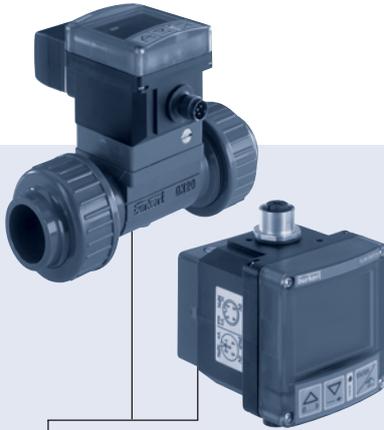


## Paddle-wheel flow controller for On/Off control



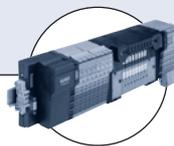
Type 8032 can be combined with...



**Type 2702 (8630)**  
Control valve with  
TopControl



**Type 1067**  
Continuous  
SideControl



**Type 8644-P AirLINE**  
Valve island with  
electronic I/O



**Type 8041**  
Flow sensor  
only with 8032 remote



**Type 8030**  
Flow sensor  
only with 8032 remote

- Indication, monitoring, transmitting and On/Off control in one device
- Programmable outputs (transistor or relay)
- Automatic-calibration: Teach-In
- Communication - external setpoints and process value (4-20 mA)

This intelligent controller with display is designed for use in clear, neutral or aggressive liquids and specially to switch a valve and to establish a monitoring system or an On/Off control loop. The switching points can be programmed with the 3-key keypad under the display or optionally, for the compact 8032 only, from an external source over a 4-20 mA loop. The compact 8032 is proposed with On/Off output, or with external setpoints and process value outputs. The remote 8032 has a transistor output. The connection to the process in the piping is done with standard INLINE fittings.

General data	
<b>Compatibility</b>	With fittings S030 (see corresp. datasheet)
<b>Materials</b>	Housing, cover Front panel folio / Screws Cable plug, gland Materials wetted parts Fitting, sensor armature Paddle-wheel Axis, bearings / Seal Wall-mounted holder
	PC, +20% glass fibre Polyester / Stainless steel PA Brass, stainless steel, PVC, PP or PVDF PVDF Ceramics / FKM (EPDM option) PVC
<b>Display</b>	8-digit LCD
<b>Electrical connections</b>	Cable plug: EN 175301-803 Multipin: M12, 5-pin or 8-pin
<b>Voltage supply cable</b>	0.5 mm <sup>2</sup> max. cross section; max. 100 m length, shielded
<b>Remote sensor connection</b>	0.5 mm <sup>2</sup> max. cross section; max. 50 m length, shielded
Complete device data (fitting + electronic module)	
<b>Pipe diameter</b>	DN 06 to 65
<b>Measuring range</b>	0.3 to 10 m/s
<b>Medium temperature</b>	0 up to 50°C (with PVC fitting) / 0 up to 80°C (with PP fitting) -15 up to 100°C (with St. st., brass or PVDF fitting)
<b>Fluid pressure max.</b>	PN10 (with plastic fitting) - PN16 (with metal fitting)
<b>Viscosity</b>	300 cSt. max.
<b>Accuracy<sup>1)</sup></b>	Teach-In ≤ ± 1% of F.S.* (at 10 m/s) Standard K-factor ≤ ± (1% of F.S.* + 3% o. Reading)
<b>Programming mode</b>	Threshold, window or hysteresis
<b>Linearity<sup>1)</sup></b>	≤ ± 0.5% of F.S.* (at 10 m/s)
<b>Repeatability<sup>1)</sup></b>	≤ 0.4% of Reading

\* F.S. = Full scale (10 m/s)

<sup>1)</sup> Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20°C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

**Electrical data**

<b>Power supply</b>	filtered and regulated
Compact version	12-30 V DC
Wall-mounted version	Depends on the remote sensor: 8041: 18-30 V DC 8020, 8030: 12-30 V DC other: min. 12 V DC, max. 30 V DC
<b>Current consumption</b>	
Compact version	≤ 80 mA (no load)
Wall-mounted version	≤ 50 mA (no load) + remote sensor current consumption
<b>Input</b>	
External setpoint	4-20 mA, galvanic insulation max. input impedance: 250 Ω
Frequency (remote version)	Pulse signal: 2 to 400 Hz input impedance: 10 kΩ
<b>Outputs</b>	
Transistor (programmable)	NPN and PNP, open collector, 5-30 V DC, max. 700 mA, 0 to 300 Hz protect against short circuit.
Relay (programmable) (compact version)	3A/250 V AC or 3A/30 V DC.
Process value (option) (compact version)	4-20 mA, galvanic insulation Loop resistance: 1000 Ω at 30 V DC, 800 Ω at 24 V DC, 500 Ω at 18 V DC
<b>Reversed polarity of DC</b>	Protected

