



Analog flow indicator for INSERTION fittings DN 15 ... DN 400; PN10

- Economic integration in pipe systems without any additional piping
- Adjustable flow range with standard scales for high flexibility
- Fitting available in plastic, brass and stainless steel

The paddle-wheel flow rate indicator Type 8024 for continuous flow measurement is specially designed for use in neutral and slightly aggressive, solid free liquids.

The measuring principle is based on a local velocity measurement. When liquid flows through the pipe, the paddle-wheel is set in rotation producing a measuring frequency in the coil transducer, which is proportional to the flow.

The flow rate indicator can measure a flow as from 0.5 m/s up to max. 10 m/s.

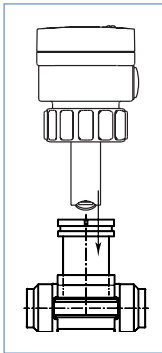
The speed of flow is converted into a volume per time showed at the analog display, e.g. l/h, m³/h or gallons per minute (GPM). A large range of standardized scales compatible to the sizes of the ROTAMETERS is available.

General data	
Compatibility	with fittings S020 (see corresp. datasheet)
Materials	Electronic housing , cover, nut Fitting Sensor holder, paddle-wheel Axis and bearing Seal
	PC Brass, stainless steel 1.4404/316L, PVC, PP or PVDF PVDF Ceramics (Al ₂ O ₃) FKM / EPDM
Complete device data (fitting + electronic module)	
Pipe diameter	DN 15 to 400
Measuring range	0.5 to 10 m/s
Medium temperature with	
PVC fitting	0 up to 50°C
PP fitting	0 up to 80°C
St.st., brass or PVDF fitting	-15 up to 100°C
Fluid pressure max.	PN10 (see pressure/temperature diagram)
Viscosity	300 cSt. max. (solid particle rate: 1%)
Accuracy	≤ ±10% of Reading ¹⁾ (0.8 ... 2 m/s) ≤ ±4% of Reading ¹⁾ (2 ... 10 m/s)
Repeatability	≤ ±1% of Reading ¹⁾
Electrical data	
Power supply (V+)	2 batteries 1.5 V DC (Type LR14)
Display	White background, red pointer and black scale
Environment	
Ambient temperature	0 up to +60°C (operating and storage)
Relative humidity	≤ 80%, non condensated
Standards and approvals	
Protection class	IP65
Standard - EMC	EN 50081-1, EN 50082-2 (Immunity to 50/60 Hz magnetic fields, limited to 1 A/m fields in the paddle-wheel rotation axis)

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

Design and principle of operation

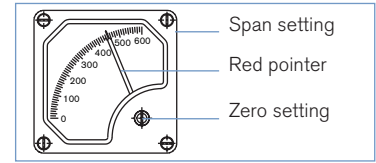
The flow indicator 8024 combines a flow sensor and an electronic module with an analog display in an IP65 enclosure. The sensor part consists of a coil transducer and a paddle-wheel. When liquid flows through the pipe, the paddle-wheel is set in rotation producing a measuring signal in the transducer. The electronics converts the measured signal and displays the actual flow rate. This Indicator is supplied by two 1.5 V batteries.



Bürkert designed fittings ensure simple installation of the the sensor into pipes from DN 15 to DN 400

Operation and display

- ▶ Indication of flow rate
- ▶ Test and setting
 - Battery test
 - Zero and Span setting (according to the flow rate and fitting)



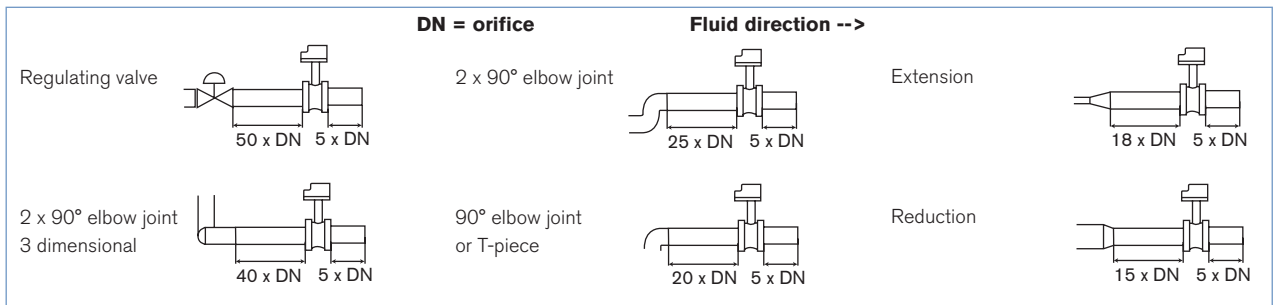
The electronic module should be calibrated according to the flow range (scale, unit) and the used fitting type (DN, K-factor)

