

FINE CONTROLS (UK) LTD



Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

We offer a full range of valve & instrumentation products & services, with our product range representing leading technologies & brands:

Flow: Flow Meters & Transmitters, Flow Switches, Flow Control Valves & Batch Control Systems

Temperature: Temperature Probes & Thermowells, Temperature transmitters, Temperature Regulators & Temperature Displays

Level: Level Transmitters & Switches

Pressure: Pressure Gauges & Transmitters, Precision & High Pressure Regulators & I-P Converters, Volume boosters.

Precision Pneumatics: Pressure Regulators, I-P Converters, Volume Boosters, Vacuum Regulators

Valves: Solenoid & Pneumatic Valves, Control Valves & Positioners, Actuated Ball, Globe or Diaphragm Valves & Isolation Valves

Services: Repair, Calibration, Panel Build, System Design & Commissioning

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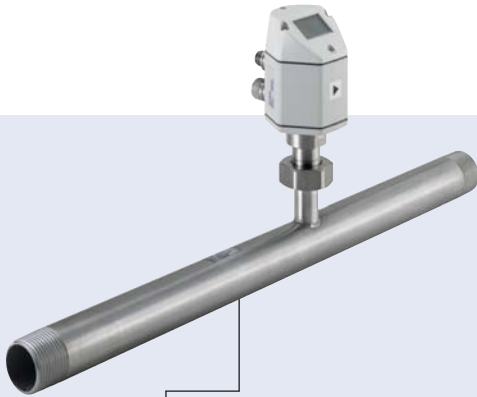
SOLDO
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Flowmeter for Gases



- Thermal mass flow measurement
- Pipe sizes up to 2"
- Integrated inlet and outlet pipes for flow conditioning
- 4-20mA signal output of process value

Type can be combined with ...



Type 8802-YG

Process control valve



Type 5281

Solenoid valve



Type 2875/Type 8611

Solenoid control valve with plugged PI controller

This BigFLOW flowmeter series is made for measuring of especially large flow rates and uses the calorimetric measuring principle. A heated sensor element is cooled down by the gas flow. This cooling effect which depends on the flow velocity and the gas characteristics serve as flow indication, the kind of cooling directly depends on the flow velocity and the kind of gas. This kind of mass flow measurement is independent of pressure and temperature. The flowmeter can be used for monitoring air supplies, but also qualifies for measuring other gases like nitrogen, oxygen, carbon dioxide, natural gas, methane, argon and hydrogen.

The display can be rotated by 180°. The small console provides units m^3/h , m^3/min , l/min , l/s , kg/h , kg/min , kg/s or cfm . Further there is a totaliser integrated which counts the gas volume flowing through the pipe. It can be reset by the console. The flowmeter's pressure drop is negligibly low, the measurement works without any moving parts. In combination with a solenoid control valve or an air operated process control valve decentralized flow control loops up to DN50 are possible.

Technical Data			
Full scale ranges (Q_{nom})¹⁾	Up to 825 Nm^3/h (air), special flow range on request	Pipe connection	R1/2", R3/4", R1", R1 1/4", R1 1/2", R2" (all connections as external thread) acc. to DIN EN 10226 (ISO 7-1) or flange connections acc. to DIN EN 1092-1 (stainless steel 1.4404), other connections on request
Operating gases	Air, nitrogen, oxygen, natural gas, methane, hydrogen, argon, carbon dioxide	Electrical connection	M12, see page 3
Max. operating pressure	Up to max. 16 bar (up to 40 bar on request)	Power supply	24V DC
Calibration gas	Air, zero point adjustment with operating gas; with hydrogen: calibration with operating gas	Voltage tolerance	±15%
Gas temperature	-30 up to +80 °C	Power consumption	Max. 80 mA at 24 V DC
Ambient temperature	-30 up to +80 °C	Output signal (actual value output)	4-20 mA
Accuracy	+/- 4% o.R. (air), +/- 4% FS (other gases)	Max. load (current output)	< 500 Ω
Span	1:20	Protection class	IP65
Body material	Stainless steel 1.4301 (on request 1.4404)	Dimensions [mm]	See drawing on page 4
Electronics housing material	Polycarbonate	Pulse output	1 pulse per m^3 (24V DC for 30 ms)
Sealing material	NBR, Simrit (for oxygen)	Options	-Oxygen conformity declaration -Cleaned, free of oil and fat

