



Oval Gear Flow Meters

LC, VZZ Series



Technical Data Sheet

Oil Flow Meter

LC Series For High Viscosity Fluids

Technical Specifications



Standard Flow Range		
Diameter (mm)	Standard Range (m ³ /h)	Pressure Level (Bar)
10	0.05 - 0.5	16/64
15	0.15 - 1.5	16/64
20	0.3 - 3	16/64
25	0.6 - 6	16/64
32	1.0 - 10	16/64
40	1.5 - 15	16/64
50	2.4 - 24	16/64
65	4 - 40	16/64
80	6 - 60	16/64
100	10 - 100	16/64
125	15 - 150	16/25
150	19 - 190	16/25
200	34 - 340	16/25

Operating Principle

Fluid enters the inlet port and then passes through the metering chamber. Inside the chamber, fluid forces the internal gears to rotate before exiting through the outlet port. Each rotation of the gears displaces a specific volume of fluid.

As the gears rotate, a magnet on each end of the gear passes a reed switch in the top-mounted register's circuit board.

Application

- Printing equipment
- Rotating industrial machinery
- Paper/Pulp Slurries
- General industrial high-viscosity
- Chemical pacing
- Petroleum, chemical management
- Lubricants and solvents
- High-viscosity fluids

Output Data (Depending on converter Model)	Pulse	4 - 20 mA
Reset Totalizer	Optional	
Ambient Conditions	Ambient Temperature	-20 to +60°C
	Fluid Temperature	-20 to +200°C
Material	Housing- Cast Iron; Cast Steel; SS304	
Accuracy	±0.5%; ±0.2%	
Display Type	Mechanical or LED	24V DC or Battery Powered

Model Selection



Special Features:

Depending on model

- Mechanical or LCD display
- Only Two Moving Parts
- Easy to read and operate
- Low pressure drop
- Horizontal and Vertical flexibility of installation options
- Measures Viscosities up to 3000 cst
- Wide range of temperature: -20 ~ +200°C



LC- XXX XX -XX X XX -XXX

Diameter

XXX: 3 digits; For example:
010: 10mm; 015: 15mm; 025: 25mm
100: 100mm; 125: 125mm; 200: 200mm

Converter Type

M0: Mechanical Display; No output
M1: Mechanical Display; Pulse Output
M2: Mechanical Display; 4-20mA Output
L0: LCD Display; No Output; Battery
L1: LCD Display; Pulse Output; 24V DC
L2: LCD Display; 4-20mA Output; 24V DC

Accuracy

05: 0.5% of Rate
02: 0.2% of Rate

Sensor Structure

S: Standard Type
T: High Temperature Type
V: High Viscosity Type

Housing Material

CI: Cast Iron;
CS: Cast Steel
S4: Stainless Steel 304
S6: Stainless Steel 316

Connection

Flange Connection:
ANSI Flange - A15: ANSI 150#; A30: ANSI 300#;
DIN Flange - D16: DIN PN16; D25: DIN PN25;
JIS Flange - J10: JIS 10K; J20: JIS 20K;

Note: Please read the nameplate or calibration certificate for specifications.

Model Code: LC-100M002TS4D16

Explanation- Transmitter: Mechanical Display, no output.

Diameter: 100mm; Accuracy: 0.2% or Rate;

