



MEASURING • MONITORING • ANALYSING

PRODUCT SUMMARY



FLOW • PRESSURE • LEVEL • TEMPERATURE • pH-VALUE/REDOX • CONDUCTIVITY • HUMIDITY • TURBIDITY • DENSITY





KOBOLD Messring GmbH

Founded 1980 by Dipl.-Ing. Klaus J. Kobold the name today is well-known as an internationally leading company in measurement and control technology.



Home plant in Hofheim near Frankfurt, Germany

Patentable technologies, high quality products and a customer service worthy of its name characterise the KOBOLD brand. With its offices and production sites in more than 30 countries KOBOLD is dedicated to develop, manufacture and selling the best devices to monitor, measure and control physical parameters like flow, pressure, level and temperature.

To be used in almost any industrial application our experienced engineers of various disciplines produce the most efficient and suitable solution for you. Even individual requests can be solved in a close collaboration with the customer. This enables us to respond quickly to the changing needs of various different industries and their markets.

The KOBOLD Group's worldwide prominence and broad spectrum of high quality products are the foundation of its solid growth and expansion since years.

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Legend

-  High Quality / Low Cost
-  Stainless steel design
-  For chemicals
-  Shock resistant
-  Heating jacket
-  Battery powered / external power supply
-  Battery powered
-  Sensor supply
-  Installation under process conditions
-  Scalable analogue output
-  Rotatable display
-  Configurable display
-  Bi-directional
-  Total and partial quantity counter
-  Configurable outputs
-  Operational with gloves
-  Temperature and pressure measurement
-  Temperature and flow measurement
-  Energy measurement
-  Space saver
-  NFC



KSV

Variable Area-Plastic - Low Volume

Polysulfone/brass, polysulfone/stainless steel



- Water: 0.25 - 1.5 l/h ... 10 - 80 l/h
- Air: 20 - 80 NI/h ... 0.5 - 2.5 Nm³/h
- t_{max} 120 °C; p_{max} 6 bar
- Connection: 1/8" NPT female thread
- Accuracy: $\pm 6\%$ of full scale

KFR

Variable Area-Plastic - Low Volume

Acrylic



- Water: 10 - 100 cm³/min ... 1 - 10 l/min
- Air: 0.04 - 0.5 ... 100 - 700 l/min
- t_{max} 65 °C; p_{max} 6.5 bar
- Connection: 1/8" NPT, 1" NPT female thread
- Accuracy: $\pm 2... \pm 5\%$ of full scale

KSK

Variable Area - Plastic

Trogamide®, polysulfone, PVDF



- Water: 1.5 - 11 l/h ... 100 - 1000 l/h
- Air: 0.15 - 0.45 ... 20 - 105 Nm³/h
- t_{max} 140 °C; p_{max} PN 10
- Connection: G 1/4 ... 1 female thread, glue-in connection
- Accuracy: cl. 4 according to VDI

KSM

Variable Area - Plastic

Trogamide®, polysulfone



- Water: 15 - 150 l/h ... 8000 - 60000 l/h
- Air: 0.8 - 5 Nm³/h ... 300 - 2500 Nm³/h
- t_{max} 100 °C; p_{max} 16 bar
- Connection: 1/2" ... 3 1/2"
- Accuracy: cl. 4 according to VDI

KSR/SVN

Variable Area - Low Volume - Switch

Stainless steel



- Water: 2 - 250 ml/min
- Air: 3 - 360 NI/h
- t_{max} 70 °C; p_{max} 16 bar
- Connection: G 1/4, 1/4" NPT female thread

KDF-9/KDG-9

Variable Area - Low Volume

Stainless steel



- Water: 0.02 - 0.25 l/h ... 10 - 100 l/h
- Air: 2 - 20 NI/h ... 300 - 3000 NI/h
- t_{max} 100 °C; p_{max} 16 bar
- Connection: G 1/4, 1/4" NPT female thread
- Accuracy: $\pm 3\%$ $q_G = 50\%$
- Option: inductive contacts



KDF-2/KDG-2

Variable Area - Low Volume

Stainless steel



- Water: 0.25 - 2.5 l/h ... 16 - 160 l/h
- Air: 0.5 - 5 NI/h ... 500 - 5000 NI/h
- t_{max} 100 °C; p_{max} 16 bar
- Connection: G 1/4, 1/4" NPT female thread, hose nozzle 8 mm
- Accuracy: $\pm 2.5\%$ $q_G = 50\%$
- Option: inductive contacts



URM

Variable Area - Glass Cone - Thread Connection

Stainless steel, PVC



- Water: 0.25 - 2.5 l/h ... 2500 - 25000 l/h
- Air: 3.2 - 32 NI/h ... 32 - 320 Nm³/h
- t_{max} 100 °C; p_{max} 16 bar
- Connection: G 3/8 ... 3 male, G 1/4 ... 1 1/2 female
- Accuracy: $\pm 2... \pm 2.5\%$ $q_G = 50\%$



Flowmeters / Switches / Controllers

URB

Variable Area - Glass Cone

PVC



- Water: 10 - 100 l/h ... 100 - 1000 l/h
- Air: 0.32 - 3.2 Nm³/h ... 3.2 - 32 Nm³/h
- t_{max} 65 °C; p_{max} 3 bar
- Connection: G ½ ... 1 ¼ male/female thread
- Accuracy: $\pm 2... \pm 2.5\%$ $q_G = 50\%$

UVR / UTR

Variable Area - Glass Cone

Stainless steel, POM-C



- Water: 10 - 100 l/h ... 200 - 2000 l/h
- Air: 0.1 - 1 Nm³/h ... 5 - 50 Nm³/h
- t_{max} 100 °C; p_{max} 10 bar
- Connection: G ¾, G ½ female thread
- Accuracy: $\pm 2... \pm 2.5\%$ $q_G = 50\%$

URL

Variable Area - Glass Cone - Loose Flange

PVC, PTFE



- Water: 1 - 10 l/h ... 250 - 2500 l/h
- Air: 0.025 - 0.25 Nm³/h ... 10 - 100 Nm³/h
- t_{max} 100 °C; p_{max} 10 bar
- Connection: loose flange DN 15 ... 40
- Accuracy: $\pm 2... \pm 2.5\%$ $q_G = 50\%$

V31

Variable Area - Glass Cone

Stainless steel, PVDF, PVC



- Water: 3 - 30 l/h ... 1000 - 10000 l/h
- Air: 36 - 360 NI/h ... 18 - 180 Nm³/h
- t_{max} 80 °C; p_{max} 15 bar
- Connection: G ¼ ... 2 female, flange DN 10 ... 65, ANSI ½ ... 2 ½"
- Accuracy: $\pm 1.6... \pm 2.5\%$ $q_G = 50\%$



URK

Variable Area - Glass Cone - Fixed or Loose Flange

Stainless steel



- Water: 1 - 10 l/h ... 15000 - 50000 l/h
- Air: 0.02 - 0.2 Nm³/h ... 50 - 500 Nm³/h
- t_{max} 100 °C; p_{max} 16 bar
- Connection: flange DN 15 ... 80, ANSI ½ ... 3"
- Accuracy: $\pm 2... \pm 2.5\%$ $q_G = 50\%$

USR

Manifold Valves for Multiple Installation (for liquids)

Brass



- Water: 0.04 - 0.4 ... 1 - 10 l/min
- t_{max} 100 °C; p_{max} 16 bar
- Connection inlet: G 1 or 1" NPT female
- Connection outlet: G ¼, G ¾, ¼" NPT, ¾" NPT female, hose Ø10, Ø13, Ø15 mm
- Accuracy: $\pm 2... \pm 2.5\%$ $q_G = 50\%$

UTS

Variable Area - Glass Cone (for gas burners)

Brass, stainless steel



- Air: 10 - 100 NI/h ... 0.3 - 3 Nm³/h
- t_{max} 65 °C; p_{max} 3 bar
- Connection: M 18x1.5, G ¼, ¼" NPT
- Accuracy: $\pm 2... \pm 2.5\%$ $q_G = 50\%$

KDS

Variable Area - Low Volume

Stainless steel



- Water: 0.1 - 1 l/h ... 20 - 200 l/h
- Air: 3 - 30 NI/h ... 600 - 6000 NI/h
- t_{max} 130 °C; p_{max} PN 40/63
- Connection: ¼" NPT
- Accuracy: $\pm 3\%$ $q_G = 50\%$
- Options: analogue output 4 - 20 mA, inductive contacts





DSV

Variable Area

Brass, stainless steel



- Water: 0.25 - 1.25 l/min ... 10 - 130 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 10 bar
- Connection: G 1/4 ... 1 1/4, 1/4 ... 1 1/4" NPT female
- Accuracy: $\pm 4\%$ of full scale



SWK

Variable Area - Low Volume

Brass, stainless steel, PVC

Switch
SWK-11



Meter/Switch
SWK-21



Switch
SWK-13



- Water: 0.05 - 1 l/min ... 13 - 24 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 250 bar
- $t_{\max}$ 60 °C; $p_{\max}$ 6 bar (SWK-13)
- Connection: G 1/2 female thread
- Accuracy: $\pm 4\%$ of full scale

BGK

Variable Area - Low Volume

Stainless steel



- Water: 0.1 - 1 l/h ... 20 - 200 l/h
- Air: 5 - 50 NI/h ... 600 - 6000 NI/h
- $t_{\max}$ 130 °C; $p_{\max}$ PN 40 (higher on request)
- Connection: DN 10, DN 15, DN 25, ANSI 1/2", 3/4", 1"
- Accuracy: $\pm 3\%$ $q_G = 50\%$
- Options: analogue output 4 - 20 mA, inductive contacts



BGN

Variable Area

Stainless steel, PTFE/stainless steel, special material on request



- Water: 0.5 - 5 l/h ... 13000 - 130000 l/h
- Air: 0.015 - 0.15 ... 240 - 2400 Nm³/h
- $t_{\max}$ 350 °C; $p_{\max}$ PN 40 (higher on request)
- Connection: flange DN 15 ... 150, ANSI 1/2" ... 6"
- Accuracy: $\pm 1.6\% \pm 2.2\%$ $q_G = 50\%$
- Options: analogue output, BUS-Interface, heating jacket, contacts



BGN - HIGH PRESSURE

Variable Area

Stainless steel special material on request



- Water: 0.5 - 5 l/h ... 13000 - 130000 l/h
- Air: 0.015 - 0.15 ... 240 - 2400 Nm³/h
- $t_{\max}$ 350 °C; $p_{\max}$ 600 bar
- Connection: flange DN 15 ... 150, ANSI 1/2" ... 6", thread, special connections
- Accuracy: $\pm 1.6\% \pm 2.2\%$ $q_G = 50\%$
- Options: analogue output, BUS-Interface, heating jacket, contacts



BGF

Variable Area - Mounting Position Independent

Stainless steel, PTFE/stainless steel, special material on request



- Water: 10 - 100 l/h ... 4000 - 40000 l/h
- Air: 0.3 - 3 Nm³/h ... 110 - 1100 Nm³/h
- $t_{\max}$ 200 °C; $p_{\max}$ PN 40
- Connection: flange DN 15 ... 80, ANSI 1/2" ... 3"
- Accuracy: $\pm 2\%$ $q_G = 50\%$
- Options: analogue output, BUS-Interface, heating jacket, contacts





Flowmeters / Switches

DSS

Variable Area

Brass, stainless steel



- Water: 0.05 - 1 l/min ... 10 - 110 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 350 bar
- Connection: G 1/4 ... 1 1/4, 1/4 ... 1 1/4" NPT female thread
- Accuracy: $\pm 5\%$ of full scale



SMV

Variable Area

Brass, stainless steel



- Water: 0.1 - 1 l/min ... 10 - 110 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 350 bar
- Connection: G 1/4 ... 1 1/4, 1/4 ... 1 1/4" NPT female thread
- Accuracy: $\pm 5\%$ of full scale



SMO / SMW

Variable Area

Brass, stainless steel



- Water: 0.2 - 3 l/min ... 10 - 120 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 350 bar
- Connection: G 1/4 ... 1, 1/4 ... 3/4" NPT female thread
- Accuracy: $\pm 5\%$ of full scale



SMN

Variable Area Switch

Brass, stainless steel



- Water: 1 - 100 l/min
- Fixed Switch point at ~ 1 l/min falling flow
- $t_{\max}$ 100 °C; $p_{\max}$ 350 bar
- Connection: 1" NPT, G 1 female thread
- Accuracy: $\pm 5\%$ of full scale



VKP

Viscosity Compensated - Plastic

Polysulfone



- Water: 2 - 20 l/min ... 20 - 100 l/min
- Oil: 1 - 18 l/min ... 10 - 75 l/min
- $t_{\max}$ 120 °C; $p_{\max}$ 16 bar
- Connection: G 1/2, G 3/4 female/male thread, G 1, 1" NPT male thread soldered or glue-in connection
- Accuracy: $\pm 5\%$ of full scale

