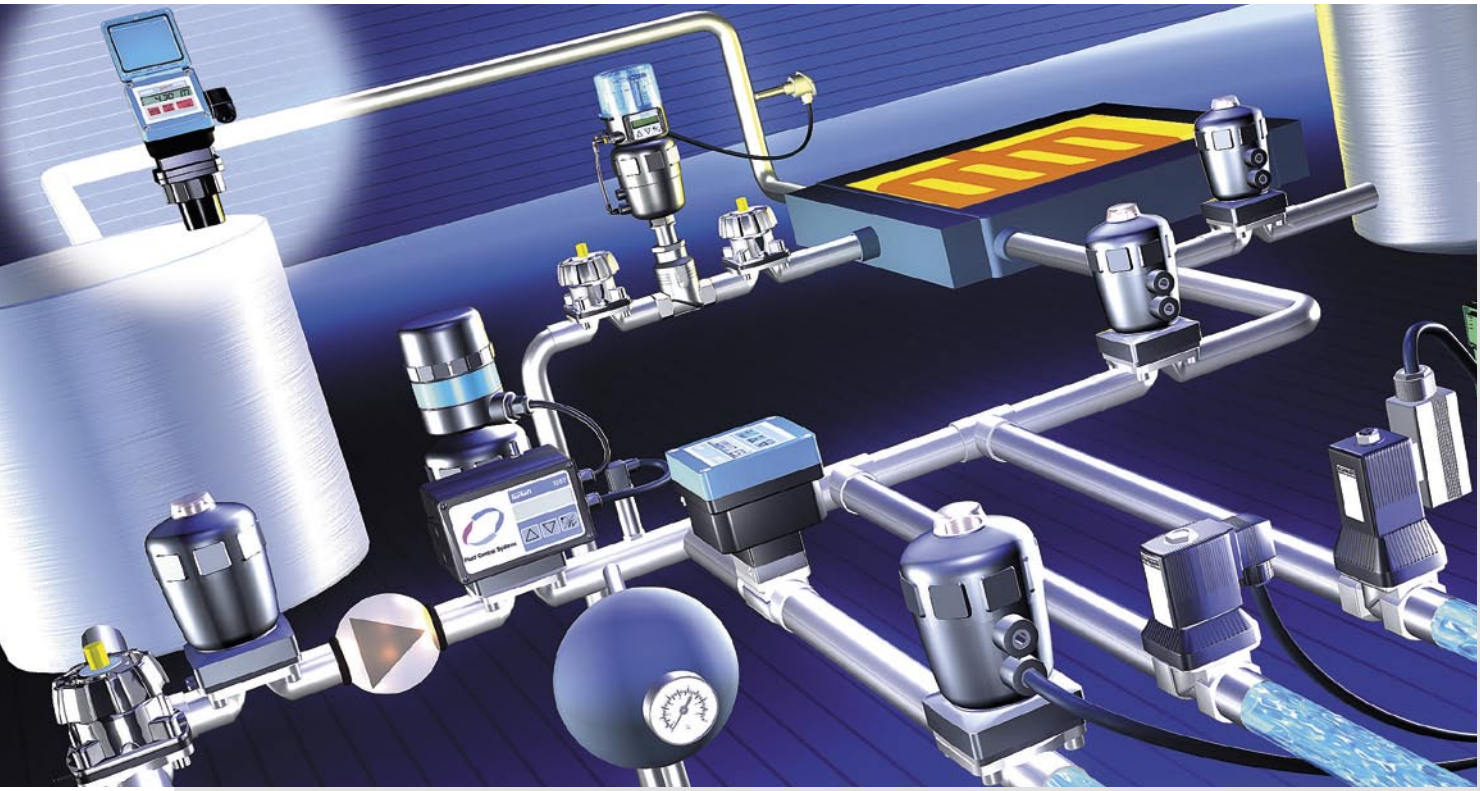
Fluid Control Systems
General Catalog



The Smart Choice of Fluid Control Systems

bürkert
Fluid Control Systems

Dear Customer, this general catalogue is meant to be an introduction to the wide range of Burkert products and systems and a guide to enable you to quickly identify the most suitable solution for your needs.

The products or systems illustrated in this document are a selection of our full programme. Should you need details of a product or system, please do not hesitate to contact the Burkert subsidiary or authorised distributor nearest to you.

A CD containing the data sheets of our full programme and printed version of the data sheets and system information are also available on request.

Similar information are also available on our website at **www.burkert.com**

Looking forward to hear from you soon.

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Welcome to Burkert

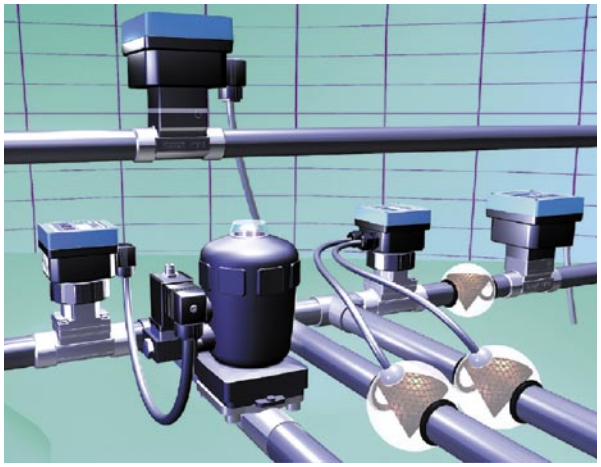
The smart choice of Fluid Control Systems

Burkert is a world class company concentrating on consultancy, systems development, innovation and quality in fluid control.

We offer global experience you can rely on, from a flexible organisation with flexible processes. Day to day we are committed to creating success for our customers and ourselves. Consistent and continuous investment in research & development and in staff training enables us to offer our customers the best in technology and services.

For any request or target you might have for your fluid process control, you can rely on us: working together with you, we will find the best solution, both from a technical and economic point of view.

Complete systems and solutions



Burkert products and systems can be used wherever fluid media and gases need to be measured, controlled and regulated. Whether the application is filling, level, flow, pressure or temperature we have a solution and a uniquely comprehensive range of products to handle it, including solenoid, process and analytical valves, pneumatic actuation, sensors and controllers.

For Burkert, it is not enough to simply offer individual products. Our aim is to provide complete system and application solutions that meet the specific needs of our customers. Tell us what you need and our engineers will find an appropriate solution using our vast experience and a wide range of services such as advice and engineering, testing, and after sales support.

Our Markets

Many products have initially been envisaged for a particular market sector, and later customised for a new and very different application. Increasingly, Burkert's initiatives in niche markets are being developed to provide solutions in much wider applications, to the benefit of a greater number of customers:

Analysis
Biotechnology
Electronics
Genetic engineering
Cosmetic
Machine building
Pharmaceutical
Packaging
Automotive
Chemical
Energy
Semiconductor
Food and beverage
Medical
Textile
Water treatment

Our research & development team is in constant dialogue with technical institutes and industrial markets. The healthy relationship between theory and practice defines the creative spirit that forges our ideas. This has always been the driving force in the development of the groundbreaking products and intelligent system solutions pioneered by Burkert.

What is behind every product of ours

Research is the lifeblood of our company. At Burkert we are never satisfied with the status quo and are continually seeking new technologies and solutions for our customers. Every year our people develop new and highly advanced products and solutions, ranging from integrated process measurement and control units, to the most sophisticated systems used in pharmaceutical research.

To be a market leader we also need to lead in R&D. Therefore our investment in research & development is one of the highest in our industry. In our research centres in Germany and France, 150 people are committed to working for a common future for our company and our customers.

We are where you are

Burkert is present in more than thirty countries around the world. We also work with a large network of distributors and partners, which means we can be as close as possible to our customers. By this global presence we can assure all our customers in every country around the world our full service and support.

We are committed to offering our expertise wherever it is needed, anywhere in the world. This global presence ensures that our advances in fluid control technology are also global.

Range of Solenoid Valves for Neutral Fluids
- Water, Oil, Gas, Air

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 65.0 mm,
Kv	: 2.8 to 38.0 m³/h
Port connection	: BSP, NPT, PT 1/2" to 2 1/2", Flanged (DIN) DN25 to DN50
Body material	: Stainless Steel (DN12 to DN25) Brass (DN12 to DN65) 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	: 0.12 to 0.55 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	: 1.8 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

Range of Solenoid Valves for Neutral Fluids
- 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	: 0.08 to 0.29 m^3/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 m^3/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 m^3/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 m^3/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
QNn	: 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

Range of Solenoid Valves for Neutral Fluids

- at Higher Temperature - Hot Water, Hot Air, 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 m^3/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 m^3/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 m^3/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 m^3/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 m^3/h
Port connection	: BSP, NPT, PT 1/2" to 11/2", 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

Range of Solenoid Valves for Neutral Fluids

- at Higher Pressure - Water, Oil, Gas, Air

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 m^3/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 5404

2/2 way, Servo Assist (Servo-Piston) Solenoid Valves

Normally closed function

Orifice size	: 12.0 to 25.0 mm
Kv	: 2.0 to 10.0 m^3/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 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 m^3/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 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 m^3/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

Range of Solenoid Valves for 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

Orientation size	: 2.0 to 4.0 mm,
Kv	: 0.09 to 0.29 m^3/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 0.4m^3/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 m^3/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 m^3/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 m^3/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 m^3/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 m^3/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

Range of Solenoid Valves for Pneumatic Application
- Pilot Valves, Valve Islands

Type 6012
3/2 way, Direct Acting Miniature Solenoid Valves with or without Manual Override

Normally closed or normally open function

Orifice size	: 1.2 to 1.6 mm
QNn	: 48 to 65 l/min
Port connection	: M5, BSP, NPT, PT 1/8" or sub-base for manifold mounting. Manifold with BSP 1/8"
Body material	: Brass or Polyamide
Manifold material	: Aluminum
Seal material	: FPM
Media temperature	: -10 to +100°C
Pressure range	: 0 up to 10 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 0330
Type 0331
3/2 way, Direct Acting Solenoid Valves With Separating Diaphragm Isolating Media From Solenoid System and with Manual Override Standard

Normally closed, normally open, or universal function

Orifice size	: 2.0 to 4.0 mm
QNn	: 86 to 300 l/min
Port connection	: BSP, NPT, PT 1/4" or sub-base for manifold mounting. Manifold with BSP 1/4"
Body material	: Brass or stainless steel
Manifold material	: Aluminum
Seal material	: NBR or FPM
Media temperature	: NBR 0 to +80°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 5411
Type 5413
3/2 way, 4/2 way, Servo Assist Poppet Design Solenoid Valves with Manual Override Standard

Normally closed, normally open or switch over function

Orifice size : 6.0 mm
QNn : 900 l/min

Port connection	: BSP, NPT, PT 1/4" or manifold mounting. Manifold with BSP 1/4"
Body material	: Polyamide
Manifold material	: Aluminum
Seal material	: NBR
Media temperature	: 0 to +60°C
Pressure range	: 1 to 10 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 6014
Type 0313
3/2 way, Direct Acting Solenoid Valves, with or without Manual Override

Normally closed or normally open function

Orifice size	: 1.5 to 2.5 mm
QNn	: 75 to 172 l/min
Port connection	: BSP, NPT, PT 1/8", 1/4" or sub-base for manifold mounting. Manifold with BSP 1/8"
Body material	: Brass or Polyamide
Manifold material	: Aluminum
Seal material	: NBR or FPM
Media temperature	: -10 to +100°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 6106
3/2 way, Miniature Direct Acting Solenoid Valves With Rocker System for High Speed Switching with Manual Override Standard

Normally closed or normally open function

Orifice size	: 0.9 to 1.2 mm
QNn	: 22 to 40 l/min
Port connection	: M5 or sub-base for manifold mounting. Manifold with BSP 1/8"
Body material	: Polyamide
Manifold material	: Aluminum
Seal material	: FPM
Media temperature	: 0 to +55°C,
Pressure range	: Vacuum up to 10 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 5420
4/2 way, Servo Assist Solenoid Valves with Manual Override and Intergrated Flow Restrictors Standard

Switch over function
Orifice size : 3.0 mm
QNn : 200 l/min

Port connection	: BSP, NPT, PT 1/8", Tube fitting SL6/4mm or manifold mounting. Manifold with BSP 1/8"
Body material	: Polyamide
Manifold material	: Aluminum
Seal material	: NBR
Media temperature	: 0 to +60°C
Pressure range	: 2.5 to 10 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

Range of Solenoid Valves for Pneumatic Application
- Pilot Valves, Standard Valve Islands

Type 6518
Type 6519
Type 6519 Namur

3/2 way, 5/2 way, 5/3 way, Servo Assist High Flow Capacity Solenoid Valves with Manual Override Standard

Normally closed, normally open, switch over, closed middle or vented middle function. Single or Double Coils version.

Orifice size	: 8.0 to 9.0 mm
QNn	: up to 1,300 l/min
Port connection	: BSP, NPT, PT 1/4", Namur or block (gang) mounting. Block inlet 1/2"
Body material	: Polyamide or Aluminum (5/3 way)
Manifold material	: Aluminum
Seal material	: NBR/PUR, NBR
Media temperature	: 0 to +50°C
Pressure range	: 2 to 8 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 (Other electrical connection, multi-pin, common poles on request)

Type 0340

3/2 way, Servo Assist Solenoid Valves For High Flow Application

Normally closed or normally open function

Orifice size	: 8.0 to 40.0 mm
QNn	: 1,030 to 25,000 l/min
Port connection	: BSP 1/4" to 11/2"
Body material	: Brass
Seal material	: NBR
Media temperature	: 0 to +90°C
Pressure range	: 0.5 to +16 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65

Type 5412 Namur

3/2 way, 5/2 way, Servo Assist Solenoid Valves with Manual Override Standard

Normally closed, normally open or switch over function

Orifice size	: 5.0 mm
QNn	: up to 750 l/min
Port conn	: BSP, NPT, PT 1/4" / Namur
Body material	: Polyamide/Aluminum
Seal material	: NBR
Media temperature	: 0 to +60°C
Pressure range	: 1.5 to 10 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65

Type 6012 Banjo
Type 6014 Banjo

3/2 way, Direct Acting Solenoid Valves For Direct Mounting to Actuator with Manual Override Standard

Normally closed function

Orifice size	: 1.2 to 2.0 mm
QNn	: 48 to 120 l/min
Port connection	: BSP, NPT, PT 1/8" or 1/4", Tube fitting 6mm, Banjo with BSP 1/8" or 1/4"
Body material	: Brass/Aluminum or Polyamide
Seal material	: FPM
Media temperature	: 0 to +50°C(Polyamide), 0 to +90°C(Brass)
Pressure range	: 0 up to 10 bar
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 100% ED
Electrical connection	: Cable plug to IP65

Type 5470 Individual
Type 5470 Block/ Extendable Assembly
Type 5470 Namur

3/2 way, 4/2 way, Servo Assist Solenoid Valves with Rocker System and Manual Override Standard

Normally closed, normally open or switch over function

Orifice size	: 4.0 mm
QNn	: 300 l/min
Port connection	: BSP, NPT, PT 1/8", Tube fitting 6mm or block (gang) mounting. Block inlet 1/4" or Tube fitting 8mm
Body material	: Polyamide
Base block material	: Polyamide
Seal material	: NBR
Media temperature	: 0 to +50°C
Pressure range	: 2 to 10 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 (Other electrical connection, multi-pin, common poles on request)

Range of Solenoid Valves for Pneumatic Application

- Valve Islands with Fieldbus Interface / Electrical and Pneumatic Automation System

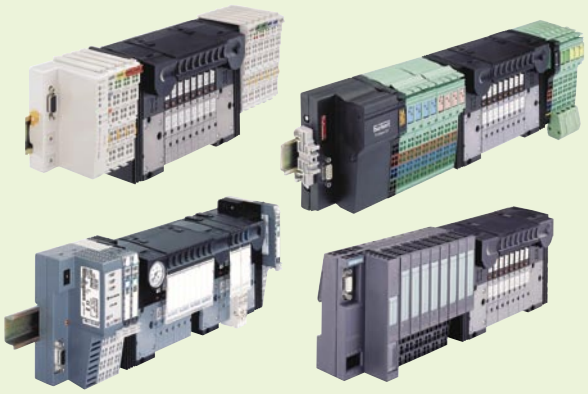
Type 8640, 11 mm width per station
Type 8640, 16.5 mm width per station
Type 8640, 19 mm width per station
Type 8640, 33 mm width per station

Valve islands with fieldbus interface are valve blocks with a common electrical control. Valve blocks are conventionally connected and controlled with single wiring. In the case of a valve island with fieldbus interface, communication is implemented within the system.

