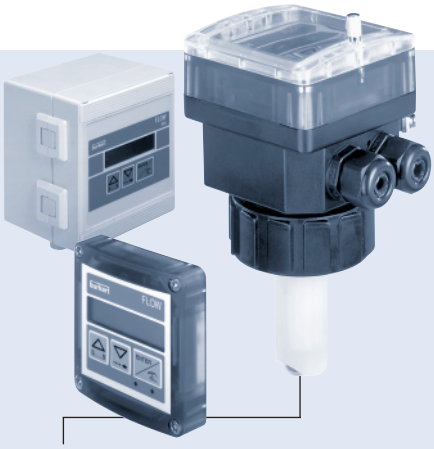
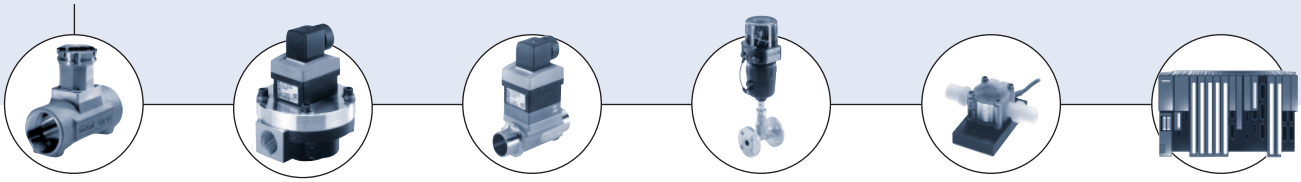
Digital batch controller



- Compact or remote version for DN 6 to 400
- Dosing
- Automatic-calibration: TEACH-IN
- Flow simulation possible on all output signals
- Batched volume and totalizers displayed

Type 8025 can be combined with...



Type S020
Fitting

Type 8070
Positive displacement flow sensor

Type 8030
INLINE flow sensor

Type 2712 (8630)
Continuous TopControl

Type 8031
Flow sensor

PLC

The batch controller is specially designed for use in neutral and slightly aggressive, solid-free liquids.

The device is available in different models:

- Compact batch controller with integrated paddle-wheel sensor.
- Remote batch controller for panel or wall mounting for connection to the Bürkert 8020 / 8030 / 8031 / 8041 / 8071 sensor or to a flow sensor from the market; sensors with open collector output, relay reed output or coil can be operated by this transmitter.

Technical data (common to the various versions)

General data	
Display	15 x 60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high
Electrical connections	shielded cable with 1.5 mm² max. cross-section and max. 50m length

Environment	
Ambient temperature	
Operation and storage	0 to +60 °C
Relative humidity	≤ 80%, non condensated

Standard and approvals	
Protection class	IP65, with cable glands mounted and tightened or blanked if not used.
Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Security	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

System versions

The compact version



combines a paddle-wheel flow sensor and an electronic module with a display in an IP65 enclosure.

The output signals are provided via two cable glands.

Bürkert designed fitting ensures simple installation of the Bürkert sensor into pipes from DN 15 to DN 400.

The panel-mounted version



consists of electronic module 8025 integrated in a front-cover. The associated separate flow sensor should have a pulse output signal, like Bürkert sensor Type 8020, 8030... (see interconnection chart) or another flow sensor available from the market.

The output signals are provided on a terminal strip.

The wall-mounted version



consists of electronic module 8025 in an IP65 enclosure. separate flow sensor should have a pulse output signal, like Bürkert sensor Type 8020, 8030... (see interconnection chart) or another flow sensor available from the market.

The output signals are provided on a terminal strip via cable glands.

