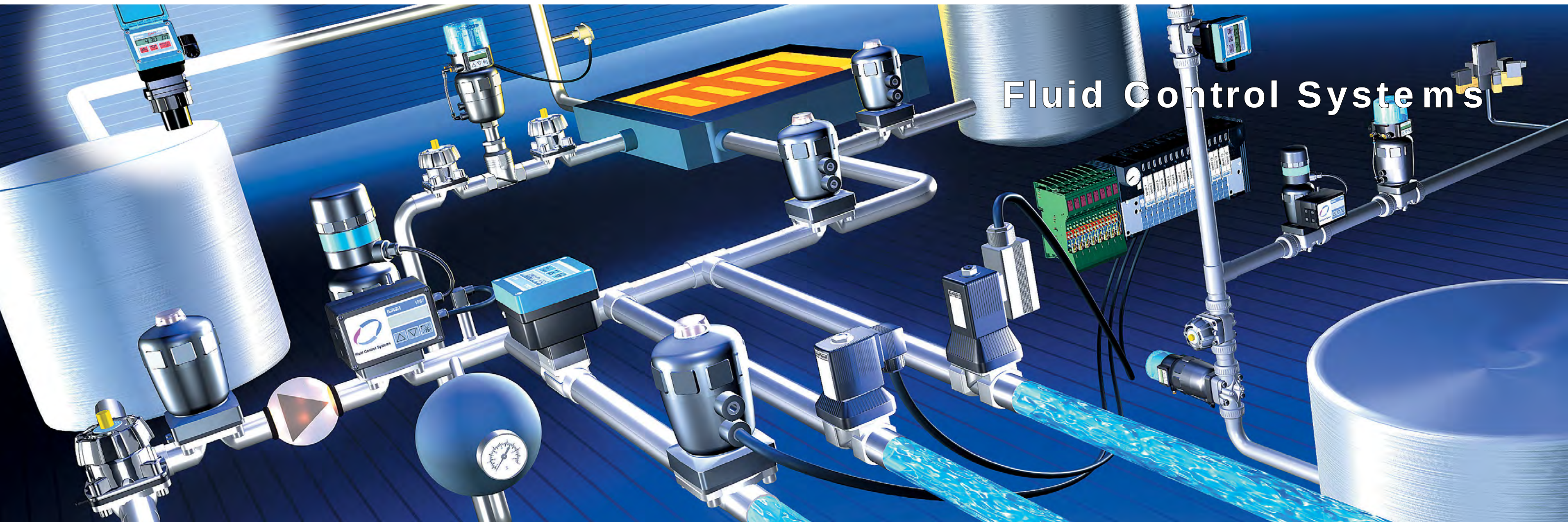
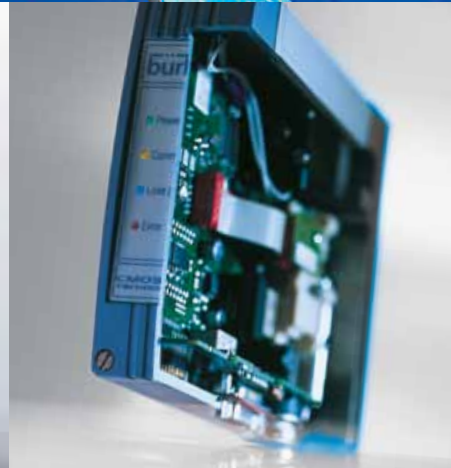
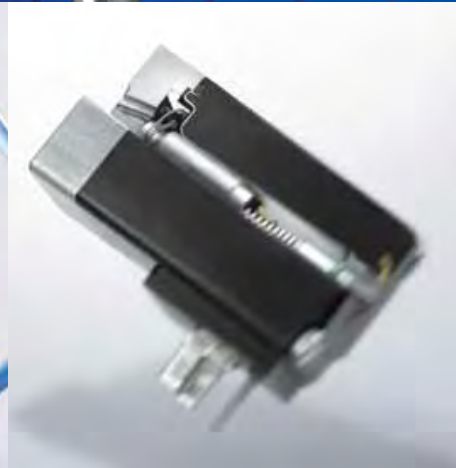
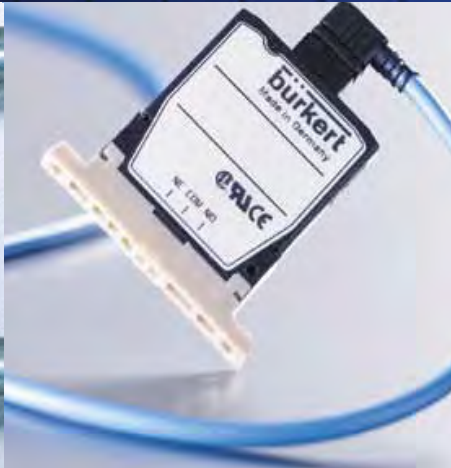




Fluid Control Systems



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Mass Flow Controllers

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Process Valves

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Pneumatics

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Sensors



Welcome to the Fascinating World of Fluid Control Systems

Measurement and control: When it comes to working with liquids and gases, we are at your side – as a manufacturer of sophisticated products, as a problem-solver with an eye for the big picture, and as a partner offering you reliable advice. Since we started in 1946, we have developed into one of the world's leading suppliers of Fluid Control Systems. At the same time we have kept our status as a family-owned business with a foundation of strong basic values to highlight the way we think and act.

EXPERIENCE

COURAGE

CLOSENESS

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01 Solenoid Valves | Neutral Liquids & Gases



Type 6011
Type 6012
2/2 way, 3/2 way, Direct Acting Miniature Solenoid Valves
Normally closed, normally open, diverting, mixing or universal function

Orifice size	: 1.2 to 2.4 mm
Kv	: 0.045 to 0.13 m³/h
Port connection	: M5, BSP, NPT, PT 1/8" or sub-base for manifold mounting
Body material	: Brass or stainless steel
Seal material	: FPM
Media temperature	: -10 to +100°C
Pressure range	: 0 up to 21 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED (60%ED for block assembly)
Electrical connection	: Cable plug to IP65



Type 0280
2/2 way, Servo Assist Solenoid Valves
Normally closed or normally open function

Orifice size	: 8.0 or 13.0 mm
Kv	: 1.0 or 4.0 m³/h
Port connection	: BSP, NPT, PT 3/8" or 1/2"
Body material	: Brass
Seal material	: NBR, EPDM or FPM
Media temperature	: -10 to +90°C
Pressure range	: 0.2 up to 16 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 0290
2/2 way, Servo Assist Forced Coupled Diaphragm Solenoid Valves
Normally closed function

Orifice size	: 12.0 to 50.0 mm,
Kv	: 2.8 to 38.0 m³/h
Port connection	: BSP, NPT, PT 1/2" to 2", Flanged (DIN) DN25 to DN50
Body material	: Brass, Stainless Steel (DN12 to DN25) Cast Iron (for flanged DN25 to DN50)
Seal material	: NBR, EPDM or FPM
Media temperature	: NBR -10 to +90°C, EPDM -10 to +120°C, FPM 0 to +90°C
Pressure range	: 0 up to 16 bar (12 bar for DN32 to DN50)
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 6013
Type 6014
2/2 way, 3/2 way, Direct Acting Solenoid Valves
Normally closed, normally open, diverting, mixing or universal function

Orifice size	: 2.0 to 6.0 mm
Kv	: 0.045 to 0.13 m³/h
Port connection	: BSP, NPT, PT 1/8" to 3/8" or sub-base for manifold mounting
Body material	: Brass or stainless steel
Seal material	: FPM
Media temperature	: -10 to +100°C
Pressure range	: 0 up to 25 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED (60%ED for block assembly)
Electrical connection	: Cable plug to IP65



Type 5281 (N/C)
Type 0281 (N/O)
2/2 way, Servo Assist Solenoid Valves
Normally closed or normally open function

Orifice size	: 13.0 to 65.0 mm
Kv	: 4.0 or 40.0 m³/h
Port connection	: BSP, NPT, PT 1/2" to 21/2", Flanged (DIN) DN25 to DN50
Body material	: Brass, Cast Iron (for flanged DN25 to DN50)
Seal material	: NBR, EPDM or FPM
Media temperature	: NBR -10 to +80°C, EPDM -40 to +120°C, FPM -10 to +90°C
Pressure range	: 0.2 up to 16 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 6213
2/2 way, Servo Assist Forced Coupled Diaphragm Solenoid Valves
Normally closed function

Orifice size	: 10.0 to 40.0 mm
Kv	: 1.9 to 30.0 m³/h
Port connection	: BSP, NPT, PT 1/4" to 2",
Body material	: Brass, Stainless Steel
Seal material	: NBR, EPDM or FPM
Media temperature	: NBR -10 to +80°C, EPDM -30 to +120°C, FPM 0 to +90°C
Pressure range	: 0 to 10 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65

01 Solenoid Valves | with Unique Features



Type 0330
Type 0331
2/2 way, 3/2 way, Direct Acting Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System and with Manual Override Standard
Normally closed, normally open, diverting, mixing or universal function

Orifice size	: 2.0 to 4.0 mm
Kv	: 0.11 to 0.29 m³/h
Port connection	: BSP, NPT, PT 1/4" or sub-base for manifold mounting
Body material	: Brass or stainless steel
Seal material	: NBR, EPDM or FPM
Media temperature	: NBR 0 to +80°C, EPDM -30 to +90°C, FPM -10 to +90°C
Pressure range	: 0 up to 16 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED (60%ED for block assembly)
Electrical connection	: Cable plug to IP65



Type 6212
2/2 way, Servo Assist Solenoid Valves
With Separating Diaphragm Isolating Media From Solenoid System. Option with Integrated Flow Switch for Brass Body
Normally closed or normally open function

Orifice size	: 10.0 to 20.0 mm
Kv	: 1.9 to 8.3 m³/h
Port connection	: BSP, NPT, PT 3/8" to 1",
Body material	: Brass, Stainless Steel
Seal material	: NBR, EPDM or FPM
Media temperature	: 0 to +50°C
Pressure range	: 0.2 up to 10 bar (Normally Closed) 0.2 to 6 bar (Normally Open)
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 2610
2/2 way, Direct Acting Solenoid Valves For Cryogenic Application
Normally closed function

Orifice size	: 6.0 to 12.0 mm
Kv	: 0.8 to 1.8 m³/h
Port connection	: BSP, NPT, PT 1/4" to 1/2"
Body material	: Brass, Stainless Steel
Seal material	: PTFE
Media temperature	: -220 to +180°C
Pressure range	: 0 to 10 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 5282
2/2 way, Servo Assist Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System, Opening and Closing Time Adjustment and Manual Override Standard
Normally closed or normally open function

Orifice size	: 13.0 to 65.0 mm
Kv	: 4.0 to 40.0 m³/h
Port connection	: BSP, NPT, PT 1/2" to 21/2", Flanged (DIN) DN25 to DN50
Body material	: Brass, Stainless Steel, Cast Iron (for flanged DN25 to DN50)
Seal material	: NBR, EPDM or FPM
Media temperature	: NBR 0 to +80°C, EPDM -30 to +90°C, FPM -10 to +90°C
Pressure range	: 0.2 up to 10 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 0344
3/2 way, Servo Assist Solenoid Valves For Vacuum Application
Normally closed or normally open function

Orifice size	: 8.0 to 25.0 mm
Qn	: 1,030 to 11,000 l/min
Port connection	: BSP 1/4" to 1"
Body material	: Brass
Seal material	: NBR
Media temperature	: 0 to +90°C
Pressure range	: Vacuum to +3 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 1078-1
Timer Unit can be fitted to all valves that has electrical connection standard to DIN 43 650. Internal programmable through DIP switches and potentiometer.

Body	: PA
Working temp. range:	: 0 ~ +60°C
Time range	: 0.5s up to 10h (depending on range selection)
Function	: Cycler, Inverted cycler, Switch-on impulse, Switch-on delay
Voltage	: 12 to 24V DC, 24 to 48V UC, 48 to 110V UC, 110 to 230V AC 50/60Hz
Switching load	: 2A@12-24V DC, 1.5A @ 24-48V UC 0.5A@48-110V UC &, 110-230V AC
Type of protection	: IP65

01 Solenoid Valves | High Temp. and Steam



Type 6013
2/2 way, Direct Acting
Solenoid Valves
Normally closed function

Orifice size : 2.0 to 3.0 mm
Kv : 0.12 to 0.23 m³/h
Port connection : BSP, NPT, PT 1/4" to 3/8"
Body material : Brass with stainless steel seat
Seal material : PTFE
Media temperature : 0 to +180°C
Pressure range : 0 up to 25 bar
(max. 10 bar for steam)
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



Type 6213
Hot Water Range
2/2 way, Servo Assist Forced
Coupled Diaphragm Solenoid
Valves
Normally closed function

Orifice size : 10.0 to 40.0 mm
Kv : 1.8 to 30.0 m³/h
Port connection : BSP, NPT, PT 1/4" to 2"
Body material : Brass
Seal material : EPDM
Media temperature : EPDM -30 to +120°C
Pressure range : 0 to 10 bar
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



Type 0407
2/2 way, Servo Assist Forced
Coupled Piston Solenoid Valves
Normally closed function

Orifice size : 13.0 to 50.0 mm
Kv : 3.7 to 36.0 m³/h
Port connection : BSP, NPT, PT 1/2" to 2"
Flanged (DIN) DN25 to DN50
Body material : Brass with stainless steel seat,
Cast Iron (for flanged DN25
to DN50)
Seal material : PTFE
Media temperature : 0 to +180°C
Pressure range : 0 to 10 bar
Voltage : 24V, 110V, 230V AC 50 or 60Hz,
24VDC (only for DN50)
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



Type 0255
Type 0355
2/2 way, 3/2 way, Direct Acting
Solenoid Valves
Normally closed, normally open,
diverting or mixing function

Orifice size : 1.0 to 6.0 mm
Kv : 0.03 to 0.8 m³/h
Port connection : BSP, NPT, PT 1/4" to 1/2"
Body material : Brass with stainless steel seat or
stainless steel
Seal material : PTFE
Media temperature : 0 to +180°C
Pressure range : 0 up to 100 bar
(max. 10 bar for steam)
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



Type 0406
2/2 way, Servo Assist
(Servo-Piston) Solenoid Valves
Normally closed function

