

KOBOLD Instruments Inc.
 Manufacturer of
 Innovative Instrumentation

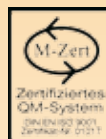
Product Summary

- Flow
- Pressure
- Level
- Temperature
- Analytics



measuring
 • monitoring
 • analyzing

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KOBOLD Instruments

For more than 35 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





Product Table

Model	Page
ACM	32
ACS	32
ADI	31
AFA	32
AFK	32
AFS	32
ANU	16
APM	32
APS	32
AUF	23, 31
BA	28
BGF	5
BGK	5
BGN	5, 6
BVB	6
DAA	19
DAB	19
DAF	19
DAG	31
DAH	19
DAK	19
DAR	19
DAT	19
DE	11
DFT	12
DIG	19
DIH	19
DKB	19
DKF	19
DMH	17
DMS	15
DOE	13
DOG	18
DON	14
DOR	13
DOT	10
DPE	9
DPL	11
DPM	10
DPT	7
DRB	9
DRG	12, 13
DRH	12
DRM	21

Model	Page
DRS	8
DRZ	13
DTB	30
DTK	11
DTM	29
DTS	29
DUC	18
DUE	18
DUK	18
DUS	16
DVE	18
DVH	18
DVK	15
DVT	16
DVZ	17
DWD	7
DWF	32
DWN	7
DWS	7
DWU	7
DZR	14
EDM	10
EPS	7
HND-C	32
HND-F	7, 32
HND-P	23
HND-R	32
HND-T	30
INT	31
KAH	15
KAL	14, 15
KAS	24
KDF	4
KDG	4
KDS	5
KEL	16
KES	15
KFA	31
KFD	31
KFF	10
KFG	10
KFR	4
KMT	15
KP46	23

Model	Page
KPA	23
KPF	24
KPG	23
KPH	24
KPH300	24
KPK	23
KPL	16
KPS	24
KPW	28
KRT	24
KSK	4
KSM	4
KSR	4
KSV	4
KZA	14
LCI	32
LFM	13
LNK	26
LNM	26
LNP	27
LNR	26
LNZ	26
LPS	7
LTS	30
M	25
MAN	20, 21, 22
MAS	15
MFC	15
MFR	31
MIK	17
MM	27
MPT	21
MPV	21
MRT	31
MSR	31
MWD	30
MZB	22
NAB	25
NAD	31
NAE	25
NBA	25
NBE	25
NBK	28
NCG	25

Model	Page
NCM	25
NCP	25
NCS	25
NCW	26
NDT	27
NE	26
NEC	25
NEH	25
NEK	25, 26
NEL	25
NEO	28
NES	25
NGM	27
NGR	27
NGS	25
NIR	27
NK-8000	26
NKP	25
NLP	26
NMC	27
NME	27
NML	27
NMT	27
NNE	25
NQ	26
NRF	27, 28
NSC	27
NSD	26
NSE	25
NSM	25
NSP	25
NST	25
NSV	27
NTB	28
NUS	28
NV	25
NVI	27
NVM	31
NWP	26
NWS	26
NZJ	28
OEM	25
OME	14
OMG	14

Model	Page
OPT	26
OVZ	13
PAD	22, 28
PAS	24
PDA	22
PDC	20
PDD	24
PDL	24
PIT	17
PLS	27
PMP	22
PNK	23
PPS	7
PS/PSE	7
PSC	24
PSR	7
PUM	21
RCD	16, 17
RCM	17
REG	18, 19, 31
RFS	25
RL	31
S	6
SCH	24
SCI	31
SEN	23
SFL	10
SMN	6
SMQ	6
SMV	6
SMW	6
ST	29
SV	5
SVN	4
SWK	5
SZM	28
TBI	30
TDA	29
TDD	29
TED	26
TGK	30
TGL	30
TIR	30
TM	16

Model	Page
TMA	29
TME	15
TMR	16
TMU	15
TNF	29
TNK	29
TNS	29
TRS	29
TSA	29
TSH	29
TSK	7
TSP	29
TSR	29
TST	29
TTD	30
TTE	30
TTL	30
TIM	30
TUR	8
TUV	8
TWA	30
TWD	30
TWL	30
TWM	30
TWR	29
UFJ	19
UMR	4
URA	4
URB	5
URK	4
URL	4
URM	4
UTR	4
UTS	5
UVR	4
UXR	4
V31	5
VKA	6
VKG	6
VKM	6
VKP	6
ZDM	14
ZED	31
ZLS	31
ZOK	31





Flow

Variable Area - Plastic - Low Volume
 Bodies: Polysulfone
 Fittings: 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: 1/8" NPT
 Accuracy: \pm 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: 1/8" NPT, 1" NPT
 Accuracy: \pm 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"...2-1/2" 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: 1/4" 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 NI/h to 300...3000 NI/h
 t_{max} 100 °C; p_{max} 16 bar
 Connection: G 1/4, 1/4" NPT
 Accuracy: \pm 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 NI/h to 500...5000 NI/h
 t_{max} 100 °C; p_{max} 16 bar
 Connection: 1/4" NPT, G 1/4
 Accuracy: \pm 2.5 % q_G = 50 %

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



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: 1/4" 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: 3/8", 1/2" 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: 1/4"...3" NPT, Hose Barb
 Accuracy: Cl. 4 According to 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: 1/2"...3" ANSI
 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: 1/2"...1-1/2" 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: 1/4"...2" NPT or ANSI
Accuracy: \pm 1.6% Liquids \pm 2.5% Gases 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: 1/2"...1-1/4" NPT
Accuracy: Cl. 4 According to VDI

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



Water: 0.1...1.0 GPH to 1.0...10 GPH
Air: 0.25...2.5 SCFH to 10...100 SCFH
 t_{max} 130 °F; p_{max} 45 PSIG
Connection: 1/4" NPT, G 1/4, M18x1.5
Accuracy: Cl. 4 According to VDI

Variable Area
Brass, Stainless Steel
Model: SV, DSV



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

Variable Area - Switch
Brass, Stainless Steel
Model: SV, DSV



Water: 0.075...0.35 GPM to 2.5...40 GPM
Air: 0.25...1.25 SCFM to 10...150 SCFM
 t_{max} 210 °F; p_{max} 145 PSIG
Connection: 1/4"...1-1/4" NPT
Accuracy: \pm 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 1/2
Accuracy: \pm 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 1/2
Accuracy: \pm 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 1/2
Accuracy: \pm 4% of Full Scale

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



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: 1/4" NPT
Accuracy: \pm 3% of Full Scale
Option: Analog Output

**Variable Area - All Metal
Low Volume**
Stainless Steel
Model: 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: 1/2"...1" ANSI
Accuracy: \pm 3% of Full Scale
Option: Analog Output

**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: 1/2"...3" ANSI
Accuracy: \pm 1.6% of Full Scale

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



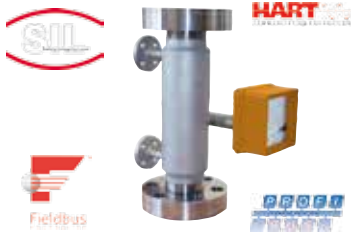
Water: 0.002...0.02 GPM to 60...570 GPM
Air: 0.008...0.08 SCFM to 140...1,400 SCFM
 t_{max} 660 °F; p_{max} 580 PSIG
Connection: 1/2"...6" ANSI
Option: Analog Output 4-20 mA
Accuracy: \pm 1.6 - 2.2% of Full Scale



Flow

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: 1/2"...6" ANSI
Option: Analog Output, BUS-Interface, Heat Jacket
Accuracy: $\pm 1.6 - 2.2\%$ of Full Scale

Variable Area Switch - All Metal

Brass, Stainless Steel
Model: S, DSS



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: 1/4"...3/4" NPT
Accuracy: $\pm 5\%$ of Full Scale

Variable Area - All Metal

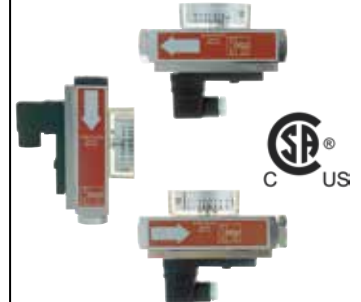
Brass, Stainless Steel
Model: SMV



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: 1/4"...1-1/4" NPT
Accuracy: $\pm 5\%$ 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: 1/4"...3/4" NPT
Accuracy: $\pm 5\%$ of Full Scale

Piston Type Switch - All Metal Horizontal or Vertical Flow

Brass, Stainless Steel
Model: SMN



Water: 0.4...13 GPM
 t_{max} 210 °F; p_{max} 5,000 PSIG
Connection: 1" NPT
Accuracy: $\pm 5\%$ 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: 1/2", 3/4", 1" NPT,
Solder and Glue Connection Available
Accuracy: $\pm 5\%$ 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: 1/4"...1" NPT
Accuracy: $\pm 4\%$ 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: 1/4"...1" NPT
Accuracy: $\pm 4\%$ 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: 1/4"...1" NPT
Accuracy: $\pm 4\%$ 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: 1/4"...1" NPT
Accuracy: $\pm 4\%$ of Full Scale