VKG

Viscosity Compensated

Brass, stainless steel



- Viscosity range: 1 - 540 mm²/s
- Oil: 0.1 - 0.45 l/min ... 5 - 80 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 12 bar
- Connection: G 1/4 ... 1, 1/4 ... 1" NPT
- Accuracy: $\pm 4\%$ of full scale



VKM + ADI - 1

Viscosity Compensated

Brass, stainless steel



- Viscosity range: 1 - 540 mm²/s
- Oil: 0.01 - 0.07 l/min ... 8 - 80 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 350 bar
- Connection: G 1/4 ... 1, 1/4 ... 1" NPT
- Accuracy: $\pm 4\%$ of full scale



VKA

Viscosity Compensated

Brass



- Viscosity range: 30 - 540 mm²/s
- Oil: 0.1 - 0.4 l/min ... 30 - 100 l/min
- $t_{\max}$ 100 °C; $p_{\max}$ 250 bar
- Connection: G 1/4 ... 1, 1/2" NPT, 3/4" NPT female thread
- Accuracy: $\pm 4\%$ of full scale





BVB

Manifold Valves for Multiple Installation

Aluminium



- t_{max} 100 °C; p_{max} PN 64
- Connection: G 1/2 female thread
- Suitable for models: VKA, VKM, DSV, VKG

PSR

Paddle Switch

Brass, stainless steel



- Water: 2.3 - 4.7 l/min ... 47.6 - 67.2 l/min
- t_{max} 110 °C; p_{max} 250 bar
- Connection: G 1/4 ... 1 1/2, 1/4 ... 1 1/2" NPT female thread

PSE

Paddle Switch

Brass, stainless steel



- Water: 68 - 90 l/min ... 383 - 533 l/min
- t_{max} 110 °C; p_{max} 250 bar
- Connection: G 1/2, 1/2" NPT male thread

PPS

Paddle Switch

Polysulfone



- Water: 18 - 36 l/min ... 72 - 108 l/min
- t_{max} 105 °C; p_{max} 10 bar
- Connection: G 1, 1" NPT male thread
- Accuracy: $\pm 20\%$ of reading

LPS

Paddle Switch - Air

Brass



- Air: 1 - 8 m/s
- t_{max} 85 °C; p_{max} atmospheric
- Connection: Connection plate

FPS

Paddle Bellow Switch

Brass, stainless steel



- Water: 0.17 - 0.85 m³/h ... 72.6 - 165.7 m³/h
- t_{max} 120 °C; p_{max} 30 bar
- Connection: G 1/2, G 3/4 female thread, R 1, 1" NPT male thread

DWU / DWN / DPU

Paddle Bellow Meter/Switch

Brass, stainless steel



- Oil/Water: 1 - 5 l/min ... 900 - 3600 m³/h
- t_{max} 100 °C; p_{max} PN 16
- Connection: G 3/8 ... 2, 3/8 ... 2" NPT female thread, flange DN 10 ... 50, ANSI 3/8 ... 2", weld-on flange DN 40 ... 500
- Accuracy: $\pm 3... \pm 5\%$ of full scale

DWD

Baffle Flap Meter/Switch

Brass, stainless steel, PVC



- Water: 1 - 10 l/min ... 360 - 3600 m³/h
- t_{max} 120 °C; p_{max} 25 bar
- Connection: G 3/8 ... 2, 3/8 ... 2" NPT female, flange DN 10 ... 50, ANSI 3/8 ... 2", weld-on flange DN 40 ... 500
- Accuracy: $\pm 1.5\%$ of full scale



Flowmeters / Switches

DPT

Paddle Torsion - Meter / Switch

Brass, stainless steel

Compact Electronics
...C3



Digital Display
...K



- Water: 5 - 30 l/min ... 850 - 1900 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ PN40
- Connection: G $\frac{3}{8}$... 3, $\frac{1}{2}$... 3" NPT female
- Accuracy: $\pm 3\%$ of full scale

TSK

Flap Meter / Switch

Steel, stainless steel, PP, PTFE, Hastelloy®



- Water: 0.5 - 3.5 m³/h ... 200 - 1500 m³/h
- $t_{\max}$ 300 °C; $p_{\max}$ PN 40
- Connection: wafer flange DN25 ... 500, ANSI 1 ... 20"
- Accuracy: from $\pm 2.5\%$ of full scale



HND - F115

Flow, Humidity, Temperature Hand-Held Measuring Unit



- Measuring range: 0.05 ... 5 m/s water
0.55 ... 20 m/s air
- Humidity: 0 ... 100 % rH
- Temperature: -40 ... +120 °C,
-80 ... +250 °C
- Accuracy: from $\pm 0.1\%$



DRS

Turbine Wheel - ...

Brass, stainless steel, PPO

Pulse Output
...S0



max 150 °C

Analogue Output
...L3



... L4 + AUF

Pointer Indicator
...Z3



Compact Electronic
...C3



Counter
...+ ZED



max 150 °C

- Water: 2 - 40 l/min
- $t_{\max}$ 150 °C; $p_{\max}$ 200 bar
- Connection: G $\frac{1}{2}$, G $\frac{3}{4}$, $\frac{1}{4}$ " NPT
- Accuracy: from $\pm 1.5\%$ of full scale



TUR

Turbine Wheel - ...

PVC, PVDF

Pulse Output
TUR-1



Analogue Output
TUR-2...M



Compact Electronics
TUR-2...C3



Digital Display
TUR-2...K



- Water: 0.2 - 5 m³/h ... 2.5 - 100 m³/h
- $t_{\max}$ 70 °C; $p_{\max}$ 10 bar
- Connection: flange DN25 ... 100
- Accuracy: $\pm 1\%$ of full scale



DPE

Turbine Wheel - ...

Brass, stainless steel

Pulse Output
...F / L



Analogue Output
...+ AUF



Compact Electro.
...C3



Pointer Indicator
...Z3



Digital Display
...+ ADI-1



Dosing Electronics
...+ ZED



- Water: 5 - 30 l/min ... 50 - 750 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ PN 40
- Connection: G 1/2 ... 3, 1/2 ... 3" NPT female thread, weld-on sleeve DN25 ... 80
- Accuracy: $\pm 2.5\%$ of full scale

DRB

Turbine Wheel - ...

Brass, stainless steel

Pulse Output
...F / L



Analogue Output
...+ AUF



Compact Electro.
...C3



Pointer Indicator
...Z3



Digital Display
...+ ADI-1



Dosing Electronics
...+ ZED



- Water: 5 - 30 l/min ... 50 - 750 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 16 bar
- Connection: G 1/2 ... 3, 1/2 ... 3" NPT female thread, weld-on sleeve DN25 ... 80
- Accuracy: $\pm 3\%$ of full scale

TUV

Turbine Wheel - Pulse Output

Stainless steel



- Water: 0.3 - 1.5 l/min ... 35 - 400 l/min
- $t_{\max}$ 350 °C; $p_{\max}$ 630 bar
- Connection: G 1/4 ... 1 1/2 female thread
- Accuracy: $\pm 1\%$ of reading



SFL

Turbine Wheel - Pulse Output

PVDF, Stainless steel



- Water: 0.5 - 20 l/min
- $t_{\max}$ 90 °C; $p_{\max}$ 250 bar
- Connection: G 3/8
- Accuracy: $\pm 1\%$ of full scale

DOT

Turbine Wheel

Stainless steel



- Water: 0.11 - 1.1 m³/h ... 270 - 2700 m³/h
- $t_{\max}$ 120 °C; $p_{\max}$ 250 bar
- Connection: G 1/2 ... 2, 1/2 ... 2" NPT, flange DN 15 ... 300
- Accuracy: $\pm 0.5\%$ (linearity)



EDM

Turbine Wheel Flowmeter/ Counter - Battery powered

Nylon®, aluminium, stainless steel



- Water: 4 - 40 l/min ... 80 - 800 l/min
- $t_{\max}$ 60 °C; $p_{\max}$ 100 bar
- Connection: Rc 1/2 ... 2 female thread
- Accuracy: $\pm 1.5\%$ of reading





Flowmeters / Switches

PEL - L

Turbine Wheel - Low Volume

Stainless steel, aluminium



- Water: 0.004 - 0.06 ... 0.1 - 28 l/min
- $t_{\max}$ 135 °C; $p_{\max}$ 345 bar
- Connection: R 1/4 ... 1/2 wafer flange
DN 40/50, 1/2" glue-in connection,
hose nozzle
- Accuracy: $\pm 2\%$ of reading

KFF / KFG

Rotating Vane - Low Volume

Brass, PTFE, Ryton®



- Water: 13 - 100 ml/min ... 1 - 10 l/min
- Air: 20 - 100 ml/min ... 100 - 500 l/min
- $t_{\max}$ 50 °C; $p_{\max}$ 35 bar
- Connection: hose connection 1/8" ... 1/2"
- Accuracy: $\pm 3\%$ of full scale

DPM

Rotating Vane - Low Volume - ...

Brass, stainless steel

Pulse Output
...F5



Analogue Output
...L3



Compact Electronics
...C3



Pointer Indicator
...Z3



Counter
...+ ZED



- Water: 0.015 - 0.7 l/min ... 0.05 - 5 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 16 bar
- Connection: G 1/8, G 1/4, 1/8" NPT,
1/4" NPT female thread
- Accuracy: $\pm 1... \pm 2.5\%$ of full scale

DPL

Rotating Vane - Low Volume - ...

Polypropylene

Pulse Output
...F5



Analogue Output
...L3



Compact Electronic
...C3



Pointer Indicator
...Z3



Counter
...+ ZED



- Water: 0.025 - 0.5 l/min ... 1 - 25 l/min
- $t_{\max}$ 70 °C; $p_{\max}$ 10 bar
- Connection: G 1/2 male thread,
hose nozzle
- Accuracy: $\pm 2.5\%$ of full scale

DF

Rotating Vane - ...

Trogamide®, polysulfone, brass, polypropylene, stainless steel

Pulse Output
...H



Analogue Output
...MA



Switch
...WM



Digital Display
...K



Counter
...Z



Dosing Electronic
...D



- Water: 0.08 - 0.5 l/min ... 40 - 160 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 100 bar
- Connection: G 1/4 ... 1 1/2,
1/4 ... 1 1/2" NPT female thread,
flange DN 15 ... 50, ANSI 1/2 ... 2"
- Accuracy: $\pm 2.5\%$ of full scale

DFT

Rotating Vane - ...

Brass, PTFE
Pulse Output
11



Pulse Output
13



Counter/Dosing Electronic
13...E/G



- Water: 0.2 - 2 l/min ... 3 - 60 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 16 bar
- Connection: G 1/4 ... 3/4, 1" NPT female thread
- Accuracy: $\pm 2.5\%$ of full scale

DRH

Rotating Vane - ...

POM, PVDF, brass, stainless steel
Analogue Output
...F / L



Analogue Output
... + AUF



Compact Electronics
...C3



Pointer Indicator
...Z3



Digit Disp/Counter/Dosing
...+ ADI-1/ZED



- Water: 0.2 - 0.8 l/min ... 2.5 - 50 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 100 bar
- Connection: G 3/8, G 1, 3/8" NPT, 1" NPT female thread
- Accuracy: $\pm 2.5\%$ of full scale

DRG

Rotating Vane - ...

Polypropylene, brass, stainless steel
Pulse/Analo. Output
...F / L



Analogue Output
... + AUF



Compact Electronics
...C3



Pointer Indicator
...Z3



Digit Disp/Counter/Dosing
...+ ADI-1/ZED



- Water: 0.5 - 12 l/min ... 10 - 140 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 40 bar
- Connection: G 1/8 ... 1, 1/8 ... 1" NPT female thread
- Accuracy: $\pm 3\%$ of full scale

DTK

Rotating Vane - Low Volume

Stainless steel



- Water: 0.05 - 0.6 l/min ... 1 - 12 l/min
- $t_{\max}$ 140 °C; $p_{\max}$ 30 bar
- Connection: G 1/4, 1/4" NPT female thread
- Accuracy: $\pm 2\%$ of full scale

LFM

Dual-Ring Piston - Pendulum - Low Volume

Stainless steel



- Water: 0.005 - 0.25 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 100 bar
- Connection: G 1/8, Swagelok® 6 mm
- Accuracy: $\pm 2.5\%$ of reading



Flowmeters / Switches

DRZ

Ring Piston Counter - ...

Brass
Pulse Output
...F



Analogue Output
...+ AUF



Compact Electronics
...C3



- Viscosity range: 5 - 100 mm²/s
- Oil: 6 - 420 l/h
- t_{max} 80 °C; p_{max} 40 bar
- Connection: G 1/8, G 1/4, 1/8" NPT, 1/4" NPT female thread
- Accuracy: ± 1 % of reading

OVZ

Oval Wheel - ...

