

INSERTION THERMAL MASS FLOW METER TM520



Features

- Real mass flowmeter, no temperature and pressure compensation for gas flow measurement, convenient and accurate measurement. The mass flow or standard volume flow of the gas can be obtained.
- Wide range ratio, can measure the gas flow rate as high as 100Nm³/s as low as 0.1Nm³/s.
- Digital design. Overall digital circuit measurement, accurate measurement and easy maintenance.
- Compatible for oxygen, nitrogen, hydrogen, compressed air and other clean single medium.

Technical Data

Measuring principle : Thermal mass flow meter

Gas types : Compressed air, Oxygen, Nitrogen, Hydrogen, etc. *(Except the acetylene)*

Display indicator : LCD

Velocity measuring range : 0.1...100 Nm³/s

Flow range : See the table (page 2)

Flow unit : Nm³/h, Nm³/min, NL/h, NL/min, SCFM, g/min, g/s, kg/h, kg/min

Cumulative flow unit : Nm³, NL, SCF, g, kg

Accuracy: ±1.5% of full scale *(within flow rate table)*

Response time : 1 second

Pipe Diameter : DN65...DN3000

Process Connection : G 1/2"

Pressure resistance : 16 bar (standard)

Medium Temperature : -20...+250°C (Option : -20...+350°C)

Ambient Temperature : -20...+45°C

Ambient Pressure : 86...106 kPa

Relative Humidity : 5...90 %RH

Signal Output : Pulse, 4-20mA, RS-485, HART (Please see ordering code)

Power Supply : 24Vdc and 220 Vac *(do not power at the same time)*

Power consumption : ≤18W

Material : 304 Stainless Steel (Option : 316 Stainless Steel)

Protection class : IP65

Approval : Ex d II T6 Gb (Option)

Application



Automotive industry



Automotive industry



Chemical Monitoring

www.omi.co.th

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Flow rate and Pressure rating

Nominal Diameter		Precision air flow range (Nm ³ /hr)		Measurable air flow range (Nm ³ /hr)		Standard Pressure (all type)
mm	inch	Min	Max	Min	Max	MPa
65	2-1/2	72	720	1.19	1194.59	1.6
80	3	108	1080	1.81	1809.56	1.6
100	4	168	1680	2.83	2827.43	1.6
125	5	264	2640	4.42	4417.86	1.6
150	6	378	3780	6.36	6361.73	1.6
200	8	600	6000	11.31	11309.73	1.6
250	10	1000	10000	17.67	17671.46	1.6
300	12	1500	15000	25.45	25446.90	1.6
350	14	2100	21000	34.64	34636.06	1.6
400	16	2700	27000	45.24	45238.93	1.6
450	18	3420	34200	57.26	57255.53	1.6
500	20	4200	42000	70.69	70685.83	1.6
600	24	6000	60000	101.79	101787.60	1.6
700	28	8100	81000	138.54	138544.24	1.6
800	34	10800	108000	180.96	180955.74	1.6
900	36	13800	138000	229.02	229022.10	1.6
1000	40	16800	168000	282.74	282743.34	1.6

The flow rate in standard condition: The flow rate air is in the condition of 20°C and 101.325kPa