Viscosity Compensated All Metal - OEM

Brass
Model: VKA



Viscosity Range: 30...300 cSt
Oil: 2...6.3 GPM to 8...26 GPM
 t_{max} 210 °F; p_{max} 3,600 PSIG
Connection: 1/2", 3/4" NPT
Accuracy: $\pm 4\%$ of Full Scale

Manifold Valves for Multiple Installation

Aluminum
Model: BVB



t_{max} 210 °F; p_{max} 930 PSIG
Connection: 1/2" 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: 1/4"...1-1/2" NPT

Paddle Switch
Brass, Stainless Steel
Model: PS / PSE



Water: 16...22 GPM to 176...237 GPM
 t_{max} 230 °F; p_{max} 1,450 PSIG
Connection: 1/2" 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: \pm 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} 435 PSIG
Connection: 1" NPT

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



Water: 0.8...14.5 GPM to 13.2...158 GPM
 t_{max} 210 °F; p_{max} 230 PSIG
Connection: 1/2"...2" NPT, 1/2"...2" ANSI
Accuracy: \pm 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, 1/2"...2" ANSI,
Weld-on Flange for 1-1/2"...24" Pipe
Accuracy: \pm 3 - 5% of Full Scale

Paddle Torsion - Flowmeter
Brass, 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: \pm 3% of Full Scale

Paddle Torsion - Flowmeter
Brass, 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: \pm 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, 1/2"...2" ANSI,
Weld-on Flange 1-1/2"...20" Pipe
Accuracy: \pm 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: \pm 2% of Reading + 1% of FS

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 \pm 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: 3/4" NPT
Accuracy: $\pm 1.5\%$ 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: 3/4" NPT
Accuracy: $\pm 1.5\%$ 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: 3/4" NPT
Accuracy: $\pm 1.5\%$ 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: 3/4" NPT
Accuracy: $\pm 1.5\%$ of Full Scale

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



Water: 0.6...10.5 GPM
 t_{max} 175 °F; p_{max} 2,900 PSIG
Connection: 3/4" NPT
Accuracy: $\pm 1.5\%$ 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: 3/4" NPT
Accuracy: $\pm 1.5\%$ 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: $\pm 1\%$ 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: $\pm 1\%$ 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: $\pm 1\%$ 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: $\pm 1\%$ 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: $\pm 1\%$ of Full Scale

Turbine Wheel - Pulse Output
Stainless Steel
Model: TUR



Water: 0.3...1.5 l/min to 35...400 l/min
 t_{max} 350 °C; p_{max} 640 bar
Connection: G 1/4...1-1/2
Accuracy: $\pm 1\%$ of Reading



Flow

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



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

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



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

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



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

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



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

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



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

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



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

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



Water: 1.5...8 GPM to 15...200 GPM
 t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/2"...3" NPT
Accuracy: \pm 3.0% of Full Scale

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



Water: 1.5...8 GPM to 15...200 GPM
 t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/2"...3" NPT
Accuracy: \pm 3.0% of Full Scale

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



Water: 1.5...8 GPM to 15...200 GPM
 t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/2"...3" NPT
Accuracy: \pm 3% of Full Scale

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



Water: 1.5...8 GPM to 15...200 GPM
 t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/2"...3" NPT
Accuracy: \pm 3% of Full Scale

Paddle Wheel - Digital Display
Brass, Stainless Steel
Model: DRB with ADI-1



Water: 1.5...8 GPM to 15...200 GPM
 t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/2"...3" NPT
Accuracy: \pm 3% of Full Scale

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



Water: 1.5...8 GPM to 15...200 GPM
 t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/2"...3" NPT
Accuracy: \pm 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: $\pm 1\%$ of Full Scale

**Turbine - Pulse Output
Ratemeter/Totalizer**
Stainless Steel
Model: DOT



Water:
0.48...4.8 GPM to 1760...17,600 GPM
 t_{max} 250 °F; p_{max} 3,600 PSIG
Connection: 1/2"...2" NPT, 1/2"...16" ANSI
Accuracy: $\pm 0.5\%$ of Full Scale

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



Water: 0.3...3 GPM to 30...300 GPM
 t_{max} 175 °F; p_{max} 230 PSIG
Connection: 1/2"...2" NPT
Accuracy: $\pm 1 - 2\%$ 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: 1/2"...4" NPT, Flange, Socket
Accuracy: $\pm 3\%$ 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: $\pm 1 - 2.5\%$ 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: $\pm 1 - 2.5\%$ 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: $\pm 1 - 2.5\%$ 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: $\pm 1 - 2.5\%$ of Full Scale

**Paddle Wheel - Low Volume
Compact Electronics**
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: $\pm 1 - 2.5\%$ 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: $\pm 1 - 2.5\%$ 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: $\pm 3\%$ 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: $\pm 3\%$ 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: 1/2" BSP, Hose Barb
Accuracy: \pm 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: 1/2" BSP, Hose Barb
Accuracy: \pm 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: 1/2" BSP, Hose Barb
Accuracy: \pm 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: 1/2" BSP, Hose Barb
Accuracy: \pm 2.5% of Full Scale

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



Water: 0.4...8 GPH to 16...400 GPH
 t_{max} 160 °F; p_{max} 145 PSIG
Connection: 1/2" BSP, Hose Barb
Accuracy: \pm 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: 1/2" BSP, Hose Barb
Accuracy: \pm 2.5% of Full Scale

Paddle Wheel - Low Volume Stainless Steel
Polypropylene
Model: DTK



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

Paddle Wheel - Pulse Output
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: \pm 2.5% of Full Scale

Paddle Wheel - Analog Output
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: \pm 2.5% of Full Scale

Paddle Wheel Switch - Low Volume
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: \pm 2.5% of Full Scale

Paddle Wheel - Digital Display
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: \pm 2.5% of Full Scale

Paddle Wheel - Totalizer/Batch Controller
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: \pm 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: 1/4"...3/4" NPT
Accuracy: \pm 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: 1/4"...3/4" NPT
Accuracy: \pm 2.5% of Full Scale

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



Water: 0.02...0.14 GPM to 0.5...12 GPM
 t_{max} 180 °F; p_{max} 230 PSIG
Connection: 1/4"...3/4" NPT
Accuracy: \pm 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: \pm 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: \pm 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: \pm 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: \pm 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: \pm 2.5% of Full Scale

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



Water: 0.15...3 GPM to 3...37 GPM
 t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 3% of Full Scale

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



Water: 0.15...3 GPM to 3...37 GPM
 t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 3% of Full Scale

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



Water: 0.15...3 GPM to 3...37 GPM
 t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 3% of Full Scale

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



Water: 0.15...3 GPM to 3...37 GPM
 t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 3% of Full Scale



Paddle Wheel - Digital Display
Polypropylene, Brass, 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: 1/4"...1" NPT
Accuracy: \pm 3% of Full Scale

Dual-Ring Piston - Pendulum - Low Volume
Stainless Steel
Model: LFM



Water: 0.005...0.25 l/min
 t_{max} 70 °C; p_{max} 100 bar
Connection: G 1/8, Swagelok 6 mm
Accuracy: \pm 2.5 % of Reading

Paddle Wheel - Insertion Type
Stainless Steel
Model: DOR



Water: 5.5...180 GPM to 25,000...800,000 GPM, 1...33 ft/sec
 t_{max} 200 °F; p_{max} 1160 PSIG
Connection: 1-1/2" NPT, 2" NPT
Linearity: \pm 1.5% of Full Scale

Positive Displacement - Rotary 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: \pm 1% of Reading

Positive Displacement - Rotary 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: \pm 1% of Reading

Positive Displacement - Rotary 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: \pm 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: 1/4"...3/4" NPT
Accuracy: \pm 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: 1/4"...3/4" NPT
Accuracy: \pm 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: 1/4"...3/4" NPT
Accuracy: \pm 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: 1/4"...3/4" NPT
Accuracy: \pm 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: 1/4"...3/4" NPT
Accuracy: \pm 2.5% of Full Scale

Oval Wheel - Pulse Output
Aluminum, Stainless Steel
Model: DOE



Viscosity Range: 0...1,000,000 cP
Oil: 0.5...36 l/h to 2...100 l/h
Connection:
G 1/8, G 1/4, 1/8" NPT, 1/4" NPT
Accuracy: \pm 1% of Reading



Flow

Oval Gear - Pulse Output

Aluminum, Stainless Steel
Model: DON-..F4



Viscosity Range: 0...1,000,000 cP
Oil: 0.13...9.5 GPH to 40...660 GPM
 t_{max} 300 °F; p_{max} 5800 PSI
Connection: 1/8"...4" NPT, ANSI 1"...4"
Accuracy: \pm 0.2-1% of Reading

Oval Gear - LCD Display

Aluminum, Stainless Steel
Model: DON-..Z..



