# 40 Years Of Innovative Measuring Technology



# **PRODUCT SUMMARY**



# FLOW • LEVEL • PRESSURE • TEMPERATURE • ACCESSORIES

Order from: C A Briggs Company

622 Mary Street; Suite 101; Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118

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# **KOBOLD** INSTRUMENTS

OBOLD

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

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

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The KOBOLD Group's production plants are located all over the world.



## MEASURE, CONTROL, AUTOMATE

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



# YOU ARE OUR PRIORITY

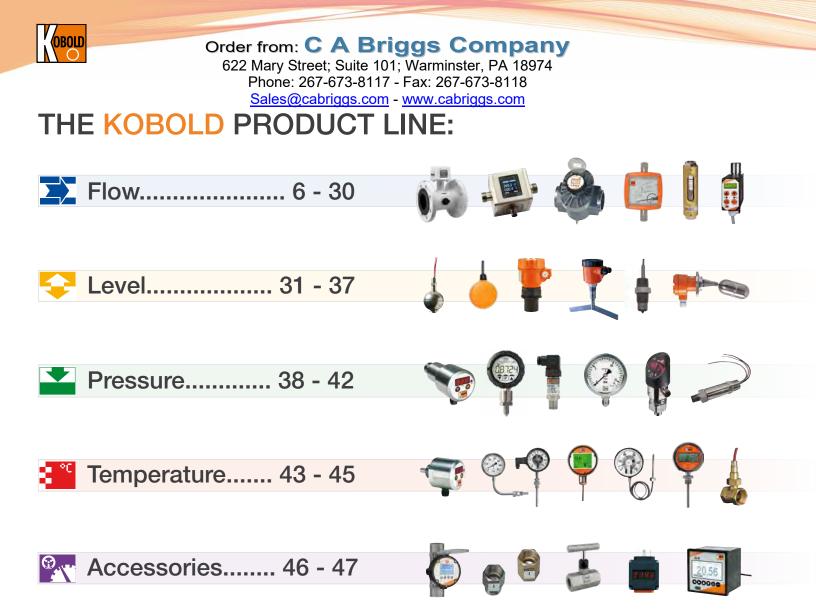
Our years of experience and excellence in customer service and technical support have built our reputation as the partner of choice. Serving and supporting our customers and our products is our priority. Our expert engineers are ready to help you choose your KOBOLD solution, and their experience is an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





## ABOVE AND BEYOND THE STANDARD

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



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



EQuality High Quality -Cost S Low Cost



Stainless Steel Design



For Chemicals



Heating Jacket



Battery Powered/ External Power Supply

Battery Powered



Installation Under **Process Conditions** 

Scalable Analog Output

Rotatable Display



**Bi-directional** 



Configurable Outputs Operational with (UI) Gloves Temperature and Pressure Measurement Temperature and Flow Measurement **Energy Measurement** Space Saver

NFC



# **Quick Reference Product Table**

Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG	Model	PG
ADI	47	DPE	17	FPS	16	KPK	41	MAN-Z	38	NEO	37	OMG	20	SMV	15	TUV	18
ANU	23	DPL	18	HND-F	17	KPL	23	MAS	22	NGM	36	OPT	35	SMW	15	TWA	45
AUF	47	DPM	18	HND-P	41	KPW	37	MFR	46	NGR	36	OVZ	19	SV	14	TWL	44
BA	37	DPT	17	HND-T	44	KSK	12	MIK	24	NGS	34	PAD	40	SVN	12	TWM	45
BGF	14	DPU	16	HPC	22	KSM	12	MIM	24	NIR	35	PAS	42	SWK	13	TWR	43
BGK	13	DRB	17	INT	47	KSR	12	MIS	24	NK	35	PDA	41	SZM	37	UFJ	27
BGN	14	DRG	19	КАН	21	KSV	12	MM	36	NKP	33	PDD	42	TBE	44	UMR	14
BVB	16	DRH	19	KAL	21	KZA	20	MMA	45	NMC	36	PEL	18	TBS	43	URA	14
BVO	14	DRM	39	KAL-A	21	LFM	19	MPT	47	NMF	35	PIT	25	TDA	43	URB	12
DAA	26	DRS	17	KAL-D	21	LNK	34	MPV	47	NML	36	PLS	35	TDD	43	URK	13
DAB	27	DRZ	19	KAL-K	21	LNM	34	MRT	47	NMT	36	PMP	40	TED	35	URL	13
DAF	26	DSD	38	KAL-L	21	LNR	34	MSR	46	NRF	36	PNK	40	TGK	44	URM	13
DAG	47	DTB	44	KDF	12	LNZ	34	MWD	45	NSC	36	PPS	16	TGL	44	USR	13
DAK	27	DTE	45	KDG	12	LPS	16	MWE	45	NSD	35	PS	16	TIR	44	UTR	14
DAR	27	DTK	19	KDS	13	LTS	45	MZB	40	NSE	34	PSD	42	TM	22	UTS	14
DAT	27	DTM	43	KEC	22	М	33	NAB	33	NSM	33	PSE	16	TMA	45	UVR	14
DAZ	27	DUC	26	KEL	24	MAN	39	NAD	46	NSP	33	PSR	16	TMU	23	UXR	14
DF	19	DUK	26	KFA	46	MAN-BF	39	NBA	33	NST	34	PUM	40	TND	44	V31	13
DFT	19	DUS	23	KFD	46	MAN-C	38	NBE	33	NSV	35	RCD	24	TNF	43	VKA	15
DIG	26	DVE	25	KFF	18	MAN-D	39	NBK	37	NTB	37	RCM	24	TNK	43	VKG	15
DIH	26	DVH	25	KFG	18	MAN-F	38	NCG	33	NUS	37	REG	46	TNS	43	VKM	15
DKB	27	DVK	21	KFR	12	MAN-K	38	NCM	33	NV	33	RFS	33	TSA	44	VKP	15
DKF	27	DVT	23	КM	45	MAN-LC	39	NCP	33	NVI	35	RL	46	TSH	43	ZDM	21
DMS	22	DVZ	25	KME	22	MAN-LD	38	NCS	33	NVM	46	S	15	TSK	17	ZED	47
DOC	20	DWD	17	KMT	22	MAN-N	38	NCW	34	NVN	46	SCH	42	TSP	43	ZLS	47
DOE	20	DWN	16	KP46	41	MAN-P	38	NDT	35	NWP	35	SCI	46	TSR	44	ZOE	47
DOG	25	DWS	16	KPA	41	MAN-R	38	NE	34	NWS	35	SEN	41	TST	44	ZOK	47
DON	20	DWU	16	KPF	42	MAN-S	39	NEC	33	NZJ	37	SFL	18	TTE	45		
DON-H	20	DZR	20	KPG	41	MAN-T	38	NEH	34	OEM	33	SMN	15	TTL	45		
DOT	18	EPS	25	KPH	42	MAN-U	38	NEK	34	OME	20	SMO	15	TUR	17		

#### Brand Directory:

Tri-Clamp<sup>®</sup> is a registered trademark of Tri-Clover Inc. of the Alfa-Laval Group. Trogamid<sup>®</sup> is a registered trademark of Evonik Resource Efficiency GmbH. Hastelloy<sup>®</sup> is a registered trademark of Haynes International Inc.  $\mathsf{Ryton}^{\otimes}$  is a registered trademark of Chevron Phillips Chemical Company. Monel^ $\otimes$  is a registered trademark of Special Metals Corporation.



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## WE EXCEL IN FLOW SOLUTIONS

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

KOBOLD is able to accommodate most common liquid application media, such as: oils, lubricants, water, wastewater, chemicals, corrosives, abrasives, coolant, paints, coatings, adhesives, sealants, and fuels. Our instrumentation can also handle most types of gaseous media, such as: steam, clean gas, dirty gas, ammonia gas, combustible gas, compressed air, natural gas, and nitrogen flow. KOBOLD flow instrumentation can be found providing dependable and lasting service in common application fields, such as: irrigation, oil and gas, automotive, power generation, general manufacturing, machining, cement/aggregates, chemicals, petrochemicals, test measurement, laboratories, research and development, aerospace, HVAC, water, wastewater, building automation, pulp and paper, metals, mining, surface treatment, semiconductors, pumping, agriculture, marine, aviation, boilers, brewing, refrigeration, turbines, utilities, and welding.



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# REGulation

- Flow Regulation
- No Power Needed
- Cost-efficient

#### 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 reliable service. The REG excels in protecting pumps from water hammer, cavitation, and overheating from sudden lack of flow. They are also extremely useful in guaranteeing maintenance free and tamper proof allocation of flow for water circuits subject to uneven distribution.

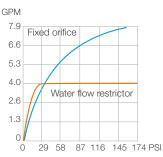
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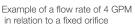
#### Features:

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



#### **Differential Pressure Curve**









# **All-Metal Magnetic Inductive Flowmeter**

The KOBOLD MIS is a unique full bore magmeter that combines cost efficiency and extensive features with quality. It offers technological advantages, reduced commissioning time, and competitive pricing.

Analog, frequency, and pulse outputs are standard along with alarm, batching, and totalizing features. The totalizer offers both a grand and resettable function. The MIS can accomodate all flow directions, due to the rotating digital TFT display screen. It is also equipped to measure bi-directional flow. The rugged cast steel flow bodies are available with a variety of linings, electrode matierlals, and fittings.

The MIS features a convienent IO-Link, especially useful for industry 4.0 compliance. It offers a flow rate of 3.3 to 33 feet per second, a maximum pressure of 230 PSI and a maximum temperature of 158 °F. Accuracy is held to a high standard, at  $< \pm (0.5\%$  reading + 0.3% of the full scale).

## **Application Examples:**

- Water Recovery
- Water Treatmant
- Wastewater
- Storm Water Monitoring
- Water Distribution
- Effluent Monitoring
- Filtration Systems
- Water Hydrant Testing
- Machine Tools
- Industrial Applications

### Learn More on Page 24



# 

# All-Metal Magnetic Inductive Flowmeter

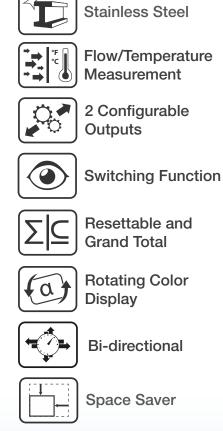
The new MIM magmeter delivers a revolutionary design for measuring and monitoring the flow and temperature of conductive liquids in pipes. The compact design offers exceptional features and functions, at an economical price.

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

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

The MIM is an ideal solution for a variety of applications; with ranges from 0.48...48 GPH to 0.4...90 GPM, temperatures up to 280 °F, and pressures up to 230 PSI.

#### Learn More on Page 24



# Viscous Media has Met its Match

# **DON** Oval Gear Flowmeter

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

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

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

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

Precision Machined Oval Gears



DON and DON-H oval gear flowmeters contain two oval gear rotors that measure a constant volume per rotation. The rotation is detected via magnets embedded within the rotors that transmit a high resolution pulse output.