Orifice size : 13.0 to 40.0 mm
Kv : 3.7 or 18.0 m³/h
Port connection : BSP, NPT, PT 1/2" to 1 1/2",
Flanged (DIN) DN25 to DN40
Body material : Brass with stainless steel seat,
Cast Iron (for flanged DN25
to DN40)
Seal material : PTFE
Media temperature : 0 to +180°C
Pressure range : 1.0 up to 12 bar
(max. 10 bar for steam)
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65

01 Solenoid Valves | High Pressure



Type 0255
2/2 way, Direct Acting Solenoid
Valves
Normally closed function

Orifice size : 1.0 to 6.0 mm
Kv : 0.03 to 0.8 m³/h
Port connection : BSP, NPT, PT 1/4" to 1/2"
Body material : Brass with stainless steel seat or
stainless steel
Seal material : FPM or PTFE
Media temperature : 0 to +180°C
Pressure range : 0 up to 100 bar
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



Type 2200
2/2 way, Direct Acting Solenoid
Valves For High Pressure
Application
Normally closed, normally open
function

Orifice size : 1.2 to 2.0 mm
Kv : 0.03 to 0.09 m³/h
Port connection : BSP, NPT 1/4"
Body material : Stainless steel
Seal material : PTFE/FPM
Media temperature : -10 to +130°C
Pressure range : 0 to 250 bar
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



Type 5404
2/2 way, Servo Assist
(Servo-Piston) Solenoid Valves
Normally closed function

Orifice size : 12.0 to 25.0 mm
Kv : 12.0 to 10.0 m³/h
Port connection : BSP, NPT, PT 1/2" to 1"
Body material : Brass
Seal material : PTFE/NBR
Media temperature : -10 to +90°C
Pressure range : 1 up to 50 bar
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



Type 2400
2/2 way, Servo-Assist Solenoid
Valves For High Pressure
Application
Normally closed function

Orifice size : 5.0 to 12.0 mm
Kv : 0.6 to 2.6 m³/h
Port connection : BSP, NPT 1/4" or 1/2"
Body material : Brass or stainless steel
Seal material : PEEK/FPM, PCTFE/FPM or
PTFE/FPM
Media temperature : -10 to +80°C
Pressure range : 1 up to 250 bar
Voltage : 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle : 100% ED
Electrical connection : Cable plug to IP65



01 Solenoid Valves | Aggressive Fluids

Chemical, Acid, Alkaline, Ultra Pure Water



Type 0330
2/2 way, 3/2 way, Direct Acting Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System and with Manual Override Standard
Normally closed, normally open, diverting, mixing or universal function

Orifice size	: 2.0 to 4.0 mm,
Kv	: 0.11 to 0.29 m³/h
Port connection	: BSP, NPT, PT 1/4"
Body material	: Stainless steel
Seal material	: EPDM or FPM
Media temperature	: EPDM -30 to +90°C, FPM -10 to +90°C
Pressure range	: 0 up to 16 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 0124
2/2 way, 3/2 way, Direct Acting Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System and with Manual Override Standard
Normally closed, normally open, diverting, mixing or universal function

Orifice size	: 2.0 to 5.0 mm,
Kv	: 0.13 to 0.4m³/h
Port connection	: BSP, NPT, PT 1/4"
Body material	: PP, PVDF
Seal material	: EPDM or FPM
Media temperature	: EPDM -30 to +80°C, FPM -10 to +80°C
Pressure range	: 0 up to 16 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 6212
2/2 way, Servo Assist Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System.
Normally closed or normally open function

Orifice size	: 10.0 to 20.0 mm
Kv	: 1.9 to 8.3 m³/h
Port connection	: BSP, NPT, PT 3/8" to 1"
Body material	: Stainless Steel
Seal material	: EPDM or FPM
Media temperature	: 0 to +50°C
Pressure range	: 0.2 up to 10 bar (Normally Closed) 0.2 to 6 bar (Normally Open)
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 5282
2/2 way, Servo Assist Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System, Opening and Closing Time Adjustment and Manual Override Standard
Normally closed or normally open function

Orifice size	: 20.0 to 50.0 mm
Kv	: 5.0 to 40.0 m³/h
Port connection	: BSP, NPT, PT 1/2" to 2",
Body material	: Stainless Steel
Seal material	: EPDM or FPM
Media temperature	: EPDM -30 to +90°C, FPM -10 to +90°C
Pressure range	: 0.2 up to 10 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 0121
2/2 way, 3/2 way, Direct Acting Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System and with Manual Override Standard
Normally closed, normally open, diverting, mixing or universal function

Orifice size	: 0 to 8.0 mm
Kv	: 0.1 to 1.0 m³/h
Port connection	: BSP 1/4" or 3/8", Solvent Socket Ø16mm (PVC)
Body material	: Stainless steel, PTFE, PVC, PP, PVDF
Seal material	: FPM, FFKM
Media temperature	: 10 to +50°C(PVC), -10 to +90°C
Pressure range	: 0 up to 6 bar
Voltage	: 24V, 110V, 230V AC 50Hz,24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 0131
2/2 way, 3/2 way, Direct Acting Solenoid Valves With Double Sealing Design Isolating Media From Solenoid System and with Manual Override Standard
Normally closed, normally open, diverting, mixing or universal function

Orifice size	: 10.0 to 20.0 mm
Kv	: 2.0 to 6.0 m³/h
Port connection	: BSP, NPT, PT 3/8" to 3/4", Solvent (PVC), Heat fusion (PVDF) socket Ø16 to Ø25 mm
Body material	: PVC, PVDF
Seal material	: EPDM or FPM
Media temperature	: 0 to +50°C(PVC), 0 to +70°C(PVDF)
Pressure range	: 0 up to 3 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65



Type 0142
2/2 way, Servo Assist Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System and Manual Override Standard
Normally closed or normally open function

Orifice size	: 15.0 to 50.0 mm
Kv	: 5.0 to 36.0 m³/h
Port connection	: PVC: BSP, NPT, PT 1/2" to 2", PVC: DIN, JIS, ASTM Solvent Socket, PVDF: DIN Heat fusion socket
Body material	: PVC, PVDF
Seal material	: EPDM or FPM
Media temperature	: 0 to +50°C(PVC), 0 to +70°C(PVDF)
Pressure range	: 0.5 up to 6 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65

02 MicroFluidics | Solenoid Valves & Micro-Pumps

Medical, Analysis and Biotechnology



Type 6604
Direct-acting flipper solenoid valve with media separation as 2/2-way or 3/2-way valve with monostable or bistable (pulse) switching function. Fast-switching. Very low power consumption and thus very suitable for battery operation. Minimum dead volume and low-gap inner contour. Width per station: 11 mm. Used primarily for very small quantities of aggressive media.

Orifice	: 0.6mm, Kv: 0.0074m³/h
Pressure	: Vacuum up to 3 bar
Body / Seal Material:	PEEK / FFKM
Voltage	: 12V, 24V DC



Type 6606
Direct-acting rocker solenoid valve with isolating diaphragm as 2/2-way or 3/2-way valve. With minimum dead volume and low-gap and thus easy-to-flush inner contour. High quality materials guarantee extreme chemical resistance. The medium only comes into contact with the body and FFKM seal. Coil can be changed easily without having to open the body.

Orifice	: 0.8 to 2 mm, Kv: 0.025 to 0.06m³/h
Pressure	: Vacuum up to 2 bar
Body / Seal Material:	PEEK / FFKM
Voltage	: 12V, 24V DC



Type 6104
Type 6106
Direct-acting 3/2-way rocker solenoid valves without media separation, low power consumption, monostable and bistable drive. Suitable only for gases.

Orifice	: 0.4mm (6104) , 0.8 mm to 1.2mm (6106)
QNn	: up to 8.5 l/min (6104), up to 40 l/min (6106)
Pressure	: up to 7 bar (6104), up to 10 bar (6106)
Body / Seal material:	PA / FPM
Voltage	: 24V DC, 110-120VDC, 220-240V DC



Type 6124
Direct-acting flipper solenoid valve, 2/2-way or 3/2-way with media separation. With monostable or bistable (pulse) switching function. Pulse switching with only 20 ms pulse length and extremely low energy demand, consequently particularly suitable for battery operation. Minimum dead volume and easy-to-flush inner contour. Materials used: FPM, EPDM, PEEK. Use for very small quantities of neutral or mildly aggressive gases and liquids.

Orifice	: <0.6 mm, Kv: 0.0074 m³/h
Pressure	: Vacuum up to 3 bar
Voltage	: 12, 24V DC



Type 6126
Direct-acting rocker solenoid valve, 2/2-way or 3/2-way. A diaphragm separates the medium from the actuator. In addition, the coil and actuator are separated by means of a stainless steel plate. Universal use for applications involving switching small quantities of compressed air or lightly contaminated fluids.

Orifice	: 0.8 to 2 mm, Kv: 0.01 m³/h
Pressure	: Vacuum up to 10 bar
Body	: PPS for subbase body, PPS, Brass or SS for M5 valve body
Seal	: FPM or EPDM
Voltage	: 12V, 24V DC, 110, 230VUC



Type 6128
Rocker solenoid actuator with medium separated PPS body with dead volume optimized and easy-to-flush inner contour. Central screw fixture of the coil allows the coil to be exchanged even with the medium applied. Modular body design allows the use of various fluidic connections. Type 6128 can be used universally for applications on which compressed air, vacuum or lightly contaminated or slightly aggressive gases and liquids are to be switched.

Orifice	: 2 to 6 mm, Kv: 0.11 to 0.18 m³/h
Pressure	: Vacuum up to 10 bar
Voltage	: 12V, 24V DC, 110, 230VUC

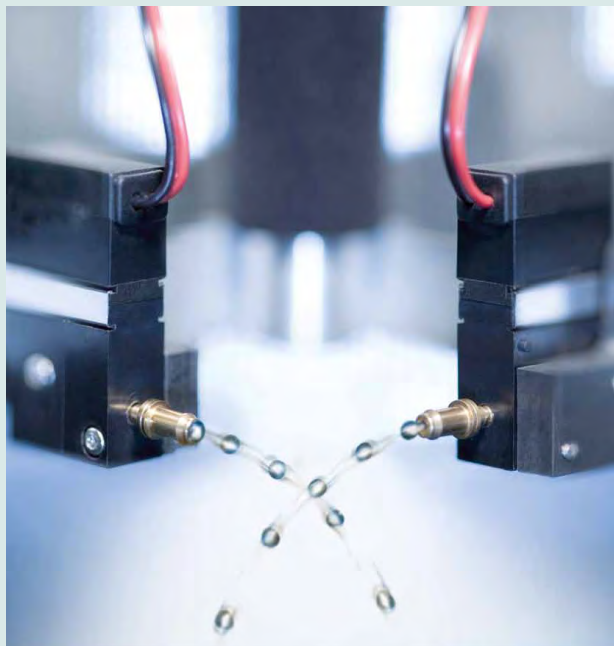


Type 7604 Micro-pump
This micro-pump operates based on the principle of a self-priming diaphragm pump. It was specifically developed for continuous pumping of small quantities of aggressive, inorganic or biological media. Highly precise dosing is possible in combination with an additional flow sensor.

Body	: PEEK
Seal	: FFKM
Media temp	: +10 to +60°C
Delivery rate	: max 5ml/min, Variable control frequency, Virtually pulsation free dosing.



Type 7616 Micro-dosing unit
The self-priming, low-dead-volume micro-dosing unit consists of two Type 6604 valves, one Type 6606 valve, one manifold (minimized with a view to the internal volume) and a control circuitry unit (option).The delivery rate can be adjusted via the number of cycles (max.650 cycles/min.) and the optionally adjustable stroke volume (0.5 µl ... 5 µl). Thanks to the high reproducibility, the unit is suitable for the precise dosing of ultra-small fluid quantities. PEEK and FFKM as the sole wetted materials virtually predestine the unit for use in aggressive media.

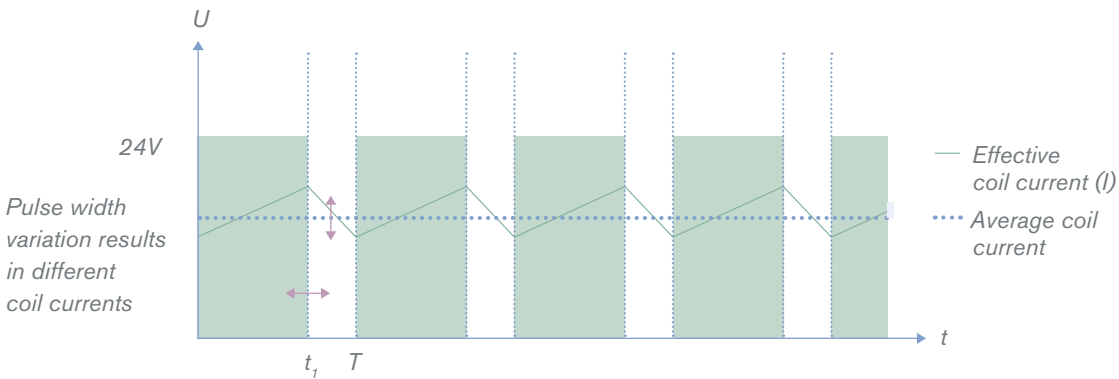


03 Solenoid Control Valves | Control Electronics

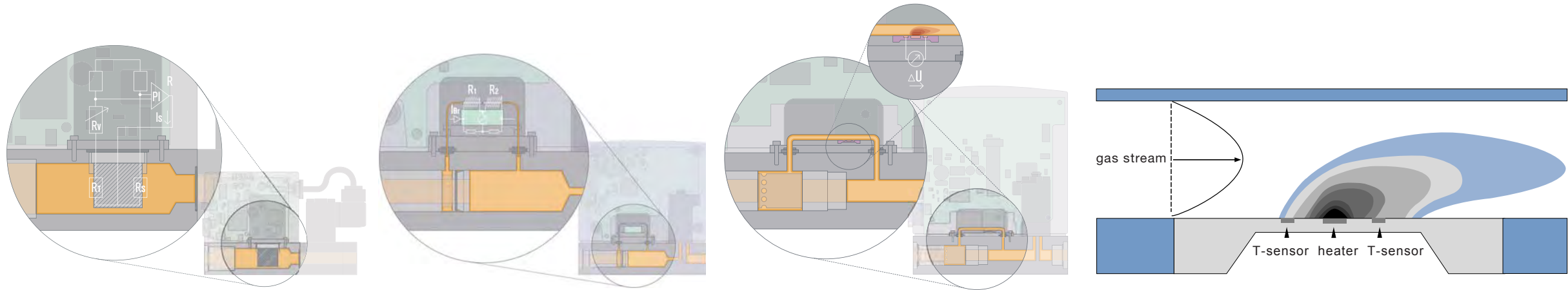
Positioner & Process Controller



		
Type	8605	8611
Function	Digital PWM control	Digital PI controller, two-position controller
Versions	Rail or valve mounting	Fitting, wall, panel, rail or valve mounting
Signals	– Set point (0-5 V, 0-10 V, 0-20 mA, 4-20 mA) – PWM output (80 Hz-6 kHz)	– Set point (0-10V or 4-20mA) – Actual process value (4-20mA) – Sensor input (4-20mA, Pt100 or frequency) e. g., pressure, temperature or flow – Control output signal (4-20mA or PWM) – Binary input – Binary output
Operating voltage	12, 24 VDC	24 VDC
Max. power consumption	1 W (without valve)	2 W (without valve)
Valve outlet	Max. 2 A (PWM)	Max. 2 A (PWM)
Software functions	– Valve setting (frequency, min./max. opening) – Zero point cut-off – Temperature compensation – Ramp function – Down-/upload of parameterization	– Controller setting – Configuration of switching (binary) signals – Scaling of set point and process value signals – Valve and sensor setting – Code protection – etc.