Viscosity Range: 0...1,000,000 cP
Oil: 0.13...9.5 GPH to 40...660 GPM
 t_{max} 250 °F; p_{max} 5800 PSI
Connection: 1/8"...4" NPT, ANSI 1"...4"
Accuracy: \pm 0.2-1% of Reading

Oval Gear - Mechanical Totalizer

Aluminum, Stainless Steel
Model: DON-..M..



Viscosity Range: 0...1,000,000 cP
Oil: 0.13...9.5 GPH to 40...660 GPM
 t_{max} 250 °F; p_{max} 580 PSI
Connection: 1/8"...4" NPT, ANSI 1"...4"
Accuracy: \pm 0.2-1% of Reading

Positive Displacement - Screw Type - Pulse Output

Aluminum
Model: OME



Viscosity Range: 1...5,000 cSt
Oil: 0.03...2.6 GPM to 0.92...92 GPM
 t_{max} 250 °F; p_{max} 580 PSIG
Connection: 1/2"...1-1/2" NPT, 1/2"...1-1/2" ANSI
Accuracy: \pm 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: 1/2"...3" NPT, 1/2"...6" ANSI
Accuracy: \pm 0.3% of Reading

Gear Wheel - Meter

Cast Iron, Stainless Steel
Model: DZR



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

Gear Wheel - Meter

Aluminum
Model: KZA



Viscosity Range: 20...4,000 cSt
Oil: 0.02...4 l/min to 1...200 l/min
 t_{max} 80 °C; p_{max} 160 bar
Connection: G 1/4...1
Accuracy: \pm 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} 6,500 PSIG
Connection: 3/8"...1-1/2" NPT
Accuracy: \pm 0.3% of Reading

Calorimetric Indicator/Switch

Stainless Steel
Model: KAL-D



Water: 0.15...6.6 ft/sec
 t_{max} 175 °F; p_{max} 580 PSIG
Connection: 1/4", 1/2" NPT/BSP, M12

Calorimetric Indicator/Switch

Stainless Steel
Model: KAL-K



Water: 0.15...6.6 ft/sec
 t_{max} 250 °F; p_{max} 1,450 PSIG
Connection: 1/4"...3/4" NPT, Tri-Clamp®



Calorimetric Transmitter/Switch

Stainless Steel
Model: KAL-A



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



Calorimetric Indicator/Switch for Air/HVAC

Brass
Model: KAL-L



Air: 3.3...65 ft/sec
 t_{max} 250 °F; p_{max} 100 PSIG
Connection: 1/2" NPT, Duct Flange
Linearity: \pm 10% of Full Scale





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



Water: 0.15...6.6 ft/sec
 t_{max} 250 °F; p_{max} 1,450 PSIG
Connection: 1/4"...1-1/2" NPT

Calorimetric Flowmeter/Switch
Stainless Steel
Model: DVK



Air: 1...10 LPM to 600...12,000 LPM
 t_{max} 50 °C; p_{max} 15 bar
Connection: G 1/4"...G 2
Accuracy: \pm 5% of Full Scale

Air Velocity Transmitter
Polycarbonate
Model: KAH



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

Thermal Mass Flowmeter/Controller
Stainless Steel
Model: DMS



Air: 0...0.01 to 0...200 NL/min
 t_{max} 120 °F; p_{max} 500 PSIG
Connection:
1/4" or 1/2" NPT, 1/8"...1/2" Compression
Accuracy: \pm 1% of Full Scale

Thermal Mass Flowmeter
Polyamide, Stainless Steel
Model: MAS



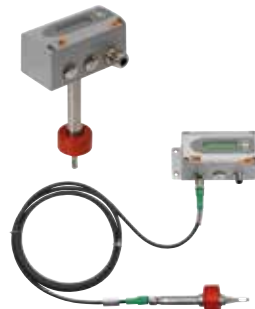
Air: 0...10 SCCM to 0...500 SLPM
 t_{max} 120 °F; p_{max} 500 PSIG
Connection:
1/4" NPT, 1/2" NPT; 1/4" or 1/2" Swagelok®
Accuracy: \pm 1.5% of Full Scale

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



Air: 0...10 SCCM to 0...50 SLPM
 t_{max} 120 °F; p_{max} 145 PSIG
Connection: 1/4" NPT; 1/8" or 1/4" Swagelok®
Accuracy: \pm 1.5% of Full Scale

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



Air: 0.5...200 Nm/s
 t_{max} 176 °F; p_{max} 230 PSIG
Connection: R 1/2"...2 Ball Valve
Accuracy: \pm 2.5% of Reading,
 \pm 0.15% of Full Scale

Thermal Mass Flowmeter
Stainless Steel
Model: KMT-4

Installation Under Pressure



Air: 0.2...200 Nm/s
 t_{max} 80 °C; p_{max} 16 bar
Connection: R 1/2", Male for Insertion (DN 65... DN 700)
Accuracy:
 \pm 1.5% of Reading, \pm 0.8% of Full Scale

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



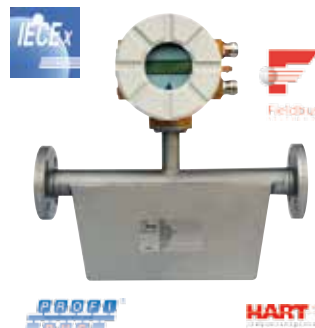
Air: 0...15 ft/sec to 0...300 ft/sec
 t_{max} 175 °F; p_{max} 145 PSIG
Connection: 1/2"...3" NPT, 1/2"...8" ANSI
Accuracy: \pm 1.0% of F/S, \pm 0.5% of Reading

Coriolis Mass Flowmeter
Stainless Steel
Model: TME / UMC-4



Water: 0...430 lbs/hr to 0...132,000 lbs/hr
 t_{max} 350 °F; p_{max} 580 PSIG
Connection: 1/2"...3" ANSI
Accuracy: \pm 0.15 - 0.5% of Reading

Coriolis Mass Flowmeter
Stainless Steel, Hastelloy®
Model: TMU / UMC-3



Water: 0...1,320 lbs/hr to 0...2,200 tons/hr
 t_{max} 500 °F; p_{max} 580 PSIG
Connection: 1/2"...12" ANSI
Accuracy: \pm 0.1% - 0.5% of Reading

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



Water:
0...1,320 lbs/hr to 0...2,200 tons/hr
 t_{max} 500 °F; p_{max} 580 PSIG
Connection: 1/2"...12" ANSI
Accuracy: \pm 0.1% - 0.5% of Reading



Flow

Coriolis Mass Flowmeter

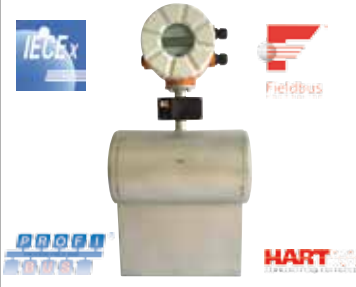
Stainless Steel, Hastelloy®, Monel®, Tantalum, Nickel
Model: TM / UMC-3



Water: 0...18 lbs/hr to 0...140,000 lbs/hr
 t_{max} 500 °F; p_{max} 580 PSIG
Connection: 1/4"...1/2" NPT, 1/2"...4" ANSI
Accuracy: $\pm 0.1 - 0.5\%$ of Reading

Coriolis Mass Flowmeter

Stainless Steel, Hastelloy®, Monel®, Tantalum, Zirconium
Model: TMR / UMC-3



Viscosity Range: 0.3...50,000 cSt
Water: 0...2,600 lbs/hr to 0...54,500 lbs/hr
 t_{max} 500 °F; p_{max} 1,440 PSIG
Connection: 1/2"...4" ANSI
Accuracy: $\pm 0.1 - 0.15\%$ 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: G 1 ... 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-V



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

Orifice Differential Pressure Flowmeter/Switch

Brass, Stainless Steel
Model: KEL-S, KEL-Q



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

Orifice Differential Pressure Flowmeter/Switch/Transmitter

Brass, Stainless Steel
Model: KEL-D



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

Orifice - Differential Pressure

Brass, 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: 1/2" ... 3" NPT
Accuracy: $\pm 3\%$ of Full Scale

Orifice Differential Pressure Flowmeter - Compact Electronics

Brass, 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: 1/2" ... 3" NPT
Accuracy: $\pm 3\%$ of Full Scale



Orifice Differential Pressure Flowmeter - Digital Display

Brass, 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: 1/2"...3" NPT
Accuracy: \pm 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} 350 °F; p_{max} 400 PSIG
Connection:
1/2"...3" NPT, 1/2"...8" ANSI Wafer
Accuracy: \pm 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} 176 °F; p_{max} 145 PSIG
Connection: 1/4"...2" NPT or Glue Socket
Accuracy: \pm 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} 176 °F; p_{max} 145 PSIG
Connection: 1/4"...2" NPT or Glue Socket
Accuracy: \pm 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} 176 °F; p_{max} 145 PSIG
Connection: 1/4"...2" NPT or Glue Socket
Accuracy: \pm 2% of Full Scale