**Environment**

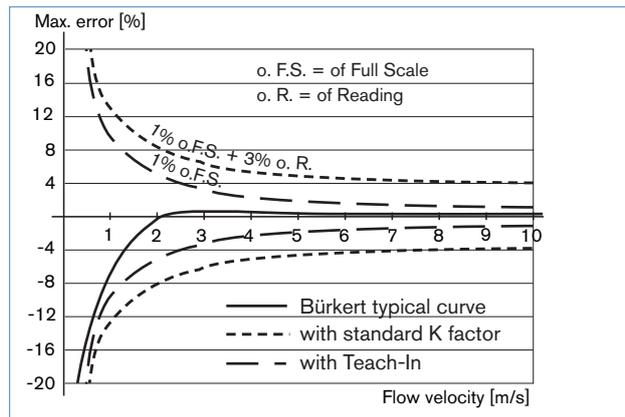
<b>Ambient temperature</b>	0 up to + 60°C (operating and storage)
<b>Relative humidity</b>	≤ 80%, non condensated

**Standards and approvals**

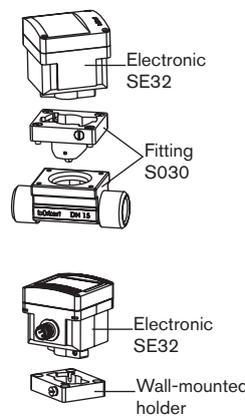
<b>Protection class</b>	IP65
<b>Standard</b>	
EMC	EN 610006-2, 610006-3
Security	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

2) Valid for: external setpoint input, process value output

**Accuracy diagram**



**Design and principle of operation**



The compact flow controller 8032 is built up with an electronic module SE32 associated to a fitting S030 with integrated measurement paddle-wheel. The output signal is provided via cableplug according to EN 175301-803 and/or a M12 multipin connector.

The wall-mounted flow controller 8032 is built up with an electronic module SE32 associated to a wall-mounted holder. The output signal is provided via two M12 multipin connector.

When liquid flows through the pipe, the 4 magnets, inserted in the paddle-wheel set in rotation, produce a measuring signal in the transducer. The frequency is proportional to the flow velocity of the fluid. A conversion

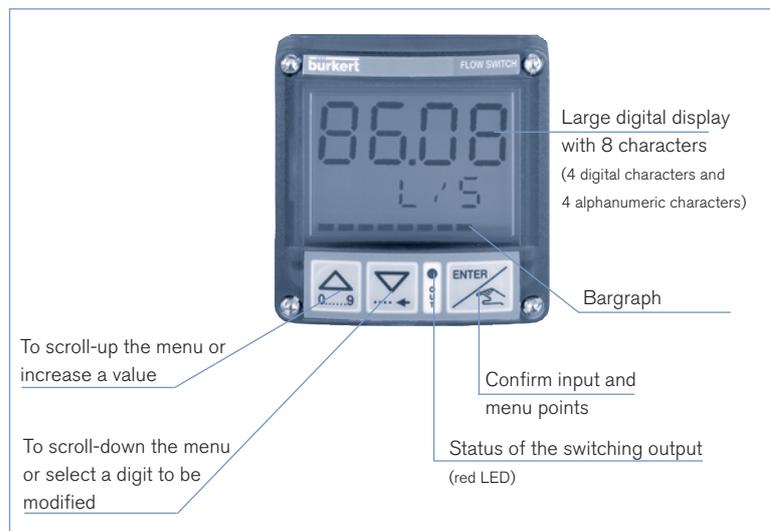
coefficient (K factor, available in the instruction manual of the fitting), specific to each pipe (size and material) enables the conversion of this frequency into flow rate.

**Operation and display**

The device can be calibrated by means of the K-factor, or via the Teach-In function. Customized adjustments, such as engineering units, output, filter, bargraph are carried out on site.

