



Vision

Turbine Flow Meters

Flow sensor

Vision Series 2000

DESCRIPTION

The small flow sensors VISION measurement technology is ideal for the accurate measurement of low viscous and non-aggressive fluids. The VISION 2000 series is most suited for the measurement of flow rates from 0,5 to 35 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 2006 VISION 2008
Performance	
Flow rate	0.5 – 35 l/min
Accuracy	± 3% of reading
Repeatability	< 0.5% under the same operating conditions
Operating temperature	-20°C to 100°C
Operating pressure rate	max. 25 bar; with push-fit connector 10 bar (+20°C) and 7 bar (+65°C)
Burst pressure	100 bar



Badger Meter

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	Version	Material	Nominal size	Flow range	K-factor
	VISION 2008 4F17	Trogamid CX7323	8 mm	2 – 35 l/min	750 pulse/liter
	VISION 2008 4F17	Grilamid, reinforced fiberglass	8 mm	2 – 35 l/min	750 pulse/liter
	VISION 2008 4F22	Trogamid CX7323	8 mm	1 – 25 l/min	1000 pulse/liter
	VISION 2008 4F22	Grilamid, reinforced fiberglass	8 mm	1 – 25 l/min	1000 pulse/liter
	VISION 2008 4F22	Brass	8 mm	3 – 25 l/min	920 pulse/liter
	VISION 2008 4F44	Trogamid CX7323	8 mm	1 – 15 l/min	2200 pulse/liter
	VISION 2008 4F44	Grilamid, reinforced fiberglass	8 mm	1 – 15 l/min	2200 pulse/liter
	VISION 2006 4F44	Trogamid CX7323	6 mm	1 – 10 l/min	3300 pulse/liter
	VISION 2008 2F66	Brass	8 mm	2 – 8 l/min	4200 pulse/liter
	VISION 2008 2F66	Trogamid CX7323	8 mm	0.5 – 7.5 l/min	4700 pulse/liter
	VISION 2008 2F66	Grilamid, reinforced fiberglass	8 mm	0.5 – 7.5 l/min	4700 pulse/liter
VISION 2006 2F66	Trogamid CX7323	6 mm	0.5 – 5 l/min	6900 pulse/liter	

