Steel
- Small, Compact Design
- Direct Reading Scales for Water or Air
- Wide Selection of Measuring Ranges
- Vertical Connections for Easy Installation
- Cylindrical Control Tube for Float
- Borosilicate Glass Measuring Tube
- N/O or SPDT Reed Contacts as Options
- Variety of Sealing Materials Available

**Specifications**
- Water: 0.075...0.35 GPM to 2.5...40 GPM
- Air: 0.25...2.5 SCF/h to 10...150 SCF/h
- t_max = 210 °F; p_max = 145 PSI
- Connection: 1/4"...1/2" NPT
- Accuracy: ± 5% of Full Scale

### BVO - OEM Flowmeter with Switch
- Materials: Brass, Stainless Steel
- Rugged Low Cost Design
- Repeatability of ± 2% of Full Scale
- Adjustable SPST Switch Standard

**Specifications**
- Water: 0.1...1.0 GPM to 1...13 GPM
- Air: 0.008...0.08 SCFH to 0.25...2.5 SCFH
- t_max = 100 °C; p_max = 165 PSI
- Connection: 1/4"...1/2" NPT
- Accuracy: ± 10% of Full Scale

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Flow - Variable Area

**S/DSS-Series - All Metal Variable Area Flow Switch**
- Materials: Brass, Stainless Steel
- For Liquids or Gas
- Compact Design
- Cost Effective
- Reliable Operation
- Vertical Connections for Easy Installation
- Excellent at Ensuring Appropriate Flow
- NBR or FKM Seals
- Up to 4 Switch Points

Water: 0.075...0.25 GPM to 1...14 GPM
Air: 0.2...1.1 SCFM to 3...70 SCFM

- t<sub>max</sub> 240 °F; p<sub>max</sub> 5,000 PSIG
- Connection: 1/4"...3/4" NPT
- Accuracy: ± 5% of Full Scale

**SMV - High Pressure, All Metal Flowmeter and Switch**
- Materials: Brass, Stainless Steel
- Direct Reading Scales for Water or Air
- Small, Compact Design
- Easy to Install
- Optional Set-point Switches
- Switches Mounted in a Protective Housing
- High Resistance to Pressure and Shock
- Can Handle 120% of Max. Flow

Water: 0.05...0.15 GPM to 4...40 GPM
Air: 0.25...1.2 SCFM to 5...130 SCFM

- t<sub>max</sub> 210 °F; p<sub>max</sub> 5,000 PSIG
- Connection: 1/4"...1-1/4" NPT
- Accuracy: ± 5% of Full Scale

**SMO/SMW - High Pressure Flowmeter/Switch**
- Materials: Brass, Stainless Steel
- Direct Reading Scales for Water or Air
- Small, Compact Design
- Easy to Install
- Vertical or Horizontal Flows
- Optional Set-point Switches
- Switches Mounted in a Protective Housing
- High Resistance to Pressure and Shock
- Can Handle 120% of Max. Flow

Water: 0.04...0.6 GPM to 8...34 GPM
Air: 0.2...3.5 SCFM to 30...130 SCFM

- t<sub>max</sub> 210 °F; p<sub>max</sub> 5,000 PSIG
- Connection: 1/4"...3/4" NPT
- Accuracy: ± 5% of Full Scale

**SMN - All Metal Flow Switch for Liquids**
- Materials: Brass, Stainless Steel
- Horizontal or Vertical Flow
- Low Switch Point
- Low Pressure Drop at High Flows
- All Metal Wetted Parts
- N/O or SPDT Reed Switch
- Typical Applications: Control of Water and Heating Systems

Water: 0.5...5 GPM to 5...26 GPM
Oil: 0.5...4.5 GPM to 3...20 GPM

- t<sub>max</sub> 250 °F; p<sub>max</sub> 230 PSIG
- Connection: 1/2", 3/4", 1" NPT, Glue Connection Available
- Accuracy: ± 5% of Full Scale

**VKP - Economical Plastic Flowmeter and Switch**
- Material: Polysulfone
- Inexpensive Flow Measurement for Liquids
- Common Uses: Cooling Water, Lubrication Systems, Solar Heating
- Ideal Choice for OEM Applications
- Optional Reed Contacts
- Optional Union Fittings

Water: 0.5...5 GPM to 5...26 GPM
Oil: 0.5...4.5 GPM to 3...20 GPM

- t<sub>max</sub> 250 °F; p<sub>max</sub> 230 PSIG
- Connection: 1/2", 3/4", 1" NPT, Glue Connection Available
- Accuracy: ± 5% of Full Scale

**VKG - Viscosity Compensated Flowmeter and Switch**
- Materials: Brass, Stainless Steel, NBR, FKM
- For High or Low Viscosity Media
- Largely Insensitive to Viscosity and Density Changes During Operation
- Viscosity Compensated up to 540 cSt
- Density Compensated up to 30 lb/ft³
- Direct Reading Oil Scale
- Mounting Position Independent
- In-line Connections for Easy Installation
- Extremely Versatile

Viscosity Range: 1...540 cSt
Oil: 0.03...0.12 GPM to 2...20 GPM

- t<sub>max</sub> 210 °F; p<sub>max</sub> 175 PSIG
- Connection: 1/4"...1" NPT
- Accuracy: ± 5% of Full Scale

**VKM - All Metal, Viscosity Compensated Flowmeter**
- Materials: Brass, Stainless Steel
- Direct Reading Scales
- Suitable for Oils and Compatible Liquids
- Install in any Position
- In-line Connections
- Viscosity Compensated up to 540 cSt
- Density Compensated up to 30 lb/ft³
- Optional: Reed Contacts, Analog Output, Compact Electronics

Viscosity Range: 1...540 cSt
Oil: 0.03...0.12 GPM to 2...20 GPM

- t<sub>max</sub> 210 °F; p<sub>max</sub> 3,600 PSIG
- Connection: 1/2", 3/4" NPT
- Accuracy: ± 5% of Full Scale

**VKA - OEM Viscosity Compensated Flowmeter**
- Material: Brass
- Reliable Construction
- Affordable Pricing
- Viable Alternative to our VKG and VKM Flowmeters
- Optional Switches
- Protection: IP54 for Side indication, IP65 Electrical Switch

Viscosity Range: 30...540 cSt
Oil: 2...6.3 GPM to 8...26 GPM

- t<sub>max</sub> 210 °F; p<sub>max</sub> 5,000 PSIG
- Connection: 1/2", 3/4" NPT
- Accuracy: ± 4% of Full Scale
Flow - Variable Area/Paddle

**BVB - MANIFOLD VALVES FOR MULTIPLE INSTALLATIONS**

- Material: Aluminum
- For Use with VKG and VKM Flowmeters
- Join up to 8 Flowmeters
- Compact Solution for Centralized Flow Measurement and Distribution
- Easy to Install
- Total Throughput up to 6.3 GPM

Suitable for Models VKG, VKM
\[ t_{\text{max}} = 210 \, ^\circ F \quad p_{\text{max}} = 930 \, \text{PSIG} \]

Connection: 1/2" NPT

**PSR - INLINE PADDLE FLOW SWITCH**

- Material: Brass, Stainless Steel
- Low Cost
- Easy to Install
- Simple, Reliable Design
- Adjustable Switch Point
- Contacts can be set N/O or N/C
- Standard SPST Switch
- Optional SPDT Switch

Switching Ranges for Water:
\[ 0.9...1.3 \, \text{GPM to 9.2...15 GPM} \]
\[ t_{\text{max}} = 230 \, ^\circ F \quad p_{\text{max}} = 1,450 \, \text{PSIG} \]

Connection: 1/4"...1-1/2" NPT

**PS/PSE - INSERTION PADDLE FLOW SWITCH**

- Materials: Brass, Stainless Steel
- Low Cost
- Easy to Install
- Simple, Reliable Design
- Adjustable Switch Point
- Contacts can be set N/O or N/C
- Standard SPST Switch
- Optional SPDT Switch

Switching Ranges for Water:
\[ 0.9...1.3 \, \text{GPM to 9.2...15 GPM} \]
\[ t_{\text{max}} = 230 \, ^\circ F \quad p_{\text{max}} = 1,450 \, \text{PSIG} \]

Connection: 1/2" NPT

**PPS - PLASTIC PADDLE FLOW SWITCH**

- Material: Polysulfone
- Reliability at a Competitive Price
- Easy to Install
- Bi-directional
- Low Maintenance
- Low Pressure Drop
- For Pipes 1" and Larger
- Switch Status Visible through Housing
- N/O, N/C, or SPDT Contacts
- Requires Straight Run of 3x Pipe Diameter

**FPs - INSERTION PADDLE SWITCH FOR LIQUIDS**

- Material: Brass, Stainless Steel
- Suitable for Water and Compatible Low-viscosity Liquids
- Used for Min/Max Flow Control, Pump Protection, and Monitoring Cooling Circuits
- High Capacity SPDT Mechanical Switch
- Position Independent Installation
- Externally Adjustable Switch Point
- Tolerates Dirty Media

Water: 0.9...4.4 GPM to 375...760 GPM
\[ t_{\text{max}} = 250 \, ^\circ F \quad p_{\text{max}} = 435 \, \text{PSIG} \]

Connection: 1" NPT

**LPS - AIR FLOW SWITCH FOR HVAC DUCTS**

- Material: Galvanized Steel, Brass, SS
- For Horizontal Square/Rectangular HVAC Ducts
- Dust-tight SPDT Micro-switch
- Adjustable Switch Point
- ABS and Polycarbonate Housing
- Common Uses: Air Ducts, Exhaust Gas Channels, Pneumatic Conveyors, Filters, Cooling and Drying Plants, Monitoring Ventilator Performance

Air: 195...1575 FPM
\[ t_{\text{max}} = 185 \, ^\circ F \quad p_{\text{max}} = \text{Atmospheric} \]

Connection: Flange

**DWN/DWS/DPU - PADDLE BELLOWS FLOW SWITCH**

- Materials: Brass, Stainless Steel
- Ideal for Use in Applications where Dirt and Solid Grain Contaminants are a Concern
- Large Internal Clearances
- Orientation Independent
- High Current Switching Capability
- Insensitive to Magnetic Fields

Liquid: 0.26...1.3 GPM to 4,950...19,800 GPM
\[ t_{\text{max}} = 210 \, ^\circ F \quad p_{\text{max}} = 230 \, \text{PSIG} \]

Connection: 3/8"...2" NPT, 1/2"...2" ANSI, Weld-on Flange for 1-1/2"...24" Pipe

Accuracy: ± 3 – 5% of Full Scale

**DWU/DPU - PADDLE BELLOWS FLOWMETER AND SWITCH**

- Materials: Brass, Stainless Steel
- Ideal for Use in Applications where Dirt and Solid Grain Contaminants are a Concern
- Large Internal Clearances
- Orientation Independent
- High Current Switching Capability
- Insensitive to Magnetic Fields

Liquid: 0.26...1.3 GPM to 4,950...19,800 GPM
\[ t_{\text{max}} = 210 \, ^\circ F \quad p_{\text{max}} = 230 \, \text{PSIG} \]

Connection: 3/8"...2" NPT, 1/2"...2" ANSI, Weld-on Flange for 1-1/2"...24" Pipe

Accuracy: ± 3 – 5% of Full Scale
Flow - Paddle/Rotating Vane

**DPT - Target Type Flowmeter**
- Materials: Brass, Stainless Steel
- Unique, Patented Target System
- Simple, Reliable Design
- Virtually No Wear Components
- Low Pressure Loss
- Generally Immune to Problems Caused by Liquids with a High Solids Content
- Flow Rate Display, Adjustable Setpoint Switches, or an Analog Flow Signal

Water: 1.5...8 GPM to 225...500 GPM  
$T_{max} = 175 ^\circ F$; $p_{max} = 880$ PSIG  
Connection: 3/8"...3" NPT  
Accuracy: ± 3% of Full Scale

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**DWD - Paddle Bellows Flowmeter and Switch**
- Materials: Brass, Stainless Steel, PVC
- Very Low Pressure Loss
- Linear Output Signal
- Resistant to Dirt and Small Debris in the Media
- Universal Mounting
- Factory Configured According to Customer Specifications
- Optional RS-232C Serial Interface

Water: 0.26...2.6 GPM to 1,580...15,800 GPM  
$T_{max} = 250 ^\circ F$; $p_{max} = 360$ PSIG  
Connection: 3/8"...2" NPT, 3/8"...2" ANSI, Weld-on Flange 1-1/2"...20" Pipe  
Accuracy: ±1.5% of Full Scale

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**TSK - Flap Style Flowmeter**
- Materials: SS, PP, PTFE, Hastelloy®
- Unique Design for Low Head Loss
- For Horizontal or Vertical Piping Runs
- Tolerates Dirty Liquids and Suspended Solids
- Superior Damping System for Stability
- Calibrations for Density Available
- Optional Set-point Switches, 4-20 mA with HART® or Proibus-PA®

Water: 6.6...26.4 GPM to 880...6,600 GPM  
$T_{max} = 570 ^\circ F$; $p_{max} = 880$ PSIG  
Connection: 1-1/2"...20" ANSI Wafer  
Accuracy: ± 2.5% of Full Scale

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**HND-F - Hand-Held Measuring Unit**
- Measures Flow, Humidity, and Temperature
- Large Selection of Electrodes and Accessories
- Serial Interface, MIN/MAX Memory
- Hold Function, Clock, Log Function
- User-Friendly
- Common Applications: Air Conditioning, Exhaust Ventilation Systems, and General Humidity Measurement

Water: 0.16...16 ft/sec  
Air: 1.8...65 ft/sec  
Humidity: 0...100% rH  
Temperature: -40...250 °F, -110...480 °F  
Accuracy: from ± 0.1% of Full Scale

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**DRS - OEM Turbine Flow Sensor**
- Materials: Brass, Stainless Steel, PPO
- Quality Solution at an Economical Price
- Ideal for OEM Applications
- For Clear or Opaque Liquids
- Pulse Frequency, 4-20 mA, Digital Display, Electronic Pointer Indicator
- Optional PT-100 RTD Output for Temperature Measurement

Water: 0.6...10.5 GPM  
$T_{max} = 300 ^\circ F$; $p_{max} = 2,900$ PSIG  
Connection: 1/2" NPT, 3/4" NPT  
Accuracy: ± 2.5% of Full Scale

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**TUR - All-Plastic Turbine Flowmeter**
- Materials: PVC, PVDF
- For Water-like Liquids with Viscosities under 8 cSt
- High Resistance to Acids, Lyes, and Other Aggressive Media
- Installation in Any Orientation
- Pulse Outputs, Analog Outputs, Digital Totalizers and Batchers

Water: 1.5...8 GPM to 15...200 GPM  
$T_{max} = 180 ^\circ F$; $p_{max} = 145$ PSIG  
Connection: 2" or 4" ANSI  
Accuracy: ± 1% of Full Scale

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**DPE - Paddle Wheel Flowmeter**
- Materials: Brass, Stainless Steel
- Unique Insertion Impeller Design
- Low Pressure Loss
- Outputs: Pulse Frequency, 4-20 mA, Analog, Digital Display, and Switches
- Tolerates Dirty Liquids and Solids
- Common Uses: Cooling Water, Mechanical Engineering, Waste Water Treatment, and Chemical Industry

Water: 1.5...8 GPM to 15...200 GPM  
$T_{max} = 175 ^\circ F$; $p_{max} = 880$ PSIG  
Connection: 1/2"...3" NPT  
Accuracy: ± 2.5% of Full Scale