Electromagnetic - Insertion

Stainless Steel, PTFE or PFA Clad
Model: PIT



Water: 0...32 ft/sec
 t_{max} 300 °F; p_{max} 580 PSIG
Connection: Weld-on, 2" or 3" ANSI
Accuracy: \pm 1.5% of Reading,
 \pm 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 ϕ 40 mm,
Sensor with Union Nut M52x2
for Pipelines DN 50...400, ANSI 2"...16"
Accuracy: \pm 1.5% of Full Scale

Electromagnetic In-line Flowmeter

Lining: Hard or Soft Rubber, PTFE/PFA
Model: DMH



Water: 0.29...26.4 to 431.6...43,333 GPM
 t_{max} 300 °F; p_{max} 580 PSIG
Connection: 1/2"...48" ANSI
Accuracy: \pm 0.3% 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} 176 °F; p_{max} 290 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 2.5% 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} 176 °F; p_{max} 290 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 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} 176 °F; p_{max} 290 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 2.5% of Full Scale

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} 176 °F; p_{max} 290 PSIG
Connection: 1/4"...1" NPT
Accuracy: \pm 2.5% of Full Scale



Flow

Vortex - Flowmeter
Stainless Steel
Model: DVH



Water: 0.89...22 GPM to 141...4270 GPM
Air: 1.8...16.4 SCFM to 1800...164911 SCFM
 t_{range} -328...750 °F; p_{max} 1,450 PSIG
Connection: 1/2"...8" ANSI
Option: Integrated Temperature and Pressure Sensor, Wafer Type
Accuracy: $\pm 1\%$ Reading for Gas & Steam, $\pm 0.7\%$ Reading for Liquids

Vortex - Meter
Stainless Steel
Model: DVE



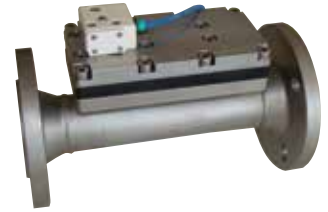
Water: 5.2...157 to 284...8537 m³/h
Air: 889...1463 Nm³/h to 26,915...2,467,081 Nm³/h
 t_{max} 400 °C; p_{max} 100 bar
Connection: 2" NPT, DN 50, ANSI 2"
Mountable in NW80...NW600
Option: Integrated Temp. and Pressure Sensor, Installation/Removal Device
Accuracy: $\pm 1.2\%$ of Reading (Water), $\pm 1.5\%$ of Reading (Gas/Steam)

Oscillation - Flowmeter
Stainless Steel
Model: DOG-4



Air: 0.12...12 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: $\pm 1.5\%$ 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: $\pm 0.5\%$ 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} 230 PSIG
Connection: 1/4"...3" NPT
Accuracy: $\pm 1.5\%$ 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} 230 PSIG
Connection: 1/4"...3" NPT
Accuracy: $\pm 1.5\%$ 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} 230 PSIG
Connection: 1/4"...3" NPT
Accuracy: $\pm 1.5\%$ 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} 230 PSIG
Connection: 1/4"...3" NPT
Accuracy: $\pm 1.5\%$ of Full Scale

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



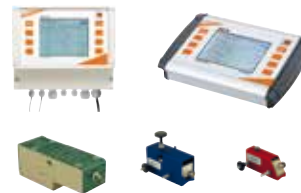
Water: 0.02...5 GPM to 2.6...160 GPM
 t_{max} 190 °F; p_{max} 230 PSIG
Connection: 1/4"...3" NPT
Accuracy: $\pm 1.5\%$ of Full Scale

Ultrasonic Flowmeter - Inline
Stainless Steel
Model: DUE



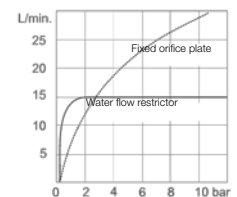
Measuring Range: 6.7...88 to 560...8800 GPM (Water)
 t_{max} 300 °F; p_{max} 580 PSIG
Connection: ANSI Flange 1-1/4"...12"
Accuracy: $\pm 0.5\%$ of Reading

Ultrasonic Flowmeter - Clamp On
Stationary · Portable
Model: DUC



Media: Ultrasonic Conducting Liquids
Temperature t_{range} : -40...300 °F
Flow Velocities: 0... ± 98 ft/s
Pipe Sizes: 3/8"...20 ft
For Use with Common Pipe Materials, with Ultrasonic Conductive Properties, like Steel and Plastic.
Heat Quantity Measurement
Accuracy: Up to 1%

Flow Regulators
Brass, Stainless Steel
Model: REG



Viscosity Range: 1...30 cSt
Flow Rates: 0.25...7.93 GPM
 t_{max} 572 °F; p_{max} 2,900 PSIG
Connection: 3/4" NPT



Flow

Flow Regulators - Multiple Element

Stainless Steel

Model: REG-8, REG-9



Viscosity Range: 1...30 cSt
 Flow Rates: 0.25...74 GPM
 t_{max} 570 °F; p_{max} 2,900 PSIG
 Connection: 3/4"...2" ANSI Wafer,
 1-1/2"...2-1/2" BSP

Flow Indicator with Flap

Grey Cast Iron, Cast Steel, Stainless Steel

Model: DAK



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

Flow Indicator with Rotor

Grey Cast Iron, Cast Steel, Stainless Steel

Model: DAR



t_{max} 500 °F; p_{max} 580 PSIG
 Connection: 1/4"...2" NPT, 1/2"...8" ANSI

Flow Indicator with Drip Tube

Grey Cast Iron, Cast Steel, Stainless Steel

Model: DAT



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

Flow Indicator with Rotor

Brass, Stainless Steel

Model: DAA, DAH



Water: 0.1...3 GPM to 1...58 GPM
 t_{max} 212 °F; p_{max} 232 PSIG
 Connection: 1/4"...1-1/2" NPT

Flow Indicator with Rotor

Brass, Stainless Steel, Polysulfone

Model: DAF



Water: 0.16...0.16 GPH to 100...2,400 GPH
 t_{max} 230 °F; p_{max} 235 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} 176 °F; p_{max} 230 PSIG
 Connection: 3/8" or 1" NPT

Flow Indicator with Rotor

PP, Brass, Stainless Steel

Model: DIG



Water: 0.13...3.2 GPM to 0.79...21 GPM
 t_{max} 176 °F; p_{max} 230 PSIG
 Connection: 1/8"...1" NPT

Flow Indicator with Rotor

Brass

Model: DKF



Water: 0.04...0.5 GPM to 0.5...22 GPM
 t_{max} 250 °F; p_{max} 85 PSIG
 Connection: 1/8"...1" NPT

Flow Indicator with Ball

Brass

Model: DKB



Water: 0.014...4 GPM to 0.047...27 GPM
 Air: 0.11...14 to 0.32...88 SCFM
 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 3/4...G 3

Flow Indicator - Sight Glass

Stainless Steel, PVC

Model: UFJ



t_{max} 210 °F; p_{max} 145 PSIG
 Connection: 1/4"...2" NPT or BSP



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: 1/4" NPT, 1/2" 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: 1/4" NPT, 1/2" 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: 1/2" 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: 1/4" NPT, 1/2" 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: 1/2" NPT, 3/4"...3" ANSI
Accuracy: ±1.6% 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: 1/2" 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...8,700 PSIG
Housing Ø: 160, 250 mm
Overload Protection: 1.0 Times
Connection: 1/2" 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: 1/4" NPT, 1/2" 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: 1/4" NPT, 1/2" 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: 1/4" 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: 1/4" NPT, 1/2" 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: 1/2" 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: 1/4" NPT, 1/2" NPT
4-20 mA and Relay Contacts
Accuracy: ± 0.5% of Full Scale

U-Pipe Pressure Gauge

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: 1/4" 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: 1/2" 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 or Silicone
Connection: NPT, BSP, ANSI, Tri-Clamp® or other Sanitary Connections

Flange Diaphragm Seals

Stainless Steel, Monel®, Tantalum, Hastelloy®, PTFE

Model: DRM



Standard Version up to 350°C/40 bar: DN 25...DN 100, ANSI 1" ... 4"
Special Version up to 400 bar: up to DN 200, ANSI 8"
Flanges According to BS, JIS and GOST Standard
Optional: Extended Diaphragm

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: 1/2"...1-1/4" 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: 1/2"...1-1/4" 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: 3/4" 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: 1/2" ... 2" Tri-Clamp®, ISO Hygienic Connection
Accuracy: ±1.6% of Full Scale



Pressure

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: 1/2" NPT
Accuracy: ±1.6% of Full Scale

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: 3/4" 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

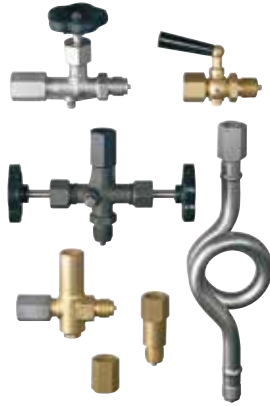
Stainless Steel
Model: MAN-SF..DRM-189



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: MZB



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: 1/2" NPT
Accuracy: ±1.6% of Full Scale

