KOBOLD Instruments Inc.

Manufacturer of
Innovative Instrumentation

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Product Summary 2014

- Flow
- Pressure
- Level
- Temperature
- Analytics















measuring
•
monitoring
•
analyzing

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KOBOLD Instruments

For more than 30 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. With our in-house engineering and manufacturing, we are able to customize products to match your application. Our people and our products will go the extra mile for you. Our engineers and customer service representatives are ready to help you find the ideal KOBOLD solution for your most demanding applications.

KOBOLD's product line includes:

- Flow: Flowmeters, Transmitters, and Switches — Pages 4 - 19
- Pressure: Pressure Gauges, Transmitters, and Switches — Pages 20 - 24
- Level: Level Gauges, Indicators, Transmitters, and Switches — Pages 25 - 28
- Temperature: Temperature Gauges, Transmitters, and Switches — Pages 29 - 30
- Accessories: Magnetic Filters, Needle and Regulating Valves, Control Devices, and Relays — Page 31
- Analytics: ORP, pH, Conductivity, Humidity, Turbidity, and Density — Page 32
- Application Showcase — Pages 33 - 35

The KOBOLD Group's Production Plants Around The World

Pittsburgh, USA

Hofheim, Germany

Sindelfingen, Germany

Cologne, Germany

Kelkheim-Fischbach, Germany

Barcelona, Spain

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Flow

Variable Area - Plastic - Low Volume
Polycarbonate, Polysulfone, Stainless Steel, Brass
Model: KSV

Water: 0.04...0.4 GPH to 2...20 GPH
Air: 0.3...3 SCFH to 10...100 SCFH
t_{max} 250 °F; p_{max} 100 PSIG
Connection: ⅛" NPT
Accuracy: ±6% of Full Scale

Variable Area - Plastic - Low Volume
Acrylic
Model: KFR

Water: 0.2...2 GPH to 2...20 GPM
Air: 0.1...1 SCFH to 10...100 SCFM
t_{max} 150 °F; p_{max} 100 PSIG
Connection: ⅛" NPT, 1" NPT
Accuracy: ±2–5% of Full Scale

Variable Area - Plastic- Low Volume
Polyamide, Polysulfone
Model: KSK

Water:
0.006...0.05 GPM to 0.44...4.4 GPM
Air: 0.06...0.27 SCFM to 3.5...18.3 SCFM
t_{max} 250 °F; p_{max} 145 PSIG
Connection: 3/8"...1" NPT
or Socket Glue-in Connection
Accuracy: Cl. 4 According to VDI

Variable Area - Plastic
Polyamide, Polysulfone
Model: KSM

Water: 0.06...0.66 GPM to 35...264 GPM
Air: 0.5...3 SCFM to 60...400 SCFM
t_{max} 250 °F; p_{max} 145 PSIG
Connection: 1"...2½" NPT
or Socket Glue-in Connection
Accuracy: Cl. 4 According to VDI

Variable Area - Low Volume Switch
Stainless Steel, Glass Tube
Model: KSR, SVN

Water: 0.03...4 GPH
Air: 0.1...13 SCFH
t_{max} 160 °F; p_{max} 230 PSIG
Connection: ¼" NPT

Variable Area - Low Volume
Stainless Steel
Model: KDF-9/KDG-9

Water: 0.02...0.25 l/h to 10...100 l/h
Air: 2...20 Nl/h to 300...3000 Nl/h
t_{max} 100 °C; p_{max} 16 bar
Connection: G ¼, ¼" NPT Female Thread
Accuracy: ±3 % q_G = 50 %

Variable Area - Low Volume
Stainless Steel
Model: KDF-2/KDG-2

Water: 0.025...2.5 l/h to 16...160 l/h
Air: 0.5...5 Nl/h to 500...5000 Nl/h
t_{max} 100 °C; p_{max} 16 bar
Connection: ¼" NPT, G ¼
Accuracy: ±2.5 % q_G = 50 %

Variable Area - Glass Tube
Stainless Steel, POM-C
Model: UMR, UXR

Water: 0.13...1.3 GPH to 4...40 GPH
Air: 0.18...1.8 SCFH to 10...100 SCFH
t_{max} 210 °F; p_{max} 85 PSIG
Connection: ¼" NPT
Accuracy: Cl. 4 According to VDI

Variable Area - Glass Tube Thread Connection
Stainless Steel, PVC
Model: URM

Water: 0.06...0.6 GPH to 11...110 GPM
Air: 0.11...1.1 SCFH to 30...300 SCFM
t_{max} 210 °F; p_{max} 270 PSI
Connection: ¼"...3" NPT, Hose Barb
Accuracy: Cl. 4 According to VDI

Variable Area - Glass Tube
PVC
Model: URB

Water: 2.6...26 GPH to 26...260 GPH
Air: 11...110 SCFH to 110...1,100 SCFH
t_{max} 130 °F; p_{max} 85 PSIG
Connection: ½"...1¼" NPT
Accuracy: Cl. 4 According to VDI

Variable Area - Glass Tube
Stainless Steel, POM
Model: UVR, UTR

Water: 2.6...26 GPH to 52.8...528 GPH
Air: 3.5...35 SCFH to 176...1,760 SCFH
t_{max} 210 °F; p_{max} 230 PSI
Connection: ⅜", ½" NPT
Accuracy: Cl. 4 According to VDI

Variable Area - Glass Tube Flange
PVC, PTFE
Model: URL

Water: 0.26...2.6 GPH to 66...660 GPH
Air: 0.35...3.5 SCFH to 350...3,500 SCFH
t_{max} 212 °F; p_{max} 85 PSIG
Connection: ½"...1½" ANSI
Accuracy: Cl. 4 According to VDI

Variable Area - Glass Tube
High Accuracy
Stainless Steel, PVC, PVDF
Model: V31

Water: 0.3...3.3 GPH to 4.4...44 GPM
Air: 0.088...0.88 SCFM to 10.6...106 SCFM
t_{max} 176 °F; p_{max} 210 PSIG
Connection: ¼"...2" NPT or ANSI
Accuracy: ±1.6% Liquids ±2.5% Gases VDI

Variable Area - Glass Tube
Fixed Flange
Stainless Steel
Model: URK

Water: 0.004...0.04 GPM to 66...220 GPM
Air: 0.011...0.11 SCFM to 30..300 SCFM
t_{max} 210 °F; p_{max} 210 PSIG
Connection: ½"...3" ANSI
Accuracy: Cl. 4 According to VDI

Variable Area - Glass Tube
Table Mounting
POM-C
Model: URA

Water: 4...40 GPH
Air: 10...100 SCFH
t_{max} 176 °F; p_{max} 85 PSIG
Connection: ¼" NPT
Accuracy: Cl. 4 According to VDI

Variable Area - Glass Tube
for Gas Burners
Brass
Model: UTS

Air: 0.35...3.5 SCFH to 10...100 SCFH
t_{max} 130 °F; p_{max} 45 PSIG
Connection: NPT by Request
Accuracy: Cl. 4 According to VDI

Variable Area
Brass, Stainless Steel
Model: SV

Water: 0.075...0.35 GPM to 2.5...40 GPM
Air: 0.25...1.25 SCFM to 10...150 SCFM
t_{max} 210 °F; p_{max} 145 PSIG
Connection: ¼"...1¼" NPT
Accuracy: ±4% of Full Scale

Variable Area - Switch
Brass, Stainless Steel
Model: SV

Water: 0.075...0.35 GPM to 2.5...40 GPM
Air: 0.25...1.25 SCFM to 10...150 SCFM
t_{max} 210 °F; p_{max} 145 PSIG
Connection: ¼"...1¼" NPT
Accuracy: ±4% of Full Scale

Variable Area - Switch
Low Volume
Brass, Stainless Steel
Model: SWK-11, SWK-12

Water: 0.05...0.1 L/min to 13...24 L/min
Air: on Request
t_{max} 210 °F; p_{max} 3,600 PSIG
Connection: G ½
Accuracy: ±4% of Full Scale

Variable Area - Switch
Low Volume
PVC
Model: SWK-13

Water: 0.2...0.8 L/min to 13...24 L/min
Air: on Request
t_{max} 140 °F; p_{max} 85 PSIG
Connection: G ½
Accuracy: ±4% of Full Scale

Variable Area - Low Volume
Brass, Stainless Steel
Model: SWK-21, SWK-22

Water: 0.05...0.1 L/min to 13...24 L/min
Air: on Request
t_{max} 100 °F; p_{max} 250 PSIG
Connection: G ½
Accuracy: ±4% of Full Scale

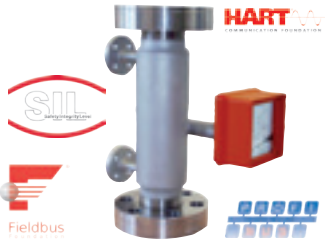
Variable Area - All Metal
Low Volume
Stainless Steel
Model: KDS, BGK

Water: 0.026...0.26 GPH to 5...50 GPH
Air: 0.1...1 SCFH to 20...200 SCFH
t_{max} 260 °F; p_{max} 230 / 580 PSIG
Connection: ¼" NPT, ½"...1" ANSI
Accuracy: ±3% of Full Scale
Option: Analog Output

Variable Area - All Metal
Stainless Steel, Special Materials on Request
Model: BGN

Water: 0.002...0.02 GPM to 60...570 GPM
Air: 0.008...0.08 SCFM to 140...1,400 SCFM
t_{max} 660 °F; p_{max} 580 PSIG
Connection: ½"...6" ANSI
Option: Analog Output 4-20 mA
Accuracy: ±1.6 - 2.2% of Full Scale

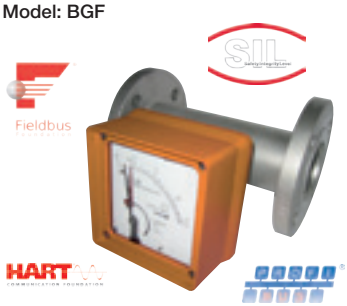
Variable Area - All Metal - High Pressure
Stainless Steel, Special Materials on Request
Model: BGN



Water: 0.002...0.02 GPM to 60...570 GPM
Air: 0.008...0.08 SCFM to 140...1,400 SCFM
t_{max} 660 °F; p_{max} 8,700 PSIG
Connection: ½"...6" ANSI
Option: Analog Output, BUS-Interface, Heat Jacket
Accuracy: ±1.6 – 2.2% of Full Scale

Flow

Variable Area - All Metal
Horizontal or Vertical Flow
Stainless Steel, Special Materials on Request
Model: BGF

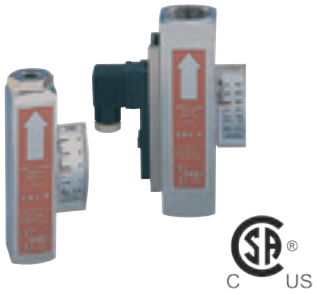


Water: 0.044...0.44 GPM to 18...175 GPM
Air: 0.17...1.7 SCFM to 65...650 SCFM
t_{max} 660 °F; p_{max} 580
Connection: ½"...3" ANSI
Accuracy: ±1.6% of Full Scale

Variable Area Switch - All Metal
Brass, Stainless Steel
Model: S

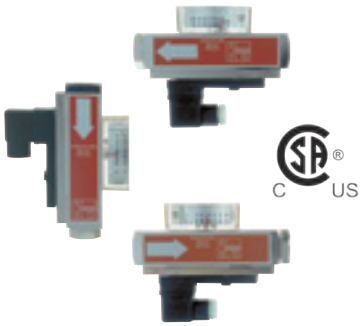
Water: 0.075...0.25 GPM to 1...14 GPM
Air: 0.2...1.1 SCFM to 3...70 SCFM
t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±5% of Full Scale

Variable Area - All Metal
Brass, Stainless Steel
Model: SMV



Water: 0.05...0.15 GPM to 4...40 GPM
Air: 0.05...1 SCFM to 5...130 SCFM
t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: ¼"...1¼" NPT
Accuracy: ±5% of Full Scale

Variable Area - All Metal
Horizontal or Vertical Flow
Brass, Stainless Steel
Model: SMO, SMW



Water: 0.04...0.6 GPM to 8...34 GPM
Air: 0.2...3.5 SCFM to 30...130 SCFM
t_{max}210 °F; p_{max} 5,000 PSIG
Connection: ¼" ... ¾" NPT
Accuracy: ±5% of Full Scale

Piston Type Switch - All Metal
Horizontal or Vertical Flow
Brass, Stainless Steel
Model: SMN

Water: 0.26...26 GPM
t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: 1" NPT
Accuracy: ±5% of Full Scale

Viscosity Compensated - Plastic
Polysulfone
Model: VKP

Water: 0.5...5 GPM to 5...26 GPM
Oil: 0.5...4.5 GPM to 3...20 GPM
t_{max} 250 °F; p_{max} 230 PSIG
Connection: ½", ¾", 1" NPT,
Solder and Glue Connection Available
Accuracy: ±5% of Full Scale

Viscosity Compensated
Brass, Stainless Steel
Model: VKG

Viscosity Range: 1...540 cSt.
Oil: 0.03...0.12 GPM to 2...21 GPM
t_{max} 210 °F; p_{max} 175 PSIG
Connection: ¼"...1" NPT
Accuracy: ±4% of Full Scale

Viscosity Compensated
All Metal
Brass, Stainless Steel
Model: VKM

Viscosity Range: 1...540 cSt.
Oil: 0.03...0.12 GPM to 2...20 GPM
t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: ¼"...1" NPT
Accuracy: ±4% of Full Scale

Viscosity Compensated
All Metal
Brass, Stainless Steel
Model: VKM-..C3

Viscosity Range: 1...540 cSt.
Oil: 0.03...0.12 GPM to 2...18 GPM
t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: ¼"...1" NPT
Accuracy: ±4% of Full Scale

Viscosity Compensated
All Metal
Brass, Stainless Steel
Model: VKM with ADI-1

Viscosity Range: 1...540 cSt.
Oil: 0.03...0.12 GPM to 2...18 GPM
t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: ¼"...1" NPT
Accuracy: ±4% of Full Scale

Viscosity Compensated
All Metal - OEM
Brass
Model: VKA

Viscosity Range: 30...540 cSt
Oil: 2...6.3 GPM to 8...26 GPM
t_{max} 210 °F; p_{max} 3,600 PSIG
Connection: ½", ¾" NPT
Accuracy: ±4% of Full Scale