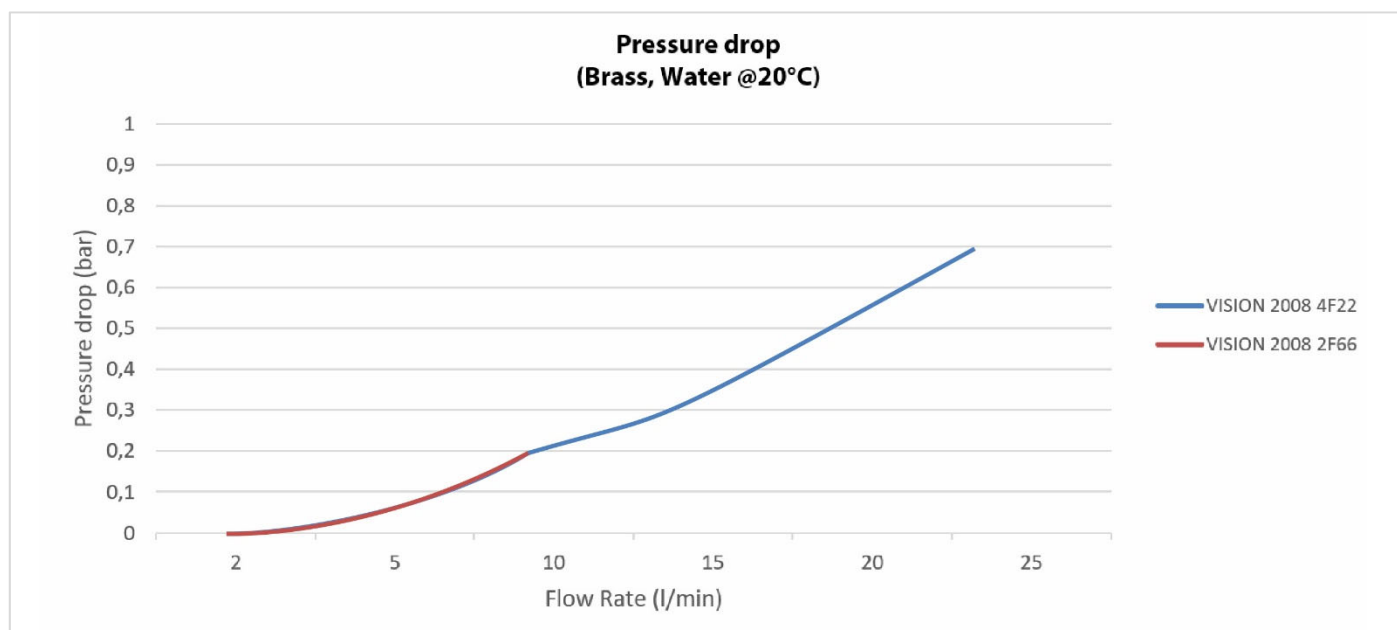
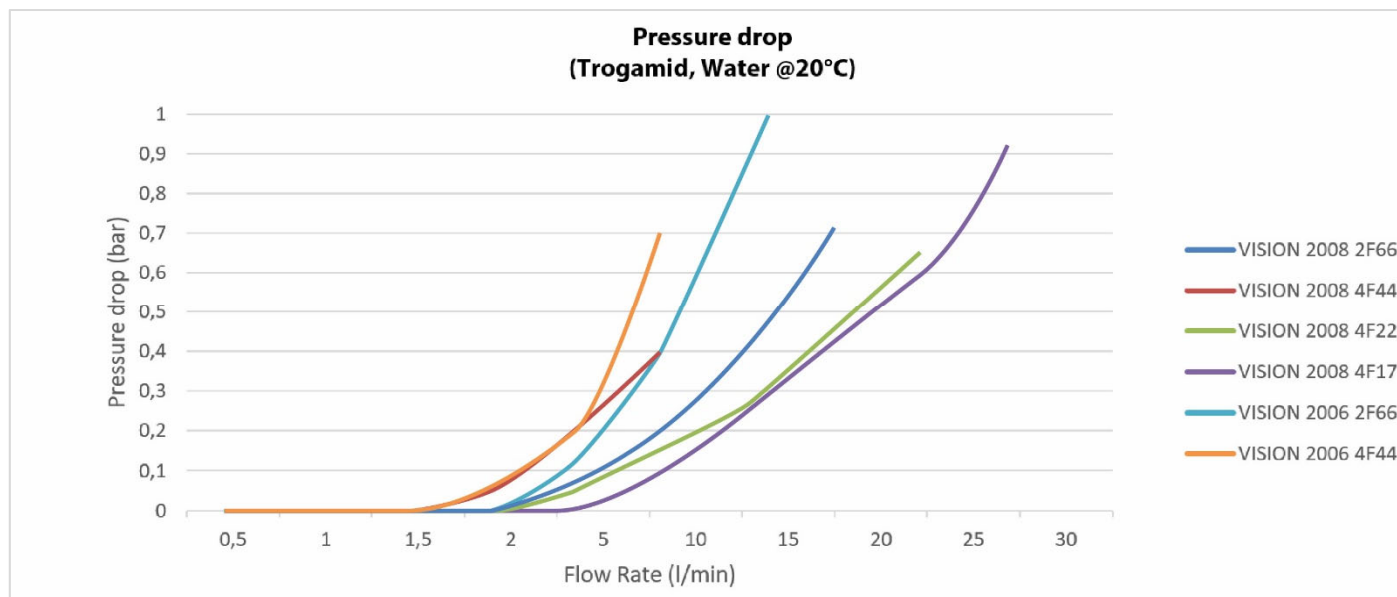
Material	
Housing	Trogamid CX7323
	Brass
	Grilamid LV-50H FWA nature, reinforced fiberglass
Rotor	PPS Ferrite bound
Bearings	2 PTFE / Graphite bearings (standard), bearings without added graphite for VE water or Hostaform bearings for contact with foodstuffs.