Valve islands with fieldbus interface are latched together from individual modules. All interfaces within a series are fully compatible. The most important modules are as follows:

- Basic pneumatic modules for width per station 11, 16.5, 19 and 33 mm with differing numbers of valve positions; maximum number of valves on a valve block with fieldbus interface: 24 (up to 168 valves can be addressed via RIO expansion)
- Valves are screwed on to the basic pneumatic modules from the front.
- Pneumatic connector modules for connection of the compressed air and exhaust air
- Basic electrical modules (power supply, feedback indicator, manual-automatic switch, external deactivation devices, digital outputs, etc.)
- Feedback indicator for digital inputs on the valve block with fieldbus interface, max. 32
- An additional 48 digital inputs or outputs can be integrated via a separate I/O module.
- Conventional electrical control with bus terminal and multi-pin
- Electrical control via fieldbus modules (Profibus, Interbus, DeviceNet, CANopen, Selecan and AS-i)
- Up to 7 valve terminals with field-bus interface can be controlled with a fieldbus node via RIO expansion (with PROFIBUS).
- Other special features include Integrated check valve in the P-Channel for easy valve replacement without interruption to operation and/or Integrated check valves in the R-Channel to eliminate switching errors due to congestion in the exhaust duct.

All module versions are described in full detail on the data sheets or in the configurator for valve blocks with fieldbus interface, Type 8640.



AirLINE System
Type 8644, WAGO I/O system
Type 8644, Phoenix INLINE System
Type 8644, Siemen ET 200S System
Type 8644, Rockwell Point I/O System

AirLINE Electrical and pneumatic automation system is a distributed periphery and innovative I/O systems for ideal solutions in the control cabinet.

The I/O systems are available from a number of manufacturers, e.g.:
- Siemens:SIMATIC ET 200S
- Phoenix Contact:INLINE-System
- WAGO:I/O-System 750
- Rockwell:Point I/O-System.

More flexible, smaller, faster and less expensive – these are the trends in automation. Distributed periphery means plugging in instead of wiring. The automatic cross-wiring is achieved by an integrated plug connection system.

With their high flexibility, distributed peripherals ensure long-term savings.Wiring and piping are very easy and the fine modular design of the systems allows multi-functional use of the station. One other advantage is the reduction in space required in the control cabinet.

These distributed peripheral systems have one thing in common: input and output system and valve block with fieldbus interface are integrated in a single unit.

This system is the universal interface between the process and installation control. Sensor inputs are scanned via binary and analog input modules and final control elements or complete, distributed control systems, e.g. for flowrate, pressure, temperature, filling level and chemical parameters, are controlled via corresponding binary and analog output modules. Pneumatic outlets with an extremely wide variety of circuit functions and flow rates switch single or double-acting process valves. AirLINE can be set up without tools by means of an extremely simple snap-on mechanism on a standard rail. This enables a flexible, application-oriented configuration.

AirLINE offers the option of integrating the following pneumatic functions in distributed, fieldbus enabled I/O system platforms:
- 3/2-way, 5/2-way monostable, 5/2-way bistable and 5/3-way functions
- 11 mm width per station, flow rate of up to 300 Nl/min
- 16.5 mm width per station, flow rate of up to 700 Nl/min
- Various flow rates can be combined in one system
- Pressure range from vacuum to 10 bar
- 64 valves per station.

In addition, other functions are offered to the user:
- Integration of check valves (for a description, see above: Valve blocks with fieldbus interface)
- Integration of P shut-off (for a description, see above: Valve blocks with fieldbus interface)
- Various pressure stages can be implemented in an interlinked system
- Grouped supply and exhaust air
- Valves are accessible from the front
- Option for subsequent on-site expansion
- Intelligent pressure measuring module for processing limit values, threshold values and a great deal more.

Summary of AirLINE system advantages:
- Function oriented configuration of distributed units
- No cross-wiring
- Clear reduction in control cabinet configuration
- Only one fieldbus interface for the entire functional unit
- Simple configuration and expansion options directly on-site
- Maximum flexibility due to fine modularity
- Space saving in the control cabinet

Selection criteria for pilot valves and pilot valve units
- Number of actuators to be controlled
- Control signal direct or from a central control unit
- Control without and/or with communication
- Operating voltage
- Minimum pilot air flow rate for the actuator
- Required tube length between pilot valve and actuator
- Mounting method on actuator with single valves
- Valve block with mounting in the field; short tubes
- Valve block with fieldbus interface,with mounting in control room/ control cabinet; long tubes.

Range of Angle Seat, Globe & General Purpose Diaphragm Pneumatic Operated On/Off Valves

- For almost any applications

Type 2000

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	: 13.0 to 65.0 mm
Kv	: 3.7 to 90.0 m^3/h
Port connection	: BSP, NPT, PT 1/2" to 21/2", 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 m^3/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 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 m^3/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

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	: 10.0 to 100.0 mm
Kv	: 4.7 to 170.0 m^3/h
Port connection	: BSP, NPT, PT 1/2" to 21/2", 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

- 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 m^3/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

Range of Diaphragm Valves
Manual And Pneumatic Operated On/Off Valves
- For Ultra Pure, Sterile and Hygienic Applications

Type 2031 Pneumatic Operated
Type 3233 Handwheel Operated
Forged Stainless Steel, 2/2 way, Diaphragm Valve

Orifice size : 8.0 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 Stainless steel 316L/1.4435/BN2
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

Type 2031 Pneumatic Operated
Type 3233 Handwheel Operated
Cast Stainless Steel, 2/2 way, Diaphragm Valve

Orifice size : 4.0 to 50.0 mm
Kv : 1.0 to 51.5 m³/h
Port connection : Weld ends to DIN, ISO, SMS Tri-Clamp to DIN, ISO, SMS, BS (Other connections on request)
Body material : Investment cast Stainless steel 316L/1.4435
Seal material : EPDM or PTFE/EPDM
Surface finish
Internal : Ra ≤ 0.6µm to ≤ 6.3 µm
External : Ra ≤ 3.2µm to ≤ 6.3 µm
Media temp. : -10 to +130°C
Media Pressure : 0 to 10 bar
Certification available : FDA, 3A, 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 125mm
Actuator material : PPS, PA (on request)
Pilot Pressure : 5 to 7 bar

Handwheel Operated Version
Handwheel material: PPS or Stainless steel
Bonnet material : PPS or Stainless steel

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

Orifice size : 8.0 to 50.0 mm
Kv : 1.0 to 51.5 m³/h
Conn. Size : DN4 up to DN100 mm
Port conn. : Weld ends to DIN, ISO, SMS, ASME, BS Tri-clamp to DIN, ISO, SMS, ASME (Other connections on request)

Body material : Monoblock Stainless steel 316L/1.4435/BN2
Seal material : EPDM or PTFE/EPDM
Surface finish: Internal : Ra ≤ 0.25µm to ≤ 0.8 µm
External : Ra ≤ 0.25µm to ≤ 1.6 µm
Media temperature : -10 to +130°C
Pilot Pressure : 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 125mm
Actuator material : PPS, PA (on request)
Control Pressure range : 5 to 7 bar

Handwheel Operated Version
Handwheel material : PPS or Stainless steel
Bonnet material : PPS or Stainless steel

Type 2033 Pneumatic Operated
Type 3235 Handwheel Operated
Tank Bottom Diaphragm Valve
Orifice size: 15.0 to 100.0 mm

Kv : 4.0 to 235.0 m³/h
Port connection
Tank flange : F85 to F300 mm
Outlet : DN15 up to DN100 mm, Weld ends to DIN, ISO, SMS, ASME Tri-Clamp to DIN, ISO, SMS, BS (Other connections on request)
Body mat. : Monoblock or weld Stainless steel 316L/1.4435
Seal material : EPDM or PTFE/EPDM
Surface finish:
Internal : Ra ≤ 0.25µm to ≤0.5 µm
External : Ra ≤ 0.25µm to ≤ 3.2 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 50mm to Ø 225mm
Actuator material : PPS, PA (on request)
Pliot Pressure range : 5 to 7 bar

Handwheel Operated Version
Handwheel material : PPS or Stainless steel
Bonnet material : PPS or Stainless steel

Customized Welded Solutions

GMP welded solutions

Burkert offers customized welded solutions with manually or pneumatically operated valves. All systems are developed allowing for optimum cleanability (GMP compliance). The dead volumes and number of welding seams are reduced to a minimum.

SAP (Sterile Access Port)

This welded solution is particularly well-suited to sampling media. Other applications include sterilization, condensate drain or CIP cleaning.

Customized Multifunction Blocks

These valve solutions for the aseptic sector are developed with a special CAD system in order to necessitate as little space and dead volume as possible in accordance with customer requirements. The blocks are made of solid stainless steel (316L), thus allowing a compact design with zero dead volumes and welding seams. A special software package is used to optimize the block design in terms of the flow paths.

Range of Ball Valves
- Manual And Pneumatic Operated On/Off Valves
- For more demanding Applications

Type MV2650-2 Lever Operated
Type AV2650-2 Pneumatic Operated
Type EV2650-2 Electric Operated
2/2 way, 2 pcs Body Design Quarter Turn Full Bore Ball Valve

Orifice size	: 15.0 to 80.0 mm
Kv	: 11.0 to 506.0 m³/h
Body material	: Investment Cast Stainless steel CF8M
Seat	: RPTFE or MG1241
Port conn.	: BSP, NPT, PT 1/2" to 3", (other connection available on request)
Media temp.	: -10 to +120°C(RPTFE) Up to +180°C(MG1241)
Media Pressure range	: Up to PN100 depending on type and size of actuator

Type MV2650-4 Lever Operated
Type AV2650-4 Pneumatic Operated
Type EV2650-4 Electric Operated
3/2 way, 4 pcs Body Design Quarter Turn Regular Port Ball Valve

Orifice size	:10.0 to 40.0 mm
Kv	: 8.0 to 103.0 m³/h
Body material	: Investment Cast Stainless steel CF8M
Seat	: RPTFE or MG1241
Configuration	: L port or T port version (mixing or diverting)
Port conn.	: BSP, NPT, PT 1/2" to 2", (other connection available on request)
Media temp.	: -10 to +120°C(RPTFE) Up to +180°C(MG1241)
Media Pressure range	: Up to 64 bar depending on type and size of actuator

Type MV2650-VK
Plastic Lever Operated
Type AV2650-VK
Plastic Pneumatic Operated
Type EV2650-VK
Plastic Electric Operated
2/2 way, Quarter Turn Plastic Ball Valve

Orifice size	: 10.0 to 100.0 mm
Kv	: 4.8 to 570.0 m³/h
Body material	: uPVC (other material on request)
Seat/Seal	: PTFE/EPDM or PTFE/FPM
Port conn.	: True union socket ends Ø16 to Ø110 mm (DIN standard) (other standard eg. ASTM, JIS or threaded ends available on request)
Media temp.	: 0 to +60°C(reduction in rated pressure with increase in temperature >20°C)
Media Pressure range	: Up to 16 bar (DN10 to DN50 mm) Up to 10 bar (DN65 to DN100 mm)

Type MV2650-3 Lever Operated
Type AV2650-3 Pneumatic Operated
Type EV2650-3 Electric Operated
2/2 way, 3 pcs Body Design Quarter Turn Full Bore Ball Valve

Orifice size	: 15.0 to 100.0 mm
Kv	: 2.0 to 773.0 m³/h
Body material	: Investment Cast Stainless steel CF8M
Seat	: RPTFE or MG1241
Port conn.	: BSP, NPT, PT 1/2" to 4" (other connection available on request)
Media temp.	: -10 to +120°C(RPTFE) Up to +180°C(MG1241)
Media Pressure range	: Up to PN64 depending on type and size of actuator

Type MV2650-FL Lever Operated
Type AV2650-FL Pneumatic Operated
Type EV2650-FL Electric Operated
2/2 way, 2 pcs Body Design Quarter Turn Full Bore Ball Valve

Orifice size	: 15.0 to 200.0 mm
Kv	: 8.0 to 8,412.0 m³/h
Body material	: Investment Cast Stainless steel CF8M
Seat	: RPTFE or MG1241
Port conn.	: Flange to ANSI150#, JIS10K or DIN PN10/16 (other connection and pressure class available on request)
Media temp.	: -10 to +120°C(RPTFE) Up to +180°C(MG1241)
Media Pressure range	: According to pressure class of connection

Common Data

Lever Operated Version

Stainless Steel Lever with locking device for stainless steel ball valve
uPVC Lever for plastic ball valve

Pneumatic Operated Version

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

Media Pressure range	: 0 to 10 bar (Up to 100 bar possible with different sizes of pneumatic actuator)
Pneumatic Actuator	: Rack and pinion type
Actuator Material	: Extruded aluminium alloy gold anodized body, die cast aluminium alloy black epoxy coated end caps, carbon steel zinc plated pinion
Pilot Pressure range	: 5 to 8 bar
Option	: Manual override, Electric Feedback, Pilot Valve, Positioner

Electric Operated Version

Synchronous motor electric actuator with manual override and 2x additional limit switches for electric feedback as standard

Media Pressure range	: 0 to 10 bar (Up to 100 bar possible with different sizes of electric actuator)
Actuator Material	: Cover of ABS, Housing of PA, Axis of Stainless steel, Gear of Steel and PC
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 50%
Operating time	: 9 to 100 sec
Type of protection	: IP65
Option	: Potentiometer feedback, positioner version with 4...20mA input

Range of Butterfly Valves
- Manual And Pneumatic Operated On/Off Valves
- For higher flow applications

Type ST2670-MV-Wafer
Lever or Gear Operated
Type ST2670-AV-Wafer
Pneumatic Operated
Type ST2670-EV-Wafer
Electric Operated
2/2 way, Quarter Turn Wafer Pattern Butterfly Valve

Orifice size	: 50.0 to 600.0 mm
Kv	: 69.0 to 24,397.0 m³/h
Body material	: Ductile Iron (Cast Iron, Stainless steel and others on request)
Disc and stem material	: Stainless steel 316 (other material on request)
Seat	: EPDM as standard, (FPM, PTFE and others on request)
Design	: Wafer type, suitable for mounting between ANSI, DIN and JIS flanges (Cartridge type seat version, for higher pressure and easy seat replacement, available on request)
Media temperature	: -30°C to +110°C(EPDM) (higher temperature version depending on seat material on request)
Pressure rating	: PN10/16, ANSI150lbs, JIS5/10K
Media tight shut off pressure	: 20 bar (Standard seat) 22 bar (Cartridge seat)

Type MV2670-FE-Plastic
Lever Operated
Type AV2670-FE-Plastic
Pneumatic Operated
Type EV2670-FE-Plastic
Electric Operated
2/2 way, Quarter Turn uPVC Butterfly Valve

Orifice size	: 40.0 to 200.0 mm
Kv	: 69.0 to 1,830.0 m³/h
Body and disc material	: uPVC (others on request)
Stem material	: Zinc plated steel (others on request)
Seat and seal	: EPDM or FPM
Design	: Wafer type, suitable for mounting between ANSI, DIN and JIS flanges
Media temperature	: 0 to +60°C(reduction in rated pressure with increase in temperature >20°C)
Pressure rating	: PN10/16, ANSI150lbs, JIS5/10K
Media Pressure range	: Up to 16 bar (DN40 & DN50 mm) Up to 10 bar (DN65 to DN200 mm)

Type ST2670-MV-Lug
Lever or Gear Operated
Type ST2670-AV-Lug
Pneumatic Operated
Type ST2670-EV-Lug
Electric Operated
2/2 way, Quarter Turn Lug Pattern Butterfly Valve

Orifice size	: 50.0 to 600.0 mm
Kv	: 69.0 to 24,397.0 m³/h
Body material	: Ductile Iron (Cast Iron, Stainless steel and others on request)
Disc and stem material	: Stainless steel 316 (other material on request)
Seat	: EPDM as standard, (FPM, PTFE and others on request)
Design	: Lug type according to ANSI, DIN or JIS standard (Cartridge type seat version, for higher pressure and easy seat replacement, available on request)
Media temperature	: -30°C to +110°C(EPDM) (higher temperature version depending on seat material on request)
Pressure rating	: PN10/16, ANSI150lbs, JIS5/10K
Media tight shut off pressure	: 20 bar (Standard seat) 22 bar (Cartridge seat)

Common Data

Lever or Gear Operated Version

Steel lever or gear with locking device for metal butterfly valve
uPVC Lever for plastic butterfly valve

Pneumatic Operated Version

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

Possible valve Size	: Metal butterfly valve Up to DN300 for double acting version Up to DN250 for spring return version Plastic butterfly valve Up to DN200
Media Pressure range	: 0 to 10 bar (higher pressure possible with different sizes of pneumatic actuator)
Pneumatic Actuator	: Rack and pinion type
Actuator Material	: Extruded aluminium alloy gold anodized body, die cast aluminium alloy black epoxy coated end caps, carbon steel zinc plated pinion
Pilot Pressure range	: 5 to 8 bar
Option	: Manual override, Electric Feedback, Pilot Valve, Positioner

Electric Operated Version

Synchronous motor electric actuator with manual override and 2x additional limit switches for electric feedback as standard

Possible valve Size	: Up to DN150 (metal and plastic valve)
Media Pressure range	: 0 to 10 bar (higher pressure possible with different sizes of electric actuator)
Actuator Material	: Cover of ABS, Housing of PA, Axis of Stainless steel, Gear of Steel and PC
Voltage	: 24V, 110V, 230V AC 50 or 60Hz, 24VDC
Duty cycle	: 50%
Operating time	: 9 to 100 sec
Type of protection	: IP65
Option	: Potentiometer feedback, positioner version with 4...20mA input

Range of Pneumatic Operated Continuous Control Valve
Angle Seat, Globe or Diaphragm Design
- With Top or Side Control (Smart Positioner with Integrated PID Controller)

Type 2632 / 2702
2/2 way, Pneumatic Actuated Angle Seat Proportional Control Valve

Normally closed or normally open with spring return actuator

Orifice size	: 13.0 to 50.0 mm
Kv	: 0.5 to 35.0 m³/h
Port connection	: BSP, NPT, PT 1/2" to 2", Weld ends to ISO, DIN, SMS, other on request
Actuator size	: Ø 80mm to Ø 100mm
Body material	: Cast Stainless steel 316L
Actuator material	: Polyamide (PPS on request)
Seal material	: SS/SS or PTFE/SS
Nominal pressure (body)	: PN25
Media temperature	: 0 to +180°C
Media Pressure range	: 0 to 16 bar (max. 10 bar for steam)
Control media	: Instrument air
Pilot pressure	: 5.5 - 7 bar
Flow direction	: Below seat
Control ratio	: 50:1
Positioner Type	: Top control 8630, Side control 1067 or 8635 (Please refer to Positioner for further details)

Type 2731
2/2 way, Pneumatic Actuated Diaphragm Pattern Proportional Control Valve
General Purpose, Cast Stainless Steel or Forged Stainless Steel Versions.