The operation is specified according to three levels:

- ▶ **Indication in operating mode / Display**
  - measured flow
  - high threshold value
  - low threshold value
- ▶ **Parameter definition**
  - engineering units (International measuring units)
  - K-factor / Teach-In function
  - selection of switching mode (window, hysteresis) (see main features)
  - selection of threshold value (see main features)
  - delay
  - filter
  - 10-segment bargraph (select min. and max. value)
- ▶ **Test**
  - switching threshold test with flow simulation (dry-run test operation)



**Main features**

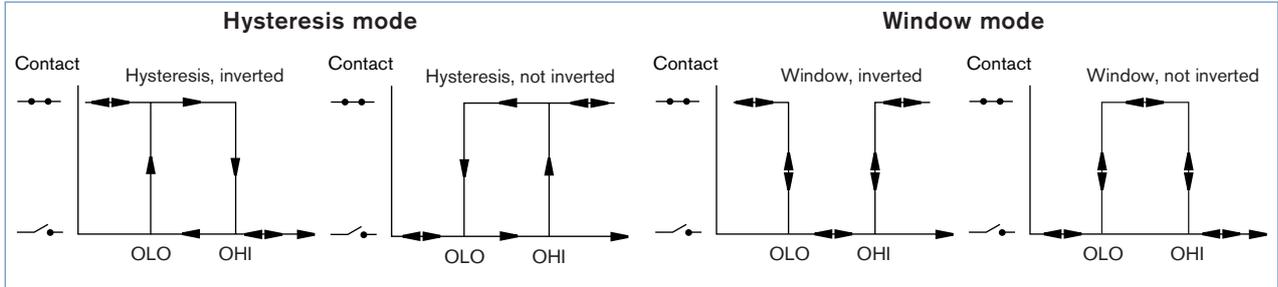
**8032 with external setpoint option.**

The switching points are automatically adjusted by the 4-20 mA input signal originating from a PLC.

- Power supplied by the PLC
- On/Off relay output

**8032 with standard On/Off output**

- 2 switching modes for the output, either hysteresis or window, inverted or not



- Programmable delay before switching
- Possible outputs depending on the version: relay, transistor NPN, transistor PNP, frequency

**8032 with process value option.**

This version delivers an electric signal whose value is the image of the measured quantity.

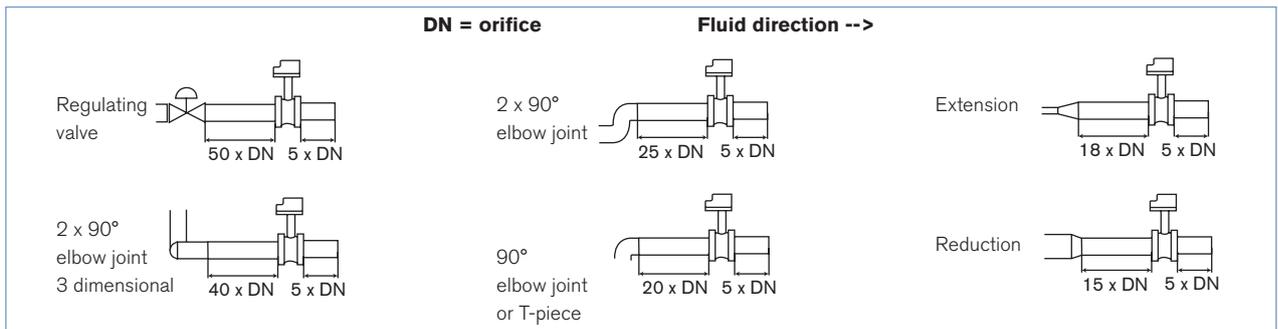
- On/Off relay output
- 4-20 mA output
- external setpoint (4-20 mA input)

**Installation**

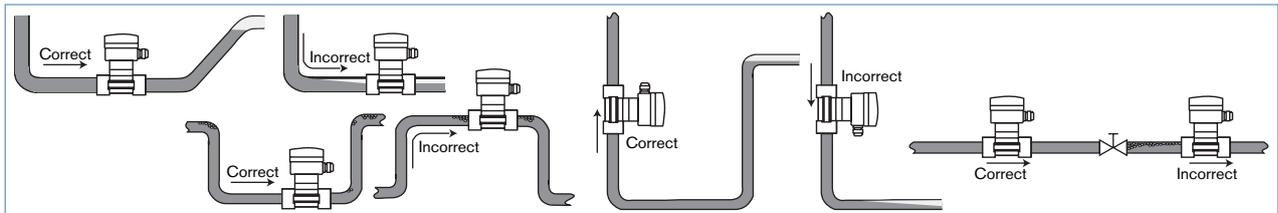


The 8032 flow controller can easily be installed into any Bürkert INLINE fitting system Type S030 by means of a Quarter-Turn. Minimum straight upstream and downstream distances must be observed. According to the pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy. For more information, please refer to EN ISO 5167-1.