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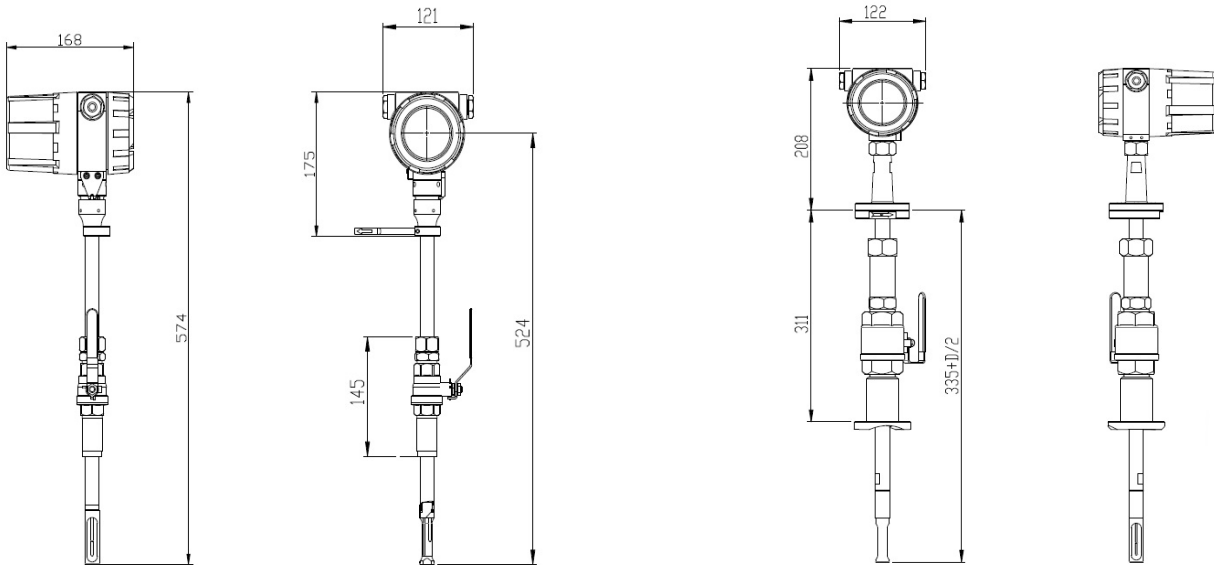
INSERTION THERMAL MASS FLOW METER TM500

Installation Dimensions

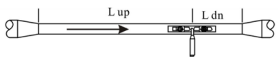
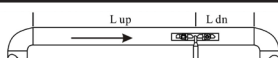
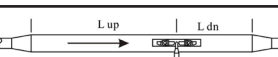
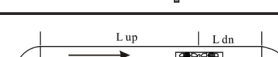

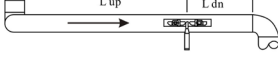
- **Standard insertion sensor**

- **Hot-tapped insertion sensor**

(for high temperature, please see code on page 5)



Installation guide

Type of pipe characteristic and the sensor location	Upstream	Downstream
	Distance before the center of the sensor (L up)	Distance After the center of the sensor (L dn)
	20 x diameter	5 x diameter
	20 x diameter	5 x diameter
	20 x diameter	5 x diameter
	25 x diameter	5 x diameter
	40 x diameter	5 x diameter
	50 x diameter	5 x diameter

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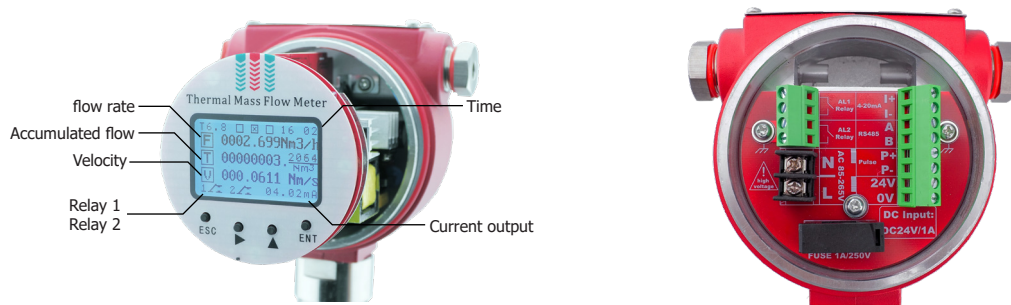
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THEMAL MASS FLOW METER TM500

Informations

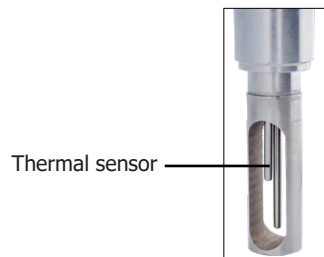
- Display indicator and Output signals**