Normally closed or normally open with spring return actuator

Seal material	: EPDM or PTFE/EPDM
Media temperature	: -10 to +130°C
Media Pressure range	: 0 to 10 bar
Pilot Pressure	: 5 to 7 bar
Positioner Type	: Top control 8630, Side control 1067 or 8635 (Please refer to Positioner for further details)

General Purpose Cold Form Tube Stainless Steel Version

Body material	: Stainless steel 1.4404
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 (Weld ends on request)
Actuator size	: Ø 80mm to Ø 225mm
Actuator material	: Polyamide, PPS (on request)
Surface finish	: Glass bead (1.6 µm)

Cast Stainless Steel Version

Body material	: Investment cast Stainless steel 316L/1.4435
Orifice size	: 4.0 to 50.0 mm
Kv	: 1.0 to 51.5 m³/h
Port connection	: Weld ends to DIN, ISO, SMS Tri-Clamp to DIN, ISO, SMS, BS (Other connections on request)
Surface finish: Internal	: Ra ≤ 0.6µm to ≤ 6.3 µm
External	: Ra ≤ 3.2µm to ≤ 6.3 µm
Certification available	: FDA, 3A, others on request
Actuator size	: Ø 80mm to Ø 125mm
Actuator material	PPS, PA (on request)

Forged Stainless Steel Version

Body material	: Forged or Black Stainless steel 316L/1.4435/BN2
Orifice size	: 8.0 to 100.0 mm
Kv	: 1.0 to 235.0 m³/h
Port connection	: Weld ends to DIN,BS, ISO, SMS Tri-Clamp to DIN, ISO, SMS, ASME (Other connections on request)
Surface finish	: Internal: Ra ≤ 0.25µm to ≤ 0.5 µm External: Ra ≤ 0.25µm to ≤ 6.3 µm
Certification available	: FDA, 3A, EN-ISO 10204 3.1B, others on request
Actuator size	: Ø 80mm to Ø 225mm
Actuator material	: PPS (Actuator Ø 40mm to Ø 125mm) PA (Actuator Ø 175mm to Ø 225mm)

Type 2712
2/2 way, Pneumatic Actuated Globe Pattern Proportional Control Valve - with interchangeable seat

Normally closed or normally open with spring return actuator

Orifice size	: 10.0 to 100.0 mm
Kv	: 0.5 to 140.0 m³/h
Port connection	: BSP, NPT, PT 3/8" to 21/2", Flanged to DIN, ANSI, JIS standard Weld ends to ISO, DIN, BS or ASME BPE standard (Other version on request)
Actuator size	: Ø 80mm to Ø 225mm
Body material	: Cast Stainless steel 316L
Actuator material	: Polyamide (PPS on request)
Seal material	: SS/SS or PTFE/SS
Nominal pressure (body)	: PN25
Media temperature	: 0 to +180°C
Media Pressure range	: 0 to 16 bar (max. 10 bar for steam)
Control media	: Instrument air
Pilot pressure	: 5.5 - 7 bar
Flow direction	: Below seat
Control ratio	: 50:1
Positioner Type	: Top control 8630, Side control 1067 or 8635 (Please refer to Positioner for further details)

Type 2730
2/2 way, Pneumatic Actuated Diaphragm Pattern Proportional Control Valve

Normally closed or normally open with spring return actuator

Orifice size	: 15.0 to 100.0 mm
Kv	: 4.0 to 160.0 m³/h
Body material	: uPVC (PP or PVDF on request)
Seal material	: EPDM, PTFE/Butyl or PTFE/EPDM
Media temperature	: 0 to 60°C(PVC)
Media Pressure range	: 0 up to 10 bar
Port connection	: Socket union, Fusion spigot, Flange (Other connections on request)
Actuator size	: Ø 80mm to Ø 225mm
Actuator material	: PA
Pilot Pressure	: 5.5 to 7 bar
Valve actuation	: Top control 8630, Side control 1067 or 8635 (Please refer to Positioner for further details)

Range of ElectroPneumatic Positioners for Continuous Control Valve

- Top or Side Control (Smart Positioners / with Integrated PID Controller)

Burkert no
positioner. We offer complete systems of intermatched process valves and integrated automation solution. The modular design of positioners allows individualized solutions with an optimum price/performance ratio.

Type 8630 TopControl

Smart Electropneumatic Positioner with Optional Process Controller for Linear Actuator

- Compact design for mounting on linear actuators.
- All moving components for stroke feedback are protected by integrating them into the housing.
- Communication can be performed using PROFIBUS DP/DPV1 or DeviceNet.
- Set-point presetting via standard voltage or current signal (0(5)...10 V, 0(4)...20 mA).
- The process controller (PID) with automatic programming, optionally integrated, enables implementation of distributed process control loops at low cost.
- The input signals for the actual process frequency or PT100 value allow use of simple sensor systems without transmitter.
- Different internal pilots with differing air rates for adapting to actuator's volume.
- Low air consumption. No air consumption when system is in steady state.
- Optionally, up to two initiators can be integrated as limit switches
- Manageable and clearly structured operating concept featuring extensive software functionality.

Material: Housing	: PPE/PA
Cover	: PSU (transparent)
Input for position or process set-point	: 0(4)...20mA / 0....5/10V
Input for Process value for PID controller	: 4...20mA, PT100, Frequency
Binary input	: Make or break contact (for safe position)
Optional Position feedback	: 4... 20mA, 2 binary output, inductive proximity switches (option)
Optional Bus communication	: Profibus DP or DeviceNet
Power Supply	: 24V DC
Type of protection	: IP65
Ambient temperature	: up to +50°C
Pilot pressure	: up to 7 bar
Position sensor system	: Internal high resolution potentiometer
PID parameter	: Self - tuning

Type 8635 SideControl

Smart Electropneumatic Positioner for Linear or Rotary actuator.
II (1)2G EEx ia IIC approval, optional integral process controller (PID), PROFIBUS PA or HART protocol

- The electronics system is designed on the basis of a 2-wire circuit: power supply via 4...20 mA signal or PROFIBUS PA.
- Optional EEx ia IIC T4/T5/T6 (intrinsic safety) in accordance with ATEX
- Distributed control loops can be implemented if the integrated process controller with PID controller structure is selected.
- Setting of the process controller parameters can be automated (S/HART).
- Easy usage in rough environments is ensured by the rugged design of the hard-coated and plastic-coated body and the design of the electronic components.
- Display and operating buttons are protected in the body.
- Standard NAMUR and DIN IEC mounting on reciprocating and rotary actuators and on Bürkert control valves.
- Up to 2 initiators can be optionally integrated as limit switches, independent of the electronics.
- The pneumatic actuating system features a high air rate (55...170 Nl/min), without an air consumption when system is in steady state.
- A restrictor screw can be utilized to adjust the air rate to the actuator being used.
- Purging the body with clean air prevents condensate formation and penetration of ambient atmosphere into the body.
- A pressure gauge block indicating supply and/or chamber pressure, made fully of SS, can be mounted on.

Material	: Aluminum, hard anodized and plastic coated
Input for position or process set-point	: 4...20mA (option HART)
Input for Process value for PID controller	: 4...20mA
Binary input	: Make or break contact
Optional Position feedback	: 4... 20mA , 2 Binary output
Optional Communication	: Type 8635 S: HART, Type 8635 PA: Profibus PA
Type of protection	: IP65
Ambient temperature	: up to 60°C
Pilot pressure	: up to 6 bar

(Please refer to technical data sheet for more information and of electrical data on PA and EEx ia versions.)

Type 1067 SideControl

Smart Electropneumatic Positioner with Integral Process Controller for Linear or Rotary Actuator

- Compact body made of rugged aluminum.
- Integrated process controller (PID) allows implementation of distributed control loops optionally combined with analog feedback for central detection or evaluation.
- Clear operation due to plain text display and three section keypad.
- Standard NAMUR and DIN IEC mounting on linear and rotary actuators and on Bürkert control valves.
- For reasons relating to accessibility or difficult ambient conditions, a remote version can be used (remote from the positioning valve).
- Low air consumption. No air consumption when system is in steady state.
- Different internal pilot versions for differing air rates enables the positioner to be optimally matched to the actuator volume.
- The pneumatic actuating system can also be manually operated as an emergency function or for commissioning.
- Manageable and clearly structured operating concept featuring extensive software functionality.

Material: Housing	: Aluminum, painted
Fluid Manifold	: Aluminum Anodized
Input for position or process set-point	: 0(4)...20mA / 0...10V
Input for Process value for PID controller	: 4...20mA
Binary input	: Make or break contact (for safe position)
Optional Position feedback	: 4...20mA (option)
Power Supply	: 24V DC
Type of protection	: IP65
Ambient temperature	: up to +60°C
Pilot pressure	: up to 6 bar
Position sensor system	: External for Burkert Control Valve External for other linear actuator Internal for rotary turn actuator
PID controller parameter range	:
Proportional action factor	: 0.0 to 999.9
Reset time	: 0.5 to 999.9
Rate time	: 0.0 to 999.9
Working point of controller	: 0 to 100%

Range of Electric, Pneumatic Actuators and Accessories
- For Quarter Turn Valves

Type 3003 Electric Actuator
For Quarter Turn Valves

Output Torque : 20, 35, 60 or 100 Nm version
Angle of rotation : 90° (±5%) (180° on request)
Rotation time : 9 up to 28 sec (20 up to 100 sec for positioner version)

Fixation : ISO 5211
Drive : Female star 14 or 17 mm
Duty rating : 50% of time at max. torque
Manual override : By outgoing axis and return spring
Power supply : 115 to 230 V AC and 24 V AC/DC
Limit switches : 4 adjustable Max. 230V/5A (2 for the motor and 2 free of potential)
Standard with visual position indicator and mechanical limits stop
Options :
Positioner version : Input 4…20 mA or 0…10 V
Feedback : Potentiometer 1K, 5K or 10K
Analogical output : 4…20 mA
Fail safe security block
Explosion proof version

Type 2050 Pneumatic Actuator
For Quarter Turn Valves

Design : Single piston spiral gear
Version : Double acting or spring return
Pilot Pressure : 2 to 10 bar (double acting) 3.5 to 10 bar (spring return)
Ambient Temperature : -20°C to +60°C
Pilot Media : Dry or lubricated air, non-corrosive gas
Rotation angle : 90°
Output Torque : Up to 60Nm
Fixation : ISO 5211
Drive : Female star 11, 14 or 17 mm
Material :
Body : Glass fiber reinforced PA
Internal parts : POM and PBT
Rotary shaft : Stainless steel
Seals : NBR
Accessories : Limit Switch, Solenoid valve, Top control on/off

Type 2050QT-DA
Type 2050QT-SR
Pneumatic Actuator For Quarter Turn Valves

Design : Double Piston Rack and Pinion
Version : Double acting or spring return
Pilot Pressure : 2 to 8 bar (double acting) 3 to 8 bar (spring return)
Ambient Temperature : -20°C to +100°C
Pilot Media : Dry or lubricated air, non-corrosive gas, water or light hydraulic oil
Rotation angle : 90° +/- 5° (other angle on request)
Rotation direction : Anti clockwise for spring return actuator Clockwise when port "A" is pressurized for double acting actuator
Output Torque : Up to 1,700 Nm
Fixation : ISO 5211
Drive : Female star 9 to 36 mm
Material :
Body : Extruded aluminium alloy, gold anodized
End cap : Pressure die casting aluminium alloy, black epoxy coated
Pinion : Carbon steel, zinc plated
Spring : Spring Steel, zinc plated
Seals : NBR
Other material on request
Accessories available : Limit Switch, Solenoid valve, Positioner, Manual override etc...

Accessories For Direct Mounting to Pneumatic Actuator

Solenoid Valves
Available in 3/2 or 5/2 way
Body material of brass, polyamide or aluminum
(For more information, please refer to Range of Solenoid Valves for Pneumatic Applications)

Limit Switch Box with Tri-Dimensional Position Indicator
IP67 enclosure with 2 SPDT mechanical limit switches. Housing of powder coated die-cast aluminum and polycarbonate position indicator cover.
Options available include transmitter current output, proximity switch, potentiometer resistive output, explosion proof version

Manual Override Gearbox
Weather proof housing of cast iron with treated carbon steel worm gear. Lubricated for life.

Smart I/P positioner with or without Integrated PID Process Controller
(For more information, please refer to Range of ElectroPneumatic Positioner Type 1067 and Type 8635)

Range of Accessories for Pneumatic Operated Angle Seat, Globe & Diaphragm On/Off Valves - Solenoid Valves, Electrical Feedback, Stroke Limiters, Handwheel Override and Control Heads

Type 1066

Control Head for Pneumatic Actuated Process Valves with Linear Actuators

Electrical and pneumatic control components as well as position feedback units and, optionally fieldbus interfaces for AS-Interface or DeviceNet, are integrated into the control head.
For single or double acting, 2 or 3 position actuator
Easy mechanical adaptation to various actuator

Body	: Noryl with PSU cover
Seal	: NBR
Stroke	: 2 to 73mmm
Pilot media	: unlubricated compressed air, neutral gases
Pilot pressure	: 2.5 up to 7 bar
Ambient and Pilot temperature	: -10°C up to +50°C
Power supply	: 24VDC
Feedback	: up to 2 micro limit switches 230V/1A up to 3 inductive switches 8 to 30V/100mA
Electrical control	: Multipole, ASI or DeviceNet
Type of protection	: IP65

Type 8631

Top Control ON/OFF Control Head Optimized for Burkert Pneumatic Actuated Process Valves

Electrical and pneumatic control components as well as position feedback units and, optionally fieldbus interfaces for AS-Interface or DeviceNet, are integrated into the control head.

Body	: PPE/PA with PSU cover
Seal	: NBR
Pilot media	: Unlubricated compressed air, neutral gases
Pilot pressure	: 3 up to 7 bar
Ambient and Pilot temperature	: 0°C up to +50°C
Power supply	: 24VDC
Feedback	: up to 2 micro limit switches up to 2 inductive switches
Electrical control	: Multipole, ASI or DeviceNet
Type of protection	: IP65

Optionally available with protection type II 2 G EEx ia (intrinsically safe)

Maximum Stroke Limiter

Stroke limitation for single acting actuator
For mounting on top of actuator size Ø50mm to Ø125mm
Easy adjustment by Allen Key
Material of stainless steel

Handwheel with Visual Position Indicator

For single acting normally closed actuator
For mounting on top of actuator size Ø50mm to Ø125mm

Type 1062

Electrical Position Feedback Unit

For mounting on top of actuator size Ø50mm to Ø125mm
1 or 2 contacts (open or close, open and close position)
Switch Configuration:
Mechanical type 8A/250V AC, 0.25A/250DC
Inductive, 2 wire type 10..30VDC/100mA
Inductive, 3 wire type 10...30VDC/200mA
Inductive, NAMUR Ex i type

Enclosure material	: PA with polycarbonate cover
LED indication	
Type of protection	: IP65

Type 1071

External Magnetic Inductive Position Feedback with Magnetic Piston

For mounting at the side of actuator size Ø50mm to Ø125mm in combination with stroke adjustment and manual override
1 or 2 contacts (open or close, open and close position)

Operating voltage	: 12 to 30 VDC/200mA
Housing material	: PBTP
Type of protection	: IP67

Type 1060

Electrical Position Feedback Unit with Visual Position Indicator

For mounting on top of actuator size Ø50mm to Ø125mm
1 changeover contact (activated in open position)

Switching load	: 250V AC/max. 5A 250V DC/max. 0.25A
Housing material	: PA with polycarbonate cover
Type of protection	: IP65

Minimum / Maximum Stroke Limiter with Optical Position Indicator

For mounting on top of actuator size Ø50mm to Ø125mm
Upper and lower stop adjustable with standard tool.
Can be used as manual override.
Material of stainless steel and polycarbonate

Range of Mass Flow Controller (MFC) and Mass Flow Meter (MFM) - For Various Gas Handling Applications

MFC Type 8712
MFM Type 8702

Bypass principle with new semiconductor flow sensors featuring CMOS technology with high accuracy and fast setting time. This revolutionary bypass measuring technology enables measurement and display times of a few hundred milliseconds.