Manifold Valves for Multiple Installation
Aluminum
Model: BVB

t_{max} 210 °F; p_{max} 235 PSIG
Connection: ½" NPT

Paddle Switch
Brass, Stainless Steel
Model: PSR

Water: 0.9...1.3 GPM to 9.2...15 GPM
t_{max} 230 °F; p_{max} 1,450 PSIG
Connection: ¼"...1½" NPT

Paddle Switch
Brass, Stainless Steel
Model: PS

Water: 16...22 GPM to 176...237 GPM
t_{max} 230 °F; p_{max} 1,450 PSIG
Connection: ½" NPT

Paddle Switch - Plastic
Polysulfone
Model: PPS

Water: 5...9.5 GPM to 19... 28.5 GPM
t_{max} 210 °F; p_{max} 145 PSIG
Connection: 1" NPT
Repeatability: ±3% of Switchpoint

Paddle Switch - HVAC
Brass
Model: LPS

Air: 400...1,800 FPM
t_{max} 185 °F; p_{max} Atmospheric
Connection: Flange

Paddle Bellows Switch
Brass, Stainless Steel
Model: FPS

Water: 0.9...4.4 GPM to 320...730 GPM
t_{max} 210 °F; p_{max} 450 PSIG
Connection: 1" NPT

Paddle Bellows Switch
Brass, Stainless Steel, PVC
Model: DWS

Water: 0.8...14.5 GPM to 13.2...158 GPM
t_{max} 210 °F; p_{max} 230 PSIG
Connection: ½"...2" NPT, ½"...2" ANSI
Accuracy: ±3 – 5% of Full Scale

Paddle Bellows Meter/Switch
Brass, Stainless Steel, PVC
Model: DWU

Liquid: 0.26...1.3 GPM to
3,600...15,800 GPM
t_{max} 210 °F; p_{max} 230 PSIG
Connection: 3/8"...2" NPT, ½"...2" ANSI,
Weld-on Flange for 1½"...24" Pipe
Accuracy: ±3 – 5% of Full Scale

Paddle Torsion - Flowmeter
Aluminum-Bronze, Stainless Steel
Model: DPT-..C3

Water: 1.5...8 GPM to 225...500 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: 3/8"...3" NPT
Accuracy: ±3% of Full Scale

Paddle Torsion - Flowmeter
Bronze, Stainless Steel
Model: DPT-..K

Water: 1.5...8 GPM to 225...500 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: 3/8"...3" NPT
Accuracy: ±3% of Full Scale

Baffle Flap - Flowmeter
Brass, Stainless Steel, PVC
Model: DWD

Water: 0.26...2.6 GPM to
1,580...15,800 GPM
t_{max} 250 °F; p_{max} 360 PSIG
Connection: 3/8"...2 NPT, ½"...2" ANSI,
Weld-on Flange 1½"...20" Pipe
Accuracy: ±1.5% of Full Scale

Flap - Flowmeter
Steel, Stainless Steel, PP, PVDF, Hastelloy®
Model: TSK

Water: 2.2...15 GPM to 880...6,600 GPM
t_{max} 570 °F; p_{max} 580 PSIG
Connection: 1"...20" ANSI Wafer
Accuracy: ±2% of Reading

Flow, Humidity and Temperature Hand-Held Measuring Unit
Model: HND-F115

Measuring Range:
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

Flow

Turbine - Pulse Output
Brass, Stainless Steel, PPO
Model: DRS-..F5

Water: 0.6...10.5 GPM
t_{max} 300 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT
Accuracy: ±1.5% of Full Scale

Turbine - Pulse or Analog Output
Brass, Stainless Steel, PPO
Model: DRS-..F3, DRS-..L3

Water: 0.6...10.5 GPM
t_{max} 175 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT
Accuracy: ±1.5% of Full Scale

Turbine - Analog Output
Brass, Stainless Steel, PPO
Model: DRS-..L4 with AUF

Water: 0.6...10.5 GPM
t_{max} 175 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT
Accuracy: ±1.5% of Full Scale

Turbine - Pointer Indicator
Brass, Stainless Steel, PPO
Model: DRS-..Z3

Water: 0.6...10.5 GPM
t_{max} 175 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT
Accuracy: ±1.5% of Full Scale

Turbine - Compact Eletronic
Brass, Stainless Steel, PPO
Model: DRS-..C3

Water: 0.6...10.5 GPM
t_{max} 175 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT
Accuracy: ±1.5% of Full Scale

Turbine - Counter
Brass, Stainless Steel, PPO
Model: DRS with ZED

Water: 0.6...10.5 GPM
t_{max} 300 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT
Accuracy: ±1.5% of Full Scale

Turbine - Pulse Output
PVC, PVDF
Model: TUR

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

Turbine - Analog Output
PVC, PVDF
Model: TUR

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

Turbine - Pointer Indicator
PVC, PVDF
Model: TUR-..Z3

Water: 5.3...88 GPM to 11...440 GPM
t_{max} 160 °F; p_{max} 145 PSIG
Connection: 2" or 4" ANSI
Accuracy: ±1% of Full Scale

Turbine - Compact Electronics
PVC, PVDF
Model: TUR-..C3

Water: 5.3...88 GPM to 11...440 GPM
t_{max} 160 °F; p_{max} 145 PSIG
Connection: 2" or 4" ANSI
Accuracy: ±1% of Full Scale

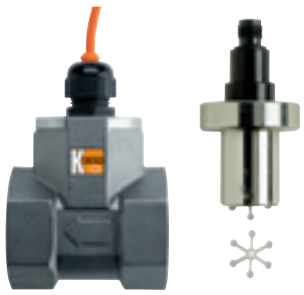
Turbine - Digital Display
PVC, PVDF
Model: TUR-..K

Water: 5.3...88 GPM to 11...440 GPM
t_{max} 160 °F; p_{max} 145 PSIG
Connection: 2" or 4" ANSI
Accuracy: ±1% of Full Scale

Turbine Wheel - Pulse Output
Stainless Steel
Model: TUV

Water: 0.3...1.5 l/min to 35...400 l/min
t_{max} 350 °C; p_{max} 640 bar
Connection: G ¼...1½ Female Thread
Accuracy: ± 1 % of Reading

Paddle Wheel - Pulse/Analog Output
Aluminum-Bronze, Stainless Steel
Model: DPE



Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Analog Output
Aluminum-Bronze, Stainless Steel
Model: DPE with AUF

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Pointer Indicator
Aluminum-Bronze, Stainless Steel
Model: DPE-..Z3

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel
Compact Electronics
Aluminum-Bronze, Stainless Steel
Model: DPE-..C3

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Digital Display
Aluminum-Bronze, Stainless Steel
Model: DPE with ADI-1

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Batch Controller
Aluminum-Bronze, Stainless Steel
Model: DPE with ZED

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Pulse/Analog Output
Aluminum-Bronze, Stainless Steel
Model: DRB

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Analog Output
Aluminum-Bronze, Stainless Steel
Model: DRB with AUF

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ½"....3" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Pointer Indicator
Aluminum-Bronze, Stainless Steel
Model: DRB-..Z3

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 230 PSIG
Connection: ½"...3" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel-Compact Electronics
Aluminum-Bronze, Stainless Steel
Model: DRB-..C3

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 230 PSIG
Connection: ½"...3" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel - Digital Display
Aluminum-Bronze, Stainless Steel
Model: DRB with ADI

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 230 PSIG
Connection: ½"...3" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel - Batch Controller
Aluminum-Bronze, Stainless Steel
Model: DRB with ZED

Water: 2...8 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 230 PSIG
Connection: ½"...3" NPT
Accuracy: ±3% of Full Scale

Flow

Turbine Wheel - Pulse Output
PVDF, Stainless Steel
Model: SFL

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

Turbine - Ratemeter/Totalizer
Stainless Steel
Model: DOT

Water:
0.48...4.8 GPM to 3,080...30,800 GPM
t_{max} 250 °F; p_{max} 3,600 PSIG
Connection: ½"...2" NPT, ½"...20" ANSI
Accuracy: ±0.5% of Full Scale

Turbine Flowmeter/Totalizer Battery Powered
Polyamide, Brass, Stainless Steel, PVC, Aluminum, PVDF
Model: EDM

Water: 0.3...3 GPM to 30...200 GPM
t_{max} 175 °F; p_{max} 230 PSIG
Connection: ½"...3" NPT
Accuracy: ±1...2% of Full Scale

Turbine - Flowmeter/Totalizer Battery Powered
PVC
Model: EDM-8000

Water: 1...10 GPM to 60...600 GPM
t_{max} 140 °F; p_{max} 150 PSIG
Connection: ½"...4" NPT, Flange, Socket
Accuracy: ±3% of Reading

Paddle Wheel - Low Volume Pulse Output
Brass, Stainless Steel
Model: DPM-..F5

Water: 0.24...11.1 GPH to 0.8...80 GPH
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1 – 2.5% of Full Scale

Paddle Wheel - Low Volume Pulse or Analog Output
Brass, Stainless Steel
Model: DPM-..F3, DPM-..L3

Water: 0.24...11.1 GPH to 0.8...80 GPH
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1 – 2.5% of Full Scale

Paddle Wheel - Low Volume Analog Output
Brass, Stainless Steel
Model: DPM-..L4 with AUF

Water: 0.24...11.1 GPH to 0.8...80 GPH
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1 – 2.5% of Full Scale

Paddle Wheel - Low Volume Pointer Indicator
Brass, Stainless Steel
Model: DPM-..Z3

Water: 0.24...11.1 GPH to 0.8...80 GPH
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1 – 2.5% of Full Scale

Paddle Wheel - Low Volume Compact Eletronics
Brass, Stainless Steel
Model: DPM-..C3

Water: 0.24...11.1 GPH to 0.8...80 GPH
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1 – 2.5% of Full Scale

Paddle Wheel - Low Volume Totalizer
Brass, Stainless Steel
Model: DPM with ZED

Water: 0.24...11.1 GPH to 0.8...80 GPH
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8" NPT, 1/4" NPT
Accuracy: ±1 – 2.5% of Full Scale

Paddle Wheel - Low Volume
Brass, PTFE, PPS
Model: KFF-1, KFG-1

Water: 15...100 mL/min to 1...10 L/min
Air: 10...50 mL_N/min to 100...500 L_N/min
t_{max} 120 °F; p_{max} 500 PSIG
Connection: 1/8"...1/2" Compression
Accuracy: ±3% of Full Scale

Paddle Wheel - Low Volume
Brass, PPS
Model: KFF-3, KFG-3

Water: 13...100 mL/min to 1...10 L/min
Air: 10...50 mL_N/min to 100...500 L_N/min
t_{max} 120 °F; p_{max} 500 PSIG
Connection: 1/8"...1/2" Compression
Accuracy: ±3% of Full Scale

Paddle Wheel - Low Volume
Pulse Output
Polypropylene
Model: DPL-..F5

Water: 0.4...8 GPH to 16...400 GPH
t_{max} 160 °F; p_{max} 145 PSIG
Connection: ½" BSP, Hose Barb
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Low Volume
Pulse or Analog Output
Polypropylene
Model: DPL-..F3, ..L3

Water: 0.4...8 GPH to 16...400 GPH
t_{max} 160 °F; p_{max} 145 PSIG
Connection: ½" BSP, Hose Barb
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Low Volume
Analog Output
Polypropylene
Model: DPL-..L4 with AUF

Water: 0.4...8 GPH to 16...400 GPH
t_{max} 160 °F; p_{max} 145 PSIG
Connection: ½" BSP, Hose Barb
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Low Volume
Pointer Indicator
Polypropylene
Model: DPL-..Z3

Water: 0.4...8 GPH to 16...400 GPH
t_{max} 160 °F; p_{max} 145 PSIG
Connection: ½" BSP, Hose Barb
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Low Volume
Compact Eletronic
Polypropylene
Model: DPL-..C3

Water: 0.4...8 GPH to 16...400 GPH
t_{max} 160 °F; p_{max} 145 PSIG
Connection: ½" BSP, Hose Barb
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Low Volume
Totalizer
Polypropylene
Model: DPL with ZED

Water: 0.4...8 GPH to 16...400 GPH
t_{max} 160 °F; p_{max} 145 PSIG
Connection: ½" BSP, Hose Barb
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Low Volume
Stainless Steel
Model: DTK

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

Paddle Wheel - Pulse Output
Polyamide, Polysulfone, PP, Brass,
Stainless Steel
Model: DF-Sensor

Water: 0.02...0.14 GPM to 1.5...36 GPM
t_{max} 180 °F; p_{max} 1,450 PSIG
Connection: 1/8"...1-1/2" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Analog Output
Polyamide, Polysulfone, PP, Brass,
Stainless Steel
Model: DF-MA

Water: 0.02...0.14 GPM to 1.5...36 GPM
t_{max} 180 °F; p_{max} 1,450 PSIG
Connection: 1/8"...1-1/2" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel Switch - Low Volume
Polyamide, Polysulfone, PP, Brass,
Stainless Steel
Model: DF-WM

Water: 0.02...0.14 GPM to 1.5...36 GPM
t_{max} 180 °F; p_{max} 1,450 PSIG
Connection: 1/8"...1-1/2" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Digital Display
Polyamide, Polysulfone, PP, Brass,
Stainless Steel
Model: DF-KL

Water: 0.02...0.14 GPM to 1.5...36 GPM
t_{max} 180 °F; p_{max} 1,450 PSIG
Connection: 1/8"...1-1/2" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Totalizer/Batch
Controller
Polyamide, Polysulfone, PP, Brass,
Stainless Steel
Model: DF-ZL, -DL

Water: 0.02...0.14 GPM to 1.5...36 GPM
t_{max} 180 °F; p_{max} 1,450 PSIG
Connection: 1/8"...1-1/2" NPT
Accuracy: ±2.5% of Full Scale

Flow

Paddle Wheel - Pulse Output
Brass
Model: DFT

Water: 0.02...0.14 GPM to 0.5...12 GPM
t_{max} 180 °F; p_{max} 230 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Pulse Output
PTFE
Model: DFT

Water: 0.02...0.14 GPM to 0.5...12 GPM
t_{max} 180 °F; p_{max} 230 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Digital Display
PTFE, Brass
Model: DFT-..KL

Water: 0.02...0.14 GPM to 0.5...12 GPM
t_{max} 180 °F; p_{max} 230 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Pulse/Analog Output
POM, PVDF, Brass, Stainless Steel
Model: DRH-..F, DRH-..L