Thermal mass flow meter has intergal display. There are flow rate, Accumulated flow, Percentage of flow rate and velocity



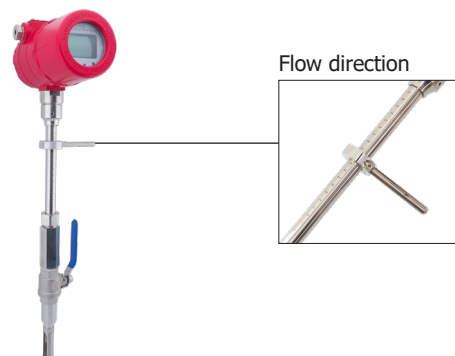
- Durable sensor**

The sensor of flow meter is made by stainless steel that can be stainless steel 304 or stainless steel 316. The thickness of sensor is about **3 mm**. That is literally durable sensor ever happened.



- Flow direction and engraved depth scale**

The insertion thermal flow meter has a flow direction and engraved depth scale. They will help user for installation easier.



THEMAL MASS FLOW METER TM520

Ordering Code

Example Order : TM520-A-B-C-D-E

A : Pipe Diameter

xx : DN65...DN3000

B : Display and Output Feature

DA : Display + 4-20mA + pulse + RS485

DR : Remote Display (10 m cable) + 4-20mA + pulse + RS485

DRxx : Remote type with special cable range (max. 30 meters) + display + pulse + 4-20mA + RS485
Example : DR25 is Remote type with 25 meters of cables

DH : Display + 4-20mA + pulse + RS485 + HART

C : Body Material (option)

- : Stainless Steel 304

S16 : Stainless Steel 316

D : Fluid temperature (option)

- : -20...+250°C

H : -20...+350°C

E : Explosion Proof (option)

- : Non-Explosion proof

EX : Ex d II T6 Gb

Example Ordering : TM520-200-DA-S16

Description : Insertion thermal mass flow meter for DN200 pipe , have monitor and output signal is 4-20 mA + pulse + RS485, Body Material is Stainless Steel 316, resistance liquid temperature -20...+250°C

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Accessories (options)

FDI-7600 : Flow totalizer display



Features

- Display indicator for flow meter, able to record the totalizer and flow rate together
- Built-in memory for recording data
- There is a software for management data, graphing, export data to CSV file

DL7 : data logger



- Up to 42 input/output signals
- Up to 100 displayed channels
- 2 GB internal data memory, advanced data logging
- 7" touchscreen colour LCD
- Ethernet port, Modbus TCP Client/Server
- RS-485 port, Modbus RTU Master/Slave

IoT-WiFi : IoT module for wifi version



Feature

- Wi-Fi are available
- The IoT module can receive a signal from Instrument for monitoring in real-time , support adjustment
- The IoT module can receive 4 analog and 1 digital signal from industry instrument.
- Application can be widely used in industrial automatic control, base station/computer room monitoring, environmental monitoring, water conservancy project, power industries, agriculture, etc.

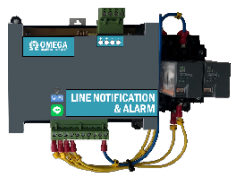
IoT-GPRS/4G: IoT module for 4G version



Feature

- 4G are available
- The IoT module can receive a signal from Instrument for monitoring in real-time , support adjustment
- The IoT module can receive 4 analog and 1 digital signal from industry instrument.
- Application can be widely used in industrial automatic control, base station/computer room monitoring, environmental monitoring, water conservancy project, power industries, agriculture, etc.

LINE : Line alert



Feature

- Automatically report status when it starts working.
- The messages are available to be created in Thai and English languages freely
- The notification can be alarmed max. 9 times continuously
- The user can be maximum 500 users in LINE group for receiving a notification
- Compact, modern and comfortable for monitoring
- The equipment can be connected with every controller or PLC which signal out a relay

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