KLINGER LDG Magnetic Inductive Flowmeter Instruction Manual

Klinger LDG

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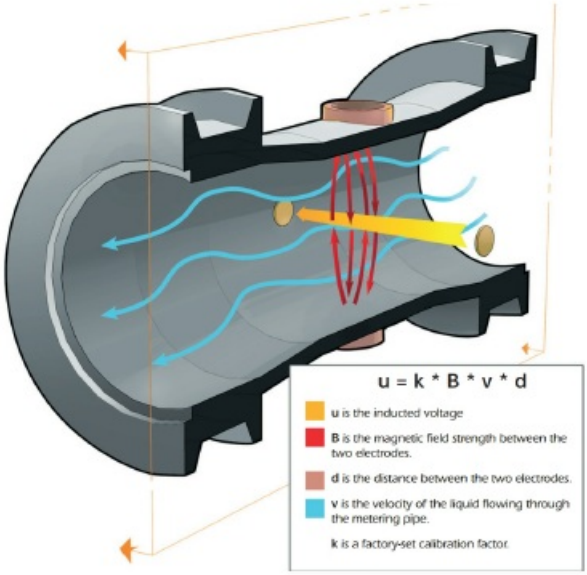
Magnetic Inductive Flowmeter
Klinger LDG is a magnetic inductive flow meter for measuring flow on liquids with electrical conductivity.
The measurement principle is based on Faradays law on magnetic induction, it says, that an electrical voltage will be induced, when a conductor passes a magnetic field.
In the magnetic inductive flow meter is the liquid the electrical conductor, and the induced voltage directly proportional to the velocity of the liquid.
The program is primarily for application in water, wastewater, the refrigeration and energy sector, but can also used within a large number of industrial tasks.
The sensor part is fully welded, and very stable at the same time as it is insensitive to interference.
The construction is supplemented with a transmitter housing in IP67, a design that make the meter suitable for use in harsh Environments.
With Klinger LDG meter we offer you:

- High measurement accuracy in a large measuring range
- A maintenance-free measurement without moving parts
- A measurement that is independent of temperature, density, viscosity, concentration and conductivity.


FLOWMETER


u = k * B * v * d
u is the inducted voltage
B is the magnetic field strength between the two electrodes.
d is the distance between the two electrodes.
v is the velocity of the liquid flowing through the metering pipe.
k is a factory-set calibration factor.


MAGNETIC FLOW METER
+000.00
FGP
×1 m³/h
Σ+000000000m³
①
②
③
④
⑥
⑤

1. Instantaneous flow
2. Alarm status
3. Unit of measurement
4. Summarized flow
5. Keys for operation
6. Infrared sensor (option)

Klinger LDG replaces your current flow meter:

- Installation dimensions that comply with ISO 13359.
- Choose from several types of lining for best price / performance ratio.
- Choose between compact or separate design both types in IP67 design.
- Easy setting of measuring range and output signals without the use of special tools / programs.
- Backlit LCD display, which can be read even during difficult relationship.
- Supplied with Danish and English operating instructions

Technical data

A magnetic flow meter is made up of a piece of pipe made of something not magnetic material. The tube is internally lined with a lining of non-conductive material.
In the measuring tube, the two measuring electrodes are placed so that they pass through the liner.

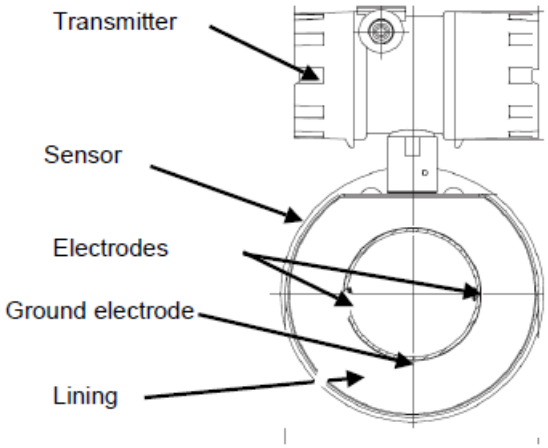
Lining and electrodes are the
only parts in contact with
the medium, and by choice must be taken taking into account that they can handle:

- Aggressiveness of the medium
- Press
- Temperature
- Temperature shock

Sizes PTFE: DN06…DN600
Hard Rubber: DN50…DN2200
Process Connection Flange EN 1092-1, JIS B2220 or ANSI 16.5
Pressure Rating (P nominel) DN10…DN25 ≤ 40 bar
DN32…DN150 ≤ 16 bar
DN200…DN60 ≤ 10 bar
DN700…DN2200 ≤ 6 bar
Media Liquid : Conductivity > 20uS/cm
Gas content < 5%
Solids content < 30%
Liner / **temperature Polypropylene** (PP): -5…+90 oC
Hard Rubber: -20 …+60 oC
PTFE: -20…+120 oC
PFA: -20 …+180 oC
Electrodes SS 316
Titanium
Tantalum
Hastelloy C22
Ranges 0.3-10m/s (table p.3)