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**DRB - Paddle Wheel Flowmeter**
- Materials: Brass, Stainless Steel
- Unique Insertion Impeller Design
- Low Pressure Loss
- Outputs: Pulse Frequency, 4-20 mA, Analog, Digital Display, and Switches
- Tolerates Dirty Liquids and Solids
- Common Uses: Cooling Water, Mechanical Engineering, Waste Water Treatment, and Chemical Industry

Water: 1.5...8 GPM to 15...200 GPM  
$T_{max} = 175 ^\circ F$; $p_{max} = 230$ PSIG  
Connection: 1/2"...3" NPT  
Accuracy: ± 3.0% of Full Scale

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### Flow - Rotating Vane

#### TUV - Turbine Flowmeter

- **Material:** Stainless Steel
- **For Low Viscosity Liquids**
- **Media Examples:** Fuel, Liquified Gas, Solvents, Light Heating Oil, Tap and Demineralized Water
- **Pulse Output**
- **Viscosity Range:** 1...30 mm²/s
- **Calibrated by Factory for Viscosity**

Water: 0.3...1.5 l/min to 35...400 l/min  
\[ t_{\text{max}} = 250 °C; p_{\text{max}} = 630 \text{ bar} \]  
Connection: G 1/4...1-1/2  
Accuracy: ± 1% of Reading

#### DOT - Turbine Flowmeter

- **Material:** Stainless Steel
- **For Low Viscosity Liquids**
- **Rugged and Reliable Turbine Meter**
- **Tungsten Carbide Bearings**
- **Long Service Life**
- **Low Pressure Drop**
- **Pulse and 4-20 mA Signal Outputs**
- **Optional LCD Display for Batching, Totalizing**

Water: 0.5...5 GPM to 240...2,400 GPM  
\[ t_{\text{max}} = 250 °F; p_{\text{max}} = 3,800 \text{ PSIG} \]  
Connection: 1/2...2 NPT, 1/2...6 ANSI  
(Larger Sizes upon Request)  
Accuracy: ± 0.5% of Full Scale

#### KFF/KFG-1 - Low Volume, Rotating Vane Flowmeter

- **Material:** Brass, PTFE, PPS
- **Can Measure Very Low Flow Rates**
- **Models for Liquid or Gas**
- **For a Wide Variety of Industrial, Commercial, or Laboratory Applications**
- **Pulse or 0-5 VDC Output**
- **Highly Repeatable**
- **12.5 VDC or 24 VDC Input Power**
- **Local LCD Display for 3000 Series**

Water: 13...100 mL/min to 1...10 L/min  
Air: 20...100 mL/min to 100...500 L/min  
\[ t_{\text{max}} = 120 °F; p_{\text{max}} = 500 \text{ PSIG} \]  
Connection: 1/8"...1/2" Compression  
Accuracy: ± 3% of Full Scale

#### KFF/KFG-3 - Low Volume, Rotating Vane Flowmeter

- **Materials:** Brass, PPS
- **Can Measure Very Low Flow Rates**
- **Models for Liquid or Gas**
- **For a Wide Variety of Industrial, Commercial, or Laboratory Applications**
- **Pulse or 0-5 VDC Output**
- **Highly Repeatable**
- **12.5 VDC or 24 VDC Input Power**
- **Local LCD Display for 3000 Series**

Water: 13...100 mL/min to 1...10 L/min  
Air: 20...100 mL/min to 100...500 L/min  
\[ t_{\text{max}} = 120 °F; p_{\text{max}} = 500 \text{ PSIG} \]  
Connection: 1/8"...1/2" Compression  
Accuracy: ± 3% of Full Scale

#### SFL - High Precision Turbine Flow Sensor

- **Materials:** PVDF, Stainless Steel
- **For Clean, Transparent Media**
- **Infrared Sensing**
- **Bearless Design for Long Life**
- **Universal Mounting Position**
- **Linear, Square Wave Pulse Output**
- **Very High Turndown Over Entire Range**
- **Compact Size**

Water: 0.5...20 l/min  
\[ t_{\text{max}} = 90 °C; p_{\text{max}} = 250 \text{ bar} \]  
Connection: G 3/8  
Accuracy: ±1% of Full Scale

#### PEL - Low Volume Turbine Flowmeter

- **Materials:** Stainless Steel, Aluminum  
  Pelton Wheel Principle
- **For Liquids**
- **High Reliability**
- **Pulse Output**
- **Media Examples:** Fuel, Distilled Water, Hot Grease

Water: 0.004...0.06 l/min to 0.1...28 l/min  
\[ t_{\text{max}} = 135 °C; p_{\text{max}} = 345 \text{ bar} \]  
Connection: R 1/4...R 1/2, Water Flange  
DN 40/50, 1/2" Glue-in Connection, Hose-  
Connection  
Accuracy: ± 2% of Full Scale

#### DPL - All Plastic Low Flow Paddle Wheel Sensor

- **Material:** Polypropylene
- **Precision Water Flow Transmitter**
- **Accuracy at a Low Cost**
- **Compact Design**
- **Resistant to Aggressive Media**
- **Sapphire Bearings**
- **Standard Pulse Frequency Output**
- **Optional Analog Output and/or Digital Indication**

Water: 0.4...8 GPH to 16...400 GPH  
\[ t_{\text{max}} = 160 °F; p_{\text{max}} = 145 \text{ PSIG} \]  
Connection: G 1/4...G 3/4  
Accuracy: ± 2% of Full Scale

#### SFL - High Precision Turbine Flow Sensor

- **Materials:** PVDF, Stainless Steel
- **For Clean, Transparent Media**
- **Infrared Sensing**
- **Bearless Design for Long Life**
- **Universal Mounting Position**
- **Linear, Square Wave Pulse Output**
- **Very High Turndown Over Entire Range**
- **Compact Size**

Water: 0.5...20 l/min  
\[ t_{\text{max}} = 90 °C; p_{\text{max}} = 250 \text{ bar} \]  
Connection: G 3/8  
Accuracy: ±1% of Full Scale

#### DPL - All Plastic Low Flow Paddle Wheel Sensor

- **Material:** Polypropylene
- **Precision Water Flow Transmitter**
- **Accuracy at a Low Cost**
- **Compact Design**
- **Resistant to Aggressive Media**
- **Sapphire Bearings**
- **Standard Pulse Frequency Output**
- **Optional Analog Output and/or Digital Indication**

Water: 0.4...8 GPH to 16...400 GPH  
\[ t_{\text{max}} = 160 °F; p_{\text{max}} = 145 \text{ PSIG} \]  
Connection: G 1/4...G 3/4  
Accuracy: ± 2% of Full Scale
Flow - Rotating Vane

**DF - Paddle Wheel Flowmeters/Totalizers/Transmitters**

- Materials: Polypropylene, Brass, SS
- Available with Switches
- Easy to Install
- Rugged and Reliable
- No Straight Run Required
- Multiple Material Combinations
- NPN Frequency Output or Analog Output
- Compatible with Water-based, Low Viscosity Liquids and Aggressive Water-based Chemicals

Water: 0.02...0.14 GPM to 1.5...36 GPM
$ t_{\text{max}} $: 180 °F; $ p_{\text{max}} $: 1,450 PSIG
Connection: 1/8"...1" NPT
Accuracy: ± 2.5% of Full Scale

**DFT - Compact Paddle Wheel Flow Sensor**

- Material: Brass or PTFE
- Compact, Economical Design
- No Straight Run Requirements
- Standard Frequency Output
- Two Different Material Combinations
- Optional Analog and Controller Outputs, LCD Displays, Analog Flow Transmitters, Programmable Relays, Totalizers or Batch Controllers

Water: 0.05...0.5 GPM to 0.8...15 GPM
$ t_{\text{max}} $: 180 °F; $ p_{\text{max}} $: 230 PSIG
Connection: 1/4"...3/4" NPT
Accuracy: ± 2.5% of Full Scale

**DRH - Paddle Wheel Flow Sensor**

- Materials: POM, PVDF, Brass, SS
- Economical Pricing
- Industrial or OEM Applications
- For a Wide Range of Water-like, Low-viscosity Liquids or Aggressive Chemicals
- Seven Material Combinations
- Frequency, 4-20 mA Analog, Transistor Switches, Digital/Analog Display

Water: 0.05...0.2 GPM to 0.66...13.2 GPM
$ t_{\text{max}} $: 175 °F; $ p_{\text{max}} $: 580 PSIG
Connection: 1/8"...1-1/2" NPT
Accuracy: ± 2.5% of Full Scale

**DRG - Paddle Wheel Flow Sensor**

- Materials: Polypropylene, Brass, SS
- Perfect OEM Flow Sensor
- Compact, Versatile, Economical
- Five Material Combinations
- All-plastic Version Suitable for High Purity Water and Aggressive Water-based Chemicals
- Outputs: Pulse Frequency, 4-20 mA Analog, Transistor Switches, Digital/Analog Display

**DTK - Pelton Wheel Flow Sensor**

- Material: Stainless Steel
- Designed for High Volume OEM Market
- Economical Measurement of Low Flows
- For Clear or Opaque Liquids
- For Low Viscosity Liquids
- No Straight Run Requirements
- Highly Repeatable, Linear Output
- Common Applications: Volume Dosing, Laundry Machines, PCB Manufacturing, and Agricultural Machinery

Water: 0.0...0.2 GPM to 16...190 GPH
$ t_{\text{max}} $: 280 °F; $ p_{\text{max}} $: 430 PSIG
Connection: 1/4" NPT
Accuracy: ± 2% of Full Scale

**LFM - Dual-Ring Pendulum Flowmeter**

- Material: Stainless Steel
- For Low Viscosity Liquids
- Suitable for Filling/Batching Processes
- Typical Media: Additives, Perfumes, Water and Demineralized Water, Liquified Gas
- Repeatability of ± 0.1%
- IP65 Protection

Water: 0.005...0.25 l/min
$ t_{\text{max}} $: 80 °C; $ p_{\text{max}} $: 100 bar
Connection: 1/8" NPT, G 1/8, Swagelok® 6 mm
Accuracy: ± 2.5 % of Reading

**DRZ - Rotary Piston Flowmeter**

- Material: Brass
- Economy and High Performance
- For Clean, Lubricating Liquids
- For Viscosities from 5 to 100 cSt
- Low Pressure Drop
- Repeatability of ± 0.2%
- Maximum Throughput of 180 GPH
- Can be Combined with AUF Display

Viscosity Range: 5...100 cSt
Oil: 1.6...110 GPH
$ t_{\text{max}} $: 175 °F; $ p_{\text{max}} $: 580 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1% of Reading

**OVZ - Economical Oval-Gear Flowmeter**

- Materials: POM, Aluminum
- Positive-Displacement Technology at a Rotameter Price
- Maintains Precision with Viscosity Changes
- Five Material Combinations
- Minimal Wear Components
- Typical Applications: Lubrication Systems, Filling Transmission Fluids, Hydraulic Systems
- NPN, PNP, NAMUR Configurations
- 4-20 mA and Different Display Options

Viscosity Range: 10...800 cSt
Oil: 0.03...0.53 GPM to 0.42...10.6 GPM
$ t_{\text{max}} $: 175 °F; $ p_{\text{max}} $: 580 PSIG
Connection: 1/4"...3/4" NPT
Accuracy: ± 2.5% of Full Scale

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Flow - Rotating Vane

DON - POSITIVE DISPLACEMENT FLOWMETER
- Materials: Aluminum, Stainless Steel
- For Clean, High and Low Viscosity Liquids
  - Like: Lubricating/Hydraulic Oils, Diesel Fuels, Resins, Pastes
- Precise Measurement over a Wide Viscosity Range
- Output Options: Analog, Frequency, LCD Totalizers, Batch Controllers
- Optional Quadrature Output

Viscosity Range: up to 1,000,000 cP
Oil: 0.13...9.5 GPH to 40...660 GPM
temp: -30°F; pmax: 1,450 PSIG
Connection: 1/8"...4" NPT, ANSI 1"...4"
Accuracy: ± 0.2 - 1% of Reading

DOC - POSITIVE DISPLACEMENT FLOWMETER
- Body/Gear Material: PPS
- For Clean, Corrosive Chemicals
- For Viscosities up to 1000 cP
- Reed Switch or Hall-effect Output
- Hastelloy-C® Axles
- Repeatability of ± 0.03%
- IP67 Protection
- Filtration Recommended

Viscosity Range: up to 5,000 cSt
Oil: 0.13...26 GPH to 0.8...21 GPM
Connection: 1/4"...1" NPT or BSP
temp: 176 °F; pmax: 145 PSIG
Accuracy: ± 0.5% of Reading

OMG - HELICAL GEAR FLOWMETER
- Materials: Cast Iron, Stainless Steel
- Pulsation-free Principle of Measurement
- For Viscous, Non-abrasive Liquids
- Pulse Output
- High Reliability
- Self-cleaning Measuring Chambers
- Long Service Life
- Installation Position Independent

Viscosity Range: up to 5,000 cSt
Oil: 0.026...2.6 GPM to 13...1,300 GPM
temp: 380 °F; pmax: 6,000 PSIG
Connection: 1/2"...3" NPT, 1/2"...6" ANSI
Accuracy: ± 0.3% of Reading

OZM - HELICAL GEAR FLOWMETER
- Material: Stainless Steel
- For High Pressures, up to 5,800 PSIG
- For Clean Viscous Liquids
- Common Media: Hydraulic Oils, Diesel Fuel, Resins, and Pastes
- Pulse and 4-20 mA Signal Outputs
- Optional LCD Display for Batching, Totalizing

Viscosity Range: up to 1,000,000 cP
Oil: 0.13...9.5 GPH to 0.26...10.6 GPM
temp: 250 °F; pmax: 5,800 PSIG
Connection: 1/8"...1/2" NPT
Accuracy: ± 0.2 - 1% of Reading

KZA - SPHERICAL GEAR FLOWMETER
- Material: Aluminum
- For Viscous, Non-abrasive Liquids
- Easy to Maintain
- Low Pressure Loss
- Low Noise Level
- Commonly Used in Mixing, Batching, and Hydraulics

Viscosity Range: 20...4,000 cSt
Oil: 0.02...4 l/min to 1...200 l/min
temp: 80°C; pmax: 600 PSIG
Connection: G 1/4...1
Accuracy: ± 0.3 - 3% of Reading
Flow - Rotating Vane/Mass

ZDM - SPHERICAL GEAR FLOWMETER
- Materials: Cast Iron, Stainless Steel
- Rugged Build for Demanding Conditions
- Common Media: Paraffin, Kerosene, Diesel, Mineral Oil, Hydraulic Oils, Inks, Dyes, Paints, Grease, Polyurethane, Glues, Pastes, Creams, Resins, and Waxes
- Can Detect Flow Direction
- Pulse Frequency Output

Viscosity Range: 0.3...1,000,000 cSt
Oil: 0.0005...0.5 GPM to 0.4...138 GPM
Temperature Max: 410 °F; Pressure Max: 6,500 PSIG
Connection: 3/8"...1-1/2" NPT
Accuracy: ± 0.3% of Reading

KAL-D - COMPACT THERMAL FLOW SWITCH
- Material: Stainless Steel
- Extensive Features, Compact Design
- For Non-viscous, Water-based Liquids
- Reliable, Insensitive to Dirt
- Minimal Pressure Loss
- Output: PNP/NPN, N/O, N/C
- Superior Compensation for Changes in Temperature
- LED Status Indicator

Water: 0.15...6.6 ft/sec
Temperature Max: 175 °F; Pressure Max: 580 PSIG
Connection: 1/4" or 1/2" NPT, M12 x 1