Water: 0.05...0.2 GPM to 0.66...13.2 GPM
t_{max} 175 °F; p_{max} 1,450 PSIG
Connection: 3/8" NPT, 1" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Analog Output
POM, PVDF, Brass, Stainless Steel
Model: DRH with AUF

Water: 0.05...0.2 GPM to 0.66...13.2 GPM
t_{max} 175 °F; p_{max} 1,450 PSIG
Connection: 3/8" NPT, 1" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Pointer Indicator
POM, PVDF, Brass, Stainless Steel
Model: DRH-..Z3

Water: 0.05...0.2 GPM to 0.66...13.2 GPM
t_{max} 175 °F; p_{max} 1,450 PSIG
Connection: 3/8" NPT, 1" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Compact Electronics
POM, PVDF, Brass, Stainless Steel
Model: DRH-..C3

Water: 0.05...0.2 GPM to 0.66...13.2 GPM
t_{max} 175 °F; p_{max} 1,450 PSIG
Connection: 3/8" NPT, 1" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Digital Display
POM, PVDF, Brass, Stainless Steel
Model: DRH with ZED or ADI-1

Water: 0.05...0.2 GPM to 0.66...13.2 GPM
t_{max} 175 °F; p_{max} 1,450 PSIG
Connection: 3/8" NPT, 1" NPT
Accuracy: ±2.5% of Full Scale

Paddle Wheel - Pulse/Analog Output
Polypropylene, Aluminum-Bronze, Stainless Steel
Model: DRG-..F, ..L

Water: 0.15...3 GPM to 3...37 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...1" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel - Analog Output
Polypropylene, Aluminum-Bronze, Stainless Steel
Model: DRG with AUF

Water: 0.15...3 GPM to 3...37 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...1" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel - Pointer Indicator
Polypropylene, Aluminum-Bronze, Stainless Steel
Model: DRG-..Z3

Water: 0.15...3 GPM to 3...37 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...1" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel Compact Electronics
Polypropylene, Aluminum-Bronze, Stainless Steel
Model: DRG-..C3

Water: 0.15...3 GPM to 3...37 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...1" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel - Digital Display
Polypropylene, Aluminum-Bronze, Stainless Steel
Model: DRG with ZED or ADI-1

Water: 0.15...3 GPM to 3...37 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...1" NPT
Accuracy: ±3% of Full Scale

Paddle Wheel - Mechanical Totalizer
Bronze
Model: WM

Water: 0.53...13.2 GPM to 0.88...22 GPM
t_{max} 194 °F; p_{max} 145 PSIG
Connection: ½"...¾" NPT
Accuracy: ±1.5% of Full Scale

Paddle Wheel - Pulse Output
Brass
Model: DOW

Water: 0.26...18 GPM
t_{max} 194 °F; p_{max} 145 PSIG
Connection: ¾" NPT
Accuracy: ±1.5% of Reading

Paddle Wheel - Insertion Type
Stainless Steel
Model: DOR

Water: 6...210 GPM to 24,500...800,000 GPM, 1...33 ft/sec.
t_{max} 200 °F; p_{max} 80 PSIG
Connection: 1½" NPT, 2" NPT
Linearity: ±1.5% of Full Scale

Positive Displacement - Piston Pulse Output
Brass
Model: DRZ..F

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

Positive Displacement - Piston Analog Output
Brass
Model: DRZ with AUF

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

Positive Displacement - Piston Compact Electronics
Brass
Model: DRZ-..C3

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

Positive Displacement - Oval Gear Pulse Output
POM, Aluminum
Model: OVZ-..F, ..L

Viscosity Range: 10...800 cSt.
Oil: 0.08...2.1 GPM to 0.5...10.6 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Positive Displacement - Oval Gear Analog Output
POM, Aluminum
Model: OVZ-..L4 with AUF

Viscosity Range: 10...800 cSt.
Oil: 0.08...2.1 GPM to 0.5...10.6 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Positive Displacement - Oval Gear Pointer Indicator
POM, Aluminum
Model: OVZ-..Z3

Viscosity Range: 10...800 cSt.
Oil: 0.08...2.1 GPM to 0.5...10.6 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Positive Displacement - Oval Gear Compact Electronics
POM, Aluminum
Model: OVZ-..C3

Viscosity Range: 10...800 cSt.
Oil: 0.08...2.1 GPM to 0.5...10.6 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Positive Displacement - Oval Gear Batch Controller
POM, Aluminum
Model: OVZ with ZED

Viscosity Range: 10...800 cSt.
Oil: 0.08...2.1 GPM to 0.5...10.6 GPM
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼"...¾" NPT
Accuracy: ±2.5% of Full Scale

Flow

Oval Gear - Pulse Output
Aluminum, Stainless Steel, Cast Iron
Model: DON-..F4

Viscosity Range: 0...1,000,000 mPas
Oil: 0.5...36 l/h to 150...2,500 l/min
t_{max} 120 °C; p_{max} 400 bar
Connection: G 1/8...4 Female Thread, Flange DN 25...100, ANSI 1"...4"
Accuracy: ± 0.2-1% of Reading

Oval Gear - LCD Display
Aluminum, Stainless Steel, Cast Iron
Model: DON-..Z..

Viscosity Range: 0...1,000,000 mPas
Oil: 0.5...36 l/h to 150...2,500 l/min
t_{max} 120 °C; p_{max} 400 bar
Connection: G 1/8...4 Female Thread, Flange DN 25...100, ANSI 1"...4"
Accuracy: ± 0.2-1% of Reading

Oval Gear - Mechanical Totalizer
Aluminum, Stainless Steel, Cast Iron
Model: DON-..M..

Viscosity Range: 0...1,000,000 mPas
Oil: 0.5...36 l/h to 150...2,500 l/min
t_{max} 120 °C; p_{max} 400 bar
Connection: G 1/8...4 Female Thread, Flange DN 25...100, ANSI 1"...4"
Accuracy: ± 0.2-1% of Reading

Paddle Wheel - Integral Batching System
Brass
Model: DOB

Water: 0.3...18 L/min
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¾" NPT
Accuracy: ±0.5% of Reading

Positive Displacement - Oval Gear - Mechanical Batch Controller
Aluminum, Stainless Steel, Cast Iron
Model: DOL

Viscosity Range: to 1,000,000 cSt.
Oil: 0.26...10.6 GPM to 40...660 GPM
t_{max} 250 °F; p_{max} 5,800 PSIG
Connection: ½"...3" NPT, ½"...4" ANSI
Accuracy: ±0.2 – 1% of Reading

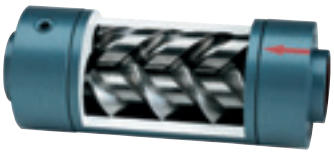
Positive Displacement - Oval Gear Batch System for Additives
Stainless Steel
Model: DOP

Viscosity Range: to 1,000,000 cSt.
Oil: 1.6...15 GPH to 4...160 GPH
t_{max} 210 °F; p_{max} 300 PSIG
Connection: ⅜" NPT
Accuracy: ±0.5% of Reading

Positive Displacement - Screw Type - Pulse Output
Aluminum
Model: OME

Viscosity Range: 1...5,000 cSt.
Oil: 0.05...2.6 GPM to 0.53...26.4 GPM
t_{max} 210 °F; p_{max} 580 PSIG
Connection: ½...1" NPT, ½"...1" ANSI
Accuracy: ±0.3% of Reading

Positive Displacement - Screw Type - Pulse Output
Cast Iron, Stainless Steel
Model: OMG



Viscosity Range: 1...5,000 cSt.
Oil: 0.026...2.6 GPM to 13...1,300 GPM
t_{max} 390 °F; p_{max} 6,000 PSIG
Connection: ½"...3" NPT, ½"...6" ANSI
Accuracy: ±0.3% of Reading

Gear Wheel - Meter
Cast Iron, Stainless Steel
Model: DZR

Viscosity Range: 20...5,000 mm²/s
Oil: 0.008...2 l/min to 3...700 l/min
t_{max} 150 °C; p_{max} 400 bar
Connection: G 3/8 ... 1 Female Thread
Accuracy: ± 0.3-1% of Reading

Gear Wheel - Meter
Aluminum
Model: KZA

Viscosity Range: 20...4,000 mm²/s
Oil: 0.02...4 l/min to 1...200 l/min
t_{max} 80 °C; p_{max} 160 bar
Connection: G ¼ ... 1 Female Thread
Accuracy: ± 0.3-3% of Reading

Positive Displacement - Spur Gear Pulse Output
Cast Iron, Stainless Steel
Model: ZDM

Viscosity Range: 0.3...1,000,000 cSt.
Oil: 0.0005...0.5 GPM to 0.3...80 GPM
t_{max} 300 °F; p_{max} 4,600 PSIG
Connection: 3/8"...1-1/2" NPT
Accuracy: ±0.3% of Reading

Calorimetric Indicator/Switch
Stainless Steel
Model: KAL-D

Water: 0.13...6.5 ft/sec.
t_{max} 175 °F; p_{max} 580 PSIG
Connection: ¼", ½" NPT/BSP, M12

Calorimetric Indicator/Switch
Stainless Steel
Model: KAL-K

Water: 0.13...6.5 ft/sec.
t_{max} 250 °F; p_{max} 1,450 PSIG
Connection: ¼"...¾" NPT, Tri-Clamp®

Calorimetric Transmitter/Switch
Stainless Steel
Model: KAL-A

Water: 0.13...6.5 ft/sec.
t_{max} 175 °F; p_{max} 1,450 PSIG
Connection: ¼"...¾" NPT, Tri-Clamp®
Linearity: ±10% of Full Scale

Calorimetric Indicator/Switch for Air/HVAC
Brass
Model: KAL-L

Air: 3.5...65 ft/sec.
t_{max} 250 °F; p_{max} 100 PSIG
Connection: ½" NPT, Duct Flange
Linearity : ±10% of Full Scale

Calorimetric Indicator/Switch
Brass, Stainless Steel
Model: KAL, KAL-E

Water: 0.13...6.5 ft/sec.
t_{max} 250 °F; p_{max} 1,450 PSIG
Connection: ¼"...1-½" NPT

Mass Flowmeter/Controller Thermal
Stainless Steel
Model: DMS

Air: 0...10 SCCM to 0...200 SLPM
t_{max} 120 °F; p_{max} 500 PSIG
Connection:
¼" or ½" NPT, 1/8"...1/2" Compression
Accuracy: ±1% of Full Scale

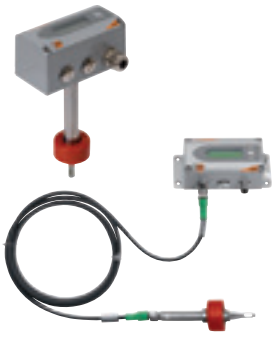
Mass Flowmeter - Thermal
Polyamide, Stainless Steel
Model: MAS

Air: 0...10 SCCM to 0...500 SLPM
t_{max} 120 °F; p_{max} 500 PSIG
Connection:
¼" NPT, ½" NPT; ¼" or ½" Swagelok®
Accuracy: ±1.5% of Full Scale

Mass Flowmeter/Controller Thermal
Polyamide, Stainless Steel
Model: MFC

Air: 0...20 SCCM to 0...50 SLPM
t_{max} 120 °F; p_{max} 145 PSIG
Connection: ¼" NPT; 1/8" or ¼" Swagelok®
Accuracy: ±1.5% of Full Scale

Mass - Flowmeter - Thermal
Stainless Steel
Model: KMT-1/-2/-3



Air: 0.5...200 Nm/s
t_{max} 176 °F; p_{max} 230 PSIG
Connection: R ½...2 Ball Valve
Accuracy: ±2.5 % of Reading,
±0.15 % of Full Scale

Mass - Flowmeter - Thermal
Stainless Steel
Model: KMT-4

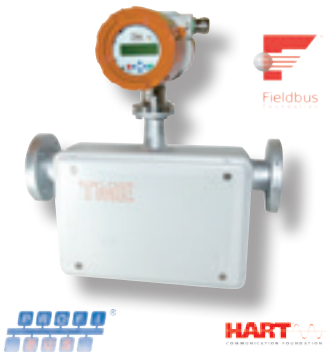
Installation under Pressure

Air: 0.2...200 Nm/s
t_{max} 80 °C; p_{max} 16 bar
Connection: R ½" Male for Insertion
(DN 65 ... DN 700)
Accuracy:
±1.5% of Reading, ± 0.8% of Full Scale

Mass Flowmeter - Thermal
Stainless Steel
Model: KES-1/3/4

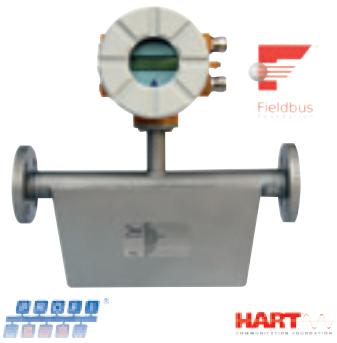
Air: 0...15 ft/sec. to 0...300 ft/sec.
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ½"...3" NPT, ½"...8" ANSI
Accuracy: ±1.0% of f/s, ±0.5% of Reading

Mass Flowmeter - Coriolis
Stainless Steel
Model: TME



Water: 0...430 Lb./Hr. to 0...132,000 Lb./Hr.
t_{max} 350 °F; p_{max} 580 PSIG
Connection: ½"...3" ANSI
Accuracy: ±0.15 – 0.5% of Reading

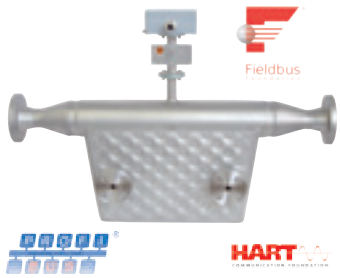
Mass Flowmeter - Coriolis
Stainless Steel, Hastelloy®
Model: TMU



Water: 0...1,320 Lb./Hr. to 0...2,200 Tons/Hr.
t_{max} 500 °F; p_{max} 580 PSIG
Connection: ½"...12" ANSI
Accuracy: ±0.1 – 0.5% of Reading

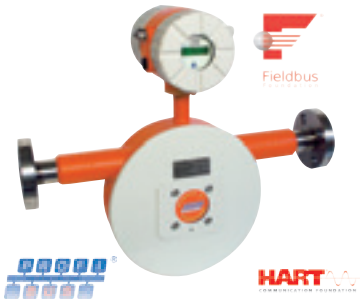
Flow

Mass Flowmeter - Coriolis with Heating Jacket
Stainless Steel, Hastelloy®
Model: TMU-..AC



