Metal Tube Rotameter

Float flow meter is made up of flow sensor and flow indicator. Float is placed vertically inside of conical measuring tube and can freely move up and down along the conical tube owing to hydrodynamic effects.A high-performance permanent magnet is set inside float, by this way the magnetic field around permanent magnet will change along with the float moving up and down.When fluid keeps a stable flow value and float locates in a dynamic balance state in position, the magnetic field around permanent magnet keeps constant also.The magnetic signal will be transmitted in non-contact form by means of the flow Indicator mechanically connected to conical tube. In another word,the indicator is able to detect and process flow value of liquid by magnetic drive system and finally the corresponding flow rate value can be read from the scale on site. Also it can indicate outputs as standard electrical signal (4-20)mA / hart communication protocol.

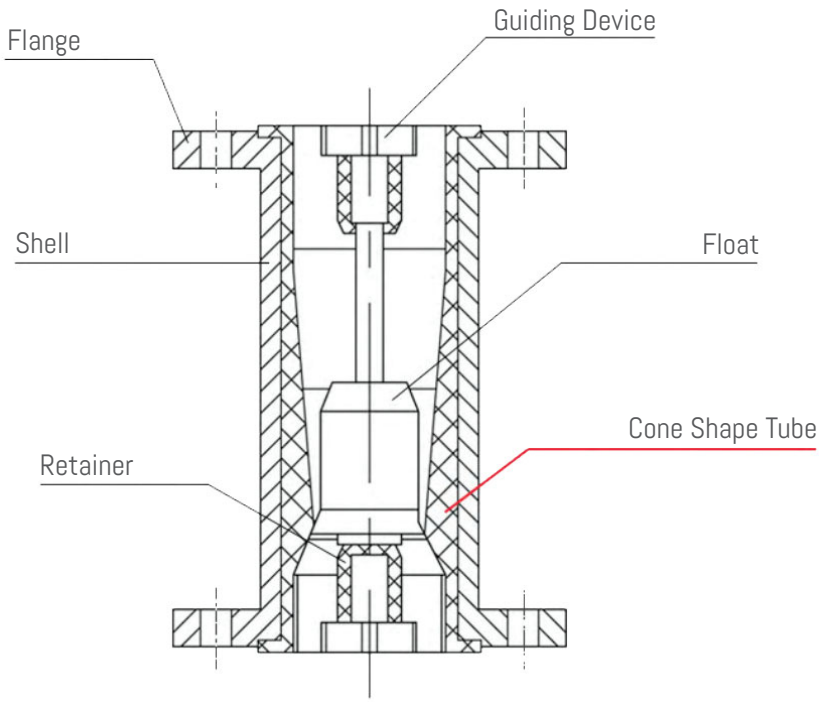
Special for low flowrate (Liquid Min : 16 L/H, Gas Min : 0.5 m3/h) and various harsh medium

All metal structure design suitable to high pressure (Max : 25 MPa), high temperature (Max : 300°C) or strong corrosive medium

Optional material for measuring part : Stainless Steel, Titanium, Hastelloy, PTFE, FEP, etc.

Embedded Stainless Steel Float
Optional Material : Stainless Steel (304 or 316), Titanium, Hastelloy, PTFE, FEP, Etc.

Float Stop Shaft& Guilding Device
Prevent the float starying from the right path and guarantee the measureing acccuracy