04 Mass Flow Controllers for Gases



Type	8626 (MFC) / 8006 (MFM)	8710 (MFC) / 8700 (MFM)	8711 (MFC) / 8701 (MFM)	8712 (MFC) / 8702 (MFM)	8713 (MFC) / 8703 (MFM)
Full scale ranges (273,15 K, 1013,25 mbar)	25 – 1500 I _N / min (N ₂)	0.005 – 10 I _N / min (N ₂)	0.02 – 80 I _N / min (N ₂)	0.02 – 50 I _N / min (N ₂)	0.02 – 50 I / min (N ₂)
Sensor technology	Inline Sensor	Capillary Sensor	CMOS Sensor		
Body material	Stainless steel, aluminium	Stainless steel	Stainless steel, aluminium	Stainless steel	Stainless steel, aluminium
Pressure / bar	10	10	10		
Turn-down ratio	1:50	1:50	1:50		
Accuracy	± 1.5 % o. R. ± 0.3 % of F. S.	± 1.5 % o. R. ± 0.3 % of F. S.	± 0.8 % o. R. ± 0.3 % of F. S.		
Settling time	< 500 ms	< 3000 ms	< 300 ms		
Repeatability	± 0.1 % of F. S.	± 0.1 % of F. S.	± 0.1 % of F. S.		
Protection class	IP65	IP40	IP40	IP65	IP40
Communication	Standard signal, RS-232 or RS-485, Profibus DP, DeviceNet, CANopen, Modbus	Standard signal, RS-232 or RS-485, Profibus DP, DeviceNet, CANopen, Modbus	Standard signal, RS-232 or RS-485, Profibus DP, DeviceNet, CANopen, Modbus		RS-232 or RS-485, Modbus
Special features	Sensor in contact with medium	Sensor not in contact with medium	Sensor in contact with medium		
	Low pressure drop	Low pressure drop	Low pressure drop		
	No flow conditioning required at inlet or outlet necessary	No flow conditioning required at inlet or outlet necessary	No flow conditioning required at inlet or outlet necessary		
	Neutral gases	Aggressive, toxic gases	Neutral gases		
	Real gas calibration	Real gas calibration or conversion factor	Real gas calibration; conversion factors for some gases possible		
	Leak tightness (outside) down to 10 ⁻⁶ mbar I _{He} /s	Leak tightness (outside) down to 10 ⁻⁹ mbar I _{He} /s	Leak tightness (outside) down to 10 ⁻⁶ mbar I _{He} /s		
	Less sensitive to humidity and particles		Less sensitive to humidity and particles		

05 Process Valves | Angle Seat & Globe

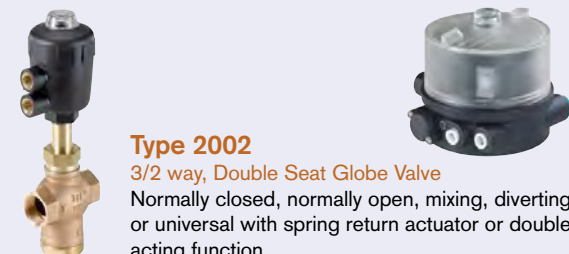
ON/OFF and Control Valves



Type 2000/2702
2/2 way, Angle Seat Valve
- Flow Above Seat
- Flow Below Seat (Water Hammer Free)

Normally closed or normally open with spring return actuator or double acting function.
Orifice size : 15.0 to 65.0 mm
Kv : 3.7 to 77.0 m³/h
Port connection : BSP, NPT, PT 1/2" to 2 1/2", Flanged (DIN) DN15 to DN50 (Weld ends and Tri-Clamp version on request)

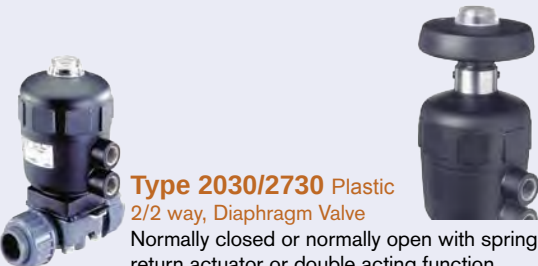
Actuator size : Ø 40mm to Ø 125mm
Body material : Gunmetal or stainless steel
Actuator material : Polyamide or PPS
Seal material : PTFE
Media temperature : 0 to +180°C
Media Pressure range : 0 to 16 bar (max. 10 bar for steam)
Pilot Pressure : 3 to 10 bar



Type 2002
3/2 way, Double Seat Globe Valve

Normally closed, normally open, mixing, diverting or universal with spring return actuator or double acting function.

Orifice size : 15.0 to 50.0 mm
Kv : 9.0 to 37.0 m³/h
Port connection : BSP, NPT, PT 1/2" to 2"
Actuator size : Ø 50mm to Ø 125mm
Body material : Gunmetal
Actuator material : Polyamide
Seal material : PTFE
Media temperature : 0 to +180°C
Media Pressure range : 0 to 16 bar (max. 10 bar for steam)
Pilot Pressure : 4 to 10 bar



Type 2030/2730 Plastic
2/2 way, Diaphragm Valve

Normally closed or normally open with spring return actuator or double acting function.

Orifice size : 15.0 to 100.0 mm
Kv : 3.5 to 160 m³/h
Port connection : Socket union, Fusion spigot, Flange (Other connections on request)
Actuator size : Ø 50mm to Ø 225mm
Body material : PVC, PVDF or PP
Actuator material : PA
Seal material : EPDM, PTFE/Butyl or PTFE/EPDM
Media temperature : 0 to +130°C (PVDF)
0 to 60°C (PVC)
Media Pressure range : 0 up to 10 bar
Pilot Pressure : 5 to 7 bar



Type 2012/2712
2/2 way, Globe Valve
- Flow Above Seat
- Flow Below Seat (Water Hammer Free)

Normally closed or normally open with spring return actuator or double acting function.

Orifice size : 15.0 to 100.0 mm
Kv : 4.7 to 170.0 m³/h
Port connection : BSP, NPT, PT 1/2" to 2 1/2", Flanged DN10 to DN100 (DIN, JIS, ANSI) (Weld ends and Tri-Clamp version on request)

Actuator size : Ø 40mm to Ø 225mm
Body material : Stainless steel
Actuator material : Polyamide or PPS
Seal material : PTFE
Media temperature : 0 to +180°C
Media Pressure range : 0 to 16 bar (max. 10 bar for steam)
Pilot Pressure : 3 to 10 bar



Type 2031GP/2731GP
- Cold Form Tube Stainless Steel, 2/2 way, Diaphragm Valve

Normally closed or normally open with spring return actuator or double acting function.

Orifice size : 8.0 to 100.0 mm
Kv : 1.0 to 265.0 m³/h
Port connection : BSP, NPT, PT 1/2" to 2", Flanged or weld ends (DIN) DN15 to DN100
Actuator size : Ø 40mm to Ø 225mm
Body material : Stainless steel 1.4404
Actuator material : Polyamide, PPS (on request)
Seal material : EPDM or PTFE/EPDM
Surface finish : Glass bead (1.6 µm)
Media temperature : -10 to +130°C
Media Pressure range : 0 to 10 bar
Pilot Pressure : 5 to 10 bar

05 Process Valves | Diaphragm

Ultra Pure, Sterile and Hygienic Applications



Type 2031 Pneumatic Operated
Type 3233 Handwheel Operated
Stainless Steel, 2/2 way, Diaphragm Valve
Orifice size : 4.0 to 100.0 mm
Kv : 1.0 to 235.0 m³/h
Port conn. : Weld ends to DIN, BS, ISO, SMS Tri-Clamp to DIN, ISO, SMS, ASME (Other connections on request)

Body material : Forged or Block 316L/1.4435/BN2 or Investment Cast 316L/1.4435
Seal material : EPDM or PTFE/EPDM
Surface finish: Internal : Ra ≤ 0.25µm to ≤ 0.5 µm
External : Ra ≤ 0.25µm to ≤ 6.3 µm
Media temperature : -10 to +130°C
Media Pressure range : 0 to 10 bar
Certification available : FDA, 3A, EN-ISO 10204 3.1B, others on request

Pneumatic Operated Version
Normally closed or normally open with spring return actuator or double acting function.
Actuator size : Ø 40mm to Ø 225mm
Actuator material : PPS (Actuator Ø 40mm to Ø 125mm)
PA (Actuator Ø 175mm to Ø 225mm)
Pilot Pressure : 5 to 7 bar
Handwheel Operated Version
Handwheel material : PPS or Stainless steel
Bonnet material : PPS or Stainless steel

ELEMENT design
Intelligent, Integrated and Beautiful
Combining the chemical characteristics of engineered polymers with the beauty and endurance of stainless steel, ELEMENT's platform is rugged and clean. There is no paint, no pockets, no pneumatic lines and valves are delivered with superBRIGHT visual feedback.

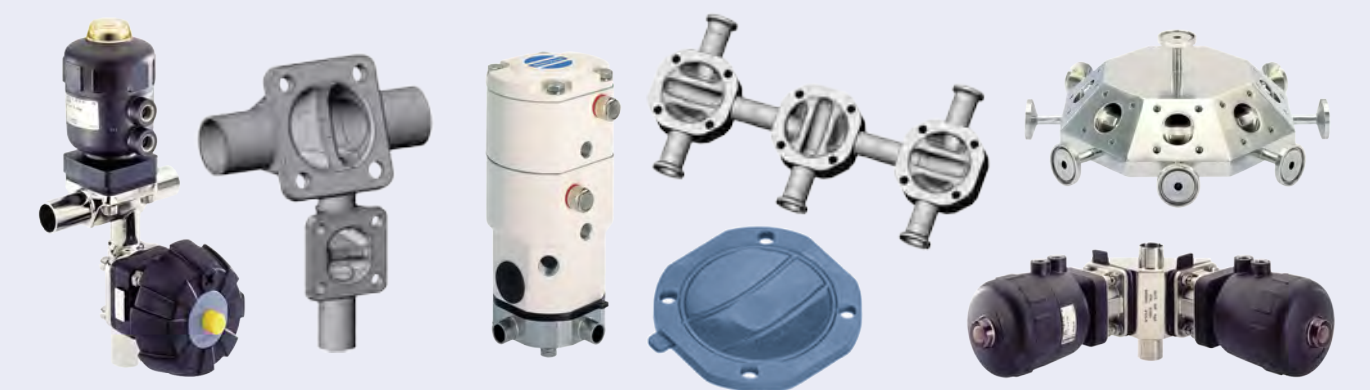


Type 2032 Pneumatic Operated
Type 3234 Handwheel Operated
Zero Deadleg T Diaphragm Valve

Type 2033 Pneumatic Operated
Type 3235 Handwheel Operated
Tank Bottom Diaphragm Valve



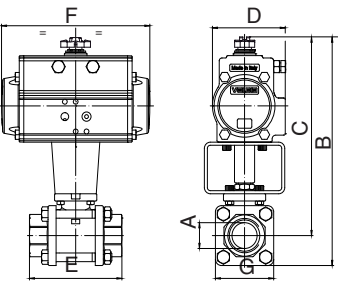
Customized Welded and Block Solutions



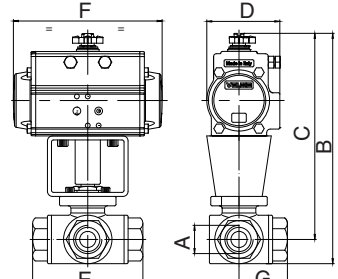
05 Process Valves | Quarter Turn



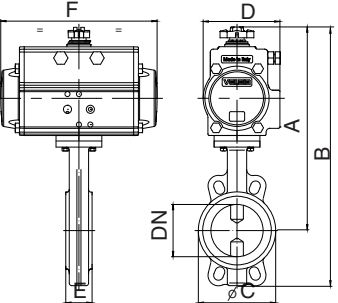
Ball Valve 2-pcs, 3-pcs Ball Valve L-port, T-port Butterfly Valve Electric Actuator Positioner 4-20mA



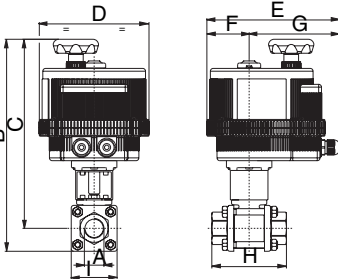
PN	• 64	64	64	40	40	25	25	25	16	16	16
DN	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
A	152	152	163	211	220	229	282	309	394	430	461
B	136	136	144	187	191	196	244	264	327	350	366
C	71	71	71	81	81	81	106	123	137	148	148
D	57	57	65	76	92	107	116	136	154	180	217
E	140	140	140	162	162	162	238	272	328	366	366
F	33	33	38	47	58	67	76	90	134	161	190
G											
SR	SR 52	SR 52	SR 52	SR 63	SR 63	SR 63	SR 85	SR 100	SR 115	SR 125	SR 125
DA	DA 32	DA 32	DA 32	DA 52	DA 52	DA 52	DA 63	DA 75	DA 85	DA 85	DA 100