Stainless steel 304 housing material; Flange DIN PN16

3、 Technical Data

Flow range: \dot{V} \dot{V}

Max-temperature: 280 deg cel

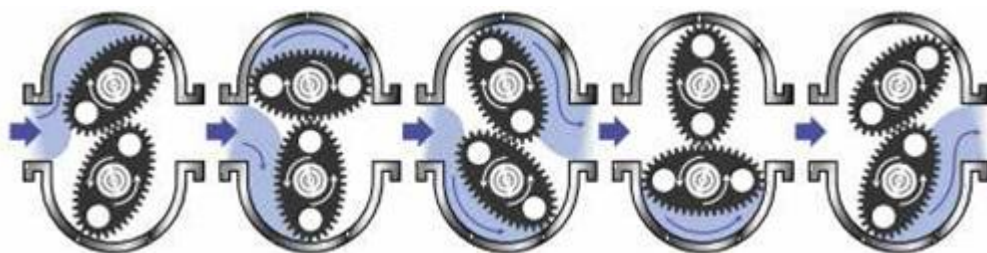
Protection class: IP67

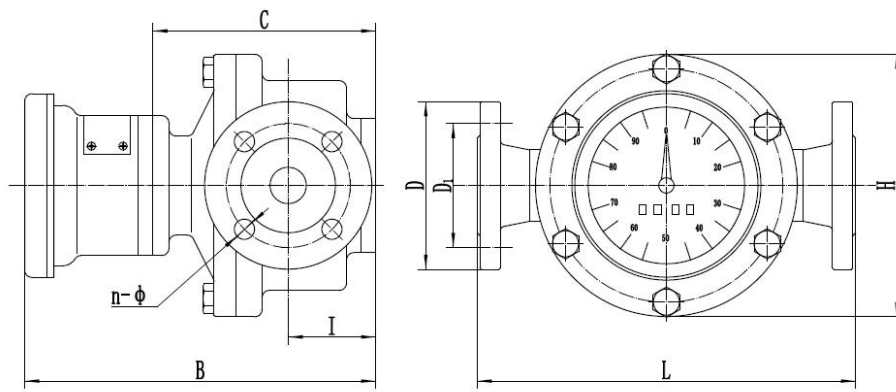
Pressure: on request

Diameter	Viscosity (mPa.s)								
	<0.3	0.3~0.8	0.8~2		2~200		200~1000		1000~2000
DN10		0.2-0.5		0.08-0.5	0.08-0.5	0.05-0.5	0.06-0.3	0.03-0.3	0.03-0.2
DN15		0.75-1.5		0.3-1.5	0.3-1.5	0.15-1.5	0.2-1.0	0.1-1.00	0.07-0.75
DN20		1.5-3	1-3	0.5-3	0.5-3	0.3-3	0.4-2.1	0.2-2.1	0.15-1.5
DN25	4-6	3-6	2-6	1-6	1-6	0.6-6	0.8-4.2	0.4-4.2	0.3-3
DN40	9-15	7.5-15	5-15	2.5-15	2.5-15	1.5-15	2.1-10.5	1.0-10.5	0.7-7.5
DN50	10-24	8-24	8-24	4.8-24	4.8-24	2.4-24	2.4-16.8	1.6-16.8	1.2-12
DN65	27-40	20-40	15-4	8-40	8-40	4-40	5.6-28	2.8-28	2-20
DN80	40-60	30-60	20-60	12-60	12-60	6-60	8.4-42	4.2-42	3-30
DN100	64-100	50-100	34-100	20-100	20-100	10-100	14-70	6-70	5-50
DN150	127-190	95-190	64-190	38-190	38-190	19-190	26.6-133	13.3-133	9.5-95
DN200	227-340	170-340	114-340	56-340	56-340	34-340	47.6-238	23.8-238	17-170
Accuracy	0.2"	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.5

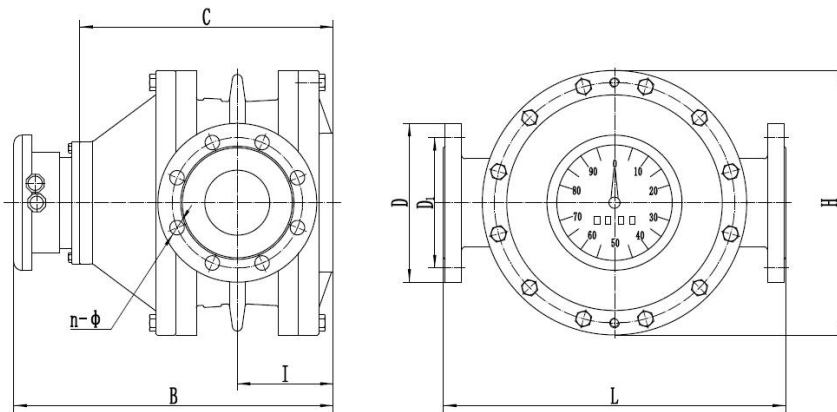
Principle

(Oval Gear explanation- As fluid passes through the metering chamber by entering the inlet port, it forces the internal gears to rotate and exits through the outlet port. Each rotation of the gear displaces a given volume of fluid. Controlled clearances between the gears and chamber wall insure minimum leakage. As the gears rotate, a magnet on each end of the gear activates the reed switch and forwards the pulses to the display or raw pulse output.

