LDCK
Magnetic Flow Meter

Model LDCK magnetic Flow meter is composed of LDCK Magnetic Flow Transducer and LDCB F1 or F2 Magnetic Flow Converter. It can be used to measure the flow of various media in the pipes. They are corrosive liquids of acid、alkali、salt, high viscosity fluids, and two phase flow of liquid mixed with solid such as pulp、slush、and sewage containing great quantity impurities etc.

The accuracy of this flow-meter will not be influenced by changes of such physical parameters in medium as pressure、temperature、density (solid-liquid ratio included)、and viscosity. it has the features of high sensitivity、wide measuring range、good anti-interference ability、stable zero point、and fine operating reliability.

This transducer series contains explosion-proof type with mdIIBT4 as its classification.

The inspecting regulation for this product is JJg 198-94.

☐Principal Specifications

Accuracy of whole Set:	Sizesφ10～φ250: ±0.5%、±1.0%;
	Sizesφ300～φ1200: ±1.0%、±1.5%
Conductivity of medium:	＞20uS/cm
Output signal:	0～10 mA DC or 4～20 mA DC with 0～1 kHz;
Maximum operating pressure:	Sizesφ10～φ50: 4.0 Mpa,
	SizesΦ65～125：1.6MPa
	SizesΦ150～1000：1.0MPa
	SizesΦ1200：0.6MPa
Operating current:	≤0.5A
Enclosure classification:	IP65 for standard type and IP67 for special type;
Power Supply:	220V、50Hz for converter, and transducer powered by converter;
Connecting flange:	According to JB/T 81-94 and GB9119-88, or as desired by customer.

☐Material

Body：	Acid resisting steel for measuring tube
	A3 steel for housing
Lining：	Teflon PTFE for Sizes Φ10～Φ25
	Teflon PTFE or neoprene rubber for sizes Φ50～Φ200
	Neoprene rubber for sizes Φ250～Φ1200
Electrode：	Stainless steel containing molybdenum
	titanium
	tantalum
	Hastelloy
	platinum
Earth ring：	Stainless steel with molybdenum

	titanium
	tantalum
	Hastelloy
	platinum

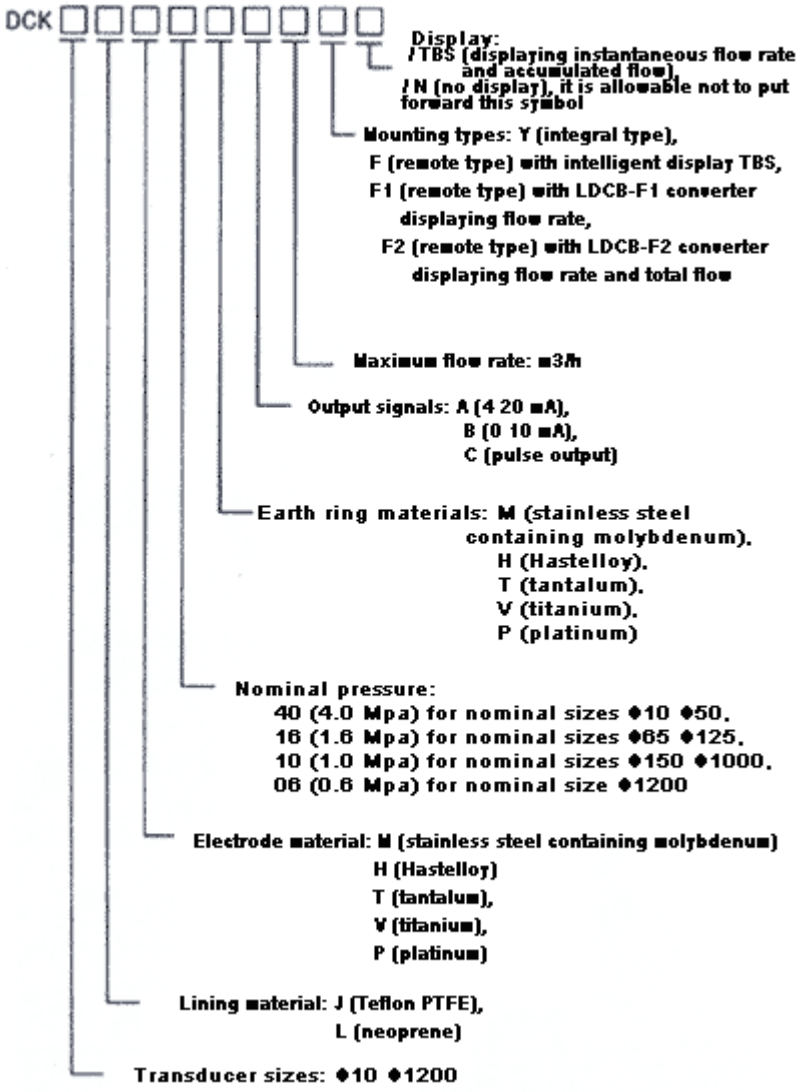
☐Performance of common lining materials and their suitable fields

