KOBOLD

- Flow
- Level
- Pressure
- Temperature

Who Are We?

We are your industrial instrumentation partner of choice with comprehensive solutions for measuring what matters.

For over 40 years, KOBOLD has been a value-driven 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.

We offer excellence in engineering, high value products, and exceptional customer partnerships that last beyond the sale. Because we design, manufacture, sell, and provide support for our products, you can be assured that you and your application are in expert hands.

Why Choose KOBOLD?

Our Approach: Partnership for the "Long Haul"

We aren't just interested in selling you instrumentation. You are our priority. Trying to wade through the extensive technologies and options can be a bit intimidating. You don't have to figure it out on your own. We are here to partner with you, providing free advice from our in-house engineering experts who have decades of collective experience.

We are old-fashion in our beliefs about what doing business should look like. We still have someone answering our phone who will quickly direct you to the right person. We still believe in delivering true value and not subpar quick-fix products that become headaches down the road. We build our products like we build our relationships, for the "long haul".

For certain large-scale projects, we are also able to provide demo instrumentation so you can be confident that our solution is the right fit for your application. We want our products to be the best fit as much as you do. There is no project too large or too small for us.

US Manufacturing Built on German Engineering

We believe that "Made In The USA" still means something. Our products are built with that in mind as we aim to exceed the standards and ideals of quality-focused US manufacturing. We offer the best of both worlds. German engineering is still known as being among the finest and we are proud to build some of the most innovative products in the world. We are also focused on sourcing practices that allow us to provide higher quality components, shorter lead times, and longer lasting products than other instrumentation manufacturers.

KOBOLD USA's Manufacturing Team

Comprehensive Product Line: We Don't Have to "Force a Fit"

We offer one of the industry's broadest lines of sensors, switches, and transmitters to measure and control flow, pressure, level, and temperature.

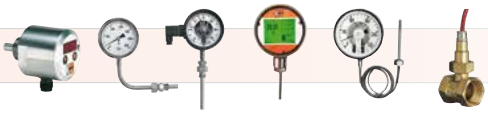
We have historically set the bar for innovation and excellence, helping to shape the field of industrial instrumentation into what it is today. Our technologies offer a solution-oriented way to control the most diverse and complex variables and can be easily integrated into a wide variety of systems in many industrial and commerical sectors.

We will not try to sell you any instrumentation that isn't ideally suited for your application. Because we are unique in the extensiveness of our product line, we don't have to try and "force a fit" just to make a sale like other companies with limited product lines. In the event we do not have the right solution, we will do our best to point you in the right direction.

Unique/Difficult Applications & Customizations: We Do What They Can't

While we offer a wide variety of standard instrumentation, we are also able to handle unique, difficult, or challenging applications that others can not. 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



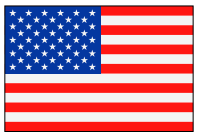
Quick Reference Product Table

Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG
ADI	39	DKF	26	DVH	24	KFD/A	38	MFR	38	NDT	31	NSE	30	PMP	34	TDD	37
AUF	38	DOG	24	DVZ	24	KFF	21	MIK	23	NE	31	NSM	30	PPS	19	TMA	37
BGF	17	DON	21	DZF	34	KFG	21	MIM	24	NEC	30	NSP	30	PS	19	TMU	23
BGK	17	DOT	21	EPS	24	KFR	16	MIS	24	NEH	31	NST	30	PSD	36	TNF	37
BGN	17	DPE	20	FPS	19	KPA	35	MM	32	NEK	31	NTB	33	PSR	19	TNS	37
BVB	18	DPL	20	HPC	22	KPG	35	MMA	37	NEL	31	NUS	33	RCD	23	TSK	19
BVO	18	DPT	19	KAL	22	KPH	36	MPT	39	NEO	32	NV	30	RCM	23	TST	37
DA	26	DPM	20	KAL-A	22	KPH300	36	MPV	39	NES	31	NVI	31	REG	38	TWR	37
DAA	25	DRB	20	KAL-D	22	KPK	35	M	30	NGM	31	NVM	38	RL	38	URK	17
DAF	25	DRG	20	KAL-K	22	KPL	23	MSR	38	NGR	31	NVN	38	S	18	URM	17
DAG	39	DRH	20	KAL-L	22	KPW	33	MWD	37	NGS	30	NWS	31	SEN	35	V31	17
DAI	26	DRM	35	KDF	16	KSK	16	NAB	30	NIR	31	OVZ	21	SWK	16	VKA	19
DF	20	DRS	21	KDG	16	KSM	16	NBK	32	NKP	30	PAD	34	SM	18	VKG	18
DFT	20	DRZ	21	KDS	17	KSR	16	NCG	30	NMC	32	PAS	35	SMN	18	VKM	18
DIG	25	DTK	20	KEC	22	KSV	16	NCM	30	NML	32	PDA	35	SV	17	VKP	18
DIH	25	DUC	25	KEL	23	LSP	19	NCP	30	NRF	32	PDD	36	SVN	16	ZDM	21
DKB	25	DUK	25	KET	22	MAN	34	NCS	30	NSD	31	PIT	24	TDA	37	ZED	39
																ZLS	39
																ZOE	39
																ZOK	39

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.

Featured Content



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

- Product QR Code
- 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

OEM Partner Program

Decades of Experience - Superior Solutions & Service

KOBOLD offers decades of expertise in partnering with OEM Manufacturers. We are one of the leading solution providers for Industrial Machinery Applications. Because we offer such a broad line of instrumentation for flow, level, pressure, and temperature and can customize certain product aspects we can provide the most budget-conscious options because we do not have to try and force a fit between your application and a limited product line, unlike some other manufacturers.

Our engineers partner with our customers for no cost, helping as needed through the life or the project and the product. Depending on the product and the quantity needed, demos are available for testing and design purposes. Pricing is also commensurate with order quantities. When requesting pricing for an OEM project, please mention to our sales staff that you are an OEM manufacturer and would like to talk with someone about our OEM Partner Program.

Food Preparation

KOBOLD's MIM Magnetic Flow Meter is an integral component of a salad dressing dispensation machine for a fresh food chain. The machine provides the diner with a consistent experience by ensuring the same amount of dressing is applied to any salad that is served anytime at any of their locations.

Smart Home Water Leak Detection

To protect against unnecessary expenses, damage, and wasted water consumption, our DPL Paddle Wheel Flow Meter is the flow measuring element in a smart home system that monitors the entire home for leaks. If a leak is detected by the DPL, a shutoff valve is actuated and an alert is sent to the homeowner.

Fire Suppression

To ensure that the full length of a fire suppression system recieves adequate liquid to fight fires, our REG Automatic Flow Reglulator is used to regulate flow so there is no risk of the liquid being consumed within the first few feet of piping, rendering the parts of the sytem located farther away from the water source less effective. The REG ensures that the entire system receives the necessary flow.

Other Sample OEM Application Areas:

- Electricity Distribution and Hydrogen Production
- Semiconductors and Electroplating
- Industrial 3D Printing Machines
- Paper Mill Machinery
- Laboratory Analytical Equipment
- Industrial Clean Environment Equipment
- Electrical Control Panels
- Gas and Liquid Analyzers
- Fluid System Products and Assemblies
- Medical Equipment
- Water and Wastewater Treatment Systems
- Marine Water Treatment Systems
- Induction and Vacuum Furnaces
- Compressor Packages for Natural Gas
- Concrete Production Systems
- Automatic Lubrication Equipment
- Steam Boilers
- Counter Pressure Casting Machinery
- Mixers and Dispersion Equipment
- Burners and Combustion Systems
- Excavators/Asphalt Equipment for Highways and Construction
- Gas Processing Systems for Treatment and Custody Transfer
- Hydrogen Refueling Stations
- Dryers, Coolers, Chillers, Evaporators, and Cooling Towers
- Custom Gearing Solutions
- Industrial Cutting Equipment
- Ground Support Equipment and Vehicles
- Monofilament Extrusion Equipment
- High Pressure Water Fog Systerms
- Environmental Remediation Equipment
- Painting and Finish Application Equipment
- Crushers and Conveyors for Mining
- Thin Film Coating Deposition Equipment
- Industrial Washing Machines
- Tunnel Boring Machinery
- Smart Irrigation Systems
- Air Pollution Control Scrubbers
- Food Processing Machinery

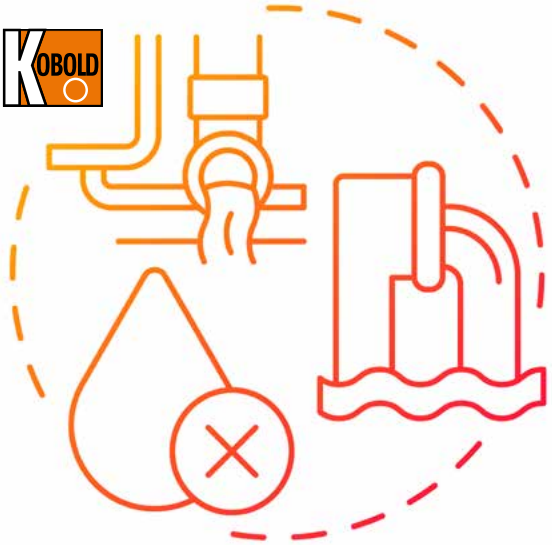
Instrumentation for Building Control

Measure & Monitor Water, Air, HVAC Elements, and More

KOBOLD offers a wide variety of flow, level, pressure, and temperature instrumentation to automate and control many different key building systems such as heating/cooling, water distribution, and fire suppression. Because our products are built from high quality components, they deliver a higher value by requiring less maintenace and lasting longer. We have worked with a wide variety of engineering firms, construction companies, HVAC providers, and end users to provide the ideal solutions for building control.

MIS Magnetic Flow Meter		**KAL** Thermal Flow Meter		**PSR/ PS** Paddle Flow Switch	
MIK Magnetic Flow Meter		**KET** Thermal Flow Meter		**REG** Flow Restrictor	
DUK Ultrasonic Flow Meter		**FPS** Paddle Flow Switch		**PMP** Diff. Pressure Sensor	
DVE Vortex Multivariable Flow Meter		**LSP** Paddle Flow Switch		**MAN** Pressure Gauge	

**The above products are just a sampling of KOBOLD products that have been used in building control applications. For more KOBOLD solutions, please see the following product pages or visit www.koboldusa.com.*

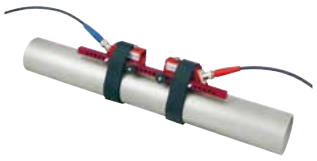


Water & Wastewater

KOBOLD has worked extensively with treatment facilties for municipal water, municipal sewage/waterwater, industrial wastewater, and medical facility wastewater. We are familiar with the various process requirements and operator needs. We offer first in class service and support and high quality products that are built to withstand the rigors of constant service. We have sensing and control solutions that are easily integrated into existing systems. Unlike many instrumentation companies, we offer an extremely broad line of products for flow, level, pressure, and temperature and can offer solutions that are more tailored to your exact needs than the offerings of companies with more limited product lines.

Municipal Water

KOBOLD offers heavy-duty industrial solutions for pump control and protection, accurate chemical injection, basin monitoring, and water distribution. We offer inline magnetic flow meters for pipe diameters up to 24". We also offer insertion models up to 80" that have the additional capability of an integral extraction device for easy removal and maintainence. Our DUC clamp-on ultrasonic flow meter is a hassle free and non intrusive solution for pipe sizes up to 20 feet in diameter. For chemical injection, we have worked with both end-user operators and OEM companies to provide an ideal solution with our MIK magnetic flow meter. It provides the accuracy required for the reliable dosing of chemicals like chlorine.

EPS Magnetic Flow Meter • *INLINE* • *UP TO 24"*		**MIK** Magnetic Flow Meter • *INLINE* • *1/4" TO 2"*	
PIT Magnetic Flow Meter • *INSERTION* • *UP TO 80"*		**DUC** Ultrasonic Flow Meter • *CLAMP-ON* • *UP TO 20 FEET*	

Industrial & Medical Wastewater

Wastewater from medical facilities, hospitals, industrial processes, and power generation sometimes requires preliminary onsite treatment before it can be released into the municipal systems or taken elsewhere. Our engineering staff is available for free to help walk you through product selection for your system requirements.