Repatibility ±0.1%

Accuracy ±0.5% of actual value (V > 0,3m/s)
O**ption:** ±0.2% of actual value (V > 0,3m/s)
Flow Directions Two-way (positive/negative)
Ambient conditions -20 …+60 oC / 5%-95% RH
Transmitter Compact w. display
Separate incl. 10m cable (other on request)
Output 4…20mA / scaled pulse
Option: HART, Modbus RS485 or Profibus DP
Power supply 110…240 VAC
24 VDC (20…26 VDC)
Power Consumption <20W



Ranges

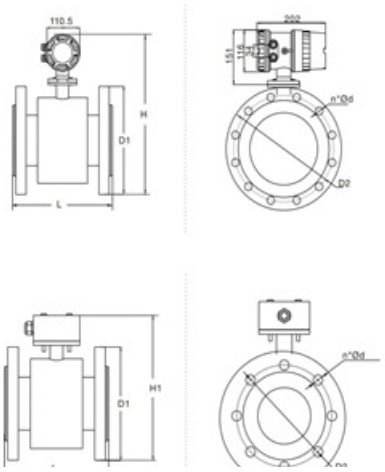
Our magnetic flow meter can be set for measuring ranges from 0.3m / s up to 10m / s – it is recommended to choose a maximum flow between 4 and 6 m / s.

Diameter		Flow Rate (m^3/h)		
		V=0.3m/s	V=6m/s	V=10m/s
(mm)	(Inch)	(Min)	(Calibrated)	(Max)
6	1/4"	0.0306	0.611	1.018
10	3/8"	0.0849	1.696	2.827
15	1/2"	0.1909	3.817	6.362
20	3/4"	0.3393	6.786	11.31
25	1"	0.5301	10.60	17.67
32	1-1/4"	0.8686	17.37	28.95
40	1-1/2"	1.357	27.14	45.24
50	2"	2.121	42.14	70.69
65	2-1/2"	3.584	71.68	119.5
80	3"	5.429	108.6	181.0
100	4"	8.482	169.6	282.7
125	5"	13.25	265.1	441.8
150	6"	19.09	381.7	636.2
200	8"	33.93	678.6	1131
250	10"	53.01	1060	1767
300	12"	76.34	1527	2545

LDG can be delivered in dimensions up to DN 2.200mm – ask about measuring range for larger dimensions than stated.

Installation

Klinger LDG are built so that the installation dimensions are in accordance with ISO 13359.
The table below shows the dimensions of the different dimensions (if you need another dimension, ask)



Diameter DN	B Type L(mm)	T Type L(mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	D2 (mm)	n x Φ d (mm)
10	160/120	120	360	220	90	60	41	4×14
15	160/120	200	360	220	95	65	45	4×14
20	160/120	200	360	220	105	75	58	4×14
25	200	200	360	220	115	85	68	4×14
32	200	200	370	235	140	100	78	4×18
40	200	200	370	235	150	110	88	4×18
50	200	200	385	242	165	125	102	4×18
65	250	200	400	256	185	145	122	4×18
80	250/200	200	415	275	200	160	138	8×18
100	250/200	250	435	295	220	180	158	8×18
125	250	NA	465	325	250	210	188	8×18
150	300	NA	497	355	285	240	212	8×22
200	350	NA	550	410	340	295	268	12×22
250	450	NA	610	488	405	355	320	12×22
300	500	NA	660	520	460	410	375	12×22

Order code

Model	Suffix Code					Description
LDG-						Electromagnetic Flowmeter
Type	B					B type
	T					T type(DN15- DN100 only)
Diameter	XXXX					Stand for diameter 0004: DN4; 0015: DN15 0100: DN100; 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			Platinum-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: ANSI150# Flange; A30: ANSI 300# Flange...
					JXX	J10: JIS 10K Flange; J20: JIS 20K Flange...
					XXX	On request
Body Material					CS	Carbon Steel
					S4	Stainless Steel 304
					S6	Stainless Steel 316

LDG-B series

LDG-T series

Other Flowmeters

LDGS – For Hygienic Applications

LDGC – Insertion meter

Documents / Resources

	KLINGER LDG Magnetic Inductive Flowmeter [pdf] Instruction Manual LDG, Magnetic Inductive Flowmeter, LDG Magnetic Inductive Flowmeter, Inductive Flowmeter, Flowmeter, 1532370

References

- Etusivu - KLINGER Finland Oy