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

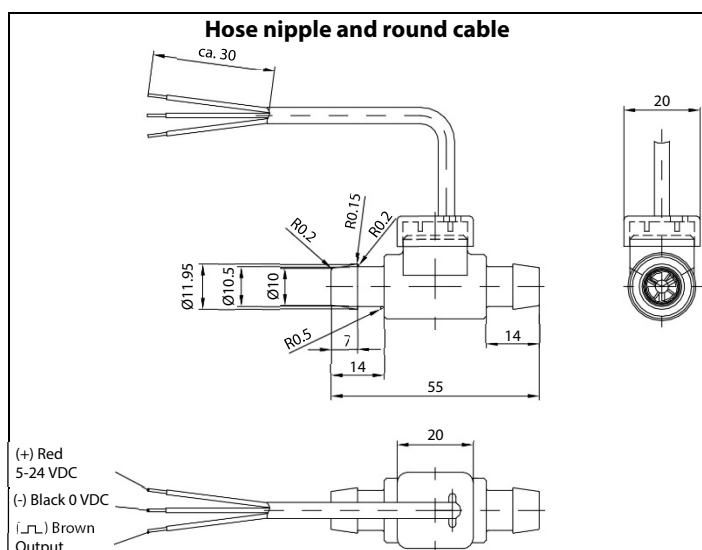
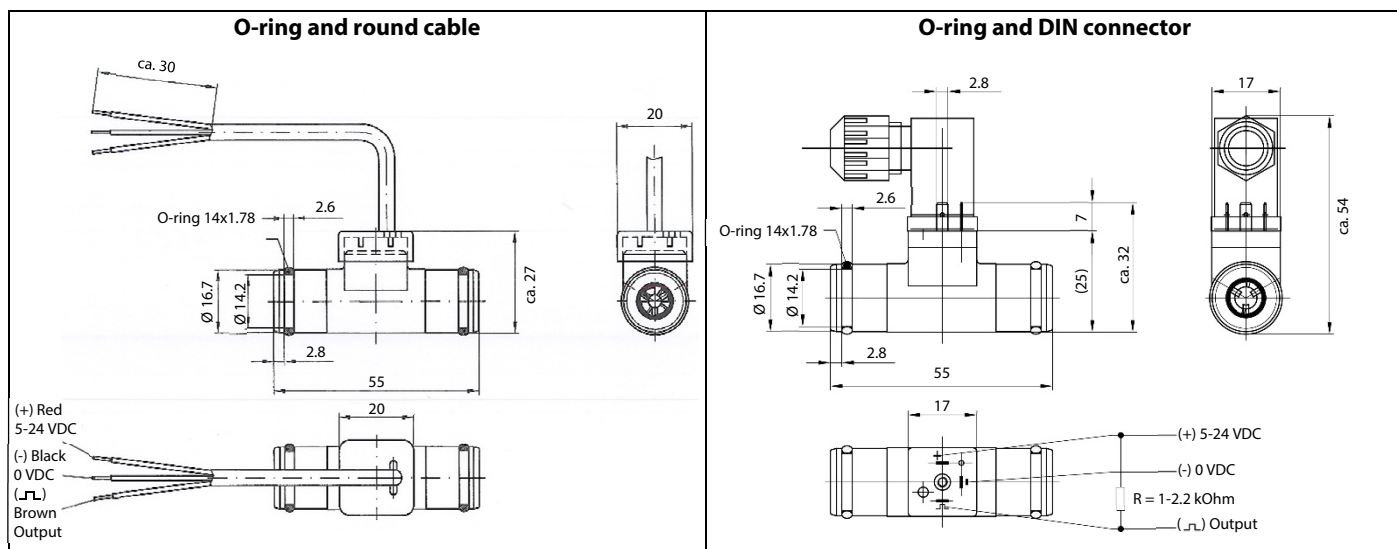
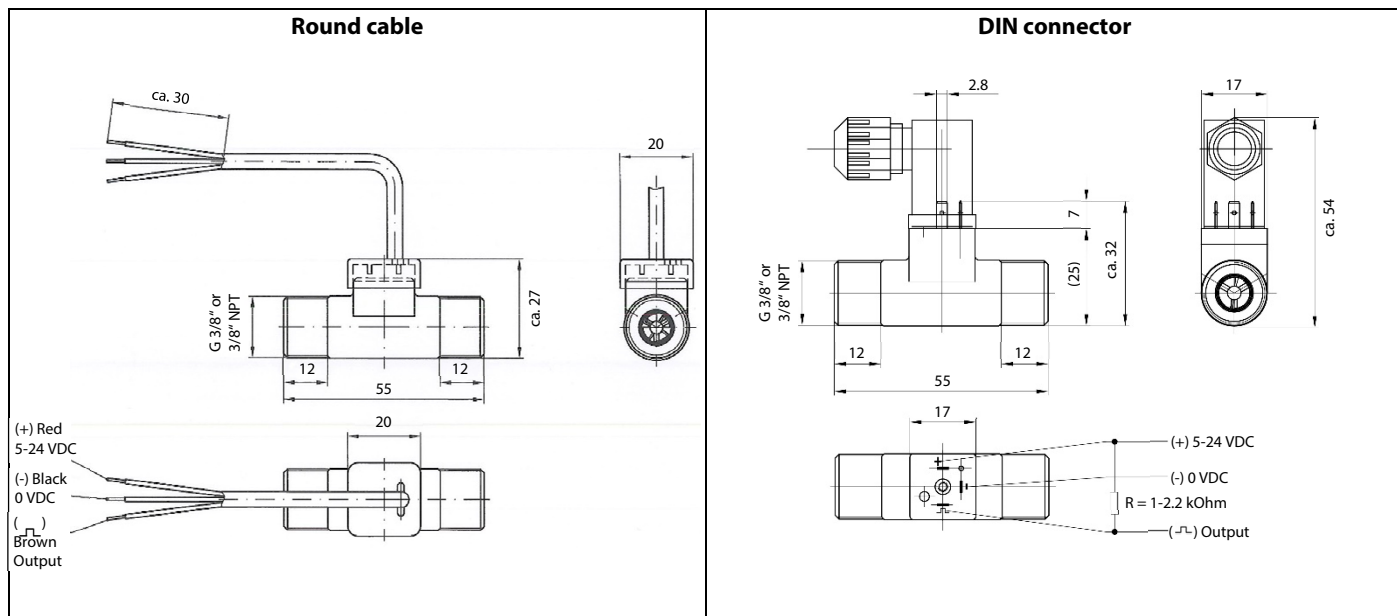
Installation	
Nominal size DN	6 mm, 8 mm
Mounting position	In any orientation, observe flow direction
Electrical connection	3 Pin (2.8 x 0.5) for MINI DIN Connector, EN 60529
	Round cable 3 x AWG 24 with free cable ends
	AMP Faston 2.8/6.3x0.8
IP Protection class (DIN Connector)	IP67
Mechanical connection	Trogamid: G 3/8", NPT 3/8", O-ring, Hose nipple
	Brass: G 3/8", NPT 3/8"
	Grilamid, fiberglass: G 3/8", Hose nipple, integrated push-fit connection for tube 10mm or 3/8"
Tightening torque for screwed connection	approx. 6 Nm