- High level of accuracy
- Fast response and settling time
- Excellent span
- Optional calibration for two gases
- Integrated totalizer
- Field bus optional
- Mass Flow Communicator (PC configuration software)
- 3 binary inputs and 2 binary outputs (relay outputs)
- Galvanic isolation of inputs and outputs
- Full scale range 0.02 to 50 l_N/min (N_2 at 273.15 K and 1013.25 mbar)
- Settling time <300ms
- Accuracy ±0.8% of rate ±0.3%F.S.
- Repeatability ±0.1% F.S.
- Linearity ±0.1% F.S.
- Span 1:50, 1:500 on request
- Max. operating pressure 10 bar depending on the application
- Type of protection IP 65
- Port connection G1/4", NPT1/4", screw-in connector
- Analog signal transmission or digital communication (RS-232,RS-485, field bus)
- Voltage supply 24 V DC
- Power consumption max. 10 W
- Stainless steel body

MFC Type 8716
MFM Type 8706

For large flow rates with inline measuring method, enabling these units to feature excellent dynamics and very low sensitivity to dirt.

- High level of accuracy
- Fast response and settling time
- Excellent span
- Optional calibration for two gases
- Integrated totalizer
- Field bus optional
- Mass Flow Communicator (PC configuration software)
- 3 binary inputs and 2 binary outputs (relay outputs)
- Galvanic isolation of inputs and outputs
- Full scale range of 25 to 500 l_N/min (for 8716), 25 to 1500 l_N/min (8706), (N_2 at 273.15 K and 1013,25 mbar)
- Settling time <500 ms
- Accuracy ±1.5% of rate ±0.3% F.S.
- Repeatability ±0,1% F.S.
- Linearity ± 0.25% F.S. • Span 1:50
- Max. operating pressure 10 bar depending on the application
- Type of protection IP 65
- Port connection G1/4" to 3/4", NPT1/4" to 3/4", screw-in connector
- Analog signal transmission or digital communication (RS-232, RS-485, field bus)
- Voltage supply 24 V DC
- Power consumption max. 32.5 W
- Stainless steel or aluminum body

Type 8750

Flow Controller for Higher Flow Rate
Intergral solution with control valve, pressure & temperature transmitter for the calculate and control of flow rate according to the pressure drop principle

Medium : air, gases up to 80°C
(Steam, liquid version on request)

MFC Type 8710
MFM Type 8700

Bypass measuring technology with classical resistor sensor. This indirect measuring method offers the advantage that the measuring resistors are not in direct contact with the medium and therefore can also be used to measure and control aggressive gases.

- High level of accuracy
- Excellent span
- Calibration of critical gases with air and conversion factor
- Optional calibration for two gases
- Integrated totalizer
- Mass Flow Communicator (PC configuration software)
- 2 binary inputs and 1 binary output (relay output)
- Full scale range 0.05 to 30 l_N/min (N_2 at 273,15K and 1013.25 mbar)
- Settling time approx. 3 seconds
- Accuracy ±1.0% of rate ±0.3% F.S.
- Repeatability ±0.2% F.S.
- Linearity ±0.25% F.S.
- Span 1:50
- Max. operating pressure 10 bar depending on the application
- Type of protection IP 50
- Port connection G1/4", NPT1/4", screw-in connector
- Analog signal transmission or digital communication (RS-232, RS-485, field bus)
- Voltage supply 24 V DC
- Power consumption max. 7.5 W
- Stainless steel body

MFC Type 8626
MFM Type 8006

Inline measuring method, enabling these units to offer excellent dynamics as well as low sensitivity to dirt and low pressure loss. Particularly suitable for very large flow rates and harsh conditions.

- High level of accuracy
- Fast response and settling time
- Excellent span
- Optional calibration for two gases
- Integrated totalizer
- Field bus optional
- Mass Flow Communicator (PC configuration software)
- 3 binary inputs and 2 binary outputs (relay outputs)
- Galvanic isolation of inputs and outputs
- Full scale range 25 to 1500 l_N/min (N_2at 273.15K and 1013.25 mbar)
- Settling time <500ms
- Accuracy ±1.5% of rate ±0.3% F.S.
- Repeatability ±0.1% F.S.
- Linearity ±0.25% F.S. • Span 1:50
- Max. operating pressure 10 bar depending on the application
- Type of protection IP 65
- Port connection G1/4" to 3/4", NPT1/4" to 3/4", screw-in connector
- Analog signal transmission or digital communication (RS-232,RS-485, field bus)
- Voltage supply 24 V DC
- Power consumption max. 50 W
- Stainless steel or aluminum body

Pressure range	: up to 10 bar
Orifice	: DN15 to DN100 mm
Port connection	: DIN Flange, other on request
Material	: Stainless Steel
Voltage	: 24VDC
Setpoint input	: 0/4 - 20mA, 0- 5/10V
Process value output	: 4 - 20mA as option
Communication	: Profibus DP, ASI on request
Type of protection	: IP65

Range of Mass Flow Controller and Meter

Range of Proportional Solenoid Control Valves, Control Electronics and PI Controllers

- Low Cost Solution to Simple Control Loop For Neutral Media Application

Type 6021

2/2 way, Direct Acting Proportional Solenoid Control Valve
Required DIN-rail mounting control electronic Type 1094
Normally closed in event of power failure

Orifice size	: 0.8 to 1.6 mm
Kv	: 0.0181 to 0.05 m³/h
Port connection	: BSP, NPT 1/8"
Body material	: Stainless steel or Brass
Seal material	: FPM (EPDM or PTFE on request)
Span	: 1:20
Hysteresis	: <5%
Repeatability	: <0.5% F.S.
Media temperature	: -10 to +90°C
Pressure range	: up to 12 bar (depending on nominal diameter)
Voltage	: 24VDC
Control signal	: Pulse Width Modulated (PWM)
Type of protection	: IP65

Type 6023

2/2 way, Direct Acting Proportional Solenoid Control Valve
Required plug-on control electronic Type 1094
Normally closed in event of power failure

Orifice size	: 4 or 6 mm
Kv	: 0.4 to 0.7 m³/h
Port connection	: BSP, NPT 3/8"
Body material	: Stainless steel, Brass
Seal material	: FPM (EPDM or PTFE on request)
Span	: 1:10
Hysteresis	: <5%
Repeatability	: <0.5% F.S.
Media temperature	: -10 to +90°C
Pressure range	: up to 4 bar (depending on nominal diameter)
Voltage	: 24VDC
Control signal	: Pulse Width Modulated (PWM)
Type of protection	: IP65

Type 6022

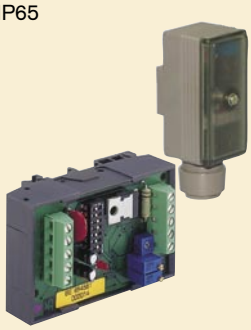
2/2 way, Direct Acting Proportional Solenoid Control Valve
Required plug-on control electronic Type 1094
Normally closed in event of power failure

Orifice size	: 0.8 to 4.0 mm
Kv	: 0.018 to 0.58m³/h
Port connection	: BSP, NPT 1/4"
Body material	: Stainless steel, Brass
Seal material	: FPM (EPDM or PTFE on request)
Span	: 1:25
Hysteresis	: <0.5%
Repeatability	: <0.5% F.S.
Media temperature	: -10 to +90°C
Pressure range	: up to 16 bar (depending on nominal diameter)
Voltage	: 24VDC
Control signal	: Pulse Width Modulated (PWM)
Option	: EEx m II T4 version
Type of protection	: IP65

Type 6223

2/2 way, Servo-assisted Proportional Solenoid Control Valve
Required plug-on control electronic Type 1094

Orifice size	: 10 to 20 mm
Kv	: 1.4 to 5.0 m³/h
Port connection	: BSP, NPT 3/8" to 1"
Body material	: Brass or Stainless steel
Seal material	: FPM (EPDM or PTFE on request)
Span	: 1:10
Hysteresis	: <5%
Repeatability	: <1% F.S.
Media temperature	: -10 to +90°C
Pressure range	: Max. 10 bar with min. ΔP of 0.5 bar
Voltage	: 24VDC
Control signal	: Pulse Width Modulated(PWM)
Electrical connection	: Cable plug to IP65



Type 1094

Control Electronics for Proportional Solenoid Control Valves
Plug-on module or DIN-rail mounting

- Temperature compensation for heating of the coil by integrated current control
- Ramp function for damping sudden control signal changes
- Adjustment of min. and max. flow to the real pressure conditions
- Zero switch-off function

Set-point Input signal	: 0 / 4 to 20mA or 0 to 10V
Output	: PWM for valve control
Type of protection	: IP65 (Plug-on module only)

Type 8623-2

Compact PI Controller for Flow / Ratio Control Application

Input Signal	: 2 frequency inputs (2 to 1000Hz) for actual process value; 1 standard signal (4...20 mA / 0 to 10 V) for remote set point input
Output Signal	: 1 PWM signal output

Type 8624-2

Compact PI Controller for Flow and Pressure Control Applications

Input Signal	: 1 standard signal (4...20 mA / 0 to 10 V) for actual process value; 1 standard signal (4...20 mA)/ 0 to 10 V) for remote set point input
Output Signal	: 1 PWM signal output

Type 8625-2

Compact PI Controller for Temperature Control Application

Input Signal	: 1 Pt100 sensor input for actual process value; 1 standard signal (4...20 mA / 0 to 10 V) for remote set point input
Output Signal	: 1 PWM signal output

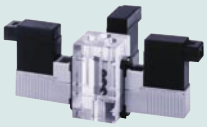
Common Characteristics / Data

- Direct plug-on to proportional solenoid Control Valve
- Easy programming
- Scalable input signal
- Inverted or non-inverted control
- Zero switch-off function

Operating voltage	: 24VDC
Type of protection	: IP65
Option	: Fieldbus communication

Range of Solenoid Valves, Micro-Pumps, Manifolds and Solutions for MicroFluidics Application

- Medical Technology, Analysis Technology 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

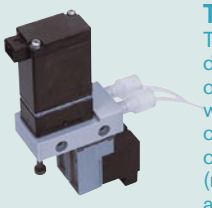
Rocker solenoid actuator with medium separated PPS body with dead volume optimized and easy-to-flush inner contour. Central screw fixture of the coil allows the coil to be exchanged even with the medium applied. Modular body design allows the use of various fluidic connections. Type 6128 can be used 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.

Type 8005 Liquid mass flow meter

The mass flow meter 8005 allows fast and precise flow rate mesurements for fluids down to the nanoliter range. Highly sensitive, intelligent CMOSens micro chips are capable of detecting the mass flow rate bi-directionally and with media separation through a thin PEEK wall. The high dynamics of this measurement principle allows a measuring range of 5 to 1,500 µl/min. The accuracy is better than 1.5 or 3%,respectively, depending on the measuring range, and the detection limit is approx. 150 nanoliters/min.The device is free of dead volume and its response time, at 20 ms (lower limit), is extraordinarily short. The mounting dimension is 14 mm and the type of protection is IP65.
The mass flow meter 8005 can be interconnected with other components to form functional modules such as:

– with valve 6604 and the micro-pump 7604 to produce a dosing unit and
– with valve 6604 and the proportional valve 2822 to form a mass flow controller.

Range of Flow Sensors For Liquids

- Paddle Wheel, Oval Gear Positive Displacement, Magnetic Inductive Principle

Burkert flow sensors are available in various measuring principles for different applications ranging from high-purity to highly-contaminated media, including aggressive & viscous media.

Type 8030

In-line Paddle Wheel Flow Sensor
Flow sensor with 4-vane PVDF paddle wheel pre-installed in fitting for measuring flow rate. Output is frequency proportional to flow.
Medium: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.

Measuring range : 0.3 to 10 m/s (1 to 1,000 l/min)
Output type : Sinusoidal or NPN/PNP
Nominal diameter : DN6 to 65 mm (1/4" to 2 1/2")
Fitting material : Stainless Steel 316L, brass, PVC, PP or PVDF
Process connection : Threaded, flanged, weld ends, tri-clamp, union nut and spigot or solvent joint
Pressure rating : PN16 metal, PN10 plastic.
Temperature rating : Max. 100°C (depending on fitting material)
Power supply : Coil Sensor: Not required,
Hall Sensor: 12 to 36 VDC

Type 8020

Insertion Paddle Wheel Flow Sensor
Flow sensor with 4-vane PVDF paddle wheel for measuring flow rate. Output is frequency proportional to flow. Requires Burkert insertion fitting.
Medium: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.

Measuring range : 0.3 to 10 m/s (3 to 50,000 l/min)
Output type : Sinusoidal or NPN/PNP
Nominal diameter : DN6 to 400 mm(1/4" to 16")
Fitting material : Stainless Steel 316L, brass, PVC, PP, PVDF or PE
Process connection : Threaded, flanged, weld ends, tri-clamp, saddle, weld-o-let, union nut and spigot or solvent joint
Pressure rating : PN10
Temperature rating : Max. 100°C (depending on fitting material)
Power supply : Coil Sensor: Not required,
Hall Sensor: 12 to 36 VDC

Type 8070

Oval Gear Positive Displacement Flow Sensor
Volumetric flow sensor for measuring flow rate of liquid. Output is frequency proportional to flow.
Medium: Clean liquid with max. 0.25 mm particles, no fibrous material & viscosity up to 1,000 cSt (up to 1,000,000 cSt on request). Non-pulsating & pulsating flow.

Measuring range : 1 to 350 l/min
Output type : NPN/PNP
Nominal diameter : DN15 to 50 mm (1/2" to 2")
Fitting material : Stainless steel 316L, Aluminum, PPS
Process connection : Threaded, flanged (BSP, NPT, ANSI, DIN).
Pressure rating : PN55 metal, PN10 PPS
Temperature rating : Max. 120°C SS, 80 °C Al & PPS
Power supply : 10-36 VDC

Type 8041

Insertion Magnetic Inductive Flow Sensor for High Temperature Application. Flow sensor without moving parts. Movement of conductive medium in magnetic field generated by sensor produces voltage proportional to flow. Requires Burkert insertion fitting.
Medium: Clean to contaminated (non ferromagnetic) liquid with conductivity >20 µS/cm & viscosity <5000 cSt. Non-pulsating flow.

Measuring range : 0.1 to 10 m/s (1 to 50,000 l/min)
Output type : 4..20 mA or NPN/PNP & optional relay
Nominal diameter : DN6 to 400 mm (1/4" to 16")
Fitting material : SS 316L, brass, PVC, PP, PVDF or PE
Process connection : Threaded, flanged, weld ends, tri-clamp, saddle weld-o-let, true unoin and spigot, solvent joint
Pressure rating : PN16 (metal fitting), PN10 (plastic fitting)
Temperature rating : Up to 150°C (depending on fitting material)
Power supply : 18-36 VDC

Type 8030 HT

In-line Paddle Wheel Flow Sensor For High Temperature and Pressure Application.
Flow sensor with 4-vane SS paddle wheel pre-installed in fitting for measuring flow rate. Output is frequency proportional to flow.
Medium: Clean liquid with <1% solids, no fibrous material & viscosity <300 cSt. Non-pulsating flow. Insensitive to ferromagnetic particles.

Measuring range : 0.5 to 10 m/s (1.5 to 1,000 l/min)
Output type : Sinusoidal or NPN/PNP
Nominal diameter : DN8 to 50 mm (1/2" to 2")
Fitting material : Stainless Steel 316L
Process connection : Threaded, weld ends (BSP, NPT, PT, ISO)
Pressure rating : PN40
Temperature rating : Max. 160°C
Power supply : Coil Sensor: Not required,
Hall Sensor: 12 to 36 VDC

Type 8031

In-line Paddle Wheel Flow Sensor for Low Flow Application.
Flow sensor with paddle wheel pre-installed in fitting for measuring flow rate. Output is frequency proportional to flow.

Medium : Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <10 cSt. Non-pulsating flow.
Measuring range : 10 to 250 l/h
Output type : NPN
Nominal diameter : 1/4"
Fitting material : ECTFE (Halar), POM
Process connection : Threaded (BSP 1/4").
Pressure rating : PN10
Temperature rating : Max. 55°C
Power supply : 12-24 VDC

Type 8071

Oval Gear Positive Displacement Flow Sensor for Low Flow Application
Volumetric flow sensor for measuring flow rate of liquid. Output is frequency proportional to flow.

