

Technical Data Sheet

BMTF-1000

Metal Tube Rotameter



➤ FEATURES

- Designed for measurement of small caliber and low-speed medium
- With reliable performance, few maintenance and long service life
- Low requirement for the straight tube section
- Widely measure ratio: 10:1
- Dual-line display, instantaneous/ cumulative flow rates displayed at the field with a keyboard on the indicator for convenient operation and setting
- All in metal construction, designed for measuring corrosive medium of high temperature, high pressure and strong
- Non-contact magnetic coupling transmission
- Applicable for inflammable and explosive occasion
- Optional charging modes: DC power supply or battery power
- With the functions of data recovery, data backup and power failure protection
- Multiple parameters calibrating function

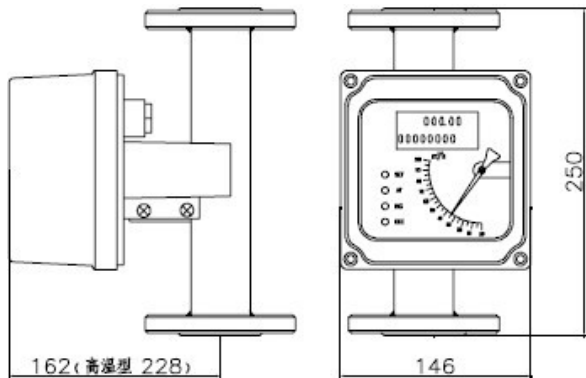
SPECIFICATION

Caliber of flow meter	DN15, DN25, DN50, DN80, DN100, DN150 For other caliber dimensions, please negotiate with the manufacturer.
Flow range	Liquid: 1.0~150000l/h Gas: 0.05~3000m ³ /h (For the detailed flow range, refer to the Table of Flow on Page 11.)
Measurement Ratio	10:1, 20:1 (special)
Accuracy	Grade 1.5, Grade 1.0 (special)
Pressure rating	DN15, DN25, DN50: 4.0MPa (Max: 20MPa) DN80, DN100, DN150: 1.6MPa (DN80: Max 10MPa, DN100: Max 6.4MPa, DN150: Max 4.0MPa)
Medium temperature	Standard: -30℃~+120℃, high temperature: 120℃~350℃
Power supply	24VDC(12~36VDC)
Output signal	4~20mADC (two-wire configuration); attached HART Protocol allowed
Output load	500Ω(24V power supply)
Ambient temperature	Local type: -40℃~120℃ Remote-control type: -30℃~60℃
Storage requirement	Temperature: -40℃~85℃ humidity: ≤85%
Connection mode	Standard: Flange connection, GB/T9119-2000 For other connection modes, please negotiate with manufacturer
Cable interface	M20×1.5
Housing protection grade	IP65
Explosion-proof	Intrinsic safety type: ExiallCT6 flame-proof type : ExdllCT6
Pressure loss	See table of flow for detailed information
Viscosity of medium	DN15: η<5mPa.s DN25: η<250mPa.s DN50~DN150: η<300mPa.s
Wetted material	R1: 304, 1Cr18Ni9Ti; RL Ro: 316, 0Cr18Ni12Mo2Ti : 316L, 00Cr17Ni14Mo2Ti; ; Ti: Titanium alloy; Rp: PTFE lining

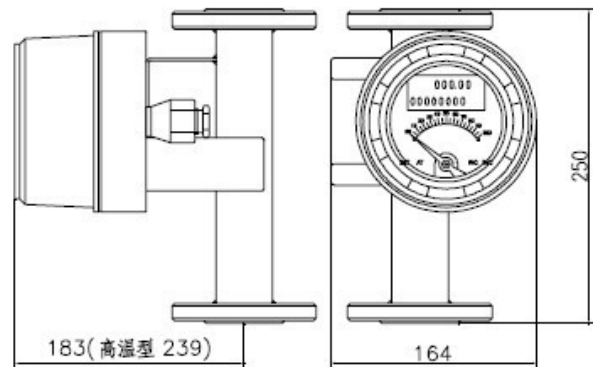
DIMENSION

BMTF1000 Series Metal Tube rotameter can be divided into 5 types according to the direction of liquid, and each type also be classified into the standard type, high-temperature type, jacket type and so on. All types will be respectively described below