# HPC

# A Worldwide-First: Unique Low-Flow Coriolis Technology







The new HPC breaks the barriers of low-flow measurement for Coriolis flow meters. Most lowflow options employ a single tube design where external interference increases dramatically, requiring costly decoupling. Another challenge most low-flow options face is that the weight influence of the sensor coils compared to the pipe diameter limits the potential design size. The patented, revolutionary design of the HPC employs lightweight magnets that are mounted onto the pipes themselves.

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





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



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

Learn More on Page 22



#### KSR/SVN - FLOW SWITCH FOR WATER OR AIR



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

Water: 0.03...4 GPH Air: 0.1...13 SCFH t<sub>max</sub> 160 °F; p<sub>max</sub> 230 PSIG Connection: 1/4" NPT

• Material: Clear Acrylic

Durable Construction

• Metric Scales Available

Clear, Easy to Read Scales

Inherently Stable Float Design

• With or Without Control Valves

• PVC or Metal Fittings for Durability

Water: 0.2...2 GPH to 2...20 GPM

t<sub>max</sub> 150 °F; p<sub>max</sub> 100 PSIG

Air: 0.1...1 SCFH to 10...100 SCFM

• Bridges Micro-flow and Large Ranges

Compact Size, Low Cost

#### KFR - ACRYLIC FLOWMETER FOR LIQUID OR GAS



KSV - ECONOMICAL MICRO-FLOWMETER

#### **URB - GLASS TUBE FLOWMETER**

• Compact

• Easy to Read

Easy Installation

• Highly Repeatable

Optional Needle Valve

Convenient Panel Mount

• Polysulfone Body; Brass or SS Fittings • Excellent Resistance to Acids and Alkalines

Water: 0.04...0.4 GPH to 2...20 GPH Air: 0.3...3 SCFH to 10...100 SCFH t<sub>max</sub> 250 °F; p<sub>max</sub> 87 PSIG Connection: 1/8" NPT Accuracy: ± 6% of Full Scale

#### KSK - ALL-PLASTIC FLOWMETER WITH OPTIONAL SWITCH

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

Water: 0.006...0.05 GPM to 0.44...4.4 GPM Air: 0.06...0.27 SCFM to 3.5...18.3 SCFM t<sub>max</sub> 140 °F; p<sub>max</sub> 145 PSIG Connection: 3/8"...1" NPT or Socket Glue-in Connection Accuracy: Cl. 4 According to VDI

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

Water: 2.6...26 GPH to 26...260 GPH Air: 11...110 SCFH to 110...1,100 SCFH t<sub>max</sub> 150 °F; p<sub>max</sub> 43 PSIG Connection: 1/2"...1-1/4" NPT Accuracy:  $\pm 2 - 2.5\%$ ,  $q_G = 50\%$ 

#### KDF-9/KDG-9 - MICRO-FLOWMETER AND SWITCH

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

Water: 0.02...0.25 l/h to 10...100 l/h Air: 2...20 NI/h to 300...3000 NI/h t<sub>max</sub> 100°C; p<sub>max</sub>16 bar Connection: 1/4" NPT, G 1/4, 8 mm Hose Accuracy:  $\pm 3 \% q_{g} = 50 \%$ 





- Materials: Polyamide, Polysulfone
- For Liquid or Gas

Air: 0.5...3 SCFM to 50...400 SCFM t<sub>max</sub> 140 °F; p<sub>max</sub> 145 PSIG Connection: 1"...2-1/2" NPT or Socket Glue-in Connection

#### KDF-2/KDG-2 - MICRO-FLOWMETER AND SWITCH



• Materials: Stainless Steel, Glass, FKM

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

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

Connection: 1/8" NPT, 1/4" NPT, 1" NPT Accuracy: ±2-5% of Full Scale

# KSM - ALL-PLASTIC FLOWMETER WITH OPTIONAL SWITCH

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

Water: 0.06...0.66 GPM to 35...264 GPM Accuracy: CI. 4 According to VDI





Accuracy: ± 3% of Full Scale

Options: Analog Output, Inductive Contacts

SIL

#### **URM - GLASS TUBE FLOWMETER**

#### **URL - GLASS TUBE FLOWMETER WITH FLANGE**

Materials: PVC. PTFE

t<sub>max</sub> 210 °F; p<sub>max</sub> 230 PSI

Connection: 1/4"...3" NPT

Accuracy:  $\pm 2 - 2.5\%$ ,  $q_c = 50\%$ 

Material: Stainless Steel

Optional Proximity Switches

Measures Flow Rates in Closed Pipe Systems

 Common Applications: Cooling Circuits, Plant Engineering, Water Treatment, Machine Tools,

Solar Heating, Welding, Glass Melting Pots,

Extrusion Machines, and Induction Furnaces

Designed for Low Operating Pressures

Large Sight Glass for Direct Observation

Water: 0.06...0.6 GPH to 11...110 GPM

Air: 0.11...1.1 SCFH to 30...300 SCFM

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

Water: 0.26...2.6 GPH to 66...660 GPH Air: 0.35...3.5 SCFH to 350...3,500 SCFH t<sub>max</sub> 212 °F; p<sub>max</sub> 145 PSIG Connection: 1/2"...1-1/2" ANSI Accuracy:  $\pm 2 - 2.5\%$ ,  $q_{_{\rm C}} = 50\%$ 

#### KDS - ALL METAL, LOW VOLUME VARIABLE AREA FLOWMETER

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

Water: 0.026...0.26 GPH to 5...50 GPH Air: 0.1...1 SCFH to 20...200 SCFH t<sub>max</sub> 260 °F; p<sub>max</sub> 580/910 PSIG Connection: 1/4" NPT Accuracy: ± 3% of Full Scale Options: Analog Output, Inductive Contacts

USR - GLASS TUBE FLOWMETERS WITH MANIFOLD VALVES

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

Water: 0.01...0.1 GPM to 0.25...2.5 GPM t<sub>max</sub> 210 °F; p<sub>max</sub> 230 PSIG Inlet Connection: 1" NPT Outlet Connection: 1/4" or 3/8" NPT, or Hose Conn. Accuracy:  $\pm 2 - 2.5\%$ ,  $q_c = 50\%$ 



#### UVR/UTR - GLASS TUBE VARIABLE AREA FLOWMETER



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

Water: 2.6...26 GPH to 52.8...528 GPH Air: 3.5...35 SCFH to 176...1,760 SCFH t<sub>max</sub> 210 °F; p<sub>max</sub> 145 PSI Connection: 3/8" NPT, 1/2" NPT Accuracy:  $\pm 2 - 2.5\%$ ,  $q_{c} = 50\%$ 

#### UTS - VARIABLE AREA FLOWMETER FOR GAS BURNERS





- Materials: Stainless Steel, POM
- For Liquids or Air
- Simple, Economical
- With or Without Needle Valve
- Low Pressure Loss
- Glass Tube Allows for Direct Observation
- Table-Top Mount Models Available

Water: 1...10 LPH to 13...130 LPH Air: 0.01...0.1 Nm3/h to 0.25...2.5 Nm3/h t<sub>max</sub> 100 °C; p<sub>max</sub> 16 bar Connection: 1/4" NPT Accuracy: Cl. 4 Acc. to VDI/VDE

BGN - ALL METAL, ARMORED VARIABLE AREA FLOWMETER



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

Air: 0.40...4.0 SCFH to 10...100 SCFH t<sub>max</sub> 150 °F; p<sub>max</sub> 45 PSIG Connection: 1/4" NPT, G 1/4, M18x1.5 Accuracy:  $\pm 2 - 2.5\%$ ,  $q_{c} = 50\%$ 

#### **BGN - HIGH PRESSURE ARMORED FLOWMETER**



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

Water: 0.002...0.02 GPM to 60...570 GPM Air: 0.008...0.08 SCFM to 140...1,400 SCFM t<sub>max</sub> 660 °F; p<sub>max</sub> 8,700 PSIG Connection: 1/2"...6" ANSI Options: Analog Output, BUS-Interface Accuracy: ±1.6 - 2.2% of Full Scale

#### SV/DSV - FLOAT TYPE FLOWMETER AND SWITCH



• Materials: Brass, Stainless Steel

- Small, Compact Design
- · Direct Reading Scales for Water or Air
- Wide Selection of Measuring Ranges
- Vertical Connections for Easy Installation
- Cylindrical Control Tube for Float
- Borosilicate Glass Measuring Tube
  - N/O or SPDT Reed Contacts as Options
  - Variety of Sealing Materials Available

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



- 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<sub>max</sub> 660 °F; p<sub>max</sub> 580 PSIG Connection: 1/2"...6" ANSI, 1/4"...2" NPT Options: Analog Output 4-20 mA, Contacts Accuracy: ±1.6 - 2.2% of Full Scale

#### **BGF - ALL METAL, ARMORED FLOWMETER**



The ATEX Ex

- Materials: SS, Special Materials 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<sub>max</sub> 390 °F; p<sub>max</sub> 580 Connection: 1/2"...3" ANSI, 1/4"...2" NPT

Options: Analog Output, BUS-Interface Accuracy: ±1.6% of Full Scale

#### **BVO - OEM FLOWMETER WITH SWITCH**

CROCO



- Materials: Brass, Stainless Steel
- Rugged Low Cost Design
- Repeatability of  $\pm$  2% of Full Scale
- Adjustable SPST Switch Standard

Water: 0.1...1.0 GPM to 1...13 GPM t<sub>max</sub> 210 °F; p<sub>max</sub> 145 PSIG Connection: 1/4"...1" NPT Accuracy: ± 10% of Full Scale

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

UMR/UXR/URA - VARIABLE AREA FLOWMETER







# Flow - Variable Area/Paddle



# Flow - Paddle/Rotating Vane



#### **DPT - TARGET TYPE FLOWMETER**



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

Water: 1.5...8 GPM to 225...500 GPM t<sub>max</sub> 175 °F; p<sub>max</sub> 580 PSIG Connection: 3/8"...3" NPT Accuracy: ± 3% of Full Scale

#### **TSK - FLAP STYLE FLOWMETER**



- Materials: SS, PP, PTFE, Hastellov<sup>®</sup> 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<sub>max</sub> 570 °F; p<sub>max</sub> 580 PSIG Connection: 1-1/2"...20" ANSI Wafer

Accuracy: ± 2.5% of Full Scale

#### **DRS - OEM TURBINE FLOW SENSOR**

**DPE - PADDLE WHEEL FLOWMETER** 

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

Water: 0.6...10.5 GPM t<sub>max</sub> 300 °F; p<sub>max</sub> 2,900 PSIG Connection: 1/2" NPT, 3/4" NPT Accuracy: ±1.5% of Full Scale

• Materials: Brass, Stainless Steel

Unique Insertion Impeller Design

• Common Uses: Cooling Water,

• Outputs: Pulse Frequency, 4-20 mA

Analog, Digital Display, and Switches • Tolerates Dirty Liquids and Solids

Mechanical Engineering, Waste Water

Treatment, and Chemical Industry

Water: 1.5...8 GPM to 15...200 GPM

Low Pressure Loss



#### • Materials: Brass, Stainless Steel, PVC

- Very Low Pressure Loss
- Linear Output Signal
- Resistant to Dirt and Small Debris
- in the Media