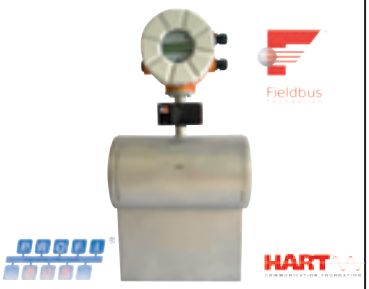
Water:
0...1,320 Lb./Hr. to 0...2,200 Tons/Hr.
t_{max} 500 °F; p_{max} 580 PSIG
Connection: ½"...12" ANSI
Accuracy: ±0.1 – 0.5% of Reading

Mass Flowmeter - Coriolis
Stainless Steel, Hastelloy®, Monel®, Tantalum, Nickel
Model: TM



Water: 0...18 Lb./Hr. to 0...140,000 Lb./Hr.
t_{max} 500 °F; p_{max} 580 PSIG
Connection: ¼"...½" NPT, ½"...4" ANSI
Accuracy: ±0.1 – 0.5% of Reading

Mass Flowmeter - Coriolis
Stainless Steel, Hastelloy®, Monel®, Tantalum, Zirconium
Model: TMR



Viscosity Range: 0.3...50,000 cSt.
Water: 0...2,600 Lb./Hr. to 0...54,500 Lb./Hr.
t_{max} 500 °F; p_{max} 1,440 PSIG
Connection: ½"...4" ANSI
Accuracy: ±0.1 – 0.15% of Reading

Orifice Plate - Differential Pressure
Steel, Stainless Steel, Hastelloy-C®, Titanium, Monel®, Tantalum
Model: KPL

Ranges: for Liquids, Gases, Steam
Connection: DN 50...600, ANSI 2"...24"
t_{max}500 °C; p_{max} PN 420

Orifice Plate - Differential Pressure
Steel, Stainless Steel, Hastelloy-C®, Titanium, Monel®, Tantalum
Model: KPL-B/-F

Ranges: for Liquids, Gases, Steam
Connection: DN 50...600, ANSI 2"...24"
t_{max} 500 °C; p_{max} PN 420

Pitot Tube - Differential Pressure
Stainless Steel
Model: ANU

Connection: G1…2, 1"…2" NPT,
DN 25…100, ANSI 1"…4"
Probe Length: 50…6000 mm (2"…240")
t_{max} 900 °C; p_{max} PN 250

Nozzle - Differential Pressure
Steel, Stainless Steel
Model: DUS

Nominal Diameter: DN 50…600 (2"…24")
t_{max} 560 °C; p_{max} 420 bar

Venturi Tube - Differential Pressure
Steel, Stainless Steel
Model: DVT

Nominal Diameter:
DN 50…1200 (2"…48")
t_{max} 560 °C; p_{max} 420 bar

Orifice Differential Pressure Transmitter
Brass, Stainless Steel
Model: KEL

Water: 0.1...0.5 GPM to 400...2,000 GPM
t_{max} 250 °F; p_{max} 230 PSIG
Connection:
½"...1-½" NPT, ½"...8" ANSI wafer
Accuracy: ±5% of Full Scale

Orifice Differential Pressure Flowmeter/Switch
Brass, Stainless Steel
Model: KEL

Water: 0.1...0.5 GPM to 400...2,000 GPM
t_{max} 250 °F; p_{max} 230 PSIG
Connection:
½"...1-½" NPT, ½"...8" ANSI wafer
Accuracy: ±5% of Full Scale

Orifice Differential Pressure Flowmeter/Switch/Transmitter
Brass, Stainless Steel
Model: KEL

Water: 0.1...0.5 GPM to 400...2,000 GPM
t_{max} 250 °F; p_{max} 230 PSIG
Connection:
½"...1-½" NPT, ½"...8" ANSI wafer
Accuracy: ±5% of Full Scale

Orifice - Differential Pressure
Aluminum-Bronze, Stainless Steel
Model: RCD-..Z

Water: 0.2...0.88 GPM to 100...600 GPM
Air: 0.3...3 SCFM to 250...1,650 SCFM
t_{max} 210 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±3% of Full Scale

Orifice Differential Pressure Flowmeter - Compact Electronics
Aluminum-Bronze, Stainless Steel
Model: RCD-..C3

Water: 0.2...0.88 GPM to 100...600 GPM
Air: 0.3...3 SCFM to 250...1,650 SCFM
t_{max} 210 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±3% of Full Scale

Orifice Differential Pressure Flowmeter - Digital Display
Aluminum-Bronze, Stainless Steel
Model: RCD-..K

Water: 0.2...0.88 GPM to 100...600 GPM
Air: 0.3...3 SCFM to 250...1,650 SCFM
t_{max} 210 °F; p_{max} 580 PSIG
Connection: ½"...3" NPT
Accuracy: ±3% of Full Scale

Orifice Differential Pressure Flowmeter
Bronze, Monel®, Stainless Steel
Model: RCM

Water: 0.3...2 GPM to 400...3,000 GPM
Air: 1.5...10 SCFM to 3,000...20,000 SCFM
t_{max} 212 °F; p_{max} 180 PSIG
Connection:
½"...3" NPT, ½"...8" ANSI Wafer
Accuracy: ±3% of Full Scale

Electromagnetic - Switch/Pulse/ Analog Output
PPS/Stainless Steel, PVDF/Hastelloy®/ Tantalum
Model: MIK-..S3, -..F3, -..L3

Water: 0.18...7.8 GPH to 9.5...180 GPM
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¼"...2" NPT or Glue Socket
Accuracy: ±2% of full scale

Electromagnetic Compact Electronics
PPS/Stainless Steel, PVDF/Hastelloy®/ Tantalum
Model: MIK-..C3

Water: 0.18...7.8 GPH to 9.5...180 GPM
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¼"...2" NPT or Glue Socket
Accuracy: ±2% of Full Scale

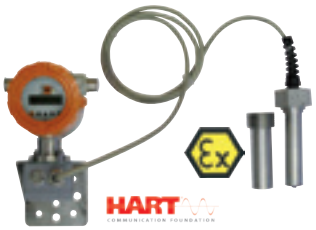
Electromagnetic - Totalizer or Batch Controller
PPS/Stainless Steel, PVDF/Hastelloy®/ Tantalum
Model: MIK-..E and MIK-..G

Water: 0.18...7.8 GPH to 9.5...180 GPM
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¼"...2" NPT or Glue Socket
Accuracy: ±2% of Full Scale

Electromagnetic - Insertion
Stainless Steel, PTFE- or PFA-lining
Model: PIT

Water: 0...32 ft/sec.
t_{max} 300 °F; p_{max} 580 PSIG
Connection: Weld-on, 2" or 3" ANSI
Accuracy: ±1.5% of Reading, ±0.5% of Full Scale

Electromagnetic - Insertion
Stainless Steel
Model: PITe



Water: 0...10 m/s
t_{max} 100 °C; p_{max} PN 16
Connection: Weld-on Nozzle ø 40 mm, Sensor with Union Nut M52x2 for Pipelines DN 50...400, ANSI 2"...16"
Accuracy: ±1.5% of Full Scale

Electromagnetic In-line Flowmeter
Hard or Soft Rubber Lining, PTFE
Model: DMH

Water: 0.29...26.4 to 431.6...43,333 GPM
t_{max} 300 °F; p_{max} 580 PSIG
Connection: ½"...24" ANSI
Accuracy: ±0.3% of Full Scale

Vortex - Analog Output
PPS/Brass, PPS/Stainless Steel
Model: DVZ-..L4 with AUF

Water: 0.13...1.2 GPM to 2.6...26.5 GPM
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¼"...1" NPT
Accuracy: ±2.5% of Full Scale

Vortex - Switch/Pulse/Analog Output
PPS/Brass, PPS/Stainless Steel
Model: DVZ-.-..S3, -..F3, ..L3

Water: 0.13...1.2 GPM to 2.6...26.5 GPM
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¼"...1" NPT
Accuracy: ±2.5% of Full Scale

Vortex - Compact Electronics
PPS/Brass, PPS/Stainless Steel
Model: DVZ-..C3

Water: 0.13...1.2 GPM to 2.6...26.5 GPM
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¼"...1" NPT
Accuracy: ±2.5% of Full Scale

Flow

Vortex - Totalizer or Batch Controller
PPS/Brass, PPS/Stainless Steel
Model: DVZ-..E and DVZ-..G

Water: 0.13...1.2 GPM to 2.6...26.5 GPM
t_{max} 175 °F; p_{max} 145 PSIG
Connection: ¼"...1" NPT
Accuracy: ±2.5% of Full Scale

Vortex - Multivariable Flowmeter
Stainless Steel
Model: DVH

$Range_{max}$ 300 ft/s Gas/Steam; 30 ft/s Liquids
t_{max} 750 °F; p_{max} 1,450 PSIG
Connection: ½"...8" ANSI
Accuracy: ±1% Reading for Gas & Steam, ±0.7% Reading for Liquids

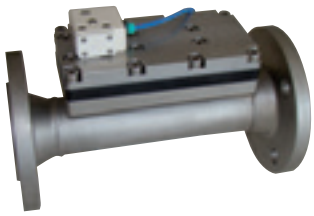
Vortex - Meter
Stainless Steel
Model: DVE

Water: 5.2...157 to 284...8537 m³/h
Air: 889...1463 Nm³/h to 26,915...2,467,081 Nm³/h
t_{max} 400 °C; p_{max} 100 bar
Connection: 2" NPT, DN 50, ANSI 2"
Mountable in NW 80 ... NW 600
Option: Integrated Temp. and Pressure Sensor, Installation / Removal Device
Accuracy: ± 1.2 % of Reading (Water), ± 1.5 % of Reading (Gas / Steam)

Oscillation - Flowmeter
Stainless Steel
Model: DOG-4

Air: 0.2...20 Nm³/h to 60...6,000 m³/h
Pressure Drop: Max. 50 mbar
t_{max} 120 °C (for EX 60 °C); p_{max} PN 40
Connection:
Flange DN 25 ... 200, ANSI 1" ... 8"
Accuracy: ± 1.5 % of Reading

Oscillation - Flowmeter
Stainless Steel
Model: DOG-5



Water:
0.075...3.75 m³/h to 19.6...980 m³/h
t_{max} 120 °C; p_{max} PN 40
Connection:
Flange DN 25 ... 200, ANSI 1" ... 8"
Accuracy: ± 0.5 % of Reading

Ultrasonic - Switch/Pulse/Analog Output
Brass, Stainless Steel
Model: DUK-..S3, -..F3, -..L3

Water: 0.02...5 GPM to 2.6...160 GPM
t_{max} 190 °F; p_{max} 145 PSIG
Connection: ¼"...3" NPT
Accuracy: ±1.5% of Full Scale

Ultrasonic - Analog Output
Brass, Stainless Steel
Model: DUK-..L4 with AUF

Water: 0.02...5 GPM to 2.6...160 GPM
t_{max} 190 °F; p_{max} 145 PSIG
Connection: ¼"...3" NPT
Accuracy: ±1.5% of Full Scale

Ultrasonic - Compact Electronics
Brass, Stainless Steel
Model: DUK-..C3

Water: 0.02...5 GPM to 2.6...160 GPM
t_{max} 190 °F; p_{max} 145 PSIG
Connection: ¼"...3" NPT
Accuracy: ±1.5% of Full Scale

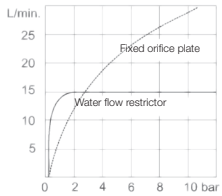
Ultrasonic - Totalizer/Batcher
Brass, Stainless Steel
Model: DUK-..E, ..G

Water: 0.02...5 GPM to 2.6...160 GPM
t_{max} 190 °F; p_{max} 145 PSIG
Connection: ¼"...3" NPT
Accuracy: ±1.5% of Full Scale

Ultrasonic - Digital Display
Brass, Stainless Steel
Model: DUK-..K

Water: 0.02...5 GPM to 2.6...160 GPM
t_{max} 190 °F; p_{max} 145 PSIG
Connection: ¼"...3" NPT
Accuracy: ±1.5% of Full Scale

Flow Regulators
Brass, Stainless Steel
Model: REG



Viscosity Range: 1...30 cSt.
Flow Rates: 0.25...7.93 GPM
t_{max} 570 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT

Flow Regulators - Multiple Element
Stainless Steel
Model: REG-8 and -9

Viscosity Range: 1...30 cSt.
Flow Rates: 0.25...74 GPM
t_{max} 570 °F; p_{max} 2,900 PSIG
Connection REG-8: ¾"...2" ANSI wafer
Connection REG-9: 1-½"...2-½" BSP

Flow Indicator with Rotor
Brass, Stainless Steel
Model: DAA, DAH

Water: 0.1...3 GPM to 1...58 GPM
t_{max} 210 °F; p_{max} 230 PSIG
Connection: ¼"...1-½" NPT

Flow Indicator with Rotor
Brass, Stainless Steel
Model: DAF

Water: 0.16...0.16 GPH to 100...2,400 GPH
t_{max} 180 °F; p_{max} 230 PSIG
Connection: 1/8"...1-1/2" NPT

Flow Indicator with Rotor
Brass, Stainless Steel, POM, PVDF
Model: DIH

Water: 0.05...0.2 GPM to 0.66...13.2 GPM
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 3/8", 1" NPT

Flow Indicator with Rotor
PP, Aluminum-Bronze, Stainless Steel
Model: DIG

Water: 0.15...3 GPM to 3...37 GPM
t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/8"...1" NPT

Flow Indicator with Rotor
Brass
Model: DKF

Water: 0.03...1.8 GPM to 0.08...16 GPM
t_{max} 250 °F; p_{max} 85 PSIG
Connection: 1/8"...1" NPT

Flow Indicator with Ball
Brass
Model: DKB

Water: 0.03...1.8 GPM to 0.08...16 GPM
t_{max} 250 °F; p_{max} 85 PSIG
Connection: 1/8"...1" NPT

Flow Indicator with Ball
Bronze
Model: DAB

t_{max} 100 °C; p_{max} 6 bar
Connection: G ¾ ... 3 Female Thread

Flow Indicator - Sight Glass
Stainless Steel, PVC
Model: UFJ

t_{max} 210 °F; p_{max} 145 PSIG
Connection: ¼"...2" BSP

Flow Indicator with Flap
Cast Iron
Model: DAZ

Water: 2.1...17 l/min to 2.1...24 l/min
t_{max} 200 °C; p_{max} 16 bar
Connection: G ½ ... 1 Female Thread

