



APPLICATIONS

- Petroleum
- Chemical
- Environmental protection
- Shipbuilding
- Metallurgy
- Electricity
- Transportation
- Food
- Medicine
- Military industry

TECHNICAL SPECIFICATION

Product Name	Oval Gear Flow Meter
Accuracy	0.5% (0.2% Optional)
Medium	Oil, pure impurity free liquid, petroleum, diesel oil, glue, lotion, asphalt, resin, acid-base liquid
Protection Grade	IP65
Explosion Proof Grade	Ex db IIC T6 Gb
Material	Cast Iron, Cast Steel, Stainless Steel, SS304, SS316L
Connection	Flange Connection, Threaded Connection, Clamp Connection
Power Supply	24V DC /3.6V Lithium Battery
Output	4-20mA /RS485/ Pulse
Pressure	16 bar / 25 bar / 40 bar / 63 bar
Temperature	-20~+80°C, -20~+200°C
Display	LCD Digital Display, Pointer Display, Local Display
Certificate	CE, ISO, SIL, Ex db IIC T6 Gb
Pipe size	DN10, DN15, DN20, DN25, DN40, DN50, DN65, DN80, DN100, DN150, DN200

FLOW RANGE SHEETS

1. CAST IRON TYPE, CAST STEEL TYPE, STAINLESS STEEL TYPE ELLIPTICAL GEAR FLOWMETER

	MT-F110GR-A Cast Iron Type	MT-F110GR-B/C Stainless Steel Type	MT-F110GR-E Cast Steel Type
Nominal Pressure (bar)	16	16, 25, 40, 63	16, 25, 40, 63
Temperature Range	Conventional Pointer Type: -20~+80°C; High Temperature Pointer Type: -20~+200°C Conventional LCD Type:-20~60°C; High Temperature LCD Type: -20~+150°C		
Accuracy Class	0.5%		
	Flow Range (m³/h)		
Diameter(mm)	Viscosity: 0.6-2mPa.s	Viscosity: 2-200mPa.s	
10	0.2-0.4 m³/h	0.08-0.4 m³/h	
15	0.6-1.5 m³/h	0.3-1.5 m³/h	
20	0.8-3 m³/h	0.6-3 m³/h	
25	1.2-6 m³/h	0.8-6 m³/h	
40	5-15 m³/h	3-15 m³/h	
50	6-24 m³/h	4-24 m³/h	
65	10-40 m³/h	8-40 m³/h	
80 (Light Type)	10-40 m³/h	8-40 m³/h	
80 (Heavy Type)	15-60 m³/h	10-60 m³/h	
100	30-100 m³/h	15-100 m³/h	
150	45-190 m³/h	34-190 m³/h	
200	68-340 m³/h	56-340 m³/h	

2. HIGH VISCOSITY ELLIPTICAL GEAR FLOWMETER

	MT-F110GR-NA Cast Iron High Viscosity Type	MT-F110GR-NE Cast Steel High Viscosity Type	MT-F110GR-NB/NC Stainless Steel High Viscosity Type
Nominal Pressure (bar)	16	16, 25, 40, 63	16, 25, 40, 63
Temperature Range (°C)	Conventional Pointer Type: -20~+80°C; High Temperature Pointer Type: -20~+200°C Conventional LCD Type:-20~60°C; High Temperature LCD Type: -20~+150°C		
Accuracy Class	0.5%		
	Flow Range (m³/h)		
Diameter(mm)	Viscosity: 200-1000mPa.s	Viscosity: 1000-2000mPa.s	
10	0.04-0.3 m³/h	0.03-0.2 m³/h	
15	0.2-1.0 m³/h	0.1-0.7 m³/h	
20	0.4-2.1 m³/h	0.25-1.5 m³/h	
25	0.6-4.2 m³/h	0.6-3 m³/h	
40	2.1-10.5 m³/h	1.0-7.5 m³/h	
50	2.4-16.8 m³/h	2-12 m³/h	
65	6-28 m³/h	4-20 m³/h	
80 (Light Type)	6-28 m³/h	4-20 m³/h	
80 (Heavy Type)	8-42 m³/h	6-30 m³/h	
100	10-70 m³/h	10-50 m³/h	
150	27-133 m³/h	19-95 m³/h	
200	48-238 m³/h	34-170 m³/h	

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3. HIGH PRECISION OVAL GEAR FLOWMETER (ACCURACY: 0.2%)