Municipal Sewage/Wastewater

Influent

DUC
Clamp-on Ultrasonic Flow Meter
(up to 20 feet)

NUS
Ultrasonic Level Transmitter

EPS
Inline Magnetic Flow Meter
(up to 24")

Mechanical/Chemical Treatments

NAB
Polypropylene Float Switch

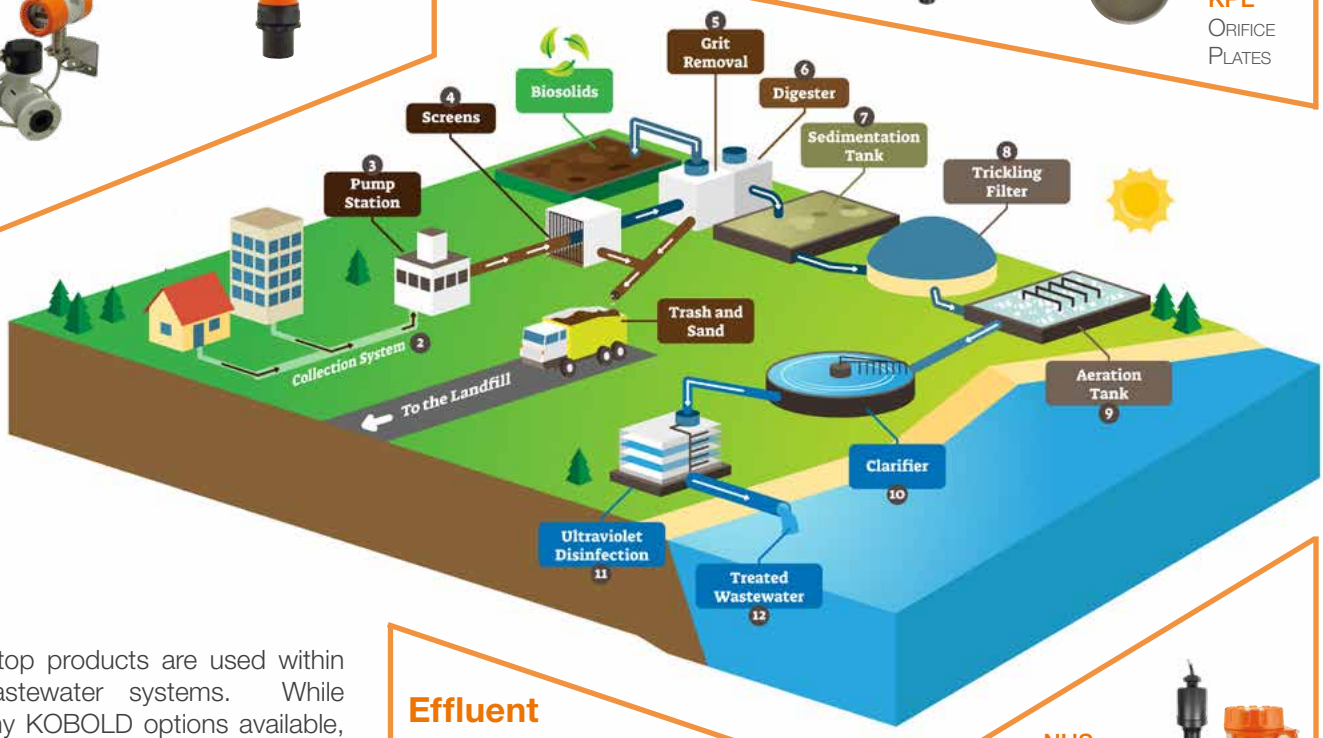
PAD
Differential Pressure transmitter

MIK
Magnetic Flow Meter

NUS
Ultrasonic Level Transmitter

ANU
Pitot Tubes

KPL
Orifice Plates



Effluent

MIS
Inline Magnetic Flow Meter

PIT
Insertion Magnetic Flow Meter
(Optional Easy Extration Device)

NUS
Ultrasonic Level Transmitter

DUC
Clamp-on Ultrasonic Flow Meter
(up to 20 feet)

Many of our top products are used within municipal wastewater systems. While there are many KOBOLD options available, these are our top flow and level solutions for monitoring, measuring, and dosing during the various phases of treatment. They include magetic, ultrasonic, and differential pressure models for flow, and ultrasonic and float technology for level. Please feel free to take advantage of the free advice offered by our engineering staff to help you find the best options for your exact needs.

Chemical & Caustic Media

Compatible Solutions: Flow/Level

Aggressive media such as chemicals, caustics, alkalines, and acids bring an element of difficulty to finding suitable long-lasting instrumentation for an application. Many flow and level products are not offered in materials that can handle challenging media. KOBOLD offers a wide variety of flow and level options that are either made entirely of compatible material or can be coated, clad, or lined to combat corrosion from the media. Unlike many other manufacturers, we also specialize in many exotic material options. Below is a sample of our products that can be used with a wide variety of difficult media.

MIS Magnetic Flow Meter		METHOD • *LINING* MATERIAL • *NBR* • *OTHERS ON REQUEST*	
MIK Magnetic Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *PPS* • *PVDF*	
EPS Magnetic Flow Meter		METHOD • *LINING* MATERIAL • *EPDM OR PTFE* • *RUBBER OR CERAMIC* • *OTHERS ON REQUEST*	
PIT Magnetic Flow Meter		METHOD • *CLADDING* MATERIAL • *PFA* • *OTHERS ON REQUEST*	
BGN Variable Area Flow Meter		METHOD • *LINING* MATERIAL • *PTFE* • *OTHERS ON REQUEST*	
KSK Rotameter Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *POLYAMIDE* • *POLYSULFONE*	
KSM Rotameter Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *POLYAMIDE* • *POLYSULFONE*	
KSV Rotameter Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *POLYSULFONE*	
DFT Paddlewheel Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *PTFE*	

DPL Paddlewheel Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *POLYPROPYLENE*	
DRH Paddlewheel Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *PVDF* • *POM*	
DIH Paddlewheel Flow Indicator		METHOD • *BODY MATERIAL* MATERIAL • *POM*	
TUR Turbine Flow Meter		METHOD • *BODY MATERIAL* • *LINING* MATERIAL • *PVDF* • *PVC*	
DRS Turbine Flow Meter		METHOD • *BODY MATERIAL* MATERIAL • *PPO*	
PPS Paddle Flow Switch		METHOD • *PADDLE MATERIAL* MATERIAL • *POLYSULFONE*	
NEC Float Level Switch		METHOD • *BODY MATERIAL* MATERIAL • *POLYPROPYLENE* • *HYPALON®*	
NAB Float Level Switch		METHOD • *BODY MATERIAL* MATERIAL • *POLYPROPYLENE*	
NCP Float Level Switch		METHOD • *BODY MATERIAL* MATERIAL • *POLYPROPYLENE*	

NST
Float Level Switch

METHOD
- *BODY MATERIAL*

MATERIAL
- *PTFE*

NSD
Optical Level Switch

METHOD
- *BODY MATERIAL*

MATERIAL
- *POLYSULFONE*

NSP
Float Level Switch

METHOD
- *BODY MATERIAL*

MATERIAL
- *POLYPROPYLENE*

NUS
Ultrasonic Level Transmitter

METHOD
- *NON-CONTACT*
- *SENSOR MATERIAL*

MATERIAL
- *POLYPROPYLENE*
- *PVDF*

NSM
Float Level Switch

METHOD
- *BODY MATERIAL*

MATERIAL
- *POLYPROPYLENE*

NML
Liquid Level Transducer

METHOD
- *CLADDING*

MATERIAL
- *PFA*
- *PTFE*

NKP
Side-Mount Level Switch

METHOD
- *BODY MATERIAL*

MATERIAL
- *POLYPROPYLENE*
- *PVDF*

NRF
Capacitive Level Transmitter

METHOD
- *CLADDING*

MATERIAL
- *PFA*

NEK
Conductive Level Switch

METHOD
- *BODY MATERIAL*

MATERIAL
- *POLYPROPYLENE*
- *PPS*

NMC
Capacitive Level Transmitter

METHOD
- *CLADDING*

MATERIAL
- *PVDF*

NE
Conductive Level Switch

METHOD
- *CLADDING*

MATERIAL
- *PTFE*
- *POLYOLEFIN*

NBK
Magnetic Level Gauge

METHOD
- *BODY*

MATERIAL
- *POLYPROPYLENE*
- *PVDF*

Sample Material & Chemical Compatibility (Liquids)	Acetic Acid	Acetone	Ammonia	Benzene	Bromine	Butyl Alcohol	Butane	Carbolic Acid	Chlorine	Citric Acid	Formeldahyde	Hydrochloric Acid	Methanol	Mineral Spirits	Nitric Acid	Phosphoric Acid	Propylene	Sea Water	Sodium Carbonate	Sodium Hydroxide	Sodium Hypochlorite	Sodium Silicate	Sulfuric Acid	Urea	Vinyl Chloride
EPDM	✔	✔	✔	✖	✖	✔	✖	✔	✔	✔	✔	✖	✔	✖	✖	✔	✖	✔	✔	✔	✔	✔	✔	✔	✖
FEP (Teflon®)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Hypalon®	✖	✖	✖	✖	✖	✔	✔	✖	✖	✖	✖	✖	✔	✖	✖	✔	✖	✔	✔	✔	✔	✔	✖	✖	✖
NBR - Nitrile (Buna®)	✖	✖	✖	✖	✖	✔	✔	✖	✖	✔	✖	✖	✔	✔	✖	✖	✖	✔	✔	✖	✖	✔	✖	✔	✖
PFA (Teflon®)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Polyamide (Nylon®)	✖	✔	✔	✔	✖	✔	✔	✖	✖	✔	✖	✖	✔	✔	✖	✔	✖	✔	✔	✖	✖	✔	✖	✔	✔
Polysulfone (Udel®)	✔	✖	✔	✖	✔	✔	✖	✖	✖	✔	✔	✔	✔	✔	✖	✔	✖	✔	✔	✔	✔	✔	✔	✖	✖
POM - Acetal (Delrin®)	✖	✔	✖	✔	✖	✔	✔	✖	✖	✔	✔	✖	✔	✔	✖	✖	✖	✔	✔	✖	✖	✖	✖	✖	✖
PP (Polypropylene)	✔	✔	✔	✖	✖	✔	✔	✔	✖	✔	✖	✔	✔	✔	✖	✔	✖	✔	✔	✔	✔	✔	✖	✔	✖
PPO - PPE (Noryl®)	✔	✖	✖	✖	✔	✔	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✖	✔	✔	✔	✔	✔	✔	✔	✖
PPS (Ryton®)	✔	✔	✔	✔	✖	✔	✔	✔	✖	✔	✔	✖	✔	✔	✖	✔	✖	✔	✔	✔	✔	✔	✔	✔	✖
PTFE (Teflon®)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
PVC	✖	✖	✔	✖	✖	✖	✖	✖	✔	✔	✔	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖	✖	✖
PVDF (Kynar®)	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖	✔	✔	✖	✔	✔	✔	✔	✔	✔	✔	✔

✔ = Possible ✖ = Not Suitable or Unknown

**This chart is intended to be used as a reference for KOBOLD products and common industrial chemicals. Any combination marked as "possible" requires further investigation and confirmation by the purchaser. Application variables, such as temperature, have a direct effect on actual media compatibility. Seals, connections, cables, and electrode materials that come into contact with the media must also be evaluated by the purchaser. Purchaser assumes all responsibility and accompanying liability in the final product selection.*

NBK Magnetic Level Gauges

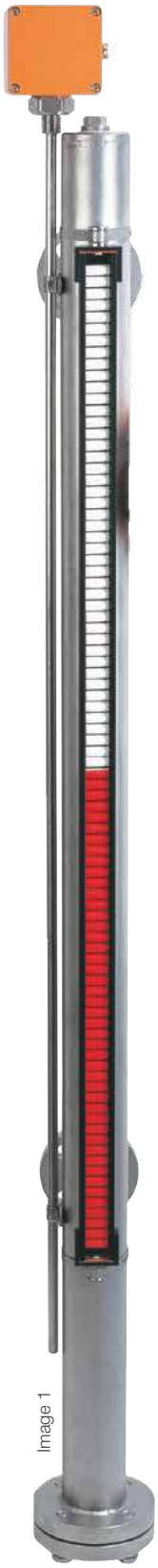


Image 1

KOBOLD NBK bypass magnetic level gauges are used in applications requiring visual indication, continuous measurement, and the control of liquid levels. Any free-flowing, compatible media with a viscosity less than 200 cPs is compatible. The NBK's design relies on the hydrostatic pressure principle to display tank level on 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 to be built with an all-metal construction, eliminating the breakage and leakage problems frequently experienced with glass tube designs. Visual indication, signal transmission, and switching is possible by mounting magnetically-sensitive devices on the exterior of the bypass tube.

Image 2 Image 3 Image 4

Image 1: *Standard NBK (-03 to -33)*

Image 2: *NBK-M (Mini-NBK)*

Image 3: *NBK-04 (Top-Mount NBK)*

Image 4: *NBK Combined with NGM Guided Wave Radar Level Transmitter*

The KOBOLD NBK-M mini bypass magnetic level gauge provides many of the unique features of our standard NBK Series, but at a fraction of the cost. Similar to the full-sized NBK Series, the NBK-M uses KOBOLD's ring magnet float design, allowing the addition of 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 a very economical choice for lower pressure and shorter length level applications.

The KOBOLD NBK-04 top-of-the-tank mount magnetic level gauge combines the rugged simplicity of our NBK Series with above-the-tank liquid level indication.