KAL-K - THERMAL FLOW SWITCH
- Material: Stainless Steel
- Flow Switch with LED Flow Trend and NPN/PNP Transistor, N/O Relay (Only with Optional 110 VAC Version)
- Revolutionary Microprocessor-based Drill Stabilization
- Easy to Operate
- Extremely Low Pressure Loss
- Insensitive to Dirt

Water: 0.15...6.6 ft/sec
Temperature Max: 250 °F; Pressure Max: 1,450 PSIG
Connection: 1/2"...3/4" NPT, Tri-Clamp®

KAL-L - THERMAL FLOW SWITCH FOR AIR
- Material: Brass, Polyamide
- Rapid Detection of Flow Rate Changes in Non-hazardous Gases
- Compensates for Thermal Changes
- Design Minimizes Error Switching
- Negligible Pressure Loss
- Adjustable Response Time
- Common Applications: Air Conditioning Systems, Ventilation Systems, Conveying Plants

Air: 3.3...65 ft/sec
Temperature Max: 250 °F; Pressure Max: 120 PSIG
Connection: 1/2"...3/4" NPT, Duct Flange
Accuracy: ± 10% of Reading

KAL/A - THERMAL FLOW TRANSMITTER
- Material: Stainless Steel
- Flow Sensor with 4-20 mA Output, 3-wire (Non-linear), Optional Switch
- Revolutionary Microprocessor-based Drill Stabilization
- Easy to Operate
- Extremely Low Pressure Loss
- Insensitive to Dirt

Water: 0.15...6.6 ft/sec
Temperature Max: 250 °F; Pressure Max: 1,450 PSIG
Connection: 1/2"...3/4" NPT, 1-1/2" Tri-Clamp®
Linearity: ±10% of Full Scale

KAL/KAL-E - THERMAL FLOW SWITCH
- Materials: Brass, Stainless Steel
- Continuous Monitoring of Liquids
- For Low or High Flow Velocities
- Temperature Compensation
- Minimal Pressure Loss
- High Reliability, No Moving Parts
- Remote Probe Allows Installation with Minimal Clearance
- Easy to Operate
- Insensitive to Dirt
- Optional Temperature Switch

Water: 0.15...6.6 ft/sec
Temperature Max: 250 °F; Pressure Max: 1,450 PSIG
Connection: 1/4"...1-1/2" NPT

KAL/L - THERMAL FLOW SWITCH FOR AIR
- Material: Brass, Polyamide
- Rapid Detection of Flow Rate Changes in Non-hazardous Gases
- Compensates for Thermal Changes
- Design Minimizes Error Switching
- Negligible Pressure Loss
- Adjustable Response Time
- Common Applications: Air Conditioning Systems, Ventilation Systems, Conveying Plants

Air: 3.3...65 ft/sec
Temperature Max: 250 °F; Pressure Max: 120 PSIG
Connection: 1/2"...3/4" NPT, Duct Flange
Accuracy: ± 10% of Reading

DVK - CALORIMETRIC SWITCH, FLOWMETER, AND TOTALIZER
- Material: Stainless Steel
- Designed for Air Flow in Pipes/Hoses
- Maintenance-Free Calorimetric Technology
- Minimal Pressure Loss

Air: 1...10 LPM to 600...12,000 LPM
Temperature Max: 50°C; Pressure Max: 15 bar
Connection: G 1/4"...G 2
Accuracy: ± 5% of Full Scale

KAH - AIR VELOCITY TRANSMITTER
- Material: Polycarbonate
- Ideal for Accurate Ventilation Control
- Hot-Film Anemometer Principle
- Accuracy at Low Air Velocity
- Insensitive to Dust and Dirt
- High Reliability, Low Maintenance
- Adjustable Sensing Range, Insertion Length, Damping Time
- Easy to Install

Air: 0...2,000/3,000/4,000 ft/min
Output Signal: 0-10 VAC or 4-20 mA
Supply Voltage: 24 VAC
Connection: Mounting Adapter
Accuracy: ± (0.2 m/s + 3% of Reading)
Flow - Mass/Coriolis

**MAS - MASS FLOWMETER FOR GASES**
- Materials: Polyamide, SS, Aluminum
- For Clean, Dry Gas Measurement
- Outstanding Performance and Value
- No Pressure/Temperature Correction Necessary
- Exceptional Versatility
- Remote Display Capability
- Analog Output Standard
- Common Applications: General Process Control, Flow into Vacuum Systems, Leak Testing, and Flow Calibration

Air: 0...10 SCCM to 0...500 SLPM
\( t_{\text{max}} = 120 \, ^\circ \text{F}; \ p_{\text{max}} = 500 \, \text{PSIG} \)
Connection: 1/4" NPT, 1/2" NPT; 1/4" or 1/2" Swagelok®
Accuracy: ±1.5% of Full Scale

**DMS - MASS FLOWMETER FOR GASES**
- Material: Stainless Steel
- For Gas Measurement
- Accurate, Reliable, Rugged
- Easy to Use Display
- No Moving Parts
- Optional Regulator

Air: 0.1...3.7 NL/min to 0...185 NL/min
\( t_{\text{max}} = 120 \, ^\circ \text{F}; \ p_{\text{max}} = 500 \, \text{PSIG} \)
Connection: 1/4" or 1/2" NPT, 1/8"...1/2" Compression
Accuracy: ± 1.5% of Reading, ± 0.3% of Full Scale

**KME - COMPACT INLINE FLOWMETER**
- Material: Aluminum, SS, Polycarbonate
- For Compressed Air and Technical Gases
- Hot Film Sensor Element
- Easy to Mount/Dismount without Opening any Pipes
- Long Term Stability, Fast Response Time
- Application-specific, Multi-point Factory Adjustment for Excellent Accuracy
- Optional Display

Air: 0.12...44.4 SCFM to 1.3...500 SCFM
\( t_{\text{max}} = 140 \, ^\circ \text{F}; \ p_{\text{max}} = 230 \, \text{PSIG} \)
Connection: 1/2"...2" NPT with Ball Valve
Accuracy: ± 3.0% of Reading, ± 0.3% of FS

**KMT-1/-2/-3 - THERMAL MASS FLOWMETER**
- Material: Stainless Steel, Brass
- Application Specific Adjustments Completed During Production
- Excellent Long-Term Stability
- Fast Response Time
- Integrated Counter for Consumption
- Optional Display
- Compact or Remote Mount Probes

Air: 0.32...43 Nm3/s to 3...1,400 Nm3/s
\( t_{\text{max}} = 180 \, ^\circ \text{C}; \ p_{\text{max}} = 230 \, \text{PSIG} \)
Connection: 1/2"...2" NPT with Ball Valve
Accuracy: ± 1.5% of Reading, ± (0.5 - 0.8 of Full Scale)

**KMT-4 - THERMAL MASS FLOWMETER**
- Material: Stainless Steel, Brass
- For Compressed Air and Gases
- Application Specific Adjustments Completed During Production
- Excellent Long-Term Stability
- Fast Response Time
- Integrated Counter for Consumption
- Optional Display
- Compact and Remote Mount Probes

Air: 2.8...1,397 Nm3/s to 263...2,635 Nm3/s
\( t_{\text{max}} = 80 \, ^\circ \text{C}; \ p_{\text{max}} = 16 \, \text{bar} \)
Connection: R 1/2, Male for Insertion (DN65...DN700)
Accuracy: ± 1.5% of Reading, ± 0.8% of Full Scale

**KEC - THERMAL MASS FLOWMETER**
- Material: Stainless Steel
- Suitable for Demanding Industrial Use
- Calorimetric Measuring Principle
- Quick, Precise Measurements
- Standard Integrated Modbus® Output
- No Moving Parts
- 2x 4-20 mA Analog Outputs
- Common Applications: Chemicals, Gas, Methane, Breweries, Power Plants, Semiconductors, Automotive Industry

Air: 0.3...300 ft/sec to 0.3...735 ft/sec
\( t_{\text{max}} = 350 \, ^\circ \text{F}; \ p_{\text{max}} = 1,450 \, \text{PSIG} \)
Connection: 1/2"...2" NPT, 1/2"...3" ANSI
Accuracy: ± 1.5% of Reading, ± 0.3% of FS

**HPC - MINI CORIOLIS MASS FLOWMETER**
- Material: Stainless Steel
- Innovative Design
- Revolutionary Dual Bend Measuring Tube
- 4 Sensor Coils for High Resolution
- For Gases or Liquids
- High Accuracy
- Insensitive to Vibrations
- Modular Mounting Concept
- 316-Ti SS Measuring Pipes
- 316L SS Flow Body

Water: 0...44 lbs/hr to 0...350 lbs/hr
\( t_{\text{max}} = 350 \, ^\circ \text{F}; \ p_{\text{max}} = 1,450/4,840/5,800 \, \text{PSIG} \)
Connection: 1/2" NPT, Grolaylock/Swagelok®
Accuracy: ± 0.1% of Reading, ± Zero-point Stability

**TME/UMC-3 - CORIOLIS MASS FLOWMETER**
- Material: Stainless Steel Measuring Tubes
- Rugged Cast Iron Housing
- Designed for General Purpose Mass Flow Measurement of Liquids and Gases in Most Chemical, Petrochemical, Oil, and Gas Applications
- Mass Flow, Density, Temperature, and Volume Flow Measurements
- High Immunity to Piping-induced Measuring Errors Caused by Vibration

Water: 2.2...22 lbs/min to 220...2,200 lbs/min
\( t_{\text{max}} = 350 \, ^\circ \text{F}; \ p_{\text{max}} = 580 \, \text{PSIG} \)
Connection: 1/2" NPT, 3/8" ANSI
Accuracy: ± 0.15% of Reading, ± Zero-point Stability

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**Flow - Coriolis/Differential Pressure**

**TME/UMC-4 - Coriolis Mass Flowmeter**
- Material: Stainless Steel Measuring Tubes
- Rugged Cast Iron Housing
- Designed for General Purpose Mass Flow Measurement of Liquids and Gases in Most Chemical, Petrochemical, Oil, and Gas Applications
- Mass Flow, Density, Temperature, and Volume Flow Measurements
- High Immunity to Piping-induced Measuring Errors Caused by Vibration

Water: 2.2...22 lbs/min to 220...2,200 lbs/min

\[ t_{\text{max}} \text{: } 500 \, ^\circ\text{F}; \, p_{\text{max}} \text{: } 580 \, \text{PSIG} \]

Accuracy: ± 0.15% of Reading, ± Zero-point Stability

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**TMU/UMC-3 - Coriolis Mass Flowmeter**
- Materials: Stainless Steel, Hastelloy®
- For Liquids or Gases
- Accommodates Very High Flow Rates
- Available in Large Line Sizes
- Simultaneous Measurement of Mass Flow, Density, and Temperature
- Produces an Accurate Volumetric Flow Rate
- For Demanding Applications

Water: 0...1,320 lbs/hr to 0...2,200 tons/hr

\[ t_{\text{max}} \text{: } 500 \, ^\circ\text{F}; \, p_{\text{max}} \text{: } 580 \, \text{PSIG} \]

Accuracy: ± 0.1% of Reading, ± Zero-point Stability

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**KPL - Differential Pressure Orifice Plate**
- Materials: Steel, SS, Hastelloy-C®, Titanium, Monel®, Tantalum
- Used to Measure Flow of Liquids, Gases, or Steam
- High Reliability, Minimal Maintenance

Shown with Model PAD

Ranges: for Liquids, Gases, Steam

According to ISO 5167-1

Connection: ANSI 2...24", DN 50...600

\[ t_{\text{max}} \text{: } 500 \, ^\circ\text{C}; \, p_{\text{max}} \text{: } \text{PN 420/-cl. 2500} \]

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**ANU - Differential Pressure Pitot Tube**
- Standard Material: Stainless Steel
- Used for Flow Measurement of Liquid, Gas, and Steam
- Measuring Principle Uses the Differences between the Dynamic Pressure on the Upstream Side and the Static Pressure on the Downstream Side
- Available in Many Special Materials
- Optional RTD or TC Temperature Sensor

Shown with Model PAD

Connection: 1...1-1/2 NPT, G 1...1-1/2, ANSI 1...3, DN 25...80

Probe Length: 2...315", (50...8000 mm)

\[ t_{\text{max}} \text{: } 1175 \, ^\circ\text{F}; \, p_{\text{max}} \text{: } 13,000 \, \text{PSIG} \]
Flow - DP/Electromagnetic

### DUS - Differential Pressure Nozzle

- **Materials:** Steel, Stainless Steel
- Shown with Model PAD
- Nominal Diameter: 2"...24" (DN 50…600)
- \( t_{\text{max}} \geq 560 ^\circ \text{C}; \ p_{\text{max}} \geq 420 \text{ bar} \)

### DVT - Differential Pressure Venturi Tube

- **Materials:** Steel, Stainless Steel
- Shown with Model PAD
- Nominal Diameter: 2"...48" (DN 50…1200)
- \( t_{\text{max}} \geq 560 ^\circ \text{C}; \ p_{\text{max}} \geq 420 \text{ bar} \)

### KEL - Differential Pressure Flowmeters

- **Materials:** Brass, Cast Iron, SS
- Designed for Difficult Environments
- Rugged Metal Housings
- Insensitive to Magnetic Fields
- For Horizontal or Vertical Pipes
- Easy to Use and Maintain
- Ranges can be Modified in the Field
- Optional Alarms and 4-20 mA Output

### RCD - Differential Pressure Flowmeter

- **Materials:** Brass, Stainless Steel
- For Liquids or Compressed Gases with Low to Medium Viscosities, Minimal Solids
- High Reliability and Long Service Life
- Brass or 316-Ti Stainless Steel Bodies
- Custom Calibrations for Density/Viscosity
- Mechanical Pointer Indicator, Analog Output, Digital Display, Switches
- Common Uses: Machinery Manufacturing, Chemical Industry, and Process Equipment

### RCM - Direct Reading Flowmeter

- **Materials:** Bronze, Monel®, Stainless Steel
- Liquid or Gas, Low to Medium Viscosity, Low Solids Content
- Easy to Install, Compact Design
- Low Pressure Drop
- Optional Alarms and Signal Outputs
- Common Applications: Lube Oil and Cooling Water Monitoring, Blending Processes, Reverse Osmosis Systems, and Compressed Air Measurement

### MIK - Economical Magmeter

- For a Wide Variety of Conductive Liquids, Acids, and Caustics
- Wetted Materials: PPS/SS/NBR, PPS/SS/FKM, PVDF/Hastelloy®, FFKM, PVDF/Tantalum/FKM
- Frequency or Current Outputs, Adjustable Switches, Integral Totalizers or Batch Controllers
- Universal Mounting
- Versatile and Reliable

### MIS - Electromagnetic Flowmeter

- **Material:** Stainless Steel
- Flow and Temperature Measurement
- Switching, Transmitting, and Batching
- Grand and Resettable Totalizer
- 2 Configurable Outputs
- Bi-directional Flow Measurement
- Color, Multi-parameter TFT Display
- Display Rotates in 90° Increments
- Intuitive Set-up via Optical Touch Keys
- Display is Operable with Hand Gloves

### DUS - Differential Pressure Nozzle

Water: 0.1...0.5 GPM to 400...2,000 GPM
\( t_{\text{max}} \geq 250 ^\circ \text{F}; \ p_{\text{max}} \geq 230 \text{ PSIG} \)
Connection: 1/2"...1-1/2" NPT, 1/2"...8" ANSI Wafer
Accuracy: ± 2 - 5% of Full Scale