Medium : Clean liquid with max. 0.12 mm particles, no fibrous material & viscosity up to 1,000 cSt. Non-pulsating & pulsating flow.
Measuring range : 0.03 to 8.3 l/min
Output type : NPN
Nominal diameter : 1/4"
Fitting material : Stainless Steel 316L, PPS
Process connection : Threaded (BSP, NPT).
Pressure rating : PN10 metal (PN550 HP version), PN5 PPS
Temperature rating : Max. 120°C SS, 80 °C PPS
Power supply : 24 VDC

Type 8040

Insertion Magnetic Inductive Flow Sensor
Flow sensor without moving parts. Movement of conductive medium in magnetic field generated by sensor produces voltage proportional to flow. Requires Burkert insertion fitting.
Medium: Clean to contaminated (non ferromagnetic) liquid with conductivity >20 µS/cm & viscosity <5000 cSt. Non-pulsating flow.

Measuring range : 0.1 to 10 m/s (1 to 50,000 l/min)
Output type : 4..20 mA or NPN/PNP
Nominal diameter : DN6 to 400 mm (1/4" to 16")
Fitting material : Stainless Steel 316L, brass, PVC, PP, PVDF or PE
Process connection : Threaded, flanged, weld ends, tri-clamp, saddle weld-o-let, true unoin and spigot, solvent joint
Pressure rating : PN6
Temperature rating : Up to 80°C
Power supply : 18 to 36 VDC

Range of Flow Transmitters (Meters) For Liquids

- Paddle Wheel, Oval Gear Positive Displacement Principle - Insertion or INLINE Type

Burkert flow transmitters (meters) are available in various measuring principles & configuration for different applications from high-purity to highly-contaminated media, including aggressive & viscous media in wide-ranging industries.

Type 8035

In-line Paddle Wheel Flow Indicator/ Transmitter. Digital display flow indicator with totalizer & output signal. Flow sensor with 4-vane PVDF paddle wheel pre-installed in fitting. Option with PP paddle wheel available.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to 10 m/s (1 to 1,000 l/min)
Output signal	: 4..20 mA & NPN/PNP pulse with optional relay
Nominal diameter	: DN6 to 65 mm (1/4" to 21/2")
Fitting material	: Stainless Steel 316L, brass, PVC, PP or PVDF
Process connection	: Threaded, flanged, weld ends, tri-clamp, union nut and spigot or solvent joint
Pressure rating	: PN16 metal, PN10 plastic.
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 2x 9 V batteries, 12 to 30 VDC or 115 VAC/230 VAC

Type 8025

Insertion Paddle Wheel Flow Indicator/ Transmitter. Digital display flow indicator with totalizer & output signal. Flow sensor with 4-vane PVDF paddle wheel. Requires Burkert insertion fitting.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to 10 m/s (3 to 50,000 l/min)
Output signal	: 4..20 mA & NPN/PNP pulse with optional relay
Nominal diameter	: DN6 to 400 mm (1/4" to 16")
Fitting material	: Stainless Steel 316L, brass, PVC, PP, PVDF or PE
Process connection	: Threaded, flanged, weld ends, tri-clamp, saddle weld-o-let, true unoin and spigot, solvent joint
Pressure rating	: PN10
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 2x 9 V batteries, 12-30 VDC or 115 VAC/230 VAC

Type 8075

Oval Gear Positive Displacement Flow Indicator/Transmitter

Digital display flow indicator with totalizer & output signal. Volumetric flow sensor.

Medium	: Clean liquid with max. 0.25 mm particles, no fibrous material & viscosity up to 1,000 cSt (up to 1,000,000 cSt on request). Non-pulsating & pulsating flow.
Measuring range	: 1 to 350 l/min
Output signal	: 4..20 mA & NPN/PNP pulse with optional relay
Nominal diameter	: DN15 to 50 mm (1/2" to 2")
Fitting material	: Stainless Steel 316L, aluminum or PPS
Process connection	: Threaded, flanged (BSP, NPT, ANSI, DIN).
Pressure rating	: PN55 metal, PN10 PPS
Temperature rating	: Max. 120°C SS, 80 °C Al & PPS
Power supply	: 12 to 30 VDC or 115 VAC/230 VAC

Type 8072

Oval Gear Positive Displacement Flow Indicator/Switch

Digital display flow indicator with totalizer & output signal. Volumetric flow sensor.

Medium	: Clean liquid with max. 0.25 mm particles, no fibrous material & viscosity up to 1,000 cSt (up to 1,000,000 cSt on request). Non-pulsating & pulsating flow.
Measuring range	: 1 to 350 l/min
Output signal	: NPN/PNP or relay with optional 4..20 mA
Nominal diameter	: DN15 to 50 mm (1/2" to 2")
Fitting material	: SS 316L, aluminum or PPS
Process connection	: Threaded, flanged (BSP, NPT, ANSI, DIN).
Pressure rating	: PN55 metal, PN10 PPS
Temperature rating	: Max. 120°C SS, 80 °C Al & PPS
Power supply	: 12 to 30 VDC

Range of Flow Transmitters (Meters) For Liquids

- Magnetic Inductive Principle - Insertion or Full Bore Types

Burkert flow meters are available in various measuring principle & configuration for different applications from high-purity to highly-contaminated media, including aggressive & viscous media in wide-ranging industries.

Type 8045

Insertion Magnetic Inductive Flow Indicator/Transmitter. Digital display flow indicator with totalizer & output signal. Flow sensor without moving parts. Movement of conductive medium in magnetic field generated by sensor produces voltage proportional to flow. Requires Burkert insertion fitting.

Medium	: Clean to contaminated (non-ferromagnetic) liquid with conductivity >20 µS/cm & viscosity <5000 cSt. Non-pulsating flow.
Measuring range	: 0.1 to 10 m/s (1 to 50,000 l/min)
Output signal	: 4..20 mA & NPN/PNP pulse with optional relay
Nominal diameter	: DN6 to 400 mm (1/4" to 16")
Fitting material	: SS 316L, brass, PVC, PP, PVDF or PE
Process connection	: Threaded, flanged, weld ends, tri-clamp, saddle weld-o-let, true unoin and spigot, solvent joint
Pressure rating	: PN16 (metal fitting), PN10 (plastic fitting)
Temperature rating	: Up to 80°C (depending on fitting material)
Power supply	: 18 to 36 VDC

Type 8045 HT

Insertion Magnetic Inductive Flow Indicator/Transmitter - High Temperature. Digital display flow indicator with totalizer & output signal. Flow sensor without moving parts. Movement of conductive medium in magnetic field generated by sensor produces voltage proportional to flow. For higher temperature applications or media unsuitable for PVDF. Requires Burkert insertion fitting.

Medium	: Clean to contaminated (non-ferromagnetic) liquid with conductivity >20 µS/cm & viscosity <5000 cSt. Non-pulsating flow.
Measuring range	: 0.1 to 10 m/s (1 to 50,000 l/min)
Output signal	: 4..20 mA & NPN/PNP pulse with optional relay
Nominal diameter	: DN6 to 400 mm (1/4" to 16")
Fitting material	: SS 316L, brass, PVC, PP, PVDF or PE
Process connection	: Threaded, flanged, true union, weld ends, saddle or weld-o-let (BSP, NPT, PT, ASTM, JIS, DIN).
Pressure rating	: PN 10 or PN16(depending on temp. and fitting material)
Temperature rating	: Up to 110°C (depending on fitting material)
Power supply	: 18 to 36 VDC

Type 8055

Full-bore Magnetic Inductive Flow Sensor/Meter

Digital display flow indicator with totalizer & output signal. Flow sensor without moving parts. Movement of conductive medium in magnetic field generated by sensor produces voltage proportional to flow.

Medium	: Clean to contaminated liquid with conductivity >5 µS/cm & viscosity <5000 cSt. Non-pulsating flow.
Measuring range	: 0.1 to 10 m/s (1 to 47,600 l/min; up to 1,883,300 l/min on request)
Output signal	: 0/4..20 mA, pulse & open collector with optional RS485/ RS232
Nominal diameter	: DN3 to DN100 mm (up to DN2000 mm on request)
Fitting material	: SS 316L (sanitary version available), carbon steel
Lining material	: PP, PTFE (others on request)
Process connection	: Flanged, wafer, tri-clamp or other sanitary connections (ASTM, JIS, DIN, etc...).
Pressure rating	: PN16
Temperature rating	: Up to 150°C (depending on lining material)
Power supply	: 90 to 265 VAC (DC version and others on request)

Range of Flow Switches, Indicators and All-In-One Sensors For Liquids - Magnetic Paddle Wheel, Optical Sensing Principle

Burkert flow meters, switches, indicators and All-In-One Sensors, (Indicator, Switch & Transmitter) are available in various measuring principles & configuration for differ

Type 8010

In-line Single Paddle Flow Switch with adjustable switching point for detecting Flow or No flow condition.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Switching range	: 4.7 to 75.9 l/min
Switch type	: Normally-open or normally closed SPST reed switch (max. 0.8 A/50 W).
Nominal diameter	: DN15 to 50 mm (1/2" to 2")
Fitting material	: Stainless steel 316L, brass, PVC, PP or PVDF; with PVDF paddle.
Process connection	: Threaded, flanged, true union or weld ends (BSP, NPT, PT, ASTM, JIS, DIN).
Pressure rating	: PN16 metal, PN10 plastic.
Temperature rating	: Max. 55°C
Power supply	: Not required

Type 8024

Insertion Paddle Wheel Flow Indicator Analog display flow indicator. Flow sensor with 4-vane PVDF paddle wheel. Requires Burkert insertion fitting.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to 10 m/s (3 to 50,000 l/min)
Nominal diameter	: DN6 to 400 mm (1/4" to 16")
Fitting material	: Stainless steel 316L, brass, PVC, PP, PVDF or PE
Process connection	: Threaded, flanged, weld ends, tri-clamp, saddle weld-o-let, true unoin and spigot, solvent joint
TPressure rating	: PN10
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 2X 1.5 V batteries

Type 8032

In-line Paddle Wheel Flow Indicator/ Switch/Transmitter
Digital display flow indicator with output signal. Flow sensor with 4-vane PVDF paddle wheel pre-installed in fitting.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to 10 m/s (1 to 1,000 l/min)
Output signal	: NPN/PNP or relay with optional 4..20 mA
Nominal diameter	: DN6 to 65 mm (1/4" to 21/2")
Fitting material	: Stainless steel 316L, brass, PVC, PP or PVDF
Process connection	: Threaded, flanged, weld ends, tri-clamp, union nut and spigot or solvent joint
Pressure rating	: PN16 metal, PN10 plastic.
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 12 to 30 VDC

Type 8034

In-line Paddle Wheel Flow Indicator
Analog display flow indicator. Flow sensor with 4-vane PVDF paddle wheel pre-installed in fitting.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to10 m/s (1 to 1,000 l/min)
Nominal diameter	: DN6 to 65 mm (1/4" to 2 1/2")
Fitting material	: Stainless steel 316L, brass, PVC, PP or PVDF
Process connection	: Threaded, flanged, weld ends, tri-clamp, union nut and spigot or solvent joint
Pressure rating	: PN16 metal, PN10 plastic.
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 2x 1.5 V batteries

Type 8039

In-line Paddle Wheel Flow Indicator/ Switch with Optical Sensing Technology
Digital display flow indicator with output signal. Flow sensor with 4-vane PVDF paddle wheel pre-installed in fitting. Optical technology results in ability to measure in medium with ferromagnetic particle contamination.

Medium	: Clean liquid with <1% solids, no fibrous material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to 10 m/s (1 to 1,000 l/min)
Output signal	: NPN/PNP or relay with optional frequency (NPN)
Nominal diameter	: DN6 to 50 mm (1/4" to 2")
Fitting material	: Stainless steel 316L, brass, PVC, PP or PVDF
Process connection	: Threaded (BSP, NPT , M)
Pressure rating	: PN10
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 12 to 30 VDC

Range of Remote Display, Transmitter, Switch & Accessories

- Connectable to Burkert Flow Sensors

In the event the flow/totalizer reading has to be displayed at a location located away from the sensor, Burkert has a selection of indicators/ transmitters to suit different needs. Fittings for insertion flow sensor are available in various body material and connection.

Type 8025 Panel

Panel-mounted
Flow Indicator/Transmitter
Digital display flow indicator with totalizer & output signal. For use with frequency signal from flow sensor (eg. 8020, 8030, 8030HT, 8031, 8040, 8041, 8070, 8071).

Input signal : Sinusoidal or square wave (NPN)
Output signal : 4..20 mA & NPN/PNP pulse with optional relay
Power supply : 12 to 30 VDC

Type 8024 / 8034Panel

Panel-mounted Flow Indicator
Analog display flow indicator. For use with frequency signal from flow sensor (eg. 8020, 8030, 8030HT, 8031, 8040, 8041, 8070, 8071).

Input signal : Sinusoidal or square wave (NPN)
Output signal : None
Power supply : 12 to 30 VDC

Type SE32 Wall

Wall-mounted Flow Indicator/Switch
Digital display flow indicator with output signal. For use with frequency signal from flow sensor (eg. 8020, 8030, 8030HT, 8040, 8041, 8070).

Input signal : Square wave (NPN)
Output signal : NPN/PNP or relay with optional 4..20 mA, ASI
Power supply : 12 to 30 VDC

Type S020

Insertion Fitting
Fitting for installation of Burkert's insertion flow sensors (eg. 8020, 8040, 8041) & flow transmitters/meters (8024, 8025, 8045, 8045HT).

Nominal diameter : DN 6 to 400 mm (1/4" to 16")
Fitting material : Stainless Steel 316L, brass, PVC, PP, PVDF or PE
Process connection : Threaded, flanged, weld ends, tri-clamp, saddle weld-o-let, true unoin and spigot, solvent joint
Pressure rating : PN10 (plastic), PN16 (metal)

Type 8025 Wall

Wall-mounted Flow Indicator/Transmitter
Digital display flow indicator with totalizer & output signal. For use with frequency signal from flow sensor (eg. 8020, 8030, 8030HT, 8031, 8040, 8041, 8070, 8071).

Input signal : Sinusoidal or square wave (NPN)
Output signal : 4..20 mA & NPN/PNP pulse with optional relay
Power supply : 12 to 30 VDC or 115 VAC/230 VAC

Type 8024 /8034 Wall

Wall-mounted Flow Indicator
Analog display flow indicator. For use with frequency signal from flow sensor (eg. 8020, 8030, 8030HT, 8031, 8040, 8041, 8070, 8071).

Input signal : Sinusoidal
Output signal : None
Power supply : 2x 1.5 V batteries

Type 8021

Sensor-mounted Pulse Divider
Calibrated pulse output unit. For use with frequency signal from flow sensor (eg. 8020, 8030, 8030HT, 8040, 8041, 8070).

Input signal : Square wave (NPN/PNP)
Output signal : NPN/PNP pulse
Power supply : 12 to 30 VDC

Type 8023

Sensor-mounted Flow Transmitter
4..20 mA output unit. For use with frequency signal from flow sensor (eg. 8020, 8030, 8030HT, 8040, 8041, 8070).

Input signal : square wave (NPN/NPN)
Output signal : 4..20 mA
Power supply : 12 to 30 VDC

Type 4002 Panel

Panel-mounted Flow Indicator/Totalizer
Digital display flow indicator with totalizer & optional output signal. For use with frequency or analog signal from flow sensor (eg. 8020, 8030, 8030HT, 8031, 8040, 8041, 8070, 8071 and other 4,,20 mA output transmitters including 8175 for open channel flow measurement).

Input signal : Square wave (NPN/PNP) or 4..20 mA/0-10 V
Output signal : Optional 0/4..20 mA/0-10 VDC or open collector or relay
Communications : Optional RS485/RS232 or DEVICENET or MODBUS or PROFIBUS-DP
Power supply : 85 to 230 VAC

Range of Batch Controllers For Liquids, Remote or Local Version - Paddle Wheel, Oval Gear Positive Displacement, Magnetic Inductive Principle

Burkert batch controllers are designed for controlling very precise dosing & filling operations. They are available in various measuring principle for use with different medium.

Type 8035 Batch

In-line Paddle Wheel Batch Controller
Flow sensor with 4-vane PVDF paddle wheel pre-installed in fitting. Option with PP paddle wheel available.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to 10 m/s (1 to 1,000 l/min)
Output signal	: 2 x relays
Nominal diameter	: DN6 to 65 mm (1/4" to 21/2")
Fitting material	: Stainless Steel 316L, brass, PVC, PP or PVDF
Process connection	: Threaded, flanged, weld ends, tri-clamp, true unoin and spigot, solvent joint
Pressure rating	: PN16 metal, PN10 plastic.
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 12 to 30 VDC or 115 VAC/230 VAC

Type 8075

Oval Gear Positive Displacement Batch Controller
Volumetric flow sensor.

Medium	: Clean liquid with max. 0.25 mm particles, no fibrous material & viscosity up to 1,000 cSt (up to 1,000,000 cSt on request). Non-pulsating & pulsating flow.
Measuring range	: 1 to 350 l/min
Output signal	: 2 x relays
Nominal diameter	: DN15 to 50 mm (1/2" to 2")
Fitting material	: Stainless Steel 316L, aluminum or PPS
Process connection	: Threaded, flanged (BSP, NPT, ANSI, DIN).
Pressure rating	: PN55 metal, PN10 PPS
Temperature rating	: Max. 120°C SS, 80°C Al & PPS
Power supply	: 12 to 30 VDC or 115 VAC/230 VAC

Type 8025 Batch - Panel/Wall

Remote-mounted Batch Controller
Digital display with totalizer. For use with frequency output flow sensors.

