GI Instruments Québec Inc.

GI Instruments Québec Inc.
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GI Instruments Québec Inc.

Product Catalogue

GI Instruments Québec Inc.

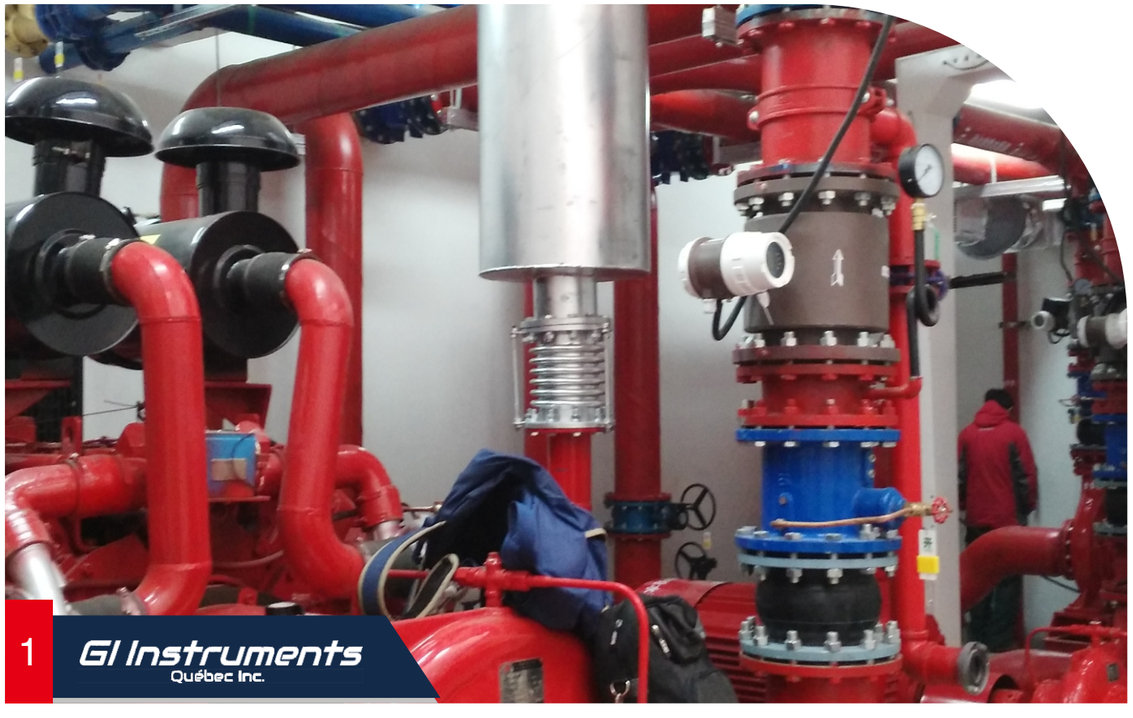
GI Instruments Québec Inc. manufactures and distributes flow meters worldwide. Our aim is that provides our clients measuring equipments with high quality and accuracy. A professional consultant team gives the solutions to customers for figuring out their measuring issues. We served on water, oil, chemicals, gas and other fluids measurement. Our mission is to be an expert of flow.

Professional Industrial

Products are known for accuracy, durability and providing valuable and timely measurement data.

Over 20 years experience

We served on water, oil, chemicals, gas and other fluids measurement.

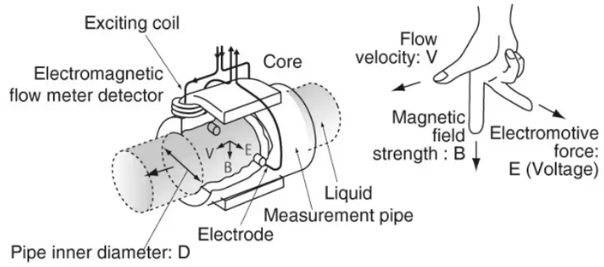


ELECTROMAGNETIC HEAT METER

Working Principle

Electromagnetic flow meters detect flow by using Faraday's Law of induction.