Operation and display

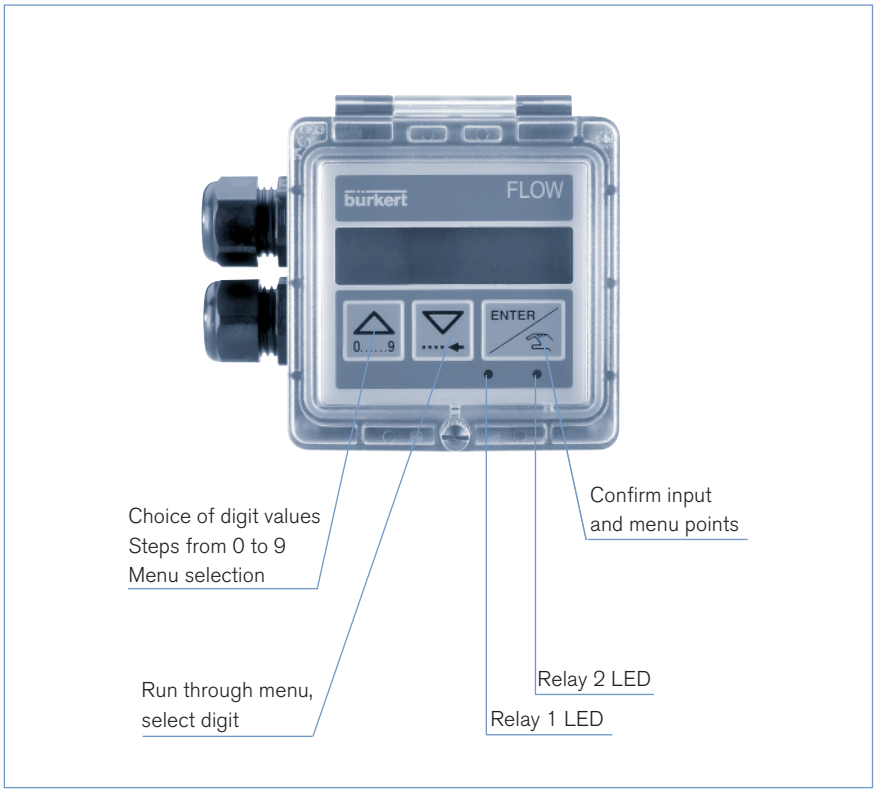
The device can be calibrated by means of the K-factor, or via the TEACH-IN function.
Customized adjustments, such as measuring range, engineering units, pulse output and filter are carried out on site.

The operation is specified according to three levels:

Indication in operating mode/ Display
- dosing amount
- dosing mode
- main totalizer
- daily totalizer with reset function

Parameter definition
- language
- engineering units
- K-factor / TEACH-IN function
- selection of batching mode
- over-run correction
- alarm
- function mode of relays
- reset main totalizer

Test
- display of state of binary inputs
- relay test
- frequency test



Compact batch controller Type 8025



General data	
Compatibility	with all fittings S020 (see corresp. datasheet)
Materials	
Housing, cover, lid, nut	PC
Front panel foil	Polyester
Screws	Stainless steel
Cable gland	PA
Wetted parts materials	
Fitting	Brass, Stainless steel 1.4404/316L PVC, PP or PVDF
Sensor finger, paddle-wheel	PVDF
Axis and bearing	Ceramics
Seal	FKM (EPDM option)
Electrical connections	Cable gland M 20 x 1.5

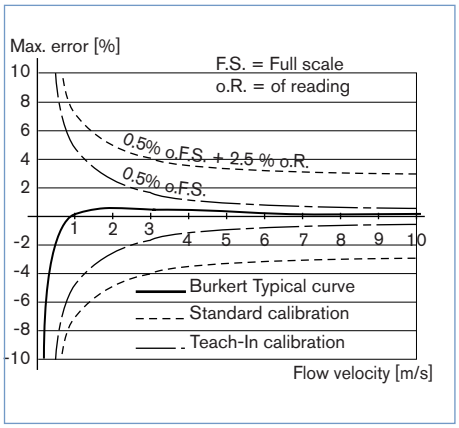
Complete device data (fitting + electronic module)	
Pipe diameter	DN 15 to 400
Measuring range	0.3 m/s to 10 m/s
Medium temperature max.	with Fitting in PVC: 50 °C - PP, PVDF, stainless steel, brass: 80 °C
Fluid pressure max.	PN10 (see pressure / temperature chart)
Viscosity	300 cSt. max.; solid particles rate max. 1%
Accuracy	(see diagram)
Teach-In	≤ ±0.5% of F.S.* (at 10 m/s)[1]
Standard K-Factor	≤ ±(0.5% of F.S.* + 2.5% of Reading)[1]
Linearity	≤ ±0.5% of F.S.* (at 10 m/s)[1]
Repeatability	≤ 0.4% of Reading[1]

Electrical data	
Power supply	12-30 V DC filtered and regulated or 115/230 V AC
Current consumption with sensor	≤ 70 mA without consumption of inputs/outputs
Intput	4 binary inputs, 5...30 V DC, impedance 3.3 kΩ Functions: dosing quantity choice, start-stop dosing
Output	
Batch status	Polarized, potential frre, 5...30 V DC; 100 mA, protected, line drop at 100 mA: 1.5 VDC - for status and alarm message
Relay	2 relays, freely programmable, 3A, 230 V AC

[1] 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.