**DWD - PADDLE BELLOWS FLOWMETER AND SWITCH** 

- Universal Mounting
- Factory Configured According
- to Customer Specifications
- Optional RS-232C Serial Interface

Water: 0.26...2.6 GPM to 1,580...15,800 GPM t<sub>max</sub> 250 °F; p<sub>max</sub> 360 PSIG Connection: 3/8"...2" NPT, 3/8"...2" ANSI, Weld-on Flange 1-1/2"...20" Pipe Accuracy: ±1.5% of Full Scale

#### HND-F - HAND-HELD MEASURING UNIT



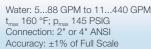
#### • Measures Flow, Humidity, and Temperature

- Large Selection of Electrodes and Accessories
- Serial Interface, MIN/MAX Memory
- Hold Function, Clock, Log Function
- User-Friendly
- Common Applications: Air Conditioning, Exhaust Ventilation Systems, and General Humidity Measurement

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

#### TUR - ALL-PLASTIC TURBINE FLOWMETER

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



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

Water: 1.5...8 GPM to 15...200 GPM t<sub>max</sub> 175 °F; p<sub>max</sub> 230 PSIG Connection: 1/2"...3" NPT Accuracy: ± 3.0% of Full Scale

t<sub>max</sub> 175 °F; p<sub>max</sub> 580 PSIG Connection: 1/2"...3" NPT Accuracy: ± 2.5% of Full Scale







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## Flow - Rotating Vane

#### **TUV - TURBINE FLOWMETER**



#### **DOT - TURBINE FLOWMETER**



#### • Material: Stainless Steel • For Low Viscosity Liquids

- Rugged and Reliable Turbine Meter Tungsten Carbide Bearings
- Long Service Life
- Low Pressure Drop
- Pulse and 4-20 mA Signal Outputs
- Optional LCD Display for Batching, Totalizing

Water: 0.5...5 GPM to 240...2,400 GPM t<sub>max</sub> 250 °F; p<sub>max</sub> 3,600 PSIG Connection: 1/2"...2" NPT, 1/2"...6" ANSI, (Larger Sizes upon Request) Accuracy: ± 0.5% 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<sub>max</sub> 175 °F; p<sub>max</sub> 230 PSIG Connection: 1/8" NPT, 1/4" NPT Accuracy: ±1 - 2.5% of Full Scale

#### KFF/KFG-1 - LOW VOLUME, ROTATING VANE FLOWMETER



- Material: Brass, PTFE, PPS
- Can Measure Very Low Flow Rates
- Models for Liquid or Gas
- For a Wide Variety of Industrial,
- Commercial, or Laboratory Applications • Pulse or 0-5 V<sub>pc</sub> 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<sub>N</sub>/min to 100...500 L<sub>N</sub>/min t<sub>max</sub> 120 °F; p<sub>max</sub> 500 PSIG Connection: 1/8"...1/2" Compression Accuracy: ± 3% of Full Scale





#### PEL - LOW VOLUME TURBINE FLOWMETER



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

Water: 0.004...0.06 l/min to 0.1...28 l/min t<sub>max</sub> 135 °C; p<sub>max</sub> 345 bar Connection: R 1/4...R 1/2, Wafer Flange DN 40/50, 1/2" Glue-in Connection, Hose-Connection Accuracy: ± 2% of Full Scale

#### DPL - ALL PLASTIC LOW FLOW PADDLE WHEEL SENSOR



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

Water: 0.4...8 GPH to 16...400 GPH t<sub>max</sub> 160 °F; p<sub>max</sub> 145 PSIG Connection: G 1/2, Hose Barb Accuracy: ± 2.5% - 5% of Full Scale

#### KFF/KFG-3 - Low Volume, ROTATING VANE FLOWMETER



- Can Measure Very Low Flow Rates
- Models for Liquid or Gas
- For a Wide Variety of Industrial, Commercial, or Laboratory Applications
- Pulse or 0-5 V<sub>pc</sub> Output
- Highly Repeatable
- 12.5 Vpc or Vpc Input Power
- Local LCD Display for 3000 Series

Water: 13...100 mL/min to 1...10 L/min Air: 20...100 mL<sub>N</sub>/min to 100...500 L<sub>N</sub>/min t<sub>max</sub> 120 °F; p<sub>max</sub> 500 PSIG Connection: 1/8"...1/2" Compression Accuracy: ± 3% of Full Scale

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

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

Water: 0.5...20 l/min t<sub>max</sub> 90 °C; p<sub>max</sub> 250 bar Connection: G 3/8 Accuracy: ±1% of Full Scale

# Flow - Rotating Vane



#### DF - PADDLE WHEEL FLOWMETERS/TOTALIZERS/TRANSMITTERS



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

Water: 0.02...0.14 GPM to 1.5...36 GPM t<sub>max</sub> 180 °F; p<sub>max</sub> 1,450 PSIG Connection: 1/8"...1-1/2" NPT Accuracy: ± 2.5% of Full Scale

#### DRH - PADDLE WHEEL FLOW SENSOR



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

Water: 0.05...0.2 GPM to 0.66...13.2 GPM t<sub>max</sub> 175 °F; p<sub>max</sub> 580 PSIG Connection: 3/8" NPT, 1" NPT Accuracy: ± 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<sub>max</sub> 280 °F; p<sub>max</sub> 430 PSIG Connection: 1/4" NPT Accuracy: ± 2% of Full Scale

#### **DRZ - ROTARY PISTON FLOWMETER**



- Material: Brass
- Economy and High Performance
- 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<sub>max</sub> 175 °F; p<sub>max</sub> 580 PSIG Connection: 1/8" NPT, 1/4" NPT Accuracy: ±1% of Reading



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<sub>max</sub> 180 °F; p<sub>max</sub> 230 PSIG Connection: 1/4"...3/4" 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<sub>max</sub> 175 °F; p<sub>max</sub> 580 PSIG Connection: 1/8"...1" NPT Accuracy: ± 3% of Full Scale



- Material: Stainless Steel
- For Low Viscosity Liquids
- Suitable for Filling/Batching Processes Typical Media: Additives, Perfumes, Water and Demineralized Water,
- Liquified Gas • Repeatability of ± 0.1%
- IP65 Protection
- Water: 0.005...0.25 l/min t<sub>max</sub> 80 °C; p<sub>max</sub> 100 bar Connection: 1/8" NPT, G 1/8, Swagelok® 6 mm Accuracy: ± 2.5 % of Reading

#### **OVZ - ECONOMICAL OVAL-GEAR FLOWMETER**



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

Viscosity Range: 10...800 cSt Oil: 0.03...0.53 GPM to 0.42...10.6 GPM t<sub>max</sub> 175 °F; p<sub>max</sub> 580 PSIG Connection: 1/4"...3/4" NPT Accuracy: ± 2.5% of Full Scale

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

LFM - DUAL-RING PENDULUM FLOWMETER



# Flow - Rotating Vane

#### **DON - POSITIVE DISPLACEMENT FLOWMETER**



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

• Materials: Aluminum, Stainless Steel

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

#### **DOC - POSITIVE DISPLACEMENT FLOWMETER**



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

Oil: 0.13...26 GPH to 0.8...21 GPM Connection: 1/4" or 1" NPT or BSP t<sub>max</sub> 176 °F; p<sub>max</sub> 145 PSIG Accuracy: ± 0.5% of Reading

#### **OMG - HELICAL GEAR FLOWMETER**

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

• Materials: Cast Iron, Stainless Steel

Seals of FKM, EPDM, or FEP

Application Specific Models for

Consumption Measurement.

Viscosity Range: 20...5,000 cSt

t<sub>max</sub> 150 °C; p<sub>max</sub> 400 bar Connection: G 1/8...1 Accuracy: ± 0.3 - 1% of Reading

Oil: 0.008...2 l/min to 3...700 l/min

Flow Measurement, Oil Batching,

Ratio Control, and Batch Control

• For Viscous Liquids

Protection of IP65

**DZR - SPHERICAL GEAR FLOWMETER** 

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#### Viscosity Range: up to 5,000 cSt Oil: 0.026...2.6 GPM to 13...1,300 GPM t<sub>max</sub> 390 °F; p<sub>max</sub> 6,000 PSIG Connection: 1/2"...3" NPT, 1/2"...6" ANSI Accuracy: ± 0.3% of Reading

#### **DON-H - HIGH PRESSURE FLOWMETER**



#### • Material: Stainless Steel

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

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

#### DOE - OEM OVAL GEAR FLOWMETER



#### • Material: Stainless Steel

- Designed for OEM Use PEEK or PPS Rotors
- Media Viscosities from 2 to 1000 cP
- Hall Sensor or Hall/Reed Switch
- Pulse Frequency Signal Output
- · Common Media: Petroleum, Grease,
- Oil. Pastes, Fuels, Chemicals, Ink
- Optional Temperature Measurement

Viscosity Range: up to 1,000 cP Oil: 0.14...9.5 GPH to 0.27...10.56 GPM Connection: 1/8"...1/2" NPT Accuracy: ± 1 % of Reading

**OME - HELICAL GEAR FLOWMETER** 

- Material: Aluminum • Quiet, Non-pulsating Operation
- Low Pressure Loss
- For Non-abrasive, Lubricating Liquids
- Advanced Helical-gear Technology
- Bi-directional Measurement
- High Turndown Ratio of 150:1
- No Upstream or Downstream Flow Requirements

Viscosity Range: up to 5,000 cSt Oil: 0.03...2.6 GPM to 0.92...92 GPM t<sub>max</sub> 250 °F; p<sub>max</sub> 600 PSIG Connection: 1/2"...1-1/2" NPT Accuracy: ± 0.3% of Reading



#### **KZA - SPHERICAL GEAR FLOWMETER**

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

Viscosity Range: 20...4,000 cSt Oil: 0.02...4 l/min to 1...200 l/min t<sub>max</sub> 80 °C; p<sub>max</sub> 160 bar Connection: G 1/4...1 Accuracy: ± 0.3 - 3% of Reading

#### Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com



# Flow - Rotating Vane/Mass

SELLER

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#### **ZDM - SPHERICAL GEAR FLOWMETER**



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

Connection: 3/8"...1-1/2" NPT

Accuracy: ± 0.3% of Reading

Viscosity Range: 0.3...1,000,000 cSt Oil: 0.0005...0.5 GPM to 0.4...138 GPM t<sub>max</sub> 410 °F; p<sub>max</sub> 6,500 PSIG

#### KAL-K - THERMAL FLOW SWITCH

SELLER

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SELLER



- Material: Stainless Steel
- Flow Switch with LED Flow Trend and NPN/PNP Transistor, N/O Relay (Only with Optional 110 V<sub>AC</sub> Version)
- Revolutionary Microprocessor-based Drift Stabilization
- Easy to Operate
- Extremely Low Pressure Loss
- Insensitive to Dirt

Water: 0.15...6.6 ft/sec t<sub>max</sub> 250 °F; p<sub>max</sub> 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<sub>max</sub> 250 °F; p<sub>max</sub> 120 PSIG Connection: 1/2" NPT, Duct Flange Accuracy: ±10% of Reading

