

Medidor de vazão por área variável, rotâmetro com tubo metálico

Características:

Concebidos para a medição de pequenas vazões e baixa velocidade.

Com um desempenho confiável, quase nenhuma manutenção e longa vida útil.

Baixa necessidade de secção de tubo reto

Range de medição de: 1:10.

Display duplo, com indicação de vazão instantânea e acumulada.

Tubo em construção metálica, concebidos para medir meio corrosivo de alta temperatura, alta pressão, com alta resistência.

Sem contato transmissão por acoplamento magnético.

Aplicável para ambientes inflamáveis e explosivos.

Fonte de alimentação DC ou bateria.

Com as funções de recuperação de dados, backup de dados e proteção para falta de energia.

Função de calibração de múltiplos parâmetros.



Especificações:

Diâmetros: DN15, DN25, DN50, DN80, DN100, DN150.

Faixa de vazão: Líquidos: 1.0~150000l/h Gases: 0.05~3000m³/h

Range de Medição 1:10 (opcional 1:20)

Precisão 1,5% (opcional 1%)

Pressão suportada: DN15, DN25, DN50: 4.0MPa (Max: 20MPa) DN80, DN100, DN150: 1.6MPa (DN80: Max 10MPa, DN100: Max 6.4MPa, DN150: Max 4.0MPa)

Temperatura: Standard: -30° ~ +120°C, versão alta temperatura 120° ~• 350°C

Alimentação: 24VDC(12~36VDC)

Saída de sinal: 4 ~ 20 mA (configuração a dois fios); opcional anexado Protocolo HART

Carga máxima na saída: 500Ω(24VDC)

Temperatura ambiente: Tipo local: -40°C~120°C Tipo remoto: -30°C~60°C

Conexão: Padrão flangeada, outras sob consulta.

Conexão elétrica: M20x1.5

Grau de Proteção: IP 65

A prova de explosão: Intrinsecamente seguro tipo: ExIIICT6 A prova de chama tipo: ExdIICT6

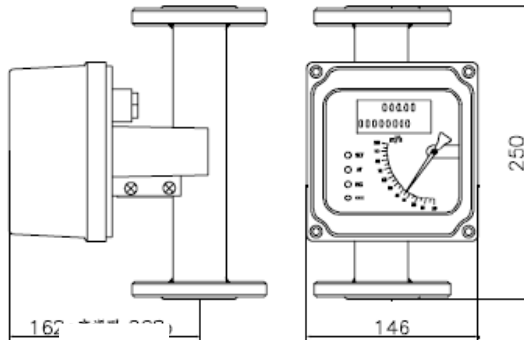
Viscosidade máxima: DN15 : $\eta < 5\text{mPa}\cdot\text{s}$ DN25 : $\eta < 250\text{mPa}\cdot\text{s}$ DN50~DN150 : $\eta < 300\text{mPa}\cdot\text{s}$

Materiais do cone de medição: R1 : AISI 304, 1Cr18Ni9Ti; Ro : AISI 316, 0Cr18Ni12Mo2Ti; RL : 316L, 00Cr17Ni14Mo2Ti; Ti : Titanium alloy; Rp : PTFE lining.

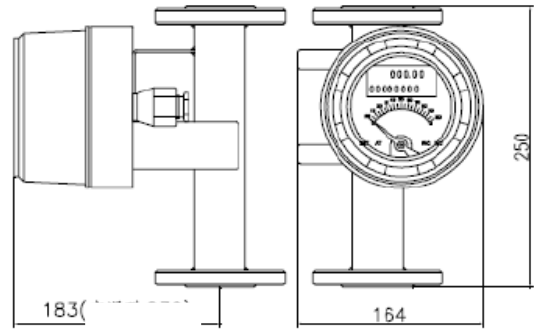
Dimensões

O rotâmetro de tubo metálico MTF pode ser dividido em cinco tipos de acordo com a direção do fluxo de líquido, e cada tipo também ser classificadas por tipo de alta temperatura, tipo de revestimento padrão e assim por diante. Todos os tipos serão respectivamente descrito abaixo.