¹⁾ at ref. conditions acc. to DIN 1343 (0°C and 1013 mbara)

Ordering Chart for Air

Pipe connection	Inner diameter of pipe	Flow range	Overall length	Item no.
R 1/2"	16.1 mm	up to 80 Nm ³ /h ²⁾	300 mm	770 888
R 3/4"	21.7 mm	up to 155 Nm ³ /h ²⁾	475 mm	770 889
R 1"	27.3 mm	up to 265 Nm ³ /h ²⁾	475 mm	770 890
R 1 1/4"	36.0 mm	up to 440 Nm ³ /h ²⁾	475 mm	770 941
R 1 1/2"	41.8 mm	up to 550 Nm ³ /h ²⁾	475 mm	770 891
R 2"	53.1 mm	up to 825 Nm ³ /h ²⁾	475 mm	770 892

²⁾ Index N: Standard condition, flow rate referred to 0°C and 1.013 bar(a)
Calibration for another flow range on request

Flow Ranges

		1/2" [m ³ /h]	3/4" [m ³ /h]	1" [m ³ /h]	1 1/4" [m ³ /h]	1 1/2" [m ³ /h]	2" [m ³ /h]
Ref. to DIN 1945/ ISO 1217: 20°C and 1000mbar:							
Air		90	170	290	480	550	900
Ref. to DIN 1343: 0°C and 1013mbar:							
Air		80	155	265	440	505	825
Argon	Ar	140	265	450	750	855	1400
Carbon dioxide	CO ₂	85	165				
Nitrogen	N ₂	80	150	255	425	485	800
Oxygen	O ₂	85	160	275	455	520	855
Hydrogen	H ₂	20	40	70	120	135	225
Natural gas, methane	NG	50	100	170	280	325	530

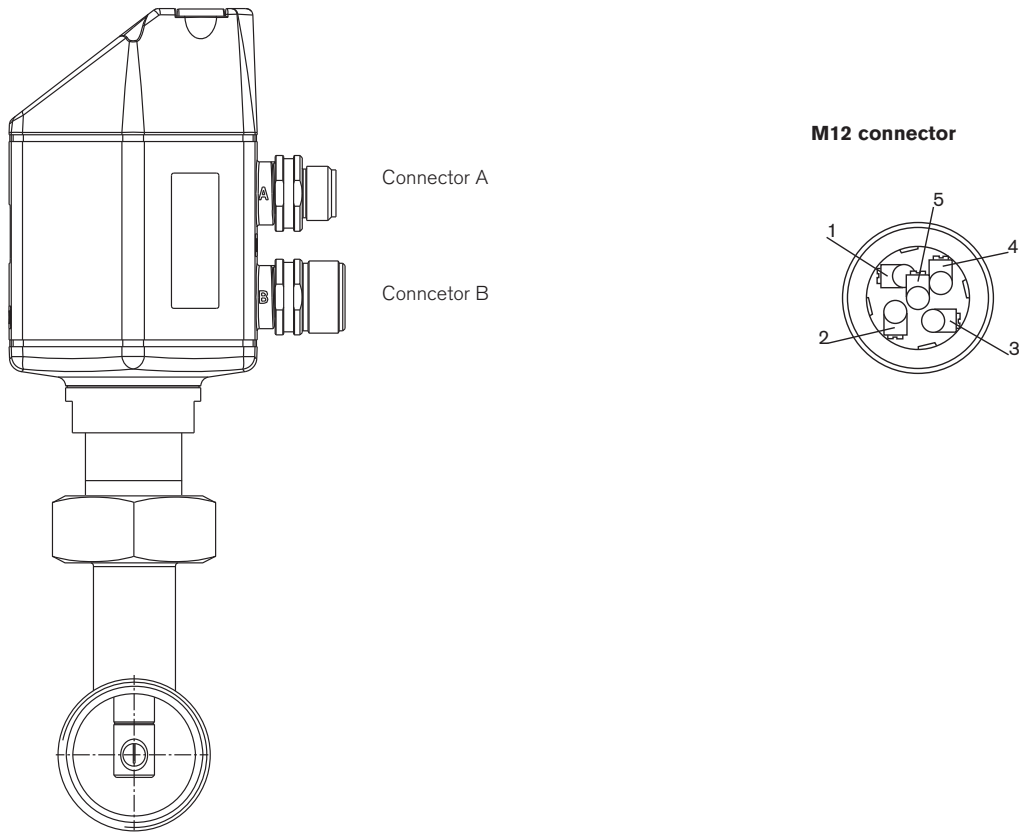
Item no. for a flowmeter calibrated on other gases like air and other flow ranges on request, see specification sheet on page 5.