Input signal	: Sinusoidal or square wave (NPN)
Output signal	: 2 x relays
Power supply	: 12 to 30 VDC or 115 VAC/230 VAC

Type 8025 Batch

Insertion Paddle Wheel Batch Controller
Flow sensor with 4-vane PVDF paddle wheel. Requires Burkert insertion fitting.

Medium	: Clean liquid with <1% solids, no fibrous or ferromagnetic material & viscosity <300 cSt. Non-pulsating flow.
Measuring range	: 0.3 to 10 m/s (3 to 50,000 l/min)
Output signal	: 2 x relays
Nominal diameter	: DN6 to 400 mm (1/4" to 16")
Fitting material	: Stainless Steel 316L, brass, PVC, PP, PVDF or PE
Process connection	: Threaded, flanged, weld ends, tri-clamp, saddle, weld-o-let, true unoin and spigot, solvent joint
Pressure rating	: PN10
Temperature rating	: Max. 100°C (depending on fitting material)
Power supply	: 12-30 VDC or 115 VAC/230 VAC

Type 8055

Full-bore Magnetic Inductive Batch Controller
Flow sensor without moving parts. Movement of conductive medium in magnetic field generated by sensor produces voltage proportional to flow.

Medium	: Clean to contaminated liquid with conductivity >5 µS/cm & viscosity <5000 cSt. Non-pulsating flow.
Measuring range	: 0.1 to 10 m/s (1 to 47,600 l/min; up to 1,883,300 l/min on request)
Output signal	: 2x open collector (relays on request)
Nominal diameter	: DN3 to DN100 mm (up to DN2000 mm on request)
Fitting material	: Stainless Steel 316L (sanitary version available), carbon steel
Lining material	: PP, PTFE (others on request)
Process connection	: Flanged, wafer, Tri-clamp & other sanitary connections (ASTM, JIS, DIN, etc...).
Pressure rating	: PN16
Temperature rating	: Up to 150°C (depending on lining material)
Power supply	: 90 to 265 VAC (DC voltage and others on request)

Range of Level Transmitter, Remote or Local Version

- UltraSonic and Pressure Principle - For Liquids

Burkert level transmitters are available in various measuring principles and configuration for different applications. Level transmitters are used to continuously measure and communicate distance/level/volume value to remote devices such as PLC, chart recorder, SCADA, etc.

Type 8175

Ultrasonic Level Transmitter

Non-contact level transmitter with built-in display. Sensor emits an ultrasonic wave to be reflected by medium surface. Time required for signal to return is used to determine distance/level/volume measured.

Medium	: Any medium without heavy foaming & turbulence on surface. Not suitable for measuring environment with ammonia & carbon dioxide gas.
Measuring range	: 0.3 to 10 m
Output signal	: 4..20 mA with optional relay
Wetted material	: None
Process connection	: G 2" (NPT on request)
Pressure rating	: max. 2 bar at 25°C
Medium temperature	: -40 to 80°C
Power supply	: 18 to 32 VDC or 115/230 VAC
Accuracy	: ≤ 0.15 % FS

Type 8170/8175

Ultrasonic Level Transmitter

Non-contact level transmitter with remote-mounted display (wall or panel mounted). Sensor emits an ultrasonic wave to be reflected by medium surface. Time required for signal to return is used to determine distance/level/volume measured.

Medium	: Any medium without heavy foaming & turbulence on surface. Not suitable for measuring environment with ammonia & carbon dioxide gas.
Measuring range	: 0.3 to 7 m
Output signal	: 4..20 mA with optional relay
Wetted material	: None
Process connection	: G 2" (NPT on request)
Pressure rating	: max. 2 bar at 25°C
Medium temperature	: -40 to 80°C
Power supply	: 18 to 32 VDC or 115/230 VAC
Accuracy	: ≤ 0.15 % FS

Type 8326

Level/Pressure Transmitter

Pressure transmitter with high accuracy thin-film strain gauge or piezoresistive sensor. Optional display available. Sensor measures hydrostatic pressure created by height of water column.

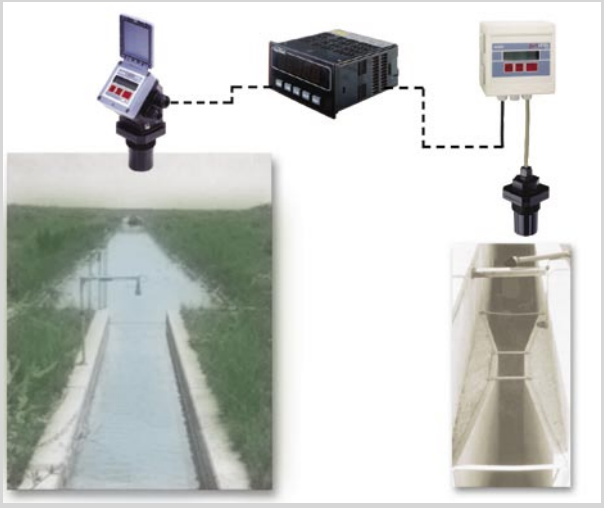
Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: 0-0.4 to 0-40 bar
Turn Down	: 1:20
Output signal	: 4..20 mA
Wetted material	: Stainless steel 316, FPM/EPDM
Process connection	: G 1/2" (NPT on request) standard; G 1/2" & 1" flush diaphragm; EHEDG version
Medium temperature	: -30 to 105°C
Power supply	: 12 to 36 VDC
Accuracy	: ≤ 0.15 % FS

Type 8323

Level/Pressure Transmitter

Pressure transmitter with high accuracy thin-film strain gauge or piezoresistive sensor. Sensor measures hydrostatic pressure created by height of water column.

Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: 0-0.1 to 0-25 bar
Output signal	: 4..20 mA
Wetted material	: Stainless steel 316, FPM
Process connection	: G 1/2" (NPT on request) standard; G 1/2" & 1" flush diaphragm; EHEDG version
Medium temperature	: -30 to 150°C (depending on version)
Power supply	: 10 to 30 VDC
Accuracy	: ≤ 0.25 % FS



Open Channel Flow Transmitter/Totalizer

Digital display level transmitter Type 8175 is utilized to measure level of medium behind restriction and convert data to flow rate. If totalized volume or remote display is required, 4..20 mA signal from Type 8175 can be used to transmit data to optional indicator/totalizer Type 4002.

Flow range	: Depends on channel depth and weir/ flume design
Output signal	: 4..20 mA (standard for 8175), Optional 0/4...20 mA/0...10 VDC or open collector or relay (for 4002)
Communications	: Optional RS485/RS232 or DEVICENET or MODBUS or PROFIBUS-DP (with 4002)
Operating voltage	: 12 to 30 VDC, 115/230 VAC

Range of Level Switches, Controller and Accessories

- Buoyancy or Ultrasonic Principle - For Liquids

Burkert level switches are available in various measuring principles and configuration for different applications.

Type 8181

Horizontal/Vertical Buoyancy Level Switch

Level detection for clean liquid. Movement of float by medium brings magnet in float close to magnetic switch in body resulting in switch changing state.

Medium	: Clean & aggressive liquid compatible with wetted materials, density > 0.7 g/cm³.
Output signal	: Relay with ASi as option
Wetted material	: Stainless steel 304 or PP
Process connection	: G 3/4" (NPT or PT on request)
Pressure rating	: Max. 10 bar (vertical); Max. 5 bar (horizontal)
Temperature range	: -40 to +120°C
Power supply	: 24 VDC (LED operation)
Type of protection	: IP65

Type SL25

Vertical Buoyancy Level Switch

Level detection for clean liquid. Movement of float by medium brings magnet in float close to magnetic switch in body resulting in switch changing state. Incorporated baffle body eliminates switch chatter.

Medium	: Clean & aggressive fluid compatible with wetted materials, density > 0.8 g/cm³.
Output signal	: SPDT reed
Wetted material	: PP & EPDM or FPM gasket
Process connection	: G 3/4" (NPT on request)
Pressure rating	: Max. 1 bar
Temperature range	: Max. +90°C
Power supply	: 12 to 36 VDC (FET version)
Type of protection	: IP67

Type SNLH

Horizontal Buoyancy Level Switch

Type SNLV

Vertical Buoyancy Level Switch

Low Cost Buoyancy Level Switch

Level detection for clean liquid. Movement of float by medium brings magnet in float close to magnetic switch in body resulting in switch changing state.

Medium	: Clean & aggressive liquid compatible with wetted materials, density > 0.8 g/cm³.
Output signal	: SPST Relay reed
Wetted material	: Stainless steel 316, PP or PVDF (with EPDM gasket where applicable)
Process connection	: 1/2" NPT or M16 (horizontal); 1/8" NPT (vertical)
Pressure rating	: Max. 2 bar (vertical); Max. 4 bar (horizontal)
Temperature range	: -20 to +120°C (depending on material)
Type of protection	: IP65

Type 8110

Tuning Fork Level Switch

Level detection for difficult liquid. Tuning fork vibrates at 400 Hz. When switch is immersed in medium, frequency changes and switch changes state.

Medium	: Clean, aggressive & contaminated liquid compatible with wetted material. Light to medium coating liquid. No minimum liquid density.
Output signal	: SPST relay
Wetted material	: PP/Ryton
Process connection	: G 3/4" (NPT on request)
Pressure rating	: Max. 10 bar
Temperature range	: 40 to +90°C
Power supply	: 12 to 36 VDC
Type of protection	: IP68

Type SL26

Horizontal Buoyancy Level Switch

Level detection for clean liquid. Movement of float by medium brings magnet in float close to magnetic switch in body resulting in switch changing state. Incorporated baffle body eliminates switch chatter.

Medium	: Clean & aggressive fluid compatible with wetted materials, density > 0.8 g/cm³.
Output signal	: SPDT reed
Wetted material	: PP & EPDM or FPM gasket
Process connection	: G 3/4" (NPT on request)
Pressure rating	: Max. 1 bar
Temperature range	: Max. +90°C
Power supply	: 12 to 36 VDC (FET version)
Type of protection	: IP67

Type SL31

Rail-mount Level Controller

DIN rail mounted level controller for up to 3 switch inputs with up to 2 relay outputs for controlling pumps/valves/alarms/automatic filling or emptying application. With DC power supply for level switches.

Operating voltage	: 115/230 VAC
Relay type	: SPDT 380 VAC/150 VDC (max. 12 A non-inductive)
Relay mode	: Selectable normally open or normally closed
Relay time delay	: Adjustable (0.15 to 60 seconds)
Latching	: Selectable On/Off
Operating temp	: Max. 70°C
DC supply voltage for switch	: 13.5 V

Type SL40

Adjustable In-Tank Fitting for Level Switches

Holders for up to 4 level switches with individually adjustable switch depth. Switch depth can be easily changed by loosening a screw.

Fitting length	: Up to 3 m
Body material	: PP (20% glass filled) with Viton o-ring
Connection	: G 2" (NPT on request) for mounting, 3/4" BSP (NPT on request) for switch holder
Pressure rating	: Atmospheric
Temperature range	: Max. 90°C

Range of Pressure Transmitters, Switches and Chemical Seals - Ceramic cell, Thin-film strain gauge or Piezoresistive Measuring Principles

Burkert pressure transmitters/switch are available in various measuring technologies and process connections for use in different applications ranging from high-purity to highly contaminated media including aggressive media. Chemical seals available for more difficult applications.

Type 8314

Pressure Transmitter
Pressure transmitter with ceramic measuring cell.

Medium	: Clean & aggresive fluid compatible with wetted materials.
Measuring range	: 0-1 to 0-100 bar
Output signal	: 4..20 mA
Wetted material	: Stainless steel 303 (1.4305), FPM, ceramic
Process connection	: G 1/4" (NPT on request) standard
Medium temperature	: -15 to 125°C
Power supply	: 8 to 33 VDC
Accuracy	: ≤ 0.3 % FS

Type 8327

Pressure Transmitter
Pressure transmitter with high accuracy thin-film strain gauge or piezoresistive sensor for use in hazardous environment (gases & vapour zones 0, 1 & 2; dust zones 20, 21 & 22; mining categories M1 & M2).

Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: 0-0.1 to 0-16 bar
Output signal	: 4..20 mA
Wetted material	: Stainless steel 316
Process connection	: G 1/2" standard; G 1/2" & 1" flush diaphragm; EHEDG version
Medium temperature	: -30 to 100°C
Power supply	: 10 to 30 VDC
Accuracy	: ≤ 0.25 % FS
Certification	: EEx ia I/II C T6 (DMT 00 ATEX E 045 X)

Type 8391

Chemical Seal
Chemical seal separates the pressure sensor from the medium to be meaasured while allowing pressure variations to be precisely transmitted.
Various styles available in different materials to enable use of pressure switch & transmitters in even the most adverse applications.

Type 8311

Pressure Switch / Indicator / Transmitter
Pressure switch with ceramic measuring cell. With LCD display and transistor or relay output. Optional analog output available.

Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: 0-2 to 0-50 bar
Output signal	: Transistor (NPN/PNP) or relay with optional 4..20 mA & ASi
Wetted material	: Stainless steel 316, FPM, ceramic
Process connection	: G 1/4" (NPT on request) standard
Medium temperature	: -20 to 100°C
Power supply	: 12 to 30 VDC
Accuracy	: ≤ 1.5 % FS

Type 8323

Pressure Transmitter
Pressure transmitter with high accuracy thin-film strain gauge or piezoresistive sensor.

Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: 0-0.1 to 0-25 bar
Output signal	: 4..20 mA
Wetted material	: Stainless steel 316, FPM
Process connection	: G 1/2" (NPT on request) standard; G 1/2" & 1" flush diaphragm; EHEDG version
Medium temperature	: -30 to 150°C (depending on version)
Power supply	: 10 to 30 VDC
Accuracy	: ≤ 0.25 % FS

Type 8326

Pressure Transmitter
Pressure transmitter with high accuracy thin-film strain gauge or piezoresistive sensor with or without display.

Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: 0-0.4 to 0-40 bar
Turn Down	: 1:20
Output signal	: 4..20 mA
Wetted material	: Stainless steel 316, FPM/EPDM
Process connection	: G 1/2" (NPT on request) standard; G 1/2" & 1" flush diaphragm; EHEDG version
Medium temperature	: -30 to 105°C
Power supply	: 12 to 36 VDC
Accuracy	: ≤ 0.15 % FS

Range of Temperature Sensors, Transmitters, Switches and Controllers - For Monitoring, Controlling or On/Off Control Loop Application

Burkert temperature sensor/transmitter/switch utilize PT100 sensing elements with various process connections for use in different applications.

Type ST20/ST21

Temperature Sensor/Transmitter
Temperature sensor with PT100 sensor element (2 or 3 wire). Also available with 4..20 mA output. Version with 2 PT100 elements available on request.

Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: -50 to +500°C
Probe length	: Up to 535 mm
Output signal	: PT100 or 4..20 mA
Wetted material	: Stainless steel 316 (others on request)
Process connection	: G 1/2" (NPT, flanged, tri-clamp, others on request)
Pressure rating	: PN16
Power supply	: 12 to 36 VDC (4..20 mA output version)

Type 8400

Temperature Switch / Indicator / Transmitter
Temperature switch with PT100 sensor element. With LCD display and transistor or relay output. Optional analog output available.

Medium	: Clean, aggressive & contaminated fluid compatible with wetted materials.
Measuring range	: -40 up to +125°C
Probe length	: 30, 100, 200 mm (other length available on request)
Output signal	: Transistor (NPN/PNP) or relay with optional 4..20 mA & ASi
Input signal	: 4..20 mA (external set point)
Wetted material	: Stainless steel 316
Process connection	: G 1/2" (NPT & PT on request)
Pressure rating	: PN16
Power supply	: 12 to 30 VDC

Type 8400 Wall Mount

Temperature Switch / Indicator / Transmitter
With LCD display and transistor or relay output. Optional analog output available.

Measuring range	: -40 up to +125°C
Output signal	: Transistor (NPN/PNP) or relay with optional 4..20 mA & ASi
Process Input signal	: from PT100
Input signal	: 4..20 mA (external set point)
Power supply	: 12 to 30 VDC

Type 0911

Panel Mount Temperature Digital Controller, 2-point, 3 point or PID-operation for All Standard Temperature Sensors

Display	: 3 or 31/2 digit version available
Sensor inputs	: PTC, NTC, PT100, Thermocouple, 0...1V, 0...10V or 4...20 mA
Measuring range	: -100 up to +1,400°C(depending on type of sensor input)
Relay outputs	: Resistive load 8A, Inductive load 3A
2 point controller	: up to 2 changeover
3 point controller	: 2 N/O & 1 N/C contact
PID controller	: 2 N/O & 1 N/C contact
Ambient temperature	: 0 to +50°C
Protection class	: IP65 (panel front)
Power supply	: 12 to 24V AC/DC; 230V AC

Range of Analytical Sensors, Transmitters & Controller

- pH, ORP and Chlorine measurement and control

Burkert offers a series of analysis sensors & instruments for measuring and controlling pH, ORP, conductivity, resitivity and free chlorine.