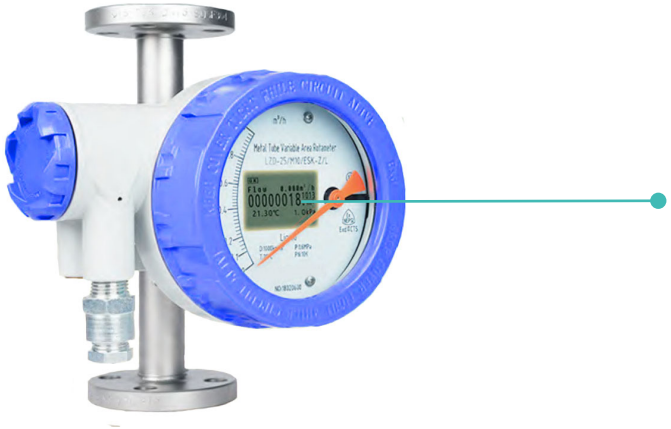


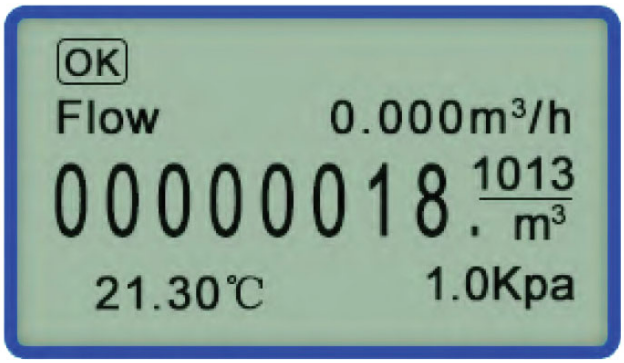
Metal tube rotameter adopts the cone shape design, reducing flow area, reducing error, making the measurement more accurate

Model : MTZ

Local Indicator
High resolution, More accurate, High visibility and Darable use

Model : MTD





Display flow rate (m3/h), Totalizer (m3), Medium Temperature (°C) and Pressure (KPa)
* Temperature (°C) is Optional

Multi Line LCD Display
Pointer indicatin + LCD display, High visibility with 4 - 20 mA output

Various Output Option

- DC 4 - 20 mA
- DC 4 - 20 mA + HART
- DC 4 - 20 mA + RS485
- DC 4 - 20 mA + Alarm

Note : Default is DC 4 - 20 mA output

Technical Parameters	
Measuring Range	Water (20°C) 16 - 150000 l/h Air (0.1013 MPa 20°C) 0.5 - 4000 m3/h
Range Ratio	10 : 1 (Special type 20 : 1)
Accuracy Class	2.5 (Special type 1.5% or 1.0%)
Working Pressure	DN15 - DN50 PN16MPa (Special type 25 MPa) DN80 - DN150 PN10MPa (Special type 16 MPa) Pressure rating of jacket 1.6 MPa
Medium Temperature	Normalized type - 80 °C to 220 °C High Temperature type 300 °C. Lined with FEP type ≤ 85 °C
Ambient Temperature	- 40 °C to 120 °C (Remote display without LCD ≤ 85 °C). (Remote display with LCD ≤ 70 °C)
Di Electric Viscosity	1/4" NPT, 3/8" NPT, 1/2" NPT ≤ 5 mPa.s 3/4" NPT, 1" NPT ≤ 250 mPa.s
Output	Standard signal : two-wires system 4 - 20 mA (with HART Communication) Standard signal : three-wires system 0 - 10 mA Alarm signal : 1. Two-way relay output 2. One-way or two-approach switches Pulse signal output : 0 - 1 KHz isolated output
Process Connection	Standard type : 24 VDC ± 20% AC type : 220VAC (85 - 265 VAC as Optional)
Connection Mode	Flange Thread Tri-Clamp
Level of Protection	IP65/ IP67
Ex-Mark	Intrinsically safe : EXiaIICT 3 - 6 Exd type : ExdIICT4 - 6

Flow Range

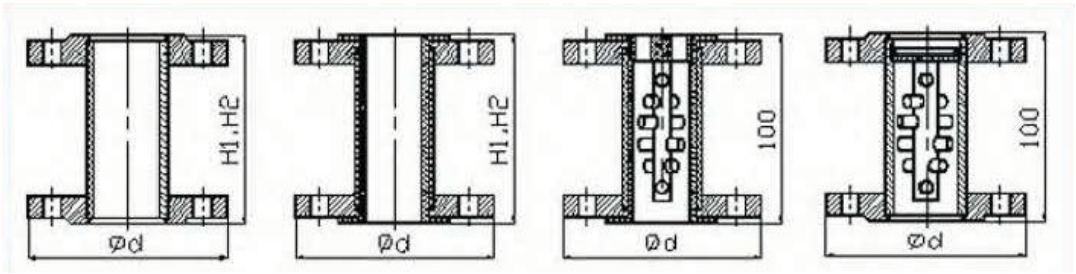
Float Material : 1 = Cr18Ni9, Cr17Ni14Mo2 and Hastelloy 2 : FEP

