



# Vision

Turbine Flow Meters

## Flow sensor

### Vision Series 1000

### DESCRIPTION

The small flow sensors VISION measurement technology is ideal for the accurate measurement of low viscous and non-aggressive fluids. The VISION 1000 series is most suited for the measurement of flow rates from 0,1 to 2,5 l/min. The flow sensors can be mounted in any position.

### MEASURING PRINCIPLE

Flow sensors are indirect volumetric meters. When the fluid passes through, a rotor is activated and the movement is either electronically or mechanically transmitted outside. The rotor is turned by the fluid force, proportional to the flow rate. A Hall effect sensor detects the passage of the rotor and supplies pulses, which can be utilized for digital or analogue signal processing. The generated pulses are specified as the K-factor. The large number of pulses provides high resolution. As the mass of the turbine is very small the response time is very short. It is not necessary to install a straight length of pipeline at the upstream side of the meter.



### SPECIFICATIONS

<b>Type</b>	VISION 1005 2F66
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<b>Performance</b>	
<b>Flow rate</b>	0.1 – 2.5 l/min
<b>Accuracy</b>	± 3% of reading
<b>Repeatability</b>	< 0,5% under the same operating conditions
<b>Operating temperature</b>	-20°C to +100°C, max. 60°C for Vision in stainless steel
<b>Operating pressure rate</b>	max. 25 bar; with push-fit connection 10 bar (+20°C) and 7 bar (+65°C)
<b>Burst pressure</b>	100 bar

<b>Pick up</b>				
<b>Pulse sensor</b>	Hallsensor			
<b>Input power</b>	5 – 24 VDC			
<b>Output signal</b>	Open collector (NPN sinking) @ max. 20 mA, 1-2.2 kOhm pull up resistor required			
<b>Power consumption</b>	approx. 8 mA			
<b>K-factor</b>	<b>Material</b>	<b>Nominal size</b>	<b>Flow range</b>	<b>K-factor</b>
	Trogamid CX7323	5 mm	0.1 – 2.5 l/min	22000 pulse/liter
	Stainless steel, INOX 1.4401 / AISI 316	5 mm	0.1 – 2.5 l/min	24500 pulse/liter
	Grilamid LV-50H FWA	5 mm	0.1 – 2.5 l/min	22500 pulse/liter



Badger Meter

<b>Material</b>	
<b>Housing</b>	Trogamid CX7323
	Stainless steel, INOX 1.4401 / AISI 316
	Grilamid LV-50H FWA nature, reinforced fiberglass
<b>Rotor</b>	PPS Ferrite bound
<b>Bearings</b>	2 PTFE / graphite bearings (standard), 2 PTFE bearings without added graphite for deionized water

<b>Fluids</b>	
<b>Viscosity</b>	0.8 – 16 mm <sup>2</sup> /sec (mPas/cST)
<b>Fluid type</b>	Liquids
<b>Filter</b>	20 to 40 micron recommended

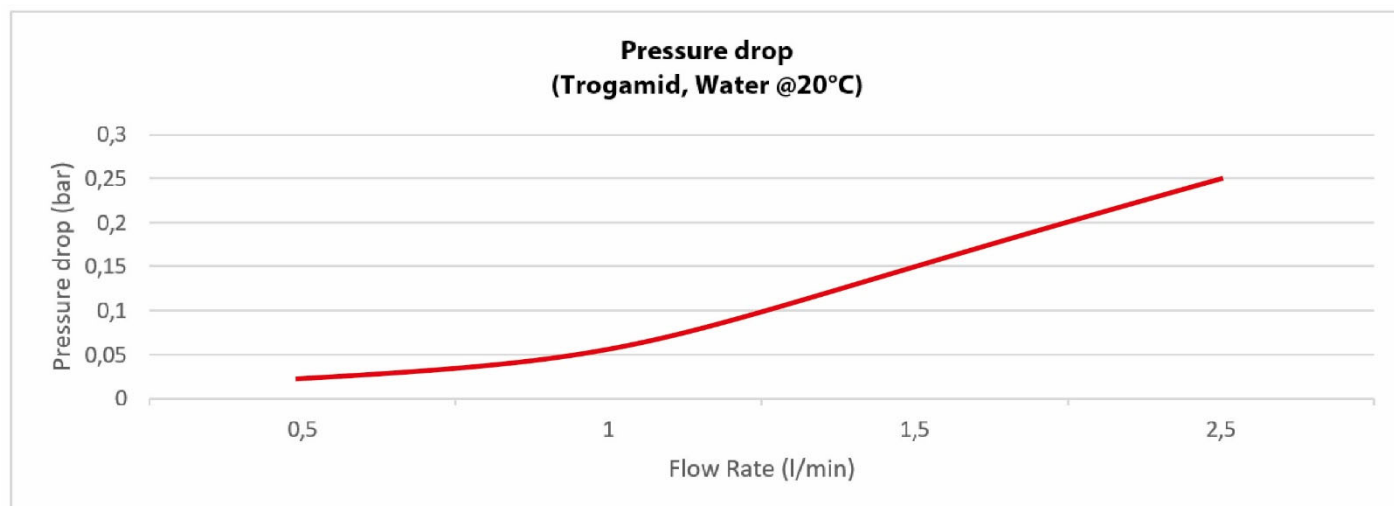
<b>Installation</b>	
<b>Nominal size DN</b>	5 mm
<b>Mounting position</b>	In any orientation, observe flow direction
<b>Electrical connection</b>	3 Pin (2.8 x 0.5) for MINI DIN Connector, EN 60529
	Round cable 3 x AWG 24 with free cable ends
<b>IP Protection class (DIN Connector)</b>	IP67
<b>Mechanical connection</b>	G 1/4" (Trogamid, Stainless steel, Grilamid reinforced fiberglass)
	NPT 1/4" (Trogamid)
	OD = 6mm, Push-fit (Grilamid reinforced fiberglass)
<b>Tightening torque for screwed connection</b>	approx. 6 Nm