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

Accuracy diagram



Measuring principle



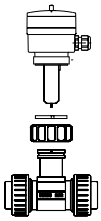
The 4 magnets, inserted in the paddle-wheel set in rotation, produce a measuring signal in the transducer (Hall sensor). The frequency modulated induced voltage is proportional to the flow velocity of the fluid.
A conversion coefficient (K factor, available in the instruction manual of the S020 fitting), specific to each pipe (size and material) enables the conversion of this frequency into volume. The electronic component converts the measured signal and displays the actual value of volume.

The 8025 batch controller is mounted in a pipe in series with the valve; the unit controls the opening of the valve and measures the quantity of the fluid which flows. The unit also closes the valve when the pre-programmed quantity has been delivered.

The electronic component needs a voltage supply of 12-30 V DC or 115/230 V AC, and two output relays are used to activate the valves and to initiate alarms. The following dosing and filling operations are possible:

- **Local dosing:** the user enters the quantity to be metered and initiates the dosage from the keypad.
- **Local dosing with pre-set quantity:** the user selects a quantity which has been preset and initiates the dosage from the keypad.
- **Remote control dosing** using a rotary knob (selecting a pre-set quantity) or binary data inputs.
- **Dosing controlled by a PLC unit** using binary data inputs.
- **Automatic dosing controlled by variation of pulse duration**. The quantity of the dose is directly proportional to the duration of a pulse.

Installation

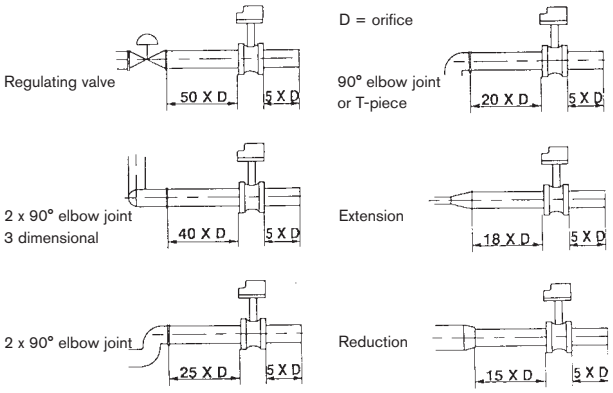


The 8025 batch controller can easily be installed into any Bürkert Insertion fitting system (Type S020) by just fixing the main nut.

The minimum straight upstream and downstream distances must be observed. According to pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy.

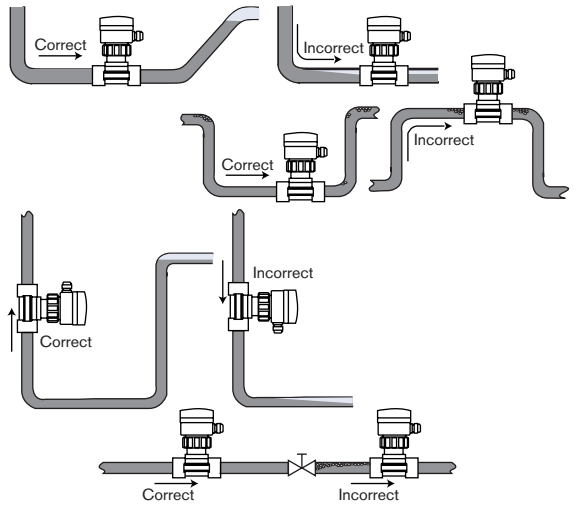
For more information, please refer to EN ISO 5167-1.

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 batch controller can be installed into either horizontal or vertical pipes.