EN ISO 5167-1 prescribes the straight inlet and outlet distances that must be complied with when installing fittings in pipe lines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated prescribed minimum inlet and outlet distances. These ensure calm, problem-free measurement conditions at the measurement point.



The flow controller can be installed into either horizontal or vertical pipes.

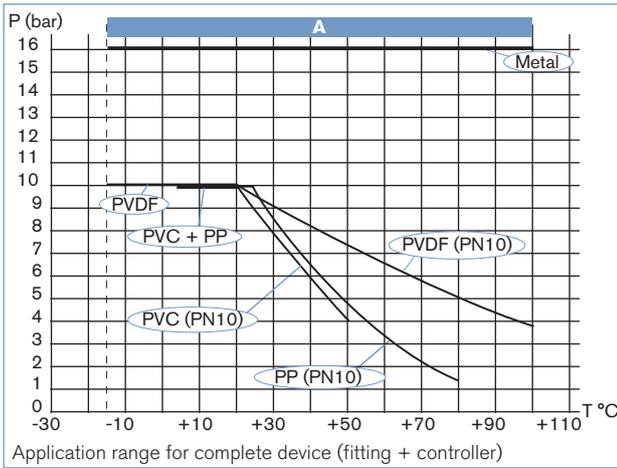


Pressure and temperature ratings must be respected according to the selected fitting material.

The suitable pipe size is selected using the diagram Flow / Velocity / DN.

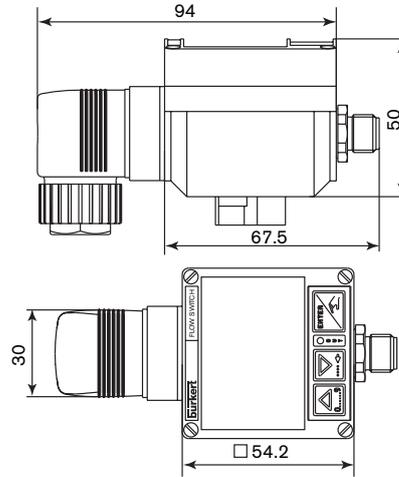
The controller is not designed for gas flow control.

Pressure / temperature chart



Dimensions

8032 compact

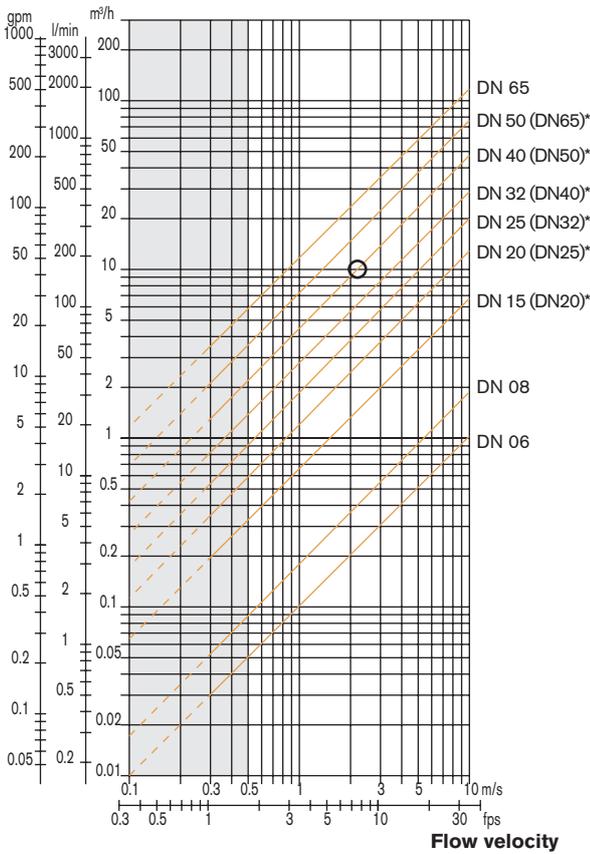


Selection of fitting / pipe size

Example:

- Specification of nominal flow: 10 m<sup>3</sup>/h
- Ideal flow velocity: 2...3 m/s
- For these specifications, the diagram indicates a pipe size of DN40 [or DN50 for (\*) mentioned fittings]