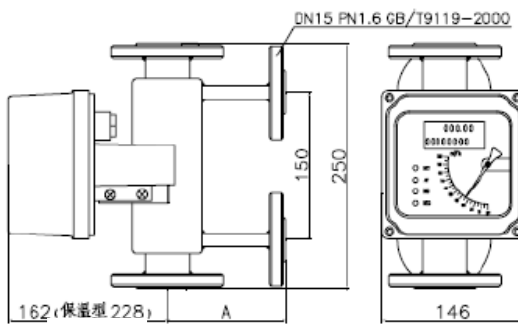
■ Vertical installation type



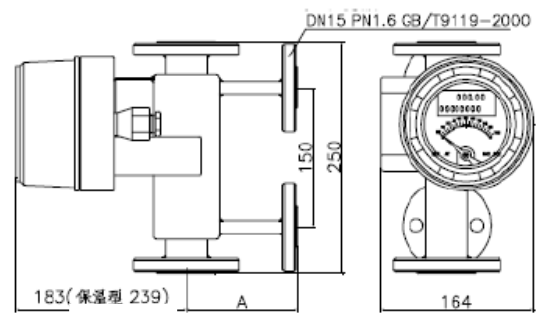
Standard Type M4 Indictor
High-temperature type



Standard Type M5 Indictor
High-temperature type



Cooling Jacket Type M4 Indictor
Normal-temperature type

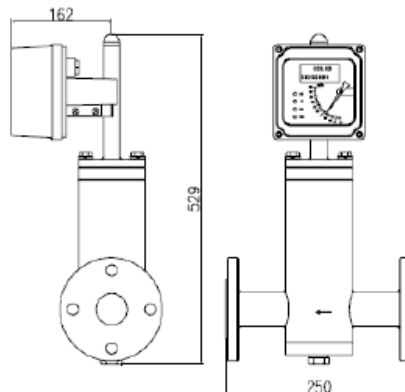


Cooling Jacket Type M5 Indictor
Normal-temperature type

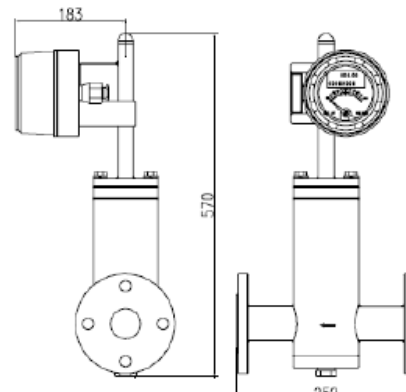
| Size | DN15 | DN25 | DN50 | DN80 | DN100 | DN150 | DN200 |
|------------------------------|------|------|------|------|-------|-------|-------|
| A | 100 | 120 | 135 | 150 | 160 | 40 | 200 |
| Weight of standard type (kg) | 5.0 | 6.5 | 10 | 16 | 17 | 35 | 50 |
| Weight of jacket type (kg) | 7.5 | 9.5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

■ Horizontal installation type

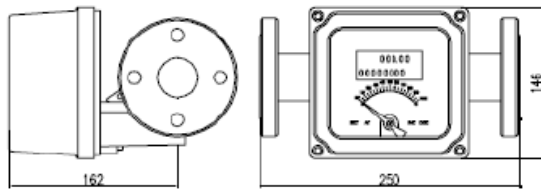
Horizontal flowmeters, select T type if the size \leq DN50, select spring construction if the size $>$ DN50