#### **DVK - CALORIMETRIC SWITCH, FLOWMETER, AND TOTALIZER**

- Material: Stainless Steel • Designed for Air Flow in Pipes/Hoses
- Maintenance-Free Calorimetric Technology
- Minimal Pressure Loss
- Common Application Areas: Flow
- Monitoring of Air and Gases, Air Conditioning Systems, and Extraction Systems

Air: 1...10 LPM to 50...500 LPM t<sub>max</sub> 50 °C; p<sub>max</sub> 15 bar Connection: G 1/4...G 2 Accuracy: ± 5% of Full Scale



- Material: Stainless Steel
- Extensive Features, Compact Design
- · For Non-viscous, Water-based Liquids
- Reliable, Insensitive to Dirt
- Minimal Pressure Loss
- Output: PNP/NPN, N/O, N/C
- Superior Compensation for
- Changes in Temperature LED Status Indicator
- Water: 0.15...6.6 ft/sec t<sub>max</sub> 175 °F; p<sub>max</sub> 580 PSIG Connection: 1/4" or 1/2" NPT, M12 x 1
- 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<sub>max</sub> 175 °F; p<sub>max</sub> 1,450 PSIG Connection: 1/2"...3/4" NPT, 1-1/2" Tri-Clamp® Linearity: ±10% of Full Scale

#### KAL/KAL-E - THERMAL FLOW SWITCH

KAL-D - COMPACT THERMAL FLOW SWITCH



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

Water: 0.15...6.6 ft/sec t<sub>max</sub> 250 °F; p<sub>max</sub> 1,450 PSIG Connection: 1/4"...1-1/2" NPT

**KAH - AIR VELOCITY TRANSMITTER** 

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

Air: 0...2,000/3,000/4,000 ft/min Output Signal: 0-10 V<sub>DC</sub> or 4-20 mA Supply Voltage: 24 V<sub>AC/DC</sub> Connection: Mounting Adapter Accuracy: ± (0.2 m/s + 3% of Reading)



## Flow - Mass/Coriolis

#### MAS - MASS FLOWMETER FOR GASES

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

#### Air: 0...10 SCCM to 0...500 SLPM t<sub>max</sub> 120 °F; p<sub>max</sub> 500 PSIG Connection:

1/4" NPT, 1/2" NPT; 1/4" or 1/2" Swagelok  $^{\circledast}$  Accuracy:  $\pm 1.5\%$  of Full Scale

#### KME - COMPACT INLINE FLOWMETER



For Compressed Air and Technical Gases
Hot Film Sensor Element
Easy to Mount/Dismount without

• Material: Aluminum, SS, Polycarbonate

Opening any Pipes

• Material: Stainless Steel, Brass

• For Compressed Air and Gases

Completed During Production

Excellent Long-Term Stability

Fast Response Time

Optional Display

Application Specific Adjustments

• Integrated Counter for Consumption

Compact and Remote Mount Probes

Air: 2.8...1397 Nm3/s to 263...263,350 Nm3/s

- Long Term Stability, Fast Response Time
- Application-specific, Multi-point Factory Adjustment for Excellent Accuracy
- Optional Display

Air: 0.12...44.4 SCFM to 1.3...500 SCFM t<sub>max</sub> 140 °F; p<sub>max</sub> 230 PSIG Connection: 1/2"...2" NPT Accuracy: ± 3.0% of Reading, ± 0.3% of FS

#### KMT-4 - THERMAL MASS FLOWMETER



#### t<sub>max</sub> 80 °C; p<sub>max</sub> 16 bar Connection: R 1/2, Male for Insertion

(DN65...DN700) Accuracy: ± 1.5% of Reading, ± 0.8% of Full Scale

#### HPC - MINI CORIOLIS MASS FLOWMETER



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

Water: 2...20 kg/h to 5...50 kg/h t<sub>max</sub> 350 °F; p<sub>max</sub> 1,450/4,640/5,800 PSIG Connection: 1/2" NPT, Gryolock/Swagelok® Accuracy: ± 0.1% of Reading, ± Zero-point Stability

#### DMS - MASS FLOWMETER FOR GASES

#### Material: Stainless Steel

- For Gas Measurement
- Accurate, Reliable, Rugged
  Easy to Use Display

• Material: Stainless Steel, Brass

• For Compressed Air and Gases

Application Specific Adjustments

• Integrated Counter for Consumption

Compact or Remote Mount Probes

Air: 0.32...63 Nm/s to 3.5...1,400 Nm/s t<sub>max</sub> 176 °F; p<sub>max</sub> 230 PSIG Connection: 1/2"...2" NPT with Ball Valve

Completed During Production

• Excellent Long-Term Stability

Fast Response Time

Optional Display

- No Moving Parts
- Common Application Areas: Gas Monitoring, Paint Lines, Laminator
- Systems, Semiconductor Industry, Analytic Devices, Exhaust Measurement, Engineering, and Boiler Controls
- Optional Regulator

Air: 0.1...3.7 NL/min to 0...185 NL/min t<sub>max</sub> 120 °F; p<sub>max</sub> 500 PSIG Connection: 1/4" or 1/2" NPT, 1/8"...1/2" Compression Accuracy: ±1% of Full Scale

#### KMT-1/-2/-3 - THERMAL MASS FLOWMETER



#### **KEC - THERMAL MASS FLOWMETER**

- Material: Stainless Steel

Accuracy: ±1.5% of Reading,

+ (0.5 - 0.8 of Full Scale)

- Suitable for Demanding Industrial Use
- Calorimetric Measuring Principle
- Quick, Precise Measurements
  Standard Integrated Modbus<sup>®</sup> Output
  No Moving Parts
- 2x 4-20 mA Analog Outputs
- Common Applications: Chemicals, Gas, Methane, Breweries, Power Plants, Semiconductors, Automotive Industry

Air: 0.33...164 ft/sec to 0.33...735 ft/sec t<sub>max</sub> 350 °F; p<sub>max</sub> 1,450 PSIG Connection: 1/2"...2" NPT, 1/2"...3" ANSI Accuracy: ± 1.5% of Reading, ± 0.3% of FS

TM/UMC-3 - CORIOLIS MASS FLOWMETER



- Materials: SS, Hastelloy<sup>®</sup>, Monel<sup>®</sup> Tantalum, Nickel, Titanium
- Widest Range of Wetted Materials
   Available in the Industry
- Liquid or Gas Measurement
- Extreme Temp/Pressure Ratings
- Heat Jacketing Available

Water: 0.003...0.3 lbs/min to 220...2,400 lbs/min t<sub>max</sub> 500 °F; p<sub>max</sub> 13,000 PSIG Connection: 1/4"...1/2" NPT, 1/2"...4" ANSI Accuracy: ± 0.1% of Reading, ± Zero-point Stability

# Flow - Coriolis/Differential Pressure



#### TMU/UMC-3 - CORIOLIS MASS FLOWMETER



- 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: 0...1,320 lbs/hr to 0...2,200 tons/hr t<sub>max</sub> 500 °F; p<sub>max</sub> 580 PSIG Connection: 1/2"...16" ANSI Accuracy: ± 0.1% of Reading, ± Zero-point Stability

#### TMU-...AC - CORIOLIS FLOWMETER WITH HEATING JACKET



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HARTW

# • 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: 0...1,320 lbs/hr to 0...2,200 tons/hr t<sub>max</sub> 500 °F; p<sub>max</sub> 580 PSIG Connection: 1/2"...12" ANSI Accuracy: ± 0.1% of Reading, + Zero-point Stability

#### KPL - DIFFERENTIAL PRESSURE ORIFICE PLATE

ATEX

• Materials: Steel, SS, Hastelloy-C®, Titanium, Monel®, Tantalum • Used to Measure Flow of Liquids, Gases, or Steam High Reliability, Minimal Maintenance Shown with Model PAD

Ranges: for Liquids, Gases, Steam According to ISO 5167-1 Connection: ANSI 2"...24", DN 50...600 t<sub>max</sub> 500 °C; p<sub>max</sub> PN 420/cl. 2500

### TMU/UMC-4 - CORIOLIS MASS FLOWMETER



#### **KPL - DIFFERENTIAL PRESSURE ORIFICE PLATE**



#### • Materials: Steel, SS, Hastelloy-C<sup>®</sup>, Titanium, Monel®, Tantalum

• Materials: Stainless Steel, Hastelloy®

• Simultaneous Measurement of Mass

Produces an Accurate Volumetric

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

Flow, Density, and Temperature

• For Demanding Applications

t<sub>max</sub> 500 °F; p<sub>max</sub> 580 PSIG

± Zero-point Stability

Connection: 1/2"...16" ANSI, 1/4" NPT, 1/2" NPT

Accuracy: ± 0.1% of Reading,

 Can Accomodate Very High Flow Rates Available in Large Line Sizes

• For Liquids or Gases

Flow Rate

- Used to Measure Flow of Liquids, Gases, or Steam
- High Reliability, Minimal Maintenance

Shown with Model PAD Ranges: for Liquids, Gases, Steam According to ISO 5167-1 Connection: ANSI 2"...24", DN 50...600 t<sub>max</sub> 500 °C; p<sub>max</sub> PN 420/cl. 2500

#### ANU - DIFFERENTIAL PRESSURE PITOT TUBE



ANSI 1"....3", DN 25....80 Probe Length: 2"...315" (50...8000 mm) t<sub>max</sub> 1175 °C; p<sub>max</sub> 400 bar

**DVT - DIFFERENTIAL PRESSURE VENTURI TUBE** 

ATEX

HART





# Flow - DP/Electromagnetic

#### **KEL - DIFFERENTIAL PRESSURE FLOWMETERS**



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

Water: 0.1...0.5 GPM to 400...2,000 GPM t<sub>max</sub> 250 °F; p<sub>max</sub> 230 PSIG Connection: 1/2"...1-1/2" NPT, 1/2"...8" ANSI Wafer Accuracy: ± 2 - 5% of Full Scale

#### Low to Medium Viscosities, Minimal Solids

**RCD - DIFFERENTIAL PRESSURE FLOWMETER** 

• High Reliability and Long Service Life

• Materials: Brass, Stainless Steel

- Brass or 316-Ti Stainless Steel Bodies
- Custom Calibrations for Density/Viscosity

• For Liquids or Compressed Gases with

- Mechanical Pointer Indicator, Analog Output, Digital Display, Switches
- Common Uses: Machinery Manufacturing, Chemical Industry, 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:  $\pm$  3% of Full Scale

#### **RCM - DIRECT READING FLOWMETER**

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

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

#### MIM - ALL-METAL ELECTROMAGNETIC FLOWMETER







Water: 0.48...48 GPH to 0.4...90 GPM Temp: -40...280 °F; p<sub>max</sub> 230 PSIG Connection: 1/4"...2" NPT Accuracy: < ± (0.8% of Reading, + 0.5% of Full Scale