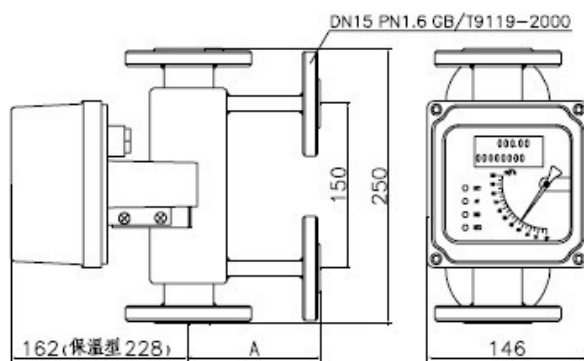
Vertical installation type



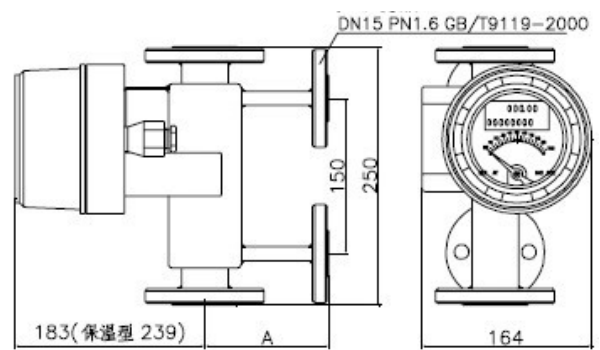
Standard Type M4 Indicator
High-temperature type



Standard Type M5 Indicator
High-temperature type



Cooling Jacket Type M4 Indicator
Normal-temperature type

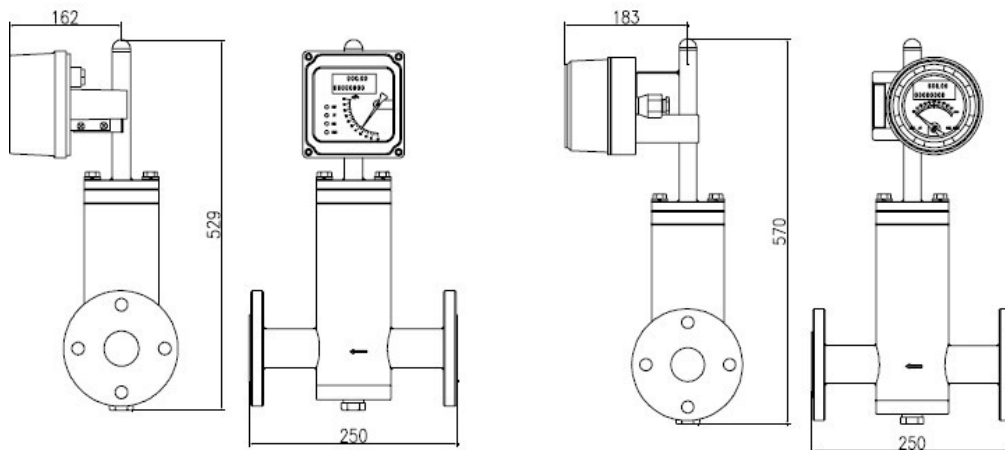


Cooling Jacket Type M5 Indicator
Normal-temperature type

Size	DN15	DN25	DN50	DN80	DN100	DN150	DN200
A	100	120	135	150	160	40	200
Weight of standard type (kg)	5.0	6.5	10	16	17	35	50
Weight of jacket type (kg)	7.5	9.5	13	19	20	40	55

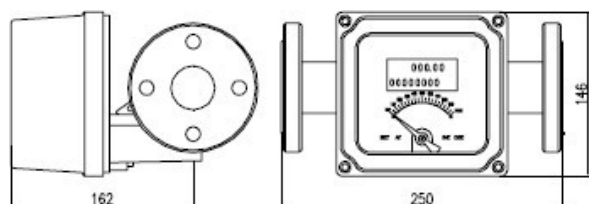
Horizontal installation type

Horizontal flowmeters, select T type if the size \leq DN50, select spring construction if the size $>$ DN50