POM, aluminium
Pulse Output
...I4



Analogue Output
... L4 + AUF



Compact Electronics
...C3



Pointer Indicator
...Z3



Dosing Electronics
...+ ZED



- Viscosity range: 10 - 800 mm²/s
- Oil: 0.1 - 2.0 l/min ... 1.6 - 40 l/min
- t_{max} 80 °C; p_{max} 40 bar
- Connection: G 1/4 ... 3/4, 1/4 ... 3/4" NPT female thread
- Accuracy: ± 2.5 % of full scale

DON

Oval Wheel - ...

Aluminium, stainless steel
Pulse- / Analogue Output



Digital Display
...ZOK



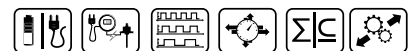
Mechanical counter
...M4



High Pressure
...H



- Viscosity range: Up to 1 000 000 cP
- Oil: 0.5 - 36 l/h ... 150 - 2500 l/min
- t_{max} 150 °C; p_{max} 400 bar
- Connection: G 1/8 ... 4 female thread, 1/8" ... 4" NPT female thread, flange DN25 ... 100, ANSI 1 ... 4"
- Accuracy: ± 0.2 ... ± 1 % of reading



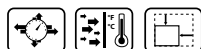
DOE

Oval Wheel - Pulse Output (OEM Version)

Stainless steel



- Viscosity range: up to 1000 cP
- Oil: 0.5 - 36 l/h ... 1 - 40 l/min
- Connection: G 1/8, G 1/4, 1/8" NPT, 1/4" NPT female
- Accuracy: ± 1 % of reading



OME

Screw Spindle - Meter

Aluminium



- Viscosity range: 1 - 5000 mm²/s
- Oil: 0.1 - 10 l/min ... 3.5 - 350 l/min
- t_{max} 125 °C; p_{max} 40 bar
- Connection: G 1/2 ... 1 1/2 female thread, flange DN 15 ... 40
- Accuracy: ± 0.1 % of reading



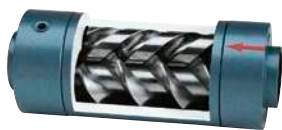


Flowmeters / Switches

OMG / OMK / OMH

Screw Spindle - ...

Cast iron, stainless steel



- Viscosity range: 1 - 1×10^6 mm²/s
- Oil: 0.1 - 10 l/min ... 50 - 5000 l/min
- $t_{\max}$ 400 °C; $p_{\max}$ 250 bar
- Connection: G 1/2 ... 6 female thread, flange DN 15 ... 150
- Accuracy: $\pm 0.3\%$ of reading



DZR

Gear Wheel - Meter

Cast iron, stainless steel



- Viscosity range: 20 - 5000 mm²/s
- Oil: 0.008 - 2 l/min ... 3 - 700 l/min
- $t_{\max}$ 150 °C; $p_{\max}$ 400 bar
- Connection: G 1/8 ... 1 female thread
- Accuracy: $\pm 0.3... \pm 1\%$ of reading



KZA

Gear Wheel - Meter

Aluminium



- Viscosity range: 20 - 4000 mm²/s
- Oil: 0.02 - 4 l/min ... 1 - 200 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 200 bar
- Connection: G 1/4 ... 1 female thread
- Accuracy: $\pm 0.3... \pm 3\%$ of reading



KAL - D

Calorimetric - Indicator / Switch

Stainless steel



- Water: 0.04 - 2 m/s
- $t_{\max}$ 80 °C; $p_{\max}$ 40 bar
- Connection: G 1/4, G 1/2, 1/4" NPT, 1/2" NPT, M12x1



KAL

Calorimetric - Meter / Switch

Stainless steel

Indicator
...K



Meter
...A(K)



- Water: 0.04 - 2 m/s
- $t_{\max}$ 120 °C; $p_{\max}$ 100 bar
- Connection: G 1/4 ... 1 1/2, 1/4 ... 3/4" NPT, M12, Tri-Clamp®
- Accuracy: $\pm 10\%$ of full scale [A(K)]

KAL / KAL - E

Calorimetric - Meter / Switch

Brass, stainless steel



- Water: 0.04 - 2 m/s
- $t_{\max}$ 120 °C; $p_{\max}$ 100 bar
- Connection: G 1/4 ... 1 1/2, 1/4 ... 3/4" NPT, M12x1



DVK

Calorimetric - Meter / Switch

Stainless steel



- Air: 1 - 10 NI/min ... 600 - 12000 NI/min
- $t_{\max}$ 50 °C; $p_{\max}$ 15 bar
- Connection: G 1/4 ... 2
- Accuracy: $\pm 5\%$ of full scale



Flowmeters / Switches

KAL - L

Calorimetric - Meter / Switch

Brass



- Air: 1 - 20 m/s
- $t_{\max}$ 120 °C; $p_{\max}$ 8 bar
- Connection: G 1/2, Rp 1/2, M18, flange, smooth shaft
- Accuracy: ± 10 % of reading

KAH

Air velocity sensor

Polycarbonate



- Air: 0 ... 10 / 15 / 20 m/s
- Output signal: 0 - 10 V_{DC} or 4 - 20 mA
- Supply voltage: 24 V_{AC/DC}
- Connection: mounting adapter
- Accuracy: $\pm (0.2 \text{ m/s} + 3 \text{ % of reading})$

MAS

Mass - Flowmeter - Thermal

Nylon®, stainless steel



- Air: 0 - 10 Nml/min ... 0 - 500 Nl/min
- $t_{\max}$ 50 °C; $p_{\max}$ 35 bar
- Connection: 1/4" NPT female thread, Swagelok®
- Accuracy: ± 1.5 % of full scale

DMS

Mass - Meter / Controller - Thermal

Stainless steel



- Air: 0.1 - 3.7 Nml/min ... 0 - 185 Nl/min
- $t_{\max}$ 50 °C; $p_{\max}$ 35 bar
- Connection: 1/4 ... 1/2" NPT female thread, clamp connection
- Accuracy: ± 1 % of full scale

KMT - 1 / - 2 / - 3

Mass - Flowmeter - Thermal

Stainless steel



- Air: 0.5 - 200 Nm/s
- $t_{\max}$ 80 °C; $p_{\max}$ 16 bar
- Connection: G 1/2 ... 2, 1/2 ... 2" NPT female thread, ball valve
- Accuracy: ± 1.5 % of reading
 ± 0.5 % of full scale



KMT - 4

Mass - Flowmeter - Thermal

Stainless steel



- Air: 0.2 - 200 Nm/s
- $t_{\max}$ 80 °C; $p_{\max}$ 16 bar
- Connection: R 1/2" male thread for insertion (DN 65 ... DN 700)
- Accuracy: ± 1.5 % of reading
 ± 0.8 % of full scale



KME

Mass - Flowmeter - Thermal

Aluminium



- Air: 0.2 - 76.3 ... 2.2 - 848.2 Nm³/h
- $t_{\max}$ 60 °C; $p_{\max}$ 16 bar
- Connection: G 1/2 ... 2, 1/2 ... 2" NPT male thread
- Accuracy: ± 3 % of reading
 ± 0.3 % of full scale



KEC - 1 / - 2

Mass - Flowmeter - Thermal

Stainless steel



- Air: 0.1 - 92.7 ... 0.1 - 224 Nm/s
- $t_{\max}$ 180 °C; $p_{\max}$ 100 bar
- Connection: G 1/2 ... 2, 1/2 ... 2" NPT male thread, flange DN 15 ... 80
- Accuracy: ± 1.0 % of reading
 ± 0.3 % of full scale





HPC

Coriolis Mass - Mini

Aluminium, stainless steel



- 0 - 20 kg/h ... 0 - 160 kg/h
- $t_{\max}$ 180 °C; $p_{\max}$ PN 100/PN 320/PN 400
- Connection: G 1/2, 1/2" NPT, 6/8/10mm Gyrolok®/Swagelok®
- Accuracy: ± 0.1 % of reading
+/- zero point stability



TME / UMC - 3

Coriolis Mass

Stainless steel



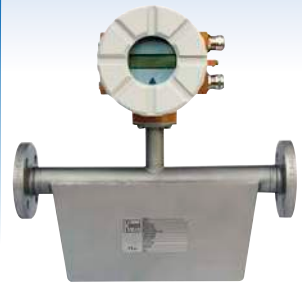
- Water: 0 - 60 kg/h ... 0 - 60 000 kg/h
- $t_{\max}$ 180 °C; $p_{\max}$ PN 40
- Connection: flange DN 10 ... 80, ANSI 1/2 ... 3"
- Accuracy: ± 0.15 % of reading



TMU / UMC - 3

Coriolis Mass

Stainless steel, Hastelloy®



- Water: 0 - 60 kg/h ... 0 - 2200 000 kg/h
- $t_{\max}$ 260 °C; $p_{\max}$ PN 40 (up to 750 bar on request)
- Connection: flange DN 10 ... 400, ANSI 1/2 ... 16"
- Accuracy: ± 0.1 % of reading



TM / UMC - 3

Coriolis Mass

Stainless steel, Hastelloy®, tantalum



- Water: 0 - 0.8 kg/h ... 0 - 65 000 kg/h
- $t_{\max}$ 260 °C; $p_{\max}$ up to 1050 bar
- Connection: 1/4 ... 1/2" NPT, flange DN 10 ... 100, ANSI 1/2 ... 4"
- Accuracy: ± 0.1 % of reading



TME / UMC - 4

Coriolis Mass

Stainless steel



- Water: 0 - 60 kg/h ... 0 - 60 000 kg/h
- $t_{\max}$ 180 °C; $p_{\max}$ PN 40
- Connection: flange DN 10 ... 80, ANSI 1/2 ... 3"
- Accuracy: ± 0.15 % of reading



TMU / UMC - 4

Coriolis Mass

Stainless steel, Hastelloy®



- Water: 0 - 60 kg/h ... 0 - 2200 000 kg/h
- $t_{\max}$ 260 °C; $p_{\max}$ PN 40 (up to 750 bar on request)
- Connection: flange DN 10 ... 300, ANSI 1/2 ... 12"
- Accuracy: ± 0.1 % of reading



TMU - ... AC

Coriolis Mass with Heating

Stainless steel, Hastelloy®



- Water: 0 - 60 kg/h ... 0 - 1900 000 kg/h
- $t_{\max}$ 260 °C; $p_{\max}$ PN 40
- Connection: flange DN 10 ... 300, ANSI 1/2 ... 12"
- Accuracy: ± 0.1 % of reading



KPL

Orifice Plate - Differential Pressure

Steel, stainless steel, Hastelloy® C, titanium, Monel®, tantalum



- Ranges: for liquids, gases, steam according to ISO 5167 - 1
- Connection: DN 50 ... 600, ANSI 2 ... 24"
- $t_{\max}$ 500 °C; $p_{\max}$ PN 420/cl. 2500





Flowmeters / Switches

KPL-B/-F

Orifice Plate - Differential Pressure

Steel, stainless steel, Hastelloy® C, titanium, Monel®, tantalum



- Ranges: for liquids, gases, steam according to ISO 5167 - 1
- Connection: DN 50 ... 600, ANSI 2 ... 24"
- $t_{\max}$ 500 °C; $p_{\max}$ PN 420/cl. 2500



ANU

Pitot Tube - Differential Pressure

Stainless steel



- Connection: G 1 ... 1½, 1 ... 1½" NPT, DN 25 ... 80, ANSI 1 ... 3"
- Probe length: 50 ... 8000 mm (2 ... 315")
- $t_{\max}$ 1175 °C; $p_{\max}$ 400 bar



DUS

Nozzle - Differential Pressure

Steel, stainless steel



- Nominal diameter: DN 50 ... 600 (2 ... 24")
- $t_{\max}$ 560 °C; $p_{\max}$ 420 bar



DVT

Venturi tube - Differential Pressure

Steel, stainless steel



- Nominal diameter: DN 50 ... 1200 (2 ... 48")
- $t_{\max}$ 560 °C; $p_{\max}$ 420 bar



RCD

Venturi Nozzle - Differential Pressure

Brass, stainless steel

Pointer Indicator
...Z



Compact Electronic
...C3



Digital Display
...K



- Water: 0.5 - 3.3 ... 300 - 2350 l/min
- Air: 0.5 - 5.35 ... 300 - 2750 Nm³/h
- $t_{\max}$ 100 °C; $p_{\max}$ PN 40
- Connection: G ½ ... 3, ½ ... 3" NPT female thread
- Accuracy: $\pm 3\%$ of full scale



MIK

Electromagnetic - ...

