



# Vision

Turbine Flow Meters

## Flow sensor

### Vision Series 3000

### DESCRIPTION

The small flow sensors VISION measurement technology is ideal for the accurate measurement of low viscous and non-aggressive fluids. The VISION 3000 series is most suited for the measurement of flow rates from 5 to 65 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 3012
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<b>Performance</b>	
<b>Flow rate</b>	5 – 65 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
<b>Operating pressure rate</b>	max. 25 bar
<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>Version</b>	<b>Material</b>	<b>Nominal size</b>	<b>Flow range</b>	<b>K-factor</b>
	VISION 3012	Trogamid CX7323	12 mm	5 – 65 l/min	210 pulse/liter



Badger Meter

<b>Material</b>	
<b>Housing</b>	Trogamid CX7323
<b>Rotor</b>	PPS Ferrite bound
<b>Bearings</b>	2x Hostaform, Ball bearings

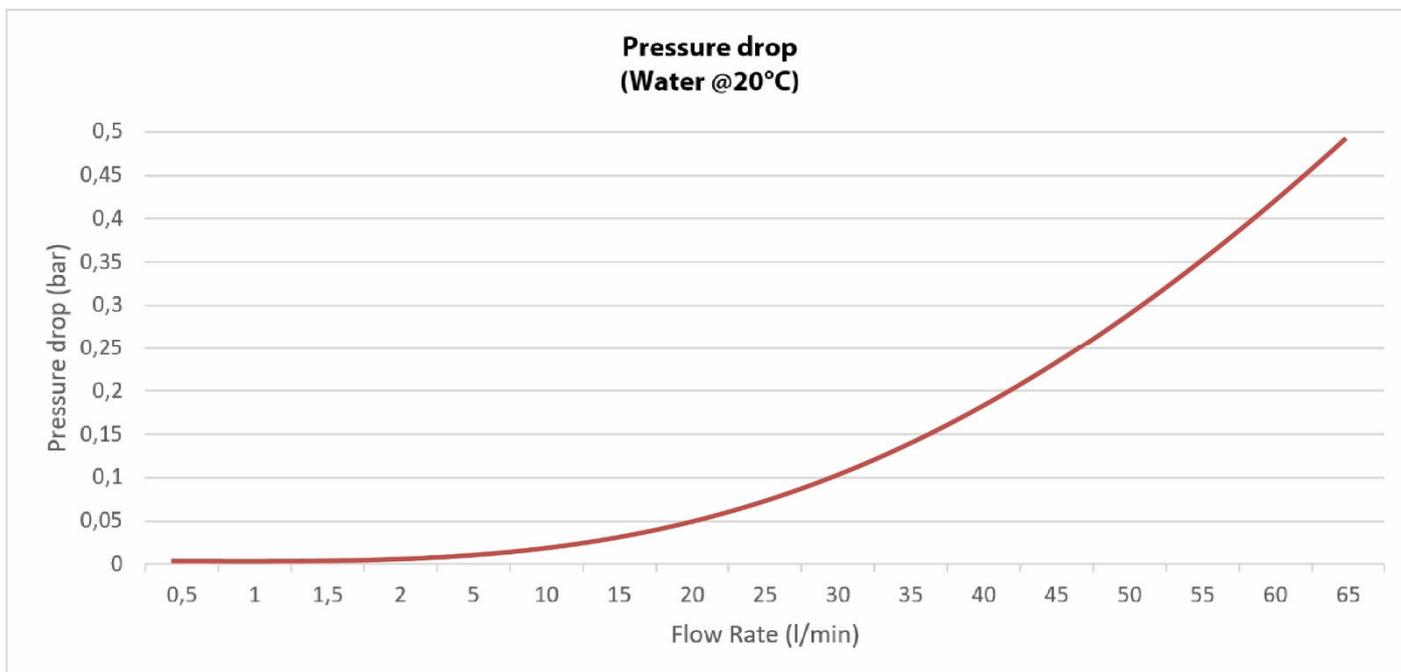
<b>Fluids</b>	
<b>Viscosity</b>	0.8 – 16 mm <sup>2</sup> /sec (mPas/CST)
<b>Fluid type</b>	Liquids
<b>Filter</b>	20 to 40 micron recommended

<b>Installation</b>	
<b>Nominal size DN</b>	12 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 3/4", NPT 3/4"
<b>Tightening torque for screwed connection</b>	approx. 6 Nm