Flow Indicator with Rotor
Grey Cast Iron, Cast Steel, Stainless Steel
Model: DAR

t_{max} 500 °F; p_{max} 580 PSIG
Connection: ½"...8" ANSI

Flow Indicator with Flap
Grey Cast Iron, Cast Steel, Stainless Steel
Model: DAK

t_{max} 530 °F; p_{max} 580 PSIG
Connection: ½"...8" ANSI

Flow Indicator with Drip Tube
Grey Cast Iron, Cast Steel, Stainless Steel
Model: DAT

t_{max} 250 °F; p_{max} 85 PSIG
Connection: ¼"...2" NPT, ½"...8" ANSI

Pressure

Bourdon Tube Pressure Gauges
Brass, Stainless Steel
Model: MAN-R, -Q

Measuring Range:
-30"...0" Hg to 0...14,500 PSIG
Housing Ø: 63, 100, 160 mm
Overload Protection: 1.15-1.3 Times
Connection: ¼" NPT, ½" NPT
Accuracy: ±1.0% or ±1.6% of Full Scale

All Stainless Steel Bourdon Tube Pressure Gauges
Stainless Steel
Model: MAN-R

Measuring Range:
-30"...0" Hg to 0...14,500 PSIG
Housing Ø: 63, 100, 160 mm
Overload Protection: 1.15-1.3 Times
Connection: ¼" NPT, ½" NPT
Accuracy: ±1.0% or ±1.6% of Full Scale

Bourdon Tube Pressure Gauges with Switches
Brass, Stainless Steel
Model: MAN-RF, -RG

Measuring Range:
-30"...0" Hg to 0...23,000 PSIG
Housing Ø: 100, 160 mm
Overload Protection: 1.15-1.3 Times
Connection: ½" NPT
Accuracy: ±1.0% of Full Scale

Capsule Element Pressure Gauges
Brass, Stainless Steel
Model: MAN-K

Measuring Range:
-30"...0" Hg to 0...8.7 PSIG
Housing Ø: 63, 80, 100, 160 mm
Overload Protection: 0.9-1.0 Times
Connection: ¼" NPT, ½" NPT
Accuracy: ±1.6% of Full Scale

Diaphragm Pressure Gauges
Stainless Steel
Model: MAN-P

Measuring Range:
-7.5"...0" Hg to 0...580 PSIG
Housing Ø: 100, 160 mm
Overload Protection: 1.15-1.3 Times
Connection: ½" NPT, ¾"...3" ANSI
Accuracy: ±0.6% of Full Scale

Pressure Gauge with Transducer
Stainless Steel
Model: MAN-ZF

Measuring Range:
-30"...0" Hg to 0...8,700 PSIG
Housing Ø: 100 mm
Overload Protection: 0.9-1.0 Times
Connection: ½" NPT
2-wire 4-20 mA Output
Accuracy: ±1.0% of Full Scale

Test Pressure Gauge with Bourdon Tube
Aluminum
Model: MAN-F

Measuring Range:
-8.5"...0" Hg to 0...36,000 PSIG
Housing Ø: 160, 250 mm
Overload Protection: 1.0 Times
Connection: ½" NPT
Accuracy: ±0.25% or ±0.6% of Full Scale

LCD Pressure Gauge with Ceramic Sensing Element Battery Powered
Stainless Steel/PA Fiberglass Reinforced
Model: MAN-SD, DSD

Measuring Range:
-30"...0" Hg to 0...23,000 PSIG
Housing Ø: 80 mm
Overload Protection: 1.3-3 Times
Connection: ¼" NPT, ½" NPT
Accuracy: ±0.5% of Full Scale

LCD Pressure Gauge with Ceramic Sensing Element Externally Powered
Stainless Steel/PA Fiberglass Reinforced
Model: MAN-LD

Measuring Range:
-30"...0" Hg to 0...23,000 PSIG
Housing Ø: 80 mm
Overload Protection: 1.3-3 Times
Connection: ¼" NPT, ½" NPT
Accuracy: ±0.5% of Full Scale

LCD Pressure Gauge with Ceramic or Thin Film Sensing Element - Battery Powered
Stainless Steel
Model: PDC

Measuring Range:
0...30 PSIG to 0...10,000 PSIG
Housing Ø: 80 mm
Overload Protection:
2 Times or 14,500 PSIG Max.
Connection: ¼" NPT
Accuracy: ±0.5% of Full Scale, ±1 Digit

LED Pressure Gauge with Ceramic Sensing Element
Stainless Steel/PA Fiberglass Reinforced
Model: MAN-SF26, DSF26

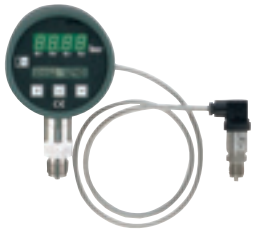
Measuring Range:
-30"...0" Hg to 0...23,000 PSIG
Housing Ø: 100 mm
Overload Protection: 2 Times
Connection: ¼" NPT, ½" NPT
4-20 mA and Relay Contacts
Accuracy: ±0.5% of Full Scale

LED Differential Pressure Gauge with Ceramic Sensing Element
Stainless Steel/PA Fiberglass Reinforced
Model: MAN-BF20

Measuring Range:
-30"...0" Hg to 0...23,000 PSID
Housing Ø: 100 mm
Overload Protection: 2 Times
Connection: ½" NPT
4-20 mA and Relay Contacts
Accuracy: ±0.5% of Full Scale

Pressure

LED Differential Pressure Gauge with Ceramic Sensing Element
Stainless Steel/PA Fiberglass Reinforced
Model: MAN-BF26



Measuring Range:
-30"...0" Hg to 0...23,000 PSID
Housing Ø: 100 mm
Overload Protection: 2 Times
Connection: ¼" NPT, ½" NPT
4-20 mA and Relay Contacts
Accuracy: ±0.5% of Full Scale

U-Pipe Pressure Gauges
Glass
Model: PUM

Measuring Range:
0... 25 mbar to 0...150 mbar
Scale Division: 2 mm
Hose Connection Ø: 7 mm
Accuracy: ± 0.2 mbar

Differential Pressure Gauge with Diaphragm
Aluminum
Model: MAN-D..2A

Measuring Range:
0...0.4 PSID to 0...360 PSID
Housing Ø: 100, 160 mm
Connection: ¼" BSP (NPT with adapter)
Accuracy: ±1.6% of Full Scale

Differential Pressure Gauge with Diaphragm
Stainless Steel
Model: MAN-DF2G, -DG2G

Measuring Range: 0...0.9 PSID to 0...580 PSID
Housing Ø: 100, 160 mm
Connection: ½" BSP (NPT with adapter)
Accuracy: ±1.6% of Full Scale

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

Measuring Range:
-30"...0" Hg to 0...23,000 PSIG
Fill Liquids: Glycerine, Paraffin and Silicone
Connection: NPT, BSP, ANSI, Tri-Clamp® or other Sanitary Connections

All Stainless Steel Bourdon Tube Pressure Gauge with Membrane Diaphragm
Stainless Steel
Model: MAN-RD..DRM-600

Measuring Range:
0...85 PSIG to 0...14,500 PSIG
Housing Ø: 63 mm
Connection: ½"...1-¼" NPT
Accuracy: ±1.6% of Full Scale

Contact Pressure Gauge with Membrane Diaphragm Seal
Stainless Steel
Model: MAN-RF..M..DRM-601

Measuring Range:
0...85 PSIG to 0...14,500 PSIG
Housing Ø: 100 mm
Connection: ½"...1-¼" NPT
Accuracy: ±1.6% of Full Scale

Pressure Gauge with Sanitary Diaphragm Seal and Cooling Element
Stainless Steel
Model: MAN-RF..MZB-711..DRM-602

Measuring Range:
0...15 PSIG to 0...580 PSIG
Housing Ø: 100 mm
Connection: Tri-Clamp®, DIN 11851, Hygienic Connection, IDF, SMS
Accuracy: ±1.6% of Full Scale

All Stainless Steel Pressure Gauge with Membrane Diaphragm
Stainless Steel
Model: MAN-RF..M1..DRM-628

Measuring Range:
0...15 PSIG to 0...580 PSIG
Housing Ø: 100, 160 mm
Connection: 1"...4" ANSI
Accuracy: ±1.6% of Full Scale

All Stainless Steel Pressure Gauge with Membrane Diaphragm
Stainless Steel
Model: MAN-RF..M1..DRM-620

Measuring Range:
0...1.45 PSIG to 0...8,700 PSIG
Housing Ø: 100, 160 mm
Connection: ¾" NPT
Accuracy: ±1.6% of Full Scale

All Stainless Steel Pressure Gauge with In-Line Diaphragm
Stainless Steel
Model: MAN-RF..DRM-502

Measuring Range:
0...15 PSIG to 0...580 PSIG
Housing Ø: 100, 160 mm
Connection: ½"...2" Tri-Clamp®, ISO Hygienic Connection
Accuracy: ±1.6% of Full Scale

Differential Pressure Gauge with Bourdon Tube
Aluminum, Steel
Model: MAN-DG12R

Measuring Range:
0...15 PSID to 0...870 PSID
Housing Ø: 160 mm
Connection: ½" NPT
Accuracy: ±1.6% of Full Scale

Pressure

Pressure Gauge with Tri-Clamp® Diaphragm Seal
Stainless Steel
Model: MAN-RF..DRM-613

Measuring Range:
0...15 PSIG to 0 ...145 PSIG
Housing Ø: 100 mm
Connection: 1"...3" Tri-Clamp®
Accuracy: ±1.6% of Full Scale

Pressure Gauges with Diaphragm
PPH
Model: MAN-..D

Measuring Range: 0...1 bar to 0...25 bar
Connection: ¾" BSP
Accuracy: ±1.6% of Full Scale

LCD Pressure Gauge with Diaphragm Seal for Homogenizing Machines
Stainless Steel
Model: MAN-SD/DSD..DRM-189

Measuring Range:
0...1,450 PSIG to 0...14,500 PSIG
Housing Ø: 80 mm
Connection: Homogenizer Flange
Accuracy: ±1.6% of Full Scale

LED Pressure Gauge with Diaphragm Seals for Homogenizing Machines
Stainless Steel
Model: MAN-SF..DRM-189

Measuring Range:
0...1,450 PSIG to 0...14,500 PSIG
Housing Ø: 100 mm
Membrane: Flush Mounted
Display: 4-digit, Green LED Display
t_{max} 210 °F
Connection: Homogenizer Flange
Accuracy: ±1.0% of Full Scale

Pressure Gauge Accessories
Brass, Steel, Stainless Steel
Model: MZN

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

Pressure Gauge with Membrane Diaphragm Seal - Plastic
PVDF
Model: MAN-RD..DRM-632

Measuring Range:
0...20 PSIG to 0...230 PSIG
Housing Ø: 63 mm
Connection: ½" NPT
Accuracy: ±1.6% of Full Scale

Digital Pressure Gauge with Membrane Diaphragm Seal
PVC
Model: MAN-SD/DSD..DRM-630

Measuring Range:
0...20 PSIG to 0...145 PSIG
Housing Ø: 74 mm
Connection: ½" NPT
Accuracy: ±1.0 of Full Scale

Pressure Sensor with Membrane Diaphragm Seal
Polypropylene
Model: SEN..DRM-631

Measuring Range:
0...20 PSIG to 0...145 PSIG
Connection: ½" NPT
Accuracy: ±1.0% of Full Scale

Differential Pressure Sensor and Controller for Filters
Model: PMP

Measuring Range: 0...20" H_2O
Power Supply: 24 $V_{AC/DC}$, 110 V_{AC}, 230 V_{AC}
Display: 4-Digit LED
Connection: ¼" Tube
Accuracy: ±1.6% of Full Scale

Differential Pressure Transmitter
Stainless Steel, Monel®, Tantalum, Hastelloy®
Model: PAD

Measuring Range:
0...0.01 PSIG to 0...6,000 PSIG
Power Supply: 18-45 V_{DC}
Connection: ¼" NPT, ½" NPT
Accuracy: ±0.075% of Full Scale

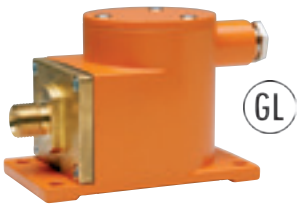
Differential Pressure Transmitter with Diaphragm Seal
Stainless Steel, Monel®, Tantalum, Hastelloy®, PTFE
Model: PAD-...N

Measuring Range:
0 ... 250 mbar to 0 ... 206.80 bar
t_{max}: 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

Pressure Transmitter with Ceramic Sensing Element
Stainless Steel
Model: PDA

Measuring Range:
-30...0" Hg to 0...5,800 PSIG
Display: 3-Digit LED
Power Supply: 24 V_{DC}
Connection: ¼" NPT, ½" NPT
Accuracy: ±0.5% - 1.0% of Full Scale

Pressure Transmitter for High Vibration
Brass
Model: PNK



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

Hand-Held Pressure Indicator for External Sensors
Model: HND-P105, -210, -215

Measuring Range:
-14.5...40 PSIG to 0...5,800 PSIG
(Dependent on Associated Sensor)
Optional: Data Log, Alarm, Control Functions
Accuracy: ±0.1% of Full Scale

Hand-Held Differential Pressure Indicator with 2 Integrated Sensors
Model: HND-P121, -123, -126

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

Hand-Held Differential Pressure Indicator with 1 Integrated Sensor
Model: HND-P129, -239

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

Pressure Transmitter with Thin Film Sensing Element
Stainless Steel
Model: KPG

Measuring Range:
-30"...0" Hg to 0...145,000 PSIG
Overload Protection: 1.5-2 Times
Connection: ¼" NPT, ½" NPT; 9/16 SAE
Accuracy: ±0.1% - 0.25% of Full Scale

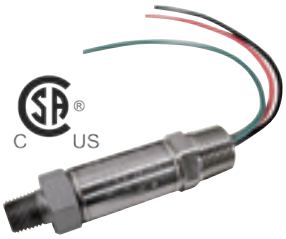
Pressure Transmitter with Thin Film Sensing Element
Stainless Steel
Model: KPK

Measuring Range:
-30"...0" Hg to 0...15,000 PSIG
Overload Protection: 1.5-2 Times
Connection: ¼" NPT
Accuracy: ±0.25% - 0.5% of Full Scale

OEM Pressure Transmitter with Heat-Fused Sensing Element
Stainless Steel
Model: KPA