T type construction M4 indicator

T type construction M5 indicator

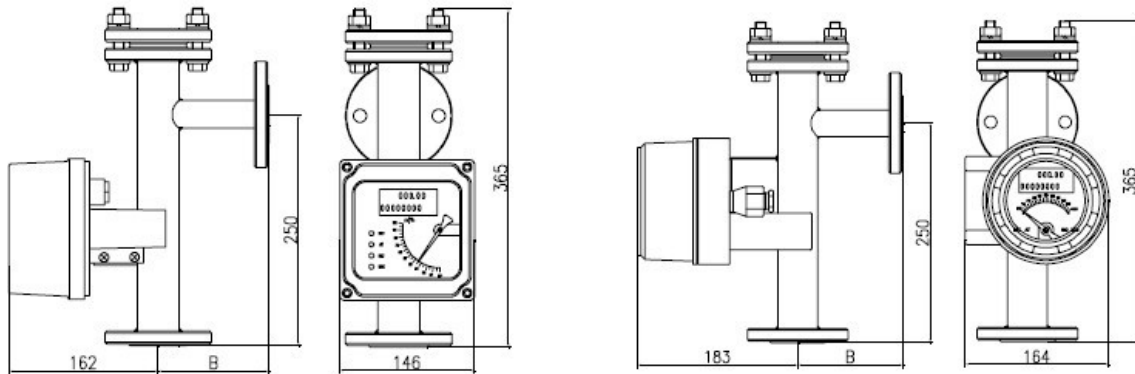


Spring-construction M4 indicator

Spring-construction M5 indicator

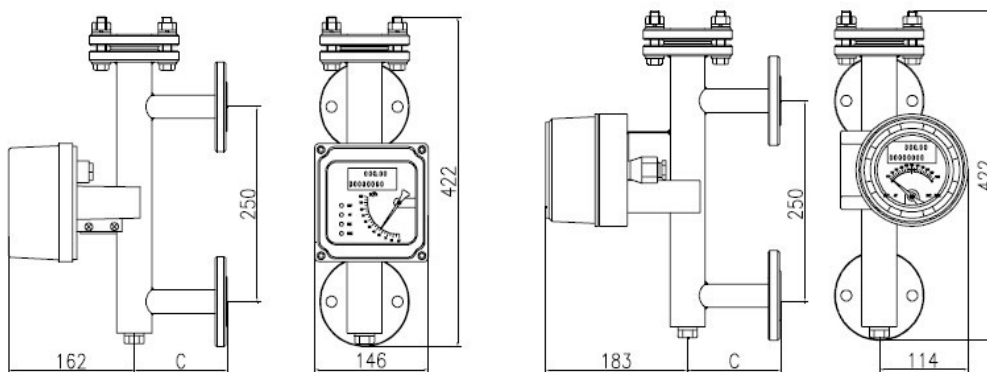
Size		DN15	DN25	DN50	DN80	DN100	DN150	DN200
Weight of T type construction	kg	6	10	20				
Weight of spring construction	kg				16	17	35	50

Bottom-charging-and-side-discharging type



Size	DN15	DN25	DN50	DN80	DN100	DN150	DN200
C	100	120	135	150	160	180	200
Weight kg	5.5	6.5	13	22	26	50	57

Side-charging-and-side-discharging type

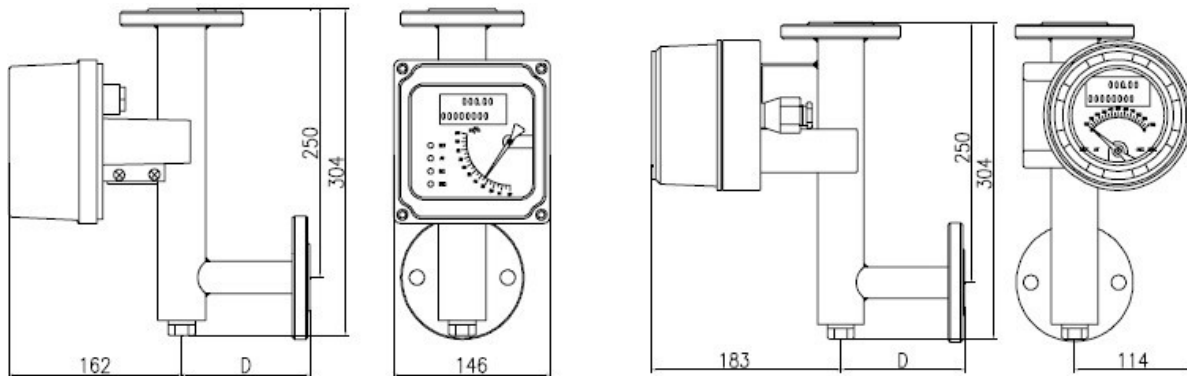


Standard Type M4 Indicator

Standard Type M5 Indicator

Size	DN15	DN25	DN50	DN80	DN100	DN150	DN200
D	100	120	135	150	160	180	200
Weight kg	5.5	6.5	10.5	16	17	36	52

Side-charging-and-top-discharging type



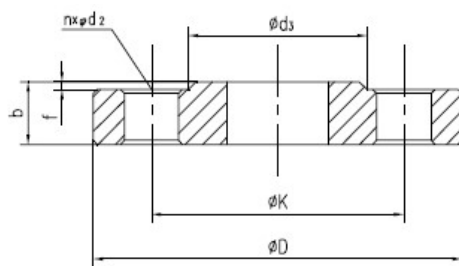
Standard Type M4 Indicator

Standard Type M5 Indicator

Size	DN15	DN25	DN50	DN80	DN100	DN150	DN200
D	100	120	135	150	160	180	200
Weight kg	5.5	6.5	10.5	16	17	36	52

Flange dimension

The standard Flange of MTF1603 Series Metal Tube Rotameters adopt GB/T9119-2000, refer to Figure as below. Other flange standards shall be subject to customers' requirements.