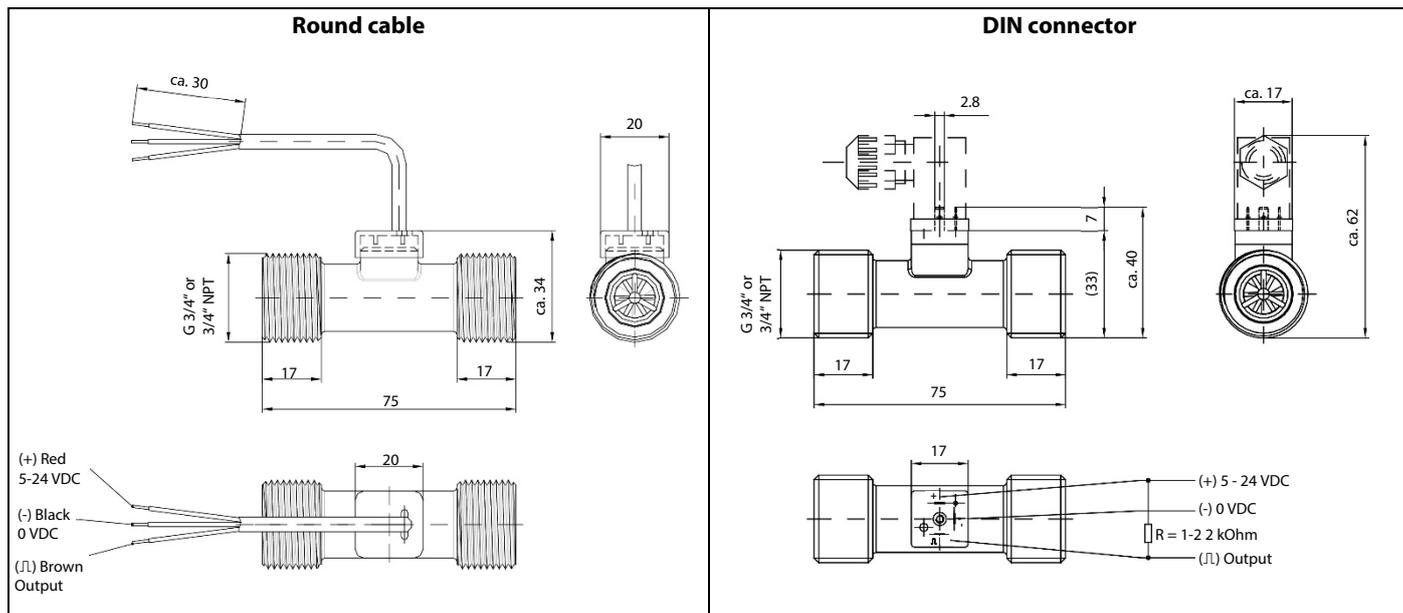
<b>Weight</b>			
	<b>Housing</b>	<b>Connector</b>	<b>Weight</b>
	Trogamid CX7323	DIN	35 g
	Trogamid CX7323	1 m cable	50 g

<b>Approvals</b>		
	<b>VISION with housing of</b>	<b>Approvals</b>
	Trogamid CX7323	ROHS, CE, UKCA

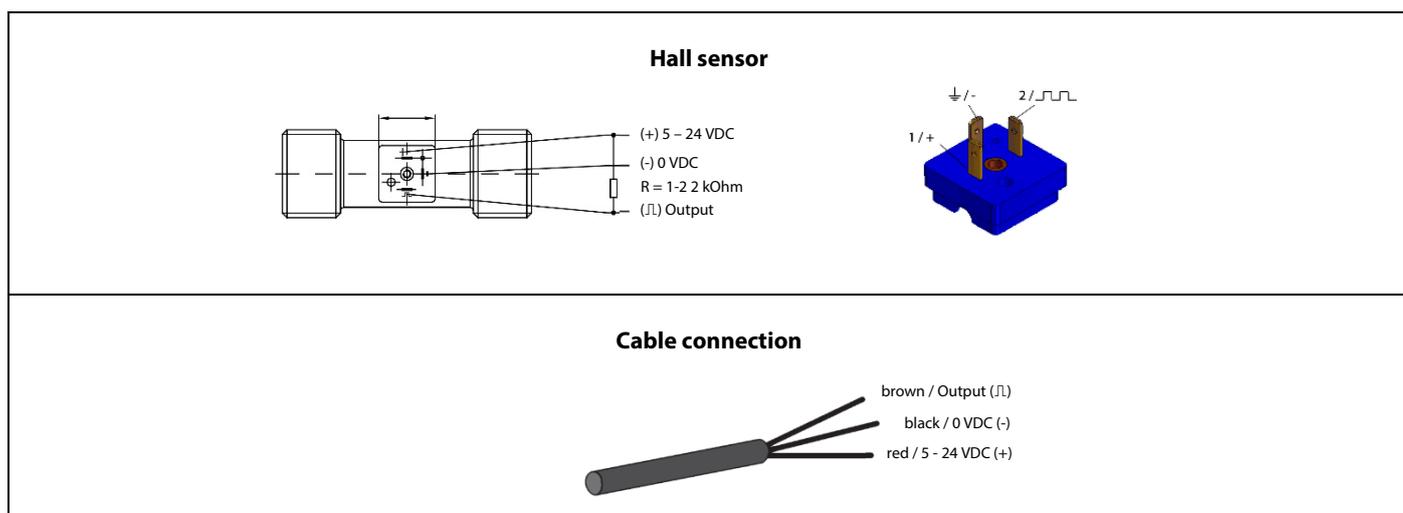
## PRESSURE DROP



## DRAWINGS



## ELECTRICAL WIRING



## ORDERING MATRIX - VISION 3000

Select process and electrical connection	Code			
<b>Mechanical connector:</b>				
G 3/4" Trogamid	56422			
NPT 3/4" Trogamid	56423			
<b>Electrical connection:</b>				
DIN connector			-163	
Cable – select cable length, see option			-165	
<b>Turbine model:</b>				
VISION 3012			-4F16	
<b>Option cable length:</b>				
1 m (standard)				-1
2 m				-2
3 m				-3
<b>Examples:</b>	<b>Code</b>			
VISION 3012 G 3/4" with DIN connector	56422	-163	-4F16	
VISION 3012 G 3/4" with 1m cable	56422	-165	-4F16	-1
VISION 3012 G 3/4" with 2m cable	56422	-165	-4F16	-2

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