MIK - ECONOMICAL MAGMETER

- For a Wide Variety of Conductive Liquids, Acids, and Caustics
- Wetted Materials: PPS/SS/NBR, PPS/SS/FKM, PVDF/Hastelloy<sup>®</sup>/FFKM, PVDF/Tantalum/FFKM
- 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:  $\pm$  2% of Full Scale

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

#### MIS - ELECTROMAGNETIC FLOWMETER



OIO-Link



OIO-Link





Water: 3.3....33 ft/sec t<sub>max</sub> 158 °F; p<sub>max</sub> 230 PSIG Connection: ANSI 2"...8" Accuracy: <  $\pm$  (0.5% of Reading, + 0.3% of Full Scale

- 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

# Flow - Electromagnetic/Vortex



#### **PIT - INSERTION MAGNETIC FLOWMETER**

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

Water: 3.3...33 ft/sec t<sub>max</sub> 300 °F; p<sub>max</sub> 580 PSIG Connection: Weld-on, 2" or 3" ANSI Accuracy: ±1.5% of Reading, ± 0.5% of Full Scale

#### **EPS - ELECTROMAGNETIC FLOWMETER**



#### **DVE - INSERTION VORTEX FLOWMETER**

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

 Material: Stainless Steel Fully Welded Sensor

and Pressure Sensor

Water: 3.3...33 ft/sec t<sub>max</sub> 300 °F; p<sub>max</sub> 580 PSIG Connection: 1/2" NPT, ANSI 1/2"...24" Accuracy: ± 0.3% of Reading



#### **DVH - MULTIVARIABLE VORTEX FLOWMETER**

PITE - ECONOMICAL INSERTION MAGNETIC FLOWMETER



#### Material: Stainless Steel

 Cost-effective Volumetric Flow Measurement

 Materials: SS, PTFE or PFA Clad • Simple, Compact Design

• For Use with Conductive Media

Not Affected by Pressure, Temperature

Not for Media with Particles or Bubbles

Maintenance-free

Minimal Pressure Drop

Density, or Viscosity

Water: 3.3...33 ft/sec t<sub>max</sub>100 °C; p<sub>max</sub> PN 16 Connection: ANSI 3"...16",

Weld-on Nozzle ø 40 mm, Sensor with Union Nut M52x2

for Pipelines DN 80...400

Accuracy: ± 1.5% of Full Scale

- 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<sub>range</sub> -328...750 °F; p<sub>max</sub> 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 FLOWMETER, SWITCH, TRANSMITTER, TOTALIZER** 



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

Water: 0.13...1.2 GPM to 2.6...26.5 GPM t<sub>max</sub> 176 °F; p<sub>max</sub> 290 PSIG Connection: 1/4"...1" NPT Accuracy: ± 2.5% of Full Scale

#### **DOG-5 - OSCILLATION FLOWMETER FOR LIQUIDS**

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

Water: 0.075...3.75 m3/h to 70...3,500 m3/h

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com



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 t<sub>max</sub> 400 °C; p<sub>max</sub> 100 bar Connection: 2" NPT, ANSI 2"

Optional Integrated Temperature

Suitable for Pipe Sizes 3"...24" Option: Integrated Temp. and Pressure Sensor, Installation/Removal Device Accuracy: ±1,2% of Reading (Water).

• Field Configurable Range, Output, Display

#### **DOG-4 - OSCILLATION FLOWMETER FOR GASES**



Material: Stainless Steel

±1.5% of Reading (Gas/Steam)

- For Flow Measurement of Gases
- Platinum Sensor
- No Moving Parts
- Low Pressure Loss
- Wide Sensing Range
- Flow Measurement and Totalization

Air: 0.12...12 m<sup>3</sup>/h to 60...6,000 m<sup>3</sup>/h Pressure Drop Max: 50 mbar t<sub>max</sub> 120 °C (for EX 60°C); p<sub>max</sub> PN 40 Connection:

- Pulse Frequency, Digital Display for

ANSI 1"....8", Flange DN 25...200 Accuracy: ± 1.5% of Reading



t<sub>max</sub> 120°C; p<sub>max</sub>PN 40 Connection: ANSI 1" ... 8", Flange DN 25 ... 200 Accuracy: ± 1% of Measured Value



# Flow - Ultrasonic/Indicators

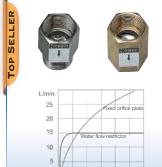
#### **DUK - COMPACT ULTRASONIC FLOWMETER**



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

Water: 0.02...5 GPM to 0.6...160 GPM t<sub>max</sub> 194 °F; p<sub>max</sub> 230 PSIG Connection: 1/2"...3" NPT Accuracy: ± 0.7% of Reading ± 0.7% of Full Scale

#### **REG - AUTOMATIC FLOW REGULATING VALVE**



10 h

#### **DAA/DAH - FLOW INDICATOR**

• For Water or Compatible Water-like Liquids · Self-actuating, Requires No Power Automatically Regulates Flow in System • No Manually Operated Parts Constant Flow Regardless

Materials: Brass, Stainless Steel

- of Pressure Fluctuations No Maintenance
- Universal Mounting
- Passively Activated
- Compact Design

Viscosity Range: 1...30 cSt Flow Rates: 0.13...10.56 GPM t<sub>max</sub> 572 °F; p<sub>max</sub> 2,900 PSIG Connection: 3/4" NPT, G 1/2, G 3/4

#### DUC - CLAMP-ON ULTRASONIC FLOWMETER



#### and Dispersion Effects • Easy to Read User Interface with LED Back-light, QVGA Display

Quick Mount System with Space Bar

DSP Technology Reduces Signal Echoes

- Common Application Areas: Power Plants, Water/Wastewater, Chemical Processing, Facility Management, Food and Beverage
- AFC and Reynolds Compensation

t<sub>range</sub> -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%



- For Water or Compatible Water-like Liquids
- · Self-actuating, Requires No Power
- Automatically Regulates Flow in System
- No Manually Operated Parts
- Constant Flow Regardless
- of Pressure Fluctuations
- No Maintenance Universal Mounting
- · Passively Activated

Viscosity Range: 1...30 cSt Flow Rates: 0.13...147 GPM t<sub>max</sub> 570 °F; p<sub>max</sub> 2,900 PSIG Connection: 3/4"...4" ANSI Wafer, 1-1/2"...2-1/2" G, DN 20...100

#### DAF - PADDLE WHEEL FLOW INDICATOR FOR LIQUIDS



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

Water: 0.1...1.0 GPM to 2.12...26.4 GPM t<sub>max</sub> 212 °F; p<sub>max</sub> 232 PSIG Connection: 1/4"...1-1/2" NPT

#### **DIH - ROTATING VANE FLOW INDICATOR**



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

Water: 0.16...1.6 GPH to 100...2,400 GPH t<sub>max</sub> 230 °F; p<sub>max</sub> 235 PSIG Connection: 1/8"...1-1/2" NPT

#### **DIG - ROTATING VANE FLOW INDICATOR**

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

Water: 0.05...0.13 GPM to 0.26...13.2 GPM t<sub>max</sub> 176 °F; p<sub>max</sub> 230 PSIG Connection: 3/8" or 1" NPT

- 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 <sub>ax</sub> 176 °F; p<sub>max</sub> 230 PSIG Connection: 1/8"...1" NPT

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

**REG-8/-9 - AUTOMATIC FLOW REGULATING VALVE** 

## **Flow - Indicators**







# **KOBOLD Flow Instrumentation/Media Cross Reference Chart**

5									Me	dia*							
nolo <u>ç</u>							Liq	uid					Gas				
KOBOLD Technology Category	Specific Technology Type	Model	Product Description	Clean	Dirty	Aggressive	Viscous	Abrasive	Oil-Based	Ultra-Pure H <sub>2</sub> O	Slurries	Clean	Dirty	Aggressive	Steam	Flow Range	Page
		BGK	All-Metal, Low Volume Variable Area Flowmeter	r	٠	٠	٠	×	٠	٠	×	r	٠	٠	×	0.0260.26 GPH to 550 GPH (0.11 SCFH to 20200 SCFH)	13
		KDF/ KDG	Micro-Flowmeter and Switch	~	×	٠	×	×	×	~	×	~	×	٠	×	0.022.5 LPH to 16160 LPH (0.55 NI/h to 5005,000 NI/h)	12
		KDS	All Metal, Low Volume Variable Area Flowmeter	~	×	٠	٠	×	٠	٠	×	~	×	٠	×	0.0260.26 GPH to 550 GPH (0.11 SCFH to 20200 SCFH)	13
		KFR	Acrylic Flowmeter	~	×	٠	×	×	×	٠	×	~	×	٠	×	0.022 GPH to 220 GPM (0.11 SCFH to 10100 SCFM)	12
Area - lume	Variable Area	KSK	All-Plastic Low-Flow Flowmeter and Switch	~	٠	~	×	×	×	•	×	~	×	٠	×	0.0060.05 GPM to 11.860 GPM (0.060.27 SCFM to 3.518.3 SCFM)	12
Variable Area - Low Volume	- Low Volume	KSR/ SVN	Low Volume Flow Switch	~	×	٠	×	×	×	٠	×	~	×	٠	×	0.034 GPH (0.113 SCFH)	12
28 1		KSV	Economical Micro- Flowmeter	~	×	٠	×	×	×	•	×	~	×	•	×	0.040.4 GPH to 220 GPH (0.33 SCFH to 10100 SCFH)	12
		SWK	Compact Flowmeter and Switch	~	×	٠	×	×	×	•	×	×	×	×	×	0.050.1 LPM to 1324 LPM	13
		UMR/ UXR/ URA	Glass Tube Variable Area Flowmeter	~	×	•	×	×	•	•	×	~	×	٠	×	110 l/h to 13130 l/h (0.010.1 Nm³/h to 0.252.5 Nm³/h)	14
		UTS	Variable Area Flowmeter for Gas Burners	×	×	×	×	×	×	×	×	~	×	٠	×	0.404.0 SCFH to 10100 SCFH	14
		BGF	All-Metal Armored Flowmeter	~	×	٠	٠	×	٠	٠	×	~	×	٠	٠	0.0020.02 GPM to 60570 GPM (0.0080.08 SCFM to 1401,400 SCFM)	14
		BGN	All-Metal Armored Flowmeter	~	×	٠	٠	×	٠	٠	×	~	×	٠	٠	0.0440.44 GPM to 26.4264 GPM (0.171.7 SCFM to 1001000 SCFM)	14
		BVO	OEM Flowmeter and Switch	~	×	٠	×	×	×	٠	×	×	×	×	×	0.11.0 GPM to 113 GPM	14
		KSM	All-Plastic Flowmeter and Switch	~	٠	٠	×	×	×	٠	×	~	×	٠	×	0.060.66 GPM to 35264 GPM (0.53 SCFM to 50400 SCFM)	12
		S-Series	All-Metal Flow Switch	~	×	٠	×	×	×	٠	×	~	×	٠	×	0.0750.25 GPM to 114 GPM (0.21.1 SCFM to 370 SCFM)	15
		SM	High Pressure All-Metal Flowmeter and Switch	~	×	٠	×	×	×	٠	×	~	×	٠	×	0.040.6 GPM to 440 GPM (0.21 SCFM to 5130 SCFM)	15
		SMN	Flow Switch	~	×	٠	×	×	×	٠	×	×	×	×	×	0.413 GPM	15
Area		SV	Float-Type Flowmeter and Switch	~	×	٠	×	×	×	٠	×	~	×	٠	×	0.0750.35 GPM to 2.540 GPM (0.251.25 SCFM to 10150 SCFM)	14
Variable Area	Variable Area	URK/ URM	Glass Cone Variable Area Flowmeter	~	×	٠	×	×	×	٠	×	~	×	٠	×	0.0040.4 GPM to 66220 GPM (0.0110.11 SCFM to 30300 SCFM)	13
Ň		USR	Glass Tube Variable Area Flowmeters and Manifold Valves	~	×	٠	×	×	×	٠	×	~	×	٠	×	0.010.1 GPM to 0.252.5 GPM	13
		UVR/ UTR	Glass Tube Variable Area Flowmeter and Needle Valve	~	×	٠	×	×	×	٠	×	~	×	٠	×	2.626 GPH to 52.8528 GPH (3.535 SCFH to 1761,760 SCFH)	14
		VKA	OEM Viscosity- Compensated Flowmeter	~	×	×	~	×	~	×	×	×	×	×	×	26.3 GPM to 826 GPM	15
		VKG	Viscosity-Compensating Flowmeter and Switch	~	×	٠	~	×	~	×	×	×	×	×	×	0.030.12 GPM to 221 GPM	15
		VKM	All-Metal Viscosity- Compensating Flowmeter and Switch	~	×	٠	~	×	~	×	×	×	×	×	×	0.030.12 GPM to 220 GPM	15
✓ = No		VKP	Plastic Flowmeter and Switch nsult Factory) <b>x</b> = Not Su	~	×	٠	~	×	~	×	×	×	×	×	×	0.55 GPM to 526 GPM	15