Ordering Chart for Accessories

Article	Item no.
5m cable, with 5-pin M12 plug at one end, for connector A	770 217
5m cable, with 5-pin M12 plug at one end, for connector B (pulse)	770 796
10m cable, with 5-pin M12 plug at one end, for connector A	770 795
10m cable, with 5-pin M12 plug at one end, for connector B (pulse)	770 797
Communication software incl. accessories USB	772 122
Power supply with socket-outlet for appliances, 100-240V AC/ 24V DC	770 798
Power supply in housing for wall mounting, 100-240V AC/ 24V DC	770 799

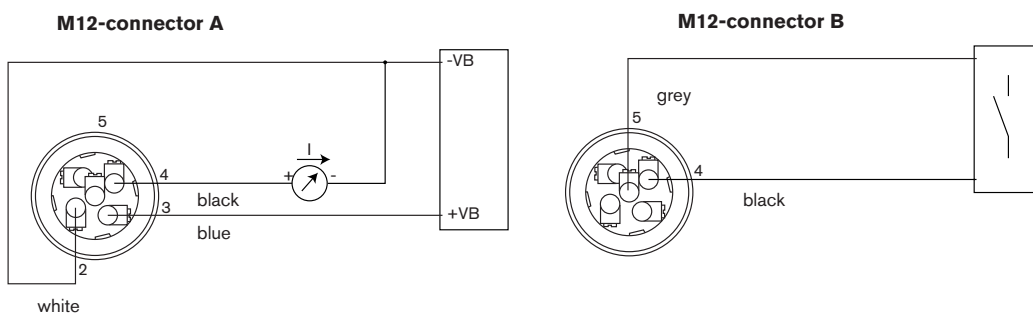
Without ordering cables, the flowmeter comes with M12-connector for port A.

Pin Assignment



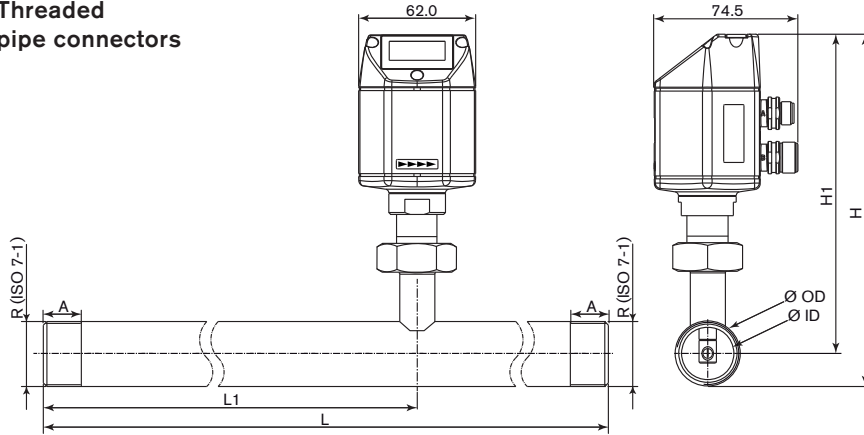
Pin	Connector A (connection port)	Connection cable A	Connector B (pulse port)	Connection cable B
1	(SDI)	brown	*	brown
2	VB- negative supply voltage 0V	white	*	white
3	VB+ positive supply voltage 12-30V DC	blue	*	blue
4	I+ Current signal 4-20mA - flow value	black	P Pulse	black
5	*	grey	P Pulse	grey