Lining Material	Main Performances	Suitable Fields
Teflon PTFE	1. It is a kind of plastics with most stable chemical performance, it can resist boiling hydrochloric acid, sulfuric acid, nitric acid and aqua-regia as well as concentrated alkali and various organic solutions. 2. Poor wearing quality and bond performance.	1. -40℃～+180℃ 2. Strong corrosive media of concentrated alkali and acid. 3. Sanitary media.
Neoprene rubber	1. Excellent elasticity, high tensile strength, and good wearing quality. 2. It can resist ordinary corrosion of low concentration acid、alkali、salt media, and can not resist the corrosion of media with oxidation.	1. ＜65℃ 2. For measuring ordinary water, sewage, slush, and pulp.
Polyurethane	1. Excellent wearing quality (10 times natural rubber). 2. Poor performance of acid and alkali resistance.	1. ＜40℃ 2. Pulp, slush, and coal pulp of middle abrasion strength.
Acid resisting rubber (Hard rubber)	It can resist hydrochloric acid, acetic acid, oxalic acid, phosphoric acid under normal temperature and sodium hydroxide, potassium hydroxide, weak oxidizing agent, and sulfuric acid of 50% percentage.	1. ＜25℃～+90℃. 2. Normal solutions of acid, alkali, and salt.

□**Transducer sizes and their measurable flow rate range**

Nominal size (mm)	**Maximum Flow Rate (m3/h)**							
10	0.3	0.4	0.5	0.6	0.8	1.0	1.2	1.6
15	0.6	0.8	1.0	1.2	1.6	2.0	2.5	3.0
20	1.2	1.6	2.0	2.5	3	4.0	5.0	6.0
25	1.6	2	2.5	3	4	5	6	8
50	6	8	10	12	16	20	25	30
65	12	16	20	25	30	40	50	60
80	16	20	25	30	40	50	60	80
100	25	30	40	50	60	80	100	120
125	40	50	60	80	100	120	160	200
150	50	60	80	100	120	160	200	250
200	100	120	160	200	250	300	400	500
250	160	200	250	300	400	500	600	800
300	250	300	400	500	600	800	1000	1200
350	300	400	500	600	800	1000	1200	1600
400	400	500	600	800	1000	1200	1600	2000
500	600	800	1000	1200	1600	2000	2500	3000
600	800	1000	1200	1600	2000	2500	3000	4000
700	1200	1600	2000	2500	3000	4000	5000	6000
800	1600	2000	2500	3000	4000	5000	6000	8000
900	2000	2500	3000	4000	5000	6000	8000	10000
1000	2500	3000	4000	5000	6000	8000	10000	12000
1200	4000	5000	6000	8000	10000	12000	16000	20000

☐Model designation of magnetic flow meter, and its sketch map description



Example 1: LDCK-100JM16MA100Y/TBS

Description: magnetic flow meter of nominal size 100 mm, with Teflon PTFE lining、 stainless steel electrode、nominal pressure 1.6 Mpa、stainless steel earth ring、4～20 mA as output current、maximum flow rate 100 m3/h. It is an integral type flow meter with display of instantaneous flow rate and accumulated flow.

Example 2: LDCK-150LH10MB200F2

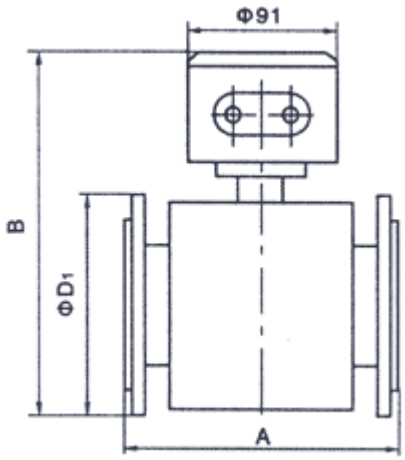
Description: magnetic flow meter of nominal size 150 mm, with neoprene rubber lining、Hastelloy electrode、nominal pressure 1.0 Mpa、stainless steel earth ring、0～10 mA as current output、maximum flow rate 200 m3/h. It is a remote type flow meter with LDCB-F2 converter displaying instantaneous flow rate and accumulated flow.

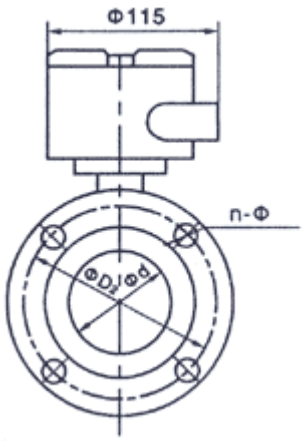
Example 3: LDCK-200LM10MC250F1

Description: magnetic flow meter of nominal size 200 mm, with neoprene rubber lining、stainless steel electrode、nominal pressure 1.0 Mpa、stainless steel earth ring、pulse output，maximum flow rate 250 m3/h. It is a remote type flow meter with LDCB-F1 converter displaying instantaneous flow rate. Note: Special orders could be allowed, in case customers have special requirements.