Inside an electromagnetic flow meter, there is an electromagnetic coil that generates a magnetic field, and electrodes that capture electromotive force(voltage). Due to this, although it may appear as if there is nothing inside the flow pipe of an electromagnetic flow meter, flow can be measured. Electromagnetic flow meter is flexible and universally applicable flow measurement systems. It is a velocity flow meter which does not have any moving parts and is ideal for conductive fluid.



Feature

- **High Accuracy:** The electromagnetic heat meter measures flow using electromagnetic induction, offering high precision, especially in maintaining stable measurements even at low flow rates
- **Durability:** With no mechanical moving parts, it experiences minimal wear and tear, resulting in a long lifespan and low maintenance costs
- **Easy Installation:** The electromagnetic heat meter is generally unaffected by installation direction and can adapt well to a wide range of pipe diameters and flow speeds
- **Strong Anti-Interference Capability:** It is resistant to external disturbances such as electromagnetic waves and vibrations, ensuring stable operation in complex industrial environments
- **Low Pressure Loss:** Since there are no obstructions within the pipe of the electromagnetic heat meter, the pressure loss is minimal, imposing no significant additional burden on the heating system
- **Multifunctionality:** Besides measuring heat, some electromagnetic heat meters can also measure cooling energy, flow rate, temperature, and other parameters, providing comprehensive operational data

Applications

- Heating Systems
- Industrial Process Control
- Air Conditioning Systems
- Cogeneration
- Heat Network Monitoring
- Heat Pump Systems

PT1000

ELECTROMAGNETIC HEAT METER

Technical Data

Accuracy	2%
Repeatability	Better than 0.33%
Power Supply	DC24V (9V~36V), AC220V (90V~250V)
Signal Output	Analog or frequency, 4-20mA
Communication	RS485 or HART
Cable	Electromagnetic sensor wiring, standard: 10m
	Standard: M20×1.5 (6~10mm); Explosion-proof: M20×1.5 (6mm~10mm)
Liner Material	PTFE: DN15~DN600
	F46: DN15~DN600
	PFA: DN15~DN500
	Neoprene: DN40~DN600
Liner Temperature	PTFE/PFA: -30°C~+150°C, Separate type: -30°C~+80°C, Integrated type
	F46: -30°C~+100°C, Separate type; -30°C~+80°C, Integrated type
	Neoprene: -15°C~+80°C
Electrode Material	316L: DN15~DN600
	Titanium: DN15~DN600
Explosion-proof	Non-explosion-proof
Protection	IP65 or IP68

GIMA-H

ELECTROMAGNETIC HEAT METER

Model Selection

Model	Suffix Code											Description
GIMA-H	❶	❷	❸	❹	❺	❻	❼	❽	❾	❿	⓫	**Magnetic Heat Meter**
Type	Pt1000											Pt1000 temperature sensors
Diameter		XXXX										Stand for diameter 0004 : DN4 2200: DN2200
Structure			S									Compact Type with local display
			L									Remote Type; 10 meters cable default
Electrode Material				M								SS316L
				T								Titanium
				D								Tantalum
				H								Hastelloy Alloy C
				P								Platin-Iridium
Signal Output					0							No Output
					1							4-20mA / Pulse
Liner Material						X						Hard Rubber
						P						Propylene Oxide
						F						PTFE
						A						PFA
Power Supply							-0					110-240V AC
							-1					24V DC (20-36V DC)
							-2					Battery Power Supply
Communication								0				No Communication
								1				Modbus RS485
								2				HART
								3				GPRS
								4				Profibus DP
Sensor Grounding									0			No Grounding
									1			Grounding Ring
									2			Grounding Electrode
Connection										DXX		D16: DIN PN16 Flange; D25: DIN PN25 Flange …
										AXX		A15: ANSI 150# Flange; A30: ANSI 300# …
										JXX		J10: JIS 10K Flange; J20: JIS 20K Flange…
										XXX		On request
Body Material											CS	Carbon Steel
											S4	Stainless Steel 304