REGulation

KOBOLD REG: Flow Regulation Made Easy

- ✓ **Made In The USA**
- ✓ **No Power Needed**
- ✓ **Unique Design**

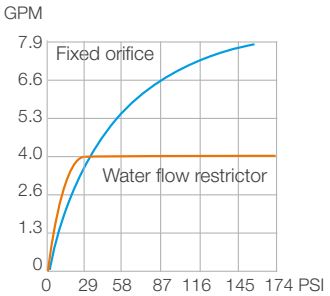
Superior Flow Regulation:

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 elastisity. Once the rubber is compromised, the flow can no longer be regulated. Our all-metal design provides a longer service life. The REG excels in protecting pumps from water hammer, cavitation, and overheating from sudden lack of flow. They are also maintenance free and provide tamper-proof allocation of flow for water circuits.

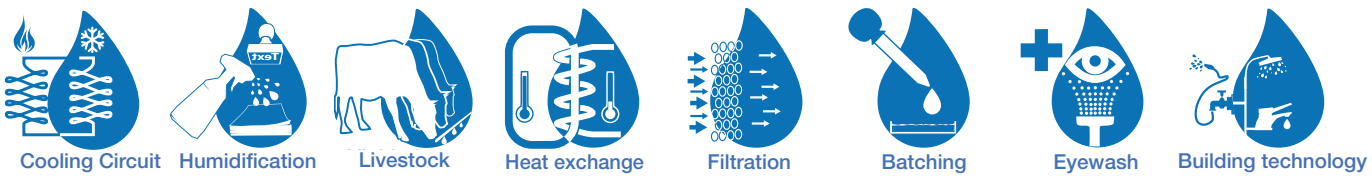
Features:

- Provides a Constant Flow Rate
- Long Service Life 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



Innovations in Ultrasonic Flow

The New KOBOLD DUK with C3T0 Electronics

- Flow and Temperature Measurement
- Switching & Transmitting Functions
- Batching Function with External Control Input
- Colored, Multi-Parameter, Configurable TFT-display
- Bi-directional Flow Measurement
- Measurement Independent of Changes in Density/Temperature
- Intuitive Setup Menu via 4 Optical Touch Keys
- 2 Configurable Outputs (Pulse/Frequency/Alarm/Analog Output)
- Grand and Resettable Totalizer
- IO Link
- Small Pressure Loss
- Materials: Brass or 316 Stainless Steel
- High Turndown Ratio of 250:1
- Measuring Ranges: 0.02...5 to 0.6...160 GPM
- Max Pressure of 230 PSI
- Max Temperature of 194°F
- Connections: 1/2"...3" NPT
- High Repeatability of ±0.1% of Full Scale
- Accuracy of ±0.7% of Reading & ±0.7% of FS

Display is rotatable in 90° Increments

The new DUK Ultrasonic Flow Meter with C3T0 electronics offers temperature-compensated measurement, expanded media viscosity compatibility, IO-Link, bi-directional flow, and provides extensive capabilities for on-site programming.

Previously, the DUK was only for water and water-like media. By incorporating additional intelligent electronics with customized parameters, it is now compatible with most homogeneous and Newtonian media under 68 cSt. During the conception phase, KOBOLD used customer feedback as a basis for developing this innovative flow meter specifically for non-conductive media. The DUK is an excellent alternative to magnetic flow meters, which are unable to measure non-conductive media.

The DUK is designed for smaller pipe sizes and covers a large measuring range by delivering an exceptional turndown ratio of 250:1. It has two individually configurable outputs, which can function as a pulse, alarm, or analog outputs. This makes them easier to integrate into different processes or auxiliary circuits.

It features high visibility process cues such as the display color changing when a certain quantity has been dosed or when a limit value has been exceeded. Batching can be started and stopped locally or via an external control input. The DUK features response times of less than one second.

The DUK was further designed with longevity in mind as the electronic connections are now connected by a plug, enabling easy on-site maintenance. It also combats internal condensation that can form from ambient temperature differences between the inside of the housing and the external environment.

Flow Meter Selection

What You Need to Know

Choosing a flow meter can be very overwhelming. When it comes to finding the best fit for your application, being thorough during the selection process can have big payoffs. Avoid equipment malfunction, damage, failure, and incorrect readings by asking the right questions at the beginning. But where should you start?

The Basic Process

- Who will be using it? What do they need to use it for? Where will it be placed?
- Does the process require totalizing or batching capabilities?
- Is visual rate indication needed only? Is a switch or transmitter needed? Is local or remote indication needed?

The Place of Installation

- What is the size of the pipe and what is it made out of?
- Is the environment around the area stable or variable? Is there danger of explosion? Is the area a harsh environment?
- What length of straight run of pipe is possible before and after the instrument placement?
- Will there be other types of instrumentation, valves, or pipe bends close to the flow meter either upstream or downstream?
- Are there space limitations at the installation point?
- Will the installation area require a certain angle that the instrument will be installed at?

The Media Characteristics

- Is it liquid, gas, vapor, steam, slurry, or multi-phase media?
- Is it clean or dirty?
- Is the nature of the media corrosive?
- What is the media density, viscosity, temperature, pressure? Do these remain constant?
- Is the media conductive and if so, to what extent?
- Is the media Newtonian or Non-newtonian in nature?
- Does the media have any coating or crystallizing properties?
- Is there any suspended particulate matter? If so, how large are the particles?
- Any ferrous material in the media?

Certifications

- What sort of regulatory compliance are you subject to?
- Do you have hygienic requirements for the application?
- Does the media have the potential to be explosive?

The Flow Profile

- Is it likely that the media may contain air bubbles?
- Is the process such that the pipe will always be totally full of the media all the time?
- Will the flow rate remain relatively constant or will there be large fluctuations?
- Is there a chance of pulsating flow?
- Will the flow be largely laminar or turbulent?
- What sort of turndown is needed to accommodate the full range of flow?
- What is the minimum flow rate?
- What is the maximum flow rate?
- Will the media flow in one direction or will it be bi-directional?
- Is pressure loss in the line from the flow meter an important consideration?

Accuracy/Repeatability/Resolution

- Accuracy: How exact does the measurement need to be?
- Repeatability: How important is it for the meter to produce "grouped" results?
- Resolution: How incremental do the measuring units need to be?

Flow Meter Selection Summary Chart

Element to Consider	Essential Question to Answer
Price	What will the total cost of the meter be during its lifetime and how long will it last?
The Basic Requirements	What are the essential things that the meter needs to provide? Measurements, outputs, batching, etc?
Installation Considerations	Will it fit and function properly where it has to be installed?
The Process Media	Will the meter work with all the characteristics of the media?
Flow Profile	Is there something about how the media will move through the meter that will cause problems?
Precision	How precise does the meter need to be in relation to the cost of the meter?
Certifications	Does my application require any specific certifications for my instrumentation?
Communications	Where does the data produced by the meter need to go and how will it get there?

Does it still sound intimidating and a bit too much to tackle on your own? Don't worry. We have decades of experience and knowledgeable sales engineers who know how to guide you through this process. We would be proud to partner with you to find the best solution for your application.

KSR/SVN - Flow Switch for Water or Air

- *Rotameter (Variable Area) Principle*
- *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_{max} 160 °F; p_{max} 230 PSIG
Connection: 1/4" NPT

KSV - Economical Micro-Flow Meter

- *Rotameter (Variable Area) Principle*
- *Polysulfone Body with Brass or SS Fittings*
- *Excellent Chemical Resistance*
- *Compact*
- *Easy to Read*
- *Easy Installation*
- *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_{max} 250 °F; p_{max} 87 PSIG
Connection: 1/8" NPT
Accuracy: ± 6% of Full Scale

KFR - Acrylic Flow Meter for Liquid or Gas

- *Rotameter (Variable Area) Principle*
- *Material: Clear Acrylic*
- *Easy to Read Scale*
- *Compact Size, Low Cost*
- *Durable Construction*
- *Metric Scales Available*
- *Inherently Stable Float Design*
- *With or Without Control Valves*
- *PVC or Metal Fittings for Durability*

Water: 0.2...2 GPH to 2...20 GPM
Air: 0.1...1 SCFH to 10...100 SCFM
t_{max} 150 °F; p_{max} 100 PSIG
Connection: 1/8" NPT, 1/4" NPT, 1" NPT
Accuracy: ±2 – 5% of Full Scale

KSK - All-Plastic Flow Meter with Optional Switch

- *Rotameter (Variable Area) Principle*
- *Materials: Polyamide or Polysulfone*
- *Compact Design*
- *Polysulfone Version Highly Resistant to Acidic and Alkaline Solutions*
- *Transistor or Reed Switch Contacts*
- *Monitor and Alarm for Flow Upset Conditions*
- *LED Switching Indication*

Water: 0.006...0.05 GPM to 0.44...4.4 GPM
Air: 0.06...0.27 SCFM to 3.5...18.3 SCFM
t_{max} 140 °F; p_{max} 145 PSIG
Connection: 3/8"...1" NPT
or Socket Glue-in Connection
Accuracy: ± 4% of Full Scale

KSM - All-Plastic Flow Meter with Optional Switch

- *Rotameter (Variable Area) Principle*
- *Materials: Polyamide or 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*
- *Optional Reed Switch Contact*

Water: 0.06...0.66 GPM to 35...264 GPM
Air: 0.5...3 SCFM to 50...400 SCFM
t_{max} 140 °F; p_{max} 145 PSIG
Connection: 1"...2-1/2" NPT
or Socket Glue-in Connection
Accuracy: ± 4% of Full Scale

KDF-2/KDG-2 - Micro Flow Meter and Switch

- *Rotameter (Variable Area) Principle*
- *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 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_{max} 100 °C; p_{max} 16 bar
Connection: 1/4" NPT, G 1/4, 8 mm Hose
Accuracy: ±2.5 % q_G = 50 %

KDF-9/KDG-9 - Micro Flow Meter and Switch

- *Rotameter (Variable Area) Principle*
- *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 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...3000 Nl/h
t_{max} 100 °C; p_{max} 16 bar
Connection: 1/4" NPT, G 1/4, 8 mm Hose
Accuracy: ±3 % q_G = 50 %

SWK - Variable Area Flow Meter and Switch

- *Rotameter (Variable Area) Principle*
- *Materials: Brass, Stainless Steel, PVC*
- *Compact Size*
- *Low Cost*
- *High Reliability*
- *Universal Mounting*
- *Adjustable Switch or Switch with Indicator*

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

Flow - Rotameters (Variable Area)

URK - Variable Area Flow Meter

- *Rotameter (Variable Area) Principle*
- *Fixed Flange*
- *Material: Cast Iron, Stainless Steel*
- *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: 1/2"...3" ANSI
Accuracy: ± 2 - 2.5%, q_G = 50%

URM - Variable Area Flow Meter

- *Rotameter (Variable Area) Principle*
- *Material: Stainless Steel*
- *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 PSI
Connection: 1/4"...3" NPT
Accuracy: ± 2 - 2.5%, q_G = 50%

V31 - High Accuracy VA Flow Meter/Switch

- *Rotameter (Variable Area) Principle*
- *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: 0.3...3.3 GPH to 4.4...44 GPM
Air: 0.088...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 VA Flow Meter

- *Rotameter (Variable Area) Principle*
- *All-Metal Design in Stainless Steel*
- *For Liquids or Gases*
- *For Low Flow Rates*
- *Compact Size*
- *Rugged Mechanical Design with a Low Rate of Wear*
- *Horizontal or Vertical Connections*
- *High Pressure Models*

Water: 0.026...0.26 GPH to 5...50 GPH
Air: 0.1...1 SCFH to 20...200 SCFH
t_{max} 260 °F; p_{max} 580/910 PSIG
Connection: 1/4" NPT
Accuracy: ± 3% q_G = 50%
Options: Analog Output, Inductive Contacts

BGK - All Metal, Low Volume VA Flow Meter

- *Rotameter (Variable Area) Principle*
- *Material: Stainless Steel*
- *For Low Flow Rates*
- *For Liquids or Gases*
- *Compact Size*
- *Provides Flow Rate in Volume or Mass per Unit of Time*
- *Rugged Mechanical Design*
- *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} 260 °F; p_{max} 580 PSIG
Connection: 1/2"...1" ANSI
Accuracy: ± 3% q_G = 50%
Options: Analog Output, Inductive Contacts

BGN - All Metal, Armored VA Flow Meter

- *Rotameter (Variable Area) Principle*
- *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*

Water: 0.002...0.02 GPM to 60...570 GPM
Air: 0.008...0.08 SCFM to 140...1,400 SCFM
t_{max} 660 °F; p_{max} 580 PSIG
Connection: 1/2"...6" ANSI, 1/4"...2" NPT
Options: Analog Output 4-20 mA, Contacts
Accuracy: ±1.6 - 2.2% q_G = 50%

BGF - All Metal, Armored Variable Area Flow Meter

- *Rotameter (Variable Area) Principle*
- *Materials: SS, SS/PTFE, Others on Request*
- *For Horizontal or Vertical Installations*
- *Unique Guided Float with Spring Return*
- *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*