☐Overall dimensions for mounting

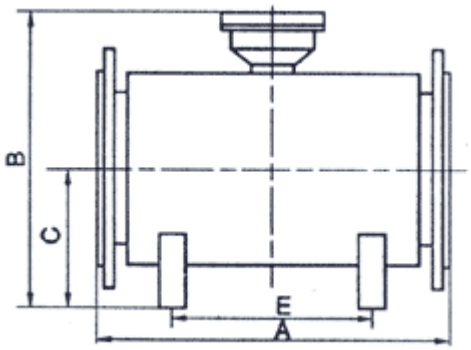
・LDCK-10～200

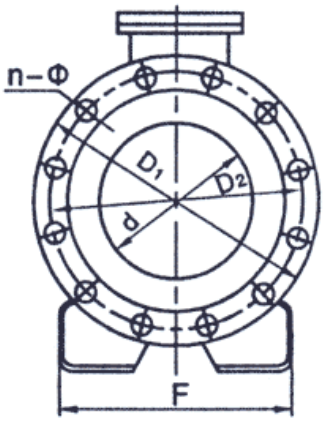




Nominal Size (mm)	A			B	ΦD1	ΦD2	d	n-Φ	Weight (kg)
	Teflon PTFE	Neoprene	F-46						
10	200	/	/	245	90	60	10	4-Φ14	4
15	200	/	/	245	95	65	15	4-Φ14	4
20	200	/	/	245	105	75	20	4-Φ14	4
25	205	/	205	223	115	85	25	4-Φ14	5
50	205	200	205	263	165	125	50	4-Φ18	10
65	205	200	205	298	185	145	65	4-Φ18	15
80	205	200	205	298	200	160	80	8-Φ18	15
100	255	250	255	318	220	180	100	8-Φ18	20
125	255	250	255	318	250	210	125	8-Φ18	22
150	306	300	308	377	285	240	150	8-Φ22	33
200	357	350	358	435	340	295	200	8-Φ22	43

• LDCK-250～1200





Nominal size (mm)	A*	B	C	Φd	ΦD1	ΦD2	n-Φ	E	F	Weight (kg)
250	450	490	225	250	395	350	12-Φ23	200	310	82
300	500	560	226	300	445	400	12-Φ23	260	310	100
350	550	649	320	350	505	460	16-Φ23	240	450	121
400	600	693	354	400	565	515	16-Φ26	330	450	145

500	720	800	405	500	670	620	20-Φ26	330	450	207
600	812	870	465	600	780	725	20-Φ30	470	610	250
700	910	972	480	700	895	840	24-Φ30	470	610	350
800	1060	1070	523	800	1015	950	24-Φ35	550	610	460
900	1100	1170	580	900	1115	1050	28-Φ35	600	700	550
1000	1200	1280	640	1000	1230	1160	28-Φ35	650	700	680
1200	1200	1460	720	1200	1405	1340	32-Φ35	700	700	770

*Sign A denotes the length of measuring tube with end lining not included, actual length for mounting should be A +2δmm (δ=3mm for Teflon lining while δ=6mm for neoprene lining).

□Mounting

This transducer could be mounted horizontally or vertically. When it is vertically mounted, fluid should flow from bottom to top. In case it is horizontally mounted, two electrodes should be level with the measuring tube always full of fluid.

The flowing direction of fluid should coincide with the arrow marked on the transducer. Length of straight pipe on the upstream side must be assured to be more than five times of individual transducer internal diameter (5D), while the length thereof on the downstream side must be more than 3D. Such length should be measured from the center of transducer.

The transducer should be grounded well with grounding resistance less than 10Ω.

The transducer should be mounted at the location free from interference of strong magnetic field. Generally, the wiring distance between converter and transducer would be 10 to 30 m. Exceeding this distance should be specially described by the order.

□Accessories

1. Main power supply wire: two-core supply cord with rubber jacket (2×1 mm2);
2. Exciting cable : two-core cord with rubber jacket (2×1 mm2),
(10 m for nominal sizes ≤Φ200 and 30m for nominal sizes ≥Φ250);
3. Signal cable: Shielded wire with Teflon sheath (2×16/0.15),
(10 m for nominal sizes ≤Φ200 and 30 m for nominal sizes ≥Φ250).
※ In case the length of cable is required to increase, customers could point out on the order.

□Ordering information

The full-scale flow rate of selected flow meter should be no less than actual maximum flow-rate and the normal flow rate should exceed 50 % of selected range.

Current output of converter is either 0～10mA or 4～20mA, only one type could be selected. Customers should determine it on the order.