PPS/stainless steel, PVDF/Hastelloy®

Pulse Output
...F3

Analogue Output
... L4 + AUF

Compact Electronics
...C3

Counter
...E

Dosing Electronics
...G

- Water: 10 - 500 ml/min ... 35 - 700 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 10 bar
- Connection: G ½ ... 2¾ male thread
- Accuracy: $\pm 2\%$ of full scale





MIM

Electromagnetic-Flowmeter - All-Metal Design

Stainless steel



- Water: 10 - 3000 ml/min ... 3 - 750 l/min
- t_{max} 140 °C; p_{max} 16 bar
- Connection: G 1/2 ... 2 male thread
- Accuracy: $< \pm (0.8\% \text{ of reading} + 0.5\% \text{ of full scale})$



IO-Link

MIS

Electromagnetic-Flowmeter - All-Metal Design

Lining: hard rubber, soft rubber, PTFE/PFA, EPDM, ceramics



- Water: 0 - 10 m/s
- t_{max} 70 ° (130 °C); p_{max} 16 bar
- Connection: DN 80 ... 100, ANSI 3 ... 4" (larger on request)
- Accuracy: $< \pm (0.8\% \text{ of reading} + 0.5\% \text{ of full scale})$



IO-Link

PIT

Electromagnetic - Insertion

Stainless steel/PTFE- or PFA-lining



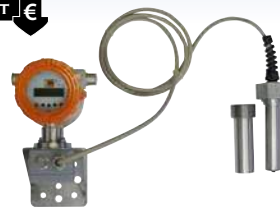
- Water: 0.5 - 5 m/s or 1 - 10 m/s
- t_{max} 150 °C; p_{max} PN 40
- Connection: flange DN 40 ... 80, ANSI 2 ... 3", for pipelines DN 125 ... 2000
- Accuracy: $\pm 1.5\% \text{ of reading} \pm 0.5\% \text{ of full scale}$



PITe

Electromagnetic - Insertion

Stainless steel/PTFE- or PFA-lining



- Water: 0 - 10 m/s
- t_{max} 100 °C; p_{max} PN 16
- Connection: weld-on nozzle $\varnothing 40 \text{ mm}$, sensor with union nut M52x2 for pipelines DN 50 ... 400, ANSI 2 ... 16"
- IP 68
- Accuracy: $\pm 1.5\% \text{ of reading}$



EPS/EPX

Electromagnetic Meter

Lining: hard rubber, soft rubber, PTFE/PFA, EPDM, ceramics



- Water: 0 - 10 m/s
- t_{max} 150 °C; p_{max} PN 40
- Connection: flange DN 15 ... DN 1200, ANSI 1/2 ... 48", wafer type DN2 ... DN10, ANSI 1/2 ... 3/8", sanitary DN10 ... DN100, ANSI 3/8 ... 4"
- Accuracy: $\pm 0.3\% \text{ of reading}$





Flowmeters / Switches

DVH

Vortex - Meter

Stainless steel



- Water: max. 9 m/s
- Air/steam: max. 30 m/s
- t_{max} 400 °C; p_{max} PN 100
- Connection: DN 15 ... 300, ANSI ½ ... 12"
- Option: integrated temperature and pressure sensor, wafer type
- Accuracy: $\pm 0.7\%$ of reading (water)
 $\pm 1\%$ of reading (gas/steam)



DVE

Vortex - Meter - Insertion Version

Stainless steel



- Water: max. 9 m/s
- Air/steam: max. 30 m/s
- t_{max} 400 °C; p_{max} PN 100
- Connection: 2" NPT, DN 50, ANSI 2" mountable in NW 50 ... NW 600
- Option: integrated temperature and pressure sensor, Installation/removal device
- Accuracy: $\pm 1.2\%$ of reading (water)
 $\pm 1.5\%$ of reading (gas/steam)



DVZ

Vortex - ...

PPS/brass, PPS/stainless steel

Pulse Output
...F3

Analogue Output
...L / ...L4 + AUF

Compact Electro.
...C3

Counter
...E

Switch
...S3

Dosing Electronic
...G

- Water: 0.5 - 4.5 l/min ... 10 - 100 l/min
- t_{max} 80 °C; p_{max} 20 bar
- Connection: G ¼ ... 1, ¼ ... 1" NPT
- Accuracy: $\pm 2.5\%$ of full scale



DOG - 4

Oscillation - Meter / Switch

Stainless steel



- Air: 0.12 - 12 m³/h ... 60 - 6000 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
- Analogue output
- Pulse output, counter, flow computer

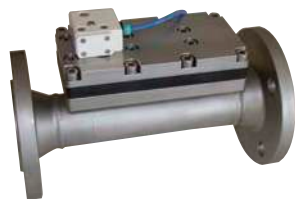
* Sponsored by the Federal Ministry of Economics and Technology on the basis of a resolution of the German Bundestag



DOG - 5

Oscillation - Meter/Switch

Stainless steel



- Water: 0.075 - 3.75 m³/h ... 19.6 - 980 m³/h
- t_{max} 120 °C; p_{max} PN 40
- Connection: flange DN 25 ... 200, ANSI 1 ... 8"
- Accuracy: $\pm 1\%$ of reading

DUC

Ultrasonic Flowmeter - Clamp on

Stationary · portable



- Media: ultrasonic conducting liquids
- Temperature measuring range: -40 ... 150 °C
- Flow velocities: 0 ... ± 30 m/s
- Pipe sizes: DN 10 ... DN 6000
- For the most common or sound-conducting materials like steel and plastics
- Heat quantity measurement
- Accuracy: up to 1%





DUK

Ultrasonic - ...

Brass, stainless steel

Pulse Output
...F3

Analogue Output
... L4 + AUF

Compact Electro.
...C3

Digital Display
...K

Switch
...S3

Counter/Dosing
...E/G

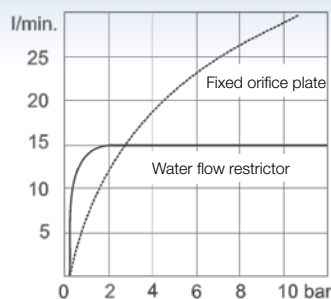
- Water: 0.08 - 20 l/min ... 2.5 - 630 l/min
- $t_{\max}$ 120 °C; $p_{\max}$ 16 bar
- **Turndown 250:1**
- Connection: G 1/2 ... 3 female thread
- Accuracy: $\pm 0.7\%$ of full scale
 $\pm 0.7\%$ of reading



REG

Flow Restrictors

Brass, stainless steel



- Viscosity range: 1 - 30 mm²/s
- Water: 0.5 - 560 l/min
- $t_{\max}$ 300 °C; $p_{\max}$ 200 bar
- Connection [single element]:
G 1/2, G 3/4, 1/4" NPT
- Connection [multiple elements]:
G 1 1/2 ... 2 1/2 flange DN 20 ... 100

DAA / DAH

Flow Indicator with Rotor

Brass, stainless steel



- Water: 0.4 - 4 l/min ... 8 - 100 l/min
- $t_{\max}$ 180 °C; $p_{\max}$ 16 bar
- Connection: G 1/4 ... 1 1/2,
1/4 ... 1 1/2" NPT female thread

DAF - 1 / - 2

Flow Indicator with Rotor

Brass, stainless steel



- Water: 0.03 - 0.1 l/min ... 5 - 150 l/min
- $t_{\max}$ 110 °C; $p_{\max}$ 16 bar
- Connection: G 1/8 ... 1 1/2,
1/8 ... 1 1/2" NPT female thread,
flange DN 15 ... 50, ANSI 1/2 ... 2"

DKF

Flow Indicator with Rotor

Brass



- Water: 0.14 - 2 l/min ... 1.8 - 83 l/min
- $t_{\max}$ 120 °C; $p_{\max}$ 6 bar
- Connection: G 1/8 ... 1,
1/8 ... 1" NPT female thread

DIH

Flow Indicator with Rotor

Brass, stainless steel, POM



- Water: 0.2 - 0.5 l/min ... 1 - 50 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 16 bar
- Connection: G 3/8, G 1 female thread,
3/8" NPT, 1" NPT



Flowmeters / Indicators

DIG

Flow Indicator with Rotor

PP, brass, stainless steel



- Water: 0.5 - 12 l/min ... 3 - 80 l/min
- $t_{\max}$ 80 °C; $p_{\max}$ 16 bar
- Connection: G 1/8 ... 1, 1/8 ... 1" NPT female thread

DAR - 1 / - 2

Flow Indicator with Rotor

Grey cast iron, cast steel, stainless steel



- $t_{\max}$ 260 °C; $p_{\max}$ 40 bar
- Connection: G 1/4 ... 2, 1/4 ... 2" NPT female thread, flange DN 15 ... 200, ANSI 1/2 ... 8"

DAK - 1 / - 2

Flow Indicator with Flap

Grey cast iron, cast steel, stainless steel



- $t_{\max}$ 280 °C; $p_{\max}$ 40 bar
- Connection: G 1/4 ... 2, 1/4 ... 2" NPT female thread, flange DN 15 ... 200, ANSI 1/2 ... 8"

DAT - 1 / - 2

Flow Indicator with Drip Tube

Grey cast iron, cast steel, stainless steel



- $t_{\max}$ 280 °C; $p_{\max}$ 40 bar
- Connection: G 1/4 ... 2, 1/4 ... 2" NPT female thread, flange DN 15 ... 200, ANSI 1/2 ... 8"

DAZ

Flow Indicator with Flap

Red cast iron



- Water/oil: 2.1 - 17 l/min ... 2.1 - 24 l/min
- $t_{\max}$ 200 °C; $p_{\max}$ 16 bar
- Connection: G 1/2 ... 1 female thread

DAB

Flow Indicator with Ball

Red cast iron



- $t_{\max}$ 100 °C; $p_{\max}$ 6 bar
- Connection: G 3/4 ... 3 female thread

DKB

Flow Indicator with Ball

Brass, stainless steel



- Water: 0.05 - 15 l/min ... 0.14 - 105 l/min
- $t_{\max}$ 200 °C; $p_{\max}$ 16 bar
- Connection: G 1/8 ... 1 1/2, 1/8 ... 1" NPT female thread

UFJ

Flow Indicator - Sight Glass

Stainless steel, PVC



- $t_{\max}$ 100 °C; $p_{\max}$ 6 bar
- Connection: G 1/4 ... 1 1/2 female thread



MAN...

Bourdon Tube Pressure Gauges - ...

Brass, stainless steel

...-R, -Q



All Stainless Steel
-R



for Exceptional Safety
-N...S



- Measuring range:
-1 ... 0 bar ... 0 ... +1000 bar
- Housing: Ø 63, 80, 100, 160 mm
- Overload protected: 1.15 - 1.3 times
- Connection: G ¼, G ½, ½" NPT, ½" NPT male thread
- Accuracy: cl. 1.0; 1.6



MAN-T

Bourdon Tube-Refrigeration

Brass, stainless steel



- Measuring range:
-1 ... +9 bar ... -1 ... +40 bar
- Housing: Ø 63, 80, 100 mm
- Overload protected: 1.3 times
- Connection: 7/16-20 UNF, G ¼ male thread
- Accuracy: cl. 1.0; 1.6



MAN-K

Capsule Element Pressure Gauges

Brass, stainless steel



- Measuring range:
-10 ... 0 mbar ... 0 ... +600 mbar
- Housing: Ø 63, 80, 100, 160 mm
- Overload protected: 1.3 - 10 times
- Connection: G ¼, G ½ male thread
- Accuracy: cl. 1.6



MAN-P

Diaphragm Pressure Gauges

Stainless steel



- Measuring range:
-16 ... 0 mbar; 0 ... +40 bar
- Housing: Ø 100, 160 mm
- Overload protected: 1.3 times
- Connection: G ½ male thread, flange (nominal size 15 ... 100)
- Option: contact
- Accuracy: cl. 1.6

MAN-C

Diaphragm Pressure Gauges - Chemistry

Stainless steel



- Measuring range:
-25 ... 0 mbar ... 0 ... +25 bar
- Housing: Ø 100 mm, 160 mm
- Overload protected: 1.3 times
- Connection: DIN, ANSI flange
- Accuracy: cl. 1.6
- Wetted parts ECTFE, PTFE



MAN-ZF

Pressure Transducer - Chemistry

Stainless steel



- Measuring range:
-1 ... 0 bar ... 0 ... +600 bar
- Housing: Ø 100 mm
- Overload protected: 0.9 - 1.0 times
- Connection: G ½ male thread
analogue output 4 - 20mA
- Power supply: 13 - 30 V_{DC}
- Accuracy: cl. 1.0



MAN-SC/-LC

Pressure Gauges Digital + Ceramic Sensor

Stainless steel / PA glass fibre reinforced



- Measuring range: -1 ... 0 bar ... 0 ... +1600 bar
- Fitting: Ø 80 mm
- Display: LC-Display
- Overload protected: 1.3 - 3 times
- Connection: G ¼, G ½, ½" NPT, ½" NPT male
- Analogue output: 4 - 20 mA (-LC)
- Alarm output: NPN/PNP/PP (-LC)
- Power supply: battery 9V (-SC), 24 V_{DC} (-LC)
- Accuracy: cl. 0.5 (option: cl. 0.2)



IO-Link



Pressure Measurement

MAN - LD / - SD

Pressure Gauges Digital + Ceramic Sensor

Stainless steel/PA glass fibre reinforced



- Measuring range: -1 ... 0 bar ... 0 ... +1 600 bar
- Housing: Ø 74 mm
- Display: LC-Display
- Overload protected: 1.5 - 3 times
- Connection: G 1/4, G 1/2, 1/4" NPT, 1/2" NPT male
- Analogue output 4 - 20 mA (- LD)
- Power supply: 24 V_{DC}
- Accuracy: cl. 0.5
- Option: analogue output 0 - 2 V (- SD)



MAN - SF26

Pressure Gauges Digital with Ceramic Sensor Element

Stainless steel/PA glass fibre reinforced



- Measuring range: -1 ... 0 bar ... 0 ... +1 600 bar
- Display: 4-digit LED
- Overload protected: 2 times
- Connection: G 1/4, G 1/2, 1/4" NPT, 1/2" NPT male thread
- Analogue output, 2/4 limit contacts
- Option: Absolute pressure
- Accuracy: cl. 0.5

PUM

U-Pipe Pressure Gauges

Glass



- Measuring range: 0 ... ±25 mbar ... 0 ... ±150 mbar
- Scale division: 2 mm
- Hose connection: Ø 7 mm
- Accuracy: ±0.2 mbar

MAN - U

Differential Pressure Gauge with double diaphragm

Stainless steel



- Measuring range: 0 ... +100 mbar ... 0 ... +25 bar
- Static pressure on both sides: 200 bar
- Housing: Ø 100 mm, 150 mm
- Connection: G 1/2, 1/2" NPT male, 1/4" NPT female
- Accuracy: cl. 1.6

MAN - BF ...