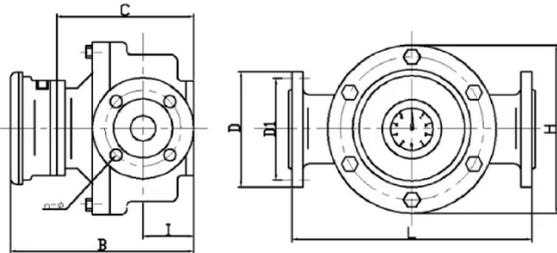
	MT-F110GR-A Cast Iron Type	MT-F110GR-B/C Stainless Steel Type	MT-F110GR-E Cast Steel Type
Nominal Pressure (bar)	16	16, 25, 40, 63	16, 25, 40, 63
Temperature Range	Conventional Pointer Type: -20~+80°C; High Temperature Pointer Type: -20~+200°C		
Accuracy Class	0.2%		
Flow Range (m³/h)			
Diameter(mm)	Viscosity: 0.6-2mPa.s	Viscosity: 2-200mPa.s	
10	-	0.2-0.4 m³/h	
15	-	0.5-1.5 m³/h	
20	1.5-3 m³/h	1-3 m³/h	
25	3-6 m³/h	1.2-6 m³/h	
40	8-15 m³/h	5-15 m³/h	
50	12-24 m³/h	8-24 m³/h	
65	20-40 m³/h	10-40 m³/h	
80 (Light Type)	20-40 m³/h	10-40 m³/h	
80 (Heavy Type)	30-60 m³/h	15-60 m³/h	
100	40-100 m³/h	20-100 m³/h	
150	90-190 m³/h	56-190 m³/h	
200	170-340 m³/h	68-340 m³/h	

4. HIGH PRECISION & HIGH VISCOSITY OVAL GEAR FLOWMETER (ACCURACY: 0.2%)

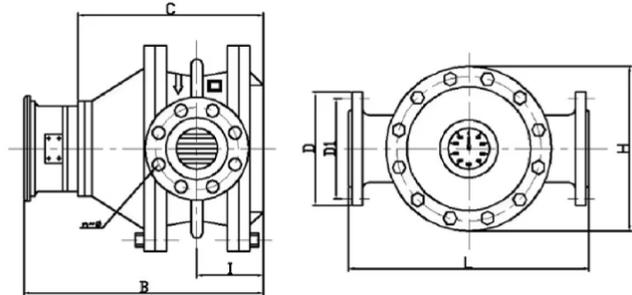
	MT-F110GR-NA Cast Iron High Viscosity Type	MT-F110GR-NE Cast Steel High Viscosity Type	MT-F110GR-NB/NC Stainless Steel High Viscosity Type
Nominal Pressure (bar)	16	16, 25, 40, 63	16, 25, 40, 63
Temperature Range (°C)	Conventional Pointer Type: -20~+80°C; High Temperature Pointer Type: -20~+200°C		
Accuracy Class	0.2%		
Flow Range (m³/h)			
Diameter(mm)	Viscosity: 200-1000mPa.s	Viscosity: 1000-2000mPa.s	
10	0.08-0.3 m³/h	0.06-0.2 m³/h	
15	0.3-1.0 m³/h	0.2-0.7 m³/h	
20	0.6-2.1 m³/h	0.5-1.5 m³/h	
25	1-4.2 m³/h	0.8-3 m³/h	
40	3-10.5 m³/h	2-7.5 m³/h	
50	4-16.8 m³/h	3-12 m³/h	
65	8-28 m³/h	6-20 m³/h	
80 (Light Type)	8-28 m³/h	6-20 m³/h	
80 (Heavy Type)	10-42 m³/h	8-30 m³/h	
100	15-70 m³/h	12-50 m³/h	
150	34-133 m³/h	30-95 m³/h	
200	56-238 m³/h	50-170 m³/h	

DIMENSIONAL DRAWING

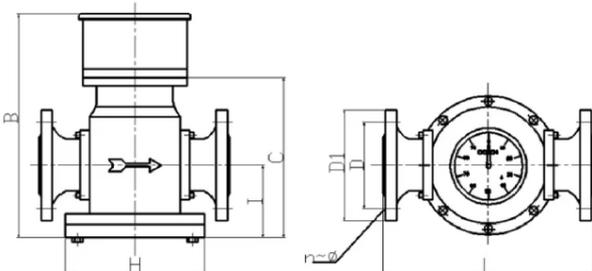
1. DN10~DN50 (Light Type)



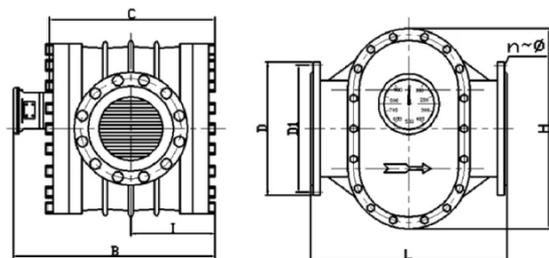
2. DN50 (Heavy Type)~DN100



3. DN65-DN80 (light type)



4. DN150-DN200



* The flange size is 16 bar standard; (Length and flange size can be customized)

* External dimensions of high-temperature elliptical gear flowmeter: DN15-DN50 (lightweight), size B is based on the data in the table above plus 100mm thermal extension tube; DN50(heavy duty)-DN200, size B is based on the dimensions in the table above plus 160mm hot extension pipe, and other dimensions are based on the corresponding dimensions in the table above.