Standard Flange Plate (GB/T9119—2000)

DN/PN	D	K	d ₃	b	f	n	d ₂
15/4.0	95	65	46	14	2	4	14
25/4.0	115	85	65	16	2	4	14
50/4.0	165	125	99	20	2	4	18
80/1.6	200	160	132	20	2	8	18
100/1.6	220	180	156	22	2	8	18
125/1.6	250	210	184	22	2	8	18
150/1.6	285	240	211	24	2	8	22

German National Standard Flange Plate(DIN2501)

DN/PN	D	K	d ₃	b	f	n	d ₂
15/4.0	95	65	46	16	2	4	14
25/4.0	115	85	68	18	2	4	14
50/4.0	165	125	102	20	3	4	18
80/1.6	200	160	138	20	3	4	18
100/1.6	220	180	162	20	3	8	18
125/1.6	250	210	188	22	3	8	18
150/1.6	285	240	218	22	3	8	22

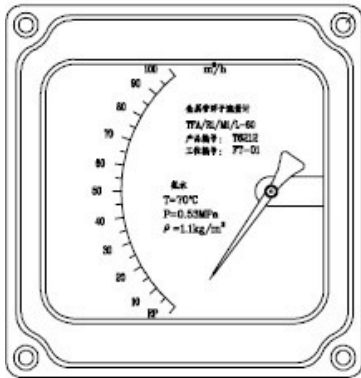
ANSI Standard Flange Plate(ANSI B 16.5 150lb)

DN	D	K	d ₃	b	f	n	d ₂
1/2"	88.9	60.5	35.1	11.2	1.6	4	15.7
1"	108	79.2	50.8	14.2	1.6	4	15.7
2"	152	121	91.9	19.1	1.6	4	19.1
3"	191	152	127	23.9	1.6	4	19.1
4"	229	191	157	23.9	1.6	8	19.1
5"	254	216	186	23.9	1.6	8	22.4
6"	279	241	216	25.4	1.6	8	22.4

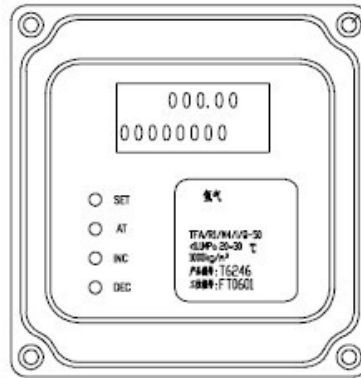
INDICATOR

Users can select local display type, electric transmissible type, intrinsic safety type, flame-proof type or HART Protocol attached type according to the practical requirements at the field. For detailed functional descriptions of all indicators, refer to the following table.

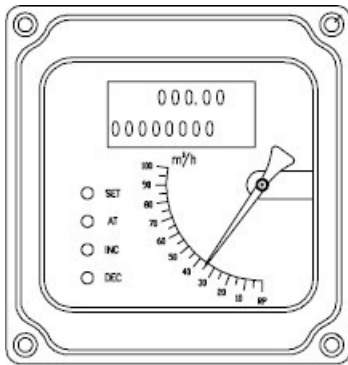
Type of Indicator	Functional Description of Indicator
M1 Type	Local analogue display; No power supply; No 4~20mA; Optional flow alarm device; Instantaneous flow value or percent-scale value are provided for option.
M3 Type	Local digital display, battery powered No 4~20mA output Non-explosion-proof LCD displays both the instantaneous and cumulative flow rates Parameters can be checked or modified by pressing keys on the keyboard. Batteries have a service life of 6 months. B5Change the batteries (Battery Model No.: ER26500, 3.6V, 7.5AH, -55°C~85°C) when the screen displays a “T” letter.
M4 Type	Electric transmissible and intrinsically safe design; Intrinsic safety type: ExiallCT6; Optional HART protocol function; DC24 power supply; The pointer indicates instantaneous flow rate and digitally displays instantaneous and accumulated flow rates; Two-wire configuration with output of 4~20mA; 4 keys on the panel which are used to check and modify internal parameters.
M5 Type	Electric transmissible and explosion-proof type design; Flame-proof mark: Exd II CT6; Optional HART protocol function; DC24 power supply; Pointer indicates the instantaneous flow rate and digitally displays instantaneous flow rate and accumulated flow rates; Two-wire configuration with output of 4~20mA; 4 keys on the panel which are used to check and modify internal parameters.



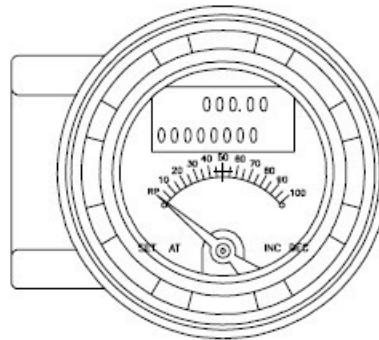
M1 Type



M2 Type



M4 Type



M5 Type