Weight			
	Housing	Connector	Weight
	Trogamid CX7323	DIN	20 g
	Trogamid CX7323	1 m cable	40 g
	Trogamid CX7323	AMP Faston	10 g
	Grilamid LV-50H FWA	DIN	30 g
	Grilamid LV-50H FWA	DIN, push-fit	45 g
	Grilamid LV-50H FWA	1 m cable	/
	Brass	DIN	85 g
	Brass	1 m cable	105 g

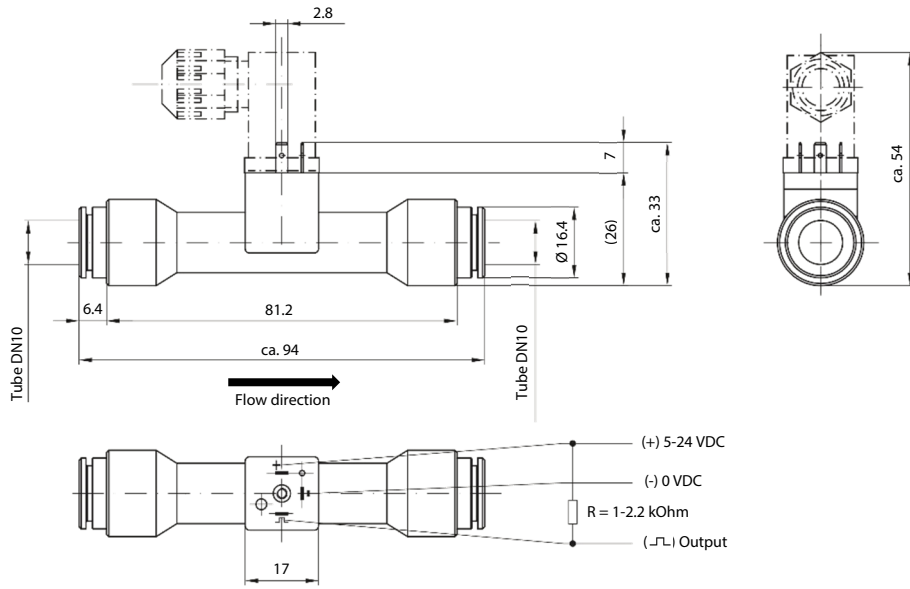
Approvals		
	VISION with housing of	Approvals
	Trogamid CX7323	KTW-BWGL, NSF/ANSI 61, WRAS, ROHS, CE, UKCA
	Brass	ROHS, CE, UKCA
	Grilamid LV-50H FWA	KTW-BWGL, ROHS, CE, UKCA