ELECTROMAGNETIC HEAT METER

Measurement Range

Diameter (DN)	Min. Flow (m³/h)	Normal Flow (m³/h)	Max Flow (m³/h)	Accuracy
DN15	0.03	1.5	3	Level 2
DN20	0.05	2.5	5	Level 2
DN25	0.07	3.5	7	Level 2
DN32	0.12	6	12	Level 2
DN40	0.2	10	20	Level 2
DN50	0.3	15	30	Level 2
DN65	0.5	25	50	Level 2
DN80	0.8	40	80	Level 2
DN100	1.2	60	120	Level 2
DN125	2	100	200	Level 2
DN150	3	150	300	Level 2
DN200	5	250	500	Level 2
DN250	8	400	800	Level 2
DN300	12	600	1200	Level 2

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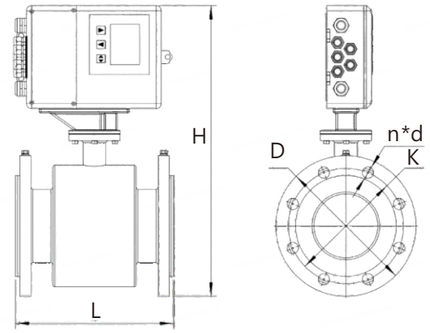
ELECTROMAGNETIC HEAT METER

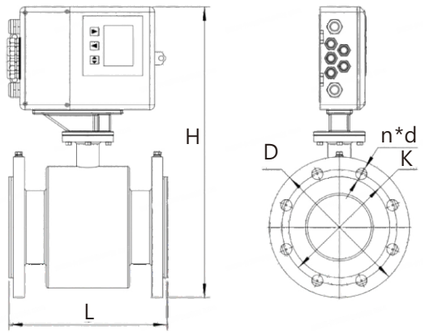
Technical Drawings



PN10 dimension comparison table (unit: mm)

DN	L	D	K	H	n*d
15	200	95	65	362	4×Φ 14
20	200	105	75	366	4×Φ 14
25	200	115	85	375	4×Φ 14
32	200	140	100	387	4×Φ 18
40	200	150	110	394	4×Φ 18
50	200	165	125	407	4×Φ 18
65	200	185	145	423	8×Φ 18
80	200	200	160	438	8×Φ 18
100	250	220	180	458	8×Φ 18
125	250	250	210	486	8×Φ 18
150	300	285	240	513	8×Φ 22
200	350	340	295	570	8×Φ 22
250	450	395	350	633	12×Φ 22
300	500	445	400	673	12×Φ 22
350	550	505	460	725	16×Φ 22
400	600	565	515	785	16×Φ 26
450	600	615	565	830	20×Φ 26
500	600	670	620	885	20×Φ 26
600	600	780	725	995	20×Φ 30

ELECTROMAGNETIC HEAT METER



PN16 dimension comparison table (unit: mm)

DN	L	D	K	H	n*d
15	200	95	65	362	4× Φ 14
20	200	105	75	366	4× Φ 14
25	200	115	85	375	4× Φ 14
32	200	140	100	387	4× Φ 18
40	200	150	110	394	4× Φ 18
50	200	165	125	407	4× Φ 18
65	200	185	145	423	8× Φ 18
80	200	200	160	438	8× Φ 18
100	250	220	180	458	8× Φ 18
125	250	250	210	486	8× Φ 18
150	300	285	240	513	8× Φ 22
200	350	340	295	570	12× Φ 22
250	450	405	355	638	12× Φ 26
300	500	460	410	681	12× Φ 26
350	550	520	470	735	16× Φ 26
400	600	580	525	795	16× Φ 30
450	600	640	585	845	20× Φ 30
500	600	715	650	910	20× Φ 33
600	600	840	770	1025	20× Φ 36

