

Electromagnetic Flow Meter



Compact Magnetic Flowmeter
(Flange Connection)



Sanitary Magnetic Flowmeter
(Tri-clamp Connection)

Electromagnetic Flowmeter

Economical Premier Products, Premier Performance



Dahor corporation offers a broad selection of electromagnetic (Mag) flow meters for industrial, water, and waste water flow measurement applications worldwide. The units are offered in a wide variety of sizes and flow ranges for many industrial as well as OEM service.

■ Features and benefits

- No moving parts; Virtually no pressure drop;
- Minimal maintenance
- Wide range of nominal diameters;
- Broad selection of lining and electrode materials



■ Applications

Agricultural; Food & Beverage; Chemical; Pulp & Paper; Water & Waste Water

■ General Specification

Power Supply: 110-240Vac (Optional: 24 Vdc)

Power Consumption: 10W

Accuracy:

± 0.5% accuracy of rate from 0.3-10 m/s

± 1.0% accuracy of rate from 0.1-0.3 m/s

Repeatability: 0.2%

Minimum Fluid Conductivity:

5.0 micromhos/cm

Flow Direction: Unidirectional or bidirectional, 2 separate totalizers (programmable)

Analog Outputs: 4-20mA, 750ohms Max Load

Output Frequency: Scaled Pulse output, (open collector) Max 5Khz

Noise Damping: Programmable

Pulse Width: Programmable up to 500ms

Zero-point Stability: Automatic correction

Ambient Temperature: -4 to 140° F (-20 to 60° C)

Electrode Materials:

SS316L;

Optional: Titanium; Hastelloy Alloy C; Tantalum

Liner Material: PTFE, FEP, Hard Rubber

Fluid Temperature:

PTFE: 120°C Standard (Customized: 180°C)

Rubber: 60°C

Pressure Limits:

1.0 Mpa; Optional 1.6; 2.5; 4.0 Mpa

Coil Power: Pulsed DC

Pipe Spool Material: SS316

Meter Housing Material:

Carbon Steel welded or SS304 (Sanitary Connection)

Flanges:

Carbon Steel - Standard (ISO 7005-1)

ANSI, DIN and JIS Flange Connections

Optional Stainless Steel Grounding Rings

MODEL AND SELECTION

Table 1: Model Selection Guidance

Model Suffix Code										Description	
DH -											
Diameter											Four Digitals; for example: 0010: 10 mm; 0015: 15 mm; 0100: 100 mm 1000: 1000mm
Transmitter		S									Compact type
		L									Remote type
Electrode Material			M								Stainless steel 316L
			T								Titanium
			D								Tantalum
			H								Hastelloy Alloy C
Signal Output			0								No output
			1								4-20mA/1-5KHz
Liner material					X						Hard Rubber
					P						Polyurethane
					F4						F46
					Pr						Propylene oxide
					F						PTFE
Power Supply					-0						110-240Vac
					-1						20-36V DC
					-2						Battery Power Supply
Communication					0						No communication
					1						RS485
					2						MODBUS
					3						HART
					4						GPRS
Grounding Ring					0						No grounding ring
					1						Grounding ring
					2						Grounding Electrode
Connection					-DXX						DXX: D06, D10, D16, D25, D40 D06: DIN PN6; D10: DIN PN10 D16: DIN PN16; D25: DIN PN25 D40: DIN PN40
					-AX						AX: A1, A3, A6 A1: ANSI 150#; A3: ANSI 300# A6: ANSI 600#; A9: ANSI 900#
					-JX						JX: J1, J2, J4 J1: JIS 10K; J2: JIS 20K; J4: JIS 40K
					-TR						Tri-Clamp for sanitary Type (Body material: Stainless Steel)

Model Code: DH -0150SM1F-011-A1

Explanation - Diameter: 150mm; Transmitter: Compact; Electrode Material: SS316L;

Signal Output: 4-20mA/Pulse; Liner Material: PTFE; Power Supply: 110-240Vac;