PRESSURE DROP

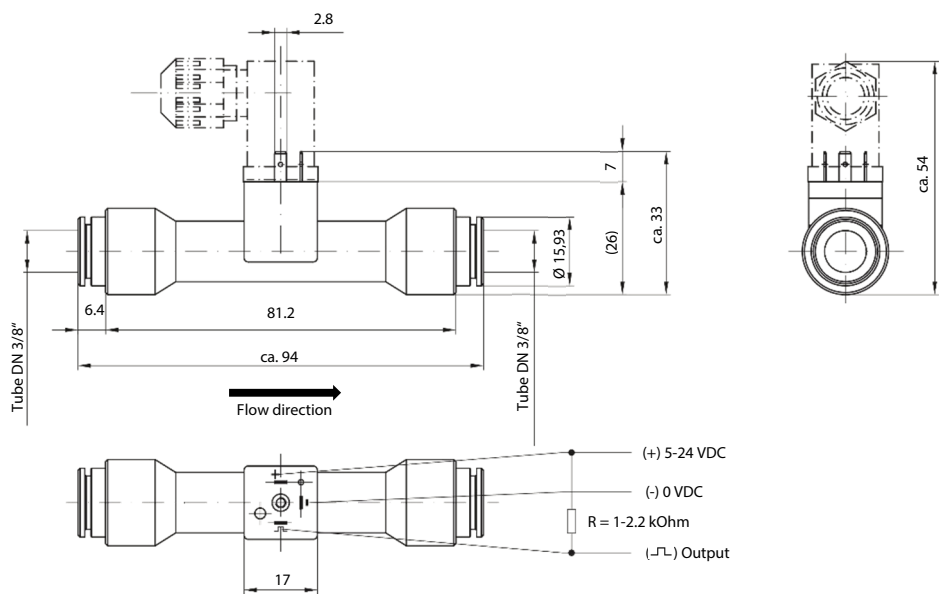
DRAWINGS



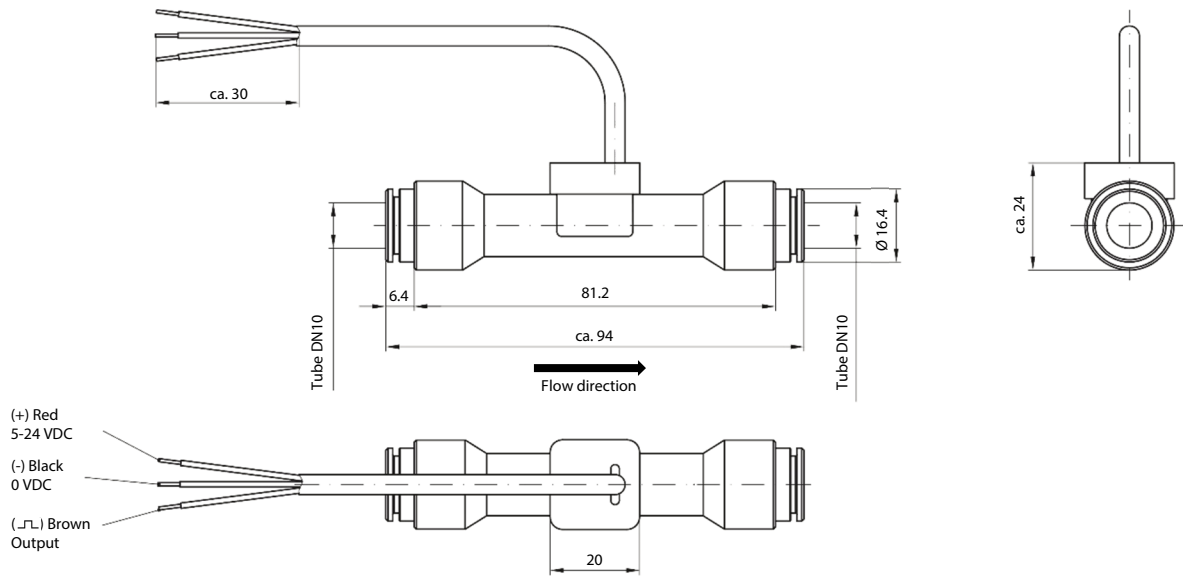
Push-fit (DN10) and DIN connector



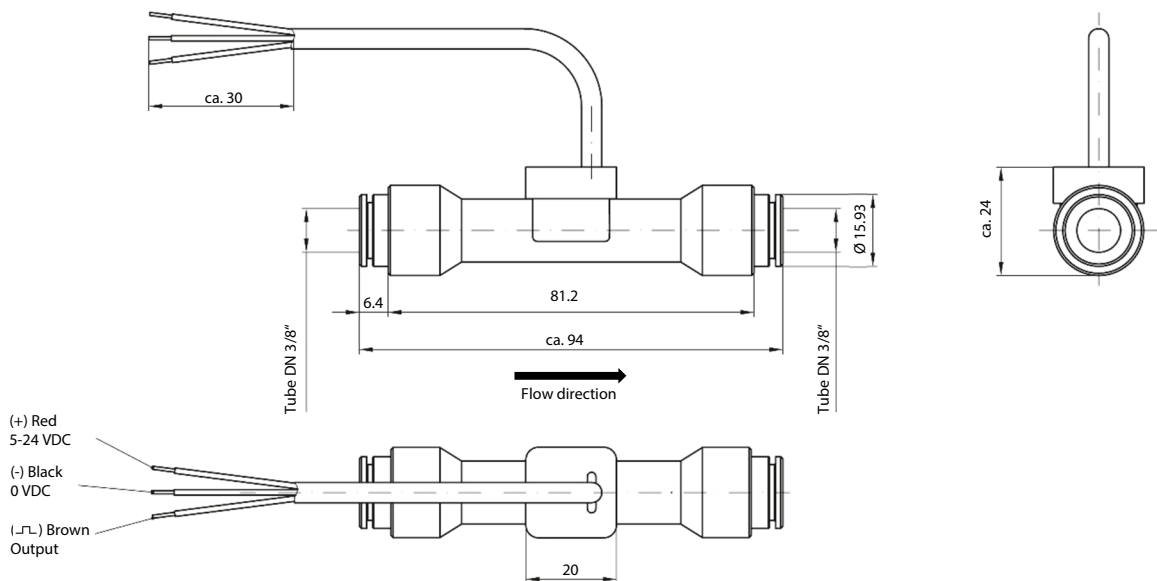
Push-fit (3/8") and DIN connector



Push-fit (DN10) and round cable



Push-fit (3/8") and round cable



ELECTRICAL WIRING

Hall sensor

Cable connection

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

Faston-Connector

Output (L)
0 VDC (-)
5 - 24 VDC (+)

ORDERING MATRIX - VISION 2000 IN TROGAMID

Select process and electrical connection	Code			
Mechanical connector:				
VISION 2008, G 3/8"	56500			
VISION 2008, NPT 3/8"	56502			
VISION 2008, O-Ring	56520			
VISION 2008, Hose nipple	56138			
VISION 2006, G 3/8"	56510			
VISION 2006, NPT 3/8"	56512			
VISION 2006, O-Ring	56521			
VISION 2006, Hose nipple	56138			
Electrical connection:				
DIN connector		-163		
AMP Faston		-164		
Cable – select cable length, see option		-165		
Turbine model:				
VISION 2008			-4F17	
VISION 2008			-4F22	
VISION 2008			-4F44	
VISION 2008			-2F66	
VISION 2006			-4F44	
VISION 2006			-2F66	
Option cable length:				
1 m (standard)			-1	
2 m			-2	
3 m			-3	
Examples:				
VISION 2008 2F66 G3/8" + DIN connector	56500	-163	-2F66	
VISION 2008 4F17 G3/8" + AMP Faston	56500	-164	-4F17	
VISION 2008 4F22 O-Ring + 1m cable	56520	-165	-4F22	-1
VISION 2006 2F66 O-Ring + DIN connector	56521	-163	-2F66	