### DVT - Differential Pressure Venturi Tube

Water: 0.18...7.8 GPH to 9.5...180 GPM
\( t_{\text{max}} \geq 176 ^\circ \text{F}; \ p_{\text{max}} \leq 145 \text{ PSIG} \)
Connection: 1/4"...2" NPT or Glue Socket
Accuracy: ± 2% of Full Scale

### KEL - Differential Pressure Flowmeters

Water: 0.2...0.88 GPM to 100...600 GPM
\( t_{\text{max}} \geq 210 ^\circ \text{F}; \ p_{\text{max}} \geq 580 \text{ PSIG} \)
Connection: 1/2"...3" NPT
Accuracy: ± 3% of Full Scale

### RCD - Differential Pressure Flowmeter

Water: 0.2...3.3 ft/sec
\( t_{\text{max}} \geq 158 ^\circ \text{F}; \ p_{\text{max}} \geq 230 \text{ PSIG} \)
Connection: ANSI 3"...4"
Accuracy: ± 0.5% of Reading, + 0.3% of Full Scale

### RCM - Direct Reading Flowmeter

Water: 0.3...2 GPM to 400...3,000 GPM
Air: 1.5...10 SCFM to 3,000...20,000 SCFM
\( t_{\text{max}} \geq 350 ^\circ \text{F}; \ p_{\text{max}} \geq 400 \text{ PSIG} \)
Connections: 1/4"...3" NPT, 1/2"...8" ANSI Water
Accuracy: ± 3% of Full Scale

### MIK - Economical Magmeter

Water: 3.3...33 ft/sec
\( t_{\text{max}} \geq 158 ^\circ \text{F}; \ p_{\text{max}} \geq 230 \text{ PSIG} \)
Connection: ANSI 3"...4"
Accuracy: ± 0.5% of Reading, + 0.3% of Full Scale

### MIS - Electromagnetic Flowmeter

Water: 0.48...48 GPH to 0.8...200 GPM
\( t_{\text{max}} \geq 280 ^\circ \text{F}; \ p_{\text{max}} \geq 230 \text{ PSIG} \)
Connection: 1/4"...2" NPT
Accuracy: < ± (0.8% of Reading, + 0.5% of Full Scale)
Flow - Electromagnetic/Vortex

PIT - INSERTION MAGNETIC FLOWMETER

- Materials: SS or PFA-Clad Probe
- SS, Hastelloy®, Platinum or Tantalum Electrodes
- For Flow Velocity in Large Diameter Pipes
- Cost-effective Insertion Design
- Optional Valve Assembly for Insertion/Extraction Under Pressure
- Remote or Integral Transmitter
- 4-20 mA/HART®, Pulse, Status
- For Conductive Media > 20 μs/cm

Water: 3.3...33 ft/sec
\[ t_{\text{max}} = 300^\circ \text{F}; \ p_{\text{max}} = 580 \text{ PSIG} \]
Accuracy: ±1.5% of Reading, ± 0.5% of Full Scale

EPS - ELECTROMAGNETIC FLOWMETER

- Lining Materials: Hard or Soft Rubber, EPDM, PTFE, or Ceramic
- Measures Volumetric Flow of Liquids, Slurries, and Pastes
- Electrodes in SS, Hastelloy®, Tantalum, Platinum-Iridium, or Titanium
- For Use in Harsh Environments
- Compact or Remote Versions
- No Pressure Drop
- Maintenance-free

Water: 3.3...33 ft/sec
\[ t_{\text{max}} = 300^\circ \text{F}; \ p_{\text{max}} = 580 \text{ PSIG} \]
Connection: 1/2" NPT, ANSI 1/2"...24"
Accuracy: ± 0.3% of Reading

DVE - INSERTION VORTEX FLOWMETER

- Material: Stainless Steel
- Fully Welded Sensor
- Optional Integrated Temperature and Pressure Sensor
- Field Configurable Range, Output, Display

Water: 5.2...157 m³/h to 284...8,537 m³/h
Air: 868...1,463 Nm³/h to 26,915...58,915 Nm³/h
\[ t_{\text{max}} = 400^\circ \text{C}; \ p_{\text{max}} = 100 \text{ bar} \]
Connection: 2" NPT, ANSI 2"
Suitable for Pipe Sizes 3"...24"
Option: Integrated Temp. and Pressure Sensor, Installation/Removal Device
Accuracy: ± 1.2% of Reading (Water), ± 1.5% of Reading (Gas/Steam)

PITe - ECONOMICAL INSERTION MAGNETIC FLOWMETER

- Materials: SS, PTFE or PFA Clad
- Simple, Compact Design
- Maintenance-free
- Minimal Pressure Drop
- Not Affected by Pressure, Temperature Density, or Viscosity
- For Use with Conductive Media
- Not for Media with Particles or Bubbles

Water: 33...33 ft/sec
\[ t_{\text{max}} = 100^\circ \text{C}; \ p_{\text{max}} = \text{PN 16} \]
Connection: ANSI 3"...16".
Weld-on Nozzle ø 40 mm, Sensor with Union Nut M52x2 for Pipelines DN 80...400
Accuracy: ± 1.5% of Full Scale

DVH - MULTIVARIABLE VORTEX FLOWMETER

- Material: Stainless Steel
- Cost-effective Volumetric Flow Measurement
- Fully Welded Sensor
- Field Configurable Ranges, Outputs and Display
- Optional Integrated Temperature and Pressure Measurement

Water: 0.89...22 GPM to 284...8,537 GPM
Air: 1.8...18 SCFM to 2,071...203,000 SCFM
\[ t_{\text{max}} = 300^\circ \text{F}; \ p_{\text{max}} = 1,450 \text{ PSIG} \]
Connection: 1/4"...1/2" ANSI
Options: Integrated Temperature and Pressure Sensor, Water Type
Accuracy: ±1% Reading for Gas & Steam, ± 0.7% Reading for Liquids

DVZ - VORTEX FLOWMETER, SWITCH, TRANSMITTER, TOTALIZER

- Materials: PPS/Brass, PPS/Stainless Steel
- Economical and Reliable
- For Low Viscosity Liquids and Aggressive, High-purity, or Salty Solutions
- Fixed or Rotatable Connections
- Outputs: Pulse Frequency, 4-20 mA, Adjustable Relay, Compact Electronics, Adjustable Transistor Switch

Water: 0.13...1.2 GPM to 2.6...26.5 GPM
\[ t_{\text{max}} = 176^\circ \text{F}; \ p_{\text{max}} = 290 \text{ PSIG} \]
Connection: 1/4"...1/2" NPT
Accuracy: ± 2.5% of Full Scale

DOG-4 - OSCILLATION FLOWMETER FOR GASES

- Material: Stainless Steel
- For Flow Measurement of Gases
- Platinum Sensor
- No Moving Parts
- Low Pressure Loss
- Wide Sensing Range
- Pulse Frequency, Digital Display for Flow Measurement and Totalization

Air: 0.12...12 m³/h to 60...6,000 m³/h
Pressure Drop Max: 50 mbar
\[ t_{\text{max}} = 120^\circ \text{C (for EX 60°C)}; \ p_{\text{max}} = \text{PN 40} \]
Connection: ANSI 1"...8", Flange DN 25...200
Accuracy: ± 1.5% of Reading

DOG-5 - OSCILLATION FLOWMETER FOR LIQUIDS

- Material: Stainless Steel
- Non-contact Measurement of Low Viscosity Liquids
- Excellent Long-term Stability
- Design Resists Dirt
- Horizontal or Vertical Installation
- Not for Pulsating Flow
- Commonly Used in District Heat Supply

Water: 0.075...3.75 m³/h to 70...3,500 m³/h
\[ t_{\text{max}} = 120^\circ \text{C}; \ p_{\text{max}} = \text{PN 40} \]
Connection: ANSI 1"...8", Flange DN 25...200
Accuracy: ± 1% of Measured Value

Subject to change without prior notice
Flow - Ultrasonic/Indicators

**DUK - COMPACT ULTRASONIC FLOWMETER**
- Materials: Brass, Stainless Steel
- For Water and Low Viscosity, Water-based Liquids with Max. 1% Solids
- Measurement Independent of Density and Temperature Changes
- High Turndown Ratio of 250 to 1
- Very Small Pressure Loss
- Highly Repeatable
- Outputs: Analog, Frequency, Switching, Compact Electronics, Batching, Totalizing

Water: 0.02...5 GPM to 0.6...160 GPM
\[ t_{\text{max}} = 248 \; ^\circ\text{F; } p_{\text{max}} = 230 \; \text{PSIG} \]
Accuracy: ± 0.7% of Reading
± 0.7% of Full Scale

**DUC - CLAMP-ON ULTRASONIC FLOWMETER**
- Quick Mount System with Space Bar
- DSP Technology Reduces Signal Echoes and Dispersion Effects
- Easy to Read User Interface with LED Back-light, QVGA Display
- Common Application Areas: Power Plants, Water/Wastewater, Chemical Processing, Facility Management, Food and Beverage
- AFC and Reynolds Compensation

\[ t_{\text{range}} = -40...300 \; ^\circ\text{F} \]
Flow Velocities: 0...98 ft/sec
Pipe Sizes: 3/8"...20 ft
For Common Pipe Materials with Ultrasonic Conductive Properties like Steel and Plastic
Heat Quantity Measurement
Accuracy: up to 1%

**REG - AUTOMATIC FLOW REGULATING VALVE**
- Materials: Brass, Stainless Steel
- For Water or Compatible Water-like Liquids
- Self-actuating, Requires No Power
- Automatically Regulates Flow in System
- No Manually Operated Parts
- Constant Flow Regardless of Pressure Fluctuations
- No Maintenance
- Universal Mounting
- Passively Activated

Viscosity Range: 1...30 cSt
Flow Rates: 0.13...10.56 GPM
\[ t_{\text{max}} = 572 \; ^\circ\text{F; } p_{\text{max}} = 2,900 \; \text{PSIG} \]
Connection: 3/4" NPT, G 1/2, G 3/4

**REG-8/-9 - AUTOMATIC FLOW REGULATING VALVE**
- Material: Stainless Steel
- For Water or Compatible Water-like Liquids
- Self-actuating, Requires No Power
- Automatically Regulates Flow in System
- No Manually Operated Parts
- Constant Flow Regardless of Pressure Fluctuations
- No Maintenance
- Universal Mounting
- Passively Activated

Viscosity Range: 1...30 cSt
Flow Rates: 0.13...147 GPM
\[ t_{\text{max}} = 570 \; ^\circ\text{F; } p_{\text{max}} = 2,900 \; \text{PSIG} \]
Connection: 3/4"...2-1/2" ANSI Wafer, 1-1/2"...2-1/2" G, DN 20...100

**DAA/DAH - FLOW INDICATOR**
- Materials: Brass, Stainless Steel
- Visual Flow Indicator with or without Rotor
- Self-cleaning Mechanism Ensures Visibility for DAA Models
- Simple Twist Motion for Integral Wipers
- Build-up is Removed by the Media Flow
- No Fuss, No Downtime

Water: 0.1...1.0 GPM to 2.12...26.4 GPM
\[ t_{\text{max}} = 212 \; ^\circ\text{F; } p_{\text{max}} = 232 \; \text{PSIG} \]
Connection: 1/4"...1-1/2" NPT

**DAF - PADDLE WHEEL FLOW INDICATOR FOR LIQUIDS**
- Materials: Brass, SS, Polysulfone
- Clearly Visible Flow Indication
- Simple Design
- Low Minimum Indicated Flow
- For a Wide Variety of Media
- Can be Installed in Any Position
- Can be Rotated Along Long Axis During Operation (Except Material Comb. IV)

Water: 0.16...1.6 GPH to 100...2,400 GPH
\[ t_{\text{max}} = 230 \; ^\circ\text{F; } p_{\text{max}} = 235 \; \text{PSIG} \]
Connection: 1/8"...1-1/2" NPT

**DIH - ROTATING VANE FLOW INDICATOR**
- Materials: Brass, SS, POM
- Compact Design
- High Visibility Orange Paddle Wheel
- Choice of Three Housing Materials

Water: 0.05...0.13 GPM to 0.26...13.2 GPM
\[ t_{\text{max}} = 176 \; ^\circ\text{F; } p_{\text{max}} = 230 \; \text{PSIG} \]
Connection: 3/8" or 1" NPT

**DIG - ROTATING VANE FLOW INDICATOR**
- Materials: PP, Brass, Stainless Steel
- Clearly Visible Flow Indication
- Choice of Three Housing Materials
- All-plastic Version Available

Water: 0.13...3.2 GPM to 0.79...21 GPM
\[ t_{\text{max}} = 176 \; ^\circ\text{F; } p_{\text{max}} = 230 \; \text{PSIG} \]
Connection: 1/8"...1" NPT
## Flow - Indicators