Differential Pressure Gauge

Stainless steel/PA glass fibre reinforced

Digital + Ceramic Sensor Element ...26



Digital + Ceramic Sensor Element ...20



Digital + Ceramic Sensor Element ...28V



- Measuring range: -1 ... 0 bar ... 0 ... +1 600 bar
- Display: 4-digit LED
- Overload protected: 2 times
- Connection: G 1/4, G 1/2, 1/4" NPT, 1/2" NPT male thread
- Accuracy: cl. 0.5

MAN - DG12R

Differential Pressure Gauge with Bourdon Tube

Aluminium, steel



- Measuring range: 0 ... +1 bar ... 0 ... +60 bar
- Housing: Ø 160 mm
- Overload protected: 1.3 times - (short time)
- Connection: G 1/2 male thread
- Option: Contact
- Accuracy: cl. 1.6

HND - P215 / - P126, - P236

Hand-Held Pressure Measuring Device for Differential Pressure, 2 Sensors (Internal/External)



- Measuring range: +2.5 mbar ... +1000 bar depending on sensor
- Accuracy: ±0.1 % of full scale
- Measuring range: -100 ... +2000 mbar
- Accuracy: ±0.2 % of full scale
- Option: alarm, real-time clock





PMP

Differential Pressure Sensor - Thin Film



- Measuring range: 0 ... +50 mbar
- Power supply: 24 V_{AC/DC}, 110 V_{AC}, 230 V_{AC}
- Display: 4-digit LED
- Connection: hose connection 6 x 8 mm

PAD

Differential Pressure Transmitter

Stainless steel, Monel®, tantalum, Hastelloy®



- Measuring range: +0.75 mbar ... 413.70 bar
- Power supply: 12 ... 45 V_{DC}
- Connection: 1/4" NPT
- Accuracy: ±0.075 % of measuring span



HART
COMMUNICATIONS

PNK

Pressure Transmitter (for harsh conditions)

Brass



- Measuring range: -1 ... 0 bar ... 0 ... +100 bar
- Overload protected: 1.6 times
- Connection: M16x1.5 with sealing cone, adapter: R 1/4, R 1/2, 1/2" NPT male thread
- Accuracy: ±1 % of full scale



MAN - F

Test Pressure Gauge with Bourdon Tube

Aluminium, brass, stainless steel



- Measuring range: -0.6 ... 0 bar ... 0 ... +2500 bar
- Housing: Ø 160, 250 mm
- Overload protected: 0.9 - 1.3 times
- Connection: G 1/2 male thread
- Accuracy: cl. 0.25; 0.6

MAN - RF ... D

Pressure Gauge with Membrane Diaphragm Seal

Stainless steel



- Measuring range: -1 ... +3 bar ... 0 ... +40 bar
- Housing: Ø 100 mm
- Overload protected: 1.3 times
- Connection: flange Ø 85 mm
- Accuracy: cl. 1.6



DRM

Diaphragm, Capsule, Inline, Membrane Chemical Seals

Stainless steel, tantalum, ECTFE



- Measuring range: 0 ... +0.6 bar ... 0 ... +1600 bar
- Filling: glycerine, paraffin- and silicone oil diverse thread and flange connection, Tri-Clamp®, DIN 11851, SMS- and IDF-Norm



DRM

Flange Diaphragm Seals

Stainless steel, Monel®, tantalum, Hastelloy®, PTFE



- Standard version up to 350 °C / 40 bar: DN25 ... DN100, ANSI 1 ... 4"
- Special version up to 400 bar: up to DN200, ANSI 8"
- Flanges according to BS, JIS and GOST Standard
- All possible also with extended diaphragm



MAN - RF ... DRM - 600

Bourdon Tube Pressure Gauge + Membrane Diaphragm

Stainless steel



- Measuring range: 0 ... +6 bar ... 0 ... +1600 bar
- Housing: Ø 63 mm
- Connection: G NPT-thread, M20x1.5, M48x3
- Accuracy: cl. 2.5





Pressure Measurement

MAN - RF ... MZB - 711 ... DRM - 602

Pressure Gauge + Diaphragm Seal DIN11851 + Cool. Elem.
Stainless steel



- Measuring range:
0 ... +1 bar ... 0 ... +40 bar
- Housing: Ø 100 mm
- Connection: DIN 11851 DN20 ... 100
- Accuracy: cl. 1.6



MAN - RF ... M1 ... DRM - 620

Pressure Gauge with Membrane Diaphragm
Stainless steel



- Measuring range:
0 ... +1 bar ... 0 ... +40 bar
- Housing: Ø 100, 160 mm
- Diverse thread and flange connection,
Tri-Clamp®, DIN 11851,
SMS- and IDF-Norm
- Accuracy: cl. 1.6



MAN - RF ... DRM - 502

Pressure Gauge with In-Line Diaphragm
Stainless steel



- Measuring range:
+1.6 ... +40 bar ... +2.5 ... +40 bar
- Housing: Ø 100, 160 mm
- Connection: Tri-Clamp® ½ ... 2",
hygienic connection ISO DN 15 ... 50
- Accuracy: cl. 1.6



MAN - RF ... M21 ... DRM - 602

Cont. Pres. Gauge + Membrane Diaphragm Seal DIN 11851
Stainless steel



- Measuring range:
0 ... +1 bar ... 0 ... +40 bar
- Housing: Ø 100, 160 mm
- Connection: DIN 11851 DN20 ... 100
- Accuracy: cl. 1.6



MAN - RF ... DRM - 603

Pressure Gauge + Membrane Diaphragm Seal, DIN 11851
Stainless steel



- Measuring range:
0 ... +1 bar ... 0 ... +40 bar
- Housing: Ø 100 mm
- Connection: DIN 11851 DN 25 ... 100
- Accuracy: cl. 1.6



MAN - RF ... DRM - 613

Pressure Gauge + Diaphragm Seal Clamp Connection
Stainless steel



- Measuring range:
0 ... +2.5 bar ... 0 ... +10 bar
- Housing: Ø 100 mm
- Connection: Tri-Clamp® 1 ... 3"
- Accuracy: cl. 1.6



MAN ...

Diaphragm Pressure Gauge (for semi-conductor industry)
PPH



- Measuring range:
0 ... +1 bar ... 0 ... +25 bar
- Housing: Ø 100 mm
- Connection: G¾ male thread
- Accuracy: cl. 1.6

MAN - SD ... DRM - 189

Digi. Press. Gauges + Diaphragm Seals (f. homogenizing mach.)
Stainless steel



- Measuring range:
0 ... +100 bar ... 0 ... +1000 bar
- Housing: Ø 74 mm
- Membrane: flush mounted
- Connection: for block flange/thread
- Accuracy: cl. 1.0





SEN ... DRM - 600

Pressure Sensor with Diaphragm Seal

Stainless steel



- Measuring range: 0 ... +6 bar ... 0 ... +600 bar
- t_{max} 70 °C
- Connection: G 1/2 ... G 1 1/2 male, stainless steel
- Option: Plug-on Display
- Accuracy: cl. 1.0

SEN ... DRM - 189

Press. Sensor + Diaphragm Seals (for homogenizing machines)

Stainless steel



- Measuring range: 0 ... +100 bar ... 0 ... +1000 bar
- Membrane: flush mounted
- t_{max} 100 °C
- Connection: for block flange/thread
- Option: Plug-on Display
- Accuracy: cl. 1.0

MAN - SD ... DRM - 630

Digi. Pressure Gauge + Membrane Diaphragm Seal

PVC



- Measuring range: 0 ... +1.6 bar ... 0 ... +10 bar
- Housing: Ø 74 mm
- Connection: G 1/4, G 1/2, 1/2" NPT female
- Accuracy: cl. 1.0



MAN - RD ... DRM - 632

Pressure Gauge with Membrane Diaphragm Seal PVDF

PVDF

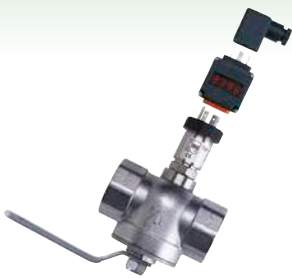


- Measuring range: 0 ... +1.6 bar ... 0 ... +16 bar
- Housing: Ø 63 mm
- Connection: G 1/4, G 1/2, 1/2" NPT female
- Accuracy: cl. 2.5

SEN - 86 + AUF, KUG - S

Pressure Sensor + Plug-on Display + Process Assembly

Brass, stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +25 bar
- Overload protected: 1.5 - 2 times
- Connection: G 1/2 male thread
- Accuracy: cl. 0.5; 1.0

PDA

Pressure Sensor with Ceramic Cell

Stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +700 bar
- t_{max} 80 °C
- Display: 3-digit LED
- Connection: G 1/4, G 1/2, 1/4" NPT, 1/2" NPT male thread
- Accuracy: $\pm 0.5 \dots \pm 1$ % of full scale



PAS

Pressure Transmitter

Stainless steel, Hastelloy®-C, tantalum



- Measuring range: -1 ... +600 bar
- Power supply: 12 ... 45 V_{DC}
- Connection: 1/2" NPT female
- Accuracy: ± 0.075 % of calibrated span



PAS - ... N

Pressure Transmitter with Diaphragm Seal

Stainless steel, Monel®, tantalum, Hastelloy®, PTFE



- Measuring range: 0 ... +250 mbar ... 0 ... +600 bar
- t_{max} 200 °C
- Connection: thread or with flange (nominal size 15 ... 100)
- Accuracy: ± 0.075 % of calibrated span + influence of diaphragm seal





Pressure Measurement

PAS - ... N

Pressure Transmitter with Diaphragm Seal

Stainless steel, Monel®, tantalum, Hastelloy®, PTFE



- Measuring range: 0 ... +250 mbar ... 0 ... +600 bar
- t_{max} 350°C
- Connection: thread or flange (nominal size 15 ... 100)
- Accuracy: $\pm 0.075\%$ of calibrated span + influence of diaphragm seal



SEN - 86

Pressure Sensor with Ceramic Cell

Stainless steel

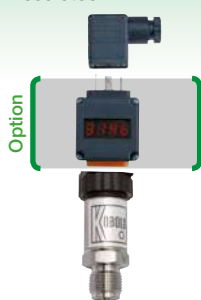


- Measuring range: -1 ... 0 bar ... 0 ... +800 bar
- t_{max} 125°C
- Display: 4-digit LED
- Overload protected: 1.5 - 2 times
- Connection: G 1/2, 1/2" NPT male thread
- Option: Plug-on Display, absolute pressure
- Accuracy: cl. 0.5

SEN - 87

Pressure Sensor with Ceramic Cell

Stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +800 bar
- Display: 4-digit LED
- Overload protected: 1.5 - 2 times
- Connection: G 1/4, 1/4" NPT male thread
- Option: Plug-on Display, absolute pressure
- Accuracy: cl. 0.5

SEN - 96

Pressure Sensor with Ceramic

Stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +600 bar
- Overload protected: 1.3 - 5 times
- Connection: G 1/4, 1/2, 1/4" NPT, 1/2" NPT male thread
- Accuracy: $\leq \pm 0.5\%$ of full scale

SEN - 98 / - 99

Pressure Sensor with Ceramic

Stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +600 bar (rel)
0 ... 1 bar ... 0 ... +25 bar (abs)
- Overload protected: 1.3 - 5 times
- Connection: G 1/4, 1/2, 1/4" NPT, 1/2" NPT male thread
- Accuracy: $\pm 0.5\%$ of measuring range

