

APPLICATIONS

- Petrochemical / Hydraulic / Lubrication system
- Water treatment / Gas industry /
- Laboratory Equipment / Industrial Boiler
- Test bench / Semiconductor integrated circuit
- Pharmaceutical, Vacuum equipment
- Defense Science and Technology
- Coal gas / Natural gas pipeline

SPECIAL FEATURES

Fluid flowing through FB600 causes the rotor to revolve. As the rotor blade pass the pickoffs, electrical pulses are produced in which frequency is proportional to the flow rate. The revolutions per minute and the K-factor (number of pulses/gallon) make it possible to obtain the flow volume passing through the unit. FB600 series are used to measure medium or lower viscosity media, such as water, light fuel, solvent, hydraulic oil, lubricating oil etc.



Description

- Bearable high-pressure, high-temperature and low-temperature
- Low pressure loss, low power consumption
- Fast response time
- High repeatability and accuracy
- Resistant to contamination and anti-corrosion
- Compact design and easy maintenance
- Low flow measurement

Specifications

Nominal Diameter	DN4...DN40	Materials	
Applicable Medium	Medium or lower v	Body / Rotor Support	304 stainless steel (316 stainless steel optional)
Accuracy	Better than $\pm 1\%$ of reading $\pm 0.5\%$ / $\pm 0.2\%$ selectable	Turbine	Stainless steel
Repeatability	$\pm 0.1\%$ of reading	Shaft	Tungsten carbide / ceramic
Pressure Rating		Bearing	Stainless steel ball bearing, Tungsten carbide/ceramic journal bearing
Ambient Temperature	- 40 ... 85 °C	Process Connection	female thread, NPT female thread
Medium Temperature	- 40... 120 °C , - 40 ... 180 °C (high temperature type)		

Parameter Table

Type	Measuring Range L / Min		Max. Pressure Rating(bar)	DN (mm)	Process Connection (BSPP/NPT)	Filtration (micron)	
	Magnetic Pickoff	Carrier frequency Pickoff				Journal Bearing	Ball Bearing
...4.5L	0.6-4.5	0.3—4.5	420	4	G1/4 or 1/4"NPT	75	-
...10L	1.6-10	0.8—10	420	6	G1/4 or 1/4" NPT	75	-
...20L	3-20	1.5—20	420	10	G3/8 or 3/8" NPT	100	30
...36L	4-36	2—36	420	13	G1/2 or 1/2" NPT	150	50
...100L	10-100	5—100	420	15	G1/2 or 1/2" NPT	150	50
...130L	13-130	6—130	420	20	G3/4 or 3/4" NPT	150	50
...170L	17-170	8—170	420	25	G1 or 1" NPT	150	70
...250L	25-250	12—250	420	32	G1-1/4 or 1-1/4"NPT	200	100
...320L	32-320	16—320	420	40	G1-1/2 or 1-1/2"NPT	200	100

VS / VH :

Magnetic pickoffs can sense a ferrous rotor and is ideal for use in all types of turbine flow meters.

Options include cryogenic, high temperature and explosion proof.

Option : extremely low and high temperature.

RS / RH :

Carrier frequency pickoffs offer low speed response, no drag, large sensing distance and can sense non-ferrous metals like aluminum or nonmagnetic stainless steel in addition to ferrous metal. Unlike magnetic pickoff, an carrier frequency pick off is not a passive device and requires coupling with a signal conditioners/preamplifier. These devices produce a square wave output versus the analog sine wave of the magnetic pickoff.

Bearings

- Tungsten carbide journal bearing - Applicable to low or non-lubricating media, narrow turndown ratio of the flow meter relative with ball bearing.
- Stainless steel ball bearing - Applicable to lubricating media, with low friction, lower limit for flow meter and wider turndown ratio.
- Ceramic journal bearing - Self-lubricating, applicable to non-lubricating media such as liquid nitrogen, narrow turndown ratio of the flow meter relative with ball bearing

Product Accessories (optional)

VS : Magnetic pickoffs with pulse output amplifier
RS : Carrier frequency pickoffs with pulse output amplifier