Communication: RS485; Grounding Ring: Yes, (for PVC Pipe); Connection: ANSI 150# Flange

Technical Data

Measuring system

Measuring principle	Faraday's law
Application range	Electrically conductive fluids
Measured Value	
Primary measured value	Flow velocity
Secondary measured value	Volume flow

Design

Features	Fully welded maintenance-free sensor
	Flange version with full bore flow tube
	Standard as well as higher pressure ratings
	Large diameter range from DN25...3000 with rugged liners approved for drinking water
	Industry specific insertion lengths
Modular construction	The measurement system consists of a flow sensor and a signal converter. It is available as compact and as separate version.
Compact version	With 511B converter: 110-240Vac Power
	With 521B converter: 18-36V DC Power
	With W800L/W800W: Battery Power
Remote version	In wall mount version with 211B converter (110-240Vac) or 221B converter (18-36V DC)
	With W800F converter: Battery Power
Measurement range	-12...+12 m/s / -40...+40 ft/s

Measuring accuracy

Reference conditions	Flow conditions similar to EN 29104
	Medium: Water
	Electrical conductivity: $\geq 300 \mu\text{S/cm}$
	Temperature: +10...+30°C / +50...+86°F
	Inlet section: $\geq 5 \text{ DN}$
	Operating pressure: 1 bar / 14.5 psig
Flow Meter Accuracy	Standard: 0.5% of rate
	Optional: 0.2% of rate

Operating conditions

Temperature	
Process temperature	Hard rubber liner: -5...+60°C
	Polypropylene liner: -5...+90°C
	PTFE liner: -5...+120°C
Ambient temperature (all versions)	Standard (with aluminum converter housing): -20...+60°C (Protect electronics against self-heating with ambient temperatures above 55°C)
Storage temperature	-20...+70°
Pressure	
EN 1092-1	DN2200...3000: PN 2.5
	DN1200...2000: PN 6
	DN200...1000: PN 10
	DN65...150: PN 16
	DN10...50 : PN 40
	Other pressures on request
ISO insertion length	Optional for DN15...600
ASME B16.5	1...24": 150 lb RF
	Other pressures on request
JIS	DN10...1000 / 2...40": 10 K
	Other pressures on request
Pressure drop	Negligible

Fluid	
Physical condition	Conductive liquids
Electrical conductivity	≥ 5 μS/cm
Permissible gas content (volume)	≤ 5%
Permissible solid content (volume)	≤ 70%

Installation conditions

Installation	Take care that flow sensor is always fully filled
	For detailed information see chapter "Cautions for Installation"
Flow direction	Forward and reverse
	Arrow on flow sensor indicates positive flow direction.
Inlet run	≥ 5 DN
Outlet run	≥ 2 DN

Materials

Sensor housing	Sheet steel, polyurethane coated
	Other materials on request
Measuring tube	Austenitic stainless steel
Flanges	Carbon steel, polyurethane coated
	Other materials on request
Liner	Standard
	DN10...40: F46
	DN50...300: PTFE or Hard Rubber
DN300...2200: Hard rubber	
Connection box (only remote versions)	Standard: polyurethane coated die-cast aluminum
Measuring electrodes	Standard: Stainless steel 316L
	Option: Hastelloy C, titanium, tantalum
	Other materials on request
Grounding rings	Standard: Stainless steel
	Option: Hastelloy C, titanium, tantalum
Grounding electrodes (option)	Same material as measuring electrodes.

Process connections

Flange	
EN 1092-1	DN25...3000 in PN 6...40
ASME (ANSI)	1...120" in 150 lb RF
JIS	25...1000 in 10...20K
Design of gasket surface	RF
	Other sizes or pressure ratings on request

Measurable Flow Rate Range:

Note: The flow range as blow is for reference only. Consult the factory if you have special requirement. Refer to the nameplate or certificate for actual flow range.