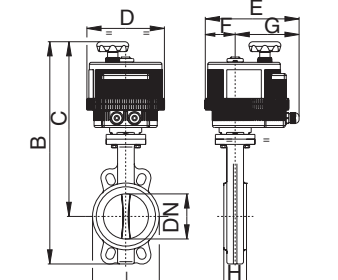
PN	64	64	64	64	64	64	64	64
DN	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	201	201	201	237	258	274	294	313
B	183	183	183	219	232	240	256	265
C	81	81	81	95	106	106	123	123
D	79	79	79	86	108	124	134	164
E	162	162	162	207	238	238	272	272
F	39	39	39	43	54	62	67	81
G								
SR	SR 63	SR 63	SR 63	SR 75	SR 85	SR 85	SR 100	SR 100
DA	DA 52	DA 52	DA 52	DA 63	DA 63	DA 63	DA 85	DA 85



DN	32	40	50	65	80	100	125	150	200	250	300
PN	16	16	16	16	16	16	16	16	16	16	16
A	252	252	252	264	292	310	338	348	454	481	534
B	310	310	315	336	386	418	458	484	619	683	784
C	75	82	96	109	126	152	182	207	273	320	378
D	81	81	81	81	106	106	123	123	164	187	187
E	33	33	43	46	46	52	56	56	60	68	78
F	162	162	162	162	238	238	272	272	428	522	522
G											
SR	SR 63	SR 63	SR 63	SR 63	SR 85	SR 85	SR 100	SR 100	SR 140	SR 160	SR 160
DA	DA 52	DA 52	DA 52	DA 52	DA 63	DA 75	DA 75	DA 85	DA 100	DA 115	DA 125



PN	• 64	64	64	40	40	25	25	25	16	16	16
DN	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
A	205	205	215	252	308	317	368	382	434	459	510
B	188	188	196	229	279	283	330	337	367	378	415
C	123	123	123	123	157	157	185	185	211	211	211
D	164	164	164	164	191	191	215	215	237	237	237
E	43	43	43	43	61	61	68	68	84	84	84
F	121	121	121	121	130	130	147	147	153	153	153
G	57	57	65	76	92	107	116	136	154	180	217
H	33	33	38	47	58	67	76	90	134	161	190
I											
ACT.	VB 015	VB 015	VB 015	VB 015	VB 030	VB 030	VB 060	VB 060	VB 110	VB 110	VB 190
RI	3021	3021	3790	3781	3030	3030	3031	3031	3003	3003	3004



DN	32	40	50	65	80	100	125	150	200	250	300
PN	16	16	16	16	16	16	16	16	16	16	16
B	351	351	402	423	473	504	548	574	657	708	875
C	293	293	339	351	379	396	428	438	492	507	625
D	123	123	157	157	185	185	211	211	222	222	222
E	164	164	191	191	215	215	237	237	247	247	247
F	43	43	61	61	68	68	84	84	77	77	77
G	121	121	130	130	147	147	153	153	170	170	170
H	33	33	43	46	46	52	56	56	60	68	78
I	75	82	96	109	126	152	182	207	273	320	378
ACT.	VB 015	VB 015	VB 030	VB 030	VB 060	VB 060	VB 110	VB 190	VB 270	VB 270 *	VB 350
RI	3836	3836	3836	3836	3883	3884	3840	3847	3842	3842	4047

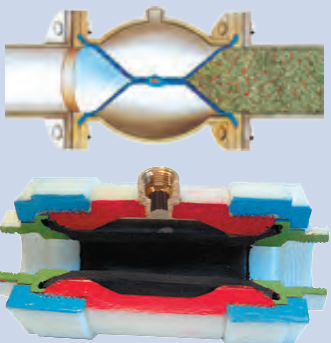
05 Process Valves | Pinch Valves

Viscous, Granulated, Conaminated and Aggressive

PREMAFLEX Pinch Valves
for Air Conveyor, Cement, Sand and Food Industry

By pressing additional compressed air or water into the Pinch Valve casing, a special, highly elastic collar is compressed. This will close the collar and will absolutely block the stream of material, even if it contains pieces of solid material.

Due to the highly elastic collar, the valve's functionality will be maintained even with frequent switching. After switching off the control medium, the collar will automatically reopen on account of its adaptive quality.



Pinch Valve Standard
Cast Iron, Aluminium, POM or PP casting

PREMAFLEX Pinch Valves may be used for dust, for pourable and pulpy media and also for liquid and gaseous materials. Due to the special structure of the gasket, a hose may be closed at an even level to the central axis.

Resistance to chemicals (waste water, caustic and acid liquids), resistant to fire and temperatures from -20°C to +120°C (depending on the gasket material).

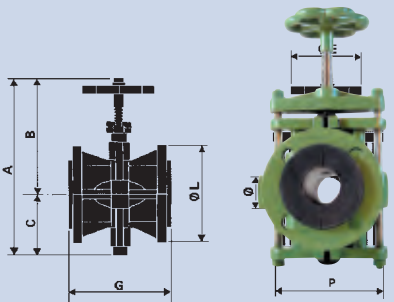
Gaskets are available in Natural rubber, Neopren, NBR, Buna-S, Viton, EPDM, Silicon and also available in food-grade quality acc. to German BfR and American FDA approved.



Pinch Valve Manual P.S.1
(Hand-operated Hose Valves)

As an alternative to the valves operated by means of additional compressed air, we can also offer valves that are opened and closed manually.

Grey cast iron or aluminium casting, DN10-200 flanges DIN2501 PN10
Maximum permitted operating pressure 4-5 bar



Limit Switch Box, NAMUR Valves and Positioner

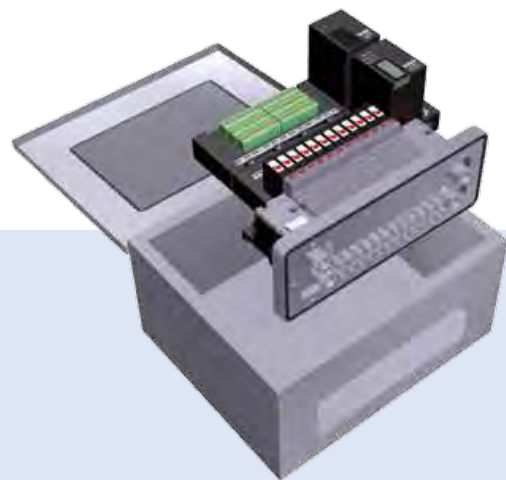
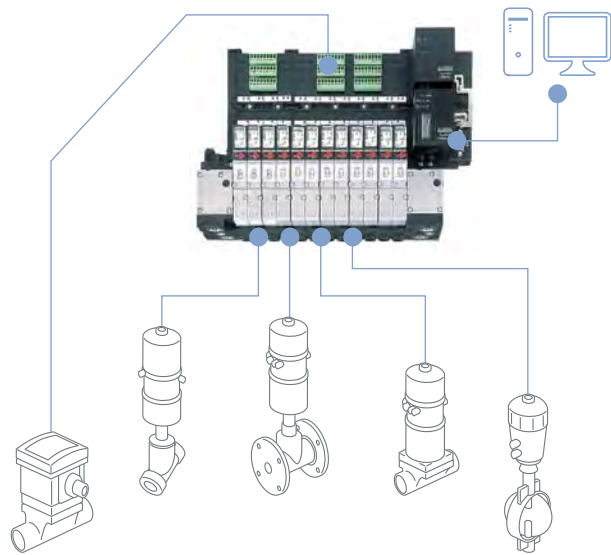
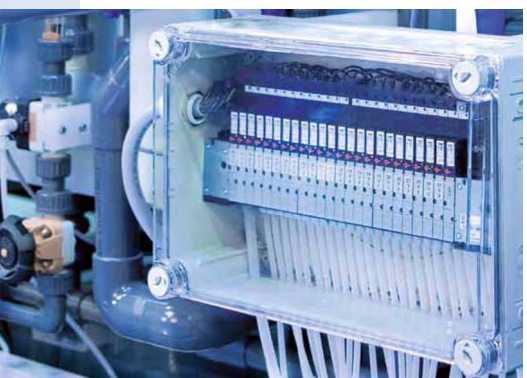
Bürkert 1062QT Electrical Feedback and Position Monitor System
Compact powder coated aluminium die-casted housing - weather proof IP67
Nanur standard stainless steel mounting bracket 30x80xH20 or 30x130xH30
2x Mechanical switch SPDT 250VAC/3A, 2x Conduit connection 1/2"

HAFNER 5/2-way solenoid valve NAMUR standard with ATEX approvals
EEx m II T4 or EEx ia IIC T6, type MNH 510 701 G1/4 any voltage, 1250 l/min.

Bürkert 8792/8793 Positioner and Process Controller with PID On Board



06 Pneumatics & Process Interfaces



Control cabinets for non Ex locations



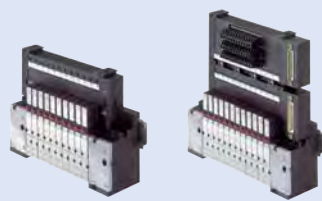
ELEMENT interface



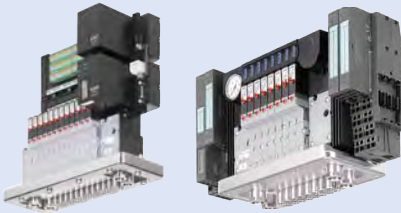
Control cabinets for hazardous locations

Decentralized Automation

Cabinets



8640 Multipole or Fieldbus



AirLINE Quick 8640



8644 Rockwell 8644 Phoenix

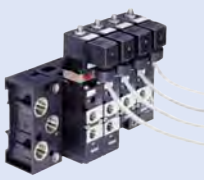


8644 Siemens 8644 Wago 8650 AirLINE Ex

Valve Islands



8640 with 5470 valves



8640 with 6518/6519 valves



8640 with 6526/6527 valves



8640 with 6524/6525 EEx-i valves

Valve Blocks



6144/6106



6012P



6014P



5470 NAMUR



6524/6525



6526/6527

Non Ex



6519 NAMUR Ex



6524 EEx-i

Hazardous Locations

Single Pilot Valves

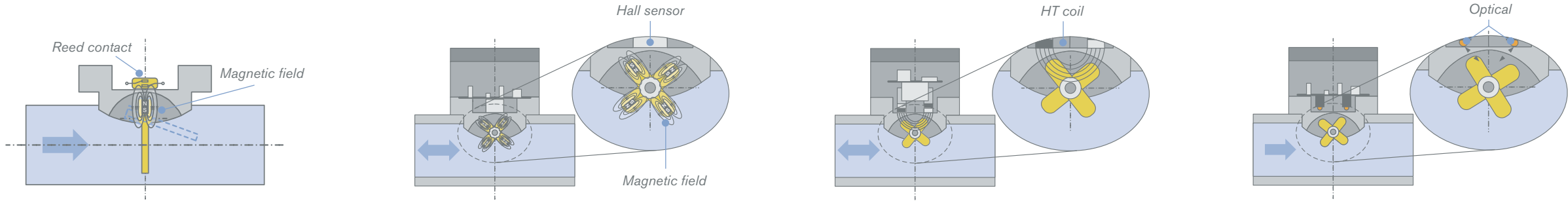
07 Sensors, Transmitters and Controllers

A Complete World of Sensor Solutions

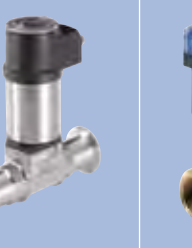
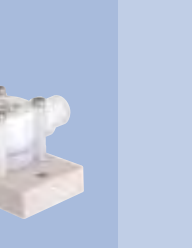


Flow, Batch and Ratio	Level	pH/ORP	Conductivity	Pressure	Temperature	Transmitters and Controllers
 Paddle wheel  Oval gear  Magmeter  Ultrasonic  Differential pressure	 Ultrasonic  Radar  Guided microwave  Tuning fork  Float switch	 Glass electrode  Enamel electrode	 Conductive  Inductive	 Switch  Transmitter/display  Transmitter	 PT100 sensor  PT100 Switch  Transmitter	 Single channel universal controller  Positioners and process controllers  Dual channel analysis controller  Multi channel water chemistry controller  Multi channel universal controller  pH Controller  Analysis transmitter
Page 12	Page 16	Page 18			Page 21	Page 22

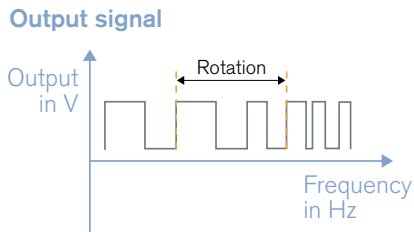
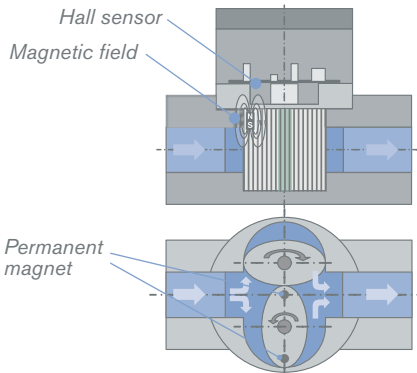
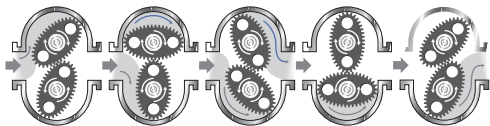
07 Flow | Paddle Wheel



Sensors which provide perfect performance for clean, neutral or aggressive liquids in moderate pressures and temperatures