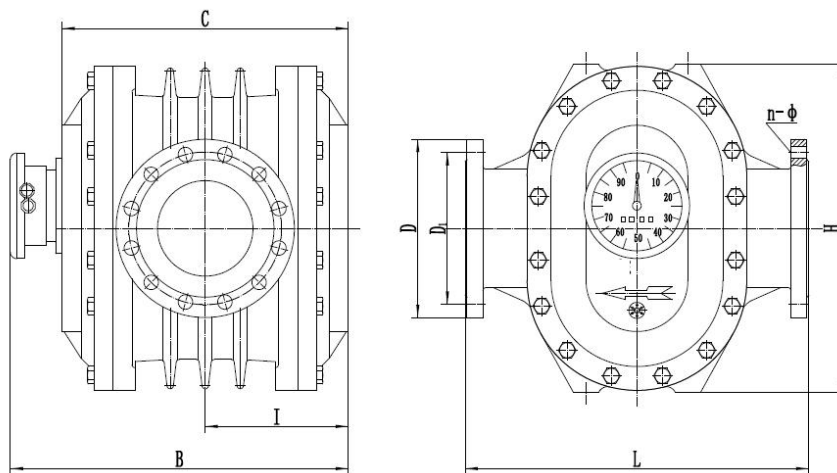




DN10-40



DN50-100



DN150、200

4、Dimensions

(A) Dimensions of the cast iron type, high viscosity cast iron type, high temperature cast iron type

DN(Size)	L	H	A	B	D	D1	N (个)	Φ
10	150	100	165	210	90	60	4	14
15	170	118	172	226	95	65	4	14
20	200	150	225	238	105	75	4	14
25	260	180	232	246	115	85	4	14
40	245	180	249	271	145	110	4	18
50	340	250	230	372	160	125	4	18
65	420	325	270	386	180	145	4	18
80	420	325	315	433	195	160	8	18
100	515	418	370	458	215	180	8	18
150	540	515	347	557	280	240	8	23
200	650	650	476	720	335	295	12	23

Unit: mm

B) Dimensions of Cast steel type, high viscosity Cast steel type, high temperature Cast steel type.

Units: mm

DN(Size)	L	H	B	A	D	D1	N (个)	Φ
15	200	138	232	180	105	75	4	14
20	250	164	220	160	125	90	4	18
25	300	202	252	185	135	100	4	18
40	300	202	293	208	165	125	4	23
50	384	262	394	312	175	135	4	23
80	450	337	452	332	210	170	8	23
100	555	442	478	310	250	200	8	25
150	540	510	557	347	300	250	8	26
200	650	650	720	476	36	310	12	26

The dims of cast iron type and high-temperature cast steel type are: according to the table. DN15-DN25, part A and part B, should be plus 160mm extension heat tube; DN40-DN80, part A and part B should be plus 300mm extension heat tube. Other sizes are just like the table.

(C) Dimensions of the of stainless steel type

Units: mm

DN	L	H	B	A	D	D1	N (个)	Φ
15	208	120	228	172	95	65	4	14
20	236	150	238	225	105	75	4	14
25	287	195	246	232	115	85	4	14
40	265	178	349	265	145	110	4	18
50	265	178	349	265	160	125	4	18
65	365	260	436	319	180	145	4	18
80	420	305	459	324	200	160	8	18
100	515	400	554	373	220	180	8	18
150	540	515	607	397	280	240	8	23

Fuel Consumption Flow Meter

VZZ Series For Engine Less Than 200KW

Technical Specifications:



VZZ08 OEM

Description:

This fuel consumption flow meter provides high precision measurement of fuel consumption. The meter is highly accurate with good reliability and is easy to install. Display and pulse output options.

This fuel meter is suitable for measuring the fuel consumption of various vehicles.

Model	VZZ04 OEM	VZZ08 OEM
Size	DN4 (4mm)	DN8 (8mm)
Connection	M14 x 1.5FT	M14 x 1.5FT
Flow Range	1-80 Litre/Hr	4-200 Litre/Hr
Normal Flow Range	50 Litre/Hr	135 Litre/Hr
Max. Pressure	32 Bar	16 Bar
Repeatability	±0.1%	±0.1%
Max. Error	±1.0%	±1.0%
2-wire	<ol style="list-style-type: none">Flow sensor with reed switch pulse outputElectrical: 12/24/48 VDC, 50mAK-factor: 0.005 Litre/Pulse	<ol style="list-style-type: none">Flow sensor with reed switch pulse outputElectrical: 12/24/48 VDC, 50mAK-factor: 0.0125 Litre/Pulse
3-wire	<ol style="list-style-type: none">Flow sensor with reed switch pulse outputElectrical: 4 - 18 VDCK-factor: 0.005 Litre/Pulse	<ol style="list-style-type: none">Flow sensor with reed switch pulse outputElectrical: 4 - 18 VDCK-factor: 0.005 Litre/Pulse



VZZ04 OEM (2 Wire)



VZZ04 OEM (3 Wire)