Image: Second Second

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

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ye									Me	dia*							
nolog	/				Liquid Gas												
KOBOLD Technology Category	Specific Technology Type	Model	Product Description		Dirty	Aggressive	Viscous	Abrasive	Oil-Based	Ultra-Pure H <sub>2</sub> O	Slurries	Clean	Dirty	Aggressive	Steam	Flow Range	Page
	Target-Type	DPT	Target Type Flowmeter	1	٠	٠	×	×	×	•	×	×	×	×	×	1.58 GPM to 225500 GPM	17
	Paddle-	DW	Paddle-Bellows Flowmeter	~	٠	٠	٠	×	٠	٠	×	×	×	×	×	0.266.6 GPM to 1,85019,800 GPM	16
0	Bellows	DWD	Paddle-Bellows Flowmeter	~	٠	٠	×	×	×	٠	×	×	×	×	×	0.262.6 GPM to 1,58015,800 GPM	17
Paddle Type		FPS	Insertion Paddle Flow Switch	~	٠	٠	٠	×	٠	٠	×	×	×	×	×	0.94.4 GPM to 375760 GPM	16
ddle		LPS	Flow Switch for HVAC	×	×	×	×	×	×	×	×	~	×	×	×	1951,575 FPM	16
Ра	Paddle-Type	PPS	Plastic Paddle Flow Switch	1	×	×	×	×	×	٠	×	×	×	×	×	59.5 GPM to 1928.5 GPM	16
		PSR/ PS	Paddle Flow Switch	~	٠	٠	×	×	٠	٠	×	×	×	×	×	0.61.2 GPM to 101140 GPM	16
	Flap-Type	TSK	Flap-Style Flowmeter	~	٠	٠	×	×	٠	٠	×	×	×	×	×	6.626.4 GPM to 8806,600 GPM	17
	Positive Displacement - Helical Gear	OME	Helical Gear Flowmeter	~	×	•	~	×	~	×	×	×	×	×	×	0.032.6 GPM to 0.9292 GPM	20
	Positive Displacement - Spherical Gear	ZDM	Positive-Displacement Flowmeter	~	×	•	~	×	~	×	×	×	×	×	×	0.00050.5 GPM to 0.4138 GPM	21
		DOC	Oval Gear Flowmeter	~	×	~	~	×	~	×	×	×	×	×	×	0.1326 GPH to 0.821 GPM	20
		DOE	Oval Gear Flowmeter	~	×	٠	~	×	~	×	×	×	×	×	×	0.149.5 GPH to 0.2710.56 GPM	20
	Positive Displacement - Oval Gear	DON	Positive Displacement Flowmeter	~	×	٠	~	×	~	×	×	×	×	×	×	0.139.5 GPH to 40660 GPM	20
		DON-H	Oval Gear Flowmeter for High Pressures	~	×	٠	~	×	~	×	×	×	×	×	×	0.139.5 GPH to 0.2610.6 GPM	20
		OVZ	Oval-Gear Flowmeter	~	×	٠	~	×	~	×	×	×	×	×	×	0.082.1 GPM to 0.4210.6 GPM	19
e		DF- Series	Flowmeters and Flow Sensors	~	×	٠	×	×	×	٠	×	×	×	×	×	0.020.14 GPM to 1.536 GPM	19
g Vai		DFT	Paddle-Wheel Flow Sensor	~	×	~	×	×	×	~	×	×	×	×	×	0.050.5 GPM to 0.815 GPM	19
Rotating Vane	Paddle-	DPE	Paddle-Wheel Flowmeter	~	٠	٠	×	×	×	٠	×	×	×	×	×	1.58 GPM to 15200 GPM	17
Bot	Wheel	DPL	All-Plastic, Low Flow Sensor	~	×	~	×	×	×	٠	×	×	×	×	×	0.48 GPH to 16400 GPH	18
		DRB	Paddle-Wheel Flowmeter	~	٠	٠	×	×	×	٠	×	×	×	×	×	1.58 GPM to 15200 GPM	17
		DRG	Paddle-Wheel Flow Sensor	~	×	٠	×	×	×	٠	×	×	×	×	×	0.153 GPM to 337 GPM	19
		DRH	Paddle-Wheel Flow Sensor	~	×	٠	×	×	×	٠	×	×	×	×	×	0.050.2 GPM to 0.6613.2 GPM	19
		DPM	Pelton Wheel Flow Sensor	~	×	٠	×	×	×	٠	×	×	×	×	×	0.244.8 GPH to 0.880 GPH	18
	Pelton Wheel	DTK	Pelton Wheel Flow Sensor	~	×	٠	×	×	×	٠	×	×	×	×	×	0.89.5 GPH to 16190 GPH	19
		KFF/ KFG	Low Volume Rotating Vane Flowmeter	~	×	٠	×	×	×	~	×	٠	×	٠	×	13100mL/min to 110 L/min (20100 mL <sub>N</sub> /min to 100500 L <sub>N</sub> /min	18
		DOT	Turbine Flowmeter/Monitor	~	×	٠	×	×	٠	٠	×	×	×	×	×	0.55 GPM to 2402,400 GPM	18
	Turbine	DRS	OEM Turbine Flow Sensor	~	×	٠	×	×	×	٠	×	×	×	×	×	0.610.5 GPM	17
		SFL	Turbine Flow Sensor	~	×	٠	×	×	×	٠	×	×	×	×	×	0.520 l/min	18
		TUR	All-Plastic Turbine Flowmeter	~	٠	~	×	×	٠	٠	×	×	×	×	×	588 GPM to 11440 GPM	17
	Rotary Piston	DRZ	Rotary Piston Flowmeter	~	×	×	~	×	~	×	×	×	×	×	×	1.6110 GPH	19

Investigation of the second second

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



~							Ме	dia*												
lolog			Product Description				Liq	uid					Gas			-				
KOBOLD Technology Category	Specific Technology Type	Model		Clean	Dirty	Aggressive	Viscous	Abrasive	Oil-Based	Ultra-Pure H <sub>2</sub> O	Slurries	Clean	Dirty	Aggressive	Steam	Flow Range	Page			
		HPC	Mini Coriolis Mass Flow Meter	~	٠	٠	٠	٠	٠	٠	×	×	×	×	٠	220 kg/h to 550 kg/h				
	Coriolis	тм	Universal Special Purpose Coriolis Flowmeter	~	٠	~	٠	٠	٠	٠	٠	×	×	×	٠	0.0030.3 lbs/min to 2202,400 lbs/min	22			
		TMU	High Performance Coriolis Flowmeter	~	٠	~	٠	٠	٠	٠	٠	×	×	×	٠	01,320 lbs/hr to 02,200 tons/hr	23			
		KEL	Heavy Duty DP Flowmeters	~	×	~	٠	×	٠	٠	×	×	×	×	×	0.10.5 GPM to 4002,000 GPM	24			
	Differential Pressure	RCD	Ultra-Rugged DP Flowmeter	~	×	•	×	×	×	٠	×	×	×	×	×	0.20.88 GPM to 100600 GPM	24			
		RCM	Direct-Reading Flowmeter	~	×	~	•	×	•	•	×	~	×	•	~	0.32 GPM to 4003,000 GPM (1.510 SCFM to 3,00020,000 SCFM)	24			
	Hot-Film Anemometer	КАН	Air Velocity Sensor	×	×	×	×	×	×	×	×	~	×	×	×	02,000/3,000/4,000 ft/min	21			
		EPS	Magnetic-Inductive Flowmeter	~	~	~	~	~	×	×	~	×	×	×	×	0.510 m/sec	25			
		МІК	Economical Magmeter	~	~	~	٠	×	×	×	×	×	×	×	×	0.187.8 GPH to 9.5180 GPM	24			
	Magnetic- Inductive	МІМ	All-Metal Electromagnetic Flowmeter	~	~	~	٠	×	×	×	×	×	×	×	×	0.4848 GPH to 0.490 GPM	24			
	(Electro- magnetic)	MIS	All-Metal Electromagnetic Flowmeter	~	~	~	•	×	×	×	×	×	×	×	×	3.333 ft/sec	24			
arts		PIT	Insertion Magnetic Flowmeter	~	~	~	~	~	×	×	•	×	×	×	×	3.333 ft/sec	25			
Without Moving Parts		PITe	Magnetic Inductive Flowmeter	~	~	~	~	~	×	×	٠	×	×	×	×	3.333 ft/sec	25			
L M		DOG	Oscillation Flowmeter	×	×	×	×	×	×	×	×	~	×	٠	×	0.1212 m <sup>3</sup> /h to 606,000 m <sup>3</sup> /h	25			
Witho		KAL	Temperature- Compensating Thermal Flow Switch	~	~	~	×	~	×	•	×	×	×	×	×	0.156.6 ft/sec	21			
		KAL-A	Thermal Flow Sensor	~	V	~	×	~	×	٠	×	×	×	×	×	0.156.6 ft/sec	21			
	<b>The summer l</b>	KAL-D	Compact Thermal Flow Switch	~	~	~	×	~	×	٠	×	×	×	×	×	0.156.6 ft/sec	21			
	Thermal	KAL-K	Thermal Flow Switch with Flow Trend Indication	~	~	~	×	~	×	٠	×	×	×	×	×	0.156.6 ft/sec	21			
		KAL-L	Thermal Air Flow Switch	×	×	×	×	×	×	×	×	~	×	×	×	3.365 ft/sec	21			
		KME	Compact Inline Flowmeter	×	×	×	×	×	×	×	×	~	×	٠	×	0.1244.4 SCFM to 1.3500 SCFM	22			
		КМТ	Thermal Mass Flowmeter	×	×	×	×	×	×	×	×	~	×	٠	×	0.3263 Nm³/h to 263263,350 Nm³/h	22			
		MAS	Mass Flowmeter	×	×	×	×	×	×	×	×	~	×	٠	×	010 SCCM to 0500 SLPM	22			
	Ultrasonic - Clamp-on	DUC	Clamp-on Ultrasonic Flowmeter	~	٠	~	~	~	~	~	٠	×	×	×	×	098 ft/sec	26			
	Ultrasonic - Inline	DUK	Compact Ultrasonic Flowmeter	~	×	٠	×	×	×	٠	×	×	×	×	×	0.025 GPM to 0.6160 GPM	26			
	Vortex -	DVE	Multi-Variable Insertion Design Flowmeter	~	٠	٠	٠	×	٠	٠	×	~	×	~	~	5.2157 m <sup>3</sup> /h to 2848,537 m <sup>3</sup> /h (8891,463 to 26,9152,467,081 Nm <sup>3</sup> /h)	25			
	Multivariable	DVH	Multivariable Flowmeter	~	•	٠	•	×	٠	٠	×	~	×	~	~	0.8922 GPM to 1414,270 GPM (1.818 SCFM to 2,071203,000 SCFM)	25			
	Vortex	DVZ	Vortex Flowmeter and Switch	~	×	•	×	×	×	•	×	×	×	×	×	0.131.2 GPM to 2.626.5 GPM	25			

