



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...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

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

Pick Up				
Pulse Sensor	Hallsensor			
Input Power	5...24 VDC			
Output Signal	Open collector (NPN sinking) @ max. 20 mA, 1...2.2 kOhm pull up resistor required			
Power Consumption	approx. 8 mA			
K-factor	Material	Nominal Size	Flow Range	K-factor
	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

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



Badger Meter

Fluids	
Viscosity	0.8...16 mm ² /sec (mPas/cST)
Fluid Type	Liquids
Filter	20...40 micron recommended

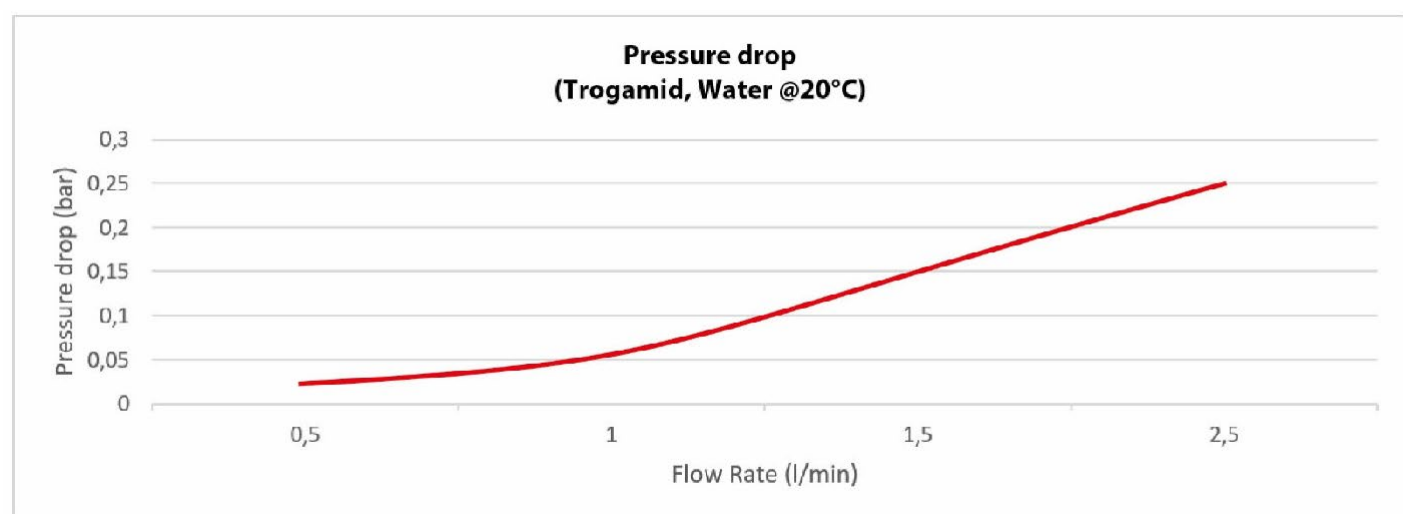
Installation	
Nominal Size DN	5 mm
Mounting Position	In any orientation, observe flow direction
Electrical Connection	3 Pin (2.8 × 0.5) for MINI DIN Connector, EN 60529
	Round cable 3 × AWG 24 with free cable ends
IP Protection Class (DIN Connector)	IP67
Mechanical Connection	G 1/4" (Trogamid, Stainless steel, Grilamid reinforced fiberglass)
	NPT 1/4" (Trogamid)
	OD = 6 mm, Push-fit (Trogamid, Grilamid reinforced fiberglass)
Tightening Torque for Screwed Connection	approx. 6 Nm