Installation positions



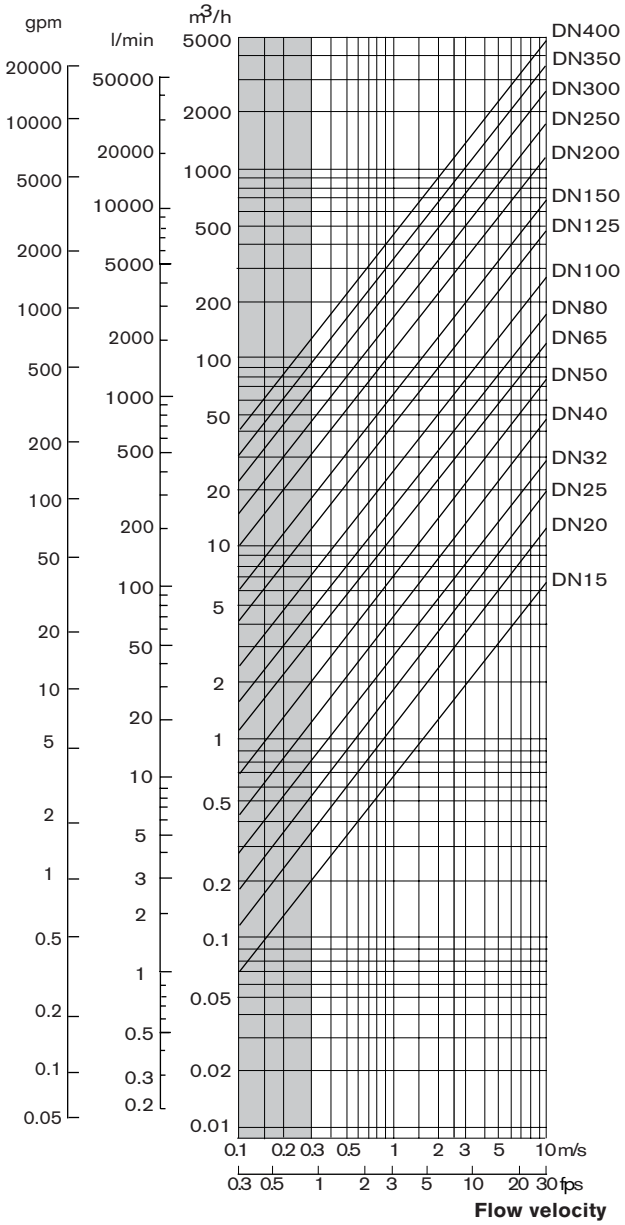
The suitable pipe size is selected using the diagram Flow/Velocity/DN. Pressure and temperature ratings must be respected according to the selected fitting material.

The batch controller is not designed for gas dosing.

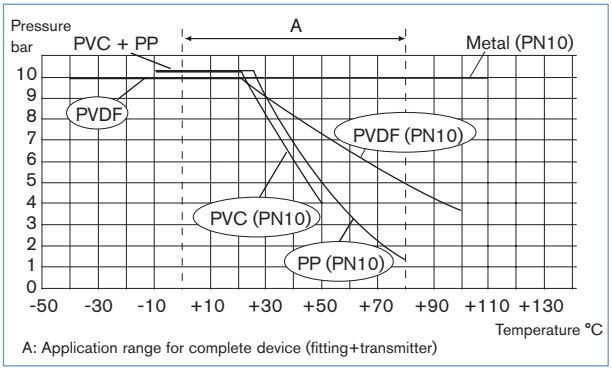
Selection of fitting / pipe size

Example:
- Specification of nominal flow: 10 m^3/h
- Ideal flow velocity: 2...3 m/s
- For these specifications, the diagram indicates a pipe size of DN40

Flow rate



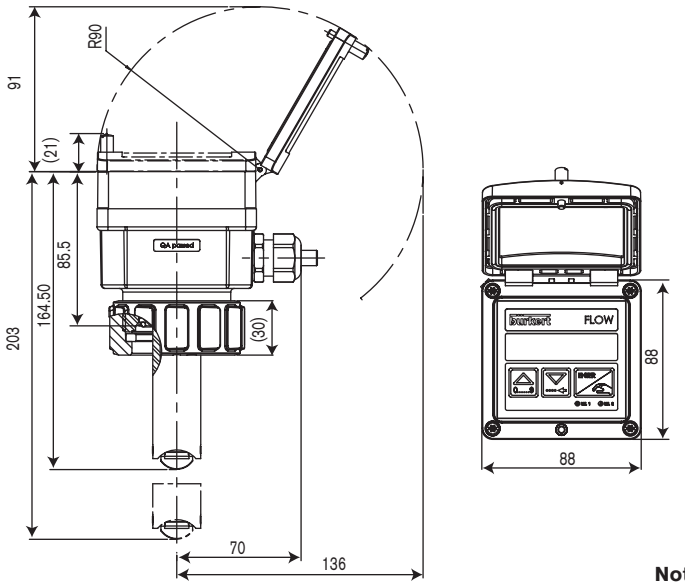
Pressure / temperature chart



A: Application range for complete device (fitting+transmitter)