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\*This chart is a guide for a generalized overview of the flow instrumentation line. Each application is unique and all factors should be carefully considered when selecting the appropriate technology. For more in-depth assistance, contact **C A Briggs Company** Purchaser assumes all responsibility and accompanying liability in the final product selection.

# NBK Industrial Bypass Level Indicators

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

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



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





Image 1

Learn More on Page 37





Level Switch for Bulk Media

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

- For Bulk Media and Solids in Silos and Hoppers
- Superior Performance and Reliability •
- Direct Replacement for Models Prone to Motor Burnout •
- **High Quality Motor**
- Superior Switch Design Avoids Damage to Motor
- Switch Sensitivity is Field-Adjustable •
- Aluminum Housing •
- Unaffected by Humidity or Conductivity •
- Easy to Install, Economical Pricing
- **Different Mounting Options** •
- Modular Design Offers Flexibility •
- Rod or Cable Versions •

Subject to change without pilor notice

Custom Temperatures up to 900 °F



Ideal for a wide variety of media like:

- Cereal Sugar
  - Animal Feed Cement
- Flour
- Sand

Grain

Gravel

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

Learn More on Page 35

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# Level

NCP

Magnetic Float Switch

Polypropylene



**OEM Level Switches** 

Stainless Steel, Polypropylene,

NBR, PVDF

t<sub>max</sub> 194 °F; p<sub>max</sub> 58 PSIG Connection: Cable

OEM



ific Gravity <sub>min</sub> : 0.65 0 °F; p <sub>max</sub> 400 PSIG on: 1/8" NPT, 1/4" NPT	Specific Gravity <sub>min</sub> : 0.81 t <sub>max</sub> 225 °F; p <sub>max</sub> 100 PSIG Connection: 1/8" NPT, 1/4" PF	Specific Gravity <sub>min</sub> : 0.55 t <sub>max</sub> 250 °F; p <sub>max</sub> 425 PSIG Connection: 1/2" NPT, 1/8" PF
	NV	NCM
ount Level Switch ainless Steel	Side-Mount Level Switch Brass, Stainless Steel	Custom Mini Multipoint Switch Brass, NBR, PP, Stainless Steel
	1-	
ATEX	C Us	
ific Gravity <sub>min</sub> : 0.8 <sub>nax</sub> 72 PSI/145 PSI (ATEX) lection: 1/2" NPT	Specific Gravity <sub>min</sub> : 0.63 t <sub>max</sub> 230 °F; p <sub>max</sub> 230 PSIG Connection: 3/4" NPT	Specific Gravity <sub>min</sub> : 0.470.70 t <sub>max</sub> 300 °F; p <sub>max</sub> 400 PSIG Connection: 1/8"1" NPT, 5/16 Tube End
F	NSP/NSM	NEC/NAB
ss Level Switch um, Stainless Steel	Float Level Switch Polypropylene	Float Level Switch Polypropylene, Hypalon®
sity: 0.65 kg/dm³ 50 °C: pm, 10 bar	Specific Gravity <sub>min</sub> : 0.6 t <sub>may</sub> 185 °F: p <sub>may</sub> 30 PSIG	Specific Gravity <sub>min</sub> :0.7 t <sub>rev</sub> 194 °F: p <sub>mar</sub> 58 PSIG

t<sub>max</sub> 185 °F; p<sub>max</sub> 30 PSIG Connection: Cable

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Connection: G 3/8 Female, R 1/2 Male

# Level



Conductivity<sub>min</sub>: 10 μS/cm t<sub>max</sub> 300 °F; p<sub>max</sub> 145 PSIG Connection: G 1/2, Tri-Clamp®



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**Open-Collector** 

Relay

**Open-Collector** 

# Level





t<sub>max</sub> 320 °F; p<sub>max</sub> 360 PSIG Connection: 1-1/2" NPT, G 1-1/2

Vibrating Level Switch



t<sub>max</sub> 265 °F; p<sub>max</sub> 650 PSIG Viscosity<sub>max</sub>: 5,000 cSt Connection: 3/4" NPT, 1" NPT, 2" Tri-Clamp®, 1" or 2" ANSI Flanges

Static Pressure Level Switch for Dry Bulk Media NBR, FKM, Stainless Steel



Minimum Media Density: 3.2 lb/ft<sup>3</sup> p<sub>max</sub> 14.5 PSI (Over-pressure Protected) Connection: Flange

NSD

**Economical Optical** Level Switch Stainless Steel, Polysulfone



t<sub>range</sub> 15...250 °F p<sub>max</sub> 140/550 PSIG Connection: 3/8" NPT

#### NDT

Static Pressure Level Switch Polyamide, NBR



t<sub>range</sub> 15...185°F; p<sub>max</sub> Atmospheric Switchpoint: 4" Above End of Pipe Connection: Hose Clamp for 1" Sch 40 Pipe

#### PLS

Pendulum Level Switch for **Bulk Media** Aluminum, NBR



Connection: Aluminum Flange SPDT Microswitch 250 V<sub>AC</sub>/15 A

#### NK-8000

Ultrasonic Level Switch Stainless Steel



t<sub>max</sub> 176/212 °F; p<sub>max</sub> 1,000 PSIG Connection: 3/4" NPT

#### NSV

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



Switching Range: 9" ... 118" Minimum Media Density: 3.75 lb/ft3 t<sub>max</sub> 176 °F; p<sub>max</sub> Atmospheric Connection: 1-1/2" NPT, G 1-1/2 1 Relay SPDT

#### NIR-9



t<sub>max</sub> 392 °F; p<sub>max</sub> 7.25 PSI Connection: 1" NPT, 1-1/2" NPT, Others SPDT Microswitch 250 V<sub>AC</sub>/2 A

# NSC **Capacitive Level Switch** for Bulk Media Stainless Steel, PTFE, Polycarbonate, PP ATEX 7 Dielectric Constant<sub>min</sub>: 1.5 Switching Range: 10"...49 ft t<sub>range</sub> -4 ... 176 °F; p<sub>max</sub> 7 PSIG Connection: 1" NPT, 2" NPT, G 1 Adapter: G 1-1/4, G 1-1/2, Round Flange **NML-308** Liquid Level Transmitter Polyethylene, PVC, PP, PTFE

Specific Gravitymin: 0.9 Length<sub>max</sub>: 6"...48" t<sub>max</sub> 250 °F; p<sub>max</sub> 25 PSIG Connection: 1-1/4" NPT or 1-1/2" NPT

#### NRF



Length<sub>max</sub>: 200 ft. -100...350 °F; p<sub>max</sub> 500 PSIG Connection: 3/4" NPT, 1-1/2" NPT, 1-1/2" ... 2" Tri-Clamp®



Level

#### NML-310

Liquid Level Transmitter Polyethylene, PVC, PP, PTFE



Specific Gravity<sub>min</sub>: 0.8 Length<sub>max</sub>: 12"...108" t<sub>max</sub> 250 °F; p<sub>max</sub> 40 PSIG Connection: 2" NPT, 2" ... 4" ANSI

#### NRF-1F



Accuracy: ± 1% of Span





Output: 4-20 mA, RTD

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



Max. Measuring Length: 19.6 ft Density: 0.4 kg/dm³ t<sub>max</sub> 265 °F; p<sub>max</sub> 435 PSI Connection: 3/8" ... 2" NPT, 1-1/2" ... 4" ANSI Accuracy:  $\pm 0.5\%$  for L < 6.2 Feet

#### NMC



#### PAD-N



Accuracy: ±0.075% of Calibrated Span + Influence of Diaphragm Seal

# Level





3", 5", or 6" ANSI Flange



Measuring Depth<sub>max</sub>: 50" WC to 1,000 PSI t<sub>range</sub> 14...122 °F Proof Pressure: 2x Depth Range

#### 50" WC Measuring Range: 0...200 m (WC) t<sub>range</sub> 14...140 °F ℃ Cable Length: Max. 300 m

Analog Output

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±0.05% of Full Scale



#### 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 Connection: 1/4" NPT, 1/2" NPT Accuracy: ±1.0% or ±1.6% of Full Scale

#### MAN-K

Capsule Element Pressure Gauge Brass, Stainless Steel



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

### MAN-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-R



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

#### MAN-P

Diaphragm Pressure Gauge Stainless Steel



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

### MAN-U

Differential Pressure Gauge with Double Diaphragm Stainless Steel



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

### MAN-N...S

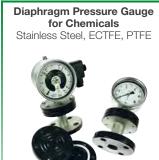
Bourdon Tube Pressure Gauges Stainless Steel



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

### MAN-C

0



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

### MAN-LD/DSD

LCD Pressure Gauge with Ceramic Sensing Element Externally Powered Stainless Steel

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

#### MAN-T

Bourdon Tube Pressure Gauges for Refrigeration Brass, Stainless Steel



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

#### MAN-ZF



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





Accuracy: ±1.6% of Full Scale



#### DIN 11851, SMS and IDF Norm Accuracy: ±1.6% of Full Scale

#### MAN-BF26

LED Differential Pressure Gauge with Ceramic Sensing Element Stainless Steel



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

#### DRM 626/627

Membrane Diaphragm Seals Stainless Steel, Tantalum, ECTFE



Measuring Range: 0...0.6 to 0...250 bar Housing Ø: 90 mm Filling: Glycerine, Paraffin, Silicone Oil Membrane Option: Tantalum, ECTFE