Pressure Gauge or Sensor with Membrane Diaphragm Seal

PVC or Polypropylene
Model: MAN-SD/DSD..DRM-630 and SEN..DRM-631



Measuring Range:
0...20 PSIG to 0...145 PSIG
Housing Ø: 74 mm
Connection: 1/2" NPT
Accuracy: ±1.0% of Full Scale

Differential Pressure Sensor and Controller for Filters

Model: PMP



Measuring Range: 0...20" H₂O
Power Supply: 24 V_{AC/DC}, 110 V_{AC}, 230 V_{AC}
Display: 4-Digit LED
Connection: 1/4" 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: 1/4" NPT, 1/2" 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

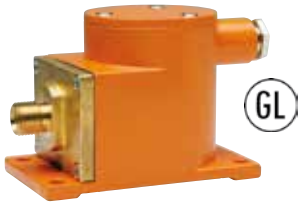


Measuring Range:
-30...0" Hg to 0...5,800 PSIG
Display: 3-Digit LED
Power Supply: 24 V_{DC}
Connection: 1/4" NPT, 1/2" NPT
Accuracy: ± 0.5% - 1.0% of Full Scale



Pressure

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: 1/4" NPT, 1/2" NPT; 9/16 SAE
Accuracy: ± 0.125% - 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: 1/4" 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: 1/4" 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: 1/4" NPT, 1/2" 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: 1/2" NPT, 1/4" NPT
Accuracy: ± 0.5% - 1.0% of Full Scale

Pressure Sensor with Ceramic Element
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: 1/4" NPT, 1/2" NPT, G 1/4, G 1/2
Accuracy: ± 0.5% of Full Scale

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



Measuring Range:
-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: ± 0.25 - 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
Model: PAS



Measuring Range:
-30"...0" Hg to 0...8,700 PSIG
Power Supply: 12-45 V_{DC}
Connection: 1/4" NPT, 1/2" 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: 1/4" NPT, 1/2" 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: 1/4" NPT, 1/2" 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: 1/4" 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: 1/4" 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: 1/4" 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: 1/4" 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: 1/4" 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: 1/2" NPT Female, 1/4" NPT
Female, 1/2" NPT Male, G 1/2 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: 1/2" NPT Female, 1/4" NPT
Female, 1/2" NPT Male, G 1/2 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: 1/8" NPT, 1/4" NPT

Magnetic Float Switch
Polypropylene
Model: NCP



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

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



Specific Gravity_{min}: 0.55
t_{max} 250 °F; p_{max} 425 PSIG
Connection: 1/2" NPT, 1/8" PF

Plastic Level Switch
Polypropylene, PVDF
Model: NKP



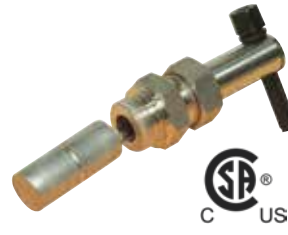
Specific Gravity_{min}: 0.6
t_{max} 212 °F; p_{max} 145 PSIG
Connection: 1/2" NPT, Bulkhead

Float Switch
Stainless Steel
Model: RFS



Specific Gravity_{min}: 0.7
t_{max} 248 °F; p_{max} 72 PSIG
Connection: 1/2" NPT

Float Switch
Brass, Stainless Steel
Model: NV



Specific Gravity_{min}: 0.7
t_{max} 230 °F; p_{max} 230 PSIG
Connection: G 3/4, 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} 185 °F; p_{max} 30 PSIG
Connection: Cable

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



Specific Gravity_{min}: 0.5
t_{max} 185 °F; p_{max} 80 PSIG
Connection: Cable

Float Switch
PTFE
Model: NST



Specific Gravity_{min}: 0.85
t_{max} 302 °F; p_{max} 15 PSIG
Connection: Cable

Float Switch
Stainless Steel
Model: NSE



Specific Gravity_{min}: 0.8
t_{max} 302 °F; p_{max} 220 PSIG
Connection: 1/2" 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: 1/2" NPT, 1-1/2" 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: 1/2" NPT, 1-1/2" 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: 3/4" NPT, R 3/4"
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 1/2, G 1
Open-Collector
Electrode Length: 1/8" 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 1/2

Capacitive Switch for Liquids

Stainless Steel, PEEK
Model: LNZ



Dielectric Constant_{min}: 20
t_{max} 212 °F; p_{max} 145 PSIG
Connection: G 1/2
Open-Collector

Microwave Switch

Stainless Steel, PEEK
Model: LNM



Dielectric Constant_{min}: 20
t_{max} 212 °F; p_{max} 145 PSIG
Connection: G 1/2
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} 435 PSIG
Connection: G 1, G 2
Adapter: G 1-1/4, G 1-1/2, Weld-in Sleeve
Relay

Capacitive Switch Liquids - High Temperature

Stainless Steel
Model: NCW-H



Dielectric Constant_{min}: 1.5
t_{max} 257 °F; p_{max} 145 PSIG
Connection: G 1
Adapter: G 1-1/4, G 1-1/2, Weld-in Sleeve
Relay

Optical Switch for Liquids

Stainless Steel, Polypropylene
Model: OPT



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

Optical Switch for Liquids

Stainless Steel, Polysulfone, PFA
Model: TED



t_{max} 230 °F; p_{max} 400 PSIG
Connection: 3/8" NPT, 1/2" NPT

OEM Optical Switch for Liquids

Stainless Steel, Polysulfone
Model: NSD



t_{range} 15...250 °F; p_{max} 140 / 550 (SS) PSIG
Connection: 3/8" NPT

Ultrasonic Switch for Liquids

Stainless Steel
Model: NQ



t_{range} -40...250 °F; p_{max} 290 PSIG
Connection: 1" NPT, R 1

Ultrasonic Switch for Liquids

Stainless Steel
Model: NK-8000



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: 3/4" NPT
Relay Output
















Vibration Switch for Liquids

Stainless Steel
Model: NWS



t_{max} 300 °F; p_{max} 650 PSIG
Viscosity_{max}: 5,000 cSt
Connection: 3/4" NPT, 1" NPT,
2" Tri-Clamp®; R 3/4 and R1; DIN
and ANSI Flanges



<p>Static Pressure Level Switch Polyamide, NBR Model: NDT</p>  <p>t_{range}: 15...185 °F; p_{max}: Atmospheric Switchpoint: 4" Above End of Pipe Connection: Hose Clamp for 1" Sch 40 Pipe</p>	<p>Vibration Switch - Bulk Materials Stainless Steel Model: NSV</p>  <p>Switching Range: 9" ...118" Specific Gravity$_{min}$: 0.06 t_{max} 176 °F; p_{max} Atmospheric Connection: 1-1/2" NPT, G 1-1/2" 1 Relay, SPDT</p>	<p>Vibration Switch - Bulk Materials Stainless Steel Model: NVI</p>  <p>Switching Range: 9.25" and Special Lengths Specific Gravity$_{min}$: 0.05 t_{max} -22...320 °F; p_{max} 360 PSIG Connection: 1-1/2" NPT, G 1-1/2"</p>	<p>Diaphragm Switch - Bulk Materials Neoprene, FKM, Stainless Steel Model: NMF</p>  <p>t_{max} 392 °F; p_{max} 14.5 PSI (Over-pressure Protected) Connection: Flange</p>
<p>Pendulum Level Monitor Bulk Materials Aluminum, EPDM Model: PLS</p>  <p>Length$_{max}$: 78.7" t_{max} 176 °F; p_{max} 7 PSIG Connection: Aluminum Flange Contact: SPDT Microswitch 250 V_{AC}/3A</p>	<p>Rotating Vane Switch - Bulk Materials Stainless Steel Model: NIR-9/NIR-E9</p>  <p>Switching Range: 2.5" ...390" t_{max} 392 °F; p_{max} 7.25 PSI Connection: 1" NPT, G 1 Male, Others Output: 1 Relay, SPDT</p>	<p>Capacitive Switch Bulk Materials Stainless Steel, Polypropylene Model: NSC</p>  <p>Dielectric Constant$_{min}$: 1.5 Switching Range: 10" ... 49 ft t_{range} -4...176 °F; p_{max} 7 PSIG Connection: 1" NPT, 2" NPT, G 1 Adapter: G 1-1/4, G 1-1/2; Round Flange</p>	<p>Guided Wave Radar (TDR) Transmitter Stainless Steel, PTFE Model: NGM</p>  <p>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</p>
<p>Guided Wave Radar (TDR) for Machines/Factory Automation Stainless Steel, PTFE Model: NGR</p>  <p>Measuring Range: 4" ...78" t_{max} 212 °F; p_{max} 145 PSIG Connection: 3/4" NPT, G 3/4 Male Analog Output, Switching Outputs Accuracy: ± 5 mm</p>	<p>Float Transducer - Reed Chain Stainless Steel, PVC-U, PP, PVDF Model: MM</p>  <p>Max. Measuring Length: 19.6 ft Density: 0.4 kg/dm³ t_{max} 265 °F; p_{max} 435 PSI Connection: 3/8" ... 2" NPT, 1-1/2" ... 4" ANSI Accuracy: $\pm 0.5\%$ for L < 6.2 Feet</p>	<p>Liquid Level Transmitter Polyethylene, PVC, PP, PTFE Model: NML-308</p>  <p>Specific Gravity$_{min}$: 0.9 Length$_{max}$: 6" ...48" t_{range} -4...250 °F; p_{max} 25 PSIG Connection: 1-1/4" NPT or 1-1/2" NPT</p>	<p>Liquid Level Transmitter Polyethylene, PVC, PP, PTFE Model: NML-310</p>  <p>Specific Gravity$_{min}$: 0.8 Length$_{max}$: 12" ...108" t_{range} -4...250 °F; p_{max} 40 PSIG Connection: 2" NPT, 2" ... 4" ANSI</p>
<p>Magnetostrictive Level Transmitter Stainless Steel Model: NMT</p>  <p>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</p>	<p>Capacitive Level Transmitter Stainless Steel, PVDF Model: NMC</p>  <p>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 1-1/4, G 1-1/2, Weld-in Sleeve Output: Analog 4-20 mA, 2 Wire</p>	<p>Potentiometric Level Probe Stainless Steel Model: LNP</p>  <p>Conductivity: 1μS/cm Measuring Range: 8" ...78" t_{range} 14...248 °F (30 min. at 300 °F) p_{max} 145 PSIG Connection: 1" NPT, G 1</p>	<p>Capacitive Level Transmitter Stainless Steel, PTFE, CPVC Model: NRF</p>  <p>Rigid Probe and Suspended Cable Designs Length$_{max}$: 200 ft. t_{range} -100...350 °F; p_{max} 500 PSIG Connection: 3/4" NPT, 1-1/2" NPT, 1-1/2" ...3" Tri-Clamp®</p>