SEN - 3276, - 3277

Pressure Sensor - Piezoresistive

Stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +25 bar
- Membrane: internal
- Overload protected: 2 - 3.5 times
- Connection: G 1/4, 1/2, 1/4" NPT, 1/2" NPT male thread
- Option: Plug-on Display, absolute pressure
- Accuracy: cl. 0.25; 0.5
- Oil-, fat free
- LABS-free

SEN - 3251, - 3252

Pressure Sensor Industrial Piezoresistive - Flush Mounted

Stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +25 bar
- Membrane: flush mounted
- Overload protected: 2 - 3.5 times
- Connection: G 1/2, G 1 male thread
- Option: Plug-on Display
- Accuracy: cl. 0.25; 0.5
- Absolute pressure
- Oil-, fat free
- LABS-free

SEN - 3376, - 3377

Pressure Sensor Industrial Thin Film

Stainless steel



- Measuring range: 0 ... +40 bar ... 0 ... +1000 bar
- Membrane: flush mounted
- Overload protected: 1.5 - 3 times
- Connection: G 1/4, 1/2, 1/4" NPT, 1/2" NPT male thread
- Option: Plug-on Display, absolute pressure
- Accuracy: cl. 0.25; 0.5



HND

Pressure Hand-Held Unit - ...

for External Sensors
... - P210, - 215



with 2 Integrated Sensors
... - P121, -123, -126



with 1 Integrated Sensor
... - P129, -P239



- Measuring range: -1.999 ... +2.5 mbar ... 0 ... +1000 bar (sensor dependent)
- Accuracy: $\pm 0.1\%$ of full scale
- Measuring range: -1 ... +25 mbar ... -100 ... +2000 mbar
- Accuracy: $\pm 0.2\%$ of full scale
- Measuring range: 0 ... +1300 mbar (abs)
- Accuracy: $\pm 0.2\%$ of full scale
- Option: logger, alarm



PDD

Pressure Switch with Ceramic Cell

Stainless steel



- Measuring range: -1 ... 0 bar ... 0 ... +700 bar
- t_{max} 80 °C
- Display: 3-digit LED
- Overload protected: 1.5 - 3 times
- Connection: G 1/4, G 1/2, 1/4" NPT, 1/2" NPT male thread
- Accuracy: $\pm 0.5\% \pm 1\%$ of full scale

PSD

Electronic Pressure Switch - Thin Film on Steel

Stainless steel



- Measuring range: -1 ... +1.5 bar ... 0 ... +600 bar
- Display: 4-digit LED
- Connection: G 1/4 male thread, others with adapter
- Accuracy: $\pm 0.5\%$ of full scale



SCH - 27 / - 28

Differential Pressure Switch - Mechanical Switch

Stainless steel



- Switching range: 0.7 ... 6 mbar ... 8 ... 160 bar
- Switching range: 0.1 ... 1 bar ... 0.2 ... 10 bar
- Switching function: micro switch
- Connection: 1/2" NPT female, 1/4" NPT female, 1/2" NPT male, G 1/2 male
- Repeatability: < 1 % of switching point



MZB - 712 / ...

Accessories for Elec. Press. Switch - Thin Film on Steel

Stainless steel



- Connection: G 1/2, 1/4", 3/8" male thread or NPT, 7/16-20 UNF DIN 3866, G 1/2 DIN 3852-E, M 20 x 1.5



MZB

Pressure Gauges Accessories

Brass, steel, stainless steel



Shut off cocks and valves, syphons, cooling elements, throttle and overpressure protection equipment, adapters



AUF

Plug-On Display



- Input: 4 - 20 mA ; 2-wire or 3-wire
- 4-digit red LED, without additional power supply
- Option: Open-Collector, various colours



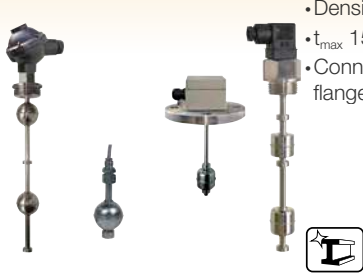


Level Switches

M

Float Magnet Switch

Brass, stainless steel, PVC, PPH, PVDF



- Density: min. 0.5 kg/dm³
- $t_{\max}$ 150 °C; $p_{\max}$ 100 bar
- Connection: thread G/NPT, flange DIN/ANSI



MS

Float Magnet Switch

Brass, stainless steel, PVC, PPH, PVDF



- Density: min. 0.6 kg/dm³
- $t_{\max}$ 150 °C; $p_{\max}$ 100 bar
- Connection: thread G/NPT, flange DIN/ANSI



NBA/NBE

Float Bypass Switch

Aluminium, stainless steel

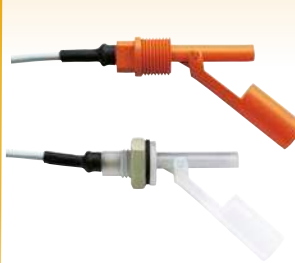


- Density: min. 0.65 kg/dm³
- $t_{\max}$ 150 °C; $p_{\max}$ 10 bar
- Connection: G 3/8 female thread, R 1/2 male thread

NKP

Level Switch - Plastic

Polypropylene, PVDF



- Density: min. 0.6 kg/dm³
- $t_{\max}$ 100 °C; $p_{\max}$ 10 bar
- Connection: G 1/2, 1/2" NPT, M 16



RFS

Float Switch

Stainless steel



- Density: 0.7 kg/dm³
- $t_{\max}$ 120 °C; $p_{\max}$ 5 bar
- Connection: 1/2" NPT male thread



NV

Float Switch

Brass, stainless steel



- Density: 0.7 kg/dm³
- $t_{\max}$ 110 °C; $p_{\max}$ 16 bar
- Connection: G 3/4 male, M27 x 1.5 male

NSP-S/-K

Float Switch

Polypropylene, TPK



- Density: from 0.6 kg/dm³
- $t_{\max}$ 85 °C; $p_{\max}$ 2 bar
- Connection: cable

NAB

Float Switch

Polypropylene



- Density: 0.5 ... 1.15 kg/dm³
- $t_{\max}$ 85 °C; $p_{\max}$ 3,5 bar
- Connection: cable



NSM

Float Switch

Polypropylene



- Density: 0.6 kg/dm³
- $t_{\max}$ 95 °C; $p_{\max}$ 3 bar
- Connection: cable

NEC

Float Switch

Polypropylene, Hypalon®



- Density: 0.7 ... 1.15 kg/dm³
- $t_{\max}$ 85 °C; $p_{\max}$ 4 bar
- Connection: cable

NST

Float Switch

PTFE



- Density: 0.79 kg/dm³
- $t_{\max}$ 150 °C; $p_{\max}$ 1 bar
- Connection: cable

NSE

Float Switch

Stainless steel



- Density: 0.8 kg/dm³
- $t_{\max}$ 150 °C; $p_{\max}$ 15 bar
- Connection: G ½ male thread

NGS

Dual Magnet Float Switch

Stainless steel



- Density: >0.7 kg/dm³
- $t_{\max}$ 250 °C; $p_{\max}$ 25 bar
- Connection: square box flange, DIN-flange, DN80/100, BSP 2", 2" NPT



NES

Conductive Switch

Stainless steel, Hastelloy®, titanium / Coating: polypropylene, PTFE



- $t_{\max}$ 150 °C; $p_{\max}$ 30 bar
- Connection: G ½, G 1 ½ male thread

NEH

Conductive Suspended Electrodes

Stainless steel, Hastelloy®, titanium, rubber hose, PVC, PTFE



- Cable: rubber hose, PTFE
- $t_{\max}$ 150 °C; $p_{\max}$ 6 bar
- Connection: G ½, G 1 ½ male thread

NEW

Conductive Switch § 19 WHG

Stainless steel, Hastelloy®, titanium / Coating: PTFE



- $t_{\max}$ 60 °C; $p_{\max}$ atmospheric
- Connection: G 1, G 1 ½ male thread





Level Switches

NEK

Conductive Switch

PP, PPS



- $t_{\max}$ 85 °C; $p_{\max}$ 20 bar
- Connection: R 3/4 male, 3/4" NPT male
- Open-Collector or relay

LNK

Conductive Switch

Stainless steel, PEEK



- Measuring range: 4 - 1500 mm
- $t_{\max}$ 100 °C (150 °C for CIP); $p_{\max}$ 10 bar
- Connection: G 1/2 male, G 1 male, hygienic installation system LZE
- Open-Collector



LNK-K

Conductive Switch Compact Probe

Stainless steel, PEEK



- Measuring range: 4 - 1500 mm
- $t_{\max}$ 150 °C; $p_{\max}$ 10 bar
- Connection: G 1/2 male, hygienic installation system LZE
- Open-Collector



NE - 104 / - 304

Electrode Relays for Conductive Switches



- max 2 limit contacts or
- max 2 Min/Max control switches
- Switch capacity: max. 250 V_{AC}, 5 A, 600 VA

NE - 204

Electrode Relay § 19 WHG



- 1 limit contact
- Switch capacity: max. 250 V_{AC}, 5 A, 600 VA



LNR

Head Mounted Transmitter for Conductive Probes



- $t_{\max}$ 80 °C
- Open-Collector

LNM

Microwave - Switch (for liquids)

Stainless steel, PEEK



- $t_{\max}$ 100 °C (150 °C for CIP); $p_{\max}$ 10 bar
- Connection: G 1/2 male thread, hygienic installation system LZE
- Open-Collector



LNZ

Capacitive Switch (for liquids)

Stainless steel, PEEK



- $t_{\max}$ 100 °C (150 °C for CIP); $p_{\max}$ 10 bar
- Connection: G 1/2 male thread, hygienic installation system LZE
- Open-Collector

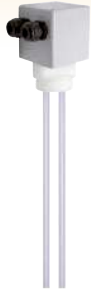




NCW

Capacitive Switch (for liquids)

Stainless steel, PVDF



- t_{max} 125 °C; p_{max} 30 bar
- Connection: G 1, G 2 male thread, adapter: G 1¼, G 1½, weld-in sleeve
- 1 relay, SPDT



NQ - 1000

Ultrasonic Switch (for liquids)

Stainless steel



- t_{max} 125 °C; p_{max} 20 bar
- Connection: R 1 AG
- 1 switch output

OPT

Optical Switch (for liquids)

Polypropylene, stainless steel, sensor: polysulfone



- t_{max} 80 °C; p_{max} 10 bar
- Connection: G ½, ½" NPT male thread or M 14 with bulkhead nut
- Open-Collector

NWS

Vibration Switch (for liquids)

Stainless steel



- t_{max} 130 °C (150 °C for CIP); p_{max} 45 bar
- Viscosity: max. 5000 mm²/s
- Connection: R- / NPT-thread, DIN- / ANSI-flange, Tri-Clamp®, DIN 11851, DIN 11864, DRD



NSV

Vibration Switch (for bulk materials)

Stainless steel



- Switching range: 230 - 3000 mm
- Density: 0.06 kg/dm³
- t_{max} 80 °C; p_{max} 25 bar
- Connection: G 1½ male thread
- 1 relay, SPDT

NVI

Vibration Switch (for bulk materials)

Stainless steel, PE-coating for cable



- Probe length: up to 20 m
- Density: 0.05 kg/dm³
- t_{max} 160 °C; p_{max} 25 bar
- Connection: G 1½, 1½" NPT male thread
- 1 relay, SPDT





Level Switches / Meters

NMF

Diaphragm Switch (for bulk materials)

Neoprene®, FPM, steel, stainless steel



- $t_{\max}$ 200 °C; $p_{\max}$ 1 bar (over-pressure secure)
- Connection: flange

NIR - 9 / NIR - E9

Rotation Vane Switch (for bulk materials)

Stainless steel



- Measuring range: 65 - 1000 mm
- $t_{\max}$ 200 °C; $p_{\max}$ 0.5 bar
- Connection: G 1 male thread, adapter: G 1¼, G 1½, round flange, weld-in sleeve
- 1 relay, SPDT



NSC

Capacitive Level Switch (for bulk materials)

Stainless steel, PTFE



- Measuring range: 265 - 3000 mm
- $t_{\max}$ 80 °C; $p_{\max}$ 0.5 bar
- Connection: G 1 male, adapter: G 1¼, G 1½, round flange, weld-in sleeve
- 1 relay, SPDT



PLS

Pendulum Level Monitor (for bulk materials)

Aluminium, EPDM



- Pendulum length up to 2000 mm
- $t_{\max}$ 80 °C; $p_{\max}$ -0.1 ... +0.5 bar
- Process connection: aluminium flange
- Contact: max. 250 V_{AC}/15 A

MM

Float Transducer- Reed Chain

Stainless steel, PVC-U, PP, PVDF



- Measuring range: 300 - 6000 mm
- Density: min. 0.4 kg/dm³
- $t_{\max}$ 130 °C; $p_{\max}$ 30 bar
- Connection: G ¾ ... 2 male, ¾ ... 2" NPT male, flange DN 40 ... 125, ANSI 1½ ... 4"
- Accuracy: ± 10 mm