Water: 0.044...0.44 GPM to 26.4...264 GPM
Air: 0.17...1.7 SCFM to 100...1000 SCFM
t_{max} 390 °F; p_{max} 580
Connection: 1/2"...3" ANSI, 1/4"...2" NPT
Options: Analog Output, BUS-Interface
Accuracy: ±2% q_G = 50%

SV - Variable Area Flow Meter and Switch

- *Rotameter (Variable Area) Principle*
- *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*

Water: 0.075...0.35 GPM to 2.5...40 GPM
Air: 0.25...1.25 SCFM to 10...150 SCFM
t_{max} 210 °F; p_{max} 145 PSIG
Connection: 1/4"...1-1/4" NPT
Accuracy: ± 5% of Full Scale

BVO - OEM Flow Meter with Switch

- *Rotameter (Variable Area) Principle*
- *Materials: Brass, Stainless Steel*
- *Rugged Low Cost Design*
- *Repeatability of ± 2% of Full Scale*
- *Adjustable SPST Switch*

Water: 0.1...1.0 GPM to 1...13 GPM
t_{max} 210 °F; p_{max} 145 PSIG
Connection: 1/4"...1" NPT
Accuracy: ± 10% of Full Scale

S-Series - All Metal Variable Area Flow Switch

- *Rotameter (Variable Area) Principle*
- *Materials: Brass, Stainless Steel*
- *For Liquids or Gas*
- *Compact Design*
- *Cost Effective*
- *Reliable Operation*
- *Inline Connections for Easy Installation*
- *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_{max} 240 °F; p_{max} 5,000 PSIG
Connection: 1/4"...3/4" NPT
Accuracy: ± 5% of Full Scale

SM - High Pressure, All Metal Flow Meter and Switch

- *Rotameter (Variable Area) Principle*
- *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_{max} 210 °F; p_{max} 5,000 PSIG
Connection: 1/4"...1-1/4" NPT
Accuracy: ± 5% of Full Scale

SMN - All Metal Flow Switch for Liquids

- *Rotameter (Variable Area) Principle*
- *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: Cooling Circuits, High Pressure Cleaning Devices, and Heating Systems*

Switching Range: 0.4...13 GPM
t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: 1" NPT
Accuracy: ± 5% of Full Scale

VKP - Economical Plastic Flow Meter and Switch

- *Rotameter (Variable Area) Principle*
- *Material: Polysulfone*
- *Compact Size*
- *Inexpensive Flow Measurement for Liquids*
- *Optional Reed Contacts*
- *Optional Union Fittings*
- *Dual GPM/LPM Scales*
- *Common Uses: Cooling Water, Lubrication Systems, Solar Heating*

Water: 0.5...5 GPM to 5...26 GPM
Oil: 0.5...4.5 GPM to 3...20 GPM
t_{max} 250 °F; p_{max} 230 PSIG
Connection: 1/2", 3/4", 1" NPT,
Glue Connection
Accuracy: ± 5% of Full Scale

VKG - Viscosity Compensated Flow Meter and Switch

- *Rotameter (Variable Area) Principle*
- *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*
- *Extremely Versatile*

Viscosity Range: 1...540 cSt
Oil: 0.03...0.12 GPM to 2...21 GPM
t_{max} 210 °F; p_{max} 175 PSIG
Connection: 1/4"...1" NPT
Accuracy: ± 5% of Full Scale

VKM - All Metal, Viscosity Compensated Flow Meter

- *Rotameter (Variable Area) Principle*
- *Materials: Brass, Stainless Steel*
- *Direct Reading Scales*
- *Suitable for Oils and Compatible Liquids*
- *Install in any Position*
- *Inline 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_{max} 210 °F; p_{max} 5,000 PSIG
Connection: 1/4"...1" NPT
Accuracy: ± 4% of Full Scale

BVB - Manifold Valves for VA Flow Meters

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

Designed for Models VKG, VKM
t_{max} 210 °F; p_{max} 930 PSIG
Connection: 1/2" NPT

VKA - OEM Viscosity Compensated Flow Meter

- *Rotameter (Variable Area) Principle*
- *Material: Brass*
- *Reliable Construction*
- *Affordable Pricing*
- *Optional Switches*
- *Protection: IP54 for Side Indicator, IP65 for Electrical Switch*

Viscosity Range: 30...540 cSt
Oil: 2...6.3 GPH to 8...26 GPM
t_{max} 210 °F; p_{max} 3,600 PSIG
Connection: 1/2", 3/4" NPT
Accuracy: ± 4% of Full Scale

PSR - Inline 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:
0.6...1.2 GPM to 12.6...17.7 GPM
t_{max} 230 °F; p_{max} 360/3,600 PSIG
Connection: 1/4"...1-1/2" NPT

PS - 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:
18...24 GPM to 101...141 GPM
t_{max} 230 °F; p_{max} 360/3,600 PSIG
Connection: 1/2" NPT

PPS - Plastic Paddle Flow Switch

- *Material: Polysulfone*
- *High Reliability*
- *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*

Water: 5...9.5 GPM to 19... 28.5 GPM
t_{max} 225 °F; p_{max} 145 PSIG
Connection: 1" NPT
Repeatability: ± 3% of Switchpoint

FPS - Insertion Paddle Switch for Liquids

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

Water: 0.9...4.4 GPM to 375...760 GPM
t_{max} 250 °F; p_{max} 435 PSIG
Connection: 1" NPT

LSP - 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_{max} 185 °F; p_{max} Atmospheric
Connection: Flange

DPT - Target Type Flow Meter

- *Materials: Brass, Stainless Steel*
- *Unique, Patented Measurement 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 °F; p_{max} 580 PSIG
Connection: 3/8"...3" NPT
Accuracy: ± 3% of Full Scale

TSK - Flap Style Flow Meter

- *Materials: SS, 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 Profibus-PA®*

Water: 6.6...26.4 GPM to 880...6,600 GPM
t_{max} 570 °F; p_{max} 580 PSIG
Connection: 1-1/2"...20" ANSI Wafer
Accuracy: ± 2.5% of Full Scale

DF - Paddle Wheel Flow Meters

- *Materials: Polysulfone, Brass, SS*
- *Totalizers and Transmitters*
- *Optional 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_{max} 180 °F; p_{max} 1,450 PSIG
Connection: 1/8"...1-1/2" 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_{max} 180 °F; p_{max} 230 PSIG
Connection: 1/4"...3/4" NPT
Accuracy: ± 2.5% of Full Scale

DPL - All Plastic Low Flow Paddle Wheel Sensor

- *Material: Polypropylene*
- *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_{max} 160 °F; p_{max} 145 PSIG
Connection: G 1/2, Hose Barb
Accuracy: ± 2.5% - 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_{max} 175 °F; p_{max} 580 PSIG
Connection: 3/8" NPT, 1" 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*

Water: 0.15...3 GPM to 3...37 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/8"...1" NPT
Accuracy: ± 3% of Full Scale

DPE/DRB - Paddle Wheel Flow Meter

- *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, and Waste Water Treatment*

Water: 1.5...8 GPM to 15...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/2"...3" NPT
Accuracy: ± 2.5% of Full Scale

DPM - Pelton Wheel Flow Sensor

- *Material: Brass, Stainless Steel*
- *For Water-based, Low Viscosity, Optically Transparent Liquids*
- *For Low Flow Rates*
- *Compact Design*
- *No Straight Piping Requirements*
- *Mount in any Orientation with Axle Remaining in the Horizontal Plane*
- *Long-life Sapphire Axle and Bearings*
- *Outputs: Pulse Frequency, 4-20 mA Analog, Transistor Switch Signal*

Water: 0.24...4.8 GPH to 0.8...80 GPH
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1 – 2.5% of Full Scale

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: 0.8...9.5 GPH to 16...190 GPH
t_{max} 280 °F; p_{max} 430 PSIG
Connection: 1/4" NPT
Accuracy: ± 2% of Full Scale

Flow - Turbine & Positive Displacement

KFF/KFG - Low Volume, Rotating Vane Flow Meter

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

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

DRS - OEM Turbine Flow Sensor

- *Materials: Brass, Stainless Steel, PPO*
- *Ideal for OEM Applications*
- *For Clear or Opaque Liquids*
- *Pulse Frequency, 4-20 mA, Digital Display*
- *Optional PT-100 RTD Output for Temperature Measurement*

Water: 0.6...10.5 GPM
t_{max} 300 °F; p_{max} 2,900 PSIG
Connection: 1/2" NPT, 3/4" NPT
Accuracy: ±1.5% of Full Scale

DOT - Turbine Flow Meter

- *Material: Stainless Steel*
- *For Low Viscosity Liquids*
- *Rugged and Reliable*
- *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_{max} 250 °F; p_{max} 3,600 PSIG
Connection: 1/2"...2" NPT, 1/2"...6" ANSI (Larger Sizes upon Request)
Accuracy: ± 0.5% of Full Scale

DON - Positive Displacement Oval Gear Flow Meter

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

Viscosity Range: up to 1,000,000 cP
Oil: 0.13...9.5 GPH to 40...660 GPM
t_{max} 300 °F; p_{max} 1,450 PSIG
Connection: 1/8"...4" NPT, ANSI 1"...4"
Accuracy: ± 0.2 - 1% of Reading

DON-H - High Pressure Flow Meter

- *Oval Gear Positive Displacement*
- *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
t_{max} 250 °F; p_{max} 5,800 PSIG
Connection: 1/8"...1/2" NPT
Accuracy: ± 0.2 - 1% of Reading

OVZ - Oval-Gear Flow Meter

- *Positive Displacement Principle*
- *Materials: POM, Aluminum*
- *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_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/4"...3/4" NPT
Accuracy: ± 2.5% of Full Scale

DRZ - Rotary Piston Flow Meter

- *Positive Displacement Principle*
- *Material: Brass*
- *For Clean, Lubricating Liquids*
- *For Viscosities from 5 to 100 cSt*
- *Low Pressure Drop*
- *Repeatabilty of ± 0.2%*
- *Maximum Throughput of 160 GPH*
- *Can be Combined with AUF Display*

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

ZDM - Spherical Gear Flow Meter

- *Positive Displacement Principle*
- *Materials: Cast Iron, Stainless Steel*
- *High Pressure and High Media Viscosity*
- *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
t_{max} 410 °F; p_{max} 6,500 PSIG
Connection: 3/8"...1-1/2" NPT
Accuracy: ± 0.3% of Reading

KAL - Thermal Flow Switch

- *Materials: Brass, Stainless Steel*
- *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
t_{max} 250 °F; p_{max} 1,450 PSIG
Connection: 1/4"...1-1/2" NPT

KAL-D - Compact Thermal Flow Switch

- *Material: Stainless Steel*
- *Compact Design*
- *For Non-viscous, Water-based Liquids*
- *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
t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/4" or 1/2" NPT, M12 x 1

KAL-A - Thermal Flow Transmitter

- *Material: Stainless Steel*
- *Flow Sensor with 4-20 mA Output, 3-wire (Non-linear), Optional Switch*
- *Revolutionary Microprocessor-based Drift Stabilization*
- *Easy to Operate*
- *Extremely Low Pressure Loss*
- *Insensitive to Dirt*

Water: 0.15...6.6 ft/sec
t_{max} 175 °F; p_{max} 1,450 PSIG
Connection: 1/2"...3/4" NPT, 1-1/2" Tri-Clamp®
Linearity: ±10% of Full Scale

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 V_{AC} Version)*
- *Revolutionary Microprocessor-based Drift Stabilization*
- *Easy to Operate*
- *Extremely Low Pressure Loss*
- *Insensitive to Dirt*

Water: 0.15...6.6 ft/sec
t_{max} 250 °F; p_{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 Erroneous Switching*
- *Negligible Pressure Loss*
- *Adjustable Response Time*
- *Common Applications: Air Conditioning Systems, Ventilation Systems, Conveying Plants*

Air: 3.3...65 ft/sec
t_{max} 250 °F; p_{max} 120 PSIG
Connection: 1/2" NPT, Duct Flange
Accuracy: ±10% of Reading

KET - Thermal Flow Sensor

- *Material: Stainless Steel, Aluminum*
- *Direct Mass Flow Rates*
- *No Inlet Straight Pipe Requirements*
- *Fast Response Time*
- *Integral Flow Straightener*
- *Analog Output, Alarm Contact, Modbus®, Impulse Output*
- *Gases: Air, Nitrogen, Argon, C02, Oxygen*

Ranges: 0.33...164 ft/sec to 0.33...730 ft/sec
t_{max} 176 °F; p_{max} 230/580 PSIG
Connection: 1/2"...2" NPT
Accuracy: ± 1.5% of Reading ± 0.3% of FS
(Optional: ± 1.0% of Reading ± 0.3% of FS)

KEC - Thermal Mass Flow Meter

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

Air: 0.33...164 ft/sec to 0.33...735 ft/sec
t_{max} 350 °F; p_{max} 1,450 PSIG
Connection: 1/2"...2" NPT, 1/2"...3" ANSI
Accuracy: ± 0.3% of FS ± 1.5% of Reading