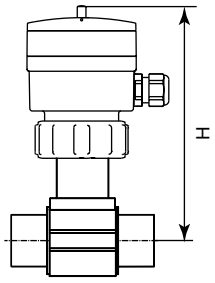
Dimensions [mm]

Compact version



Note:

The length of the sensor finger is depends on the fitting used.
See datasheet Type S020.



DN [mm]	H [mm] T-Fitting	Saddle	Plastic spigot	St. St. spigot
15	187			
20	185			
25	185			
32	188			
40	192			
50	198	223		193
65	198	221	206	199
80		226	212	204
100		231	219	214
110		227		
125		234	254	225
150		244	261	236
180		268		
200		280	282	257
250			300	317
300			312	336
350			325	348
400			340	

Remote batch controller Type 8025 (for connection to Bürkert sensor or other sensor types...)

The remote batch controller
is available in two versions:

- Panel-mounted



- Wall-mounted



.

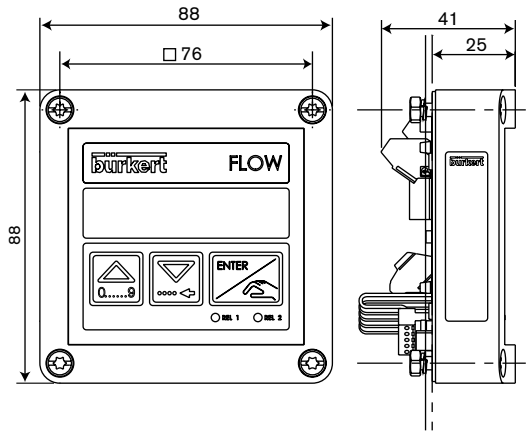
General data	
Compatibility	Bürkert flow sensor with frequency output 8020, 8030, 8030HT, 8041, 8031, 8070, 8071 or other sensors with compatible electrical data.
Materials	
Housing, cover	PC (panel-mounted version); ABS (wall-mounted version)
Front panel foil	Polyester
Screws	Stainless steel
Cable plug / gland	PA
Electrical connections	Terminals (panel-mounted version) or terminals via cable gland M 16 x 1.5 (wall-mounted version)

Electrical data	
Power supply	
Panel-mounted version	12-30 V DC (V+) filtered and regulated
Wall-mounted version	12-30 V DC filtered and regulated or 115/230 V AC
Current consumption without sensor	≤ 70 mA without consumption inputs/ouputs
Sensor input	
Frequency range	2.5 Hz up to 700 Hz Open collector NPN, Coil, TTL, CMOS
Sensor output	
Voltage supply	12...30 V DC (V+) or 0....18 V DC (V+ - 12 V DC) (with a 12-30 V DC powered controller); +15 V DC or + 27 V DC (with a 115/230 VAC powered controller)
Current consumption	max. current available from controller: 25 mA (version 115/230 V AC) 100 mA (version 12-30 V DC)
Input controller	4 binary inputs, 5...30 VDC Functions: dosing quantity choice, start-stop dosing
Output controller	
Batch status	Polarized, potential free, 5...30 VDC; 100 mA, protected line drop at 100 mA: 1.5 VDC- for status and alarm message
Relay	2 relays, programmable, 3A, 230 V AC

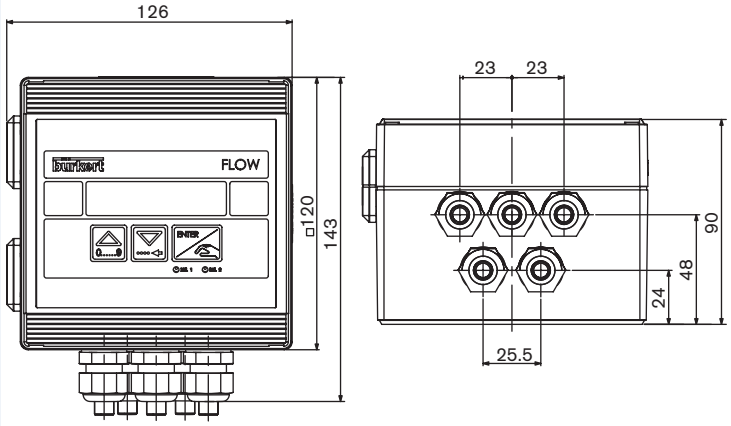
Standards and approvals	
Protection class	IP65 (panel-mounted and wall-mounted version) IP20 (panel-mounted version, inside the cabinet)