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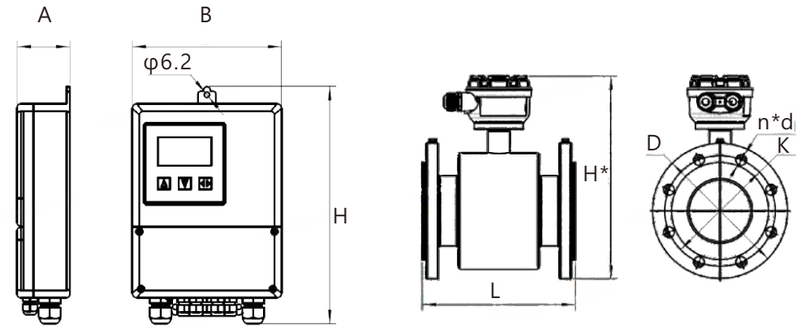
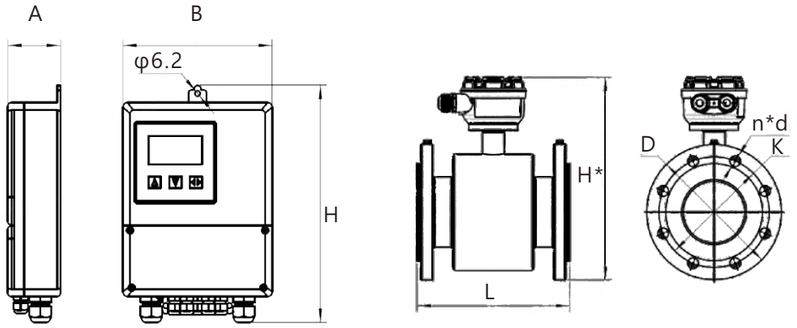
ELECTROMAGNETIC HEAT METER



PN10 dimension comparison table (unit: mm)

DN	L	D	K	H*	n*d
15	200	95	65	237	4× Φ 14
20	200	105	75	241	4× Φ 14
25	200	115	85	250	4× Φ 14
32	200	140	100	262	4× Φ 18
40	200	150	110	269	4× Φ 18
50	200	165	125	282	4× Φ 18
65	200	185	145	298	8× Φ 18
80	200	200	160	313	8× Φ 18
100	250	220	180	333	8× Φ 18
125	250	250	210	361	8× Φ 18
150	300	285	240	388	8× Φ 22
200	350	340	295	445	8× Φ 22
250	450	395	350	508	12× Φ 22
300	500	445	400	548	12× Φ 22
350	550	505	460	600	16× Φ 22
400	600	565	515	660	16× Φ 26
450	600	615	565	705	20× Φ 26
500	600	670	620	760	20× Φ 26
600	600	780	725	870	20× Φ 30

ELECTROMAGNETIC HEAT METER



PN10 dimension comparison table (unit: mm)

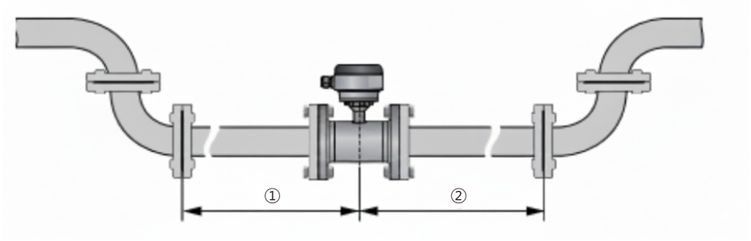
DN	L	D	K	H*	n*d
15	200	95	65	237	4×Φ14
20	200	105	75	241	4×Φ14
25	200	115	85	250	4×Φ14
32	200	140	100	262	4×Φ18
40	200	150	110	269	4×Φ18
50	200	165	125	282	4×Φ18
65	200	185	145	298	8×Φ18
80	200	200	160	313	8×Φ18
100	250	220	180	333	8×Φ18
125	250	250	210	361	8×Φ18
150	300	285	240	388	8×Φ22
200	350	340	295	445	12×Φ22
250	450	405	355	513	12×Φ26
300	500	460	410	556	12×Φ26
350	550	520	470	610	16×Φ26
400	600	580	525	670	16×Φ30
450	600	640	585	720	20×Φ30
500	600	715	650	785	20×Φ33
600	600	840	770	900	20×Φ36