Level

Capacitive Level and Temperature Transmitter

Stainless Steel, PTFE
Model: NRF-2, -3



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

Capacitive Level Transmitter - with Integrated Concentric Grounding Probe

Stainless Steel, PTFE
Model: NRF-1F



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

Bypass Level Indicator

Stainless Steel
Model: SZM



Measuring Length_{range} 15" ...121"
t_{max} 212 °F; p_{max} 87 PSIG
Connection: ANSI 1/2"...1-1/4"

Mini-Bypass - Level Gauge - with Switch Options

Aluminum, Stainless Steel
Model: NZJ



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

Mini Bypass with Roller Indicator

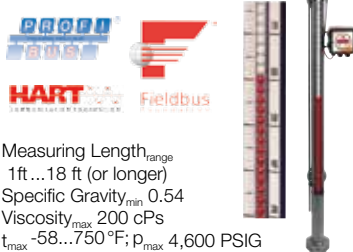
Stainless Steel
Model: NBK-M



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: 1/2" ...1" NPT, G 1/2, 1/2" ... 1" ANSI Flange, DN15 ... 25

Bypass with Roller Indicator

Stainless Steel
Model: NBK-03, -06, -07, -10, -31, -32, -33



Measuring Length_{range} 1ft ... 18 ft (or longer)
Specific Gravity_{min} 0.54
Viscosity_{max} 200 cPs
t_{max} -58...750 °F; p_{max} 4,600 PSIG
Connection: 1/2"...2" NPT, G 1/2...2, 1/2"...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 2-1/2" ANSI Flange; DN50...60

Bypass Level Roller Indicator - Plastic

Polypropylene, PVDF
Model: NBK-16, -17



Measuring Length_{range} 8" ... 13 ft
Specific Gravity_{min} 0.57
Viscosity_{max} 200 cPs
t_{max} 176 °F; p_{max} 58 PSIG
Connection: 3/4"...2" ANSI Flange, DN20...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_{range} -40...570 °F; p_{max} 580 PSIG
Connection: 2" ANSI Flange, DN50 Flange

Ultrasonic Measurement

PP, PVDF
Model: NUS-7



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

Ultrasonic Level Sensor

PP, PVDF
Model: NUS-4



Measuring Range: 7.87"...82' (Liquids)
7.87"...32' (Bulk Media)
t_{max} 190 °F; p_{max} 43.5 PSIG
Connection: 1-1/2", 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_{range} -40 ...140 °F; p_{max} 30 PSIG
Connection: 2" NPT
Optional Relay

Submersible Pressure Transducer

Stainless Steel
Model: KPW



Measuring Depth_{max} 50" WC to 1,000 PSI)
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
Model: PAD



Measuring Length_{range} 30" ...13 ft
Power Supply: 18-45 VDC
Connection: 1/4" NPT, 1/2" NPT
Accuracy: ± 0.075% of Measuring Range



Temperature

Temperature Switch for Liquids
Brass, Stainless Steel
Model: TWR



Switching Range: 86...248 °F
t_{max} 250 °F; p_{max} 230 PSIG
Connection: 3/4" NPT

Thermal Reed Temperature Switch
Brass, Stainless Steel
Model: TRS



Switching Range: 50...248 °F
t_{range} -40...250 °F; p_{max} 360 PSIG
Connection: 1/4"...1" NPT

Digital Temperature Switch
Stainless Steel
Model: TDD



Switching Range: -58...250 °F
t_{max} 250 °F; p_{max} 1,150 PSIG
Connection:
1/2" NPT, 3/4" NPT; G 1/2, G 3/4; M25x1.5
2 Transistor Switches

Temperature Switch
Brass
Model: DTS



Measuring Range: -10...200 °C
Connection: 1/2" NPT

Gas Filled Rigid Stem Thermometer
Stainless Steel
Model: TNS



Measuring Range: -40...1,100 °F
p_{max} 350 PSIG
Connection: 1/2"...1" NPT, G 1/2... G 1
Switch Options: Magnetic, Sliding, Inductive, Pneumatic

Gas Filled Capillary Thermometer
Stainless Steel
Model: TNF



Measuring Range: -40...1,100 °F
p_{max} 350 PSIG
Connection: 1/2"...1" NPT, G 1/2... G 1
Switch Options: Magnetic, Sliding, Inductive, Pneumatic

Digital Temperature Gauge
Stainless Steel
Model: DTM



Measuring Range: -30...750 °F
p_{max} 350 PSIG
Connection: 1/2"...1" NPT, G 1/2... G 1
Analog Output, Limit Switches

Thermowells for Stem and Capillary Thermometers
Stainless Steel
Model: TSH



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

Digital Temperature Sensor
Stainless Steel
Model: TDA



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

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



Measuring Range: -112...302 °F
t_{max} 302 °F; p_{max} 725 PSIG
Connection: 1/2" NPT, G 1/2, M18x1.5

Temperature Sensor for Pipes
Brass, Stainless Steel
Model: TSP



Measuring Range: -40...300 °F
p_{max} 750 PSIG
Connection: 1/4"...1-1/2" NPT, 1-1/2" Tri-Clamp®
Output: 4-20 mA, Pt 100 RTD

RTD Temperature Probes
Stainless Steel
Model: TSR



Measuring Range: -320...1,100 °F
p_{max} 1,450 PSIG
Connection: 1/2" or 3/4" NPT; 1-1/2" Tri-Clamp®
Output: 4-20 mA, Pt 100 RTD

Integrated Programmable Temperature Transmitter
Stainless Steel
Model: TST



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

Temperature Transmitters
Stainless Steel
Model: TMA/MMA with AUF



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

Mini Infrared Thermometers
Model: ST-3000, ST-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
Connections: 1/4"...1-1/2" NPT, G 1/4"...1-1/2"





Temperature

V-Form - Glass Thermometer

Aluminum or Plastic Casing, Brass
Model: TKG, TGL



Measuring Range: -76...390 °F
Connection: 1/2" NPT, G 1/2
Accuracy: ±1% of Full Scale

Digital Thermometer - High Accuracy, Battery Powered

Stainless Steel
Model: DTB



Measuring Range:
-58...400 °F;
-50...200 °C
Display in either °F or °C
Connection:
1/4" ... 3/4" NPT
Battery Powered, Life up to 5 years

Infrared Fixed Thermometer

Stainless Steel
Model: TIR-FA



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

Infrared Fixed Thermometer

Stainless Steel
Model: TIR-SN/FS/FG



Measuring Range:
-20...300 °C to 1100...2500 °C
Analog Output
Accuracy: ± 1.5% of Measuring Range/°C
0.8... 1% of Reading +1 °C

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 Thermometers

Model: HND-T110, -115, -215 and HND-T105, -205



Measuring Range: -220...1,768 °C
Sensor: Type K, N, S, J, T Thermocouples or 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 1/2

Resistance Temperature Probe

Model: LTS



Measuring Range: -50...250 °C
p_{max} 145 PSIG
Sensor: Pt100, 2-wire
Connection: G 1/2, M12x1.5

Industrial - Resistance Thermometer

Stainless Steel
Model: MWD



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

Resistance Thermometers

Stainless Steel
Model: TWD



Measuring Range: -80...600 °C
p_{max} 580 PSIG
Sensor: Pt100, 2-, 3-, or 4-wire
Connection: G 1/2...1, 1/2" ... 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 1/2...1, 1/2" ... 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 1/2

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 1/2, Clamp
Optional Output: 4-20 mA

Contact Resistance Thermometer

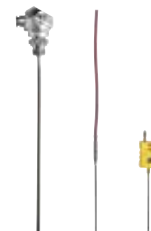
Aluminum, Stainless Steel
Model: TWA



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: Cable, Flat Pin, or Round Plug



Accessories

Automatic Flow Regulating Valve
Brass, Stainless Steel
Model: REG



Viscosity: Max. 30 cSt
 t_{max} 500 °F; p_{max} 2,900 PSIG
Connection: 3/4" NPT, 3/4"...2" ANSI Wafer

Power Supply, Latching and Isolation Relay
Model: RL



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

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

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



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

Stainless Steel Needle Valve
Model: NVM, NAD



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

Intrinsically Safe Relay/Power Supply
Model: KFD-2, KFA-5



For Dry Contacts or NAMUR-Type Switches
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.