Installation

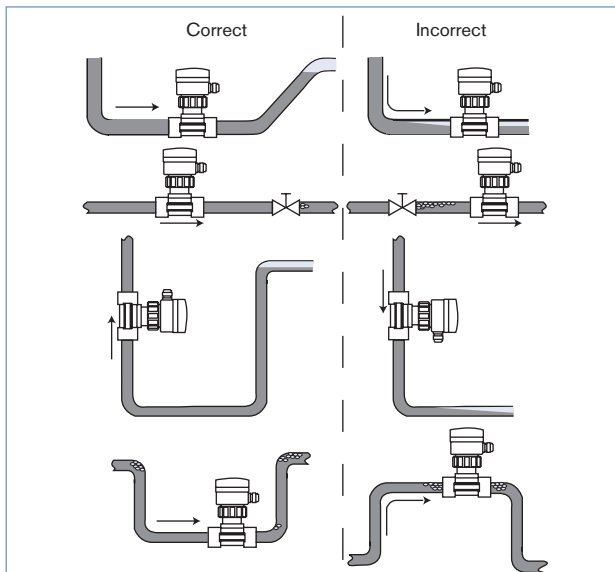
The 8024 flow rate indicator can easily be installed into any Bürkert INSERTION fitting system S020 by just fixing the main nut.

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.



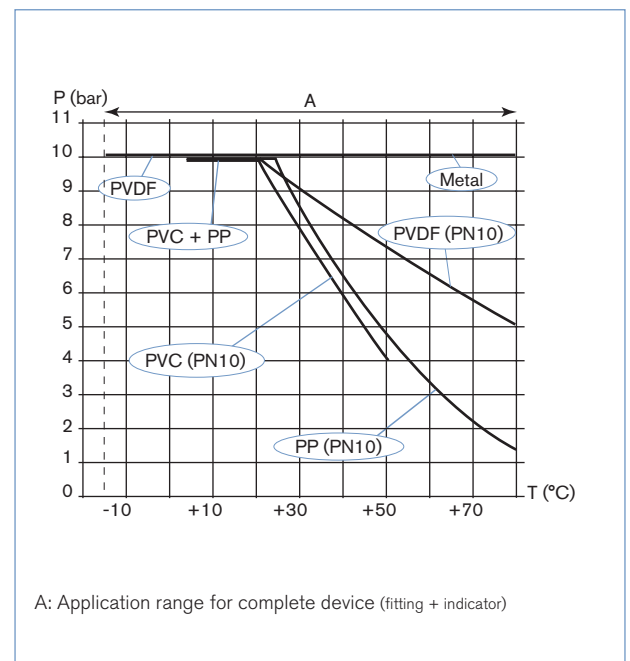
The flow rate indicator can be installed in either horizontal or vertical pipes.



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

The indicator is not designed for gas flow indication.