GIMA-H

ELECTROMAGNETIC HEAT METER

Installation

Straight pipe section length

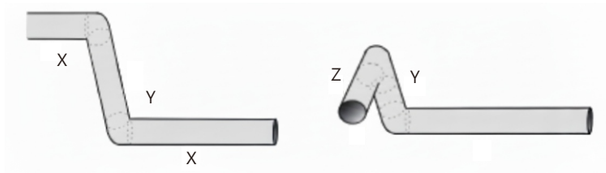


Flowmeter installed downstream of a two-dimensional elbow

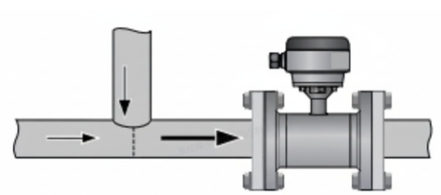
When a two-dimensional elbow is present upstream of the flowmeter, the upstream straight pipe section (indicated as ①) shall be 5 times DN, and the downstream straight pipe section (indicated as ②) shall be 2 times DN, as shown in the corresponding diagram.

Flowmeter installed downstream of a three-dimensional elbow

When a three-dimensional elbow is present upstream of the flowmeter, the upstream straight pipe section (indicated as ①) shall be 10 times DN, as shown in the corresponding diagram.

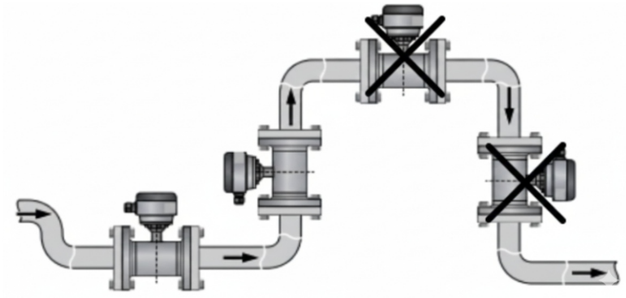


The flow meter is located at the end of the T-shaped pipe.



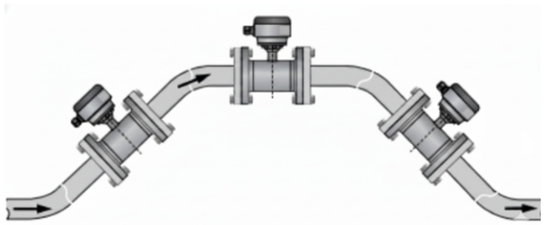
When a tee fitting is present upstream of the flowmeter, the upstream straight pipe section shall be 10 times DN, as shown in the corresponding diagram.

Installation on a 90° U-shaped (π-type) pipeline



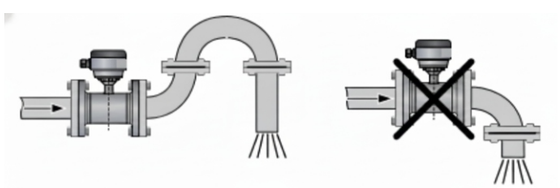
Notes:
- The recommended installation location is on the bottom section or the upward-inclined segment of the pipeline. If installed at the highest point, the risk of measurement errors due to air/bubbles will increase.
- The combination of vertical installation and an open outlet must be avoided. Vertical installation is permissible only when back pressure is adequately controlled.

Installation on a 45° π-shaped (U-shaped) pipeline

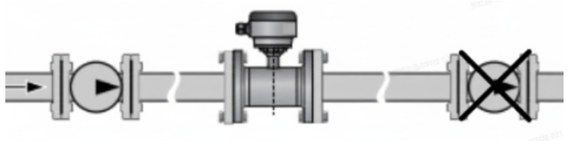


Notes:
- Vertical installation on the downward-inclined segment of the pipeline is recommended only when back pressure is under control.
- Avoid situations where the flow sensor is drained or the pipeline is not completely full.