Calibration (Optional)	
5-Point Calibration	@ Water, 20° C

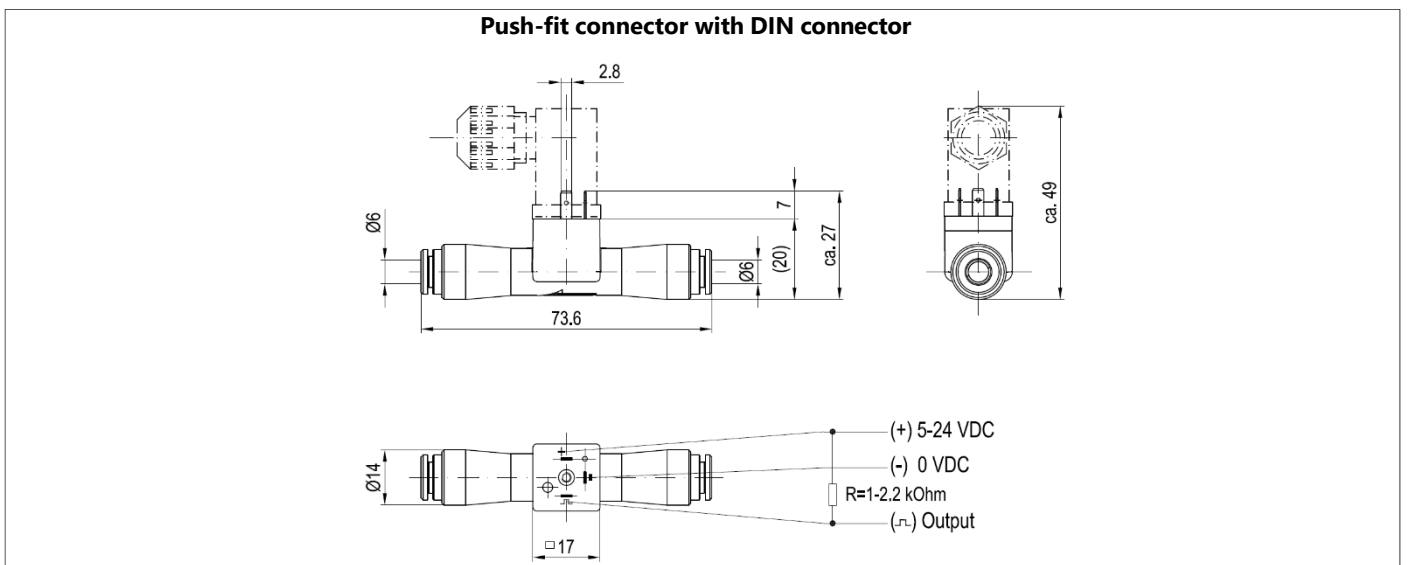
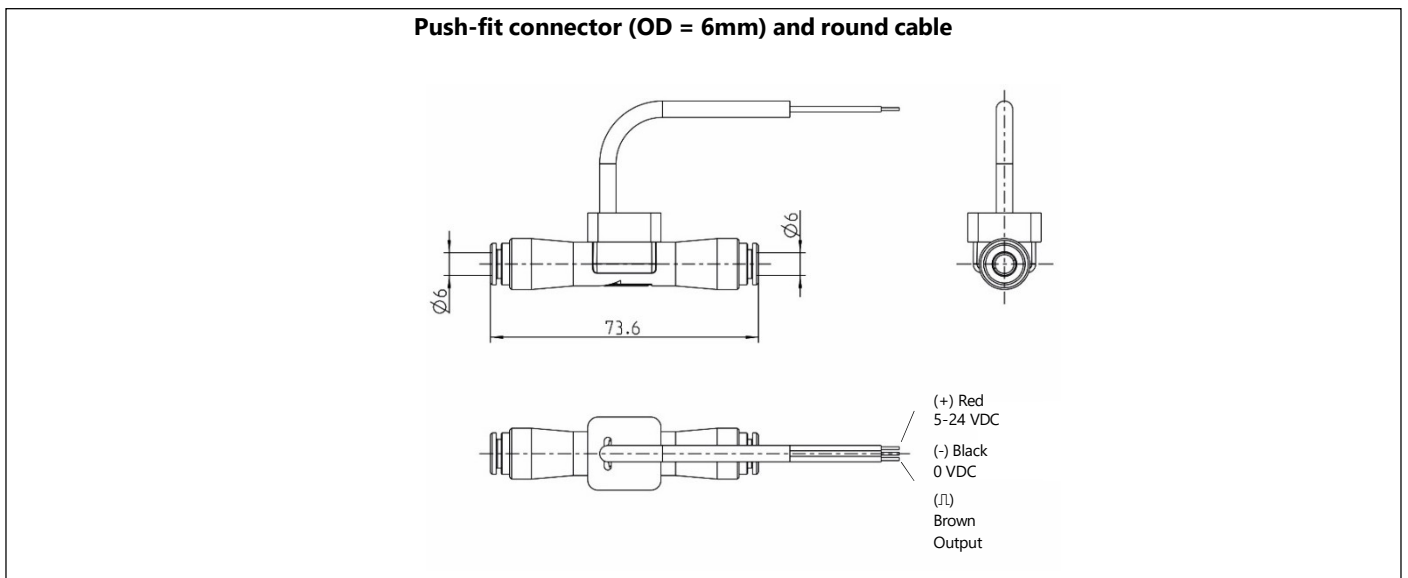
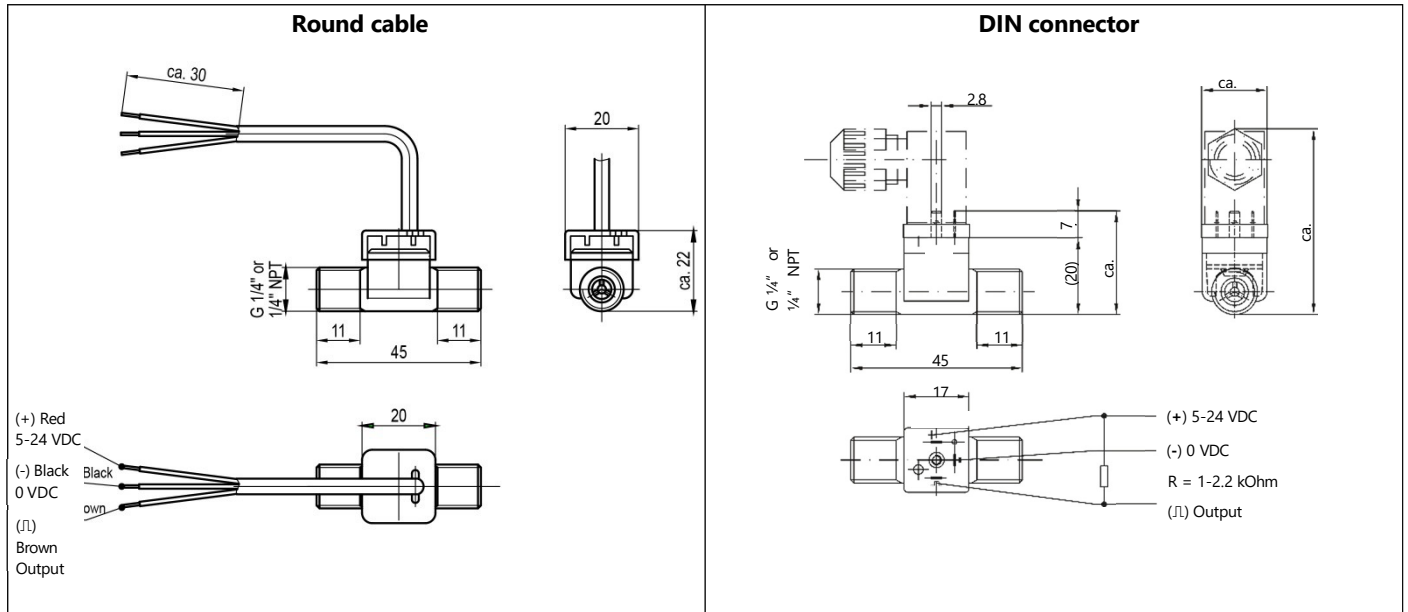
Weight			
	Housing	Connector	Weight
	Trogamid CX7323	DIN	15 g
	Trogamid CX7323	1 m cable	30 g
	Trogamid CX7323	DIN, push-fit connector	25 g
	Trogamid CX7323	1 m cable, push-fit connector	40 g
	Stainless steel, INOX 1.4401 / AISI 316	DIN	60 g
	Grilamid LV-50H FWA, reinforced fiberglass	DIN, push-fit connector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

Approvals		
	VISION with Housing of	Approvals
	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

Hall Sensor

(+) ● 5...24V DC
(-) ● 0V DC
R = 1 kOhm (at 5V DC) and 2.2 kOhm (at 24V DC)
Nominal current max. 20 mA
Output

Cable Connection

brown / Output (I)
black / 0 VDC (-)
red / 5...24 VDC (+)

ORDERING MATRIX

Select process and electrical connection	Code			
Mechanical connector and body material:				
G 1/4" Trogamid	56547			
G 1/4" Stainless steel	56133			
NPT 1/4" Trogamid	56548			
Push-fit OD = 6mm, Trogamid	66135			
Push-fit OD = 6mm, Grilamid reinforced fiberglass	66136			
Electrical connection:				
DIN connector		-163		
Cable – select cable length, see option		-165		
Turbine model:				
			-2F66	
Option cable length:				
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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