Pressure / temperature chart

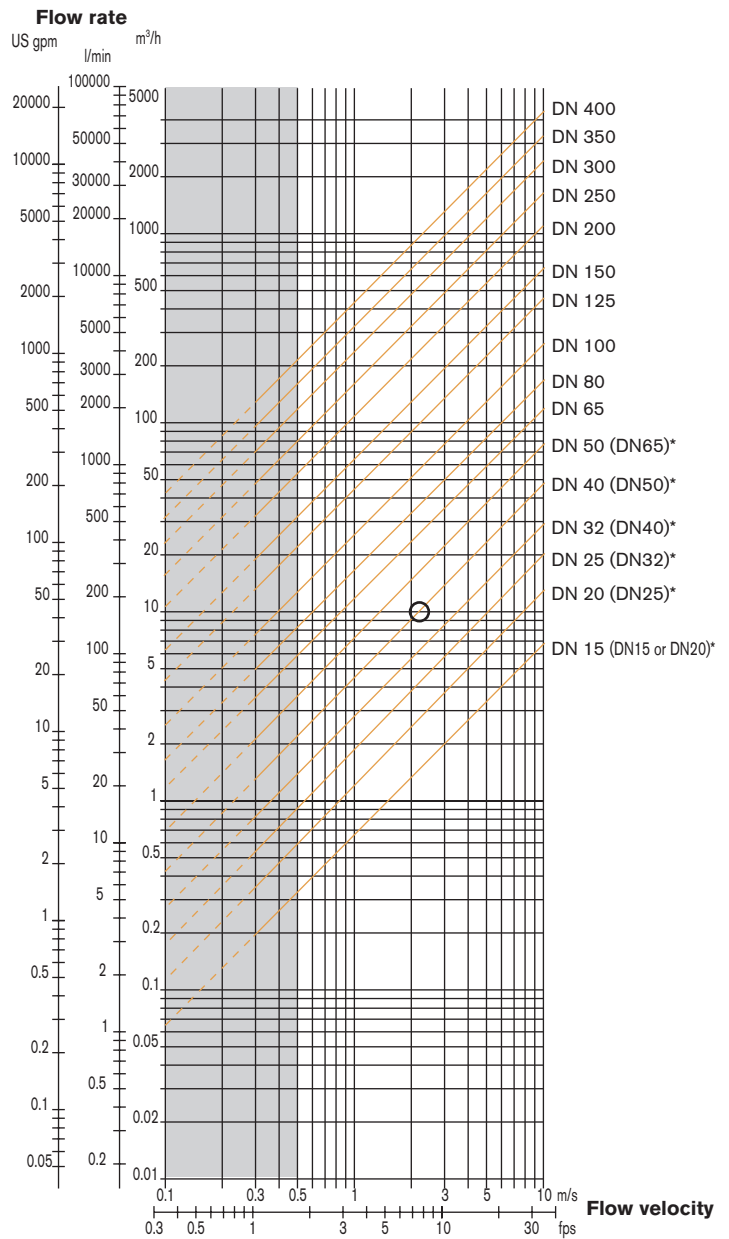


Selection of fitting / pipe size

Example:

- Specification of nominal flow: 10 m³/h
- Ideal flow velocity: 2...3 m/s

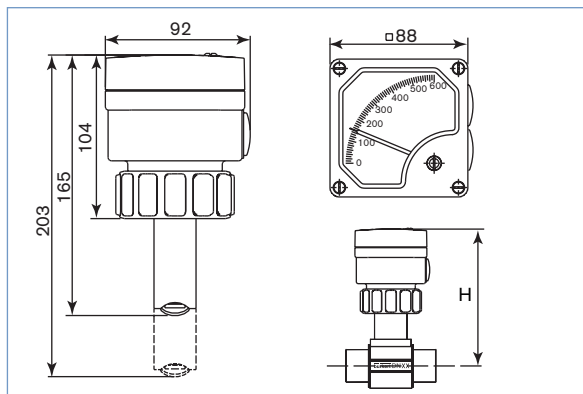
For these specifications, the diagram indicates a pipe size of DN40 [or DN50 for (*) mentioned fittings]



- * for following fittings:
- with external threads acc. to SMS 1145
 - with weld-ends acc. to SMS 3008, BS 4825 / ASME BPE or DIN 11850 Series 2
 - TriClamp® acc. to SMS 3017 / ISO 2852, BS 4825 / ASME BPE or DIN 32676

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

Dimensions [mm]



DN	H with T-Fitting	H with saddle	H with plastic spigot	H with st. st. spigot
15	167			
20	164			
25	164			
32	168			
40	172			118
50	178	202		173
65	178	201	183	177
80		205	188	184
100		210	195	194
110		206		
125		213		205
150		223	241	216
180		247		
200		259	262	237

Ordering chart - Complete device 8024 (housing + scale + unit)

A compact flow indicator Type 8024 consists of:

- an INSERTION flow indicator 8024 with standard scale according to the required max. flow rate.
- an INSERTION fitting Type S020 (DN 15 to DN 400) - (Refer to corresponding datasheet - has to be ordered separately)

Description	Recommended DN	Scale	Item no.	
			short	long
Flow indicator 8024, FPM, 2 x 1.5 V DC, no cable connector		0 ... 10 000 l/h	434 506	434 516
		0 ... 16 000 l/h	434 507	434 517
		0 ... 25 000 l/h	434 508	434 518
		0 ... 40 000 l/h	434 509	434 519
		0 ... 60 000 l/h	434 510	434 520
		0 ... 100 m³/h	434 511	434 521
		0 ... 160 m³/h	434 512	434 522
		0 ... 250 m³/h	434 513	434 523
		0 ... 400 m³/h	434 514	434 524
		0 ... 100 %	434 515	434 525

Note: For DN ≤ 50, please contact us. For each device, please specify the pipe diameter (DN) and the fitting material to factory calibrate the indicator.

Ordering chart - Make your own analog flow indicator Type 8024

Housing 8024

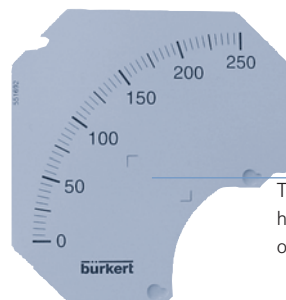
Description	Item no. short, 2 x 1.5 V DC	Item no. long, 2 x 1.5 V DC
Flow indicator, FPM, no scale, 2 x 1.5 V batteries	551 703	551 704

Available units

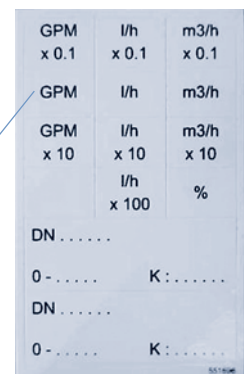
(included in housing 8024)

Scale

Scale	Item no.
0 ... 50	551 689
0 ... 100	551 690
0 ... 160	551 693
0 ... 250	551 692
0 ... 400	551 694
0 ... 600	551 688



The selected unit has to be stucked on the scale.



To find your nearest Bürkert facility, click on the orange box →

www.burkert.com

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

We reserve the right to make technical changes without notice.

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