<table>
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<tr>
<th>Model</th>
<th>Description</th>
<th>Materials</th>
<th>Connection</th>
<th>Temp</th>
<th>Press</th>
<th>Accuracy</th>
<th>Notes</th>
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</thead>
</table>
| **DKB - Flow Indicator with Ball** | Material: Brass  
  Economical  
  Gas or Liquid Flow Applications  
  High Reliability  
  High Visibility Float  
  Domed Sight Glass  
  For Horizontal Installations | Water: 0.014...4 GPM to 0.047...27 GPM  
  Air: 0.11...14 SCFM to 0.32..88 SCFM  
  t<sub>max</sub>: 250 °F, p<sub>max</sub>: 85 PSIG  
  Connection: 1/8"...1" NPT | ![Image](https://example.com/dkb-ball) | 100 °C; p<sub>max</sub>: 6 bar  
  Connection: G 3/4...G 3 | 275 | 15 | ± 4% of Set Value | Easiest to install, high visibility |  
| **DKF - Paddle Wheel Flow Indicator for Liquids** | Material: Brass  
  Economical  
  For Low Viscosity Liquids  
  Easily Seen from an Elevated Position  
  Domed Sight Glass  
  360° Visibility  
  Bright Paddle Wheel  
  Horizontal or Vertical Installations | Water: 0.04...0.5 GPM to 0.5...22 GPM  
  t<sub>max</sub>: 250 °F, p<sub>max</sub>: 85 PSIG  
  Connection: 1/8"...1" NPT | ![Image](https://example.com/dkf) |  
| **DAZ - Referencing Flap Flow Indicator** | Material: Red Brass  
  Flap-style Flow Indicator  
  Provides Flow Quantity on a Relative Scale  
  For Horizontal or Vertical Installation  
  Large Glass Windows on Both Sides  
  Economical Pricing  
  Durable Stainless Steel Flap | t<sub>max</sub>: 390 °F, p<sub>max</sub>: 230 PSIG  
  Connection: 1/2"...1" NPT | ![Image](https://example.com/daz) | 530 | t<sub>max</sub>: 530 °F, p<sub>max</sub>: 580 PSIG  
  Connection: 1/4"...2" NPT, 1/2"...8" ANSI |  
| **DAT - Flow Indicator with Drip Tube** | Materials: Grey Cast Iron, Cast Steel, Stainless Steel  
  Rugged Build for Industrial Applications  
  Features a Drip Tube for Indication  
  Soda-Lime or Borosilicate Glass Windows | t<sub>max</sub>: 530 °F, p<sub>max</sub>: 580 PSIG  
  Connection: 1/4"...2" NPT, 1/2"...8" ANSI | ![Image](https://example.com/dat) | 530°C; p<sub>max</sub>: 6 bar  
  Connection: G 3/4...G 3 |  
| **DAR - Flow Indicator with Rotor** | Materials: Grey Cast Iron, Cast Steel, Stainless Steel  
  Rugged Build for Industrial Applications  
  Features a Rotor for Indication  
  Soda-Lime or Borosilicate Glass Windows | t<sub>max</sub>: 500 °F, p<sub>max</sub>: 580 PSIG  
  Connection: 1/4"...2" NPT, 1/2"...8" ANSI | ![Image](https://example.com/dar) |  
| **DAB - Flow Indicator with Ball** | Material: Red Cast Iron  
  Borosilicate Glass Tube  
  PTFE Seals | t<sub>max</sub>: 100 °C, p<sub>max</sub>: 6 bar  
  Connection: G 3/4...G 3 | ![Image](https://example.com/dab) |  
| **UFJ - Flow Indicator and Sight Glass** | Material: Stainless Steel, PVC, POM-C  
  Borosilicate Glass Tube  
  For Liquids or Gases  
  Vertical Installation: Flow from Bottom  
  Float Appears when Flow Meets Pre-set Custom Value  
  Optional PNP Contact | t<sub>max</sub>: 120 °C; p<sub>max</sub>: 6 bar  
  Connection: G 1/4...G 1-1/2  
  Accuracy: ± 4% of Set Value | ![Image](https://example.com/ufj) |  
<p>| <strong>Impressions</strong> | | | | | |</p>
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<td>Low Volume</td>
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<td>All-Metal, Low Volume Variable Area Flowmeter</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>0.026...0.26 GPH to 5...50 GPH (0.1...1 SCFH to 20...200 SCFH)</td>
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<tr>
<td>Low Volume</td>
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<td>Micro-Flowmeter and Switch</td>
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<td>0.02...2.5 LPH to 16...160 LPH (0.5...5 Nl/h to 500...5,000 Nl/h)</td>
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<td>All Metal, Low Volume Variable Area Flowmeter</td>
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<td>0.026...0.26 GPH to 5...50 GPH (0.1...1 SCFH to 20...200 SCFH)</td>
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<td>All-Plastic Low-Flow Flowmeter and Switch</td>
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<td>0.006...0.03 GPM to 11.8...60 GPM (0.08...0.27 SCFM to 3.5...18.3 SCFM)</td>
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<td>Economical Micro-Flowmeter</td>
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<td>0.05...0.1 LPM to 13...24 LPM</td>
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<td>Glass Tube Variable Area Flowmeter</td>
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<td>1...10 l/h to 130...1300 l/h (0.01...0.1 Nm/h to 0.25...2.5 Nm/h)</td>
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<td>Variable Area Flowmeter for Gas Burners</td>
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<td>0.40...4.0 SCFH to 10...100 SCFH</td>
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<td>0.1...1.2 GPM to 1...13 GPM</td>
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<td>All-Plastic Flowmeter and Switch</td>
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<td>0.06...0.66 GPM to 35...264 GPM (0.5...3 SCFM to 50...400 SCFM)</td>
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<td>All-Metal Flow Switch</td>
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<td>High Pressure All-Metal Flowmeter and Switch</td>
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<td>Flow Switch</td>
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<td>0.4...13 GPM</td>
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<td>Float-Type Flowmeter and Switch</td>
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<td>0.075...0.35 GPM to 2.5...40 GPM (0.25...1.25 SCFM to 10...150 SCFM)</td>
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<td>Glass Tube Variable Area Flowmeters and Manifold Valves</td>
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<td>0.01...0.1 GPM to 0.25...2.5 GPM</td>
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<td>2.6...26 GPH to 52.8...528 GPH (3.5...35 SCFH to 176...1,760 SCFH)</td>
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<td>2...6.3 GPM to 8...26 GPM</td>
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<td>Plastic Flowmeter and Switch</td>
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<td>0.5...5 GPM to 5...26 GPM</td>
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</table>

✓ = Normally  ❖ = Possibly (Consult Factory)  ❌ = Not Suitable/Applicable

*This chart is a guide for a generalized overview of the flow instrumentation line. Each application is unique and all factors should be carefully considered when selecting the appropriate technology. For more in-depth assistance, contact our engineering staff at 412-788-2930. Purchaser assumes all responsibility and accompanying liability in the final product selection.

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<td>Low Volume Rotating Vane Flowmeter</td>
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<td>Turbine Flowmeter/ Monitor</td>
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<td>DRZ</td>
<td>Rotary Piston Flowmeter</td>
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</table>

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<table>
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<th>KOBOLD Technology Category</th>
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<th>Model</th>
<th>Product Description</th>
<th>Media*</th>
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<td>Coriolis</td>
<td>Universal, Special Purpose Coriolis Flowmeter</td>
<td>TM</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.003...0.3 lbs/min to 220...2,400 lbs/min</td>
<td>23</td>
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<td></td>
<td>General Purpose Coriolis Flowmeter</td>
<td>TME</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Gas    2.2...22 lbs/min to 220...2,200 lbs/min</td>
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<td>High Performance Coriolis Flowmeter</td>
<td>TMU</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
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<tr>
<td>Differential Pressure</td>
<td>Heavy Duty DP Flowmeters</td>
<td>KEL</td>
<td>✓ × ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.1...0.5 GPM to 400...2,000 GPM</td>
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<td></td>
<td>Ultra-Rugged DP Flowmeter</td>
<td>RCD</td>
<td>✓ × ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 2.2...22 lbs/min to 220...2,200 lbs/min</td>
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<td></td>
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<td>RCM</td>
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<td>Liquid 0.3...2 GPM to 400...3,000 GPM (1.5...10 SCFM to 3,000...20,000 SCFM)</td>
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<tr>
<td>Hot-Film Anemometer</td>
<td>Air Velocity Sensor</td>
<td>KAH</td>
<td>× × × × × × × × × ✓ ✓</td>
<td>Liquid 0...2,000/3,000/4,000 ft/min</td>
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<tr>
<td>Magnetic-Inductive</td>
<td>Magnetic-Inductive Flowmeter</td>
<td>EPS</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.5...1 m/s</td>
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<tr>
<td>(Electromagnetic)</td>
<td>Economical Magmeter</td>
<td>MIK</td>
<td>✓ ✓ ✓ ✓ × × × × × × ×</td>
<td>Liquid 0.18...7.8 GPM to 9...180 GPM</td>
<td>24</td>
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<td>All-Metal Electromagnetic Flowmeter</td>
<td>MIM</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.48...48 GPM to 0.8...200 GPM</td>
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<td></td>
<td>All-Metal Electromagnetic Flowmeter</td>
<td>MIS</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 3.3...33 ft/sec</td>
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<td></td>
<td>Insertion Magnetic Flowmeter</td>
<td>PIT</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 3.3...33 ft/sec</td>
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<td></td>
<td>Magnetic Inductive Flowmeter</td>
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<td>Liquid 3.3...33 ft/sec</td>
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<tr>
<td>Thermal</td>
<td>Oscillation Flowmeter</td>
<td>DOG</td>
<td>× × × × × × × × × ✓ ✓</td>
<td>Liquid 0.12...12 m³/h to 60...6,000 m³/h</td>
<td>25</td>
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<tr>
<td></td>
<td>Temperature-Compensating Thermal Flow Switch</td>
<td>KAL</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.15...6.6 ft/sec</td>
<td>21</td>
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<td></td>
<td>Thermal Flow Sensor</td>
<td>KAL-A</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.15...6.6 ft/sec</td>
<td>21</td>
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<tr>
<td></td>
<td>Compact Thermal Flow Switch</td>
<td>KAL-D</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.15...6.6 ft/sec</td>
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<tr>
<td></td>
<td>Thermal Flow Switch with Flow Trend Indication</td>
<td>KAL-K</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.15...6.6 ft/sec</td>
<td>21</td>
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<tr>
<td></td>
<td>Thermal Air Flow Switch</td>
<td>KAL-L</td>
<td>× × × × × × × × × ✓ ✓</td>
<td>Liquid 3.3...65 ft/sec</td>
<td>21</td>
<td></td>
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<tr>
<td></td>
<td>Compact Inline Flowmeter</td>
<td>KME</td>
<td>× × × × × × × × × ✓ ✓</td>
<td>Liquid 0.12...44.4 SCFM to 1.3...500 SCFM</td>
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<td>Thermal Mass Flowmeter</td>
<td>KMT</td>
<td>× × × × × × × × × ✓ ✓</td>
<td>Liquid 0.32...63 Nm³/h to 263...263,350 Nm³/h</td>
<td>22</td>
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<td></td>
<td>Mass Flowmeter</td>
<td>MAS</td>
<td>× × × × × × × × × ✓ ✓</td>
<td>Liquid 0...10 SCCM to 0...500 SLPM</td>
<td>22</td>
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<td>Ultrasonic - Clamp-on</td>
<td>Clamp-on Ultrasonic Flowmeter</td>
<td>DUC</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0...98 ft/sec</td>
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<tr>
<td>Vortex - Multivariable</td>
<td>Compact Ultrasonic Flowmeter</td>
<td>DUK</td>
<td>× × × × × × × × × ✓ ✓</td>
<td>Liquid 0.02...5 GPM to 0.6...160 GPM</td>
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<td>Multi-Variable Insertion Design Flowmeter</td>
<td>DVE</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 5.2...157 m³/h to 284...8,537 m³/h</td>
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<td>Multivariable Flowmeter</td>
<td>DVH</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.89...22 GPM to 141...4,270 GPM (1,8...18 SCFM to 2,071...203,000 SCFM)</td>
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<td></td>
<td>Vortex Flowmeter and Switch</td>
<td>DVZ</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Liquid 0.13...1.2 GPM to 2.6...26.5 GPM</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

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KOBOLD NBK Series bypass level gauges are used in applications requiring visual indication, continuous measurement, and/or control of liquid levels. Any free-flowing, compatible media with a viscosity less than 200 cPs is a candidate. The NBK bypass level indicator's design relies on the hydrostatic pressure principle to display tank level in a side-mounted measuring chamber. A float, which contains a ring magnet, rises and falls with the liquid level in the bypass tube. This approach allows the NBK bypass level indicators to be built with an all-metal construction, eliminating the breakage and leakage problems frequently experienced with glass tube designs. Visual indication, signal transmission, or switching may be achieved by mounting these magnetically-sensitive devices on the exterior of the bypass tube. These devices then track or are activated by the ring magnet located inside the float as it moves with changes in fluid level.

The KOBOLD NBK-M mini bypass level indicator provides many of the unique features of our standard NBK Series bypass level indicators but at a fraction of the cost. Similar to the full-sized NBK Series, the NBK-M level indicator uses KOBOLD's ring magnet float design, allowing the user full flexibility in adding roller indicators, switches and other options almost anywhere on the periphery of the bypass tube. The use of lighter gauge materials and a streamlined manufacturing process make the KOBOLD NBK-M mini bypass level indicator a very economical choice for lower pressure and shorter length level measuring applications.

The KOBOLD NBK-04 top-of-the-tank mounted level indicator combines the rugged simplicity of our NBK series bypass level indicators with above-the-tank liquid level indication.

Learn More on Page 37
The NIR-9 is an industrial workhorse, setting the standard for superior engineering in rotating vane bulk level switches. Unlike other models in the marketplace, the NIR-9 is designed with longevity and dependability in mind. It offers three distinct advantages over similar models. One, the heavy duty motor is built of metal and provides years of service, unlike others in the industry that are built of plastic. Two, once the rising media impedes the rotating paddle, a switch disengages the motor. Other models are not built with this feature and continue to strain the motor, significantly shortening the instrument’s lifespan and increasing overall application costs because of the frequent need for replacements. Three, the switch within the NIR-9 offers easily adjustable sensitivity settings, to allow for even more customization for the exact demands of the application. With a modular design concept and a variety of vanes, the NIR-9 truly offers a superior solution for almost any bulk level application.

Ideal for a wide variety of media like:
- Cereal
- Sugar
- Grain
- Animal Feed
- Flour
- Cement
- Sand
- Gravel
- Grain
- Flour
- Sand
- Gravel

The NIR-9 operates via a motor that drives a rotating vane. As soon as the media reaches the vane, its rotation is stopped. The restoring force moves the pivoted motor away from its original position. A micro-switch is actuated, which gives out an alarm signal. A second microswitch turns off the motor. If the level is decreased, the vane is released and the force of a spring pulls the motor back to its original position, restarting the motor.
Level

M-SERIES

Custom Magnetic Float Switch
Brass, Stainless Steel, PVC, PP, NBR, PVDF

Specific Gravity: 0.6
$T_{max}$: 300 °F; $P_{max}$: 1,450 PSIG
Connection: NPT, DIN/ANSI Flange

Density: 0.5 kg/dm³
$T_{max}$: 300 °F; $P_{max}$: 1,450 PSIG
Connection: NPT, DIN/ANSI Flange

NCS

Magnetic Float Switch
Stainless Steel

Specific Gravity: 0.81
$T_{max}$: 225 °F; $P_{max}$: 100 PSIG
Connection: 1/8” NPT, 1/4” NPT

Connection: 1/8” NPT, 1/4” NPT

NCP

Magnetic Float Switch
Polypropylene

Specific Gravity: 0.55
$T_{max}$: 250 °F; $P_{max}$: 425 PSIG
Connection: 1/2” NPT, 1/8” PF

Connection: 1/2” NPT, 1/8” PF

OEM

OEM Level Switches
Stainless Steel, Polypropylene, NBR, PVDF

Specific Gravity: 0.47…0.70
$T_{max}$: 300 °F; $P_{max}$: 400 PSIG
Connection: 1/8”,…1* NPT, 5/16 Tube End

NCM

Custom Mini Multipoint Switch
Brass, NBR, PP, Stainless Steel

NV

Side-Mount Level Switch
Stainless Steel

Specific Gravity: 0.7
$T_{max}$: 230 °F; $P_{max}$: 230 PSIG
Connection: 1/2” NPT

Connection: 1/2” NPT

NCG

Custom Multipoint Level Switch
PVC, Stainless Steel, NBR, PP

Specific Gravity: 0.55…0.85
$T_{max}$: 300 °F; $P_{max}$: 400 PSIG
Connection: 1/2”,…2” NPT, 3” ANSI Flange, 1/2” Tube End

Bypass Level Switch
Aluminum, Stainless Steel

Density: 0.65 kg/dm³
$T_{max}$: 150 °C; $P_{max}$: 10 bar
Connection: G 3/8 Female, R 1/2 Male

NSP/NSM

Float Level Switch
Polypropylene

Specific Gravity: 0.6
$T_{max}$: 185 °F; $P_{max}$: 30 PSIG
Connection: Cable

NEC/NAB

Float Level Switch
Polypropylene, Hypalon®

Subject to change without prior notice
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Level

NST

Float Level Switch
PTFE

Specific Gravity$_{min}$: 0.79
$t_{max}$ 302 °F; $p_{max}$ 15 PSIG
Connection: Cable

NSE

Float Level Switch
Stainless Steel

Specific Gravity$_{min}$: 0.8
$t_{max}$ 302 °F; $p_{max}$ 220 PSIG
Connection: 1/2" NPT

NGS

Heavy Duty Level Switch
Stainless Steel

Specific Gravity$_{min}$: 0.7
$t_{max}$ 480 °F; $p_{max}$ 360 PSIG
Connection: 2" NPT, Square Flange, DIN-Flange

NEK/NEL/NES

Conductive Level Switch
Fitting: SS, Polypropylene, PTFE
Electrode: SS, Hastelloy®, Titanium
Electrode Coating: Polyolefin, PTFE

NEH

Cable-Suspended Conductive Level Switch
Fitting: Polypropylene, PTFE
Electrode: SS, Hastelloy®, Titanium
Electrode Coating: Neoprene, PTFE

NE-104/-304

Power Supply Relays for Conductive Switches

1 or 2 Limit Contacts or
1 or 2 Min/Max Control Switches
Switch Capacity: Max. 250 VAC, 5 A, 600 VA