HPC - Mini Coriolis Flow Meter

- *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: 2...20 kg/h to 5...50 kg/h
t_{max} 350 °F; p_{max} 1,450/4,640/5,800 PSIG
Connection: 1/2" NPT, Gyrolock/Swagelok®
Accuracy: ± 0.1% of Reading,
± Zero-point Stability

TMU-W - High Pressure Coriolis Flow Meter

- *Material: Stainless Steel*
- *Designed Specifically for Hydrogen Refueling Stations*
- *OIML R139 Accuracy Class 1.5*
- *Also for Other High Pressure Coriolis Application Areas*
- *2 Current Output Signals*
- *Pulse, Frequency, Status Output*

Mass Flow: 4 kg/min H_2
t_{max} 100 °C; p_{max} 1,000 bar
Connection: 1/2" NPT, Hofer, UNF
Accuracy: ± 0.5% of Flow Rate,
± Zero-point Stability (for Gas)

TMU/UMC-4 - Coriolis Flow Meter

- *Materials: Stainless Steel, Hastelloy®*
- *For Liquids or Gases*
- *Can Accomodate 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: 132...1,320 lbs/hr to
440...2,200 tons/hr
t_{max} 500 °F; p_{max} 580 PSI
Special: up to 10,800 PSI
Connection: 1/2"...16" ANSI, 1/4"...1/2" NPT
Accuracy: ± 0.1% of Reading

TMU-..AC - Coriolis Flow Meter with Heating Jacket

- *Materials: Stainless Steel, Hastelloy®*
- *For Liquids or Gases*
- *Accomodates 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: 132...1,320 lbs/hr to
440...2,400 tons/hr
t_{max} 500 °F; p_{max} 580 PSIG
Connection: 1/2"...16" ANSI
Accuracy: ± 0.1% of Reading

KEL - Differential Pressure Flow Meter

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

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

RCM - Differential Pressure Orifice Flow Meter

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

Water: 0.3...2 GPM to 400...3,000 GPM
Air: 1.5...10 SCFM to 3,000...20,000 SCFM
t_{max} 350 °F; p_{max} 400 PSIG
Connection:
1/4"...3" NPT, 1/2"...8" ANSI Wafer
Accuracy: ± 3% of Full Scale

RCD - Differential Pressure Venturi Flow Meter

- *Materials: Brass, Stainless Steel*
- *For Water*
- *High Reliability and Long Service Life*
- *Brass or 316-Ti Stainless Steel Bodies*
- *Mechanical Pointer Indicator, Analog Output, Digital Display, Switches*
- *Common Uses: Machinery Manufacturing, and Process Equipment*

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

KPL - Differential Pressure Orifice Plate

- *For Use with KOBOLD PAD Differential Pressure Transmitter*
- *Materials: Steel, SS, Hastelloy-C®, Titanium, Monel®, Tantalum*
- *High Reliability*
- *Minimal Maintenance*

For Liquids, Gas, or Steam
t_{max} 500 °C; p_{max} PN 420/cl. 2500
Connection: ANSI 2"...24", DN 50...600

MIK - Economical Magnetic Flow Meter

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

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

Flow - Magnetic & Vortex & Oscillation

EPS - Magnetic Flow Meter

- *Lining Materials: Hard or Soft Rubber, EPDM, PTFE/PFA, 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_{max} 300 °F; p_{max} 580 PSIG
Connection: 1/2"...24" ANSI, 1/2" NPT or 1/2"...4" Sanitary
Accuracy: ± 0.3% of Reading

MIM - All-Metal Magnetic Flow Meter

IO-Link

- *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*

Water: 0.16...16 GPH to 0.8...170 GPM
Temp: -40...280 °F; p_{max} 230 PSIG
Connection: 1/4"...2" NPT, 1" or 2" Tri-Clamp
Accuracy: < ± (0.8% of Reading, + 0.5% of Full Scale)

MIS - Magnetic Flow Meter

IO-Link

- *Switching, Transmitting, and Batching*
- *Grand and Resettable Totalizer*
- *2 Configurable Outputs*
- *Bi-directional Flow Measurement*
- *Display Rotates in 90° Increments*
- *Common Applications: Water and Wastewater, Filtration Systems, Water Distribution, Industrial Applications*

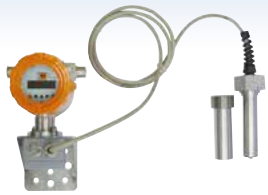
Water: 3.3....33 ft/sec
t_{max} 158 °F; p_{max} 230 PSIG
Connection: ANSI 2"...8"
Accuracy: < ± (0.5% of Reading, + 0.5% of Full Scale)

PIT - Insertion Magnetic Flow Meter

- *Materials: SS - PTFE 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 6"...78" Pipelines*

Water: 1.6...16 ft/sec or 3.3...33 ft/sec
t_{max} 284 °F; p_{max} 580 PSIG
Connection: Weld-on, 2" or 3" ANSI
Accuracy: ±1.5% of Reading, ± 0.5% of Full Scale

PITe - Economical Insertion Magnetic Flow Meter



- *Materials: SS, PTFE, Hastelloy®*
- *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: 3.3...33 ft/sec
t_{max} 212°F; p_{max} 232 PSI
Connection: Welding Stub and M52x2 Union Nut for Pipelines 3"...16"
Accuracy: ± 1.5% of Reading

DVH - Multivariable Vortex Flow Meter

- *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 141...4,270 GPM
Air: 1.8...18 SCFM to 2,071...203,000 SCFM
t_{range} -328...750 °F; p_{max} 1,450 PSIG
Connection: 1/2"...8" ANSI
Options: Integrated Temperature and Pressure Sensor, Wafer Type
Accuracy: ±1% Reading for Gas & Steam, ± 0.7% Reading for Liquids

DVZ - Vortex Flow Meter

- *Transmitter, Totalizer, Switch*
- *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_{max} 176 °F; p_{max} 290 PSIG
Connection: 1/4"...1" NPT
Accuracy: ± 2.5% of Full Scale

DOG-4 - Oscillation Flow Meter for Dry Gas

- *Material: Stainless Steel*
- *For Flow Measurement of Dry Gas*
- *Platinum Sensor*
- *No Moving Parts*
- *Long Term Stability*
- *1:100 Max. Span*
- *Pulse Frequency, Digital Display for Flow Measurement and Totalization*

Air: 0.07...7 to 35...3,500 SCFM
t_{max} 248 °F; p_{max} 360 PSI
Connection: ANSI 1"...8"
Accuracy: ± 1.5% of Reading

DOG-6 - Oscillation Flow Meter for Wet Gas

- *Material: Stainless Steel*
- *Special Design for Wet Gas*
- *Platinum Sensor*
- *No Moving Parts*
- *Long Term Stability*
- *1:75 Max. Span*
- *Pulse Frequency, Digital Display for Flow Measurement and Totalization*

Air: 0.07...5 to 35...2,400 SCFM
t_{max} 248 °F; p_{max} 360 PSI
Connection: ANSI 1"...8"
Accuracy: ± 1.5% of Reading

DUK - Compact Ultrasonic Flow Meter

IO-Link

- *Materials: Brass, Stainless Steel*
- *Flow and Temperature Measurement*
- *Switching, Transmitting, and Batching*
- *High Turndown Ratio of 250 to 1*
- *Bi-directional Flow Measurement*
- *IO-Link Function*
- *Outputs: Analog, Frequency, Switching, Compact Electronics with Configurable Outputs*

Water: 0.02...5 GPM to 0.6...160 GPM
t_{max} 194 °F; p_{max} 230 PSIG
Connection: 1/2"...3" NPT
Accuracy: ± 0.7% of Reading
± 0.7% of Full Scale

DUC - Clamp-On Ultrasonic Flow Meter

- *Quick Mount System*
- *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_{range} -40...300 °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%

DAA/DAH - Flow Indicator

- *Materials: Brass, Stainless Steel*
- *Visual Flow Indicator with or without Rotor*
- *Self-cleaning Mechanism Ensures Visibility*
- *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_{max} 212 °F; p_{max} 232 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: 0.5...1.6 GPH to 80...2,380 GPH
t_{max} 230 °F; p_{max} 235 PSIG
Connection: 1/8"...1-1/2" NPT

DIH - Paddle Wheel Flow Indicator

- *Materials: Brass, SS, POM*
- *Compact Design*
- *High Visibility Orange Paddle Wheel*
- *Choice of Three Housing Materials*

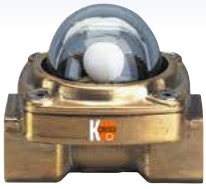
Water: 0.05...0.13 GPM to 0.26...13.2 GPM
t_{max} 176 °F; p_{max} 230 PSIG
Connection: 3/8" or 1" NPT

DIG - Paddle Wheel 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_{max} 176 °F; p_{max} 230 PSIG
Connection: 1/8"...1" NPT

DKB - Flow Indicator with Ball



- *Material: Brass*
- *Economical*
- *Gas or Liquid 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_{max} 250 °F; p_{max} 85 PSIG
Connection: 1/8"...1" NPT

Flow - Indicators & Restrictors

DKF - Paddle Wheel Flow Indicator

- *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_{max} 250 °F; p_{max} 85 PSIG
Connection: 1/8"...1" NPT

DA-Series - Flow Indicator with Flap/Drip/or Rotor

- *Materials: Grey Cast Iron, Cast Steel, Stainless Steel*
- *Rugged Build for Industrial Applications*
- *Soda-Lime or Borosilicate Glass Windows*
- *High Pressures & High Temperatures*

t_{max} 530 °F; p_{max} 580 PSIG
Connection: 1/4"...2" NPT, 1/2"...8" ANSI

DAI - Heavy-Duty Flow Indicator

- *Material: Carbon Steel, Stainless Steel, PVC, PVDF, PP*
- *Borosilicate or Soda Lime Glass*
- *For Liquids*
- *Rotor, Ball, Flap, Chain, or No Indicator*
- *Rugged Industrial Build*
- *High Pressures & High Temperatures*

t_{max} 500 °F; p_{max} 580 PSI
Connection: 1/2"...3" NPT, 1/2"...6" ANSI

REG - Automatic Flow Regulating Valve

- *Materials: Brass, Stainless Steel*
- *For Water or Compatible Water-like Liquids*
- *Self-actuating, Requires No Power*
- *Constant Flow Regardless of Pressure Fluctuations*
- *No Maintenance*
- *Universal Mounting*
- *Passively Activated*
- *Compact Design*

Flow Rates: 0.13...10.56 GPM (147 for Wafer)
t_{max} 572 °F; p_{max} 2,900 PSIG
Connection: 3/4" NPT, 3/4"...4"ANSI Wafer

Find More Flow Solutions from Kobold at www.koboldusa.com & www.kobold.com

UTS - Variable Area Flow Meter for Gas

Brass, Stainless Steel
Air: 0.35...3.5 SCFH to 10.6...105 SCFH
t_{max} 150 °F; p_{max} 45 PSIG
Connection: 1/4" NPT

TUR - Plastic Turbine Flow Meter

PVC, PVDF
Water: 5...88 GPM or 11...440 GPM
t_{max} 160 °F; p_{max} 145 PSIG
Connection: 2" or 4" ANSI
Accuracy: ±1% of Full Scale

KME - Inline Thermal Flow Meter

Aluminum, SS, Polycarbonate
Air: 0.12...44.4 SCFM to 1.3...500 SCFM
t_{max} 140 °F; p_{max} 230 PSIG
Connection: 1/2"...2" NPT

USR - Variable Area Flow Meter Assembly

Brass, PTFE, SS, FKM
Water: 0.01...0.1 GPM to 0.25...2.5 GPM
t_{max} 210 °F; p_{max} 230 PSIG

DOE - OEM Oval Gear Flow Meter

Stainless Steel
Viscosity Range: up to 1,000 cP
Oil: 0.14...9.5 GPH to 16...634 GPH
Connection: 1/8"...1/2" NPT
Accuracy: ± 1 % of Reading

DVK - Calorimetric Flow Meter and Switch

Stainless Steel
Air: 1...10 LPM to 50...500 LPM
t_{max} 50 °C; p_{max} 15 bar
Connection: G 1/4...G 1/2
Accuracy: ± 5% of Full Scale

DVE - Insertion Vortex Flow Meter

Stainless Steel
Water: 5.2...157 m³/h to 284...8,537 m³/h
Air: 889...1,463 Nm³/h to 26,915...2,467,081 Nm³/h

KAH - Air Velocity Transmitter

Polycarbonate
Air: 0...2,000/3,000/4,000 ft/min
Output Signal: 0-10 V_{DC} or 4-20 mA
Supply Voltage: 24 $V_{AC/DC}$
Accuracy: ±(0.2 m/s + 3% of Reading)

UVR/UTR - Variable Area Flow Meter

Stainless Steel, POM-C
10...100 to 200...2000 L/h
t_{max} 100 °C; p_{max} 10 bar
Connection: 3/8"...1/2" NPT