												
Sensor type	8010	8011	8012	SE30EX	8030 HT	8030	8032	8035B/8036	8039	8020	8025B/8036	8031
Sensor principle	Reed contact	Hall	Hall or optical	Hall	HT-coil	Hall	Hall	Hall	Optical	Hall	Hall	Hall
Flow rate range [l/min] Flow rate range [GPM]	4 - 1000 1 - 265	0.5 - 1000 .13 - 265	0.5 - 1000 .13 - 265	0.5 - 1000 .13 - 265	0.85 - 1000 .22 - 265	0.5 - 1000 .13 - 265	0.5 - 1000 .13 - 265	0.5 - 1000 .13 - 265	0.5 - 1000 .13 - 265	0.5 - 75000 .13 - 19,813	0.5 - 75000 .13 - 19,813	0.16 - 4 .04 - 1
Temperature/pressure range	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	see P/T chart pages 46/47	6bar (87psi) at 20 °C (68°F) Max 80 °C (176°F)
Nominal diameter	DN15 - DN50 (½ - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN6 - DN50 (6 mm - 2" NPT)	DN15 - DN400 (½" - 2")	DN15 - DN400 (½" - 2")	G & NPT ⅛" - G ¼"
Wetted parts												
Paddle wheel	PVDF	PVDF	PVDF	PVDF	SS	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF	POM/ECTFE
Axis/bearing	Ceramic/Ceramic	Ceramic/Ceramic	Ceramic/Ceramic	Ceramic/Ceramic	Ceramic/Ceramic or Steel/PEEK	Ceramic/Ceramic	Ceramic/Ceramic	Ceramic/Ceramic	Ceramic/Ceramic	Ceramic/Ceramic or Steel/PEEK	Ceramic/Ceramic	Corepoint/ Sapir/Rubin
Seal	FKM, EPDM	FKM, EPDM	FKM, EPDM	FKM	FKM, EPDM	FKM, EPDM	FKM, EPDM	FKM, EPDM	FKM, EPDM	FKM, EPDM	FKM, EPDM	FKM, EPDM, FFKM
Body	PVC, PP, PVDF, Br, SS	PVC, PP, PVDF, Br, SS	PVC, PP, PVDF, Br, SS	PVC, PP, PVDF, Br, SS	SS	PVC, PP, PVDF, Br, SS	PVC, PP, PVDF, Br, SS	PVC, PP, PVDF, Br, SS	SS, Br	PVC, PP, PVDF, Br, SS	PVC, PP, PVDF, Br, SS	POM, ECTFE
Fluid properties	No fibres No ferromagnetic parts. < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants	No fibres < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants	No fibres < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants	No fibres < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants	No fibres No ferromagnetic parts. < 1% contaminants
Viscosity [cSt]	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<5
Conductivity [µS/m]	No affect	No affect	No affect	No affect	No affect	No affect	No affect	No affect	No affect	No affect	No affect	No affect
Fitting type	S010	S012	S012	S030	S030 HT	S030	S030	S030	S039	S020	S020	integrated
Turndown	N/A	1:33	1:33	1:33	1:20	1:33	1:33	1:33	1:33	1:33	1:33	1:12
Electrical characteristics												
Basic function	Switch	Sensor	Sensor, Trans- mitter, Switch	Sensor	Sensor	Sensor	Sensor, Trans- mitter, Switch	Sensor, Trans- mitter, Switch, Batch, Totalizer	Sensor, Switch	Sensor	Sensor, Trans- mitter, Switch, Batch, Totalizer	Sensor
Output	Reed contact NO/NC	Pulse	4-20 mA, Pulse, Transistor	Namur	Pulse	Pulse	4-20 mA, Pulse, Transistor	4-20 mA, Pulse, Transistor, Relay	Pulse, Replace	Pulse	4-20 mA, Pulse, Transistor, Relay	Pulse
Display	No	No	No	No	No	No	Yes	Yes, removable	Yes	No	Yes, removable	No
Specifics	Compact	Compact	Compact	Compact	Compact	Compact	Compact, Wall	Compact, Wall	Compact	Compact	Compact, Wall, Panel	Compact

07 Flow | Oval Gear

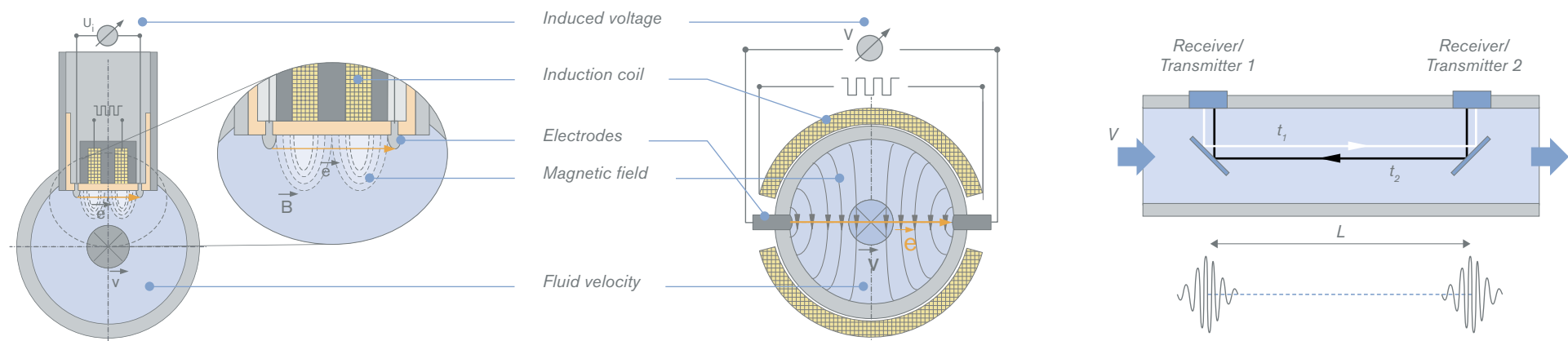


Sensors for clean viscous fluids where low flow is required

Type 8070	Type 8071	Type 8072	Type 8075B / 8076	Type SE30EX
				

Fluidic characteristics					
Sensor principle	Hall	Hall	Hall	Hall	Hall
Flow rate range [l/min] Flow rate range [GPM]	2 - 1200 0.50 - 320	0.008 - 8.33 .002 - 2.2	2 - 1200 0.50 - 320	2 - 1200 0.50 - 320	2 - 1200 0.50 - 320
Temperature/pressure range	55 bar (800psi) at 120 °C (248°F) (depending on orifice)	55 bar (800psi) at 120 °C (248°F)	55 bar (800psi) at 120 °C (248°F) (depending on orifice)	55 bar (800psi) at 120 °C (248°F) (depending on orifice)	55 bar (800psi) at 120 °C (248°F)
Nominal diameter	DN15 - DN100 (NPT ½" - 4")	G & NPT G ¼" and ⅛"	DN15 - DN100 (NPT ½" - 4")	DN15 - DN100 (NPT ½" - 4")	DN15 - DN100 (NPT ½" - 4")
Wetted parts Rotor Axis/bearing Seal Body	PPS, Aluminium, SS SS FKM (EPDM or PTFE) AL, SS	PPS, SS Hastelloy C, SS FKM (EPDM) Aluminium, PPS, SS	PPS, Aluminium, SS SS FKM (EPDM or PTFE) AL, SS	PPS, Aluminium, SS SS FKM (EPDM or PTFE) AL, SS	PPS, Aluminium, SS SS FKM (EPDM or PTFE) AL, SS
Fluid properties	No fibres. No ferromagnetic parts. Filtered.	No fibres. No ferromagnetic parts. Filtered.	No fibres. No ferromagnetic parts. Filtered.	No fibres. No ferromagnetic parts. Filtered.	No fibres. No ferromagnetic parts. Filtered.
Viscosity [cSt]	< 1 Mio	< 1 Mio	< 1 Mio	< 1 Mio	< 1 Mio
Conductivity [µS/m]	No affect	No affect	No affect	No affect	No affect
Fitting type	S070		S070	S070	S070
Turndown	1:25	1:50	1:25	1:25	1:25
Electrical characteristics					
Basic function	Sensor	Sensor	Transmitter, Switch	Transmitter, Switch, Batch	Sensor
Output	Pulse	Pulse	Pulse, 4 - 20 mA, Switch	Pulse, Relay, 4 - 20 mA, Switch	Namur NPN / PNP
Display	No	No	Yes	Yes	No

07 Flow | Non-Moving Parts

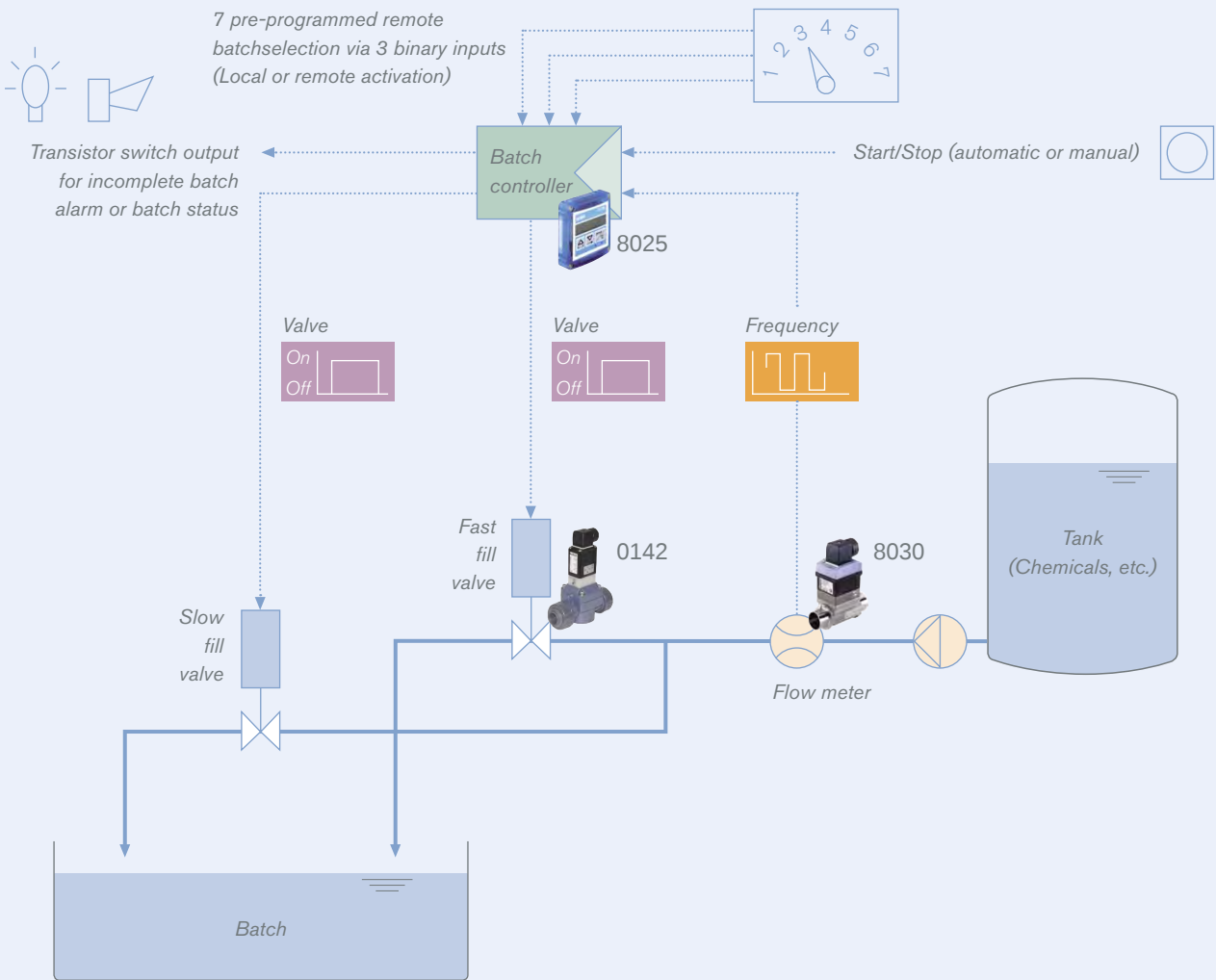


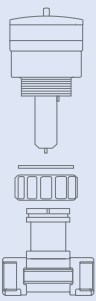
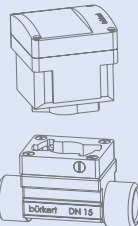
							
Type	8041	8045	8051	8055	8056	8081	8718/8719
Sensor principle	Magmeter Insertion	Magmeter Insertion	Magmeter Full bore	Magmeter Full bore	Magmeter Full bore	Ultrasonic	Differential Pressure
Flow rate range [l/m] Flow rate range [GPM]	0.3 - 75000 0.8 - 19,813	0.3 - 75000 0.8 - 19,813	0.02 - 208 .005 - 55	0.02 - 4666 .005 - 1,233	0-02 - 4666 .005 - 1,233	0.06 - 200 .016 - 53	0.01 - 0.6 .003 - .016
Temperature/pressure range	See P/T diagram pages 46/47	See P/T diagram pages 46/47	-20 ... 150 °C (-4 to 302°F) at 16 bar (232psi) (depending on lining)	-20 ... 150 °C (-4 to 302°F) at 16 bar (232psi) (depending on lining)	-20 ... 150 °C (-4 to 302°F) at 16 bar (232psi)	16 bar (232psi) at 5 - 90 °C (41 to 194°F)	10 bar (145psi) at 10 - 40 °C (50 to 104°F)
Nominal diameter	6 - 400 (6mm - 8")	6 - 400 (6mm - 8")	3 - 20 (1/4" - 1" NPT)	25 - 100 (1 - 4") (up to 400 on request)	3 - 100 (1/4" - 4")	15 - 25 (3/4" - 1 1/4" NPT on request)	G 1/4, NPT 1/4, flange
Wetted parts Sensorfinger Electrodes [Holder] Lining Seal Body	SS, PVDF SS/Alloy (PEEK) analogue S020 PVC, PVDF, PP, SS	SS, PVDF SS/Alloy (PEEK) analogue S020 PVC, PVDF, PP, SS	SS/PTFE SS, Hasteloy C, Titanium, Platinum EPDM, FKM SS	SS/PP(Ebonite)/ PTFE SS, Hasteloy C, Titanium, Platinum EPDM, FKM Carbon steel (painted)	SS/PTFE SS SS (3A)	PES (measuring tube) SS (tilting mirror) EPDM Brass	SS (orifice plate) SS FKM/EPDM/FFKM SS
Fluid properties	Clean and contaminated media ferromagnetic parts < 1 %	Ferromagnetic parts < 1 %	Contaminated or sterile fluids	Contaminated or sterile fluids	Contaminated or sterile fluids	Water-like fluids with no fibres and less than 1% solids	Water, alcohol
Viscosity [cSt]	< 1000	< 1000	< 1000	< 1000	< 1000	< 4	< 4
Conductivity [µS/cm]	> 20	> 20	> 5	> 5	> 5	No affect	No affect
Fitting type	S020	S020, Clamp	S051	S055	S056	Integrated	Integrated
Turndown ratio	1:50	1:50	1:500	1:500	1:500	1:250	1:10
Characteristics							
Basic function	Sensor, Transmitter	Switch, Sensor, Transmitter, Totalizer	Sensor, Transmitter, Batch Controller, Totalizer	Sensor, Transmitter, Batch Controller, Totalizer	Sensor, Transmitter, Batch Controller, Totalizer	Sensor	Sensor, Transmitter
Output	Relay, Pulse, 4 - 20 mA	Relay, Pulse, 4 - 20 mA	Transistor, Relay, Pulse, 4 - 20 mA	Transistor, Relay, Pulse, 4 - 20 mA	Transistor, Relay, Pulse, 4 - 20 mA	Pulse, 4 - 20 mA	0 - 5 V, 0 - 10 V, 0 - 20 mA, 4 - 20 mA
Display	No	Yes	Yes/no	Yes/no	Yes/no	No	LED

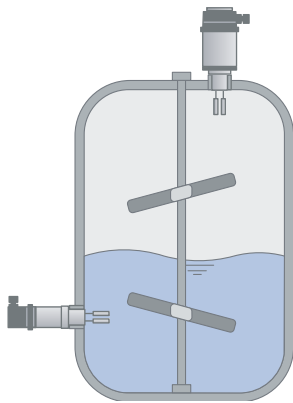
07 Batch Controllers

Bürkert batch controllers can control very precise dosing and filling operations. Two switching relay outputs serve to actuate valves for a single or double stage, precise dosing function. If required, one of the relays can be used as an alarm output in the event of an incomplete batch event. The dosing operations can be started manually or automatically. The design and materials allow use in virtually all types of fluids. It is possible to select the most appropriate measuring principle (paddle wheel, oval gear, ultrasonic, full bore magmeter or Insertion magmeter) depending on the properties of the medium.