NEK

Compact Conductive Level Switch
Polypropylene, PPS

Conductivity$_{min}$: 100 µS/cm
$t_{max}$ 185 °F; $p_{max}$ 90 PSIG
Connection: 3/4" NPT, R 3/4
Open-Collector or Relay

LNK/LNR

Conductive Switch with Head Mounted Transmitter
Stainless Steel, PEEK

Conductivity$_{min}$: 10 µS/cm
$t_{max}$ 212/300 °F; $p_{max}$ 145 PSIG
Connection: G 1/2, G 1, G 2
Open-Collector

Electrode Length: 1/8" to 59"

LNK-K

Compact Conductive Level Switch
Stainless Steel, PEEK

Conductivity$_{min}$: 10 µS/cm
$t_{max}$ 145 °F; $p_{max}$ 15 PSIG
Connection: G 1/2, Tri-Clamp®

LNM

Microwave Level Switch
Stainless Steel, PEEK

Dielectric Constant$_{min}$: 20
$t_{max}$ 212 °F; $p_{max}$ 145 PSIG
Connection: G 1/2, Tri-Clamp®
Open-Collector

LNZ

Capacitive Level Limit Switch
Stainless Steel, PEEK

Dielectric Constant$_{min}$: 20
$t_{max}$ 212 °F; $p_{max}$ 145 PSIG
Connection: G 1/2, Tri-Clamp®
Open-Collector

NCW/NCW-H

Capacitive Level Switch
Stainless Steel, PVDF, PTFE

Dielectric Constant$_{min}$: 1.5
$t_{max}$ 194/257 °F; $p_{max}$ 145/435 PSIG
Connection: 1" NPT, G 1, G 2
Adapter: 2" NPT, G 1-1/4, G 1-1/2, Weld-in Sleeve
Relay

Subject to change without prior notice
### Optical Switch for Liquids
Stainless Steel, Polypropylene
Sensor: Polysulfone

- $t_{\text{max}}$ 176 °F; $p_{\text{max}}$ 145 PSIG
- Connection: 1/2" NPT, G 1/2, M14 Bulkhead
- Open-Collector

### Optical Level Switch for Liquids
Polysulfone, PFA

- $t_{\text{max}}$ 230 °F; $p_{\text{max}}$ 200 PSIG
- Connection: 3/8" NPT, 1/2" NPT

### Economical Optical Level Switch
Stainless Steel, Polysulfone

- $t_{\text{max}}$ 15...250 °F
- $p_{\text{max}}$ 140/650 PSIG
- Connection: 3/8" NPT

### Ultrasonic Level Switch
Stainless Steel

- $t_{\text{max}}$ 176/212 °F; $p_{\text{max}}$ 1,000 PSIG
- Connection: 3/4" NPT

### Plastic Vibrating Fork Level Switch for Liquids
Glass Filled PPS

- $t_{\text{range}}$ -40...176 °F; $p_{\text{max}}$ 150 PSIG
- Connection: 3/4" NPT
- SPST Relay Output

### Vibrating Level Switch
Stainless Steel

- $t_{\text{max}}$ 265 °F; $p_{\text{max}}$ 650 PSIG
- Viscosity$_{\text{max}}$: 5,000 cSt
- Connection: 3/4" NPT, 1" NPT, 2" Tri-Clamp®, 1" or 2" ANSI Flanges

### Static Pressure Level Switch
Polyamide, NBR

- $t_{\text{range}}$ 15...185 °F; $p_{\text{max}}$ Atmospheric
- Switchpoint: 4" Above End of Pipe
- Connection: Hose Clamp for 1" Sch 40 Pipe

### Optical Level Switch for Bulk Media
Stainless Steel, Polysulfone

- $t_{\text{max}}$ 230 °F; $p_{\text{max}}$ 200 PSIG
- Connection: 3/8" NPT

### Economical Optical Level Switch
Stainless Steel, Polysulfone

- $t_{\text{range}}$ 15...250 °F
- $p_{\text{max}}$ 140/550 PSIG
- Connection: 3/8" NPT

### Rotating Vane Level Switch for Bulk Media
Stainless Steel

- $t_{\text{max}}$ 392 °F
- $p_{\text{max}}$ 7.25 PSI
- Connection: 1" NPT, 1-1/2" NPT, Others
- SPDT Microswitch 250 V ac/2 A

### Static Pressure Level Switch
Polyamide, NBR

- $t_{\text{range}}$ 15...185 °F; $p_{\text{max}}$ Atmospheric

### Vibrating Fork Level Switch for Bulk Media
Stainless Steel

- $t_{\text{max}}$ 176 °F; $p_{\text{max}}$ 1,000 PSIG
- Connection: 1-1/2" NPT, G 1-1/2

### Ultrasonic Level Switch
Stainless Steel

- $t_{\text{max}}$ 176/212 °F; $p_{\text{max}}$ 1,000 PSIG
- Connection: 3/4" NPT

### Vibrating Rod Level Switch for Bulk Media
Stainless Steel

- $t_{\text{max}}$ 320 °F; $p_{\text{max}}$ 360 PSIG
- Connection: 1-1/2" NPT, G 1-1/2

### Static Pressure Level Switch
Polyamide, NBR

- $t_{\text{range}}$ 15...185 °F; $p_{\text{max}}$ Atmospheric
- Connection: Hose Clamp for 1" Sch 40 Pipe

### Rotating Vane Level Switch for Bulk Media
Stainless Steel

- $t_{\text{max}}$ 392 °F; $p_{\text{max}}$ 7.25 PSI
- Connection: 1" NPT, 1-1/2" NPT, Others
- SPDT Microswitch 250 V ac/2 A

Subject to change without prior notice

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**Level**

**NSC**

**Capacitive Level Switch for Bulk Media**
Stainless Steel, PTFE, Polycarbonate, PP

- **Dielectric Constant**: 1.5
- **Switching Range**: 10"...49 ft
- **Accuracy**: ±0.5% of Measured Value

**NML-308**

**Liquid Level Transmitter**
Polyethylene, PVC, PP, PTFE

- **Specific Gravity**: 0.9
- **Max Measuring Length**: 6"...48"
- **t_{max}**: 250 °F; **p_{max}**: 25 PSI
- **Connection**: 1-1/4" NPT or 1-1/2" NPT

**NML-310**

**Liquid Level Transmitter**
Polyethylene, PVC, PP, PTFE

- **Specific Gravity**: 0.8
- **Max Measuring Length**: 12"...108"
- **t_{max}**: 250 °F; **p_{max}**: 40 PSI
- **Connection**: 2" NPT, 2"...4" ANSI

**NRF**

**Capacitive Level Transmitter**
Stainless Steel, PTFE

- **Max. Length**: 10 ft
- **Max. Measuring Length**: 200 ft.
- **t_{max}**: 350 °F; **p_{max}**: 500 PSI
- **Connection**: 3"/4" or 1-1/2" NPT
- **Accuracy**: ±1% of Span

**NRF-1F**

**Capacitive Level Transmitter - with Integrated Concentric Grounding Probe**
Stainless Steel, PTFE

- **Max. Length**: 10 ft
- **Max. Measuring Length**: 12 ft
- **t_{max}**: 350 °F; **p_{max}**: 100 PSI
- **Connection**: 3/4" or 1-1/2" NPT
- **Output**: 4-20 mA
- **Accuracy**: ±0.1% of Span

**NRF-2/3**

**Capacitive Level and Temperature Transmitter**
Stainless Steel, PTFE

- **Max. Length**: 12 ft
- **Max. Measuring Length**: 100 ft
- **t_{max}**: 350 °F; **p_{max}**: 100 PSI
- **Connection**: 3/4" or 1-1/2" NPT
- **Output**: 4–20 mA, RTD

**PAD-N**

**Differential Pressure Transmitter with Diaphragm Seal**
Stainless Steel

- **Level**: 0...2,500 mmWC to 0...150 mWC
- **t_{max}**: 200 °C
- **Connection**: Flange via Neck Tube
- **Accuracy**: ±0.075% of Calibrated span + Influence of Diaphragm Seal
**Level**

**NBK-M**

**Economical Mini Bypass Level Indicator**
Stainless Steel

- Measuring Length\textsubscript{max}: 8”...9.8 ft
- Specific Gravity: 1.0 or 0.8
- Viscosity\textsubscript{max}: 200 cp
- \( t_{\text{max}} \): 390 °F; \( p_{\text{max}} \): 580 PSIG
- Connection: 1/2”...1” NPT, 1/2”...1” ANSI Flange

**NBK-03 to -33**

**Bypass Level Indicator**
Stainless Steel

- Measuring Length\textsubscript{max}: 1 ft...18 ft (or longer)
- Specific Gravity\textsubscript{max}: 0.54
- Viscosity\textsubscript{max}: 200 cp
- \( t_{\text{max}} \): 750 °F; \( p_{\text{max}} \): 4,800 PSIG
- Connection: 1/2”...1/4” NPT, 1/2”...2” ANSI Flange

**NBK-04**

**Tank-Top Mounted Level Indicator**
Stainless Steel

- Measuring Length\textsubscript{max}: 1 ft...13 ft
- Specific Gravity\textsubscript{max}: 0.55
- Viscosity\textsubscript{max}: 200 cp
- \( t_{\text{max}} \): 250 °F; \( p_{\text{max}} \): 230 PSIG
- Connection: 2” or 2-1/2” ANSI Flange

**NBK-16/-17**

**Plastic Bypass Level Indicator**
Polypropylene, PVDF

- Measuring Length\textsubscript{max}: 8”...13 ft
- Specific Gravity\textsubscript{max}: 0.59
- Viscosity\textsubscript{max}: 200 cp
- \( t_{\text{max}} \): 176 °F; \( p_{\text{max}} \): 58 PSIG
- Connection: 3/4”...2” ANSI Flange

**SZM**

**Bypass Level Indicator**
Stainless Steel

- Measuring Length\textsubscript{max}: 15”...121”
- \( t_{\text{max}} \): 212 °F; \( p_{\text{max}} \): 145 PSIG
- Connection: 1/2” NPT, ANSI 1/2”...2”

**NZJ**

**Micro Bypass Level Indicator with Switch Options**
Aluminum, Stainless Steel

- Installation Length: 4”...22”
- \( t_{\text{max}} \): 210 °F; \( p_{\text{max}} \): 230 PSIG
- Connection: 1/4” NPT
- Up to Two Limit Contacts Available

**BA**

**Displacer-Type Level Gauge**
Stainless Steel

- Measuring Length\textsubscript{max}: 1...19.7 ft
- Specific Gravity\textsubscript{max}: 0.4...2.0
- \( t_{\text{max}} \): -40...480 °F; \( p_{\text{max}} \): 580 PSIG
- Connection: 2”...4” ANSI Flange

**NEO**

**Ultrasonic Level Transmitter**
PP, PVDF

- Measuring Length\textsubscript{max}: 6”...24.5 ft
- \( t_{\text{max}} \): -40...140 °F; \( p_{\text{max}} \): 30 PSIG
- Connection: 2” NPT
- Optional Relay

**NUS-4**

**Ultrasonic Level Transmitter**
PP, PVDF

- Measuring Range: 7.87”...82” (Liquids)
- 7.87”...32” (Bulk Media)
- \( t_{\text{max}} \): 190 °F; \( p_{\text{max}} \): 43.5 PSIG
- Connection: 1-1/2”, 2” NPT; 3”, 5”, or 6” ANSI Flange

**NUS-7**

**Ultrasonic Level Transmitter**
PP, PVDF

- Measuring Range: Liquids up to 20 ft
- \( t_{\text{max}} \): 176 °F; \( p_{\text{max}} \): 40 PSIG
- Connection: 2” NPT, G 2
- Analog Output
  - Accuracy: ±0.2% of Reading ± 0.05% of Full Scale

**KPBW**

**Submersible Pressure Transducer**
Stainless Steel

- Measuring Depth\textsubscript{max}: 50” WC to 1,000 PSI
- \( t_{\text{max}} \): 14...122 °F
- Proof Pressure: 2x Depth Range

**NTB**

**Deep Well Level Probe**
Stainless Steel

- Measuring Range: 0...200 m (WC)
- \( t_{\text{max}} \): 14...140 °F
- Cable Length: Max. 300 m
- Analog Output

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Pressure Gauges

**MAN-R/Q**
Bourdon Tube Pressure Gauges
Brass

- Measuring Range: -30"...0" Hg to 0...14,500 PSI
- Housing Ø: 63, 80, 100, 160 mm
- Overload Protection: 1.15 - 1.3 Times
- Connection: 1/4" NPT, 1/2" NPT
- Accuracy: ±1.0% or ±1.6% of Full Scale

**MAN-R**
Bourdon Tube Pressure Gauges
Stainless Steel

- Measuring Range: -30"...0" Hg to 0...14,500 PSI
- Housing Ø: 63, 80, 100, 160 mm
- Overload Protection: 1.15 - 1.3 Times
- Connection: 1/4" NPT, 1/2" NPT
- Accuracy: ±1.0% or ±1.6% of Full Scale

**MAN-N...S**
Bourdon Tube Pressure Gauges
Stainless Steel

- Measuring Range: -30"...0" Hg to 0...30,000 PSI
- Housing Ø: 63, 100, 150 mm
- Overload Protection: 1.15 - 1.25 Times
- Connection: 1/4" NPT, 1/2" NPT
- Accuracy: ±1.0% or ±1.6% of Full Scale

**MAN-T**
Bourdon Tube Pressure Gauges for Refrigeration
Brass, Stainless Steel

- Measuring Range: -1...9 to -1...40 bar
- Housing Ø: 63, 100, 160 mm
- Overload Protection: 1.3 Times
- Connection: 7/16-20 UNF, G 1/4
- Accuracy: ±1.0% or ±1.6% of Full Scale

**MAN-K**
Capsule Element Pressure Gauge
Brass, Stainless Steel

- Measuring Range: -10...0 to 0...600 mbar
- Housing Ø: 63, 80, 100, 160 mm
- Overload Protection: 1.3 - 10 Times
- Connection: G 1/4, G 1/2
- Accuracy: ±1.6% of Full Scale

**MAN-P**
Diaphragm Pressure Gauge
Stainless Steel

- Measuring Range: -16...0 to 0...40 bar
- Housing Ø: 100, 160 mm
- Overload Protection: 1.3 Times
- Connection: 1/2" NPT
- Optional: Contact
- Accuracy: ±1.6% of Full Scale

**MAN-C**
Diaphragm Pressure Gauge for Chemicals
Stainless Steel, ECTFE, PTFE

- Measuring Range: -25...0 mbar to 0...25 bar
- Housing Ø: 100, 160 mm
- Overload Protection: 1.3 Times
- Connection: ANSI Flange
- Accuracy: ±1.6% of Full Scale

**MAN-ZF**
Pressure Gauge with Transducer
Stainless Steel

- Measuring Range: -30"...0" Hg to 0...8,700 PSI
- Housing Ø: 100 mm
- Overload Protection: 0.9 - 1.0 Times
- Connection: 1/2" NPT
- 2-wire, 4-20 mA Output
- Accuracy: ± 0.25% or ± 0.6% of Full Scale

**MAN-F**
Test Pressure Gauge with Bourdon Tube
Aluminum, SS, Brass

- Measuring Range: -8.5"...0" Hg to 0...8,700 PSI
- Housing Ø: 160, 250 mm
- Overload Protection: 0.9 - 1.3 Times
- Connection: 1/2" NPT
- Accuracy: ±0.25% or ± 0.6% of Full Scale