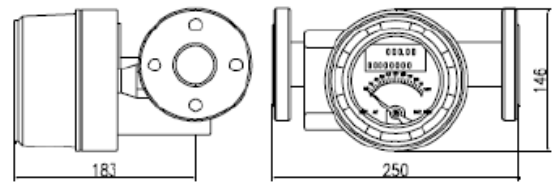
T type construction M4 indictor



T type construction M5 indictor



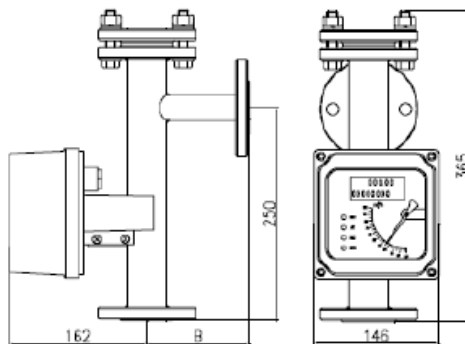
Spring-construction M4 indictor



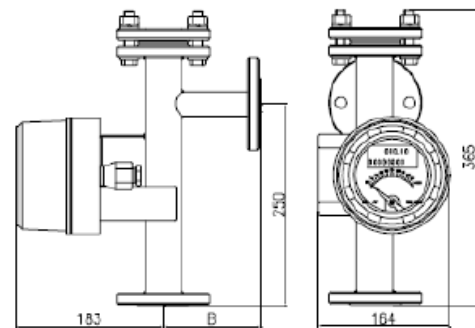
Spring-construction M5 indictor

| 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



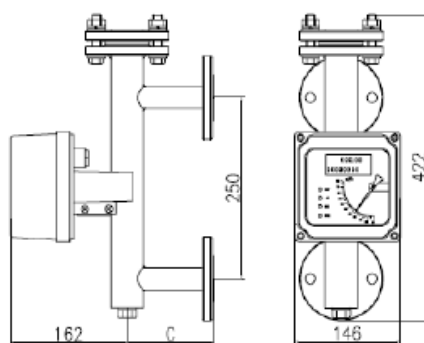
Standard Type M4 Indictor



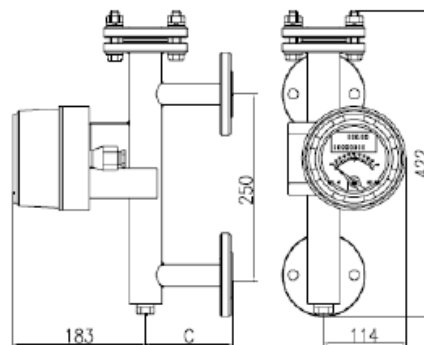
Standard Type M5 Indictor

| 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



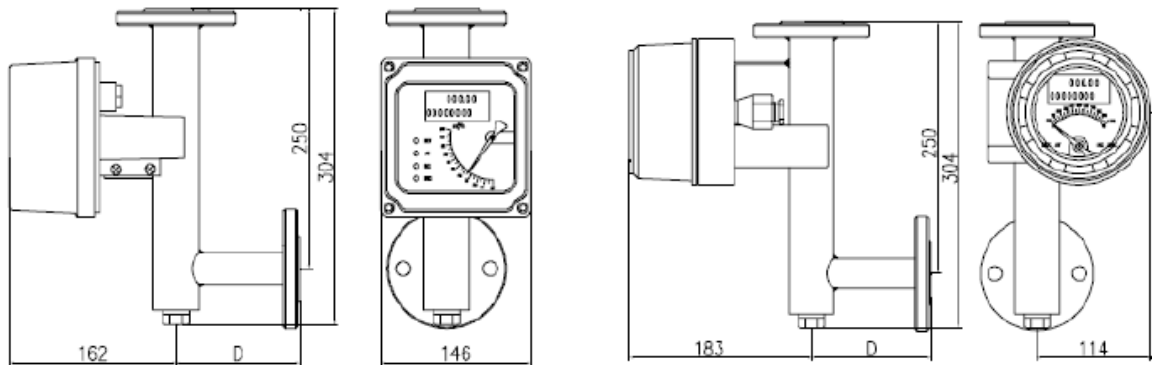
Standard Type M4 Indictor



Standard Type M5 Indictor

| 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

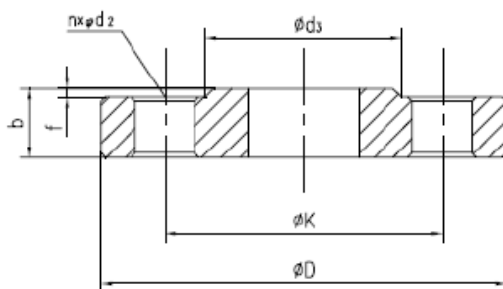
Standard Type M5 Indicator

| 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 MTF Series Metal Tube Rotameters adopt GB/T9119-2000, refer to Figure as below. Other flange standards shall be subject to customers' requirements.

China National 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 |

ANSI Standard Flange Plate(ANSI B 16.5 150lb)

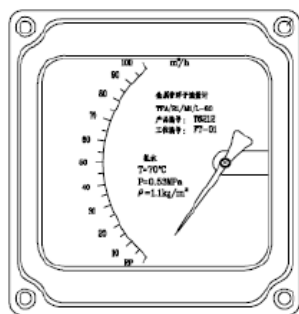
| DN | D | K | d ₃ | b | f | n | d ₂ |
|------|------|------|----------------|------|-----|---|----------------|
| 1/2" | 88.9 | 60.5 | 35.1 | 11.2 | 1.6 | 4 | 15.7 |
| 1" | 108 | 79.2 | 50.8 | 14.2 | 1.6 | 4 | 15.7 |
| 2" | 152 | 121 | 91.9 | 19.1 | 1.6 | 4 | 19.1 |
| 3" | 191 | 152 | 127 | 23.9 | 1.6 | 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 |

German National Standard Flange Plate(DIN2501)

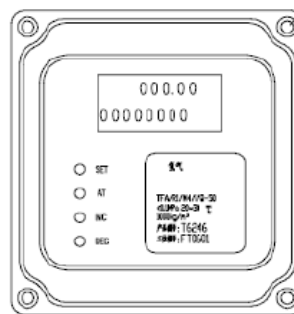
| DN/PN | D | K | d ₃ | b | f | n | d ₂ |
|---------|-----|-----|----------------|----|---|---|----------------|
| 15/4.0 | 95 | 65 | 46 | 16 | 2 | 4 | 14 |
| 25/4.0 | 115 | 85 | 68 | 18 | 2 | 4 | 14 |
| 50/4.0 | 165 | 125 | 102 | 20 | 3 | 4 | 18 |
| 80/1.6 | 200 | 160 | 138 | 20 | 3 | 4 | 18 |
| 100/1.6 | 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 |

Os usuários podem selecionar o tipo de exibição local, tipo com saída de sinal elétrico, tipo de segurança intrínseca, tipo à prova de chamas ou com protocolo HART de acordo com os requisitos práticos no campo. Para descrições detalhada de todos os indicadores, veja detalhes na tabela a seguir.