8025B/8036B compact, 8025B panel/wall-mounted, 8051/8055/8056 full-bore magmeter

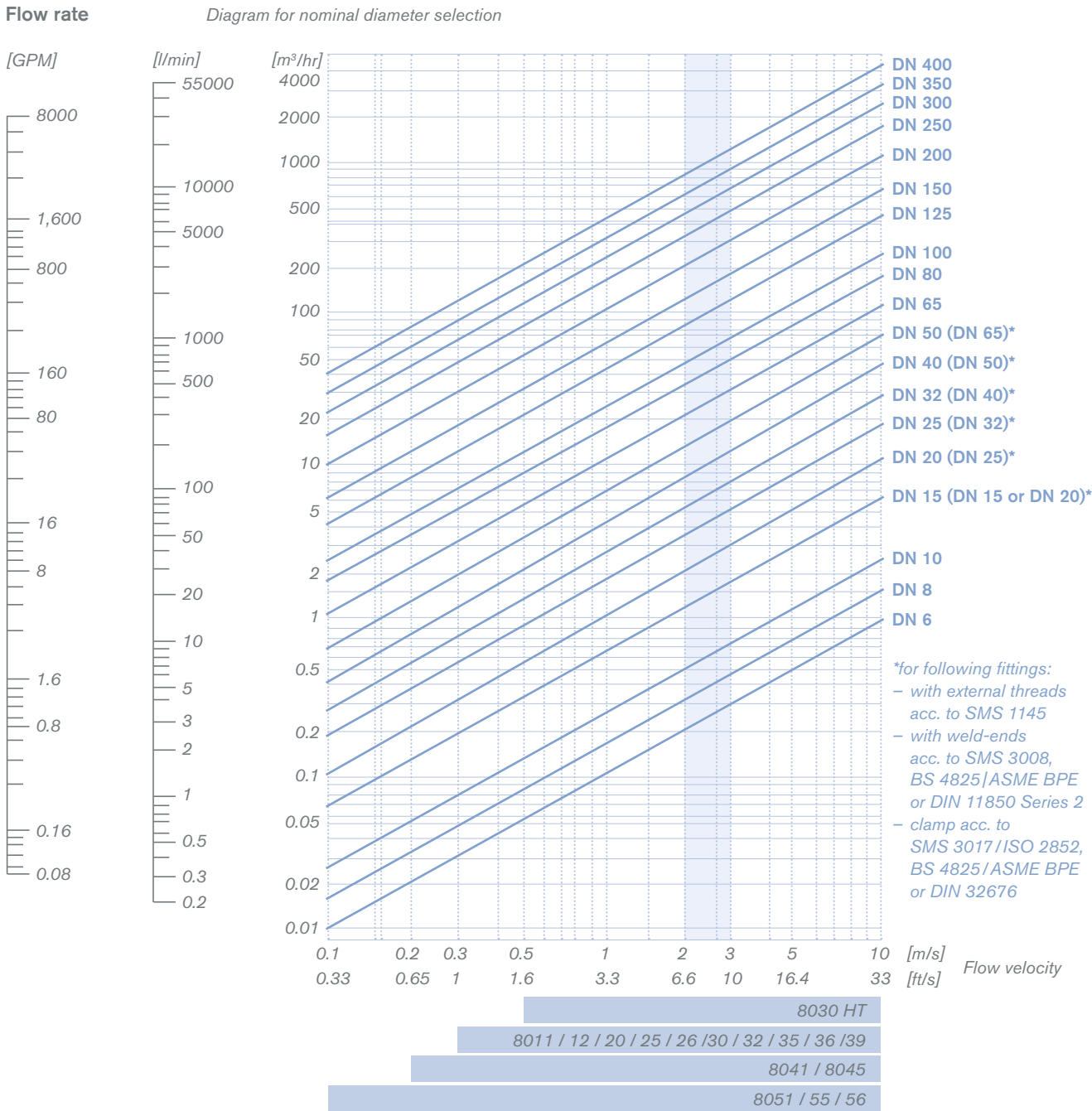


DN 6 - DN 50 (1/4"-2")	DN 50 - DN 350 (2"-14")	DN 6 - DN 50 (1/4"-2")	
T-fitting with divers pipe connections made of stainless steel or plastic	Fusion spigot with or without radius made of stainless steel	Plastic housing with true union connection with solvent or fusion spigot	Plastic housing with solvent joint or weld-end connection
			
DN 65 - DN 400 (2.5"-16")	DN 80 - DN 400 (3"-16")	Brass housing with internal thread (threaded port)	Stainless steel housing with weld end
Threaded connectors and fusion spigots made of plastic (weld-o-let)	Connection saddle made of plastic		
		Stainless steel housing with internal thread	Stainless steel housing with flanges
			
Installation of an INSERTION flow sensor, eg. 8025, 8045		Stainless steel housing with clamp connection	Stainless steel housing with internal thread
			
Installation of an INLINE flow sensor, eg. 8032, 8036			



Selection Help – Flow Velocity Considerations

Depending on the sensor type, the right flow rate has to be chosen to get the best accuracy. The higher the flow velocity, the lower the measurement error, but the higher the pressure loss. On the next page you will find the relationship between flow velocity, pressure drop and accuracy (page 40-43). The following chart will help you find the correct fitting diameter for your application depending on flow velocity and sensor technology. Pipes for fluids similar to water are generally designed for an average flow velocity of approx. 2 to 3 m/s (6-10ft/s).



Type 8110	Type 8111	Type 8112	Type 8181

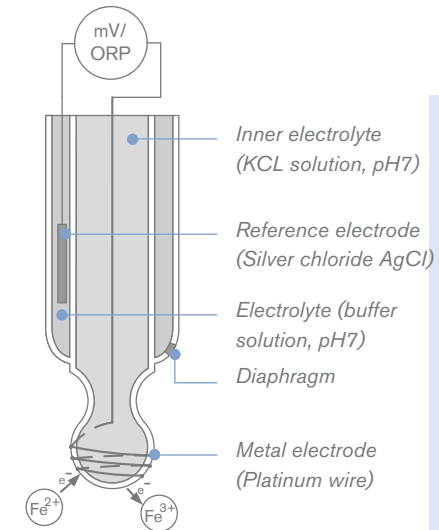
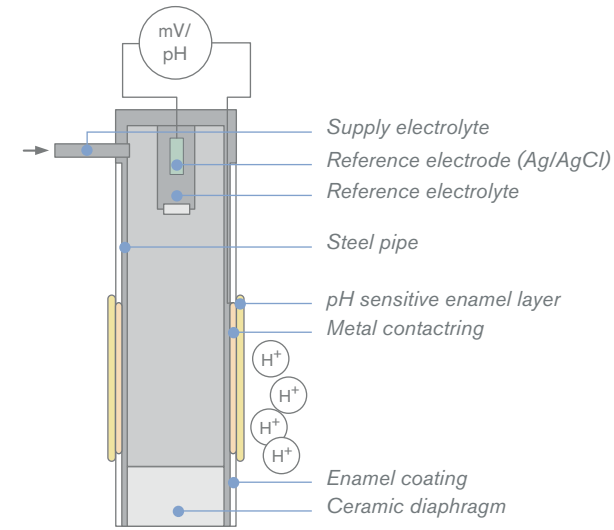
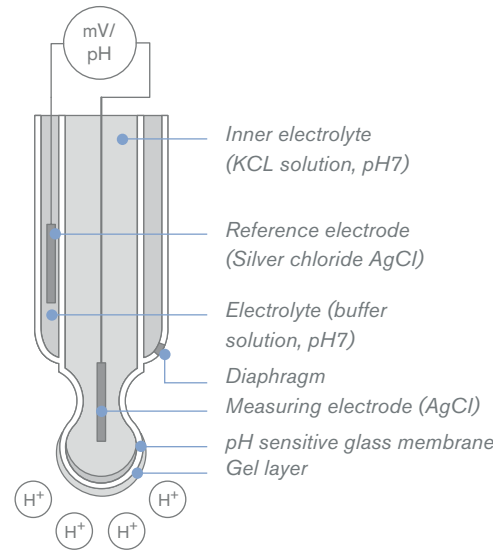
Fluidic characteristics				
Sensor principle	Tuning fork	Tuning fork	Tuning fork	Floater
Vessel pressure	-1 – 64 bar	-1 – 64 bar	-1 – 64 bar	10 bar (SS), 1 bar (PP)
Process temperature	-40 – 150 °C (302°F)	-50 – 150 °C (302°F)	-50 – 150 °C (302°F)	-40 – 120 °C (248°F)
Wetted parts				
Seal	Klingersil	FKM	FKM	–
Body	SS	SS	SS	SS or PP
Accuracy	2 mm	2 mm	2 mm	
Process connection	G or NPT 1", Clamp2"	G or NPT 1", Clamp2"	G or NPT 1", Clamp2"	G, Rc, NPT ¾"
Influence coating	Less	Less	Less	High
Influence steam / condensate	No	No	No	No
Avoid	Coating	Coating	Coating	Dust, coating
Electrical characteristics				
Basic function	Switch	Switch	Switch	Switch
Wiring	3-wire	3-wire	3-wire	3-wire
Output	Transistor PNP, contactless switch	Double-3 Amp-Relay, NAMUR	Double-3 Amp-Relay, NAMUR	Relay (3 Amp)
Display	LED	LED	LED	LED
Approval		ATEX	ATEX	

07 Sensors | Level Transmitters



		Type 8175	Type 8176	Type 8177	Type 8178	Type 8136	Type 8137	Type 8138	Type 8185	Type 8186	Type 8326
											
Fluidic characteristics											
Sensor principle		Ultrasonic				Radar			Guided Microwave		Hydrostatic
Measuring range	Liquids	0 – 10 m	0.25 – 5 m	0.4 – 8 m	0.6 – 15 m	0.05 – 20 m	0.05 – 30 m	0.05 – 20 m	0.08 – 32 m	0.08 – 4 m	0 – 40 bar
Vessel pressure		0 – 2 bar	-0.2 – 2.0 bar	-0.2 – 2.0 bar	0 bar	Vacuum – 3 bar	Vacuum – 40 bar	Vacuum – 16 bar	Vacuum – 40 bar	Vacuum – 16 bar	Depending on pressure range
Process temperature		-40 – 80°C (176°F)	-40 – 80°C (176°F)	-40 – 80°C (176°F)	-40 – 80°C (176°F)	-40 – 80°C (176°F)	-40 – 130°C (266°F)	-40 – 150°C (302°F)	-30 – 150°C (302°F)	-40 – 150°C (302°F)	-30 – 105°C (221°F)
Wetted parts	Seal Body	FKM or EPDM PVDF	EPDM PVDF	EPDM PVDF	EPDM SS	FKM PVDF	Klingsil, FKM SS	EPDM SS	FKM SS	FKM SS	FKM, EPDM SS
Accuracy		± 3 mm	± 4 mm	± 4 mm	± 6 mm	± 5 mm	± 3 mm	± 3 mm	± 3 mm	± 3 mm	< 0.15 % of span
Process connection		G or NTP 2"	G or NPT 1 ½"	G or NPT 1 ½"	Mounting strap	G or NPT 1 ½", mounting strap	G or NPT 1 ½", flange	Clamp2", varivent, flange	G or NTP ¾" or 1"	Clamp2" or DIN 11851	G or NTP 1", G1" (EHEDG)
Influence coating		High	High	High	High	High	High	High	Less	Less	Less
Influence steam / condensate		High	High	High	High	No	No	No	No	No	No
Avoid		Dust, foam, vacuum	Dust, foam, vacuum	Dust, foam, vacuum	Dust, foam, vacuum	Foam	Foam	Foam	Coating	Coating	
Electrical characteristics											
Basic function		Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter
Wiring		3-wire	2-wire	2-wire	2-wire	2-wire	2-wire	2-wire	2-wire	2-wire	2-wire
Output		4 - 20 mA Relay	4 - 20 mA HART	4 - 20 mA HART	4 - 20 mA HART	4 - 20 mA HART	4 - 20 mA HART	4 - 20 mA HART	4 - 20 mA HART	4 - 20 mA HART	4 - 20 mA
Echo filtration		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No influence
Display		Yes	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Approval			ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	
Specifics		Compact-, Wall- and Panel version	Compact version	Compact version	Compact version	Compact version	Compact version	Compact version	Compact version	Compact version	Compact version