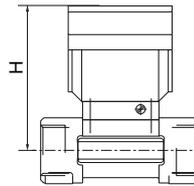
Flow rate



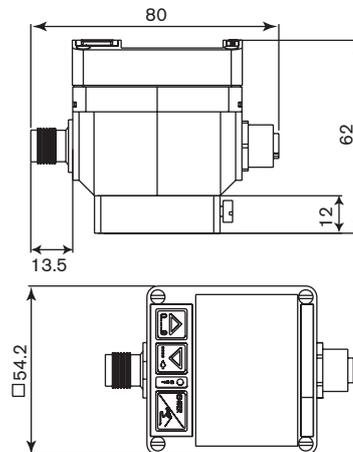
\* For weld ends fittings SMS3008 or BS4825/ASME BPE, or Tri-Clamp® fittings SMS3017/ISO2852 or BS4825/ASME BPE.

Tri-Clamp® is a registered Trademark of Alfa Laval Inc.

DN [mm]	H [mm]
06	79.5
08	79.5
15	84.5
20	82.0
25	82.2
32	85.8
40	89.6
50	95.7
65	95.7



8032 wall-mounted



## Ordering chart for Controller Type 8032

A compact flow controller Type 8032 consists of:

- a compact electronic module SE32
- an INLINE fitting S030 (DN 06 - DN 65) (Refer to corresponding datasheet - has to be ordered separately)

Voltage supply	Input	Output	Electrical connection	Item no.
12-30 V DC	---	NPN	Cable plug EN 175301-803*	436 474
		PNP	Cable plug EN 175301-803*	434 871
		NPN and PNP	5-pin M12 plug	436 473
		Relay	5-pin M12 plug and cable plug EN 175301-803*	436 475
	4-20 mA <sup>1)</sup>	4-20 mA <sup>2)</sup> +Relay	8-pin M12 plug and cable plug EN 175301-803*	444 699

1) External setpoint

2) Process value

\* Europe / Asia (G / Rc): M16 x 1.5 mm cable plug  
USA / CDN (NPT): NPT 1/2 cable plug

A wall-mounted flow controller Type 8032 consists of:

- a wall-mounted electronic module SE32
- a flow sensor Type 8020, 8030, 8030-HT, 8041 or 8070 - frequency output with pulse signal (Refer to corresponding datasheet - has to be ordered separately)

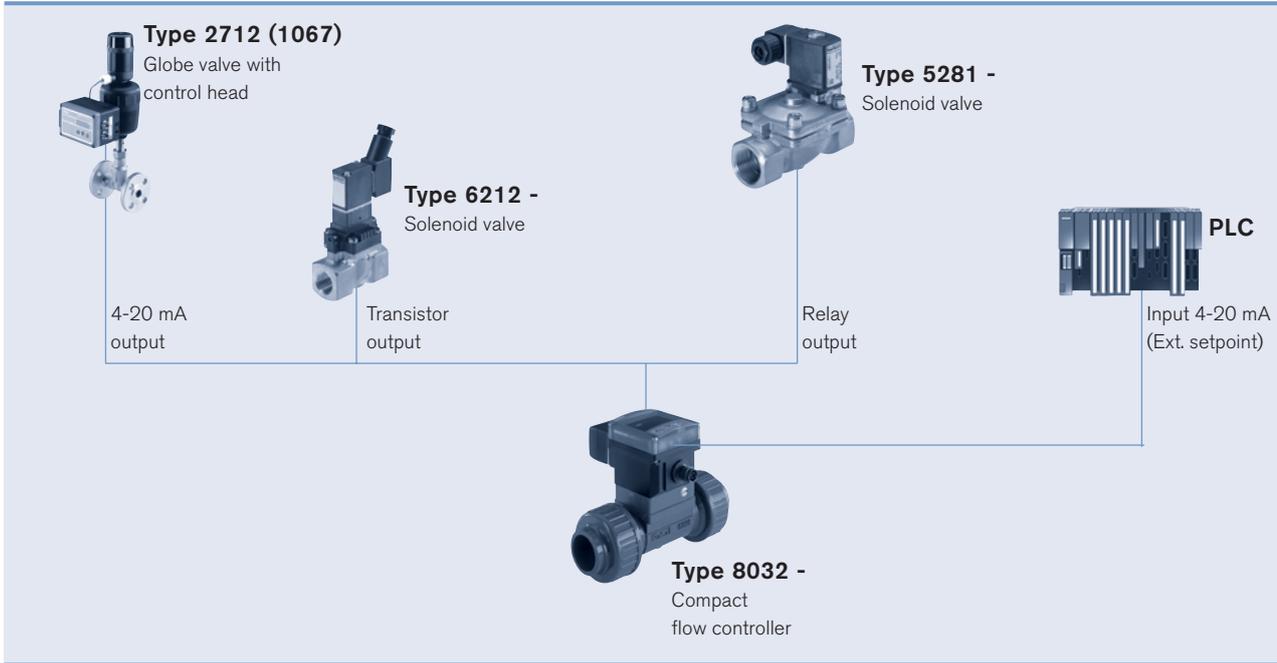
Voltage supply	Input	Output	Electrical connection	Item no.
12-30 V DC	frequency	NPN and PNP	5-pin M12 male and 4-pin M12 female	448 861