### MAN/DRM

Pressure Gauge with Inline Diaphragm Stainless Steel



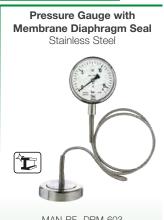
MAN-RF...DRM-502 Meas. Range: 1.6...40 to 2.5...40 bar Housing Ø: 100 mm, 160 mm Connection: 1/2"...2" Tri-Clamp<sup>®</sup>, Hygenic ISO DN 15...50 Accuracy: ±1.6% of Full Scale

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Accuracy: ±1.6% of Full Scale



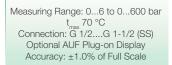
### MAN/DRM



MAN-RF...DRM-603 Meas. Range: 0...1 to 0...40 bar Housing Ø: 100 mm Connection: DIN 11851, DN 25...100 Accuracy: ±1.6% of Full Scale

#### SEN/DRM-600





#### PMP

Differential Pressure Sensor and Controller for Filters



Measuring Range: 0...20" H<sub>2</sub>O Power Supply: 24 V<sub>AC/DC</sub>, 110 V<sub>AC</sub>, 230 V<sub>AC</sub> Display: 4-Digit LED Connection: 1/4" NPT or 6x8 mm Tube Accuracy: ±1.0% of Full Scale



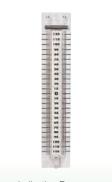
All Stainless Steel Bourdon Tube Pressure Gauge with Membrane Diaphragm Stainless Steel



MAN-RD..DRM-600 Meas. Range: 0...85 to 0...14,500 PSIG Housing Ø: 63 mm Connection: 1/2"...1-1/4" NPT Accuracy: ±1.6% of Full Scale

## PUM

U-Pipe Pressure Indicator Glass, Aluminum



Indicating Ranges: 250 up to 1500 mm WC or 10" up to 60" WC Scale Division: 2 mm Hose Connection Ø: 7 mm

### PAD

Differential Pressure Transmitter Stainless Steel



Measuring Range: 0.3"...6" WC to 60...6,000 PSIG Power Supply: 12-45 V<sub>DC</sub> Connection: 1/4" NPT Accuracy: ± 0.075% of Full Scale

## MAN/DRM



MAN-RD...DRM-632 Meas. Range: 0...20 to 0...230 PSIG Housing Ø: 63 mm Connection: 1/2" NPT Accuracy: ±1.6% of Full Scale

### MZB

Pressure Sensing Accessories Brass, Steel, Stainless Steel



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

## PAD-N



0 ... 250 mbar to 0 ... 206.80 bar t<sub>max</sub> 200 °C Connection: Flange, Threaded, Clamp-on, and In-line Diaphragm Seal (Nominal Size 15... 100) Accuracy: ± 0.075% of Calibrated Span + Influence of Diaphragm Seal

### DSD/SEN/DRM

Pressure Gauge or Sensor with Membrane Diaphragm Seal PVC or Polypropylene



DSD...DRM-630 and SEN...DRM-631 Meas. Range: 0...20 to 0...145 PSIG Housing Ø: 74 mm Connection: 1/2" NPT Accuracy: ±1.0% of Full Scale

#### MZB-712

Pressure Sensing Accessories Stainless Steel, Brass





Fittings: 1/4"...1/2" NPT; G 1/4...G1/2, 7/16-20 UNF DIN 3866, G 1/2 DIN 3852-E, M 20x1.5

#### 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) Accuracy: ±1.0% of Full Scale





## Connection: 1/4" NPT, 1/2" NPT Accuracy: ± 0.125% - 0.25% of Full Scale

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



(Dependent on Associated Sensor) Optional: Data Log, Alarm, Control Functions Accuracy: ± 0.1% 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

#### **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<sub>DC</sub>, 0-10 V<sub>DC</sub> Connection: 1/4" NPT, 1/2" NPT, G 1/4, G 1/2 Accuracy: ± 0.5 - 0.75% of Full Scale

### HND-P121/-123

Hand-Held Differential **Pressure Indicator with 2 Integrated Sensors** Ē

Measuring Range: -0.0145...0.36 PSID to -1.45...29 PSID Optional: Data Log, Alarm, Control Functions Accuracy: ± 0.2% - 0.4% of Full Scale

## **KPA**

**OEM Pressure Transmitter with Heat-Fused Sensing Element** Stainless Steel



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

#### SEN-98/-99

Pressure Sensor with **Ceramic Element** Stainless Steel



-30"...0" Hg to 0...8,700 PSIG, 0...14.5 to 0...360 PSIA Overload Protection: 1.3 - 5 Times Connection: 1/4" NPT, 1/2" NPT, G 1/4, G 1/2 Accuracy: ± 0.5% of Measuring Range

## HND-P129/-239

Hand-Held Differential **Pressure Indicator with 1 Integrated Sensor** 



Measuring Range: 0...15 PSIG Optional: Data Log, Alarm, Control Functions Accuracy: ± 0.2% of Full Scale

#### **KP46**



Measuring Range: 0...50 PSIG to 0...20,000 PSIG Overload Protection: 2 Times Connection: 1/4" NPT, 1/2" NPT Accuracy: ± 0.25% BFSL

#### AUF



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





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



Ranges: -15...6 mbar to -1...0.1 bar t<sub>max</sub> 85 °C Connection: G Threaded Micro-Switch, Optional Proximity Switch



**Electronic Pressure** Transmitter/Switch Stainless Steel Range: 0...30 to 0...7,500 PSI Output: 4-20 mA or 0-10 V<sub>DC</sub> Output: 2x PNP Switches Display: 4-Digit LED





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



Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

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Switching Range:

0.7...6 mbar to 8...160 bar

Switching Function: Micro Switch

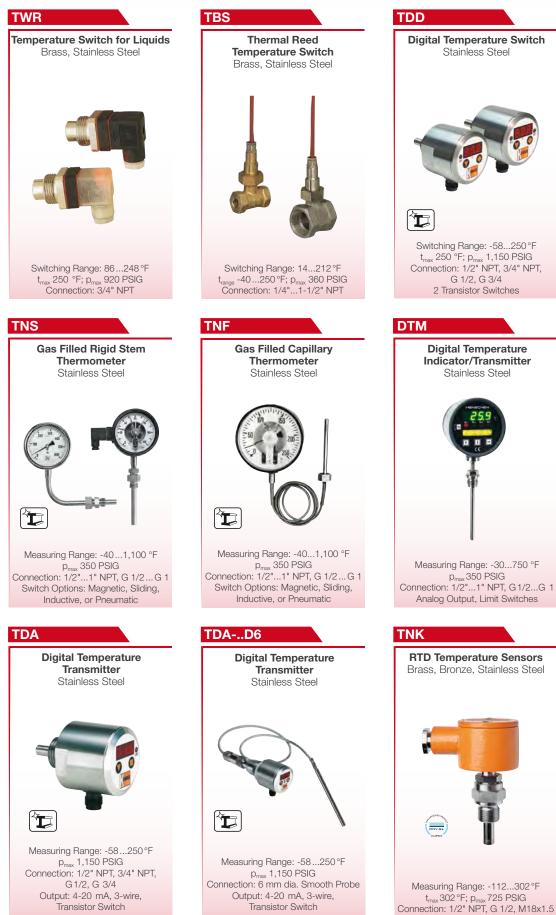
Connection: 1/2" NPT Female,

1/4" NPT Female,

1/2" NPT Male, G 1/2 Male Repeatability: < 1% of Full Setting Value

# **Temperature**







Output: 4-20 mA, Pt 100 RTD

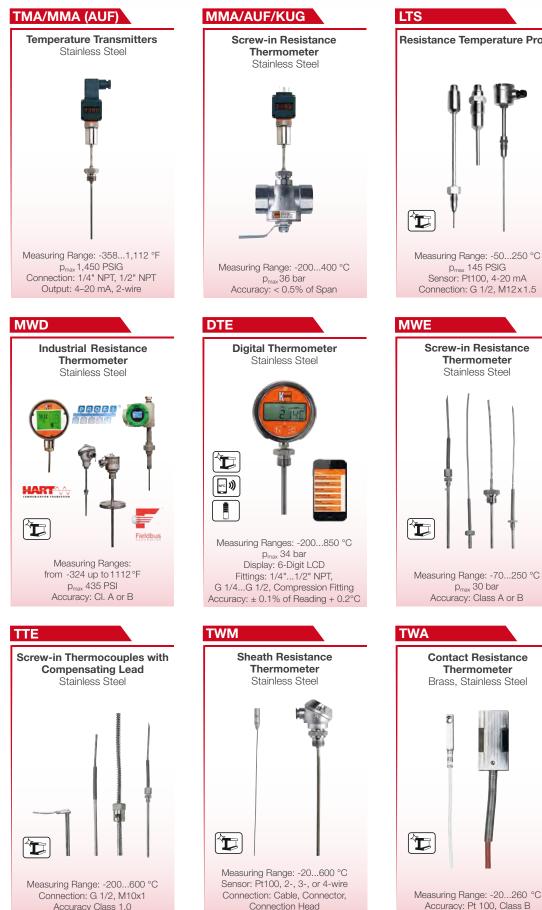


# Temperature



# **Temperature**





Accuracy Class 1.0



t<sub>max</sub> 800 °C

p<sub>max</sub> 250 bar

Types: Thread, Flange, Welding Sleeve

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974 Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

**Connection Head** 



# **Accessories**



#### REG-8

Automatic Flow Regulating Valve Stainless Steel



Viscosity: Max. 30 cSt t<sub>max</sub> 570 °F; p<sub>max</sub> 2,900 PSIG Connection: 3/4"...4" ANSI Wafer, DN 20...100, G 1/2...2-1/2

#### MFR

**Magnetic Filter** Brass, SS, Bronze, Cast Iron



t<sub>max</sub> 392 °F; p<sub>max</sub> 580 PSIG Connection: G 1/4...G 4

### KFD-2/KFA-5



Standard Rail Mounting 24 V<sub>DC</sub> or 110 V<sub>AC</sub> Power SPDT Relay Output



Explosion-proof Enclosure Available Magnetic or High-level Pulse Inputs 4-20 mA Loop Powered

### MSR

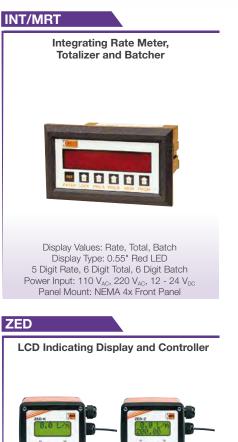
Contact Protection and Latching Relay



# Accessories









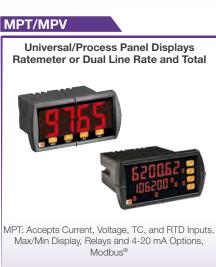
Input: Frequency Output: Analog, 2 Limit Contacts, Sensor Supply

ZLS-2





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



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

#### ZOK



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

### ZOE



Frequency Input, Pulse Output Sensor Supply or Battery Powered



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