07 Sensors | pH/ORP



Type 8200	Type 8201	Type 8202-pH	Type 8202-ORP	Type 8205	Type 8206
					

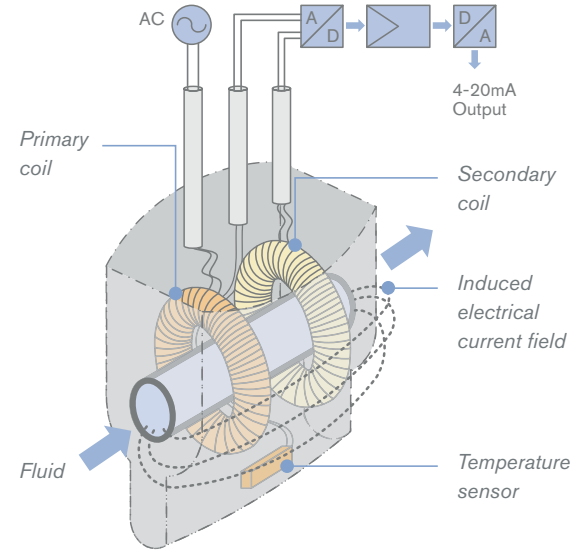
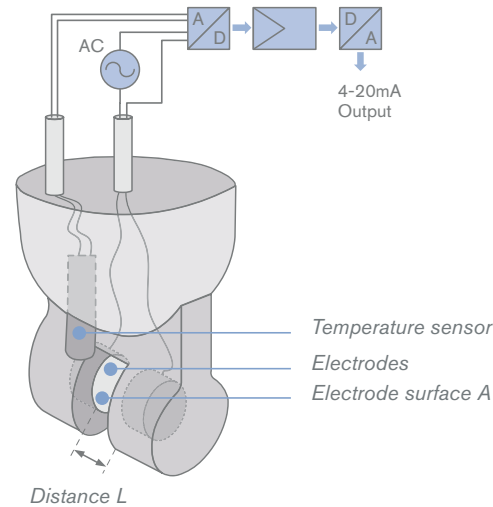
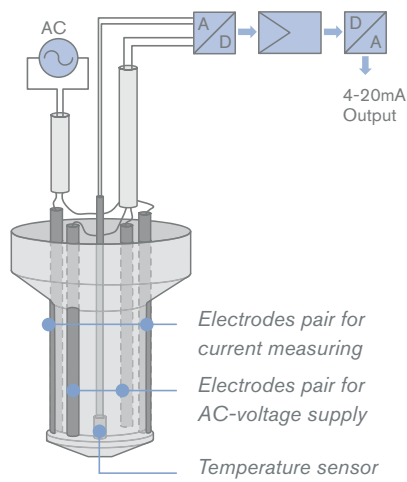
Fluidic characteristics

Measuring range	0 – 14 pH	0 – 12 pH	-2–16 pH	-2000 – 2000 mV	0 – 14 pH	-1575 – 1575 mV
Fluid pressure in bar	See P/T chart pages 78/79	Vacuum 6bar	See P/T chart pages 78/79	See P/T chart pages 80/81	See P/T chart pages 78/79	See P/T chart pages 78/79
Fluid temperature in °C	See P/T chart pages 78/79	0 – 140 °C (284°F)	See P/T chart pages 78/79	See P/T chart pages 78/79	See P/T chart pages 78/79	See P/T chart pages 78/79
Material of wetted parts Sensor Seal Body	PP, PVC, PVDF, SS FKM, EPDM PVC, PP, PVDF, SS	Enamel, ceramic EPDM Stainless steel	PVDF, SS EPDM PVC	PVDF, SS EPDM PVC	PVDF, SS FKM, EPDM PVC, PP, PVDF, SS	PVDF, SS FKM, EPDM PVC, PP, PVDF, SS
Temperature compensation	PT 1000	PT 1000	Automatic with PT 1000	Automatic with PT 1000	Automatic with PT 1000	Automatic with PT 1000
Process connection	G 2" (S020), G 1" (thread)	Various hygienic clamps, Ingold	G 1 ½" (S022)	G 1 ½" (S022)	G 2" (S020)	G 2" (S020)
Fitting type	S020	8201	S022	S022	S020	S020

Electrical characteristics

Basic function	Sensor	Sensor	Transmitter, Switch	Transmitter, Switch	Transmitter, Switch, Controller	Transmitter, Switch
Output	pH/ORP in mV-Signal for pH/ORP	Analog mV-Signal for pH	2x 4 – 20 mA, 2x Transistor	2x 4 – 20 mA, 2x Transistor	1 x 4 – 20 mA, 3x Relay, 2x Transistor	1 x 4 – 20 mA, 2x Relay
Display	No		Yes, removable	Yes, removable	Yes	Yes
Compatible transmitters	Remote 8205	Remote 8285	Integrated	Integrated	Integrated	Integrated
Specifics		CIP-compatible, Inline sterilizable (SIP)			Panel and Wall mounted	Panel and Wall mounted

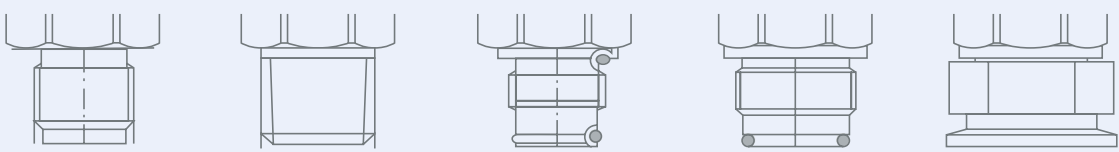
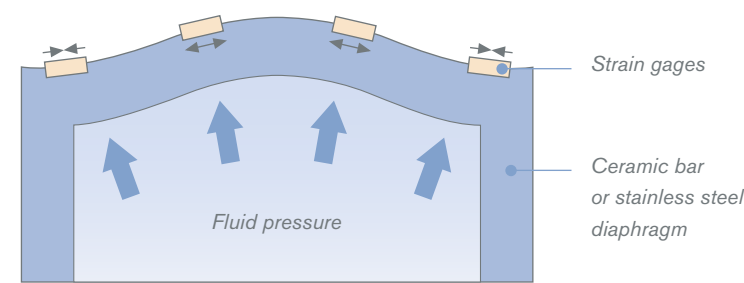
07 Sensors | Conductivity



Type 8220	Type 8221	Type 8222	Type 8223	Type 8226
				

Fluidic characteristics					
Measuring range	0,05 µS/cm to 200 mS/cm	0,1 µS/cm to 500 mS/cm	0,05 µS/cm to 10 mS/cm	10 µS/cm to 1 mS/cm	0,05 µS/cm to 200 mS/cm
Fluid pressure in bar	max. 10 bar (145psi)	max. 10 bar (flat electrode) (145psi)	max. 16 bar (232psi)	max. 6 bar (87psi)	max. 6 bar (87psi)
Fluid temperature in °C	-15 to 100 °C (212°F)	-20 to 150 °C (302°F)	-20 to 150 °C (302°F)	-10 to 80 °C (176°F)	-15 to 120 °C (248°F)
Max. pressure at max. temperature	See P/T chart pages 78/79	Insertion 6 bar at 135 °C Flush 10 bar at 150 °C	See P/T chart pages 78/79	See P/T chart pages 78/79	See P/T chart pages 78/79
Wetted parts					
Sensor	PVDF, SS	PEEK, SS	PVDF, SS	PP, PVDF, PEEK	PP, PVDF, PEEK
Seal	FKM, EPDM	EPDM	EPDM	EPDM	FKM, EPDM
Body	Br, SS, PVC, PP, PVDF	Stainless steel	PVC, PP, PVDF	Br, SS, PVC, PP, PVDF	Br, SS, PVC, PP, PVDF
Temperature compensation	PT 1000	PT 1000	Automatic with PT 1000	Automatic with PT 1000	Automatic with PT 1000
Process connection	G 2" (S020)	Various hygienic clamps	G 1 ½" (S022)	G 2" (S020)	G 2" (S020)
Fitting type	S020	Clamp ½", 2" Varivent	S022	S020	S020
Electrical characteristics					
Basic function	Sensor	Sensor	Sensor, Transmitter, Switch	Sensor, Transmitter,	Sensor, Transmitter, Switch
Output signal	Analog raw signal	Analog raw signal	2 x 4 – 20 mA, 2 x NPN/PNP	4 – 20 mA	4 – 20 mA, relay
Output value			Conductivity and temperature	Conductivity or temperature	Conductivity or temperature
Display	No	No	Yes	No	Yes
Compatible transmitters	Type 8225	Type 8285	Integrated	Integrated	Integrated

07 Sensors | Pressure



Multiple process connections: G, NPT, Flush, EHEDG, Clamp

Type 8311	Type 8316	Type 8323	Type 8327	Type 8326
				

Fluidic characteristics						
Fluid properties	Measuring range	0 to 50 bar (725psi)	0 to 100 bar (1450psi)	0 to 25 bar (362psi)	0 to 16 bar (232psi)	0 to 40 bar (580psi)
	Measuring principle	Ceramic measuring cell	Ceramic measuring cell	Thin filmstr. gauge piezoresistive	Thin filmstr. gauge piezoresistive	Thin filmstr. gauge piezoresistive
	Materials coming into contact with media	Stainless steel, FPM	Stainless steel, FPM	Stainless steel, FPM	Stainless steel, FPM	Stainless steel, FPM
	Max. medium temperature	100 °C (212°F)	-15 to 125 °C (257°F)	-80 to 100 °C (212°F)	-80 to 100 °C (212°F)	-30 to 105 °C (221°F)
	Clean	■	■	■	■	■
	Contaminated	With flush diaphragm		With flush diaphragm	With flush diaphragm	With flush diaphragm
	Hot or aggressive	With pressure transm.	With pressure transm.	With pressure transm.	With pressure transm.	
	Hygiene	With flush diaphragm EHEDG		With flush diaphragm EHEDG	With flush diaphragm EHEDG	With flush diaphragm EHEDG
Electric characteristics						
Basic function	Switch	■				
	Transmitter	■	■	■	■	■
	Transmitter in accordance with ATEX				■	
Output	Transistor (max. 0.7 mA/80 V DC)	■				
	Relay (max. 3 A/250 V A G)	■				
	4 - 20 mA	■	■	■	■	■
	ASI bus	■				
Supply voltage	10 - 30 V DC	■	■	■		
Equipment features	Display	■				■
	Keypad	■				
	Bargraph	■				■
	Teach-in calibration	■				■
	Simulation	■				■
	Hysteresis mode	■				
	Window mode	■				
Design	Compact device	■	■	■	■	■
Expansibility	Stand alone	■	■	■	■	■
	With Bürkert remote electronics		■	■	■	■
	To PLC or other external electronics	■	■	■	■	■

07 Sensors | Temperature



Remote transmitter

Valve mount

Wall mount

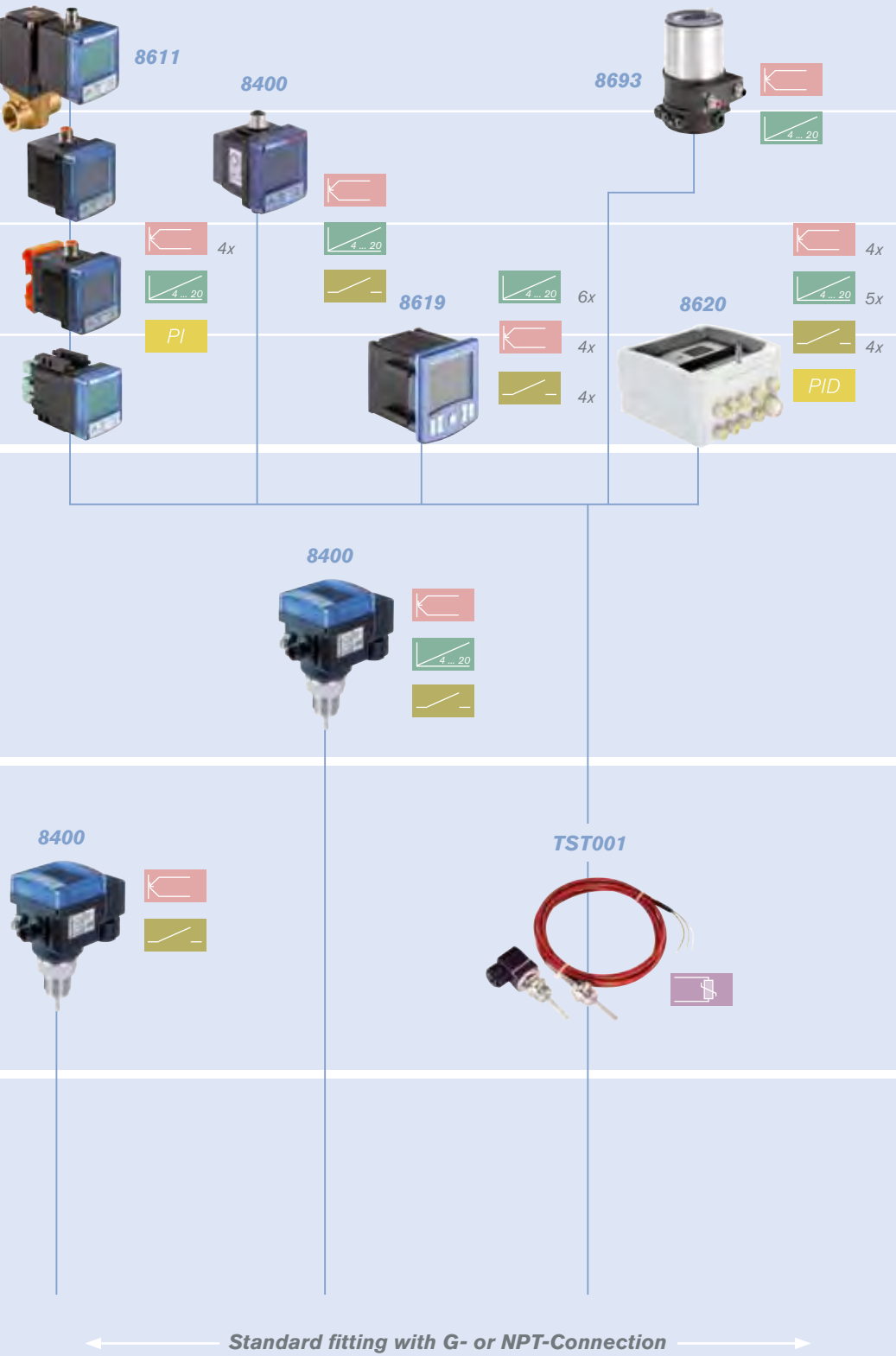
Rail mount

Panel mount

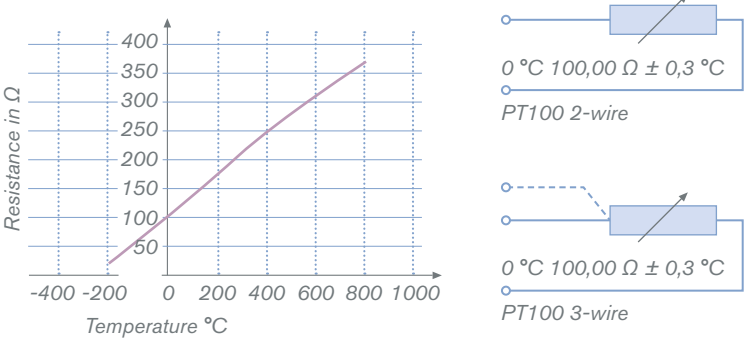
Compact transmitter

Pressure switch

Fitting



PT 100 resistance characteristic



Type 8400

TST001



Fluidic characteristics			
	Measuring range	-40 to +125 °C (257°F)	max. 200 °C (392°F)
	Measuring principle	PT 100	PT 100
Sensor material	Stainless steel	PN 16	PN 16
	Brass	PN 16	
Fluid properties	Clean	■	■
	Contaminated	■	■
Electric characteristics			
Basic function	Switch	■	
	Sensor		■
	Transmitter	■	
Output	Transistor	■	
	Relay (max. 3 A/250 V A G)	■	
	4 - 20 mA	■	
	ASI bus	■	
	Resistance		■
Supply voltage	None		
	10 - 30 V DC	■	
Equipment features	Display	■	
	Keypad	■	
	Teach-in calibration	■	
	Simulation	■	
	Hysteresis mode	■	
	Window mode	■	
Design	Compact device	■	■
	Control panel installation	■	
	Field device	■	■