Diameter DN		Water (20 °C) L/h		Air 0.1013 MPa 20 °C Nm3/h	Standard Type The Maximum Pressure Loss KPa	
		1	2	1	Water	Air
15	*	16	-	0.5	2.0	7.0
	*	25	16	0.7	2.3	7.2
		40	25	1.1	2.5	7.3
		63	40	1.8	2.5	7.5
		100	63	2.8	2.8	7.8
		160	100	4.8	2.6	8.0
		250	160	7.0	2.7	10.0
		400	250	10.0	2.9	10.8
		600	400	16.0	34	14
15		600	400	16	4.0	7.0
		1000	600	30	4.1	8.0
		1600	1000	45	44	12.0
		2500	1600	70	5.2	19.0
		4000	2500	110	7.2	25.0
		6000	4000	180	12.5	33.0
25		600	400	16	4.0	7.0
		1000	600	30	4.1	8.0
		1600	1000	45	44	12.0
		2500	1600	70	5.2	19.0
		4000	2500	110	7.2	25.0
		6000	4000	180	12.5	33.0
32		1000	600	30	4.1	8.2
		1600	1000	45	44	12.0
		2500	1600	70	5.2	19.0
		4000	2500	110	7.0	25.0
		6000	4000	180	12.5	33.0
		10000		250	12.5	33.0
40		2500	1600	70	5.2	19.0
		4000	2500	110	7.0	25.0
		6000	4000	180	12.5	33.0
		10000		250	12.5	33.0
50		6000	4000	180	4.7	8.0
		10000	6000	250	5.1	15.0
		16000	10000	400	6.2	22.0
		25000	16000	600	8.0	35.0

Float Material : 1 = Cr18Ni9, Cr17Ni14Mo2 and Hastelloy 2 : FEP					
Diameter DN	Water (20 °C) L/h		Air 0.1013 MPa 20 °C Nm3/h	Standard Type The Maximum Pressure Loss KPa	
65	16000	10000	400	6.2	22.0
	25000	16000	600	8.0	35.0
80	25000	16000	1000	5.3	15.0
	40000	25000	1200	7.8	22.0
	60000	40000	1600	8.3	25.0
100	60000	40000	1800	114	35.0
	100000	60000	3000	16.7	45.0
125	100000	40000	3000	114	42.0
	125000	50000	3000	114	47.0
150	150000	100000	4000	17.0	47.0

Notes : In addition to above general specifications. * Special specfication all can be customized according to customer requires.

Installation Method



Straight Pipe Section

Straight Pipe Section Lined with FEP

Filter Lined with FEP

Filter

Caliber	DN15	DN25	DN50	DN80	DN100	DN150
Front Straight Pipe Section H1 ≥ (mm)	75	125	250	400	500	750
Front Straight Pipe Section H1 ≥ (mm)	250	250	250	250	250	250
Ψd (mm)	95	115	165	200	220	285

Model Select

MT	X	XXX	XX	XX	XX	X	X	X	X

Indicator	Code
Local Indicator	Z
LCD Indicator with Output	D

Norminal Diameter	Code
DN15	-15
DN20	-20
DN25	-25
DN40	-40
DN50	-50
DN80	-80
DN100	-100
DN150	-150

Structure	Code
Bottom-TOp	/
Left - Right (Horizontal)	H1
Right - Left (Horizontal)	H2
Side - Side	AA
Bottom - Side	LA
Thread Connection	S
Tri - Clamp	M

Body Material	Code
304SS	R4
316LSS	R6L
Hastelloy C	Hc4
Titanium	Ti
Liner F46(PTFE)	F
Model	M

Indicator Type	Code
Linear Indicator (Pointer Indication)	M7
Non-Linear Indicator (LCD Display)	M9

Combination Function (Only for LCD Display)	Code
24VDC with 4 - 20 mA Ouput	S
24VDC with HART Communicaiton	Z
Battery Power	D

Additional Function	Code
Measuring Tube with Thermal Preservation / Heat Insulation Jacket	T
Measure Medium Temperature Higher than 120 °C	HT

Ex-Proof	Code
With	W
Without	N

Alarm	Code
One Alarm	K1
Two Alarm	K2
None	N