**MAN-U**
Differential Pressure Gauge with Double Diaphragm
Stainless Steel

- Measuring Range: 0...100 mbar to 0...25 bar
- Static Pressure on Both Sides: 200 bar
- Housing Ø: 100 or 150 mm
- Connection: 1/4" NPT, 1/2" NPT
- Accuracy: ±1.6% of Full Scale

**MAN-LD/DSD**
LCD Pressure Gauge with Ceramic Sensing Element Externally Powered
Stainless Steel

- Measuring Range: -30"...0" Hg to 0...23,000 PSI
- Housing Ø: 74 mm
- Overload Protection: 1.5 - 3 Times
- Connection: 1/4" NPT, 1/2" NPT
- Accuracy: ± 0.5% of Full Scale

**MAN-SD/DSD**
LCD Pressure Gauge with Ceramic Sensing Element Battery Powered
Stainless Steel

- Measuring Range: -30"...0" Hg to 0...23,000 PSI
- Housing Ø: 74 mm
- Overload Protection: 1.5 - 3 Times
- Connection: 1/4" NPT, 1/2" NPT
- Accuracy: ± 0.5% of Full Scale

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### MAN-SC/LC

Digital Pressure Gauge with Ceramic Sensor
Stainless Steel

- Measuring Range: -1...0 bar to 0...1600 bar
- Housing Ø: 80 mm
- Overload Protection: 1.3 - 3 Times
- Connection: 1/2" NPT
- Analog Output, Alarm Output
- Accuracy: ± 0.2 - 0.5% of Full Scale

### DSF26

LED Pressure Gauge with Ceramic Sensing Element
Stainless Steel

- Measuring Range: -14.7...23,000 PSIG
- Housing Ø: 100 mm
- Overload Protection: 2 Times
- Connection: 1/4"...3/4" NPT
- 4-20 mA and Relay Contacts
- Accuracy: ± 0.5% of Full Scale ± 1 Digit

### MAN-BF20

LED Differential Pressure Gauge with Ceramic Sensing Element
Stainless Steel

- Measuring Range: -30...0" Hg to 0...23,000 PSID
- Housing Ø: 100 mm
- Overload Protection: 2 Times
- Connection: 1/2" NPT
- 4-20 mA and Relay Contacts
- Accuracy: ± 0.5% of Full Scale

### MAN-BF26

LED Differential Pressure Gauge with Ceramic Sensing Element
Stainless Steel

- Measuring Range: -30...0" Hg to 0...23,000 PSID
- Housing Ø: 100 mm
- Overload Protection: 2 Times
- Connection: 1/4" NPT, 1/2" NPT
- 4-20 mA and Relay Contacts
- Accuracy: ± 0.5% of Full Scale

### MAN-DG12R

Differential Pressure Gauge with Bourdon Tube
Aluminum, Steel

- Measuring Range: 0...15 PSID to 0...870 PSID
- Housing Ø: 160 mm
- Optional: Contacts
- Accuracy: ± 1.6% of Full Scale

### DRM

Diaphragm, Capsule, and In-Line Diaphragm Seals for Pressure Gauges and Transmitters
Stainless Steel, Special Materials upon Request

- Measuring Range: -30...0" Hg to 0...22,000 PSIG
- Fill Liquids: Glycerine, Paraffin, or Silicone
- Connection: NPT, BSP, ANSI, Tri-Clamp®, or Other Sanitary Connections

### DRM

Flange Diaphragm Seals
Stainless Steel, Monel®, Tantalum, PTFE

Standard Version up to 350°C/40 bar:
ANSI 1"...4", DN25...DN100
Special Version up to 400 bar:
ANSI 8", up to DN200
Flanges According to BS, JIS, and GOST Standards
Optional: Extended Diaphragm

### DRM 626/627

Membrane Diaphragm Seals
Stainless Steel, Tantalum, ECTFE

- Measuring Range: 0...0 to 0...580 PSID
- Housing Ø: 80 mm
- Optional: Contacts
- Accuracy: ±1.6% of Full Scale

### MAN/MZB/DRM

Pressure Gauge with Sanitary Diaphragm Seal and Cooling Element
Stainless Steel

- MAN-RF, MZB-711..DRM-602
  - Meas. Range: 0...15 to 0...580 PSIG
  - Housing Ø: 100 mm
  - Connection: Tri-Clamp®, DIN 11851, Hygienic Connection, IDF, SMS
  - Accuracy: ± 1.6% of Full Scale

### MAN/DRM

Pressure Gauge with Tri-Clamp® Diaphragm Seal
Stainless Steel

- MAN-RF, DRM-613
  - Meas. Range: 0...15 to 0...145 PSIG
  - Housing Ø: 100 mm
  - Connection: 1"...3" Tri-Clamp®
  - Accuracy: ± 1.6% of Full Scale

### MAN/DRM

Pressure Gauge with Membrane Diaphragm
Stainless Steel

- MAN-RF, M1...DRM-620
  - Meas. Range: 0...1 to 0...40 bar
  - Housing Ø: 100 mm, 160 mm
  - Connections: Threaded, Flange, Tri-Clamp®, DIN 11851, SMS and IDF Norm
  - Accuracy: ± 1.6% of Full Scale

### MAN/DRM

Pressure Gauge with Inline Diaphragm
Stainless Steel

- MAN-RF...DRM-502
  - Meas. Range: 1.6...40 to 2.5...40 bar
  - Housing Ø: 100 mm, 160 mm
  - Connection: 1/2"...2" Tri-Clamp®, Hygienic ISO DN 15...50
  - Accuracy: ± 1.6% of Full Scale
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Measurement Range</th>
<th>Housing Ø</th>
<th>Connection</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAN-RF...DRM-603</td>
<td>Pressure Gauge with Membrane Diaphragm Seal</td>
<td>0...1 to 0...40 bar</td>
<td>100 mm</td>
<td>1/2&quot;...1-1/4&quot; NPT</td>
<td>±1.6% of Full Scale</td>
</tr>
<tr>
<td>MAN-RD...DRM-600</td>
<td>All Stainless Steel Bourdon Tube Pressure Gauge with Membrane Diaphragm</td>
<td>0...85 to 0...14,500 PSIG</td>
<td>63 mm</td>
<td>1/2&quot;...1-1/4&quot; NPT</td>
<td>±1.6% of Full Scale</td>
</tr>
<tr>
<td>MAN-RD...DRM-632</td>
<td>Pressure Gauge with Membrane Diaphragm Seal - Plastic PVDF</td>
<td>0...20 to 0...230 PSIG</td>
<td>63 mm</td>
<td>1/2&quot; NPT</td>
<td>±1.6% of Full Scale</td>
</tr>
<tr>
<td>DSD...DRM-630 and SEN...DRM-631</td>
<td>Pressure Gauge or Sensor with Membrane Diaphragm Seal PVC or Polypropylene</td>
<td>0...20 to 0...146 PSIG</td>
<td>74 mm</td>
<td>1/2&quot; NPT</td>
<td>±1.0% of Full Scale</td>
</tr>
<tr>
<td>SEN/DRM-600</td>
<td>Pressure Sensor with Diaphragm Seal Stainless Steel</td>
<td>0...6 to 0...600 bar</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>±1.0% of Full Scale</td>
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<tr>
<td>PUM</td>
<td>U-Pipe Pressure Indicator Glass, Aluminum</td>
<td>250 up to 1500 mm WC or 10&quot; up to 60&quot; WC</td>
<td>7 mm</td>
<td>Not mentioned</td>
<td>±1.0% of Full Scale</td>
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<td>MZB</td>
<td>Pressure Sensing Accessories Stainless Steel, Brass</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>±1.0% of Full Scale</td>
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<tr>
<td>MZB-712</td>
<td>Pressure Sensing Accessories</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>±1.0% of Full Scale</td>
</tr>
<tr>
<td>PMP</td>
<td>Differential Pressure Sensor and Controller for Filters</td>
<td>0...20&quot; H₂O</td>
<td>70 °C</td>
<td>G 1/2...G 1-1/2 (SS)</td>
<td>±1.0% of Full Scale</td>
</tr>
<tr>
<td>PAD</td>
<td>Differential Pressure Transmitter Stainless Steel</td>
<td>0...250 mbar to 0...206.80 bar</td>
<td>200 °C</td>
<td>M16 x 1.5 (NPT with Adapter)</td>
<td>±1.0% of Full Scale</td>
</tr>
<tr>
<td>PAD-N</td>
<td>Differential Pressure Transmitter with Diaphragm Seal Stainless Steel</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
</tr>
<tr>
<td>PNK</td>
<td>Pressure Transmitter for High Vibration Brass, Aluminum</td>
<td>-30...0&quot; Hg to 0...1,450 PSIG</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>±1.0% of Full Scale</td>
</tr>
</tbody>
</table>
Pressure Transmitter with Ceramic Element
Stainless Steel

Measuring Range:
-30"...0" Hg to 0...10,000 PSIG
| Optional AUF Display: 4-Digit LED
| Overload Protection: 1.5 - 2 Times
| Connection: 1/4" NPT, 1/2" NPT
| Accuracy: ± 0.5% - 1.0% of Full Scale

Pressure Sensor with Ceramic Element
Stainless Steel

Measuring Range:
-30"...0" Hg to 0...6,000 PSIG
| Output: 4-20 mA, 0-5 Vdc, 0-10 Vdc
| Overload Protection: 1.3 - 5 Times
| Connection: 1/4" NPT, 1/2" NPT, G 1/4, G 1/2
| Accuracy: ± 0.5 - 0.75% of Full Scale

Compact In-line Display for Transmitters

For Transmitters with DIN 43650A Plugs
Input: 4-20 mA, 2-wire or 3-wire
User Programmable
Optional Transistor Switch
Custom Housing Colors for OEM Quantities

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Pressure

PAS
Pressure Transmitter
High Accuracy
Stainless Steel

Measuring Range: -14.5...21.7 to 0...8,700 PSIG
Power Supply: 12-45 VDC
Connection: 1/2" NPT
Accuracy: ± 0.075% of Full Scale

PAS-N
Pressure Transmitter with Diaphragm Seal
Stainless Steel

Measuring Range: 0...250 mbar to 0...600 bar
\( t_{\text{max}} = 350^\circ \text{C} \)
Connection: Thread or Flange
(Nominal Size 15...100)
Accuracy: ± 0.075% of Calibrated Span + Influence of Diaphragm Seal

PAS-N
Pressure Transmitter with Diaphragm Seal
Stainless Steel

Measuring Range: 0...250 mbar to 0...600 bar
\( t_{\text{max}} = 350^\circ \text{C} \)
Connection: Thread or Flange
(Nominal Size 15...100)
Accuracy: ± 0.075% of Calibrated Span + Influence of Diaphragm Seal

PSD
Electronic Pressure Transmitter/Switch
Stainless Steel

Range: 0...30 to 0...7,500 PSI
Output: 4-20 mA or 0-10 VDC
Display: 4-Digit LED
Connection: 1/4" NPT
Accuracy: ± 0.5% of Full Scale

PDD
Pressure Switch with Ceramic Sensing Element
Stainless Steel

Measuring Range: -30"...0" Hg to 0...5,800 PSIG
Display: 3-Digit LED
Power Supply: 24 VDC
Connection: 1/4" NPT, 1/2" NPT
Accuracy: ± 0.5% - 1.0% of Full Scale

KPH
Pressure Switch-Industrial Diaphragm/Piston Type
Aluminum

Switching Range: 4.3...13 PSIG to 725...1,450 PSIG
Overpressure: 1,450 PSIG
Connection: 1/4" NPT
Repeatability: ± 5% of Full Scale

KPH300
Pressure Switch-OEM Diaphragm Type
Zinc-Plated Steel, NBR

Switching Range: 3...30 PSIG to 450...4,600 PSIG
Overpressure: 1.2 - 9 Times
Connection: 1/4" NPT
Repeatability: ± 2% of Setpoint

KPF
Pressure Switch - OEM Diaphragm Type
Brass, Stainless Steel

Switching Range: 0.7...6 mbar to 8...160 bar
Switching Function: Micro Switch
Connection: 1/2" NPT Female, 1/4" NPT Female
1/2" NPT Male, G 1/2 Male
Repeatability: < 1% of Full Setting Value

PAS-N
Pressure Transmitter with Diaphragm Seal
Stainless Steel

Measuring Range: 0...250 mbar to 0...600 bar
\( t_{\text{max}} = 350^\circ \text{C} \)
Connection: Thread or Flange
(Nominal Size 15...100)
Accuracy: ± 0.075% of Calibrated Span + Influence of Diaphragm Seal

SCH-PSB
Mechanical Pressure Switch
PA, PS, Silicone

For Overpressure, Vacuum Pressure
and Differential Pressure
Ranges: 20...300 Pa to 200...1000 Pa
Connection: Hose Barb

SCH
Mechanical Pressure Switch
Brass, SS, NBR

Ranges: -15...6 mbar to -1...0.1 bar
\( t_{\text{max}} = 85^\circ \text{C} \)
Connection: G Threaded
Micro-Switch, Optional Proximity Switch

SCH-27
Mechanical Pressure Switch
Stainless Steel

Switching Range: 0.7...6 mbar to 8...160 bar
Switching Function: Micro Switch
Connection: 1/2" NPT Female, 1/4" NPT Female
1/2" NPT Male, G 1/2 Male
Repeatability: < 1% of Full Setting Value

SCH-28
Mechanical Differential Pressure Switch
Stainless Steel

Switching Range: 0.1...1 bar to 0.2...10 bar
Switching Function: Micro Switch
Connection: 1/2" NPT Female, 1/4" NPT Female
1/2" NPT Male, G 1/2 Male
Repeatability: < 1% of Full Setting Value

Quality
Cost

Pressure Transmitter
High Accuracy
Stainless Steel

Measuring Range: -14.5...21.7 to 0...8,700 PSIG
Power Supply: 12-45 VDC
Connection: 1/2" NPT
Accuracy: ± 0.075% of Full Scale

Pressure Transmitter with Diaphragm Seal
Stainless Steel

Measuring Range: 0...250 mbar to 0...600 bar
\( t_{\text{max}} = 350^\circ \text{C} \)
Connection: Thread or Flange
(Nominal Size 15...100)
Accuracy: ± 0.075% of Calibrated Span + Influence of Diaphragm Seal

Pressure Transmitter with Diaphragm Seal
Stainless Steel

Measuring Range: 0...250 mbar to 0...600 bar
\( t_{\text{max}} = 350^\circ \text{C} \)
Connection: Thread or Flange
(Nominal Size 15...100)
Accuracy: ± 0.075% of Calibrated Span + Influence of Diaphragm Seal

Electronic Pressure Transmitter/Switch
Stainless Steel

Range: 0...30 to 0...7,500 PSI
Output: 4-20 mA or 0-10 VDC
Display: 4-Digit LED
Connection: 1/4" NPT
Accuracy: ± 0.5% of Full Scale

Pressure Switch with Ceramic Sensing Element
Stainless Steel

Measuring Range: -30"...0" Hg to 0...5,800 PSIG
Display: 3-Digit LED
Power Supply: 24 VDC
Connection: 1/4" NPT, 1/2" NPT
Accuracy: ± 0.5% - 1.0% of Full Scale

Pressure Switch-Industrial Diaphragm/Piston Type
Aluminum

Switching Range: 4.3...13 PSIG to 725...1,450 PSIG
Overpressure: 1,450 PSIG
Connection: 1/4" NPT
Repeatability: ± 5% of Full Scale