Measuring Range:
0...50 PSIG to 0...10,000 PSIG
Overload Protection: 2 Times
Connection: ¼" NPT
Accuracy: ±0.25% of Full Scale

Explosion Proof Pressure Transmitter CSA/US Approved
Stainless Steel
Model: KP46



Measuring Range:
0...50 PSIG to 0...20,000 PSIG
Overload Protection: 2 Times
Connection: ¼" NPT, ½" NPT
Accuracy: ±0.25% BFSL

Pressure Transmitter with Ceramic Element and Add-On Display AUF
Stainless Steel
Model: SEN-86 & SEN-87 with AUF

Measuring Range:
-30"...0" Hg to 0...10,000 PSIG
Display: 4-Digit LED
Overload Protection: 1.5-2 Times
Connection: ½" NPT, ¼" NPT
Accuracy: ±0.5% - 1.0% of Full Scale

Pressure Sensor with Ceramic
Stainless Steel
Model: SEN-96

Measuring Range:
-30"...0" Hg to 0...6,000 PSIG
Output: 4-20 mA, 0-5 V_{DC}, 0-10 V_{DC}
Connection: ¼" NPT, ½" NPT; G ¼, G ½
Accuracy: ± 1 % of Full Scale

Pressure Sensor with Ceramic
Stainless Steel
Model: SEN-98/-99

Measuring Range:
-30"...0" Hg to 0...8,700 PSIG
0...14.5 to 0...360 PSIA
Overload Protected: 1.3 - 5 Times
Connection:
¼" NPT, ½" NPT, G ¼, G ½
Accuracy: ± 0.25 ... 0.5 % of Full Scale

Add-On Loop Powered Display for Transmitters
Model: AUF

For Transmitters with DIN 43650 Plugs
Loop Powered 4-20 mA
Menu Programmable
Optional Transistor Switch

Pressure

Pressure Transmitter
High Accuracy
Stainless Steel, Hastelloy-C®, Tantalum
Model: PAS

Measuring Range:
-30"...0" Hg to 0...8,700 PSIG
Power Supply: 12 - 45 V_{DC}
Connection: ¼" NPT, ½" NPT
Accuracy: ±0.075% of Full Scale

Pressure Transmitter with Diaphragm Seal
Stainless Steel, Monel®, Tantalum, Hastelloy®, PTFE
Model: PAS-...N

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

Pressure Transmitter with Ceramic Sensing Element
Stainless Steel
Model: PDD

Measuring Range:
-30"...0" Hg to 0...5,800 PSIG
Display: 3-Digit LED
Power Supply: 24 V_{DC}
Connection: ¼" NPT, ½" NPT
Accuracy: ±0.5% - 1.0% of Full Scale

Electronic Pressure Switch/Transmitter
Thin Film/Ceramic Sensor
Stainless Steel
Model: PSC

Measuring Range: -30‘ Hg...30 PSIG
to 0...10,000 PSIG
Display: 4-Digit LED
Power Supply: 12 - 30 V_{DC}
Connection: ¼" NPT, ½" NPT
Accuracy: ±1.0% of Full Scale, ±1 Digit

Pressure Switch - Heavy Duty Bellows Type
Brass
Model: KRT

Switching Range:
-14.5...0 PSIG to 135...435 PSIG
Overpressure: 1.5-5 Times
Repeatability: ±0.25% of Full Scale

Pressure Switch - Heavy Duty Bellows Type
Brass
Model: KPS/KAS

Switching Range:
0...35 PSIG to 87...870 PSIG
Overpressure: 5-10 Times
Connection: ¼" NPT
Repeatability: ±0.25% of Full Scale

Pressure Switch - Industrial Diaphragm/Piston Type
Aluminum
Model: KPH

Switching Range:
-14.5...0 PSIG to 580...6,100 PSIG
Overpressure: 1.4-5 Times
Connection: ¼" NPT
Repeatability: ±3% of Full Scale

Pressure Switch - OEM Diaphragm Type
Zinc-Plated Steel
Model: KPH300

Switching Range:
3...30 PSIG to 450...4,600 PSIG
Overpressure: 1.2-9 Times
Connection: ¼" NPT
Repeatability: ±4% of Setpoint

Pressure Switch - OEM Diaphragm Type
Brass, Stainless Steel
Model: KPF

Switching Range:
4.3...13 PSIG to 725...1,450 PSIG
Overpressure: 1,450 PSIG
Connection: ¼" NPT
Repeatability: ±5% of Full Scale

Pressure Switch with Hall Sensor
Brass/Plastic
Model: PDL-0 / PDL-1

Switching Range:
-0.9...-0.05 bar to 30...600 bar
Switching Function: 2-4 Times
Connection: ¼" NPT
Repeatability: ±1% of Full Scale

Pressure Switch - Mechanical
Stainless Steel
Model: SCH-27

Switching Range:
0.01...0.09 PSIG to 120...2,300 PSIG
Switching Function: Micro Switch
Connection: ½" NPT Female, ¼" NPT Female, ½" NPT Male, G ½ Male
Repeatability: < 1% of Switching Point

Differential Pressure Switch - Mechanical
Stainless Steel
Model: SCH-28

Switching Range:
1.45...14.5 PSI to 3...145 PSI
Switching Function: Micro Switch
Connection: ½" NPT Female, ¼" NPT Female, ½" NPT Male, G ½ Male
Repeatability: < 1% of Switching Point

Custom Magnetic Float Switch
Brass, Stainless Steel, PVC, PPH, PVDF
Model: M

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

Magnetic Float Switch
Stainless Steel
Model: NCS

Specific Gravity$_{min}$: 0.65
t_{max} 300 °F; p_{max} 400 PSIG
Connection: ⅛" NPT, ¼" NPT

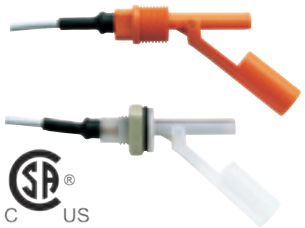
Magnetic Float Switch
Polypropylene
Model: NCP

Specific Gravity$_{min}$: 0.81
t_{max} 225 °F; p_{max} 100 PSIG
Connection: ⅛" NPT, ¼" PF

OEM Level Switches
Stainless Steel, Polypropylene, PVDF
Model: OEM

Specific Gravity$_{min}$: 0.55
t_{max} 250 °F; p_{max} 425 PSIG
Connection: ½" NPT, ⅛" PF

Plastic Level Switch
Polypropylene, PVDF
Model: NKP

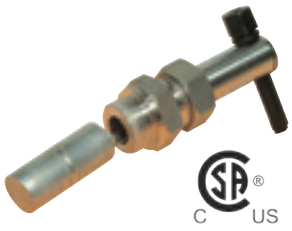


Specific Gravity$_{min}$: 0.6
t_{max} 212 °F; p_{max} 145 PSIG
Connection: ½" NPT, Bulkhead

Float Switch
Stainless Steel
Model: RFS

Specific Gravity$_{min}$: 0.7
t_{max} 250 °F; p_{max} 72 PSIG
Connection: ½" NPT

Float Switch
Brass, Stainless Steel
Model: NV



Specific Gravity$_{min}$: 0.7
t_{max} 225 °F; p_{max} 230 PSIG
Connection: G ¾, M27x1.5

Custom Multipoint Level Switch
Brass, PVC, Stainless Steel
Model: NCG, NCM

Specific Gravity$_{min}$: 0.55
t_{max} 300 °F; p_{max} 400 PSIG
Connection: 1/8"...2" NPT, 3" ANSI Flange, 5/16“ or 1/2" Tube

Float Bypass Switch
Aluminum, Stainless Steel
Model: NBA/NBE

Density: 0.65 kg/dm³
t_{max} 90 °C; p_{max} 10 bar
Connection: G 3/8 Female, R 1/2 Male

Float Switch
Polyethylene, Polypropylene
Model: NSP, NSM

Specific Gravity$_{min}$: 0.6
t_{max} 140 °F; p_{max} 30 PSIG
Connection: Cable

Float Switch
Polypropylene, Hypalon®
Model: NEC, NNE, NAE/B

Specific Gravity$_{min}$:0.5
t_{max} 200 °F; p_{max} 80 PSIG
Connection: Cable

Float Switch
PTFE
Model: NST

Specific Gravity$_{min}$: 0.85
t_{max} 300 °F; p_{max} 15 PSIG
Connection: Cable

Float Switch
Stainless Steel
Model: NSE

Specific Gravity$_{min}$: 0.8
t_{max} 300 °F; p_{max} 220 PSIG
Connection: ½" NPT

Dual Magnet Float Switch
Stainless Steel
Model: NGS

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

Conductive Switch
Fitting: SS, Polypropylene, PTFE
Electrode: SS, Hastelloy®, Titanium
Electrode Coating: Polyolefin, PTFE
Model: NEK, NEL, NES

t_{max} 300 °F; p_{max} 440 PSIG
Connection: ½" NPT, 1-½" NPT

Conductive Suspended Electrodes
Fitting: Polypropylene, PTFE
Electrode: SS, Hastelloy®, Titanium
Electrode Coating: Neoprene, PVC
Model: NEH

t_{max} 300 °F; p_{max} 90 PSIG
Connection: ½" NPT, 1-½" NPT

Level

Electrode Relays for Conductive Switches
Model: NE-104, -304

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

Conductive Switch
Polypropylene, PPS
Model: NEK

$Conductivity_{min}$: 72 µS/cm
t_{max} 185 °F; p_{max} 290 PSIG
Connection: ¾" NPT, R ¾
Open-Collector or Relay

Conductive Switch with Head Mounted Transmitter
Stainless Steel, PEEK
Model: LNK, LNR

$Conductivity_{min}$: 10 µS/cm
t_{max} 212 / 176 °F; p_{max} 145 PSIG
Connection: G ½, G 1
Open-Collector
Electrode Length: ⅛" to 59"

Conductive Switch Compact Probe
Stainless Steel, PEEK
Model: LNK-K

$Conductivity_{min}$: 10 µS/cm
t_{max} 212 °F; p_{max} 145 PSIG
Connection: G ½

Capacitive Switch for Liquids
Stainless Steel, PEEK
Model: LNZ

Dielectric $Constant_{min}$: 20
t_{max} 212 °F; p_{max} 145 PSIG
Connection: G ½
Open-Collector

Microwave Switch
Stainless Steel, PEEK
Model: LNM

Dielectric $Constant_{min}$: 20
t_{max} 212 °F; p_{max} 145 PSIG
Connection: G ½
Open-Collector

Hydrostatic Level Switch
Polypropylene, PVDF
Model: NLP

Tube Length: up to 16 ft
t_{max} 158 °F
Connection: 1" NPT, G 1

Capacitive Switch for Liquids
Stainless Steel, PVDF
Model: NCW

Dielectric $Constant_{min}$: 1.5
t_{max} 194 °F; p_{max} 145 PSIG
Connection: G 1, G 2
Adapter: G 1-¼, G 1-½, Weld-in Sleeve
Relay

Capacitive Switch Liquids - High Temperature
Stainless Steel
Model: NCW-H

Dielectric $Constant_{min}$: 1.5
t_{max} 194 °F; p_{max} 145 PSIG
Connection: G 1
Adapter: G 1-¼, G 1-½, Weld-in Sleeve
Relay

Optical Switch for Liquids
Stainless Steel, Polypropylene
Model: OPT

t_{max} 185 °F; p_{max} 145 PSIG
Connection: ½" NPT, G ½, M14 Bulkhead
Open-Collector

Optical Switch for Liquids
Stainless Steel, Polysulfone, PFA
Model: TED

t_{max} 230 °F; p_{max} 400 PSIG
Connection: ⅜" NPT, ½" NPT

OEM Optical Switch for Liquids
Stainless Steel, Polysulfone
Model: NSD

t_{range} 15...250 °F; p_{max} 150 / 550 (SS) PSIG
Connection: 3/8" NPT

Ultrasonic Switch for Liquids
Stainless Steel
Model: NQ

t_{range} -40...257 °F; p_{max} 290 PSIG
Connection: 1" NPT, R 1

Ultrasonic Switch for Liquids
Stainless Steel
Model: NK

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

Vibrating Fork Switch for Liquids
Glass Filled PPS
Model: NWP

t_{range} -40...176 °F; p_{max} 150 PSIG
Connection: ¾" NPT
Relay Output

Vibration Switch for Liquids
Stainless Steel
Model: NWS

t_{max} 270 °F; p_{max} 650 PSIG
$Viscosity_{max}$: 5,000 cSt.
Connection: ¾" NPT, 1" NPT; 2" Tri-Clamp®;
R ¾ and R1; DIN and ANSI Flanges

Static Pressure Level Switch
Polyamide, NBR
Model: NDT

t_{range}: 15...185 °F; p_{max}: Atmospheric
Switchpoint: 4 inches Above End of Pipe
Connection: Hose Clamp for 1-¼" Pipe

Vibration Switch - Bulk Materials
Stainless Steel
Model: NSV

Switching Range: 9" ...118"
Specific Gravity$_{min}$: 0.06
t_{max} 176 °F; p_{max} Atmospheric
Connection: 1-½" NPT, G 1-½
1 Relay, SPDT

Vibration Switch - Bulk Materials
Stainless Steel
Model: NVI

Switching Range: 9.25" and Special Lengths
Specific Gravity$_{min}$: 0.05
t_{max} -22...320 °F; p_{max} 360 PSIG
Connection: 1-½" NPT, G 1-½

Diaphragm Switch - Bulk Materials
Neoprene, FKM, Stainless Steel
Model: NMF

t_{max} 392 °F; p_{max} 14.5 PSI (Over-pressure Protected)
Connection: Flange

Pendulum Level Monitor Bulk Materials
Aluminum, EPDM
Model: PLS

Length$_{max}$: 78.7"
t_{max} 176 °F; p_{max} -0.5...7 PSIG
Connection: Aluminum Flange
Contact: SPDT Microswitch 250 V_{AC}/3 A

Rotating Vane Switch - Bulk Materials
Stainless Steel
Model: NIR-9/NIR-E9

Switching Range: 65 - 4,000 mm
t_{max} 200 °C; p_{max} 0.5 bar
Connection: 1" NPT, G 1 Male
Output: 1 Relay, SPDT

Capacitive Switch Bulk Materials
Stainless Steel, Polypropylene
Model: NSC

Dielectric Constant$_{min}$: 1.5
Switching Range: 10"...49 ft.
t_{Range} -4...176 °F; p_{max} -1.5...7 PSIG
Connection: 1" NPT, 2" NPT, G 1
Adapter: G 1¼, G 1½; Round Flange