* do not connect, just for internal use. Do not connect with an electrical potential and/or ground.

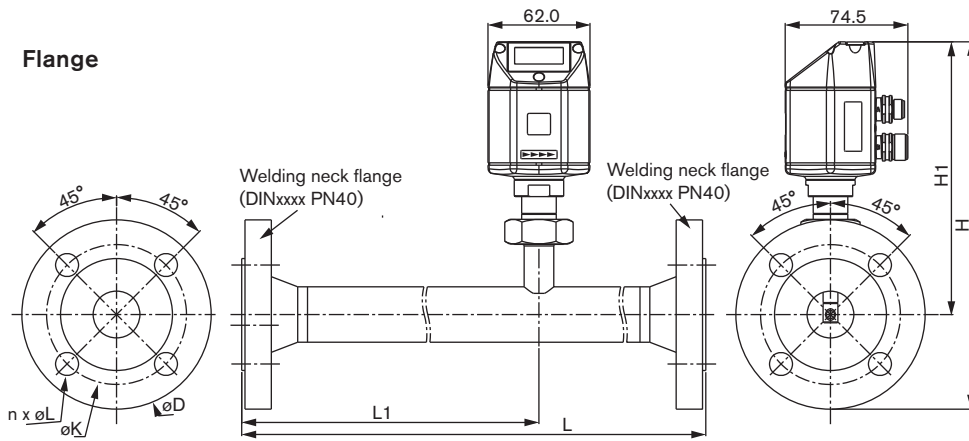


Dimensions [mm]

Threaded pipe connectors



Flange



Diameter	Ø OD / ID	L	L1	H	H1	Flange (EN 1092-1 PN40)		
						Ø OD (mm)	Ø K (mm)	n x Ø L (mm)
1/2"	21.3 x 2.6 / 16.1	300	210	176.4	165.7	95	65	4 x 14
3/4"	26.9 x 2.6 / 21.7	475	275	179.2	165.7	105	75	4 x 14
1"	33.7 x 3.2 / 27.3	475	275	182.6	165.7	115	85	4 x 14
1 1/4"	42.4 x 3.2 / 36.0	475	275	186.9	165.7	140	100	4 x 18
1 1/2"	48.3 x 3.2 / 41.9	475	275	189.9	165.7	150	110	4 x 18
2"	60.3 x 3.6 / 53.1	475	275	195.9	165.7	165	125	4 x 18

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

Subject to alteration.
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Note

You can fill out the fields directly in the PDF file before printing out the form.

Request for Quotation

▶ Please complete and send to your nearest Bürkert sales centre*

Company	Contact person
Customer no.	Department
Address	Phone/Fax
Postcode/Town	E-mail

Quantity required delivery date

Operating Data

Gas: Air Argon Nitrogen Methane
 Oxygen Hydrogen Carbon dioxide Natural gas
 Other gas:

Max. flow rate: m³/h Reference conditions: N: 0 °C, 1013 mbar(a)
 (Add-on price for special flow range) l/min S:20 °C, 1000 mbar(a)

Operating pressure: bar(g)
 Ambient temperature: °C °F
 Gas temperature: °C °F

Pipe connection: 1/2" external 3/4" external 1" external Flange:
 1 1/4" external 1 1/2" external 2" external Other:

Optionen: Free of oil and fat, without O2 certificate
 Free of oil and fat, with O2 certificate
 High pressure up to 40 bar

Comments / Sketch

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