KOBOLD Flow Instrumentation/Media Cross Reference Chart*

KOBOLD Technology Category	Specific Technology Type	Model	Product Description	Media*												Flow Range	Page
				Liquid								Gas			Steam		
				Clean	Dirty	Aggressive	Viscous	Abrasive	Oil-Based	Ultra-Pure H_2O	Slurries	Clean	Dirty	Aggressive			
Rotameter - Variable Area	Rotameter - Variable Area	BGF	All-Metal Armored Flow Meter	✔	✖	◆	◆	✖	◆	◆	✖	✔	✖	◆	◆	0.002...0.02 GPM to 60...570 GPM (0.008...0.08 SCFM to 140...1,400 SCFM)	17
		BGK	All-Metal, Low Volume Variable Area Flow Meter	✔	◆	◆	◆	✖	◆	◆	✖	✔	◆	◆	✖	0.026...0.26 GPH to 5...50 GPH (0.1...1 SCFH to 20...200 SCFH)	17
		BGN	All-Metal Armored Flow Meter	✔	✖	◆	◆	✖	◆	◆	✖	✔	✖	◆	◆	0.044...0.44 GPM to 26.4...264 GPM (0.17...1.7 SCFM to 100...1000 SCFM)	17
		BVO	OEM Flow Meter and Switch	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.1...1.0 GPM to 1...13 GPM	18
		KDF/ KDG	Micro Flow Meter and Switch	✔	✖	◆	✖	✖	✖	✔	✖	✔	✖	◆	✖	0.02...2.5 LPH to 16...160 LPH (0.5...5 Nl/h to 500...5,000 Nl/h)	16
		KDS	All Metal, Low Volume Variable Area Flow Meter	✔	✖	◆	◆	✖	◆	◆	✖	✔	✖	◆	✖	0.026...0.26 GPH to 5...50 GPH (0.1...1 SCFH to 20...200 SCFH)	17
		KFR	Acrylic Flow Meter	✔	✖	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.02...2 GPH to 2...20 GPM (0.1...1 SCFH to 10...100 SCFM)	16
		KSK	All-Plastic Low-Flow Flow Meter and Switch	✔	◆	✔	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.006...0.05 GPM to 11.8...60 GPM (0.06...0.27 SCFM to 3.5...18.3 SCFM)	16
		KSM	All-Plastic Flow Meter and Switch	✔	◆	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.06...0.66 GPM to 35...264 GPM (0.5...3 SCFM to 50...400 SCFM)	16
		KSR/ SVN	Low Volume Flow Switch	✔	✖	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.03...4 GPH (0.1...13 SCFH)	16
		KSV	Economical Micro Flow Meter	✔	✖	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.04...0.4 GPH to 2...20 GPH (0.3...3 SCFH to 10...100 SCFH)	16
		S-Series	All-Metal Flow Switch	✔	✖	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.075...0.25 GPM to 1...14 GPM (0.2...1.1 SCFM to 3...70 SCFM)	18
		SM	High Pressure All-Metal Flow Meter and Switch	✔	✖	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.04...0.6 GPM to 4...40 GPM (0.2...1 SCFM to 5...130 SCFM)	18
		SMN	Flow Switch	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.4...13 GPM	18
		SV	Float-Type Flow Meter and Switch	✔	✖	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.075...0.35 GPM to 2.5...40 GPM (0.25...1.25 SCFM to 10...150 SCFM)	17
		SWK	Compact Flow Meter and Switch	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.05...0.1 LPM to 13...24 LPM	16
		URK/ URM	Glass Variable Area Flow Meter	✔	✖	◆	✖	✖	✖	◆	✖	✔	✖	◆	✖	0.004...0.4 GPM to 66...220 GPM (0.011...0.11 SCFM to 30...300 SCFM)	17
		VKA	OEM Viscosity-Compensating Flow Meter	✔	✖	✖	✔	✖	✔	✖	✖	✖	✖	✖	✖	2...6.3 GPM to 8...26 GPM	19
		VKG	Viscosity-Compensating Flow Meter and Switch	✔	✖	◆	✔	✖	✔	✖	✖	✖	✖	✖	✖	0.03...0.12 GPM to 2...21 GPM	18
		VKM	All-Metal Viscosity-Compensating Flow Meter and Switch	✔	✖	◆	✔	✖	✔	✖	✖	✖	✖	✖	✖	0.03...0.12 GPM to 2...20 GPM	18
		VKP	Plastic Flow Meter and Switch	✔	✖	◆	✔	✖	✔	✖	✖	✖	✖	✖	✖	0.5...5 GPM to 5...26 GPM	18

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KOBOLD Technology Category	Specific Technology Type	Model	Product Description	Media*												Flow Range	Page
				Liquid								Gas			Steam		
				Clean	Dirty	Aggressive	Viscous	Abrasive	Oil-Based	Ultra-Pure H_2O	Slurries	Clean	Dirty	Aggressive			
Paddle Type	Target-Type	DPT	Target Type Flow Meter	✔	◆	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	1.5...8 GPM to 225...500 GPM	19
	Paddle-Type	FPS	Insertion Paddle Flow Switch	✔	◆	◆	◆	✖	◆	◆	✖	✖	✖	✖	✖	0.9...4.4 GPM to 375...760 GPM	19
		LSP	Flow Switch for HVAC	✖	✖	✖	✖	✖	✖	✖	✖	✔	✖	✖	✖	195...1,575 FPM	19
		PPS	Plastic Paddle Flow Switch	✔	✖	✖	✖	✖	✖	◆	✖	✖	✖	✖	✖	5...9.5 GPM to 19...28.5 GPM	19
		PSR/ PS	Paddle Flow Switch	✔	◆	◆	✖	✖	◆	◆	✖	✖	✖	✖	✖	0.6...1.2 GPM to 101...140 GPM	19
	Flap-Type	TSK	Flap-Style Flow Meter	✔	◆	◆	✖	✖	◆	◆	✖	✖	✖	✖	✖	6.6...26.4 GPM to 880...6,600 GPM	19
Positive Displacement	Rotary Piston	DRZ	Rotary Piston Flow Meter	✔	✖	✖	✔	✖	✔	✖	✖	✖	✖	✖	✖	1.6...110 GPH	21
	Spherical Gear	ZDM	Positive-Displacement Flow Meter	✔	✖	◆	✔	✖	✔	✖	✖	✖	✖	✖	✖	0.0005...0.5 GPM to 0.4...138 GPM	21
	Oval Gear	DON	Positive Displacement Flow Meter	✔	✖	◆	✔	✖	✔	✖	✖	✖	✖	✖	✖	0.13...9.5 GPH to 40...660 GPM	21
		DON-H	Oval Gear Flow Meter for High Pressures	✔	✖	◆	✔	✖	✔	✖	✖	✖	✖	✖	✖	0.13...9.5 GPH to 0.26...10.6 GPM	21
		OVZ	Oval-Gear Flow Meter	✔	✖	◆	✔	✖	✔	✖	✖	✖	✖	✖	✖	0.08...2.1 GPM to 0.42...10.6 GPM	21
Rotating Vane	Paddle-Wheel	DF-Series	Paddle-Wheel Flow Meters and Flow Sensors	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.02...0.14 GPM to 1.5...36 GPM	20
		DFT	Paddle-Wheel Flow Sensor	✔	✖	✔	✖	✖	✖	✔	✖	✖	✖	✖	✖	0.05...0.5 GPM to 0.8...15 GPM	20
		DPE	Paddle-Wheel Flow Meter	✔	◆	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	1.5...8 GPM to 15...200 GPM	20
		DPL	All-Plastic, Low Flow Sensor	✔	✖	✔	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.4...8 GPH to 16...400 GPH	20
		DRB	Paddle-Wheel Flow Meter	✔	◆	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	1.5...8 GPM to 15...200 GPM	20
		DRG	Paddle-Wheel Flow Sensor	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.15...3 GPM to 3...37 GPM	20
		DRH	Paddle-Wheel Flow Sensor	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.05...0.2 GPM to 0.66...13.2 GPM	20
	Pelton Wheel	DPM	Pelton Wheel Flow Sensor	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.24...4.8 GPH to 0.8...80 GPH	20
		DTK	Pelton Wheel Flow Sensor	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.8...9.5 GPH to 16...190 GPH	20
		KFF/ KFG	Low Volume Rotating Vane Flow Meter	✔	✖	◆	✖	✖	✖	✔	✖	◆	✖	◆	✖	13...100mL/min to 1...10 L/min (20...100 mL_N/min to 100...500 L_N/min	21
	Turbine	DOT	Turbine Flow Meter/Monitor	✔	✖	◆	✖	✖	◆	◆	✖	✖	✖	✖	✖	0.5...5 GPM to 240...2,400 GPM	21
		DRS	OEM Turbine Flow Sensor	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.6...10.5 GPM	21

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KOBOLD Technology Category	Specific Technology Type	Model	Product Description	Media*												Flow Range	Page
				Liquid								Gas					
				Clean	Dirty	Aggressive	Viscous	Abrasive	Oil-Based	Ultra-Pure H_2O	Slurries	Clean	Dirty	Aggressive	Steam		
Without Moving Parts	Coriolis	HPC	Mini Coriolis Mass Flow Meter	✔	◆	◆	◆	◆	◆	◆	✖	✖	✖	✖	◆	2...20 kg/h to 5...50 kg/h	22
		TMU	High Performance Coriolis Flow Meter	✔	◆	✔	◆	◆	◆	◆	◆	✖	✖	✖	◆	0...1,320 lbs/hr to 0...2,200 tons/hr	23
		TMU-W	High Pressure Coriolis Flow Meter	✔	◆	✔	◆	◆	◆	◆	◆	✖	✖	✖	◆	Max. 4 kg/min H_2	23
	Differential Pressure	KEL	Heavy Duty DP Flow Meters	✔	✖	✔	◆	✖	◆	◆	✖	✖	✖	✖	✖	0.1...0.5 GPM to 400...2,000 GPM	23
		RCD	Ultra-Rugged DP Flow Meter	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.2...0.88 GPM to 100...600 GPM	23
		RCM	Orifice Flow Meter	✔	✖	✔	◆	✖	◆	◆	✖	✔	✖	◆	✔	0.3...2 GPM to 400...3,000 GPM (1.5...10 SCFM to 3,000...20,000 SCFM)	23
	Magnetic	EPS	Magnetic Flow Meter	✔	✔	✔	✔	✔	✖	✖	✔	✖	✖	✖	✖	0.5...10 m/sec	24
		MIK	Magnetic Flow Meter	✔	✔	✔	◆	✖	✖	✖	✖	✖	✖	✖	✖	0.18...7.8 GPH to 9.5...180 GPM	23
		MIM	All-Metal Magnetic Flow Meter	✔	✔	✔	◆	✖	✖	✖	✖	✖	✖	✖	✖	0.16...16 GPH to 0.8...170 GPM	24
		MIS	All-Metal Magnetic Flow Meter	✔	✔	✔	◆	✖	✖	✖	✖	✖	✖	✖	✖	3.3...33 ft/sec	24
		PIT	Insertion Magnetic Flow Meter	✔	✔	✔	✔	✔	✖	✖	◆	✖	✖	✖	✖	3.3...33 ft/sec	24
		PITe	Magnetic Flow Meter	✔	✔	✔	✔	✔	✖	✖	◆	✖	✖	✖	✖	3.3...33 ft/sec	24
	Thermal	KAL	Temperature-Compensating Thermal Flow Switch	✔	✔	✔	✖	✔	✖	◆	✖	✖	✖	✖	✖	0.15...6.6 ft/sec	22
		KAL-A	Thermal Flow Sensor	✔	✔	✔	✖	✔	✖	◆	✖	✖	✖	✖	✖	0.15...6.6 ft/sec	22
		KAL-D	Compact Thermal Flow Switch	✔	✔	✔	✖	✔	✖	◆	✖	✖	✖	✖	✖	0.15...6.6 ft/sec	22
		KAL-K	Thermal Flow Switch	✔	✔	✔	✖	✔	✖	◆	✖	✖	✖	✖	✖	0.15...6.6 ft/sec	22
		KAL-L	Thermal Air Flow Switch	✖	✖	✖	✖	✖	✖	✖	✖	✔	✖	✖	✖	3.3...65 ft/sec	22
		KET	Thermal Flow Sensor	✖	✖	✖	✖	✖	✖	✖	✖	✔	✖	✔	✖	0.33...164 ft/sec to 0.33...730 ft/sec	22
	Ultrasonic - Clamp-on	DUC	Clamp-on Ultrasonic Flow Meter	✔	◆	✔	✔	✔	✔	✔	◆	✖	✖	✖	✖	0...98 ft/sec	25
	Ultrasonic - Inline	DUK	Compact Ultrasonic Flow Meter	✔	✖	◆	◆	✖	◆	◆	✖	✖	✖	✖	✖	0.02...5 GPM to 0.6...160 GPM	25
	Vortex - Multivariable	DVH	Multivariable Flow Meter	✔	◆	◆	◆	✖	◆	◆	✖	✔	✖	✔	✔	0.89...22 GPM to 141...4,270 GPM (1.8...18 SCFM to 2,071...203,000 SCFM)	24
	Vortex	DVZ	Vortex Flow Meter and Switch	✔	✖	◆	✖	✖	✖	◆	✖	✖	✖	✖	✖	0.13...1.2 GPM to 2.6...26.5 GPM	24
	Oscillation	DOG	Oscillation Flow Meter	✖	✖	✖	✖	✖	✖	✖	✖	✔	◆	◆	✖	0.07...7 CFM to 35...3500 CFM	24