Universal/Process Panel Displays Ratemeter or Dual Line Rate and Total
Models: MPT, MPV



MPT: Accepts Current, Voltage, TC, and RTD Inputs. Max/Min Display, Relays and 4-20 mA Options, Modbus
MPV: Pulse or Analog Outputs, Displays both Rate and Total, 32 Point Linearization, Modbus, Gate Function, Open Channel Flow

Industrial Batching, Counter and Flow Indicator
Model: ZOK



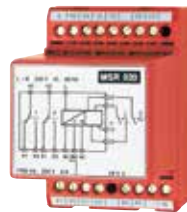
Input: Frequency
Analog Output, Limit Contacts, Sensor Supply, Battery Powered

Magnetic Filter
Brass
Model: MFR



t_{max} 392 °F; p_{max} 230 PSIG
Connection: 1/2"...3" BSP

Contact Protection/Latching
Model: MSR



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

Digital - Panel Mount - Indicators
Model: DAG-A/S/M



Input: Current, Voltage, Temperature, Frequency, Resistance
Analog Output, Limit Contacts
Min/Max-Memory

Universal Indicator
Model: ADI-1



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

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

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

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



DAG-T4 Input:
Current, Voltage, Pt 100, Thermocouples
DAG-Z2 Input: Frequency
Both: 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: \pm 0.5% - 1.0% of Full Scale

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



Measuring Range: 0.04 μ S/cm ... 2,000 mS/cm
 t_{max} 150 °C; p_{max} 16 bar
Process Connection: G 1, G 3/4, 1/2" NPT, 1" NPT
Accuracy: \pm 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 μ S/cm to 0...200 mS/cm
Redox: -1999...2,000 mV
Temperature: -100...250 °C
Accuracy: \pm 0.01 pH; \pm 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 Scalable, 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: \pm 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: \pm 2% rH

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



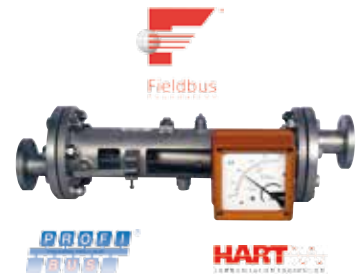
Measuring Range: 30...100% rH
 t_{max} 60 °C
Switch Output: 1 SPDT
Accuracy: 3% rH

Humidity/Temperature Transmitter
Model: AFK-G2



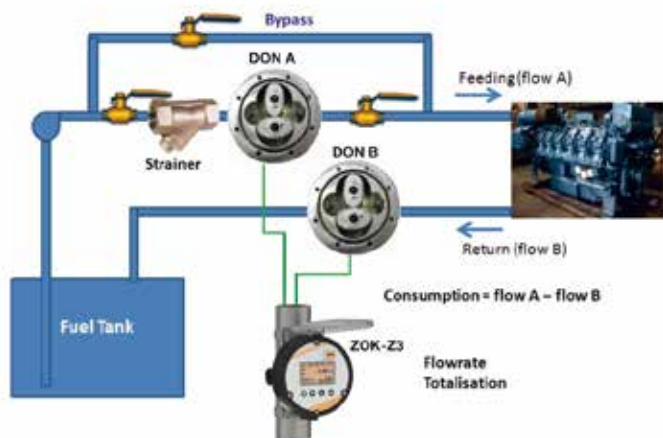
Measuring Range: 0...100 % rH; -60...200 °C
 t_{max} 200 °C; p_{max} 25 bar
Outputs: 2 x 4...20 mA
Accuracy: \pm 2% rH

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: \pm 1.25...6 g/L

Monitoring Fuel Consumption in Large Diesel Engines



In this off-shore application, a fuel consumption measurement system has been effectively implemented on large diesel engines in small ships. Here, a pair of DON oval wheel flowmeters and one ZOK-Z3 are used per engine. As a potential restriction due to the flowmeter or strainer in the main line may result in higher differential pressure, diminishing fuel to the engine, a pressure relief valve was used in the bypass line. Higher inlet pressure opens the pressure relief valve and ensures a constant supply of fuel to the engine. With this installation, the actual real time fuel consumption is known and the ship speed can be adapted to optimize it. In general, the return on investment can be realized within a short time.



Oval Wheel Flow Meters - Flow Measurement of High Viscosity Resins

Batching skids, like the one below, are used in manufacturing abrasives and superabrasives. They must be able to provide precise batches of high viscosity resins up to 1500 cSt.



Each skid is comprised of the following components:

- 1) Main Tank
- 2) Secondary Tank with low level alarm, to ensure there is enough product and is no air in the circuit
- 3) Manual Valve to close the circuit
- 4) Peristaltic Pump
- 5) Oval Wheel Flowmeter
- 6) Pressure Switch (a safety measure against high pressure)
- 7) 3-way Valve (for manual or automated operation)
- 8) Outlet Pipes for manual collection of product

Task:

When there are high viscosities and temperature fluctuations, the peristaltic pump (positive displacement pump comprised of a flexible tube and rollers that displace the media from one end of the tube to the other) is not able to completely displace the media. Part of the media flows back through the flowmeter, which results in errors. In addition, the operating pressure created by the small peristaltic pump is quite low.

The KOBOLD Solution: DON Oval Wheel Flowmeters

KOBOLD DON Oval Wheel Flowmeters are available with special rotors that reduce the pressure drop by 50%. The optional Quad Hall Sensor Dual Pulse Output provides two out of phase pulse outputs "A" and "B", so that net flow rate "A-B" may be computed correctly by the PLC. The net flow rate can also be computed using our ZOK-Z3 electronic with a pulse discriminator in between. These features provided solutions for all the problems associated with this application and allowed for precision batching of the resins, resulting in improved repeatability and ultimately, increased quality of the finished abrasives.



Application Showcase

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 waste water facilities to reduce phosphate 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 GPH! 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.

Precision Measurement & Control in a Cooling Water Distribution System

Task: RF (Radio Frequency) and semi-conductor components require constant cooling for proper operation and a long service life. In this application, the water based coolants circulate from a central chiller to multiple lines. The expensive coolant's properties continually change in both PH and conductivity during operation, needing treatment in a centralized location. The cooling system, built entirely of 316 stainless steel and operating at a maximum pressure of 230 PSIG, required suitable products for both local and remote indication for temperature, pressure, and flow. Minimum pressure loss, space restrictions, and a need for zero flow leakage were major considerations for this application. Additionally, all instrumentation had to be installed on individual branches to facilitate remote transmission for monitoring and control by a SCADA system.



The KOBOLD Solutions: DUK, TDA, and PDA

KOBOLD offers a comprehensive range of process instrumentation that was fully able to meet the application requirements of high accuracy, compact size, local LED indication, flexible mounting, and nominal pressure drop.

- KOBOLD's **DUK** ultrasonic flow meters were ideal because of their high accuracy, compact size, and ability to mount in any direction. Tri-clamp® couplings were used with the flow meters in order to facilitate quick and easy maintenance. Manual preset valves and ball valves were incorporated for finer regulation and control.
- KOBOLD's **TDA** temperature indicators/transmitters were ideal because they can be installed with a very small insertion length on pipe lines without thermo-wells. They were installed in individual return lines to monitor and re-transmit the actual value to a remote location for recording purposes.
- KOBOLD's **PDA** pressure indicators/transmitters were used to measure the exact pressure in the chilling lines, fully meeting the requirement for high precision and accuracy.



Chemical Injection in Oil Rigs, Sub-Sea Drilling or Fracking

Task:

High-pressure processes for chemical injection systems, for example in oil drilling rigs or offshore platforms are a challenge for any flow measurement system. Chemicals added by injection through a bore pipe at high pressure directly at the wellhead increase water viscosity and enable efficient detachment of oil from the reservoir rock making its transport easier. In order to control the process, the injected chemicals must be measured accurately. Conventional volumetric systems such as gear flowmeters or turbine flowmeters cannot be used for all media due to different liquid properties and big differences in density and viscosity, and do not provide the same results in terms of accuracy and reliability.