Dimensions [mm]

Panel-mounted



Wall-mounted



Ordering chart for compact controller Type 8025

Compact batch controller with integrated paddle-wheel sensor

A compact batch controller Type 8025 consists of:

- Insertion batch controller Type 8025
- Insertion fitting Type S020 (DN15 - DN 400) (Refer to corresponding datasheet - has to be ordered separately)

Version	Specifications	Voltage supply	Relays	Sensor version*	Electrical connection	Item no.
Compact	2 totalizers	12-30 V DC	2	Hall, short	2 cable glands	419 520
				Hall, long	2 cable glands	419 522
		115-230 V AC	2	Hall, short	2 cable glands	419 521
				Hall, long	2 cable glands	419 529

Note:
FKM gasket in standard; 1 Kit including a black EPDM gasket for the sensor, an obturator for an M 20 x 1.5 cable gland, a 2 x 6 mm multiway seal and a mounting instruction sheet is supplied with each transmitter.

Ordering chart for remote controller Type 8025

Remote controller Type 8025 (panel- or wall-mounted) for connection to Bürkert or other sensors.

A complete remote batch controller Type 8025 consists of:

- remote batch controller Type 8025 (wall-mounted or panel-mounted)
- Bürkert flow sensor* or other (has to be ordered separately)

Version	Specifications	Voltage supply	Relays	Sensor version*	Electrical connection	Item no.
Panel-mounted	2 totalizers	12-30 V DC	2	see note	5 cable glands	419 536
Wall-mounted	2 totalizers	12-30 V DC	2	see note	5 cable glands	433 740
		115-230 V AC	2	see note	5 cable glands	433 741

* See the chart about compatible and recommended interconnection possibilites with Bürkert sensors.

Ordering chart for accessories for batch controller Type 8025 (has to be ordered separately)