NMT

Float Magnetostrictive

Stainless steel

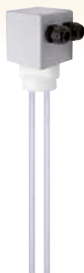


- Measuring range: 300 - 4000 mm
- Density: 0.7 - 1.0 kg/dm³
- $t_{\max}$ -20 ... +70 °C; $p_{\max}$ PN 10
- Connection: G 2, 2" NPT male thread
- Analogue output
- Accuracy: ± 1 mm

NMC

Capacitive Measurement

Stainless steel, PVDF



- Measuring range: 265 - 4000 mm
- $t_{\max}$ 125 °C; $p_{\max}$ 30 bar
- Connection: G 1, G 2 male thread, adapter: G 1¼, G 1½, weld-in sleeve
- Analogue output
- Measuring error: <1.5 % of probe length



LNP

Potentiometric Measurement

Stainless steel



- Measuring range: 200 - 2000 mm
- $t_{\max}$ 120 (150) °C; $p_{\max}$ 10 bar
- Connection: G 1, 1" NPT male, hygienic installation system LZE
- Analogue output
- Accuracy: ± 1 % of probe length





SZM

Bypass Glass Gauge

Stainless steel



- Measuring range: 370 - 3080 mm
- t_{max} 100 °C; p_{max} 10 bar
- Connection: flange DN 15...50, ANSI ½ ... 2", union nut G ½, ½" NPT

NZJ

Mini - Bypass - Level Gauge

Aluminium, stainless steel



- Installation length: 100 - 540 mm
- Scale length: 60 - 500 mm
- t_{max} 100 °C; p_{max} 16 bar
- Connection: G ¼ male thread, ¼" NPT male thread

NBK - M

Mini Bypass with Roller Indicator

Stainless steel



- Measuring length: 200 - 3000 mm
- Density: 0.8 - 1.0 kg/dm³
- t_{max} 200 °C; p_{max} PN 40
- Connection: flange DN 10...25, ANSI ½ ... 1"
- Accuracy: ± 1 mm (transmitter)



NBK - 03, - 06, - 07, - 10

Bypass with Roller Indicator

Stainless steel



- Measuring length: 300 - 5500 mm over 5500 mm 2 - piece or multipart
- Density: min. 0.54 kg/dm³
- t_{max} 400 °C; p_{max} PN 100
- Accuracy: ± 1 mm (transmitter)



NBK - 31, - 32, - 33

Bypass with Roller Indicator - High pressure

Stainless steel



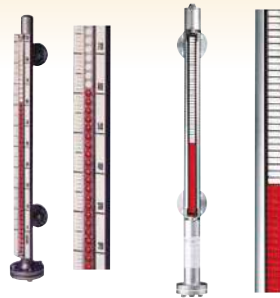
- Measuring length: 300 - 5500 mm
- Density: min. 0.54 kg/dm³
- t_{max} 100 °C; p_{max} PN 320
- Accuracy: ± 1 mm (transmitter)



NBK - ATEX

Bypass with Roller Indicator

Stainless steel



- Measuring length: 300 - 5500 mm over 5500 mm 2 - piece or multipart
- Density: min. 0.54 kg/dm³
- t_{max} 400 °C; p_{max} PN 100
- Accuracy: ± 10 mm (transmitter)



NBK - 04

Bypass Over - Top Tank Measurement

Stainless steel



- Measuring length: 300 - 4000 mm
- Density: min. 0.43 kg/dm³
- t_{max} 120 °C; p_{max} PN 16
- Connection: flange DN 50/65, ANSI 2", 2½"
- Accuracy: ± 10 mm (transmitter)



NBK - 16, - 17

Bypass Level Roller Indicator Measurement - Plastic

PP, PVDF



- Measuring length: 200 - 4000 mm
- Density: min. 0.59 kg/dm³
- t_{max} 80 °C; p_{max} 4 bar
- Connection: flange DN 20...50, ANSI ¾ ... 2"
- Accuracy: ± 10 mm (transmitter)





Level Switches / Meters

NBK - 01

Bypass Roller Indicator Low Cost

Stainless steel



- Measuring length: 300 - 5500 mm
- Density: 0.78 ... 1.18 kg/dm³
- t_{max} 120 °C; p_{max} PN 16
- Accuracy: ± 1 mm (transmitter)



NBK - 19

Bypass Roll Measuring Rope

PVC



- Measuring length: 0.2 - 4.8 m
- Density: 1 kg/dm³
- t_{max} 60 °C; p_{max} atmospheric
- Accuracy: ± 1 mm (transmitter)

NBK - R, - RT

Limit Contact for Bypass Measurement

Aluminium, polycarbonate



- t_{max} 400 °C
- Switch capacity: 80 VA, 250 V_{AC/DC}, 1 A

NBK - RA / - RV, - RN

Limit Contact for Bypass Measurement



- t_{max} 85 °C (-RA); 200 °C (-RV, -RN)
- Switch capacity:
- 45 VA, 230 V_{AC/DC}, 0.6 A (-RA)
- 5 W, 400 V_{DC} / 230 V_{AC}, 0.5 A (-RV, -RN)



BA

Displacement Level Meter

Stainless steel



- Measuring range: 300 - 6000 mm
- Density range: 400 - 2000 g/l
- t_{max} 250 °C; p_{max} PN 40
- Connection: flange DN 50, ANSI 2"
- Analogue output, 2 limit contacts
- Accuracy: ± 5 mm



NGM

Guided Wave Radar (TDR) - Rod Probe (for process industry)

Stainless steel, PTFE



- Measuring range: 100 - 3000 mm (liquids)
- t_{max} 250 °C; p_{max} 40 bar
- Connection: thread, flange
- Analogue output, switching output
- Accuracy: ± 3 mm or 0.03 % of measured value



NGM

Guided Wave Radar (TDR) - Coax Probe (for process industry)

Stainless steel



- Measuring range: 100 - 6000 mm (liquids)
- t_{max} 250 °C; p_{max} 40 bar
- Connection: thread, flange
- Analogue output, switching output
- Accuracy: ± 3 mm or 0.03 % of measured value



NGM

Guided Wave Radar (TDR) - Rope Sensor (for process industry)

Stainless steel



- Measuring range: 1000 - 20000 mm (solids and liquids)
- t_{max} 150 °C; p_{max} 40 bar
- Connection: thread, flange
- Analogue output, switching output
- Accuracy: ± 3 mm or 0.03 % of measured value





NGR

Guided Wave Radar (TDR) (for machines/factory automation)

Stainless steel



- Measuring range: 200 - 4000 mm (liquids)
- t_{max} 100 °C; p_{max} 10 bar
- Connection: G ¾, ¾" NPT male
- Analogue output, switching outputs
- Accuracy: ± 5 mm

NRM

Non-Contact Radar Level Transmitt. (TDR) (f. process industry)

Stainless steel, PP, PTFE



- Measuring range: up to 23 m (liquids)
- t_{max} 180 °C; p_{max} 25 bar
- Connection: thread, flange, Tri-Clamp®, DIN 11851, dairy connection
- Analogue output
- Accuracy: ± 3 mm



NUS - 7

Ultrasonic Measurement

PP, PVDF



- Measuring range: 0.25 - 6 m (liquids)
- t_{max} 80 °C; p_{max} 3 bar abs
- Connection: G 2, 2" NPT
- Analogue output
- Accuracy: ± 0.2 % of reading
 ± 0.05 % of full scale



NUS - 4

Ultrasonic - Measurement

PP, PVDF



- Measuring range: 0.2 - 25 m (liquids)
0.2 ... 10 m (bulk)
- t_{max} 90 °C; p_{max} 3 bar abs
- Connection: G 1½, G 2, 1½" NPT, 2" NPT male, DN 80, DN 125, DN 150, ANSI 3", 5", 6"
- Analogue output
- Accuracy: ± 0.2 % of reading
 ± 0.05 % of full scale



PAD - ... N

Differential Pressure Transmitter with Diaphragm Seal

Stainless steel, Monel®, tantalum, Hastelloy®, PTFE



- Level: 0 ... +2500 mmWC ... 0 ... +150 mWC
- t_{max} 200 °C
- Connection: flange via neck tube DN 50 or bigger
- Accuracy: ± 0.075 % of calibrated span + influence of diaphragm seal



PAS - ... N

Pressure Transmitter with Diaphragm Seal

Stainless steel, Monel®, tantalum, Hastelloy®, PTFE



- Level: 0 ... +2500 mmWC ... 0 ... +150 mWC
- t_{max} 350 °C
- Connection: thread or flange DN 50 or bigger
- Accuracy: ± 0.075 % of calibrated span + influence of diaphragm seal



NTB

Deep - Well Probe

Stainless steel, cable polyurethane



- Measuring range: 0 - 1 ... 0 - 200 mWC
- Analogue output
- Cable length: max. 300 m
- Accuracy: ± 0.5 % of full scale



NPF

Hydrostatic Diaphragm Measurement

Stainless steel



- Measuring range: 0 - 600 ... 0 - 10 000 mmWC
- t_{max} 80 °C
- Connection: G ½ male, ½" NPT, DN 50 ... DN 100, ANSI 2 ... 4"
- Accuracy: ± 1.6 % of full scale



TWR

Bi-Metallic Switch

Brass, stainless steel



- Switching range: 30 ... 120 °C
- t_{max} 150 °C; p_{max} 64 bar
- Connection: G 3/4" male thread



TRS

Thermal Reed Switch

Brass, stainless steel



- Switching range: 10 ... 120 °C
- t_{max} 120 °C; p_{max} 25 bar
- Connection: G 1/4" ... 1"



TDD

Temperature Switch Digital

Stainless steel



- Measuring range: -50 ... +125 °C
- p_{max} 80 bar
- Connection: G 1/2", G 3/4", 1/2" NPT, 3/4" NPT male thread, smooth probe Ø 6 mm
- 2 limit contacts
- Accuracy: ± 0.5 °C (-10 ... +85 °C)



TGL/TGK

V-Form - Machinery Glass Thermometer

Aluminium, plastic casing, brass



- Measuring range: -60 ... +40 °C ... 0 ... +200 °C
- Connection: G 1/2", 1/2" NPT male thread
- Accuracy: ± 1 % of full scale

TBE

Bi-Metallic Thermometer

Stainless steel



- Measuring range: -50 ... +50 °C ... 0 ... +600 °C
- p_{max} 15 bar
- Connection: G 1/2" ... 3/4", 1/2" ... 3/4" NPT, fixed, rotatable, slidable
- Accuracy: cl. 1.0



TND

Shaft Thermometer (for Diesel engines)

Steel, stainless steel



- Measuring range: 0 ... +800 °C
- p_{max} 25 bar
- Connection: G 1/2", G 3/4" male thread
- Accuracy: cl. 1.0; 1.6



TNS/TNF

Shaft/Capillary Thermometers DIN 16205/DIN 16206

Stainless steel



- Measuring range: -40 ... +600 °C
- p_{max} 25 bar
- Connection: G 1/2" ... 1", 1/2" ... 1" NPT, DIN 11851, Tri-Clamp®, helix probe
- Accuracy: cl. 1.0; 1.6



TNS/TNF

Safety Thermometer with Contacts

Stainless steel



- Measuring range: -40 ... +600 °C
- p_{max} 25 bar
- Connection: G 1/2" ... 1", 1/2" ... 1" NPT, DIN 11851, Tri-Clamp®, helix probe
- Accuracy: cl. 1.0; 1.6



TWL - 0

Thermowells (for shaft, capillary + resistance thermometer)

Stainless steel, special materials



- t_{max} 800 °C; p_{max} 250 bar
- Connection: thread, flange, welding sleeve



TDA

Electronic Temperature Sensor

Stainless steel



- Measuring range: $-50 \dots +125^{\circ}\text{C}$
- p_{max} 80 bar
- Connection: $G\frac{1}{2}$, $G\frac{3}{4}$, $\frac{1}{2}$ " NPT, $\frac{3}{4}$ " NPT male thread, smooth probe $\varnothing$ 6 mm
- Analogue output, limit contact
- Accuracy: $\pm 0.5^{\circ}\text{C}$ ($-10 \dots +85^{\circ}\text{C}$)



HND - T105 / T205

Precision Hand-Held Thermometer



- Measuring range: $-50 \dots +400^{\circ}\text{C}$
- Sensor: Pt 100 or thermocouple type K
- Option: logger, alarm, control function
- Accuracy: from 0.03°C



HND - T120 / T125

Precision Hand-Held Thermometer



- Measuring range: $-65 \dots +1150^{\circ}\text{C}$
- Sensor: type K (NiCr-Ni)
- Accuracy: (HND-T120): $1 \dots 1.5\%$ of reading
- Accuracy: (HND-T125): ± 0.2 of full scale $\pm 0.05 \dots \pm 0.1\%$ of reading