Pressure Switch-OEM Diaphragm Type
Zinc-Plated Steel, NBR

Switching Range: 3...30 PSIG to 450...4,600 PSIG
Overpressure: 1.2 - 9 Times
Connection: 1/4" NPT
Repeatability: ± 2% of Setpoint

Pressure Switch - OEM Diaphragm Type
Brass, Stainless Steel

Switching Range: 0.7...6 mbar to 8...160 bar
Switching Function: Micro Switch
Connection: 1/2" NPT Female, 1/4" NPT Female
1/2" NPT Male, G 1/2 Male
Repeatability: < 1% of Full Setting Value

Mechanical Pressure Switch
PA, PS, Silicone

For Overpressure, Vacuum Pressure
and Differential Pressure
Ranges: 20...300 Pa to 200...1000 Pa
Connection: Hose Barb

Mechanical Pressure Switch
Brass, SS, NBR

Ranges: -15...6 mbar to -1...0.1 bar
\( t_{\text{max}} = 85^\circ \text{C} \)
Connection: G Threaded
Micro-Switch, Optional Proximity Switch

Mechanical Pressure Switch
Stainless Steel

Switching Range: 0.7...6 mbar to 8...160 bar
Switching Function: Micro Switch
Connection: 1/2" NPT Female, 1/4" NPT Female
1/2" NPT Male, G 1/2 Male
Repeatability: < 1% of Full Setting Value

Mechanical Differential Pressure Switch
Stainless Steel

Switching Range: 0.1...1 bar to 0.2...10 bar
Switching Function: Micro Switch
Connection: 1/2" NPT Female, 1/4" NPT Female
1/2" NPT Male, G 1/2 Male
Repeatability: < 1% of Full Setting Value

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Temperature

**TWR**

Temperature Switch for Liquids  
Brass, Stainless Steel  
Switching Range: 86...248°F  
$t_{min}$: 250 °F  
$p_{max}$: 920 PSIG  
Connection: 3/4" NPT

**TRS**

Thermal Reed Temperature Switch  
Brass, Stainless Steel  
Switching Range: 50...248°F  
$t_{min}$: -40...250°F  
$p_{max}$: 360 PSIG  
Connection: 1/4"...1" NPT

**TDD**

Digital Temperature Switch  
Stainless Steel  
Switching Range: -58...250°F  
$t_{min}$: 250 °F  
$p_{max}$: 1,150 PSIG  
Connection: 1/2" NPT, 3/4" NPT,  
G 1/2, G 3/4  
2 Transistor Switches

**TDD--D6**

Digital Temperature Switch  
Stainless Steel  
Switching Range: -58...250°F  
$t_{min}$: 250 °F  
$p_{max}$: 1,150 PSIG  
Connection: 6 mm dia. Smooth Probe  
2 Transistor Switches

**TNS**

Gas Filled Rigid Stem Thermometer  
Stainless Steel  
Measuring Range: -40...1,100 °F  
$p_{max}$: 350 PSIG  
Connection: 1/2"...1" NPT, G 1/2...G 1  
Switch Options: Magnetic, Sliding,  
Inductive, or Pneumatic

**TNF**

Gas Filled Capillary Thermometer  
Stainless Steel  
Measuring Range: -40...1,100 °F  
$p_{max}$: 350 PSIG  
Connection: 1/2"...1" NPT, G 1/2...G 1  
Switch Options: Magnetic, Sliding,  
Inductive, or Pneumatic

**DTM**

Digital Temperature Indicator/Transmitter  
Stainless Steel  
Measuring Range: -30...750 °F  
$t_{max}$: 250 °F  
$p_{max}$: 1,150 PSIG  
Connection: 1/2"...1" NPT, G 1/2...G 1  
Analog Output, Limit Switches

**TSH**

Thermowells for Stem and Capillary Thermometers  
Stainless Steel

**TDA**

Digital Temperature Transmitter  
Stainless Steel  
Measuring Range: -58...250°F  
$p_{max}$: 1,150 PSIG  
Connection: 1/2" NPT, 3/4" NPT,  
G 1/2, G 3/4  
Output: 4-20 mA, 3-wire,  
Transistor Switch

**TDA--D6**

Digital Temperature Transmitter  
Stainless Steel  
Measuring Range: -58...250°F  
$p_{max}$: 1,150 PSIG  
Connection: 1/2" NPT, G 1/2, M18x1.5

**TNK**

RTD Temperature Sensors  
Brass, Bronze, Stainless Steel  
Measuring Range: -112...302°F  
$t_{max}$: 302 °F  
$p_{max}$: 725 PSIG  
Connection: 6 mm dia. Smooth Probe  
Output: 4-20 mA, 3-wire,  
Transistor Switch

**TSP**

Temperature Transmitter for Pipes  
Brass, Stainless Steel  
Measuring Range: -40...300°F  
$t_{max}$: 302 °F  
$p_{max}$: 750 PSIG  
Connection: 1/4"...1-1/2" NPT  
Output: 4-20 mA, Pt100 RTD

Subject to change without prior notice

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Temperature

**TSR**
RTD Temperature Probes
Stainless Steel

- Measuring Range: -320...400 °F
- \( p_{\text{max}} \) 1,450 PSIG
- Connection: 1/2" or 5/8" NPT, 1-1/2" Tri-Clamp®
- Output: 4-20 mA, Pt 100 RTD

**TST**
Integrated Programmable Temperature Transmitter
Stainless Steel

- Measuring Range: -58...1,100 °F
- \( p_{\text{max}} \) 1,500 PSIG
- Connection: 1/4" or 1/2" NPT, 1-1/2"...3" Tri-Clamp®
- Output: 4-20 mA, 2-wire

**TSA**
Resistive Temperature Sensor
Brass, Stainless Steel

- Measuring Range: -40...150 °C
- \( p_{\text{max}} \) 25 bar
- Connections: 1/4...1/2 NPT, G 1/4...1-1/2
- Accuracy: ±1% of Full Scale

**TGK/TGL**
Glass Thermometer
Aluminum or Plastic Casing, Brass

- Measuring Range: -76...390 °F
- Connection: 1/2" NPT, G 1/2

**DTB**
Digital Thermometer - High Accuracy, Battery Powered
Stainless Steel

- Measuring Range: -50...400 °F
- (-50...200 °C)
- Display in Either °F or °C
- Connection: 1/4"...3/4" NPT
- Battery Life: up to 5 years

**TIR-FA**
Stationary Infrared Thermometer
Stainless Steel

- Measuring Range:
  - 0...120 °C to 100...500 °C
  - 10 mV/K or Voltage Model J, K
- Accuracy:
  - ±1.5% of Measuring Range or 2.5 °C

**TIR-SN/-FS/-FG**
Stationary Infrared Thermometer
Stainless Steel

- Measuring Range:
  - -20...300 °C to 1100...2,500 °C
  - Analog Output
- Accuracy:
  - ±0.8% of Reading + 1°C...1.5% of Temp. Range

**HND-T120/-125**
Precision Hand-Held Thermometer

- Measuring Range: -65...1,150 °C
- Sensor: Type K Thermocouple
- Power Supply: Battery or External
- Accuracy: 0.1% - 1.5% of Reading

**HND-T105/-T205**
Precision Hand-Held Thermometers

- Measuring Range: -50...400 °C
- Sensor: Type K Thermocouple or Pt 100
- Options: Logger, Alarm, and Control Function
- Accuracy: from 0.03°C

**TWL-ST**
Room Thermometer
Polycarbonate, Aluminum

- Measuring Range: -40...85 °C
- Wall Socket
- Pt 100, 4-20 mA
- Accuracy: Cl. A or B

**TBE**
Bi-Metal Thermometer
Stainless Steel

- Measuring Ranges: -50...50 °C to 0...600 °C
- \( p_{\text{max}} \) 15 bar
- Fittings: 1/2"...3/4" NPT, G 1/2...G 3/4
- (Fixed, Rotatable, Slidable)
- Accuracy: Cl. 1.0

**TND**
Shaft Thermometer for Diesel Engines
Steel, Stainless Steel

- Measuring Range: 0...800 °C
- \( p_{\text{max}} \) 25 bar
- Fittings: G 1/2, G 3/4
- Accuracy: Cl. 1.0 or 1.6

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www.koboldusa.com
Temperature

**TMA/MMA (AUF)**

**Temperature Transmitters**
Stainless Steel

- Measuring Range: -358...1,112 °F
  - $p_{\text{max}}$ 1,450 PSIG
- Connection: 1/4" NPT, 1/2" NPT
- Output: 4–20 mA, 2-wire

**MMA/AUF/KUG**

**Screw-in Resistance Thermometer**
Stainless Steel

- Measuring Range: -200...400 °C
  - $p_{\text{max}}$ 36 bar
- Accuracy: < 0.5% of Span

**LTS**

**Resistance Temperature Probe**
Stainless Steel

- Measuring Range: -50...250 °C
  - $p_{\text{max}}$ 145 PSIG
- Sensor: Pt100, 4-20 mA
- Connection: G 1/2, M12 x 1.5

**KM**

**Temperature Transducer**

- Measuring Range: -200...250 °C to -50...1788 °C
- Input: RTD, TC 0, mV
- Analog Output
- For Head, Rail, or Wall Mounting

**MWD**

**Industrial Resistance Thermometer**
Stainless Steel

- Measuring Ranges: from -324 up to 1112 °F
  - $p_{\text{max}}$ 435 PSI
- Accuracy: Cl. A or B

**DTE**

**Digital Thermometer**
Stainless Steel

- Measuring Ranges: -200...850 °C
  - $p_{\text{max}}$ 34 bar
  - Display: 6-Digit LCD
  - Fittings: 1/4"...1/2" NPT,
    G 1/4...G 1/2, Compression Fitting
- Accuracy: ± 0.1% of Reading + 0.2°C

**MWE**

**Screw-in Resistance Thermometer**
Stainless Steel

- Measuring Range: -70...250 °C
  - $p_{\text{max}}$ 30 bar
- Accuracy: Class A or B

**TWL/TTL**

**Resistance Thermometers**
Stainless Steel

- Measuring Range: -200...1,100 °C
  - $p_{\text{max}}$ 3,625 PSIG
- Sensor: Pt100, 4-20 mA
- Connection: 1/2"...1" NPT,
  G 1/2...G 1/2, DIN 15...50 Flanges
- Output: Analog 4-20 mA

**TTE**

**Screw-in Thermocouples with Compensating Lead**
Stainless Steel

- Measuring Range: -200...600 °C
  - Connection: G 1/2, M10x1
- Accuracy Class 1.0

**TWM**

**Sheath Resistance Thermometer**
Stainless Steel

- Measuring Range: -20...600 °C
  - Sensor: Pt100, 2-, 3-, or 4-wire
  - Connection: Cable, Connector, Connection Head

**TWA**

**Contact Resistance Thermometer**
Brass, Stainless Steel

- Measuring Range: 20...260 °C
  - Accuracy: Pt 100, Class B

**TWL**

**Thermowells for Thermometers**
Stainless Steel, Special Materials

- $t_{\text{max}}$ 800 °C
  - $p_{\text{max}}$ 250 bar
- Types: Thread, Range, Welding Sleeve

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## Accessories

### REG

**Automatic Flow Regulating Valve**
- **Material:** Brass, Stainless Steel

Viscosity: Max. 30 cSt
\[ t_{\text{max}} = 572 \, ^\circ\text{F}; \ p_{\text{max}} = 2,900 \, \text{PSIG} \]
Connection: 3/4" NPT, G 1/2, G 3/4

### REG-8

**Automatic Flow Regulating Valve**
- **Material:** Stainless Steel

Viscosity: Max. 30 cSt
\[ t_{\text{max}} = 570 \, ^\circ\text{F}; \ p_{\text{max}} = 2,900 \, \text{PSIG} \]
Connection: 3/4"...4" ANSI Water, DN 20...100, G 1/2...2-1/2

### NVM/NAD

**Needle Valve**
- **Material:** Stainless Steel

\[ t_{\text{max}} = 250 \, ^\circ\text{F}; \ p_{\text{max}} = 3,600 \, \text{PSIG} \]
Connection: 1/8"...1-1/4" NPT, G 1/8...G 1-1/4

### NVN

**Needle Valve**
- **Material:** Stainless Steel, Brass, Carbon Steel

Hard Seat, Soft Seat, and Mini Models
Easy to Adjust T-Handle
Designed for Strength and Smooth Operation
Bonnet Pin Lock Prevents Loosening
Connections: 1/8"...1-1/2" NPT

### MFR

**Magnetic Filter**
- **Material:** Brass, SS, Bronze, Cast Iron

\[ t_{\text{max}} = 392 \, ^\circ\text{F}; \ p_{\text{max}} = 580 \, \text{PSIG} \]
Connection: G 1/4...G 4

### SCI

**Frequency to Current Converter**
Compact DIN Rail Mounting Option
Explosion-proof Enclosure Available
Magnetic or High-level Pulse Inputs
4-20 mA Loop Powered

### RL

**Power Supply, Latching, and Isolation Relay**

Power: 110 VAC, 230 VAC, 24 VDC
Excitation: 24 VDC, 120 mA Regulated
Input: Dry Contact or NPN/PNP, 15mA Max
Output: SPDT Relay, 10A@240VAC, 8A@24VDC

### KFD-2/KFA-5

**Instrinsically Safe Relay/Power Supply**

For Dry Contacts or NAMUR-Type Switches
Single or Dual Channel
Standard Rail Mounting
24 VDC or 110 VAC Power
SPDT Relay Output

### MSR

**Contact Protection and Latching Relay**
For Protection of Reed Contacts
8A Max. Switching Capability
1 or 2 SPDT Contacts

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Accessories

**AUF**
Compact In-line Display for Transmitters

For Transmitters with DIN 43650A Plugs
Input: 4-20 mA, 2-wire or 3-wire
User Programmable
Optional Transistor Switch
Custom Housing Colors for OEM Quantities

**INT/MRT**
Integrating Rate Meter, Totalizer and Batcher

Display Values: Rate, Total, Batch
Display Type: 0.55" Red LED
5 Digit Rate, 6 Digit Total, 6 Digit Batch
Power Input: 110 VAC, 220 VAC, 12 - 24 VDC
Panel Mount: NEMA 4x Front Panel

**MPT/MPV**
Universal/Process Panel Displays
Ratemeter or Dual Line Rate and Total

MPT: Accepts Current, Voltage, TC, and RTD Inputs,
Max/Min Display, Relays and 4-20 mA Options,
Modbus®

MPV: Pulse or Analog Outputs, Displays both Rate
and Total, 22 Point Linearization, Modbus®, Gate
Function, Open Channel Flow

**DAG-T4/-Z2**
Universal Panel Meter or Counter Electronics/Batch Controller

DAG-T4 Input: Current, Voltage, Pt 100, Thermocouples
DAG-Z2 Input: Frequency
Both: Limit Contacts, Sensor Supply

**ZED**
LCD Indicating Display and Controller

Input: Frequency
Output: Analog, 2 Limit Contacts, Sensor Supply

**ZOK**
Totalizer, Batching, and Monitoring Electronics

Input: Frequency
Analog Output, Impulse Output, Limit Contacts,
Sensor Supply, Battery Powered

**ADI-1**
Universal Input LED Display Controller

Display: 5-digit with 270° Bargraph
Input: Current, Voltage, Frequency
Analog Output, 2 Limit Contacts, Sensor Supply

**ZLS-2**
Multi-Channel Datalogger Display

8x Input: 4 - 20 mA, or Pt 100, Pt 500, Pt 1000
Interface: 1x USB, 1x RS485
Sensor Supply

**ZOE**
Rate and Totalizing Display

Frequency Input, Pulse Output
Sensor Supply or Battery Powered