1. CAST IRON OVAL GEAR FLOW METER SIZE (UNIT: mm)

Model: MT-F110GR-A, MT-F110GR-NA (High temperature type: DN50 light and below B plus 100mm, DN50 heavy and above B plus 160mm)

DN(mm)	L(mm)	H(mm)	B(mm)	C(mm)	I(mm)	D(mm)	DI (mm)	N	? (mm)
10	150	100	213	120	45	90	60	4	14
15	170	118	229	136	48	95	65	4	14
20	200	150	241	148	53	105	75	4	14
25	260	180	255	156	60	115	85	4	14
40	245	180	271	181	77	145	110	4	18
50 (Light Type)	290	218	300	220	80	160	125	4	18
50 (Heavy Type)	340	250	370	230	88	160	125	4	18
65	325	240	355	220	90	180	145	4	18
	265	240	410	220	90	180	145	4	18
80 (Light Type)	325	240	355	220	90	195	160	8	18
	265	240	450	220	90	195	160	8	18
80 (Heavy Type)	420	325	445	253	118	195	160	8	18
100	515	418	458	278	131	215	180	8	18
150	540	525	557	377	210	280	240	8	23
200	650	650	624	444	247	335	295	12	23

2. CAST STEEL OVAL GEAR FLOW METER SIZE (UNIT: MM)

Model: MT-F110GR-E, MT-F110GR-NE (High temperature type: DN50 light and below B plus 100mm, DN50 heavy and above B plus 160mm)

DN(mm)	L(mm)	H(mm)	B(mm)	C(mm)	I(mm)	D(mm)	DI (mm)	N	? (mm)
10	170	100	212	120	45	90	60	4	14
15	200	120	240	142	53	95	65	4	14
20	250	150	250	150	63	105	75	4	14
25	300	202	260	162	68	115	85	4	14
40	300	202	290	203	83	150	110	4	18
50 (Light Type)	320	220	310	235	85	160	125	4	18
50 (Heavy Type)	384	262	394	394	88	160	125	4	18
65	350	260	365	275	100	180	145	4	18
80 (Light Type)	350	260	365	275	100	200	160	8	18
80 (Heavy Type)	450	330	452	272	118	200	160	8	18
100	555	415	478	298	131	220	180	8	18
150	540	510	557	377	210	285	240	8	23
200	650	650	624	436	247	340	295	12	23

The flange size is 16 bar standard; (Length and flange size can be customized)

3. STAINLESS STEEL OVAL GEAR FLOW METER SIZE (UNIT: MM)

Model: MT-F110GR-B/C, MT-F110GR-NB/NC type stainless steel elliptical gear flowmeter external dimensions (unit: mm) (high temperature type: DN50 light and below B plus 100mm, DN50 heavy and above B plus 160mm)

DN(mm)	L(mm)	H(mm)	B(mm)	C(mm)	I(mm)	D(mm)	DI (mm)	N	? (mm)
10	170	100	212	120	45	90	60	4	14
15	200	120	246	132	48	95	65	4	14
20	230	145	258	148	58	105	75	4	14
25	260	182	258	156	64	115	85	4	14
40	265	182	290	181	77	150	110	4	18
50	265	182	305	200	92	165	125	4	18
65	350	260	365	275	125	180	145	4	18
80 (Light Type)	350	260	365	275	125	200	160	8	18
80 (Heavy Type)	420	325	443	263	118	200	160	8	18
100	515	418	468	288	131	220	180	8	18

ORDERING CODES

1. SPECIAL SIGNS		T	5. COUNTER		J1
T	High temperature type		A/A1	Mechanical Pointer display below DN50 (light weight); A1 can be equipped with a transmitter	
U	Jacket type		J1	Mechanical pointer display above DN50 (heavy weight); Can be equipped with a transmitter	
N	High viscosity type		A5/A6	A5 single pointer character wheel display, A6 pointer returning to zero, both can be equipped with transmitter	
2. MATERIAL MARK		A	Z	Dual handle return to zero	
A	Cast iron type		13	Only output signal (Pulse, 4-20mA)	
E	Cast steel type		BELZ	Explosion proof LCD display (with pulse, 4-20mA RS485 three signal type) Optional output: HART protocol (Note: The monitor manual is attached separately)	
B	304 stainless steel type				
C	316L stainless steel type		6. TRANSMITTER		(B)GF
3. NOMINAL DIAMETER		XXX	(B)GF	Three line pulse (clockwise)	
XXX	Refer Nominal Diameter Table for the codes		(B)MF	4-20mA analog signal (-1 two-wire system; -2 three wire system)	
4. NOMINAL PRESSURE		1	Note: 0.2 level product suffix-J		
1	10 bar				
2	16 bar				
3	25 bar				
4	40 bar				
5	63 bar				

Ordering Example: MT-F110GR-T-A-XXX-1-J1-(B)MF

NOMINAL DIAMETER CODING TABLE

NOMINAL DIAMETER	CODE	NOMINAL DIAMETER	CODE
10	010	80	080
15	015	100	110
20	020	150	115
25	025	200	120
40	040	-	-
50	050	-	-
65	065	-	-