## Ordering chart for accessories (to be ordered separately)

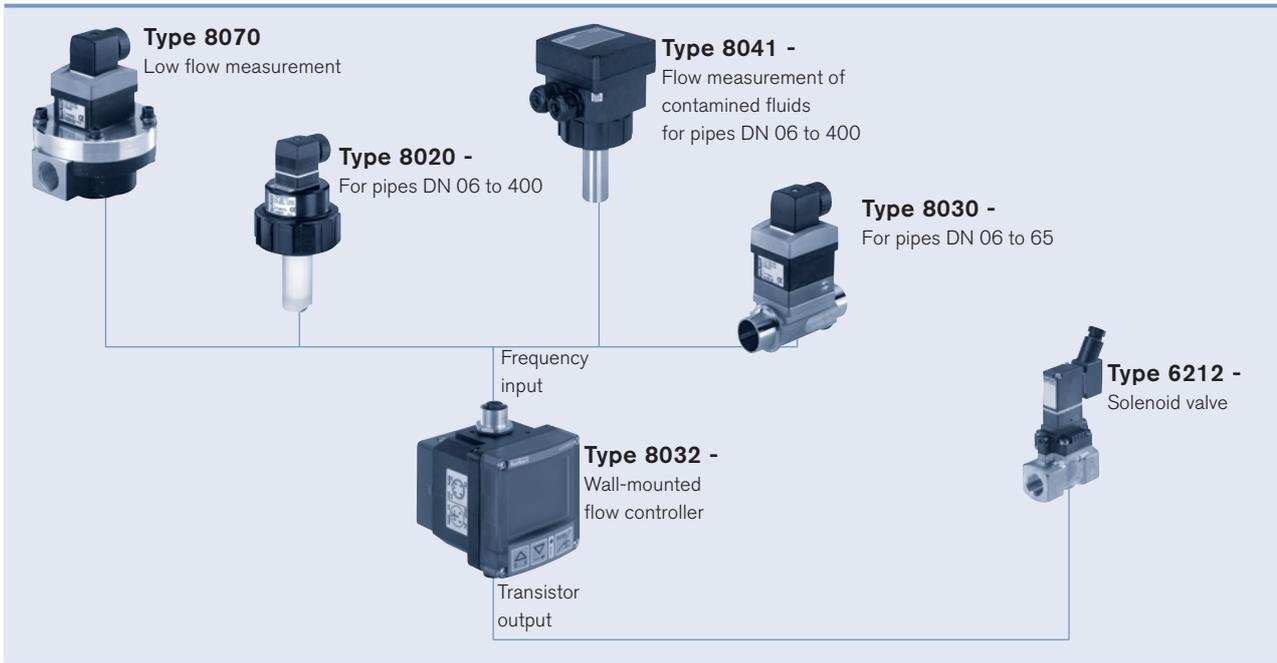
Description	Item no.
4-pin M12 female cable connector with plastic threaded locking ring, for remote version	448 856
4-pin M12 female connector moulded on cable (2 m, shielded), for remote version	448 857
5-pin M12 female cable connector with plastic threaded locking ring	917 116
5-pin M12 female connector moulded on cable (2 m, shielded)	438 680
8-pin M12 female cable connector with plastic threaded locking ring	444 799
8-pin M12 female connector moulded on cable (2 m, shielded)	444 800
Cable plug EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug EN 175301-803 with NPT1/2 " reduction without cable gland (Type 2509)	162 673

Interconnection possibilities with other Bürkert products

Compact flow controller



Wall-mounted flow controller



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In case of special application conditions, please consult for advice.

We reserve the right to make technical changes without notice.

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