VISION 2006 2F66 G3/8" + AMP Faston	56510	-164	-2F66	
VISION 2006 4F44 G3/8" + 1m cable	56510	-165	-4F44	-1

ORDERING MATRIX - VISION 2000 IN FIBERGLASS

Select process and electrical connection	Code			
Mechanical connector:				
G 3/8"	66122			
Hose nipple	56139			
Integrated Push-fit connection tube 3/8"	66131			
Integrated Push-fit connection tube nominal 10 mm	66133			
Electrical connection:				
DIN connector		-163		
Cable – select cable length, see option		-165		
Turbine model:				
VISION 2008			-4F17	
VISION 2008			-4F22	
VISION 2008			-4F44	
VISION 2008			-2F66	
Option cable length:				
1 m (standard)				-1
2 m				-2
3 m				-3

Examples:	Code			
VISION 2008 2F66 fiberglass G3/8" + DIN connector	66122	-163	-2F66	
VISION 2008 4F22 fiberglass hose nipple 1m cable	56139	-165	-4F22	-1

ORDERING MATRIX - VISION 2000 IN BRASS

Select process and electrical connection	Code			
Mechanical connector:				
G 3/8"	47000			
NPT 3/8"	47001			
Electrical connection:				
DIN connector		-163		
Cable – select cable length, see option		-165		
Turbine model:				
VISION 2008			-4F22	
VISION 2008			-2F66	
Option cable length:				
1 m (standard)				-1
2 m				-2
3 m				-3

Examples:	Code			
VISION 2008 2F66 Brass G3/8" + DIN connector	47000	-163	-2F66	
VISION 2008 4F22 Brass G3/8" + 1m cable	47000	-165	-4F22	-1

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