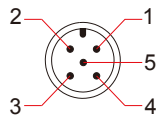
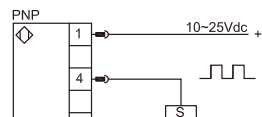
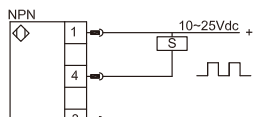
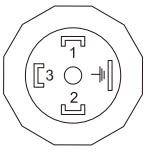
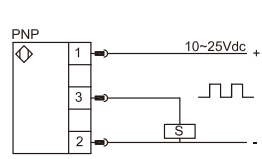
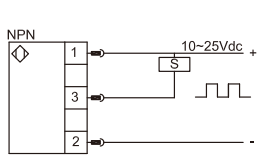


Power Supply	12...30VDC
Current Consumption	8mA
Outputs	NPN OC output; NPN OC output+pull-up resistor
Reverse Polarity Proof	Yes
Short-circuit Proof	Yes
Operating Temperature	-40 ... 120 °C
Ambient Temperature	-40 ... 85 °C
Electrical Connection	M12 x 1 Plug DIN43650-A Plug (solenoid plug)
Protection Class	M12 x 1 Plug : IP67 DIN43650-A Plus : IP65

VH : High temperature magnetic pickoffs with pulse output amplifier
RH : High temperature carrier frequency pickoffs with pulse output amplifier

Operating Temperature	VH - 40 ... 180 °C RH - 40 ... 180 °C
Ambient Temperature	- 40 ... 85 °C
Option : extremely low and high temperature.	
Other parameters please refer to the above	

Wiring - Pulse Output

Wiring	PNP output	NPN output												
 M12 x 1 plug <table><tr><th>Signal</th><th>Plut</th><th>Cable</th></tr><tr><td>U +</td><td>1</td><td>Brown</td></tr><tr><td>Pulse</td><td>4</td><td>Black</td></tr><tr><td>U -</td><td>3</td><td>Blue</td></tr></table>	Signal	Plut	Cable	U +	1	Brown	Pulse	4	Black	U -	3	Blue	PNP 	NPN 
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Signal	Plut													
U +	1													
Pulse	3													
U -	2													

VA : Magnetic pickoffs with analog output amplifier
RA : Carrier frequency pickoffs with analog output amplifier

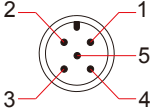
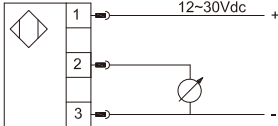
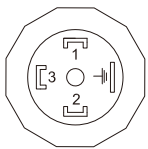
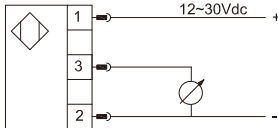


Power Supply	12 ... 30VDC
Current Consumption	Voltage analog output : 7 mA
Outputs	Current analog output : < 12mA
Outputs	0 ... 10 V 3-wire (0) 4 ... 20 mA
Reverse Polarity Proof	Yes
Short-circuit Proof	Yes
Operating Temperature	-40 ... 120 °C
Ambient Temperature	-40 ... 85 °C
Electrical Connection	M12 x 1 Plug DIN43650-A Plug (solenoid plug)
Protection Class	M12X1 Plug : IP67 DIN43650-A Plus : IP65

VAH : High temperature magnetic pickoffs with analog output amplifier
RAH : High temperature carrier frequency pickoffs with analog output amplifier

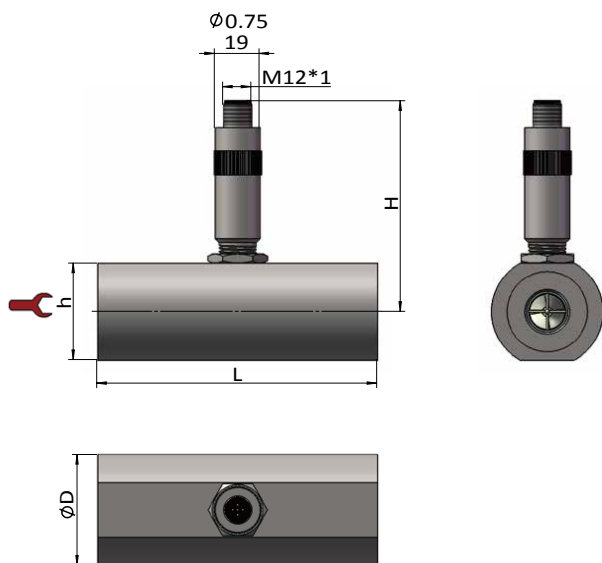
Operating Temperature	VAH - 40 ... 180 °C RAH - 40 ... 180 °C
Ambient Temperature	- 40 ... 85 °C
Option : extremely low and high temperature.	
Other parameters please refer to the above	