Guided Wave Radar (TDR) Transmitter
Stainless Steel, PTFE
Model: NGM

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

Guided Wave Radar (TDR) for Machines/Factory Automation
Stainless Steel, PTFE
Model: NGR

Measuring Range: 4"...78" (Liquids)
t_{max} 212 °F; p_{max} 145 PSIG
Connection: ¾" NPT, G ¾ Male
Analog Output, Switching Outputs
Accuracy: ±5 mm

Liquid Level Transmitter
Stainless Steel, PVC, Polypropylene, PTFE
Model: NM

Specific Gravity$_{min}$: 0.5
Measuring Range: 12"...19.8 ft.
t_{range} -4...250 °F; p_{max} 290 PSIG
Connection: ⅜"...2" NPT, R ⅜ and R ½, 2½"...4" ANSI Flange

Liquid Level Transmitter
Polyethylene, PVC, PP, PTFE
Model: NML

Specific Gravity$_{min}$: 0.47
Length$_{max}$: 12 ft.
t_{range} -4...300 °F; p_{max} 800 PSIG
Connection: 2" NPT, 2" or 3" ANSI Flange

Liquid Level Transmitter
Polyethylene, PVC, PP, PTFE
Model: NML-308

Specific Gravity$_{min}$: 0.9
Length$_{max}$: 6"...48"
t_{range} -4...250 °F; p_{max} 25 PSIG
Connection: 1-¼" NPT, 1-½" NPT

Liquid Level Transmitter
Polyethylene, PVC, PP, PTFE
Model: NML-310

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

Magnetostrictive Level Transmitter
Stainless Steel
Model: NMT

Specific Gravity$_{min}$: 0.7
Measuring Range: 12"...157"
t_{range} -4...158 °F; p_{max} 145 PSIG
Connection: 2" NPT, G 2
Output: Analog 4-20 mA, 4-wire

Capacitive Level Transmitter
Stainless Steel, PVDF
Model: NMC

Measuring Range: 10"...157"
Dielectric Constant$_{min}$: 1.5
t_{max} 257 °F; p_{max} 145 PSIG
Connection: 1" NPT, 2" NPT, G 1, G 2
Adapter: G 1¼, G 1½; Weld-in Sleeve
Output: Analog 4-20 mA, 2 Wire

Potentiometric Level Probe
Stainless Steel
Model: LNP

Conductivity: 1µS/cm
Measuring Range: 8"...80"
t_{range} 14...248 °F (30 min. at 300 °F)
p_{max} 145 PSIG
Connection: 1" NPT, G 1

Level

Capacitive Level Transmitter
Stainless Steel, PTFE, CPVC
Model: NRF

Rigid Probe and Suspended Cable Designs
Length$_{max}$: 200 ft.
t_{range} -100...350 °F; p_{max} 500 PSIG
Connection:
¾" NPT, 1-½" NPT; 1-½" ... 3" Tri-Clamp®

Capacitive Level and Temperature Probe
Stainless Steel, PTFE
Model: NRF-2, -3

Measuring Length$_{max}$: 12 ft.
t_{range} -100...350 °F
p_{max} 100 PSIG
Connection: ¾" NPT, 1-½"...3" Tri-Clamp®
Output: 4–20 mA, RTD

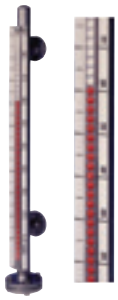
Water Well Level Transmitter
Stainless Steel
Model: NRF-1W

Measuring Length-$_{max}$: 1,000 ft.
t_{range} -100...350 °F ; p_{max} 100 PSIG
Connection: ¾" NPT, 1-½"...3" NPT
Output: 4–20 mA, 2-wire

Bypass Level Indicator
Stainless Steel, PP
Model: SZM

Measuring Length$_{range}$: 15" ...121"
t_{max} 212 °F; p_{max} 87 PSIG
Connection: DIN Flange, DN 15...32

Bypass Level Indicator
Stainless Steel
Model: MBSK



Measuring Length$_{range}$: 19.7 ft
t_{max} 752 °F; p_{max} 1,450 PSIG
Connection:
1-½"... 1-¼" ANSI Flange, DN 15...32

Mini Bypass with Roller Indicator
Stainless Steel
Model: NBK-M

Measuring Length$_{range}$: 8"... 9.8 ft
Specific Gravity$_{min.}$ 0.78
Viscosity$_{max}$: 200 cPs
t_{max} 390 °F ; p_{max} 580 PSIG
Connection: ½"...1" NPT, G½, ½"... 1" ANSI Flange, DN15 ... 25

Bypass with Roller Indicator
Stainless Steel
Model: NBK-03,-06,-07, -10, -31, -32, -33

Measuring Length$_{range}$: 1 ft ...19.7 ft
Specific Gravity$_{min}$: 0.54
Viscosity$_{max}$: 200 cPs
t_{max} -58...750 °F; p_{max} 4,600 PSIG
Connection: ½"...2" NPT, G ½...2, ½"...2" ANSI Flange, DN15...50

Tank-Top Mounted Level Indicator
Stainless Steel
Model: NBK-04

Measuring Length$_{range}$: 1 ft ...13 ft
Specific Gravity$_{min}$: 0.55
Viscosity$_{max}$: 200 cPs
t_{max} 250 °F; p_{max} 230 PSIG
Connection:
2" or 2-½" ANSI Flange; DN50...60

Bypass Level Roller Indicator - Plastic
Polypropylene, PVDF
Model: NBK-16, -17

Measuring Length$_{range}$: 8"... 3 ft
Specific Gravity$_{min}$: 0.57
Viscosity$_{max}$: 200 cPs
t_{max} 176 °F; p_{max} 58 PSIG
Connection: ¾"...2" ANSI Flange, DN 20 ... 50

Bypass Level Indicator - Cable Design
Polypropylene, Stainless Steel, PVC
Model: NBK-19

Measuring Length$_{range}$: 8"...15.7 ft
Specific Gravity$_{min}$: 1.0
Viscosity$_{max}$: 200 cPs
t_{max} 140 °F; p_{max} Atmospheric

Displacement Level Meter
Stainless Steel, Hastelloy®
Model: BA

Measuring Length$_{range}$: 1...19.7 ft
Specific Gravity$_{min}$: 0.4 ...2.0
t_{max} -40...570 °F; p_{max} 580 PSIG
Connection: 2" ANSI Flange, DN 50 Flange

Ultrasonic Level Sensor
PVDF
Model: NUS-4

Measuring Length$_{range}$: up to 25 meters
t_{max} 190 °F; p_{max} 25 PSIG
Connection:
1-½", 2" NPT; 3", 5", or 6" ANSI Flange

Ultrasonic Level Transmitter
PVDF, 2-wire or 3-wire
Model: NEO

Measuring Length$_{range}$: 6"... 24.5 ft
t_{max} -40...140 °F; p_{max} 30 PSIG
Connection: 2" NPT
Optional Relay

Submersible Pressure Transducer
Stainless Steel
Model: KPW

Measuring Depth$_{max}$: 300 PSIG (690 ft wc)
t_{range} 14...175 °F; p_{max} 2x Depth Range

Deep Well Probe
Stainless Steel
Model: NTB

Measuring Depth$_{max}$: 200 m (wc)
t_{range} 14 ...140 °F

Differential Pressure Transmitter
Stainless Steel, Hastelloy®
Model: PAD

Measuring Length$_{range}$: 30"...13 ft
Power Supply: 18 - 45 VDC
Connection: ¼" NPT, ½" NPT
Accuracy: ± 0.075% of Measuring Range

Temperature Switch for Liquids
Brass, Stainless Steel
Model: TWR

Switching Range: 86...248 °F
t_{max} 250 °F; p_{max} 230 PSIG
Connection: ¾" NPT

Thermal Reed Temperature Switch
Brass, Stainless Steel
Model: TRS

Switching Range: 14...212 °F
t_{range} -40...250 °F; p_{max} 360 PSIG
Connection: ¼"...1" NPT

Digital Temperature Switch
Stainless Steel
Model: TDD

Switching Range: -58...250 °F
t_{max} 250 °F; p_{max} 1,150 PSIG
Connection:
½" NPT, ¾" NPT; G ½, G ¾; M25x1.5
2 Limit Switches

Temperature Switch
Brass
Model: DTS

Measuring Range: 15...390 °F
Connection: ½" NPT

Gas Filled Rigid Stem Thermometer
Stainless Steel
Model: TNS

Measuring Range: -40...1,100 °F
p_{max} 350 PSIG
Connection: ½"...1" NPT, G ½...G1

Gas Filled Capillary Thermometer
Stainless Steel
Model: TNF

Measuring Range: -40...1,100 °F
p_{max} 350 PSIG
Connection: ½"...1" NPT, G ½...G1

Digital Temperature Gauge
Stainless Steel
Model: DTM

Measuring Range: -30...750 °F
p_{max} 350 PSIG
Connection: ½"...1" NPT, G ½...G 1
Analog Output, Limit Switches

Thermowells for Stem and Capillary Thermometers
Stainless Steel
Model: TSH

p_{max} 350 PSIG
Connection: ½"...1" NPT, Weld Stub

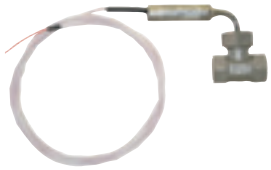
Digital Temperature Sensor
Stainless Steel
Model: TDA

Measuring Range: -58...250 °F
p_{max} 1,150 PSIG
Connection: ½" NPT, ¾" NPT; G ½, G ¾
Output: 4-20 mA, 3-wire, Limit Switch

RTD Temperature Meters
Brass, Bronze, Stainless Steel
Model: TNK

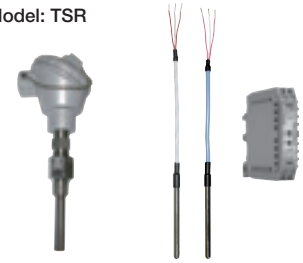
Measuring Range: -112...302 °F
t_{max} 302 °F; p_{max} 725 PSIG
Connection: ½" NPT, G ½, M18x1.5

Temperature Sensor for Pipes
Brass, Stainless Steel
Model: TSP



Measuring Range: -40...300 °F
p_{max} 750 PSIG
Connection: ¼"...1-½" NPT,
1-½" Tri-Clamp®
Output: 4-20 mA, Pt100 RTD

RTD Temperature Probes
Stainless Steel
Model: TSR



Measuring Range: -320...1,100 °F
p_{max} 1,450 PSIG
Connection: ½" or ¾" NPT; 1-½" Tri-Clamp®
Output: 4-20 mA, Pt100 RTD

Integrated Temperature Transmitter
Stainless Steel
Model: TST

Measuring Range:
-58...1,100 °F
p_{max}: 1,500 PSIG
Connection: ¼" or ½"
NPT; 1½...3" Tri-Clamp®
Output: 4–20 mA, 2-wire

Temperature Transmitters
Stainless Steel
Model: TMA with AUF

Measuring Range: -358...1,112 °F
p_{max} 1,450 PSIG
Connection: ¼" NPT, ½" NPT
Output: 4–20 mA, 2-wire

Mini Infrared Thermometers
Model: ST-3000, -6000

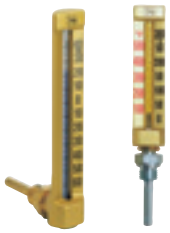
Measuring Range: -76...1,400 °F
Laser Sighting: Single Point and Dual Point
Power: 2 AAA Batteries
Accuracy: ±2% of Reading

Temperature Sensor
Brass, Stainless Steel
Model: TSA

Measuring Range: -40...150 °C
p_{max} 25 bar
Connection: G ¼...1

Temperature

V-Form - Glass Thermometer
Aluminum or Plastic Casing, Brass
Model: TGK, TGL



Measuring Range: -76...390 °F
Connection: ½" NPT, G ½
Accuracy: ±1% of Full Scale

Digital Thermometer
Stainless Steel
Model: DTB

Measuring Range: -58..400 °F; -50...200 °C
Display in either °F or °C
Connection: 1/4“...1“ NPT
Battery Powered, Life up to 5 years

Infrared Fixed Thermometer
Stainless Steel
Model: TIR-S

Measuring Range: -20...2,500 °C
Analog Output
Accuracy: ±1.5% of Full Scale

Infrared Fixed Thermometer
Stainless Steel
Model: TIR-SA

Measuring Range: 0...120 °C to
100...500 °C
Output:
4-20 mA, 1 mV/K, Voltage Models J and K

Precision Hand-Held Thermometer
Model: HND-T120, -125

Measuring Range: -50...1,150 °C
Sensor: Type K Thermocouple
Power Supply: Battery or External
Accuracy: 0.1% – 1.5% of Reading

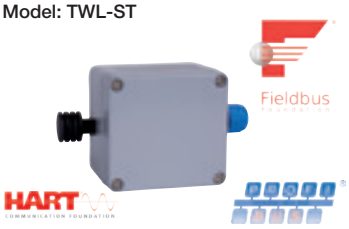
Precision Hand-Held Thermometer
Model: HND-T110, -115, -215

Measuring Range: -220...1,768 °C
Sensor: Type K, N, S, J, T Thermocouples
Power Supply: Battery or External
Accuracy: ±0.03% of Full Scale

Precision Hand-Held Thermometer
Model: HND-T105, -205

Measuring Range: -200...850 °C
Sensor: Pt 100, 4-wire
Power Supply: Battery or External
Accuracy: ±0.03% of Full Scale

Room Thermometer
Aluminum
Model: TWL-ST



Measuring Range: -20...60 °C
p_{max} Atmospheric
Wall Socket
Pt 100, 4...20 mA
Accuracy: Cl. A or B

Bimetallic Thermometer
Stainless Steel
Model: TBI

Measuring Range: -30...500 °C
p_{max} 360 PSIG
Installed in Thermowell
Connection: G ½

Resistance Temperature Probe
Model: LTS

Measuring Range: -50...250 °C
p_{max} 145 PSIG
Sensor: Pt100, 2-wire
Connection: G ½, M12 x 1.5

Resistance Thermometers
Stainless Steel
Model: TWD

Measuring Range: -80...600 °C
p_{max} 580 PSIG
Sensor: Pt100, 2-, 3-, or 4-wire
Connection: G ½...1, ½"...1" NPT, DIN25 Flange, Welded
Output: Analog 4-20 mA