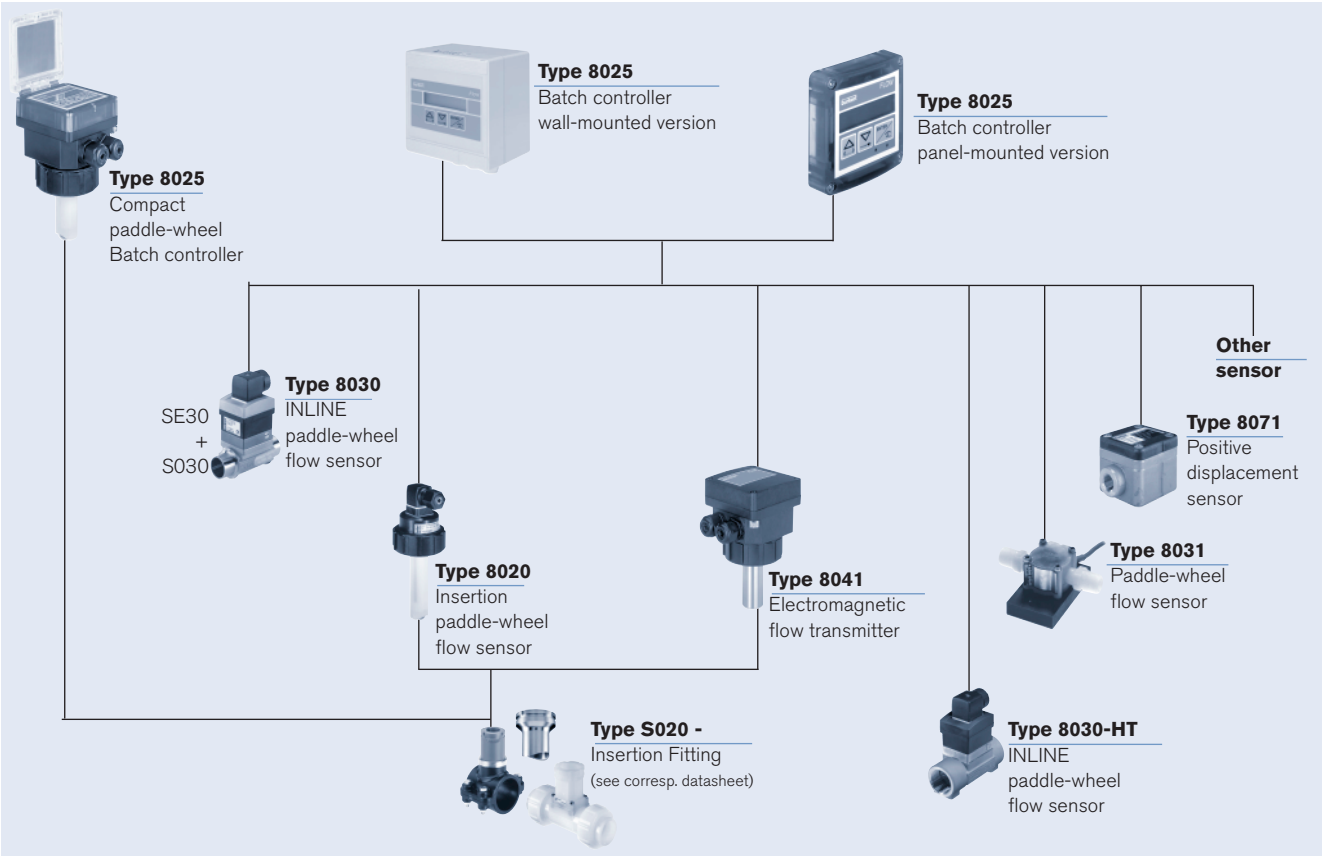
Specifications	Item no.
Set with 2 cable glands M 20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M 20 x 1.5 + 2 multiway seals 2 x 6 mm	449 755
Set with 2 reductions M 20 x 1.5 /NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M 20 x 1.5	551 782
Set with 1 stopper for unused cable gland M 20 x 1.5 +1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM gasket for the sensor + 1 mounting instruction sheet	551 775
Ring	619 205
PC- Nut	619 204
Set with 1 green FKM + 1 black EPDM gaskets	552 111

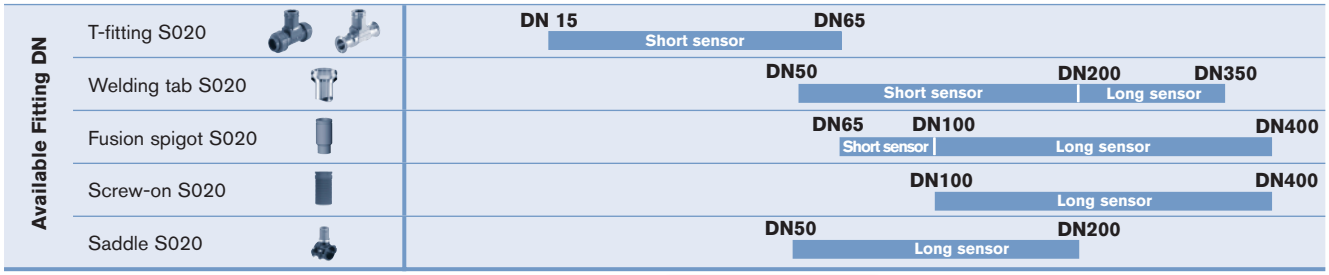
Interconnection with other Bürkert products

Sensor Type	Remote batch controller	
	Panel-mounted	Wall-mounted
8020 - Frequency output with pulse signal (open collector, NPN, PNP) - Hall version (short or long)	X	X
8020 - Frequency output with pulse signal (open collector, NPN) - Hall "Low Power" version (short or long)	X	X
8030 / 8070 - Frequency output with pulse signal (open collector, NPN, PNP) - Hall version	X	X
8030 / 8070 - Frequency output with pulse signal (open collector, NPN) - Hall "Low Power" version	X	X
8030 High temperature - Frequency output with pulse signal (open collector, NPN, PNP)	X	X
SE30 Ex	X	X
8031- Frequency output with pulse signal (NPN)	X	X
8041 - Frequency output with pulse signal (NPN)	X	X [1)]
8071 - Frequency output with pulse signal (NPN)	X	X

X = compatible or recommended interconnection possibilites.

[1)] except the 419543





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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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