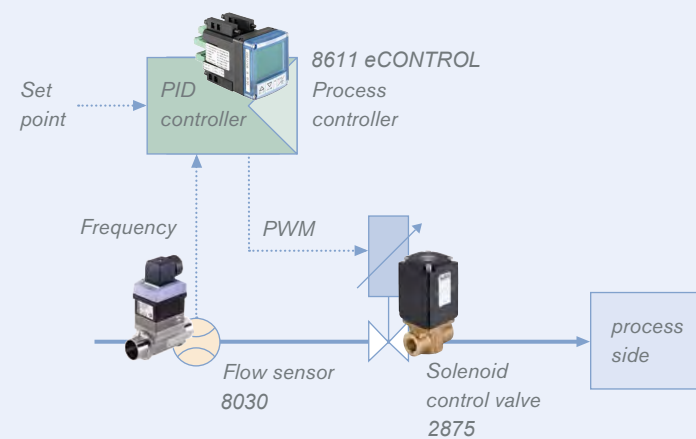
07 Transmitters and Controllers



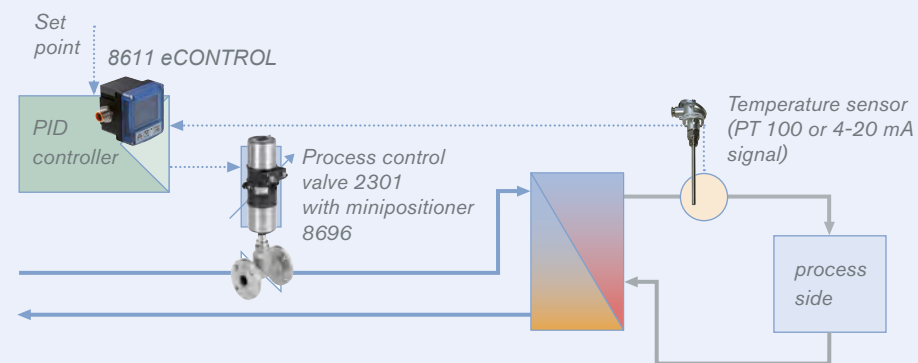
						
8611	8693	8619	8620	1150	8205	8285
54x54x50mm1/16 DIN Cut out	90x156mm	¼ DIN Cut out	230x204x119mm	144x130x170mm ¼ DIN Cut out	126x120x90mm (Wallmount)	163x213x150 mm (Wallmount)
Wall-/Rail-/Panel- and Valve mount	Top mount on process valves	Panel mount	Wall mount	Panel mount	Compact, Wall- or Panel mount	Wall-/Pipe-/Panel mounting
8-digit, 2-line with backlight	128x64 pixels, backlight	160x128 pixels 4" monochrome, backlight	128x64mm pixels, two colored backlight	5" color screen, 320x240 pixels, backlight	15x60mm, 8-digit LCD	240x160 pixels, LCD, backlight
PI, 2-P control, cascade	PID control	PID	PID, cascaded, 2-Point	P, I, PD, PI, PID control, cascade	P, PI, PID	
24 VDC +/- 10%	24 VDC	12-36VDC	100..240 VAC	20-30VDC, 100-240 VAC	15-30VDC, 115/230 VAC	24 – 230 V AC/DC
1 channel (2 for ratio control)	1 channel	2 channels	8 channels	8 channels	1 channel	2 channel measurement
4 (4-20mA, RTD)	Sensor (RTD, 4-20mA) Set point (0/4-20mA or 0-5/10V)	pH-Sensor ORP-Sensor PT1000	Up to 4 (4-20mA)Up to 4 (RTD)	Up to 8 (4-20mA, 0-10V, RTD, Thermocouple)	pH-Sensor, PT1000	2 (pH & conductivity), PT1000
1	1	2	Up to 4	Up to 6		1 transistor
2 (Flow)	1 (Flow)	2	Up to 4			
1 (4-20mA)	1 (0/4-20mA or 0-5/10V)	Up to 4 (4-20mA)	4 (4-20mA)	Up to 8 (4-20mA, 0-10V)	1 (4-20mA)	2 (4-20mA)
3 transistor (NPN or PNP)	2	Up to 4 transistor	4 transistor	Up to 8	2 transistor	
			5	Up to 8	1	4
RS485 on request	Profibus, Devicenet	RS485	RS485, Ethernet	Profibus DP		
Predefined Loops for Pressure, Temperature, Flow. Data for Sensor- and Solenoid control valves are memorized. Ratio Control function on request	Process controller and positioner in combination with Bürkert process control valves	SD-Card for data logging & Configuration.	Predefined Program modules for boiler water control, cooling tower control, RO-water control, Ion exchange control, conductivity and pH control. Configuration with Setup-program. SD-card for data logging & configuration	Customized pictures and text can be displayed. Configuration with Setup-program.	Static or dynamic pH control.	Modules for pH and conductivity. Measuring rejection rate for RO water.

Typical Sensor Loop Applications

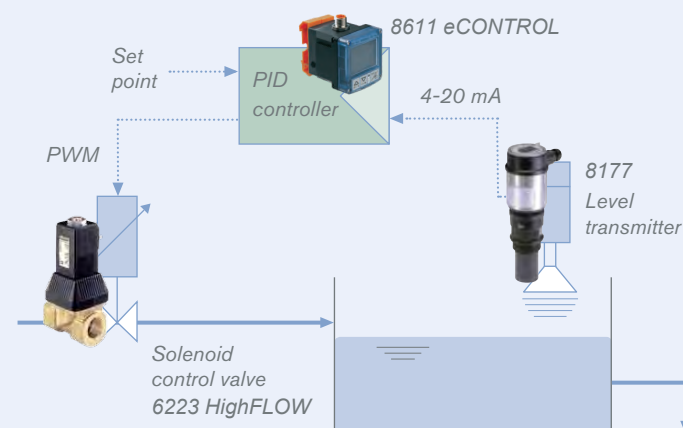
Flow control



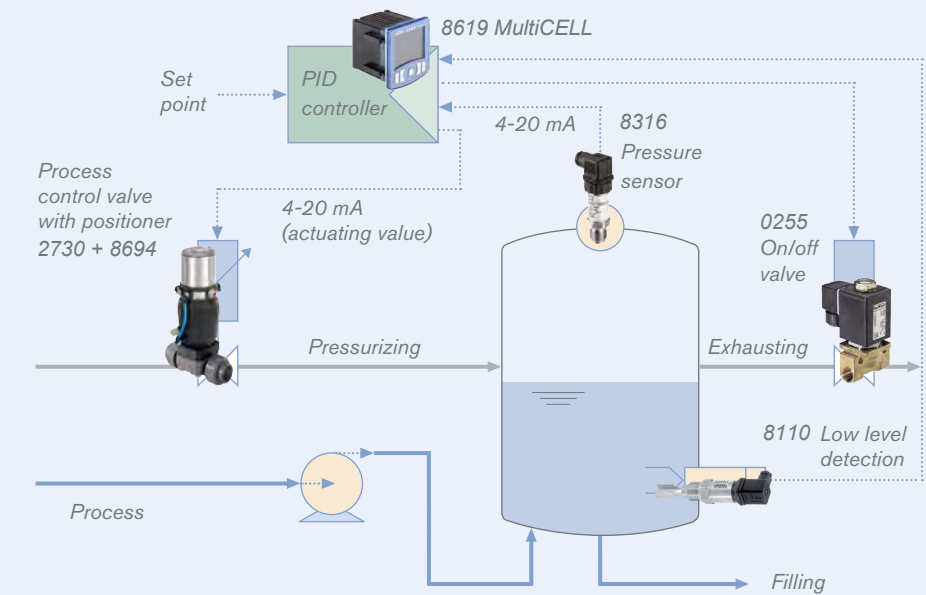
Temperature control



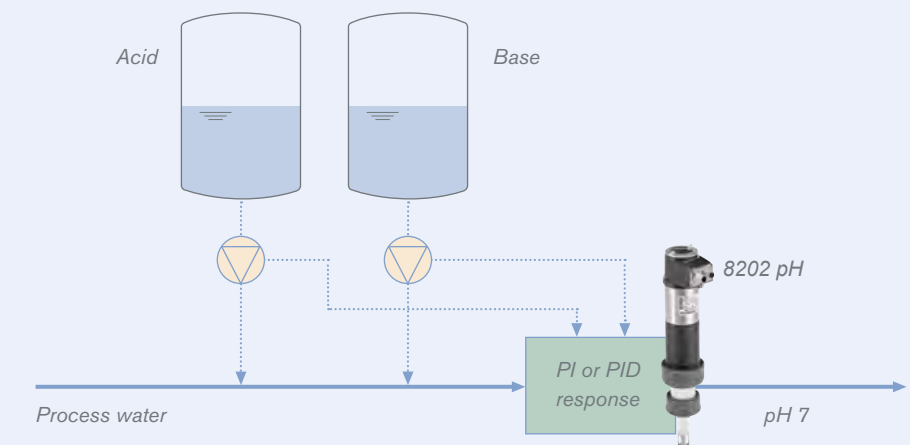
Level control



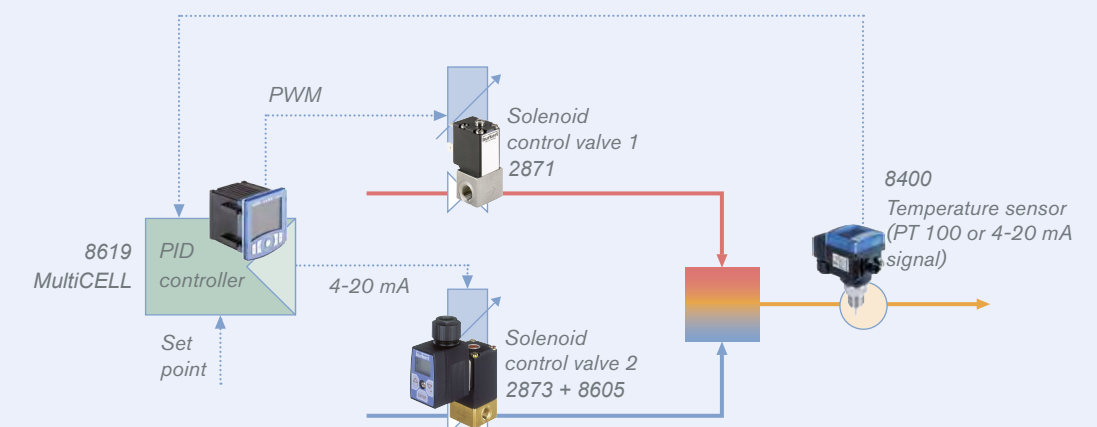
Pressure control of vessels for filling process



pH-control

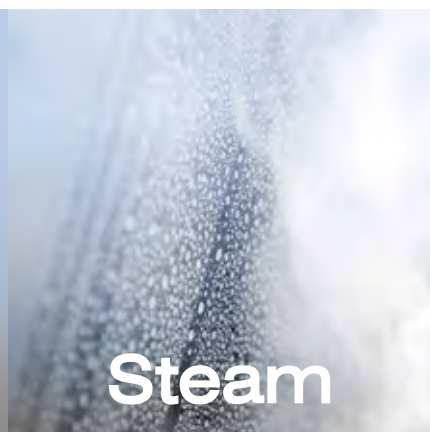


Mixing of hot and cold water





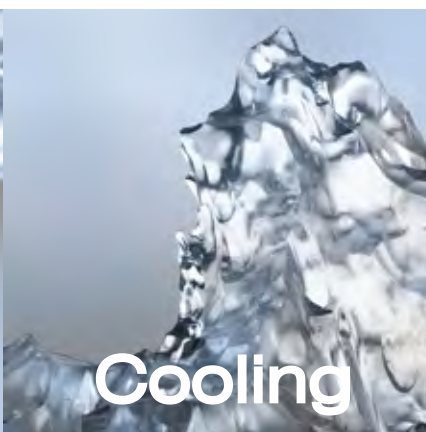
Hygienic



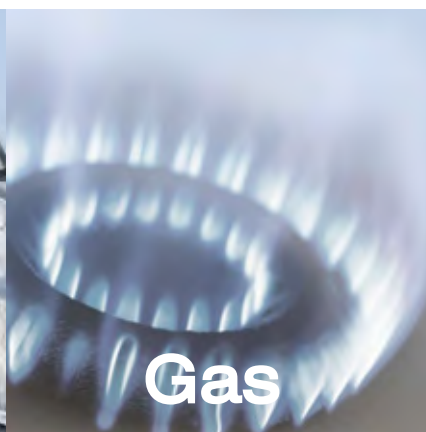
Steam



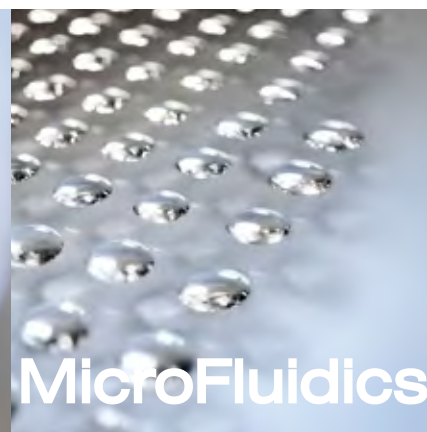
Water



Cooling



Gas



MicroFluidics

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