Wiring - Analog Output : 3-wiring / 4 ... 20mA

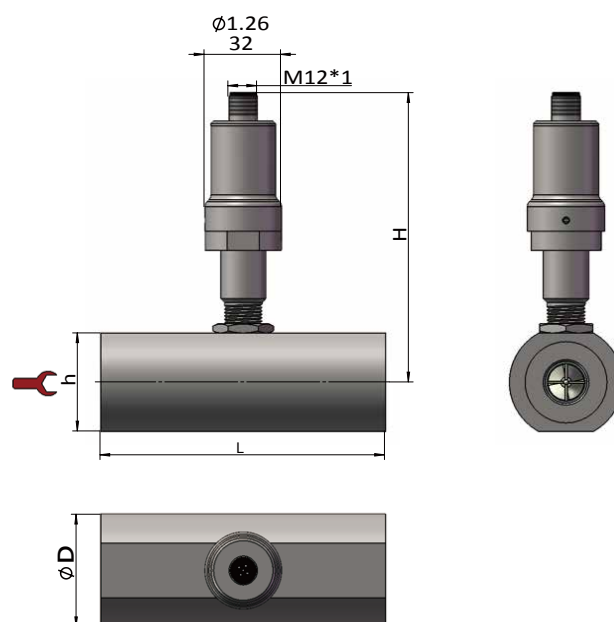
Wiring		4...20mA (3-wire)													
 M12 x 1 plug	<table><tr><th>Signal</th><th>Plut</th><th>Cable</th></tr><tr><td>U +</td><td>1</td><td>Brown</td></tr><tr><td>Pulse</td><td>2</td><td>White</td></tr><tr><td>U -</td><td>3</td><td>Blue</td></tr></table>	Signal	Plut	Cable	U +	1	Brown	Pulse	2	White	U -	3	Blue		
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Signal	Plut														
U +	1														
Pulse	3														
U -	2														

Dimension

Pulse output



Analog output



DN Comparison table

Nominal Diameter (BSPP/NPT)	Process Connection (BSPP/NPT)	L inch (mm)	h inch (mm)	D inch (mm)	H for pulse output inch (mm)	H foour tapnuatlog inch (mm)
DN4	G1/4 or 1/4"NPT	2.44 (62)	1.06 (27)	1.3 (33)	3.35(85)	5.16 (131)
DN6	G1/4 or 1/4" NPT	2.44 (62)	1.06 (27)	1.3 (33)	3.39 (86)	5.2 (132)
DN10	G3/8 or 3/8" NPT	2.48 (63)	1.18 (30)	1.42 (36)	3.46 (88)	5.28 (134)
DN13	G1/2 or 1/2" NPT	4.3 (109)	1.61 (41)	1.85 (47)	3.54 (90)	5.35 (136)
DN15	G1/2 or 1/2" NPT	4.3 (109)	1.61 (41)	1.85 (47)	3.54 (90)	5.35 (136)
DN20	G3/4 or 3/4" NPT	5.0 (127)	1.81 (46)	2.05 (52)	3.66 (93)	5.47 (139)
DN25	G1 or 1" NPT	6.46 (164)	1.97 (50)	2.2 (66)	3.74 (95)	5.55 (141)
DN32	G1-1/4 or 1-1/4"NPT	6.85 (174)	2.36 (60)	2.6 (66)	3.9 (99)	5.71(145)
DN40	G1-1/2 or 1-1/2"NPT	7.76 (197)	2.76 (70)	3.0 (76)	4.06 (103)	5.87 (149)