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Level - Switches

NCS

Magnetic Float Switch
Stainless Steel

Specific Gravity$_{min}$: 0.65
t_{max} 300 °F; p_{max} 400 PSIG
Connection: 1/8" NPT, 1/4" NPT

NCP

Magnetic Float Switch
Polypropylene

Specific Gravity$_{min}$: 0.81
t_{max} 225 °F; p_{max} 100 PSIG
Connection: 1/8" NPT, 1/4" PF

NSP/NSM

Float Level Switch
Polypropylene

Specific Gravity$_{min}$: 0.6
t_{max} 185 °F; p_{max} 30 PSIG
Connection: Cable

NEC/NAB

Float Level Switch
Polypropylene, Hypalon®

Specific Gravity$_{min}$: 0.7
t_{max} 194 °F; p_{max} 58 PSIG
Connection: Cable

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

M-Series

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

Density: 0.55 kg/dm³
t_{max} 300 °F; p_{max} 1,450 PSIG
Connection: NPT, DIN/ANSI Flange

NCM

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

Specific Gravity$_{min}$: 0.47...0.70
t_{max} 300 °F; p_{max} 400 PSIG
Connection: 1/8"...1" NPT, 5/16 Tube End

NCG

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

Specific Gravity$_{min}$: 0.55...0.85
t_{max} 300 °F; p_{max} 400 PSIG
Connection: 1/2"...2" NPT, 3" ANSI Flange, 1/2" Tube End

NV

Side-Mount Level Switch
Brass, Stainless Steel

Specific Gravity$_{min}$: 0.63
t_{max} 230 °F; p_{max} 230 PSIG
Connection: 3/4" NPT

NKP

Side-Mount Plastic Level Switch
Polypropylene, PVDF

Specific Gravity$_{min}$: 0.6
t_{max} 212 °F; p_{max} 145 PSIG
Connection: 1/2" NPT, Bulkhead

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

t_{max} 300 °F; p_{max} 440 PSIG
Connection: 1/2" NPT,
1-1/2" NPT
Up to Six Switch Points

NEH

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

t_{max} 300 °F; p_{max} 90 PSIG
Connection: 1/2" NPT,
1-1/2" NPT
Up to Six Switch Points

NE-104/-304

Power Supply Relays for Conductive Switches

1 or 2 Limit Contacts or
1 or 2 Min/Max
Control Switches
Switch Cap.: Max. 250 V_{AC},
5 A, 600 VA

NE-5048

Electrode Relay for Conductive Limit Switches
Makrolon®

For KOBOLD NEK & NEH
Limit Signal
Max/Min Controller
24-240 $V_{AC/DC}$
Power Supply

NEK

Compact Conductive Level Switch
Polypropylene, PPS

Conductivity$_{min}$: 100 µS/cm
t_{max} 185 °F; p_{max} 290 PSIG
Connection: 3/4" NPT
Open-Collector or Relay

NSD

Optical Level Switch
Stainless Steel, Polysulfone

t_{range} 15...250 °F
p_{max} 140/550 PSIG
Connection: 3/8“ NPT

NWS

Vibrating Level Switch
Stainless Steel

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

NVI

Vibrating Rod Level Switch for Bulk Media
Stainless Steel

Switching Range: 8.15"
and Special Lengths
Min. Density: 3.1 lb/ft³
t_{max} 320 °F; p_{max} 360 PSIG
Connection: 1-1/2" NPT

NDT

Pressure Level Switch
Polyamide, NBR

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

NIR-9

Rotating Vane Level Switch for Bulk Media
Stainless Steel

Switching Range: 2.5"...390"
t_{max} 392 °F; p_{max} 7.25 PSI
Connection: 1“ NPT,
1-1/2" NPT, Others
SPDT Microswitch,
250 V_{AC}/2 A

NGM

Guided Wave Radar Level Transmitter
Stainless Steel, PTFE

t_{max} 480 °F; p_{max} 580 PSIG
Connection: Thread, Flange
Rigid or Concentric Probe
or Cable
Analog and Switching
Accuracy: ±3 mm of MV

NGR

Guided Wave Radar Level Transmitter
Stainless Steel, PTFE

Measuring Range: 4“...78“
t_{max} 212 °F; p_{max} 145 PSIG
Connection: 3/4“ NPT
Analog Output,
Switching Outputs
Sensor Accuracy: ±0.2

MM

Reed Chain Resistive Level Sensor
Stainless Steel, PVC, PP, PVDF

Max. Measuring Length: 19.6 ft
Density: 0.4 kg/dm³
t_{max} 265 °F; p_{max} 435 PSI
Connection: 3/8" … 2" NPT, 1-1/2" … 4" ANSI
Accuracy: ± 0.5%, for L < 6.2 Feet

NML-308

Liquid Level Transmitter
Polyethylene, PVC, PP, PTFE

Specific Gravity$_{min}$: 0.9
Length$_{max}$: 6"...48"
t_{max} 250 °F; p_{max} 25 PSIG
Connection: 1-1/4" NPT or 1-1/2" NPT

NML-310

Liquid Level Transmitter
Polyethylene, PVC, PP, PTFE

Specific Gravity$_{min}$: 0.8
Length$_{max}$: 12"...108"
t_{max} 250 °F; p_{max} 40 PSIG
Connection: 2" NPT or 2" ... 4" ANSI

NMC

Capacitive Level Transmitter
Stainless Steel, PVDF

Measuring Range: 11"...157"
t_{max} 390 °F; p_{max} 435 PSIG
Connection: 1“ NPT, 2“ NPT
Weld-in Sleeve
Output: Analog
Meas. Error: <1.5% of Probe Length

NRF

Capacitive Level Transmitter
Stainless Steel, PTFE

Rigid Probe and Suspended Cable Designs
Length$_{max}$: 200 ft.
t_{range} -100...350 °F
p_{max} 500 PSIG
Connection: 3/4" NPT, 1-1/2" NPT, 1-1/2" ... 2" Tri-Clamp®

NRF-1F

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

Max. Length: 10 ft
t_{max} 350 °F
p_{max} 14.5...100 PSIG
Connection: 3/4“ or 1-1/2“ NPT
Output: 4-20 mA
Accuracy: ± 1% of Span

NRF-2/-3

Capacitive Level and Temperature Transmitter
Stainless Steel, PTFE

Measuring Length$_{max}$ 12 ft
t_{range} -100...350 °F
p_{max} 100 PSIG
Connection: 3/4" NPT, 1-1/2"...3" Tri-Clamp®
Output: 4–20 mA, RTD

NBK-M

Economical Mini Magnetic Level Gauge
Stainless Steel

Meas. Length$_{range}$: 8"... 9.8 ft
Specific Gravity: 1.0 or 0.8
Viscosity$_{max}$: 200 cP
t_{max} 390 °F; p_{max} 580 PSIG
Connection: 1/2"...1" NPT, 1/2" ... 1" ANSI Flange

NBK-03 to -33

Magnetic Level Gauge
Stainless Steel

Measuring Length$_{range}$: 1 ft ...18 ft (or longer)
Specific Gravity$_{min}$: 0.54
Viscosity$_{max}$: 200 cP
t_{max} 750 °F; p_{max} Class 1500
Conn: 1/2"...1-1/4" NPT, 1/2"...2" ANSI Flange

NBK-04

Tank-Top Mounted Magnetic Level Gauge
Stainless Steel

Meas. Length$_{range}$: 1 ft ...13 ft
Specific Gravity$_{min}$: 0.55
Viscosity$_{max}$: 200 cP
t_{max} 250 °F; p_{max} 230 PSIG
Connection: 2"...4" ANSI

NBK-16

Plastic Magnetic Level Gauge
Polypropylene

Meas. Length$_{range}$: 8"... 13 ft
Specific Gravity$_{min}$: 0.59
Viscosity$_{max}$: 200 cP
t_{max} 176 °F; p_{max} 58 PSIG
Connection: 3/4"...2" ANSI

NEO

Ultrasonic Level Transmitter
PVDF

Meas. Length: 19.6' or 39.3'
t_{range} -40...176 °F
p_{max} 30 PSIG
Connection: 2" or 3" NPT
Narrow 3" Beam Width

Level - Transmitters

NUS-4

Ultrasonic Level Transmitter
PP, PVDF

Measuring Range:
up to 80 feet (Liquids)
t_{max} 190 °F; p_{max} 40 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_{max} 194 °F; p_{max} 40 PSIG
Connection: 2" NPT
Analog Output
Accuracy: ± 0.2% of Reading
±0.05% of Full Scale

KPW

Submersible Pressure Transducer
Stainless Steel

Measuring Depth$_{max}$: 50" WC
to 1,000 PSI
t_{range} 14...122 °F
Proof Pressure:
2x Depth Range

NTB

Deep Well Level Probe
Stainless Steel

Range: 0...200 m (WC)
t_{range} 14...140 °F
Cable Length: Max. 300 m
Analog Output

Find More Level Solutions from Kobold at www.koboldusa.com & www.kobold.com

RFS - Side-Mount Level Switch

Stainless Steel
Specific Gravity$_{min}$: 0.8
t_{max} 248 °F
p_{max} 72 PSI/145 PSI (ATEX)
Connection: 1/2" NPT

NK-8000 - Ultrasonic Level Switch

Stainless Steel
t_{max} 176/212 °F
p_{max} 1,000 PSIG
Connection: 3/4" NPT

NCW - Capacitive Level Switch

Stainless Steel, PVDF
Dielectric Constant$_{min}$: 1.5
t_{max} 392 °F; p_{max} 435 PSIG
Connection: NPT or Weld-in Sleeve
1 Relay SPDT

OPT - Optical Switch for Liquids

Stainless Steel, Polypropylene
Sensor: Polysulfone
t_{max} 176 °F; p_{max} 145 PSIG
Connection: 1/2" NPT,
G 1/2, M14 Bulkhead
Open-Collector

NZJ - Micro Bypass Indicator with Switch

Aluminum, Stainless Steel
Installation Length: 4"...22"
t_{max} 210°F; p_{max} 230 PSIG
Connection: 1/4" NPT
Up to Two Limit Contacts

NSC - Capacitive Level Switch for Bulk Media

Stainless Steel, PTFE,
Polycarbonate, PP
Dielectric Constant$_{min}$: 1.5
Switching Range: 10"... 49 ft
t_{range} -4...176 °F; p_{max} 7 PSIG

NWP - Plastic Vibrating Fork Level Switch

Glass Filled PPS
t_{range} -40...176 °F
p_{max} 150 PSIG
Connection: 3/4" NPT
SPST Relay Output

NMF - Static Pressure Switch for Bulk Media

NBR, FKM, Stainless Steel
t_{max} 390 °F
Min. Density: 3.2 lb/ft^3
p_{max} 14.5 PSI
(Over-pressure Protected)
Connection: Flange

NSV - Vibrating Fork Switch for Bulk Media

Stainless Steel
Switching Range: 9"...118"
Min. Density: 3.75 lb/ft^3
t_{max} 176 °F
Connection: 1-1/2" NPT
1 Relay SPDT

SZM - Bypass Level Indicator

Stainless Steel
Meas. Length$_{range}$ 15"...121"
t_{max} 212 °F; p_{max} 145 PSIG
Connection: 1/2" NPT,
ANSI 1/2"...2"

PLS - Pendulum Switch for Bulk Media

Aluminum, NBR
Length$_{max}$: 78.7"
t_{max} 176 °F; p_{max} 7 PSIG
Connection: Aluminum Flange
SPDT Microswitch, 250 V_{AC}/15 A

BA - Displacer-Type Level Gauge

Stainless Steel
Meas. Length$_{range}$: 1...19.7 ft
Specific Gravity$_{min}$: 0.4 ...2.0
t_{range} -40...480 °F; p_{max} 580 PSIG
Connection: 2...4" ANSI

Pressure - Gauges & Transmitters

MAN-R/Q

Bourdon Tube Pressure Gauges
Brass

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

MAN-ZF

Pressure Gauge with Transducer
Stainless Steel

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

MAN-F

Test Pressure Gauge with Bourdon Tube
Aluminum, SS, Brass

Measuring Range:
-8.5"...0" Hg to 0...8,700 PSIG
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-SD/DSD

LCD Pressure Gauge with Ceramic Sensing Element Battery Powered
Stainless Steel

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

MAN-SC/LC

Digital Pressure Gauge Battery or Externally Powered
Stainless Steel

Measuring Range:
-20...0 in Hg
to 0...20,000 PSI
Housing Ø: 80 mm
Overload Protection:
1.5 - 3 Times
Connection: 1/2" NPT
Analog Output, Alarm Output
Accuracy: ± 0.5% of FS