Resistance Temperature Measuring Unit
Stainless Steel
Model: TWL, TTL

Measuring Range: -200...1,600 °C
p_{max} 3,625 PSIG
Sensor: Pt100, 2-, 3-, or 4-wire
Connection:
G ½...1, ½"...1" NPT, DIN15-50 Flanges
Output: Analog 4-20 mA

Sheath Resistance Thermometer
Stainless Steel
Model: TWM

Measuring Range: -20...600 °C
Sensor: Pt100, 2-, 3-, or 4-wire
Connection: G ½

Weld-In and Screw-In Thermocouples
Steel, Stainless Steel, Ceramic
Model: TTD, TTE

Measuring Range: -200...1,150 °C
Sensor: Thermocouples J or K
Connection: G ½, Clamp
Optional Output: 4-20 mA

Contact Resistance Thermometer
Aluminum, Stainless Steel
Model: TWA

Measuring Range: -20...260 °C
Accuracy: Cl. A or B

Sheath Thermocouples
Stainless Steel, Inconel®
Model: TTM

Measuring Range: -50...1,100 °C
Sensor: Thermocouples J or K
Connection: Clamp, Plug

Automatic Flow Regulating Valve
Brass, Stainless Steel
Model: REG

Viscosity: Max. 30 cSt
t_{max} 500 °F; p_{max} 2,900 PSIG
Connection: ¾" NPT, ¾"...2" ANSI Wafer

Brass Ball Valves
Model: KUG-TB, -VN, -VC

t_{max} 160 °C; p_{max} PN 40
Connection: G ¼...3
2- and 3-way with Thread

Stainless Steel Needle Valve
Model: NVM, NAD

t_{max} 400 °F; p_{max} 3,600 PSIG
Connection: G1/8...G1-1/4,1/8"...1" NPT

Air Eliminator with Positive Displacement - Oval Gear
Aluminum, Stainless Steel, Cast Iron
Model: ZAL with DON

Viscosity Range: to 1,000,000 cSt.
Oil: 2.6...40 GPM to 40...660 GPM
t_{max} 160 °F; p_{max} 145 PSIG
Connection: 1"...4" ANSI
Accuracy: ±0.2 – 1% of Reading

Magnetic Filter
Brass
Model: MFR

t_{max} 392 °F; p_{max} 230 PSIG
Connection: ½"...3" BSP

Power Supply Relay
Model: RL

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

Frequency to Current Converter
Model: SCI

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

Instrinsically Safe Relay/Power Supply
For Dry Contacts or NAMUR-Type Switches
Model: KFD-2, KFA-5

Supply Voltage: 120 V_{AC}, +5/-15%, 45-60 Hz
Power Consumption: 3.5 VA (appx.)
Maximum Relay (SPDT) Output
Switching Frequency: 10 Hz Max.

Contact Protection Relay
Model: MSR

Input: Potential-free Contacts
1 or 2 relay Outputs, SPDT

Compact Local Electronic Display
Model: AUF

Input: 4-20 mA Loop Powered
Indicator: 4-Digit, Red LED
Indicating Range: -1999...1999
Accuracy Class: 0.2 % of Span ±1 Digit

Rate Meter, Totalizer and Batcher
Model: INT, MRT

Display Values: Rate, Total, Batch
Display Type: 0.55" Red LED
5 Digit Rate, 6 Digit Total, 6 Digit Batch
Power Input: 110 V_{AC}, 220 V_{AC}, 12 V_{DC}
Panel Mount: NEMA 4x Front Panel

Industrial Dosing, Counter and Flow Indicator
Model: ZOD

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

Electronics for Measuring and Monitoring, Counting, or Batch Control
Model: ZED-K. -Z, -D

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

Universal Panel Meter or Counter Electronics/Batch Controller
Model: DAG-T4, DAG-Z2

DAG-T4 Input:
Current, Voltage, Pt100, Thermocouples
DAG-Z2 Input: Frequency
Both: Limit Contacts, Sensor Supply

Universal Indicator
Model: ADI-1

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

Multi-channel Data Logger
Model: ZLS

Input: 4 - 20 mA, Pt 100, Pt 500, Pt 1000
Interface, Sensor Supply

Analytics

Inductive Conductivity Measuring System
PEEK, PVDF, Stainless Steel
Model: LCI

Measuring Range: 0...2,000 mS/cm
t_{max} 150 °C; p_{max} 10 bar
Integrated Pt 100
Accuracy: ±0.5% - 1.0% of Full Scale

Conductive/Inductive Conductivity Measuring Cells
Stainless Steel, PEEK
Model: ACS

Measuring Range: 0.04 µS/cm... 2,000 mS/cm
t_{max} 150 °C; p_{max} 16 bar
Process Connection: G 1, G ¾, ½" NPT, 1" NPT
Accuracy: ±0.5% - 1.0% of Reading

Transmitter for pH-Value, ORP, Conductivity
Model: APM-1, ACM-1

Measuring Range: 0...200 mS/cm
Outputs: 1 Binary Output, 2 Analog Outputs, Switch Output: 2 Relays with Adjustable Setpoints

Hand-Held Measuring Unit Conductivity, pH, Redox, Temperature
Model: HND-C, HND-R

Measuring Range: pH: 0...14
Measuring Range: 0...200 µS/cm to 0...200 mS/cm
Redox: -1999...2,000 mV
Temperature: -100...250 °C
Accuracy: ±0.01 pH; ±0.1% of Full Scale

pH-Value Transmitter
Model: APM-Z

Measuring Range: pH -1 up to 14
Display of pH-value and Temperature with LEDs, Analog Actual-value Output Scaleable, 2 Relays for Control Functions, (PID) Programmable

pH-Combined Electrodes
Glass, Plastic
Model: APS

Measuring Range: pH 1...12
t_{max} 80 °C; p_{max} 10 bar
Diaphragm: PTFE-ring or Ceramic

Hand-Held Humidity Precision Measuring Unit
Model: HND-F

Measuring Range: 0...100 % Weight Moisture
Option: Logger, Alarm
Accuracy: 0.1% – 0.2% of Reading

Humidity/Temperature Transmitter
Model: AFK-E

Measuring Range: 0...100% rH; -40...180 °C
t_{max} 180 °C; p_{max} 15 bar
Outputs: Analog Outputs and Switches
Accuracy: ±1.6 % of Reading % rH

Humidity Transmitter with Display
Model: AFA-G with AUF

Measuring Range: 5...95% rH; 0...60 °C
t_{max} 80 °C
Outputs: 4-20 mA
Accuracy: ±2% rH

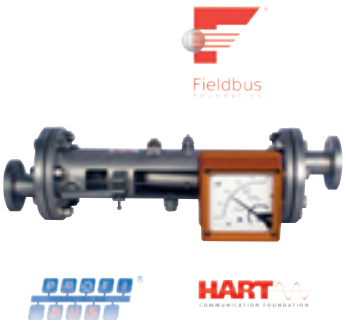
Hygrostat, Humidity Annex Switch
Model: AFS-G1, AFS-G2, AFS-G3

Measuring Range: 30...100% rH
t_{max} 60 °C
Switch Output: 1 SPDT
Accuracy: 3% rH

Humidity/Temperature Transmitter
Model: AFK-G2

Measuring Range:
0...100 % rH; -60...200 °C
t_{max} 200 °C; p_{max} 25 bar
Outputs: 2 x 4...20 mA
Accuracy: ±2 % rH

Density Meter
Stainless Steel
Model: DWF



Measuring Range: 700...1,900 g/L
t_{max} 150 °C
Process Connection
Flange DN 25...50, ANSI 1"...2"
Accuracy: ± 1.25...6 g/L

Flow Measurement of Biogas

Biogas is generated from organic substances in the absence of oxygen. The sources can include: animal and human waste, dead plants, or any other decaying organic matter. Biogas is primarily composed of methane and carbon dioxide. Harvesting biogas from waste has two rewards, you get 'free' energy and you protect our natural resources by reducing greenhouse gases released in the atmosphere.

In this application, a palm tree plantation built their own biogas plant to utilize the vast amount of organic waste from their operations. To ensure efficiency, the company desired to measure the volume of biogas being generated.

Measuring biogas can be complex because of the low operating pressure, as low as 1.5 PSI at a point downstream of a blower. Biogas is also dirty and humid and has the potential to corrode metal components. Biogas is flammable, so hazardous certification is critical. As biogas is also compressible, the operational pressure and temperature must be evaluated to ensure an accurate flow measurement.

The KOBOLD Solution:

DOG Oscillation Flowmeter

PAS Pressure Transmitter

TWL Temperature Transmitter

With oscillation principles and ample measurement channels, KOBOLD's DOG Flowmeter is extremely dirt resistant. It also has a self cleaning effect making it ideal to handle dirty fluids like biogas. Because the DOG has no rotating parts, pressure drops are kept to a minimum with a maximum of 0.75 PSI drop at max flow, when the gas has the same density as air. It comes with ATEX II 1G EEx ia IIC T4 approval for hazardous applications. The paint is anti-corrosive.

To accomodate for process pressure and temperature variables, we installed a PAS Pressure Transmitter and a TWL Temperature Transmitter. Their outputs were connected to an external flow computer, along with the value received from the flowmeter.

Application Showcase

Monitoring for Casting Machines

This customer's casting machines are used to manufacture parts used in engines and steering components. Their machines are located all over the world in: Turkey, Germany, China, USA, Outer Mongolia, and Korea. The machine's cooling circuit has 96 channels. The original machines used a seperate flow sensor and flow indicator and the dirty nature of the water caused significant clogging of the orifices of the turbine sensors. The customer asked us to provide a clog-free solution that would provide a proportional electrical output with a visual indication of the flow.

The KOBOLD Solution: DF Paddle Wheel Flow Sensor

KOBOLD's model DF series provides an analog output and a clear cover to the paddlewheel. The DF is able to pass suspended solids without clogging. It also functions as a sight gauge. The DF provided our customer with a reliable and economical solution. They were able to consolidate the turbine sensor and flow indicator into one unit and eliminiate interruptions to their operations. KOBOLD's DF has become the standard for all our customer's machines.

Lubrication Monitoring for Cone Crushers

Mobile cone crushers are used to turn raw materials like minerals, ores, glass, and ceramic into a graded product. By producing the materials needed for construction on-site, they save time and cut costs on large civil, mining, and recycling projects.

Material is fed into a fixed cone with a rotating cone inside it. The size of the product is controlled by varying the gap between the cones. The heart of the machine is the bearing assembly. It is subjected to extreme pressure and vibration day in and day out, in harsh climates throughout the world.

The bearing assembly is very expensive and it is time consuming to obtain and replace. Correct lubrication is essential in avoiding costly downtime. Our customer required a rugged and reliable means of monitoring the oil supply in extreme conditions.

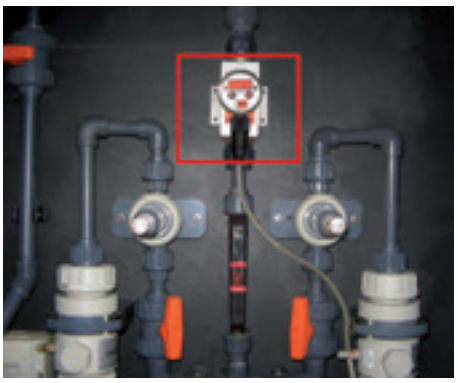
The KOBOLD Solution: OVZ Economical Oval-Gear Flowmeter

The OVZ Flowmeter from KOBOLD met all their needs. It has a durable aluminum body. A translucent PMMA cover allows their engineers to verify continuous oil flow at a glance. With positive displacement technology, the OVZ is viscosity compensated when subjected to extreme temperatures. The electronics are epoxy encapsulated for full protection from ingress or vibration. The OVZ also provides a faithful output signal, allowing our customer optimal control.

CHOOSE KOBOLD: Because Your Equipment Needs Protection You Can Count On

Waste Water Treatment: Chemical Monitoring

Dependable monitoring in the treatment of waste water is essential to everyone's well-being. Iron (III) Chloride is a chemical used in waterwater facilities to reduce phospate concentrations in wastewater. This is essential to protecting our waterways from adverse effects and abnormal algae growth.



However, the level of Iron (III) Chloride in the final output must also be strictly monitored as a high concentration is extremely hazardous to both people and the environment. To ensure everyone's safety, such a task requires continuous measurement of the chemical injection via a direct connection to the process control system. Errors must be detected during the process, not during the sampling.

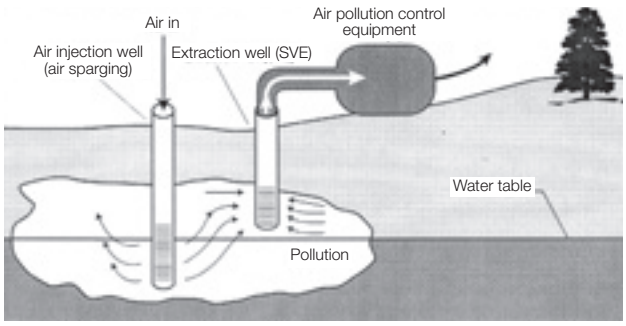
The KOBOLD Solution: MIK Magnetic-Inductive Flowmeter

The KOBOLD MIK offered a safe and economical solution for the safe distribution of Iron (III) Chloride. This unit was developed by KOBOLD especially for this application and has consistently proven itself in the field. The materials of the device, a PVDF housing and tantalum electrodes have proven themselves to be completely chemical resistant.

With a directly mounted transmitter, the MIK is compact and durable. It is an ideal fit for cramped control cabinets. It dependably detects small flow rates, from 0.2 Gal/h! With a 4-20 mA signal the MIK continuously communicates the measured values to your process control system, allowing immediate response to the latest process conditions. The MIK increased our customer's efficiency, generated cost savings, and allowed them to ensure environmental protection from process chemicals.

Groundwater Remediation: Air Sparge Systems

Air sparging is a system of drilling multiple wells into contaminated ground water. Air is forced into the water, 'bubbling' contaminants into the vapor pocket above the water. The contaminated air is removed and treated. The sparge runs continuously until the ground water is fully remediated.



The KOBOLD Solution: KSM All-Plastic Flowmeter

Our customer needed inexpensive flowmeters for a 120-well air sparge field where each well required its own meter. The KOBOLD KSM Flowmeter met the demands.

The all plastic construction minimizes corrosion, significantly reduces cost, and ensured a sufficient air flow into the well. Our customer's engineer recommended the KSM for this application and was impressed with the customer service that we provided by quickly shipping test pieces and the balance directly to the site.