DTM

Digital Thermometer

Stainless steel



- Measuring range: $-30 \dots +400^{\circ}\text{C}$
- p_{max} 25 bar
- Connection: $G\frac{1}{2}$... 1, $\frac{1}{2}$... 1" NPT
- Analogue output, 2/4 limit contacts
- Accuracy: cl. 0.5

TSA

Temperature Sensor

Brass, stainless steel



- Measuring range: $-40 \dots +150^{\circ}\text{C}$
- t_{max} 150°C ; p_{max} 25 bar
- Connection: $G\frac{1}{4}$... 1, $\frac{1}{4}$... 1" NPT
- Accuracy: from 0.7°C

TNK

Resistance Thermometer

Brass, bronze, stainless steel



- Measuring range: $-80 \dots +150^{\circ}\text{C}$
- t_{max} 150°C ; p_{max} 50 bar
- Connection: M18x1.5, $G\frac{1}{2}$, $\frac{1}{2}$ " NPT
- Accuracy: cl. A or B

MMA + AUF + KUG - S

Screw-In Resistance Thermometer

Stainless steel



- Measuring range: $-200 \dots +400^{\circ}\text{C}$ (configurable)
- p_{max} 36 bar
- Accuracy: $< 0.5\%$ of span

LTS - A / K

Resistance Temperature Probe with Connection Box



- Measuring range: $-50 \dots +250^{\circ}\text{C}$
- p_{max} 10 bar
- Connection: $G\frac{1}{2}$, M12x1.5 male, hygienic installation system LZE
- Pt100, 4 - 20 mA
- Accuracy: cl. A



KM - 1 / -3 / -6

Temperature Transducer (for head, rail or wall mounting)



- Measuring range: $-200 \dots +250^{\circ}\text{C}$... $-50 \dots +1768^{\circ}\text{C}$
- Input: RTD, TC, Ω , mV
- Analogue output





Temperature Switches / Indicators

MWD

Industrial - Resistance Thermometer

Stainless steel



- Measuring range: -70 ... +250 °C ... -200 ... +600 °C
- p_{max} 30 bar
- Accuracy: cl. A or B



DTE

Digital Thermometer

Stainless steel



- Measuring range: -200 ... +850 °C
- p_{max} 34 bar
- Display: 6-digit, LCD
- Connection: compression fitting G 1/4 ... 1/2, 1/4" ... 1/2" NPT
- Accuracy: ± 0.1 % measured value ± 0.2 °C



MWE

Screw-In Resistance Thermometer

Stainless steel



- Measuring range: -70 ... +250 °C
- p_{max} 30 bar
- Accuracy: cl. A or B



TWM / TWA

Sheath - Contact Resistance Thermometer

Stainless steel



- Measuring range: -20 ... +600 °C
- Accuracy: cl. A or B



TWL

Resistance Temperature Measuring Unit

Stainless steel



- Measuring range: -80 ... +600 °C
- p_{max} 250 bar
- Connection: thread, flange, weld-in sleeve
- Pt 100, 4 - 20 mA
- Accuracy: cl. A or B



TWL - ST

Room Thermometer

Aluminium



- Measuring range: -40 ... +85 °C
- Wall socket
- Pt 100, 4 - 20 mA
- Accuracy: cl. A or B



TTL

Immersion Thermocouples

Stainless steel, alloys



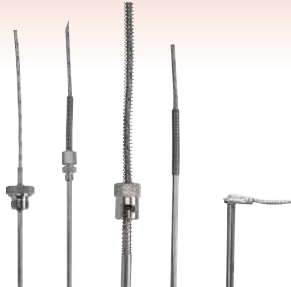
- Measuring range: -200 ... +1100 °C
- p_{max} 250 bar
- Connection: thread, flange, weld-in sleeve
- 4 - 20 mA
- Accuracy: cl. 1.0 or 2.0



TTE

Screw-In Thermocouples with Compensating Lead

Stainless steel



- Measuring range: -200 ... +600 °C
- Connection: G 1/2, M 10 x 1
- Accuracy: cl. 1.0



APM - 1

Transmitter for pH-Value and ORP



- Outputs: 1 binary, 2 analogue
- Switch output: 2 relays with adjustable setpoints

APS

pH-Combined Electrodes

Glass, plastic



- Measuring range: pH 0 ... 14
- $t_{\max}$ 135 °C; $p_{\max}$ 10 bar
- Diaphragm: PTFE-ring, ceramic

HND - R

Hand-Held Measurement Device (f. pH value, Redox and temperature)



- Measuring range: pH: 0 ... 14; Redox: -1999 ... +2000 mV; temperature: -5 ... +80 °C
- Accuracy: pH: ± 0.01 ; Redox: ± 0.1 % of full scale; temperature: ± 0.2 °C



ACM - 1

Transmitter for Specific Conductivity



- Measuring range: 0 ... 200 mS/cm
- Outputs: 1 binary, 2 analogue
- Switch output: 2 relays with adjustable setpoints

ACS

Conductive/Inductive Conductivity Measuring Cells

Stainless steel, graphite



- Measuring range: 0.05 μ S/cm ... 15 mS/cm
- $t_{\max}$ 135 °C; $p_{\max}$ 16 bar
- Process connection: G $\frac{3}{4}$ male thread



LCI

Inductive Conductivity Measuring System

PEEK, PVDF, stainless steel



- Measuring range: 0 ... 2000 mS/cm
- $t_{\max}$ 140 °C; $p_{\max}$ 10 bar
- Integrated Pt 100
- Accuracy: $\pm 0.5 \dots \pm 1$ % of full scale



HND - C

Hand-Held Conductivity Measuring Unit



- Measuring range: 0 ... 200 μ S/cm ... 0 ... 200 mS/cm
- Resistance, salinity, TDS
- Accuracy: from ± 0.1 %



AFK - G2

Humidity/Temperature Transmitter



- Measuring range: 0 ... 100 % rH, 0 ... +200 °C
- $t_{\max}$ 200 °C; $p_{\max}$ 25 bar
- Outputs: 2 x 4 - 20 mA
- Accuracy: ± 2 % rH

AFA - G

Humidity Transmitter with Display



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

AFK - E

Humidity/Temperature Measurement



- Measuring range: 0 ... 100 % rH; -40 ... +180 °C
- $t_{\max}$ 180 °C; $p_{\max}$ 20 bar
- Outputs: 2 voltage, 2 current outputs
- Accuracy: $\pm(1.5 + 1.5 \text{ of reading})$ % rH

AFS - G

Hygrostat, Humidity Annex Switch



- Measuring range: 30 ... 100 % rH
- $t_{\max}$ 60 °C
- Switch output: 1 SPDT
- Accuracy: 3 % rH

HND - F

Hand - Held Humidity Precision Measuring Unit



- Measuring range: 0 ... 100 % rH
- Integrated Pt 1000
- Accuracy: $\pm 0.1 \dots \pm 0.2$ %





Analysis / Assemblies

ATA - K, ATS - K

Turbidity Measuring System

Stainless steel



- Measuring range: 0 ... 500 ppm; 0 ... 4 CU, 0 ... 10 - 200 FTU
- $t_{\max}$ 150 °C; $p_{\max}$ 16 bar
- Outputs: 4 - 20 mA
- Accuracy: $\pm 2\%$ of full scale

ATT - K

Transmitter for Turbidity Measuring System



- Outputs: 4 - 20 mA
- Switch output:
2 alarm contacts (potential-free SPDT),
1 alarm (lamp and function control)

ATL

Turbidity Probe

Stainless steel



- Measuring range: 0 ... 500 ppm; 0 ... 4 CU
- $t_{\max}$ 90 °C; $p_{\max}$ 10 bar
- Outputs: 4 - 20 mA
- Accuracy: $\pm 2\%$ of full scale

DWF

Density Meter

Stainless steel



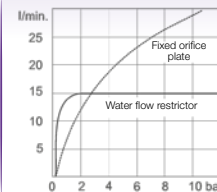
- Measuring range: 700 ... 1900 g/l
- $t_{\max}$ 150 °C
- Process connection: flange DN 25 ... 50, ANSI 1 ... 2"
- Option: transmitter contacts



REG

Flow Restrictors

Brass, stainless steel



- Viscosity range: 1 - 30 mm²/s
- Water: 0.5 - 560 l/min
- $t_{\max}$ 300 °C; $p_{\max}$ 200 bar
- Connection [single element]:
G 1/2, G 3/4, 3/4" NPT
- Connection [multiple elements]:
G 1 1/2 ... 2 1/2 flange DN 20 ... 100

KUG -TB, -AG, -JK, -VN, -VL, -ZE, -ZF, -ZG, -PD

Ball Valves

Brass, stainless steel



- $t_{\max}$ 180 °C; $p_{\max}$ PN 64
- G 1/4 ... 3 female thread
- Hand lever, 1, 2 and 3 piece versions
- T- and L-bore

KUG -VO, -VK

Flange - Ball Valves

Grey cast iron, stainless steel



- $t_{\max}$ 180 °C; $p_{\max}$ PN 40
- Flange DN 15 ... 200

KUG -S

Ball Valves Shut-off for Measuring Device

Brass, stainless steel



- $t_{\max}$ 120 °C; $p_{\max}$ PN 25
- G 1/2 ... 2 female thread
- Sensor support: G 1/4, G 1/2

KUP

Ball Valves with Pneumatic Actuator

Brass, stainless steel



- $t_{\max}$ 120 °C; $p_{\max}$ PN 16
- G 1/2 ... 4 female thread
- Control pressure: 6 - 8 bar, single or double acting
- T- and L-bore



KLA

Butterfly Valves

Aluminium, GGG-40



- t_{max} 180 °C; p_{max} PN 16
- Flange DN 40 ... 300
- Seals: NBR, FKM, EPDM

KLP

Butterfly Valves with Pneumatic Actuator

Aluminium, GGG-40



- t_{max} 160 °C; p_{max} PN 16
- Flange DN 40 ... 300
- Seals: EPDM, FKM
- Control pressure: 6 - 8 bar, double acting or spring resetting

NAD ...

Needle Valve

Brass, stainless steel

Needle Valve
- AC



Needle Valve
- M, - Z



Angle Seat Valves
- AD, - BE



Outlet Globe Valves
- AB, - BF



- t_{max} 400 °C; p_{max} PN 250
- G 1/8 ... 3, 1/2 ... 1" NPT

MFR / MFF

Flange Magnetic Filter

Bronze, brass, grey cast iron



- t_{max} 200 °C; p_{max} PN 40
- G 1/4 ... 4, flange DN 50 ... 200
- Filter grade: 50 ... 1200 μ m

KUR - TD, - MR

Check Valves

Red cast iron, brass, stainless steel



- t_{max} 110 °C; p_{max} PN 25
- G 1/4 ... 4 female thread

MSR

Pulse - Contact Protection Relay



- Input: potential-free contacts
- Output: 1 or 2 relays, SPDT

KFD - 2 / KFA - 6

Isolation Switching Amplifier for Initiators



- Input: Initiators (Namur), potential-free contacts
- Output: 1 relay, SPDT

AUF

Plug-On Display



- Input: 4 - 20 mA, pulses
- Output: 4 - 20 mA, switch output PNP
- 4-digit red LED, without additional power supply
- Option: Open-Collector, various colours





Control Devices and Relays

DAG - A/S/M

Digital - Panel Mount - Indicators



- Input: current, voltage, temperature, frequency
- Output: pulse, 2x analogue
- Limit contacts
- Min/Max-memory



ADI - 1 ... S

Universal Indicator



- Input: current, voltage, frequency
- Analogue output
- 2 limit contacts
- Sensor supply



ADI - 1

Universal Indicator



- Input: current, voltage, frequency
- Analogue output
- 2 limit contacts
- Sensor supply



ZOK

Industrial Dosing, Counter and Flow Indicator



- Input: frequency
- Analogue output
- Limit contacts
- Impulse output
- Sensor supply
- Battery powered



ZOE

Industrial Counter and Flow Indicator



- Input: frequency
- Pulse output
- Sensor supply
- Battery powered



ZED - K

Electronic for Measuring and Monitoring



- Input: frequency
- Analogue output
- 2 limit contacts
- Sensor supply

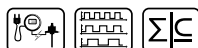


ZED - D/Z

Batch Controller / Counter Electronics



- Input: frequency, control input
- Analogue output
- 2 limit contacts
- Sensor supply



DAG - Z2

Counter Electronics / Batch Controller



- Input: 3 x PNP/NPN
- 2 limit contacts
- Sensor supply



DAG - T4

Universal Panel Meter



- Input: current, voltage, Pt 100, thermocouples
- 2 limit contacts
- Sensor supply



ZLS - 2

Electronic Multi - Channel Data Logger



- 8 x input: 0 - 5(10)V/0(4) - 20 mA or thermocouples / Pt 100, Pt 500, Pt 1000
- Interface: 1 x USB, 1 x RS485
- Sensor supply



Model Register

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