DZF26

Pressure Gauge with Analog Output
Stainless Steel

Measuring Range:
0...15 PSIG to
0...5,000 PSIG
t_{max} 150 °F
Housing Dia: 4"
Conn: 1/2" NPT

PMP

Differential Pressure Sensor and Controller for Filters

Measuring Range: 0...20" H_2O
Power Supply: 24 $V_{AC/DC}$,
110 V_{AC}, 230 V_{AC}
Display: 4-Digit LED
Connection: 1/4" NPT or
6x8 mm Tube
Accuracy: ±1.0% of FS

PAD - Differential Pressure Transmitter

Measuring Range:
0.3"...6" WC to 60...6,000 PSIG
Power Supply: 12-45 V_{DC}
Connection: 1/4" or 1/2" NPT
Accuracy: ± 0.075% of Full Scale
Material: Stainless Steel
Media Temp: -40...248 °F
Rangeability: 100 to 1
Output: 4-20 mA, 2-wire with HART®
CE EMC Conformity

- *Continuous Self-Diagnostic Function*
- *Standard 5-digit Local Display*
- *Various Diaphragm Seals Available*
- *Zero Point Adjustment*
- *Automatic Ambient Temperature Compensation*
- *EEPROM Write Protection*
- *Fail Mode Process Function*
- *Sensor Inputs: Differential, Gauge, or Absolute Pressure*

Pressure - Transmitters

PAD-N

Differential Pressure Transmitter with Diaphragm Seal
Stainless Steel

Measuring Range:
0 ... 250 mbar to
0 ... 206.80 bar
t_{max} 200 °C
Conn: Flange, Threaded, Clamp-on, and Inline Diaphragm Seal

DRM

Diaphragm, Capsule, and Inline Diaphragm Seals for Pressure Gauges and Transmitters
Stainless Steel, Special Materials upon Request

Measuring Range:
-30"...0" Hg to
0...23,000 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",
Versions up to 400 bar:
ANSI 8",
Flanges According to BS, JIS, and GOST Standards

PAS

High Accuracy Pressure Transmitter
Stainless Steel

Measuring Range:
-14.5...21.7 to
0...8,700 PSIG
Power Supply: 12 - 45 V_{DC}
Connection: 1/2" NPT
Accuracy: ± 0.075% of FS

PAS-N

Pressure Transmitter with Diaphragm Seal
Stainless Steel

Measuring Range:
0...250 mbar to 0...600 bar
t_{max} 350 °C
Conn: Thread or Flange
(Nominal Size 15 ... 100)

PDA

Pressure Transmitter with Ceramic Sensing Element
Stainless Steel

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

KPG

Pressure Transmitter with Thin-Film Sensing Element
Stainless Steel

Measuring Range:
-30"...0" Hg to
0...145,000 PSIG
Overload Protection:
1.2 - 3 Times
Conn: 1/4" NPT, 1/2" NPT
Acc: ± 0.125% - 0.25%
of Full Scale

KPK

Pressure Transmitter with Thin-Film Sensing Element
Stainless Steel

Measuring Range:
-30"...0" Hg to
0...15,000 PSIG
Overload Protection:
1.5 - 2 Times
Connection: 1/4" NPT
Accuracy: ± 0.25% - 0.5%
of Full Scale

KPA

OEM Pressure Transmitter with Heat-Fused Sensing Element
Stainless Steel

Measuring Range:
0...50 PSIG to
0...10,000 PSIG
Protection: 2 Times
Connection: 1/4" NPT
Accuracy: ± 0.25% of FS

SEN-86/-87

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
Conn: 1/2" NPT, 1/4" NPT
Accuracy:
± 0.5% - 1.0% of Full Scale

SEN-96

Pressure Sensor with Ceramic Element
Stainless Steel

Measuring Range:
-30"...0" Hg to
0...6,000 PSIG
Output: 4-20 mA,
0-5 V_{DC}, 0-10 V_{DC}
Conn: 1/4" NPT, 1/2" NPT,
Accuracy: ± 0.5 - 0.75 %
of Full Scale

AUF

Compact Inline 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

Pressure - Switches

PSD

Electronic Pressure Transmitter/Switch
Stainless Steel

Range: 0...30 to 0...7,500 PSI
Output: 4-20 mA or 0-10 V_{DC}
2x PNP Switches
Display: 4-Digit LED
Connection: 1/4" NPT
Accuracy: ± 0.5% of FS

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 V_{DC}
Conn: 1/4" NPT, 1/2" NPT
Accuracy: ± 0.5% - 1.0% of Full Scale

KPH

Pressure Switch Diaphragm/Piston Type
Aluminum

Switching Range: -14.5...0 PSIG to 580...6,100 PSIG
Overpressure: 1.4 - 5 Times
Connection: 1/4" NPT
Repeatability: ± 3 - 4% of Full Scale

KPH300

OEM Pressure Switch
Zinc-Plated Steel, NBR

Switching Range: -5...-28 Hg to 450...4,600 PSIG
Connection: 1/4" NPT
Diaphragm or Piston Sensing Element
Adjustable SPDT Switch

Find More Pressure Solutions from Kobold at www.koboldusa.com & www.kobold.com

MAN-P - Diaphragm Pressure Gauge

Stainless Steel
Measuring Range: -16...0 to 0...40 bar
Overload Protection: 1.3 Times
Connection: 1/2" NPT
Accuracy: ±1.6% of Full Scale

SCH - Mechanical Pressure Switch

Brass, Stainless Steel, NBR
Ranges: -15...6 mbar to -1...0.1 bar
t_{max} 85 °C
Connection: R Threaded
Micro-Switch, Optional Proximity Switch

SEN - 98/99 Pressure Sensor Ceramic Element

Stainless Steel
Measuring Range:
-30"...0" Hg to 0...8,700 PSIG,
0...14.5 to 0...360 PSIA
Connection: 1/4" NPT, 1/2" NPT

MAN-K - Capsule Element Pressure Gauge

Stainless Steel, Brass
Measuring Range: -10...0 to 0...600 mbar
Housing Ø: 63...160 mm
Overload Protection: 1.3 - 10 Times
Accuracy: ±1.6% of Full Scale

SCH-PSB - Mechanical Pressure Switch

PA. PS, Silicone
For Overpressure, Vacuum Pressure , and Differential Pressure
Ranges: 20...300 Pa to 200...1000 Pa

MZB - Pressure Sensing Accessories

Brass, Steel, Stainless Steel
Block and Bleed Valves,
Gauge Swivels,
Snubbers, Cooling Elements,
and Steam Siphons

MAN-U - Differential Pressure Gauge

Stainless Steel
Measuring Range:
0...100 mbar to 0...25 bar
Static Pressure: 200 bar
Conn: 1/4" NPT, 1/2" NPT
Accuracy: Cl. 1.6

SCH-27 - Mechanical Pressure Switch

Stainless Steel
Switching Range:
0.7...6 mbar to 8...160 bar
Connection: 1/2" NPT, 1/4" NPT
Repeatability: < 1% of Full Setting Value

PNK - Pressure Transmitter for High Vibration

Brass, Aluminum
Measuring Range:
-30...0" Hg to 0...1,450 PSIG
Overload Protection: 1.6 Times
Connection: M16 x 1.5
(NPT with Adapter)

MAN-C - Diaphragm Pressure Gauge

Stainless Steel, PTFE, ECTFE
Measuring Range: -25...0 mbar to 0...25 bar
Overload Protection: 1.3 Times
Accuracy: ±1.6% of Full Scale

SCH-28 - Differential Pressure Switch

Stainless Steel
Switching Range:
0.1...1 bar to 0.2...10 bar
Connection: 1/2" NPT, 1/4" NPT
Repeatability: < 1% of Full Setting Value

PUM - U-Pipe Pressure Indicator

Glass, Aluminum
Indicating Ranges:
-250 up to 250 mm WC or
-1500 up to 1500 mm WC
Scale Division: 2 m

TWR

Temperature Switch
Brass, Stainless Steel

Switching Range: 86...248 °F
t_{max} 250 °F; p_{max} 920 PSIG
Connection: 3/4" NPT

TDD

Digital Temperature Switch
Stainless Steel

Switching Range: -58...250 °F
t_{max} 250 °F; p_{max} 1,150 PSIG
Connection: 1/2" NPT,
3/4" NPT,
2 Transistor Switches

TDA

Digital Temperature Transmitter
Stainless Steel

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

TNF

Gas Filled Capillary Thermometer
Stainless Steel

Meas. Range: -40...1,100 °F
Housings: 2.5"...10"
Protection: FS Value,
1.3x FS Optional
Accuracy: 1.0% or 1.6%

TNS

Gas-Filled Rigid Stem Thermometer
Stainless Steel

Meas. Range: -40...1,100 °F
Housings: 2.5"...10"
Protection: FS Value,
1.3x FS Optional
Accuracy: 1.0% or 1.6%

TST

Temperature Transmitter
Stainless Steel

Meas. Range: -58...1,100 °F
p_{max} 1,500 PSIG
Conn: 1/4" or 1/2" NPT,
1-1/2"...3" Tri-Clamp®
Output: 4–20 mA, 2-wire

TMA/MMA

Temperature Transmitters
Stainless Steel

Meas. Range: -358...1,112 °F
p_{max} 1,450 PSIG
Connection: 1/4" NPT,
1/2" NPT
Output: 4–20 mA, 2-wire
Shown with AUF Display

MWD

Heavy-Duty Resistance Thermometer
Stainless Steel

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

Find More Temperature Solutions from Kobold at www.koboldusa.com & www.kobold.com

TBS - Thermal Reed Temperature Switch

Brass, Stainless Steel
Switching Range: 14...212 °F
t_{range} -40...250 °F
p_{max} 360 PSIG
Connection: 1/4"...1-1/2" NPT

TSP - Temperature Transmitter for Pipes

Brass, Stainless Steel
Meas. Range: -40...300 °F
p_{max} 750 PSIG
Connection: 1/4"...1-1/2" NPT
Output: 4-20 mA, Pt 100 RTD

TNK - RTD Temperature Sensors

Brass, Bronze, Stainless Steel
Meas. Range: -112...302 °F
t_{max} 302 °F; p_{max} 725 PSIG
Connection: 1/2" NPT

TSH - Thermowells for Thermometers

Stainless Steel
p_{max} 360 PSIG
Connection: 1/2"...1" NPT,
Weld Stub

DTB - Battery Powered Digital Thermometer

Stainless Steel
Measuring Range:
-50...400°F
p_{max} 500 PSIG
Fittings: 1/4"...3/4" NPT

TBE - Bi-Metal Thermometer

Stainless Steel
Meas. Ranges: -50...50 °C
to 0...600 °C
p_{max} 15 bar
Fittings: 1/2"...3/4" NPT,

REG

Automatic Flow Regulating Valve
Brass, Stainless Steel

t_{max} 572 °F; p_{max} 2,900 PSIG
Connection: 3/4" NPT, G 1/2, G 3/4

REG-8

Automatic Flow Regulating Valve
Stainless Steel

t_{max} 570 °F; p_{max} 2,900 PSIG
Connection: 3/4"...4" ANSI Wafer,
DN 20...100, G 1/2...2-1/2

NVM

Needle Valve
Stainless Steel

t_{max} 250 °F; p_{max} 3,600 PSIG
Connection: 1/8"...1-1/4" NPT,
G 1/8...G 1-1/4

NVN

Needle Valve
Stainless Steel, Brass, Carbon Steel

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

MFR

Magnetic Filter
Brass, SS, Bronze, Cast Iron

t_{max} 392 °F; p_{max} 580 PSIG
Connection: G 1/4...G 4

RL

Power Supply, Latching, and Isolation Relay

Power: 110 V_{AC}, 230 V_{AC}, 24 V_{DC}
Excitation: 24 V_{DC}, 120 mA Regulated
Input: Dry Contact or NPN/PNP,
15mA Max
Output: SPDT Relay,
10A@240V_{AC} 8A@24V_{DC}

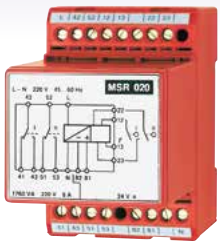
KFD-2/KFA-5

Instrinsically Safe Relay/Power Supply

For Dry Contacts or NAMUR-Type Switches
Single or Dual Channel
Standard Rail Mounting
24 V_{DC} or 110 V_{AC} Power
SPDT Relay Output

MSR

Contact Protection and Latching Relay



For Protection of Reed Contacts
8A Max. Switching Capability
1 or 2 SPDT Contacts

AUF

Compact Inline 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

MPT

Universal/Process Panel Display Ratemeter

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

MPV

Dual-Line Process Panel Display

Pulse or Analog Outputs
Displays both Rate and Total
32 Point Linearization
Modbus®
Gate Function
Open Channel Flow

DAG-T4

Universal Digital Indicator/Controller

Input: Current, Voltage,
Pt 100, Thermocouples
Limit Contacts
Sensor Supply

DAG-Z2

Counter/Preset Counter

Input: Frequency
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

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