The KOBOLD Solution: High Pressure Coriolis Flowmeters

- High Accuracy, Despite Large Differences in Density and Viscosity
- High Reliability Due to No Moving Parts
- Small Measuring Ranges Possible

For more than 15 years, Heinrichs Messtechnik has been offering solutions in high-pressure Coriolis for customers worldwide. Our experience in Coriolis Flowmeters, special forms of measuring loops, combined with special materials (different stainless steel versions, HP 160, Duplex, etc) and heat treatment methods allow you to work with operating pressures up to 21,700 PSI and extremely low flow rates from 1 kg/h.



Flow Measurement in Ballast Tank Systems on Ships



Task:

Large ships have a ballast tank system to compensate for different loads, so that the ship is as balanced as possible in the water. Water taken in for balancing the ship in one ocean cannot be expelled and mixed with water from other oceans to reduce the risk of killing microbes and small animals, which are sucked in with sea water. For this purpose, the amount of water taken in and recirculated must be reliably measured. A big problem is space limitations inside the ship, where pipelines of up to 500 mm are typically installed at the vessel wall, making an in-line flowmeter installation impossible. Inlet and outlet straight runs are typically missing, which makes the use of ultrasound devices very difficult. Additionally, the ship's onboard sonar may also disturb an ultrasonic signal.

The KOBOLD Solution: PIT Electromagnetic Insertion Flowmeter

- Strong Magnetic Field Ensures Accurate and Reliable Measurements
- Optimized for Small Inlet and Outlet Runs
- Small Installation Length
- Functional at 30 m Under Water via IP 68/69 Encapsulation
- Sensor Head is Sea Water Resistant - PFA Coated with Hastelloy® Electrodes
- Installation and Removal during Operation is Possible
- Low Maintenance, Recalibration Not Required
- Complies with the International Marine Guidelines and has the Necessary Approvals
- ATEX Use is Possible





Measuring • Monitoring • Analyzing

For more information, please visit us at www.koboldusa.com



KOBOLD North America



USA, KOBOLD Instruments Inc., Pittsburgh, PA
☎ +1 800-998-1020, info@koboldusa.com



Canada, KOBOLD Instruments Canada Inc, Montreal
☎ +1 514-428-8090, info.ca@kobold.com



Canada, KOBOLD Instruments Canada Inc, Toronto
☎ +1 416-482-8180, info.ca@kobold.com



Mexico, KOBOLD Instruments Inc, Querétaro
☎ +52 442 295 1567, info.mx-mex@kobold.com



USA, KOBOLD Eastern Region, Boston, MA
☎ +1 401-829-1407, info.e@koboldusa.com



USA, KOBOLD South-East Region, Cleveland, GA
☎ +1 843-812-1402, info.se@koboldusa.com



USA, KOBOLD Mid-Atlantic Region, Medina, OH
☎ +1 412-389-1111, info.ma@koboldusa.com



USA, KOBOLD Mid-West Region, Clinton, Twp., MI
☎ +1 586-321-7227, info.mw@koboldusa.com



USA, KOBOLD Western Region, Thousand Oaks, CA
☎ +1 310-912-2214, info.w@koboldusa.com

KOBOLD Worldwide



Argentina, KOBOLD Instruments S.A., Florida - Buenos Aires
☎ +54 (0) 11 4760 8300, info.ar@kobold.com



Australia, KOBOLD Messring GmbH, Sydney
☎ +61 (0) 428138232, ranjan@kobold.com



Austria, KOBOLD Instruments Ges.m.b.H., Vienna
☎ +43 (0)1-786 5353, info.at@kobold.com



Belgium, KOBOLD Instrumentatie NV/SA, Strombeek-Bever - Brussels
☎ +32 (0)2 267 2155, info.be@kobold.com



Bulgaria, KOBOLD Messring GmbH, Sofia
☎ +359 2 9544 412, info.bg@kobold.com



Chile, KOBOLD Messring GmbH, Santiago
☎ +56 (2) 665 1643, info.cl@kobold.com



China, KOBOLD Instruments Trading Co., Ltd, Pudong - Shanghai
☎ +86 (0)21 583 645 79, info.cn@kobold.com



China, KOBOLD Manufacturing Co., Ltd, Xian
☎ +86 (0)29 86210794/86211407, wang@kobold.com



China, KOBOLD Instruments Trading, (Shanghai) Co. Ltd, Tianjin
☎ +86 (0)22 83719393, hou@kobold.com



China, KOBOLD Instruments Trading, (Shanghai) Co. Ltd, Guangzhou
☎ +86 (0)20 38803380, zhenxt@kobold.com



China, KOBOLD Instruments Trading, (Shanghai) Co. Ltd, Wuhan
☎ +86 (0)27 87132425, hushilei@kobold.com



China, KOBOLD Instruments Trading, (Shanghai) Co. Ltd, An'hui
☎ +0551 65618167, wu@kobold.com



Colombia, KOBOLD Messring GmbH, Bogota
☎ +57 313 852 00 88, restrepo@kobold.com



Czech Republic, KOBOLD Messring GmbH, Brno
☎ +420 541 632 216, info.cz@kobold.com



Egypt, KOBOLD Messring GmbH, Nasr City - Cairo
☎ +202 2 273 1374, info.eg@kobold.com



France, KOBOLD Instrumentation S.A.R.L, Paris
☎ +33 (0)1 34 21 91 15, info.fr@kobold.com



France, KOBOLD Instrumentation S.A.R.L, Dardilly - Lyon
☎ +33 (0)4 72 16 21 94, rollin@kobold.com



Germany, KOBOLD Messring GmbH, Hofheim/Taunus
☎ +49 (0)6192-299-0, info.de@kobold.com



Germany, KOBOLD Messring GmbH Werk II, Sindelfingen - Stuttgart
☎ +49 (0)7031-8677-0, maier@kobold.com



Germany, Heinrichs Messtechnik GmbH, Cologne
☎ +49 (0)221-497 08-0, info@heinrichs.eu



Hungary, KOBOLD-Unirota Kft, Nyiregyháza
☎ +36 42 342-215, info.hu@kobold.com



India, KOBOLD Instruments Pvt Ltd, Pune
☎ +91 93 70 221 190, info.in@kobold.com



India, KOBOLD North India, New Delhi
☎ + 91 95 60 028 453, delhi.in@kobold.com



India, KOBOLD West India Region, Gujarat
☎ +91 97 12 233 533, gujarat.in@kobold.com



Iran, KOBOLD Messring GmbH, Tehran
☎ +98 912 177 2642, info.ir@kobold.com



Indonesia, KOBOLD Messring GmbH, Jakarta
☎ +62 21 849 328 59, info.id@kobold.com



Italy, KOBOLD Instruments S.r.l, Settimo M.se - Milan
☎ +39 02 33 572 101, info.it@kobold.com



Malaysia, KOBOLD Instruments SDN BHD, Puchong, Selangor
☎ +60 (0)3 8065 5355, info.my@kobold.com



Netherlands, KOBOLD Instrumentatie BV, Arnhem
☎ +31 (0)26-384 48 48, info.nl@kobold.com



Peru, KOBOLD Messring GmbH, Lima
☎ +51 13307261, info@koboldperu.com



Poland, KOBOLD Instruments sp.z.o.o, Warsaw
☎ +48 (0)22 666 18-94, info.pl@kobold.com



Poland, KOBOLD Instruments Sp. z.o.o, Gliwice
☎ +48 730 202 100, info.pl@kobold.com



Republic of Korea, KOBOLD Instruments Co Ltd, Seoul
☎ +82 (0)31 903521-7, info.kr@kobold.com



Romania, KOBOLD Messring GmbH, Bucharest
☎ +40 21 456 05 60, info.ro@kobold.com



Russia, OOO KOBOLD Instruments, Moscow
☎ +7 (499) 346-70-10, info.ru@kobold.com



Singapore, KOBOLD Messring GmbH, Singapore
☎ +65 6227 1558-6366, info.sg@kobold.com



Slovakia, KOBOLD Messring GmbH, Brno
☎ +420 541 632 216, info.cz@kobold.com



Spain, KOBOLD Mesura S.L.U, Badalona - Barcelona
☎ +34 (0)934 603 883, info.es@kobold.com



Switzerland, KOBOLD Instruments AG, Dübendorf - Zurich
☎ +41 (0) 44-801 9999, info.ch@kobold.com



Taiwan, KOBOLD Messring GmbH, Taipei City
☎ +886 (0)2 8792 6335, info.tw@kobold.com



Thailand, KOBOLD Instruments Ltd, Bangkok
☎ +66 (02) 565 5705-6, info.th@kobold.com



Tunisia, KOBOLD Messring GmbH, Tunis
☎ +216 7134 1518, info.tn@kobold.com



Turkey, KOBOLD Instruments Ltd, Istanbul
☎ +90 212 222 23 07, info.tr@kobold.com



United Kingdom, KOBOLD Instruments Ltd, Nottinghamshire
☎ +44 (0)1623 427 701, info.uk@kobold.com



Vietnam, KOBOLD Messring GmbH, Ho Chi Minh City
☎ +84 (0)8 3551 0677, info.vn-hcm@kobold.com