<b>Calibration (Optional)</b>	
<b>5-Point Calibration</b>	@ Water, 20°C

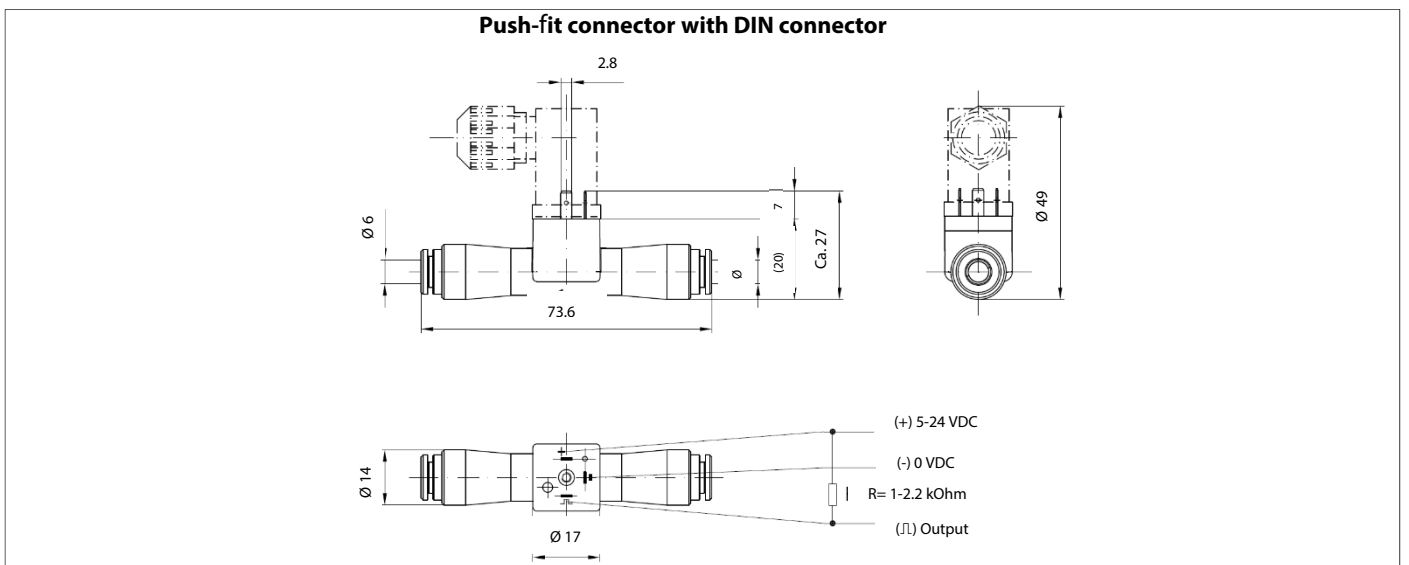
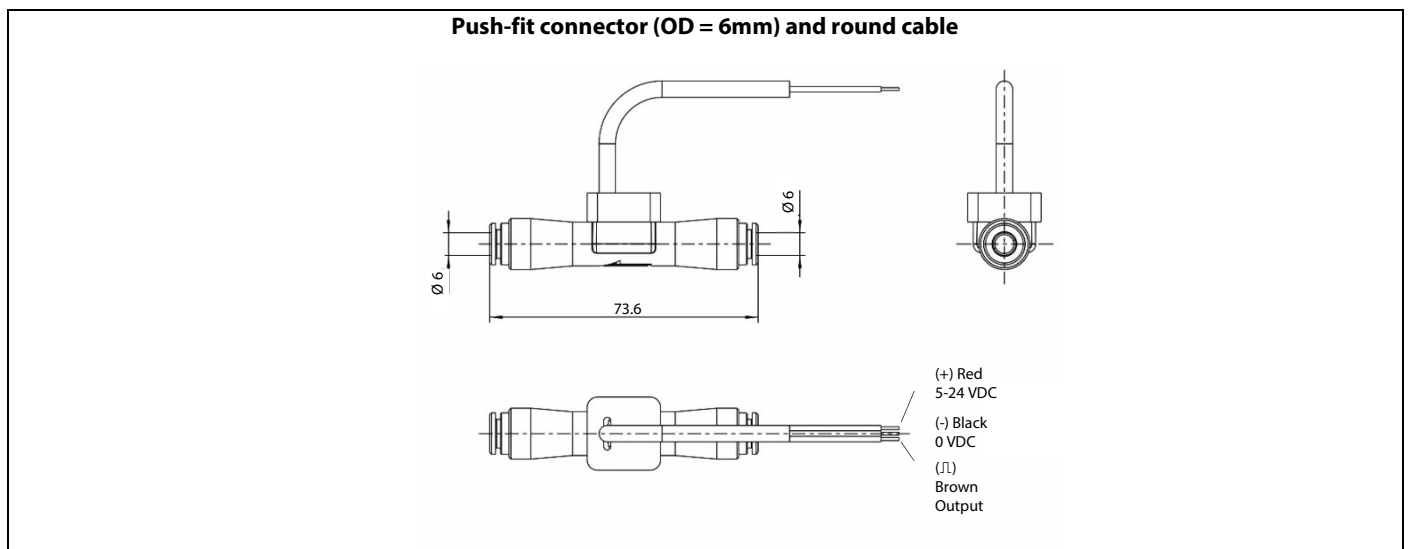
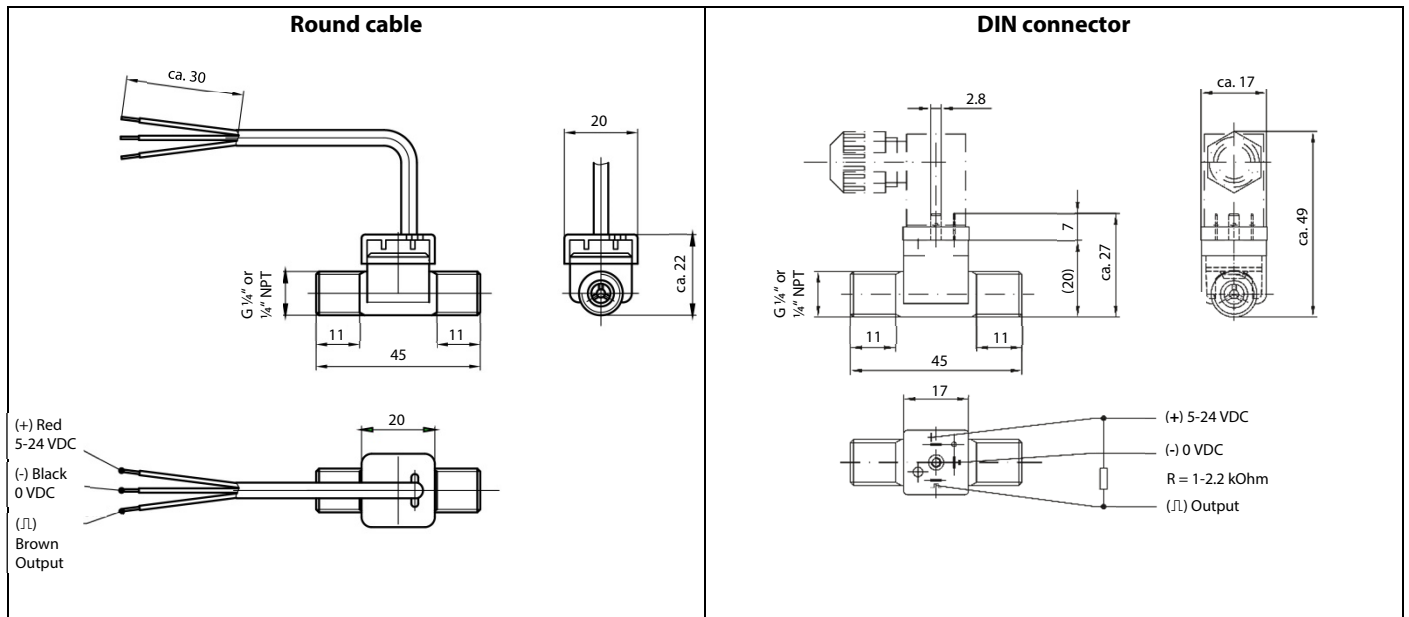
<b>Weight</b>			
	<b>Housing</b>	<b>Connector</b>	<b>Weight</b>
	Trogamid CX7323	DIN	15 g
	Trogamid CX7323	1 m cable	30 g
	Stainless steel, INOX 1.4401 / AISI 316	DIN	60 g
	Grilamid LV-50H FWA, reinforced fiberglass	DIN	15 g
	Grilamid LV-50H FWA, reinforced fiberglass	DIN, push-fit connector	25 g
	Grilamid LV-50H FWA, reinforced fiberglass	1 m cable, push-fit connector	40 g