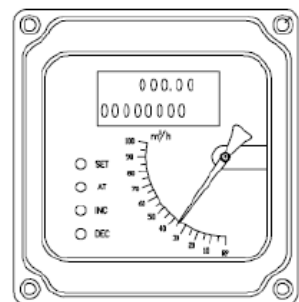
| Type of Indicator | Functional Description of Indicator |
|-------------------|--|
| M1 Type | Local analogue display; No power supply; No 4~20mA; Optional flow alarm device; Instantaneous flow value or percent-scale value are provided for option. |
| M3 Type | Local digital display, battery powered 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. |



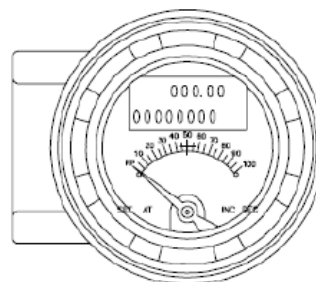
M1 Type



M2 Type

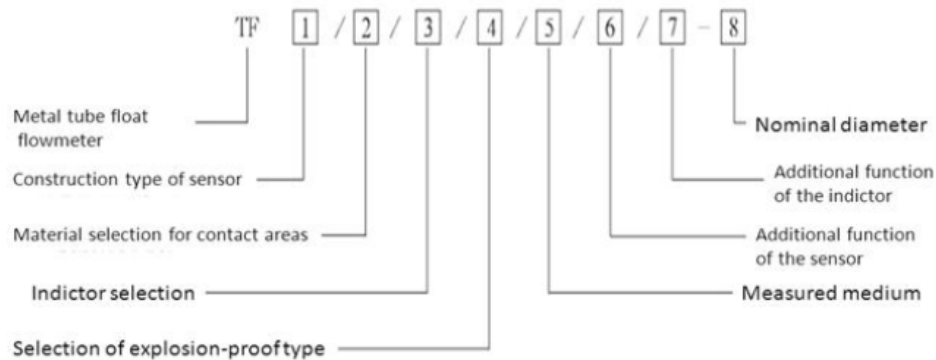


M4 Type



M5 Type

SELECTION CODE



| 1 Construction type of sensor | |
|--|---|
| A | Vertical installation type |
| H | Horizontal installation type |
| DS | Bottom-charging-and-side-discharging installation type |
| SS | Side -charging-and-side-discharging installation type |
| SD | Side -charging-and-top-discharging installation type |
| 2 Wetted material | |
| R1 | 304,1Cr18Ni9Ti |
| R0 | 316,0Cr18Ni12Mo2Ti |
| RL | 316L, 00Cr17Ni14Mo2Ti |
| RP | 1Cr18Ni9Ti PTFE inside lining |
| Ti | Titanium alloy |
| 3 Selection of indictors | |
| M1 | Mechanical pointer indicates the instantaneous flow rate; |
| M3 | Local LCD displays instantaneous and accumulated flow rates of the fluid; no 4~20mA transmission function; battery supply (service life of 6 months); |
| M4 | Local pointer indicates the instantaneous flow rate and LCD displays instantaneous and accumulated flow rates of the fluid; output two-wire configuration standard signal of 4~20mA; Ex-proof: Ex ia II CT6. Optional HART protocol function; |
| M5 | Ex-proof: Exd II CT6; others are the same as M4. |
| 4 Ex-proof type | |
| i | Intrinsic safety type(ExialICT6) |
| d | Flame-proof type(ExialICT6) |
| 5 Measuring medium | |
| L | Liquid measurement |
| Q | Gas measurement |
| 6 Additional functions of the sensor | |
| T | Heat preservation/ cooling jacket |
| G | High-temperature type (When the temperature of measured medium is higher than 120°C, special treatment will be performed by transmissible indictor.) |
| Y | High-pressure type (higher than the nominal pressure in the technical parameters) |
| 7 Additional functions of the indictor | |
| K1 | Lower limit alarm |
| K2 | Upper limit alarm |
| 8 Nominal diameter | |
| 50 | DN50 (Size of process pipelines) |