Type 8205

Digital pH Transmitter

Measuring & controlling of pH of liquid. Available as compact unit (with integrated pH sensor & temperature sensor) or separate version (wall or panel-mounted, to use with Type 8200 sensor)

Measuring range	: 0-14 pH
Temperature compensation	: Automatic (with PT1000 connected)
Output signal	: 4..20 mA (pH or temperature), optional relay
Power supply	: 12 to 30 VDC, 115/230 VAC
Temperature sensor	: PT1000 SS 316Ti (compact version only)
Process connection	: Use Burkert Type S020 fitting or submersion kit (compact version only)
Type of protection	: IP65

Type 8205

Digital pH Controller

With built-in P.I.D. controller for more accurate controlling of pH of liquid. Available as compact unit (with integrated pH sensor & temperature sensor) or separate version (wall or panel-mounted, to use with Type 8200 sensor)

Measuring range	: 0-14 pH
Temperature compensation	: Automatic (with PT1000 connected)
Output signal	: 4..20 mA (pH or temperature), pulse (relay/transistor/Triac), alarm relay
Power supply	: 12 to 30 VDC, 115/230 VAC
Temperature sensor	: PT1000 SS 316Ti (compact version only)
Process connection	: Use Burkert Type S020 fitting or submersion kit (compact version only)

Type 8200

pH Sensor

Measuring of pH of liquid. For submersion and in-line use. Long distance version up to 500m and short distance version up to 5m

pH range	: 0-14
Medium temperature	: Up to 130°C
Pressure rating	: Up to 6 bar
Body material	: Glass
Process connection	: Use with Burkert Type S020 fitting; 1" (BSP/NPT/PT) or other connection on request; Special submersion kit available on request
Probe (electrode) type	: Various Combination probe, with various design for different applications.
Type of protection	: IP65

Type 8206

Digital ORP Transmitter

Measuring & controlling of ORP of liquid. Compact unit with integrated ORP sensor, to use with Type S020 fitting.

Measuring range	: -2000 to +2000 mV
Output signal	: 4..20 mA, optional relay
Power supply	: 12 to 30 VDC
Medium temperature	: Up to 130°C
Pressure rating	: Up to 6 bar
Process connection	: Use Burkert Type S020 fitting (compact version only)
Type of protection	: IP65

Type 8236

Chlorine Sensor & Controller

Solid-state amperometric chlorine sensor for accurate & maintenance-free measurement of free chlorine. For more accurate measurement & control, the panel-mounted controller can be linked with Type 8205 for pH compensation. Sensor can also be used to measure bromine & iodine. Complete by-pass system solution consisting of valves, strainer, flow indicator/switch, chlorine sensor/controller, pH sensor/ transmitter from one source.

Measuring range	: 0.01 to 10 mg/l free chlorine
Medium temperature	: +5 to +40°C
Pressure rating	: Max. 1 bar
Flow range	: 15 to 50 l/h
Output signal	: 0/4..20 mA, 0-10 V (process value, control output), relay (alarm, limit value)
Power supply	: 24 VDC, 115/230 VAC

Range of Analytical Sensors, Transmitters & Controller

- Conductivity measurement and control

Burkert offers a series of analysis sensors & instruments for measuring and controlling pH, ORP, conductivity, resistivity and free chlorine.

Type 8220

Conductivity/Resistivity Sensor
Measuring of conductivity/resistivity of liquid using conductive measuring principle. For in-tank and in-line use.

Measuring range : 0.05 µS/cm to 200 mS/cm (depending on cell constant), also 0.005KΩ.cm -20 MΩ.cm
Medium temperature : 0 to 100°C
Pressure rating : PN6
Wetted material : PVDF & SS316 or PVDF, SS316 & graphite
Process connection : For Burkert Type S020 fitting
Temperature compensation : Built-in
Type of protection : IP65

Type 8223

Inductive Conductivity/Resistivity Sensor
Measuring of conductivity/resistivity of liquid using inductive measuring principle. Suitable for aggressive, contaminated and coating media. For in-tank and in-line use. With 4..20 mA output.

Measuring range : 10 µS/cm to 1 S/cm also 1Ω.cm to 0.1MΩ.cm
Medium temperature : -10 to +80°C
Pressure rating : PN6
Wetted material : PVDF or PEEK body with FPM or EPDM O-ring
Power supply : 12 to 30 VDC
Process connection : For Burkert Type S020 fitting
Temperature compensation : Built-in
Type of protection : IP65

Type 8225

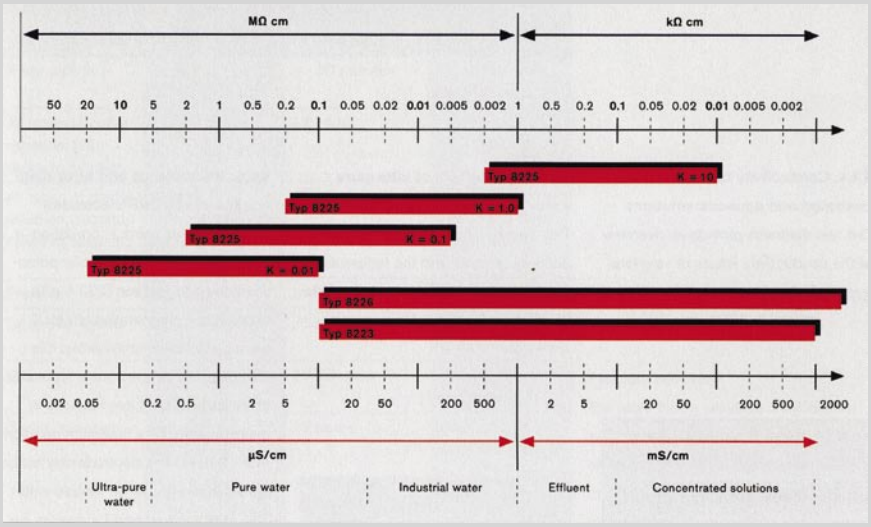
Digital Conductivity/ Resistivity Transmitter
Digital display conductivity/resistivity meter with 4..20 mA output as standard. Available as compact unit (with integrated sensor, conductive measuring principle) or separate version (wall or panel-mounted, to use with Type 8220 sensor)

Measuring range : 0.05 µS/cm to 200 mS/cm (depending on cell constant), also 0.005KΩ.cm - 20 MΩ.cm
Medium temperature : 0 to 100°C
Pressure rating : PN6
Wetted material : PVDF & SS316 or PVDF, SS316 & graphite
Temperature compensation : Built-in
Output signal : 4..20 mA (conductivity/resistivity or temperature), optional relay
Power supply : 12 to 30 VDC, 115/230 VAC
Process connection : Use Burkert Type S020 fitting (compact version only)
Type of protection : IP65

Type 8226

Digital Inductive Conductivity Transmitter
Digital display conductivity meter using inductive measuring principle with 4..20 mA output as standard. Suitable for aggressive, contaminated and coating media. For in-tank and in-line use. Available as compact unit only (with integrated sensor).

Measuring range : 100 µS/cm to 2 S/cm, also 0.5Ω.cm to 0.01MΩ.cm
Medium temperature : 0 to 120°C
Pressure rating : PN6
Wetted material : PVDF or PEEK body with FPM or EPDM O-ring
Temperature compensation : Built-in
Output signal : 4..20 mA (conductivity or temperature), optional relay
Power supply : 12 to 30 VDC, 115/230 VAC
Process connection : Use Burkert Type S020 fitting (compact version only)
Type of protection : IP65



Selection of conductivity electrodes

Range of Timer Units For Plug-On To On/Off Solenoid Valves

- Low Cost Solution For Repeated Valve Timing Control

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 potentioner.

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

Type 1078-2

Timer Unit can be fitted to all valves that has electrical connection standard to DIN 43 650. Programming with control unit 1077-2.

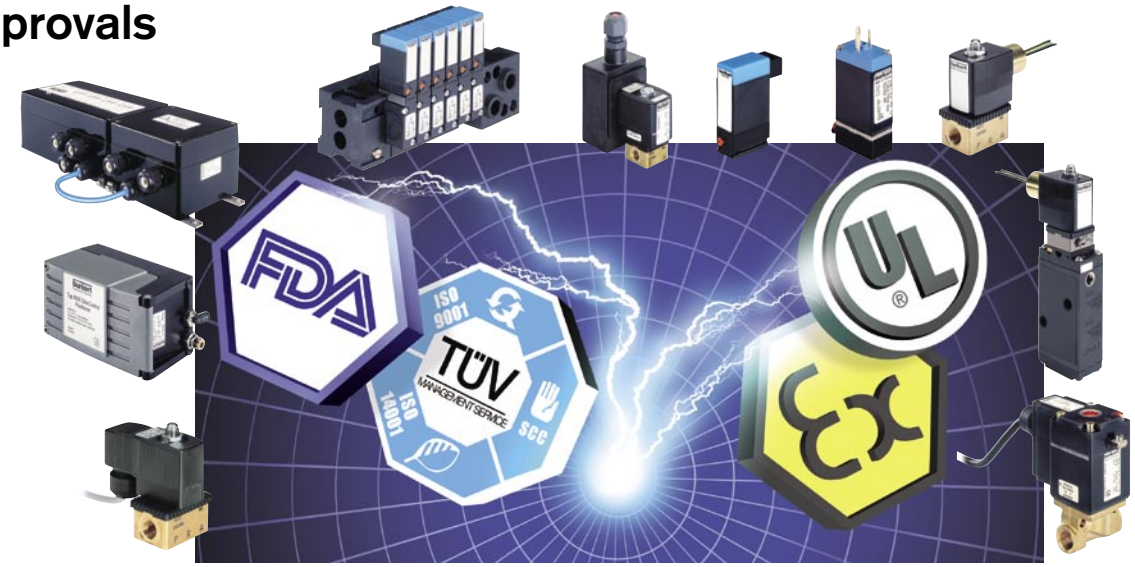
Body	: PA
Working temp. range	: -10°C~ +60°C
Time range	: 0.2s to 9999h
Function	: Cycler, Inverted cycler, Switch-on impulse, Switch-on delay, Time delay cycler, Cycler with adjustable switch-on impulse, Time delay and inverted pulser, Time delay pulse.
Voltage	: 12 to 24V DC, 24 to 48V UC, 110 to 230V AC 50/60Hz
Switching load	: 2A@12-24V DC, 1.5A @ 24-48V UC 0.5A @ 110-230V AC 50/60Hz
Type of protection	: IP65

Type 1077-2

Control unit installs program into basic timer unit Type 1078-2 and as display of status when plug on

Body	: PA
Working temp. range	: 0°C~ +60°C
Operating voltage	: From basic unit being programmed
Power consumption	: 5 mW

Approvals



National and international approval

When it comes to safety, the world can be very small (-minded). It is crucial to comply with the approvals required on all important markets. For Bürkert, compliance with standards is standard. Not only our products, but also our production and the entire company (DIN ISO 9001) comply with the required criteria in order to successfully be able to deploy Bürkert technology worldwide. We were the first valve manufacturer outside the USA to be awarded the CSA Category Certification. It allows us to conduct all required measurements ourselves and, if necessary, to grant the required approval to our customers. This is but one example of many showing why you are on the safe side with Bürkert in regards to approvals as well. And you will also be on the cost-saving side because safety is a matter of assurance.

System Solutions: Flow Control

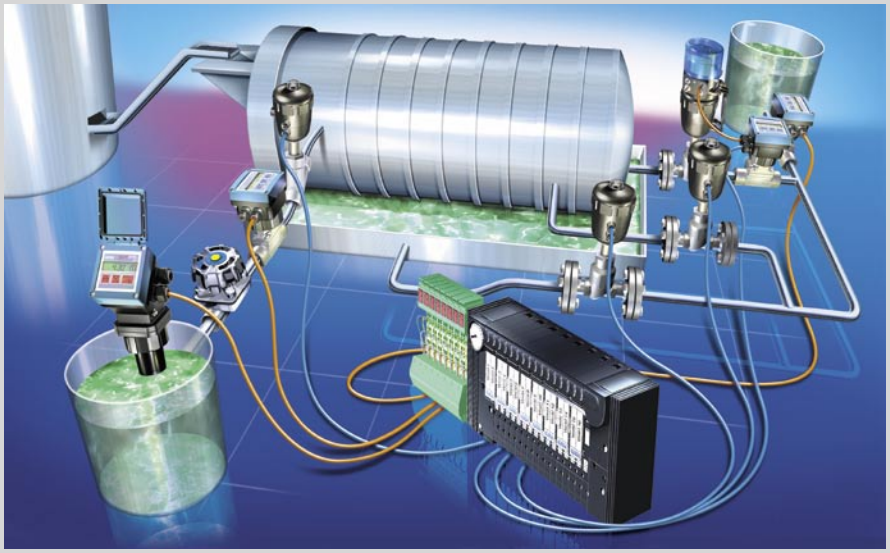
Burkert offers more than just high quality products/components to your requirements. Whenever you require systematic “all-in solutions”, we are able to offer system package comprising innovative technology and individual services that ensure your success. From consultancy, commissioning, up to training and servicing, Burkert offers Total Fluid Systems Solution.

Application: Flow - Mixing by ratio control on an Paste Production System

Task
Three components – two fluids and one powder – are required for manufacturing a paste. The flow rate of the two fluids must be controlled in a specific ratio. The powder is added in proportion to the flow rate.

Solution
The quantity of fluid 1 is detected by means of a flow-rate measuring instrument and controlled continuously by a globe control valve. The lower quantity of fluid 2 is also measured and controlled by a second globe control valve in a given ratio with respect to the flow rate of fluid 1. Fluids and powder are mixed in a mixing vat. The quantity of the paste pumped from the mixing vat is detected with a magnetic inductive flow meter and controlled by a general-purpose controller with a stainless steel diaphragm valve. The set-point values of the closed-loop flow-rate control system for fluid 1, the feed velocity of the powder, the speed of rotation of the agitator and the paste dose are output via an electric/pneumatic automation system.

The set-point value of the closed-loop flow-rate control system for fluid 2 is generated directly in the positioner of the control valve as a function of the flow rate of fluid 1. The flow rate of fluid 2 is controlled in the required ratio via the process controller integrated in the positioner. In addition, pneumatically operated on/off valves controlled directly by the automation system are fitted in all of the system’s delivery lines.



Application: Flow rate and Batch control on an industrial automatic wash system

Task
An industrial automatic wash system must be filled with a preset quantity of wash water. In addition to the wash water, it is necessary to provide rinse water at a constant volume flow.

Solution
The washing drum of an industrial automatic wash system is embedded in several washing chambers and transports the linen to be washed from chamber to chamber by rotation.
A preset wash water stream is added to the first chamber via an angleseat valve. The wash water is supplied from a supply tank whose fluid level is monitored by means of an ultrasonic level transmitter. The quantity of water flowing is detected by means of a magnetic inductive flow transmitter.

Rinse water is added in reverse flow to the direction of the wash water via the last chambers. A partial stream is supplied uncontrolled via a globe valve. The second partial stream of rinse water is controlled via a globe control valve so that the total stream pumped from a supply tank and required by the wash process is achieved. The controlled partial stream and total stream of water are measured via magnetic inductive flow transmitters. The overflowing water from an overflow tank is admixed to the rinse water via a globe valve, thus achieving a closed rinse circuit.

System Solutions: Level Control

Burkert offers more than just high quality products/components to your requirements. Whenever you require systematic “all-in solutions”, we are able to offer system package comprising innovative technology and individual services that ensure your success. From consultancy, commissioning, up to training and servicing, Burkert offers Total Fluid Systems Solution.

Application: Distribution of a fluid over several tanks by level control

Task
The fluid level in several supply tanks is to be constantly maintained within a certain range. The tanks are fed from a feed tank that is continuously kept at a constant level.

Solution
The supply tanks each feature two level switches, one for minimum filling level and one for maximum filling level. The undershoot of the minimum filling level is signaled to the master control system via the AirLINE electrical/pneumatic automation system. The diaphragm valve for filling the tank then opens. The valve is closed again when the maximum filling level is reached (upper level switch).

The filling level in the feed tank is maintained on a constant level by means of a local control loop. A continuously measuring ultrasonic level transmitter detects the filling level in the feed tank. The closed-loop filling level control function is performed by a diaphragm control valve with attached positioner. The positioner incorporates a process controller to whose actual value ie the signal output of the level transmitter is connected. The set-point value of the control loop is preset via a 4 … 20 mA signal which is made available by the electrical/pneumatic automation system.