Installation upstream of an open discharge outlet

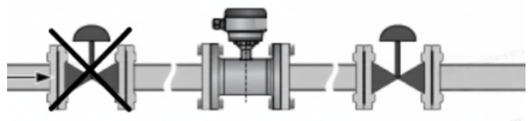


Installation adjacent to a pump



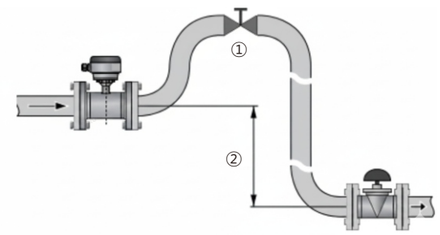
Notes:
- It is recommended to install the flow meter downstream of the pump. If there is no cavitation in the pipeline system, the flow meter can be installed on the suction side of the pump.

Installation adjacent to a control valve



Note:
- It is recommended to install the flow meter upstream of the control valve.
- If there is no cavitation in the pipeline system (e.g., at a location where flow disturbances have been eliminated), the flow meter can be installed downstream of the control valve.

Installed at a high position in the pipeline

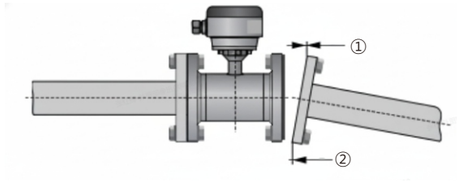


The height difference between the flowmeter and the drain valve shall be greater than 5 meters, i.e., dimension ① in the corresponding diagram must be >5m.

An exhaust valve shall be installed at the highest point above the flowmeter installation location, i.e., position ② in the corresponding diagram. Otherwise, gas accumulation inside the flowmeter may cause measurement errors.

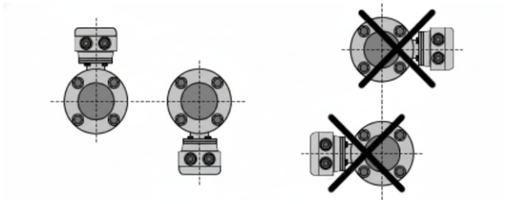
Installation Requirements

Flange angle deviation



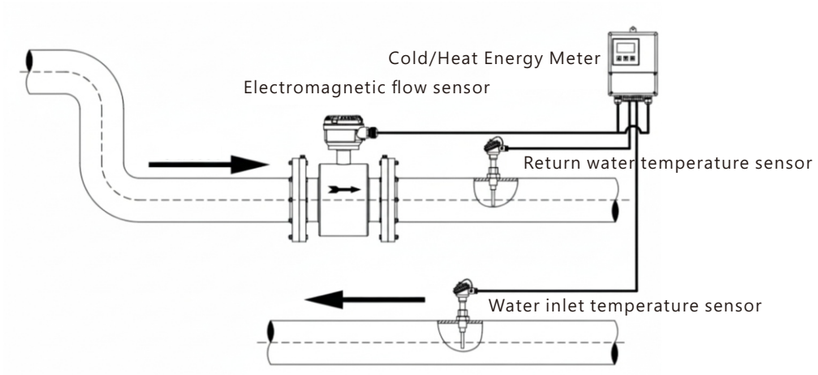
The maximum allowable deviation between them is: Lmax - Lmin < 0.5 mm.

Installation direction



During the installation of the flowmeter, ensure that the signal converter is oriented either upward or downward, aligned with the axis of the pipeline, and that the flange faces of the pipeline are parallel to each other.

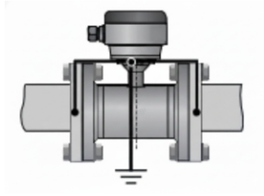
Installation of the temperature sensor



GIMA-H

ELECTROMAGNETIC HEAT METER

Grounding



The instrument must be properly grounded as required to prevent electric shock to the operator.