<b>Approvals</b>		
	<b>VISION with housing of</b>	<b>Approvals</b>
	Trogamid CX7323	KTW-BWGL, NSF/ANSI 61, WRAS, ROHS, CE, UKCA
	Stainless steel, INOX 1.4401 / AISI 316	ROHS, CE, UKCA
	Grilamid LV-50H FWA, reinforced fiberglass	KTW-BWGL, ROHS, CE, UKCA

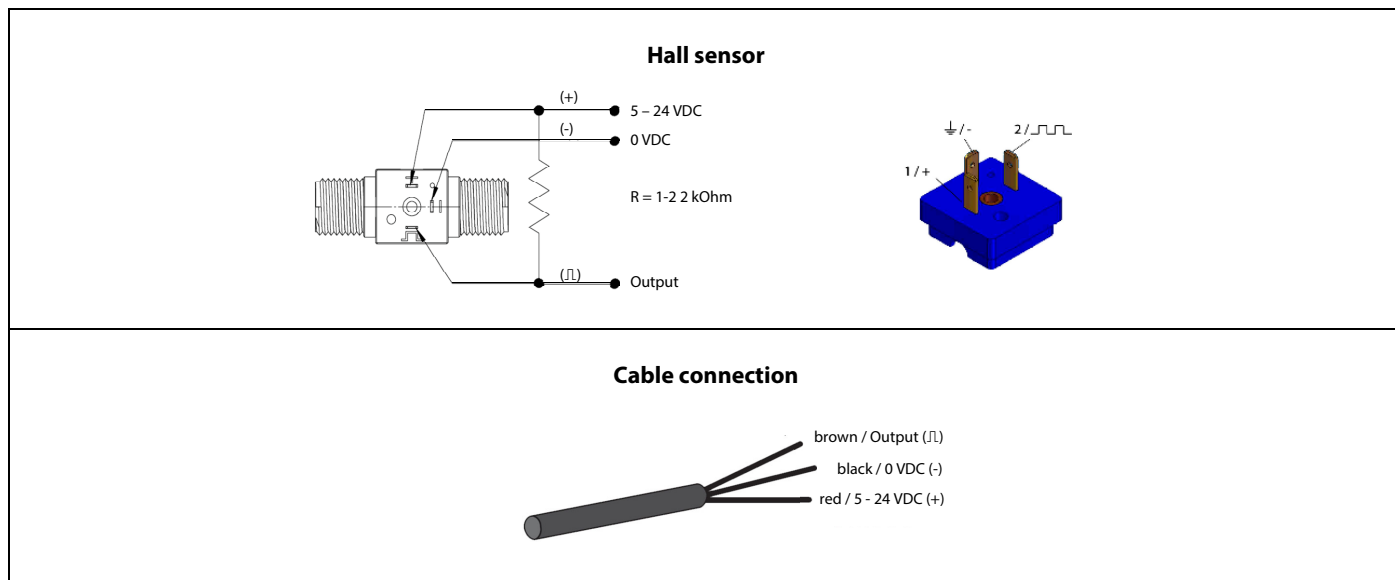
## PRESSURE DROP



**DRAWINGS**



## ELECTRICAL WIRING



## ORDERING MATRIX

Select process and electrical connection	Code			
<b>Mechanical connector and body material:</b> G 1/4" Trogamid G 1/4" Stainless steel G 1/4" Grilamid reinforced fiberglass NPT 1/4" Trogamid Push-fit OD = 6mm, Grilamid reinforced fiberglass	56547 56133 66129 56548 66136			
<b>Electrical connection:</b> DIN connector Cable – select cable length, see option		-163 -165		
<b>Turbine model:</b>			-2F66	
<b>Option cable length:</b> 1 m				-1
Examples:	Code			
VISION 1005 2F66 G1/4" Trogamid + DIN connector	56547	-163	-2F66	
VISION 1005 2F66 G1/4" Trogamid + 1m cable	56547	-165	-2F66	-1

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