Application: Mixing different fluids in a given ratio by level control

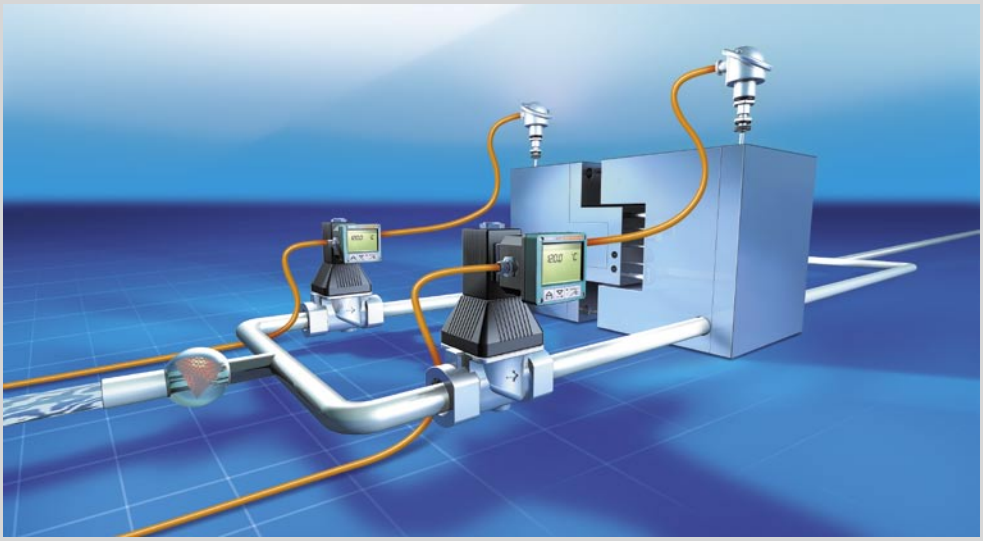
Task
Several fluids are to be mixed in a predetermined ratio in an mixing tank. Containers are filled with the product after thorough mixing.

Solution
The first component is added to the empty mixing tank via a solenoid valve until the required quantity is reached. The volume is determined by the level sensor on the basis of the filling height and tank geometry.

The controller closes the solenoid valve when the required quantity is reached and opens the valve for the second component, etc. After adding the last component, the components are thoroughly mixed by an agitator to provide a homogenous product, which is then filled into containers or further processed. During the filling process, the product is added to a container until a load cell determines that the required filling quantity has been reached.

System Solutions: Temperature Control

Burkert offers more than just high quality products/components to your requirements. Whenever you require systematic “all-in solutions”, we are able to offer system package comprising innovative technology and individual services that ensure your success. From consultancy, commissioning, up to training and servicing, Burkert offers Total Fluid Systems Solution.

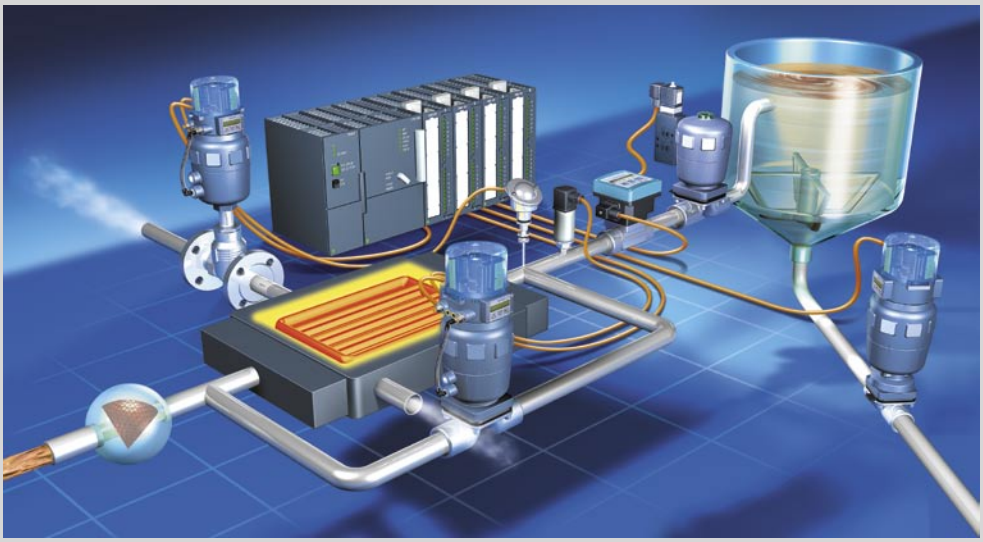


Application: Mold cooling by solenoid - operated proportional valves with PI Controllers

Task
Injection molds for plastics processing must be heated before injection molding. The molds must be cooled after molding to facilitate hardening and part ejection.

Solution
The temperatures of the each of the two halves of the injection mold are controlled independently. The molds are heated electrically by means of cartridge heaters incorporated in the mold. Cooling water is pumped through the two mold halves in order to cool the molds. The temperatures are measured with resistance thermometers. These actual temperature values are supplied to the temperature controllers, which, depending on the pre-settings, activate either the solenoid-operated control or proportional valves incorporated in the cooling water circuits.

The controllers are mounted directly on the proportional valves. The set-point presetting is performed locally using the buttons of the controllers, or the set-point value is preset externally via a standard signal.



Application: Tempering water in a steam heated heat exchanger

Task
A reaction or agitator vessel must be filled with a specific, adjustable quantity of water. The flowing water must be controlled at a preset temperature.

Solution
The flowing water is tempered by means of a steam-heated heat exchanger. The temperature of the water is measured with a resistance thermometer at the outlet of the heat exchanger. The quantity of steam for heating the heat exchanger is set via a globe control valve. A positioner with an integrated process controller, which assumes the task of closed-loop temperature control, is attached to the control valve.

The required water volume is dispensed by means of a flow sensor with an integrated dosing control system.

The temperature control system and the dosing control system are activated at the start of a filling operation. The dosing control opens a pneumatically operated diaphragm valve. When the required water quantity is reached, the valve is closed again and the temperature control system is deactivated.

Useful Information

Characteristics and possible applications of various solenoid actuators for solenoid valves

	Plunger	Pivoted armature	Rocker
Media separation in actuator	No	Standard with media separation.	Available with and without media separation.
Water behaviour/ service life	Moderate to high wear susceptibility of the solenoid core due to the friction in the core guide tube, depending on field of application.	Low wear since there is no sliding friction in the armature.	Very low wear and long service life (special version without isolating diaphragm).
Universality and possible applications	Very robust solenoid coils available in various sizes and with various power ratings. Can be used for AC/DC/UC.	Very tried and tested actuation principle. Only one coil size available. Can be used for AC/DC/UC.	Small, compact actuation system, particularly as pilot valve or for low flow rates. Can be used only for DC, or also for UC with series-connected rectifier.
Typical media	Neutral gaseous and fluid, non-abrasive media, e.g. - Water (demineralized water, only conditional) - Air - Oils - Industrial gases	Neutral gaseous and fluid, media, conditionally also aggressive and abrasive, depending on use/usability and resistance of the isolating diaphragm material, e.g. - Water (including demineralized water) - Oils, Acids and lyes - Ultrapure media	Without media separation: neutral gases, e.g. air With media separation: also aggressive gases and fluids of low viscosity

Pressure

	Pa	mWC	Torr	Inch H2O	psi
1 bar	100000	10.20	750	401.6	14.505

Flow rate

	sccm	slpm	scfm
1 l_N/min	1073.22	1.073	30.39
1 m_{N^3}/h	63.4	0.063	1.82

sccm: standard cubic centimeter per minute
slpm: standard liter per minute
scfm: standard cubic foot per minute

Volume

- 1 cubic inch = 16.387 cm^3
- 1 cubic foot = 28.317 dm^3
- 1 cubic yard = 0.76455 m^3
- 1 gallon (GBr) [gal] = 4.54609 l
- 1 gallon (USA) [gal] = 3.78543 dm^3

Lengths

- 1 inch [in] = 2.54 cm = 0.0254 m
- 1 foot [ft] = 30.48 cm = 0.3048 m
- 1 yard [yd] = 0.9144 m

Meaning of the type of protection (IP code)

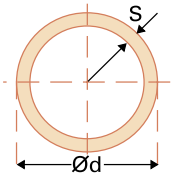
Digit	1st digit - Protection against ingress of foreign bodies	2nd digit - Protection against ingress of water
0	No protection	No protection
1	Foreign bodies > 50 mm	Water incident, perpendicular
2	Foreign bodies > 12 mm	Water incident at an angle (75...90°)
3	Foreign bodies > 2.5 mm	Spray water
4	Foreign bodies > 1.0 mm	Splashwater
5	Dust-protected	Jet-proof
6	Dust-tight	Heavy seas
7		Immersion
8		Submersion

Standard for solvent joint for Burkert range of plastic valves and fittings

Size		ISO R161		BS 3505-6		ASTM D1784		JIS 6741	
		Min OD	Max OD	Min OD	Max OD	Min OD	Max OD	Min OD	Max OD
in	mm	mm	mm	mm	mm	mm	mm	mm	mm
3/8	16	16	16.3	17	17.3	17.1	-	17.8	18.2
1/2	20	20	20.3	21.2	21.5	21.3	-	21.8	22.2
3/4	25	25	25.3	26.6	26.9	26.7	-	25.8	26.2
1	32	32	32.3	33.4	33.7	33.4	-	31.8	32.2
11/4	40	40	40.3	42	42.4	42.2	-	37.7	38.3
11/2	50	50	50.3	48.1	48.4	48.3	-	47.7	48.3
2	63	63	63.4	60.2	60.5	60.3	-	59.6	60.4
21/2	75	75	75.4	75	75.3	73	-	75.6	76.4
3	90	90	90.5	88.7	89.1	88.9	-	88.5	89.5
4	110	110	110.6	114.1	114.5	114.3	-	113.4	114.6
5	140	140	140.7	140	140.4	141.3	-	139.2	140.8
6	160	160	160.8	168	168.5	168.3	-	164	166
8	200	200	201	193.5	194	219.1	-	214.7	217.3

Standard for Butt Weld for Burkert range of stainless steel valves & fittings

		ISO 4200		DIN Series 0		DIN 11850						SMS 3008		JIS					BS	ASME
						Series 1		Series 2		Series 3									4825	BPE
DN	L	D1	S	D1	S	D1	S	D1	S	D1	S	D1	S	D1	S	DN	L	D1	S	S
4				6																
6				8	1															
8	90	13.5		10										13.8		1/4"	78	6.35		0.89
10		17.2				12		13		14				17.3	1.65	3/8"	89	9.53		
15	110	21.3	1.6	18		18		19		20				21.7		1/2"	108	12.7	1.2	
20	119	26.9		22		22		23		24				27.2	2.1	3/4"	117	19.0		
25	129	33.7		28	1.5	28	1	29	1.5	30	2	25		25.4		1"	127	25.4		1.65
40	161	48.3	2	40		40		41		42		38	1.2	38.1	1.2	11/2"	159	38.1		
50	192	60.3		52		52		53		54		51		50.8	1.5	2"	190	50.8		
65	250	76.1	2			70	2					63.5	1.6	63.5	2	21/2"	190	63.5		1.65
80	250	88.9	2.3			85	2					76.1	1.6	76.3	2	3"	250	76.2		1.65
100	290	114.3	2.3			104	2					101.6	2	101.6	2.5	4"	290	101.6		2.11



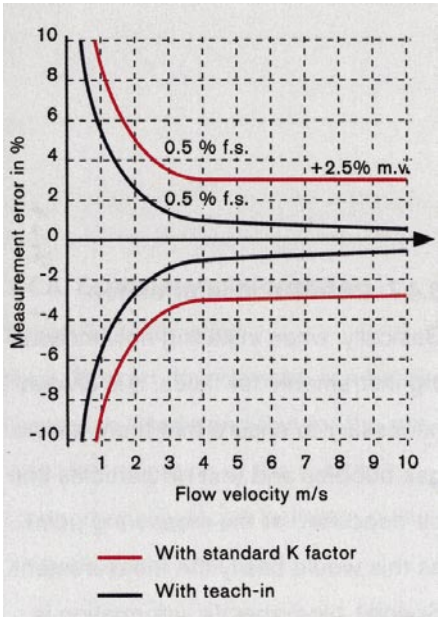
Information for Selection and Installation of Paddle Wheel Flow Devices

Various aspects for ensuring troublefree operation must be noted when designing a flow measuring system.

Flow/flow velocity/nominal diameter diagrams
Flow rates stipulated as a function of the nominal diameter are possible depending on the measuring method and device type. The higher the flow velocity, the lower the measurement error, but the higher the pressure loss. Pipes for fluids similar to water are generally designed for an average flow velocity of approx. 2 to 3 m/s.

Example of nominal diameter selection
Given:
Flow rate 10 m³/h at 2 to 3 m/s.
Solution:
The intersection of the flow rate and velocity of pipe flow results in the nominal diameter DN 40.

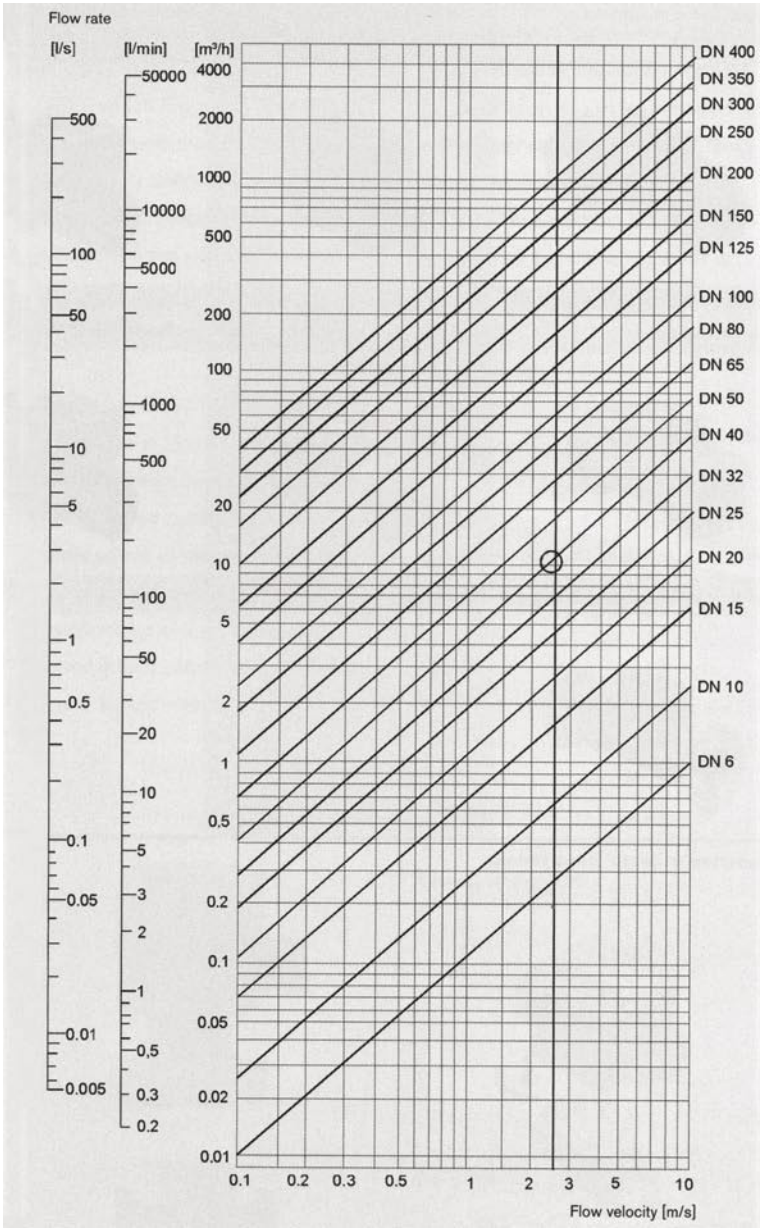
Measurement error diagram



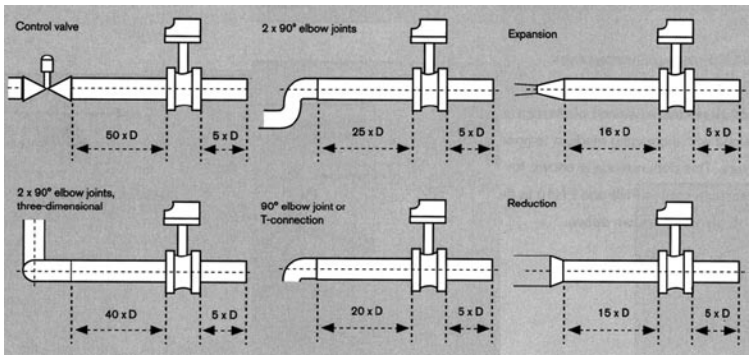
Inlet/outlet sections
Inlet and outlet sections should be complied with in order to obtain as uniform a flow profile as possible at the flow measuring point. If installation conditions do not allow compliance, many Bürkert flow measuring instruments allow correction of the measured value via teach-in calibration.

Installation information
Basically, when installing flow measuring instruments for fluids, it is always necessary to ensure that there are no gas bubbles and that no particles can be deposited at the measuring point, as this would falsify the measurement. Special, type-specific information is included in the corresponding operating instructions.

Diagram for nominal diameter selection



Inlet and outlet sections in accordance with EN ISO 5167-1



D = nominal pipe diameter

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