

**Overview**

MaxiFlo™ MST series Thermal Mass Flow Meter is the instrument of choice for reliable and accurate measurement of mass flows for various gases. It measures the mass flow of gas based on constant temperature differential technology and is able to measure gas flow in the range between 0.5 and 100 NMPS.

Because neither temperature nor pressure measurement is required, MST series reduces installation cost and vastly improves system accuracy.

The meter is easily installed or retrofitted with minimum downtime and provides superior, long-term process productivity and easy serviceability.

MST series can have either inline sensor or insertion sensor. The inline sensor size ranges from 1/2" (15mm) to 12" (300mm) with either NPT thread connection or flange connection. The insertion sensors are available from 1-1/4" (32 mm) and above with the sensor mounting option of either compression fitting or flange.

The indicator/transmitter provides a 4-20mA, pulse, RS-485, HART, alarm, etc.

**Main Features**

- Can measure gas/air flow without pressure or temperature compensation
- It can measure mass flow and also volume flow.
- No moving parts
- High accuracy of  $\pm 1.0\sim 2.5\%$  Reading
- Wide turndown ratio of 1000:1
- Field-programming capability available
- SUS 316 stainless steel material for sensor body and sensing elements
- Lightning protection

**Measuring Principle**

MST series Thermal Mass Flow Meter utilizes both constant temperature differential (dT) and constant current technologies. The sensor has two elements. The reference RTD measures the gas temperature. The electronics heats the heated element above the gas temperature. It is the job of the electronics to maintain a constant current.

The electronics measures the dT and the current to measure the flow rate.

100% Customer Satisfaction

**MAXIFLO****Thermal Mass Flow Meter (Series MST)**

THERMAL MASS FLOWMETER



MST100



MST400

## INDICATORS AND SENSORS



**MST100  
with Inline Sensor  
1"~12" (15~300mm)**



**MST100  
with Insertion Sensor  
2" ~ 40" (50~1000mm)**



**MST400 Micro Thermal  
Mass Flow Meter/Mass  
Flow Controller  
1/4" ~ 2" (8~50mm)**

### Indicator/Transmitter Models

Model	Description
<b>MST100</b>	Standard Version
<b>MST400</b>	Micro Thermal Mass Flow Meter and Thermal Mass Flow Controller

The indicator/transmitter can be mounted integrated with the sensor or mounted separately by option.

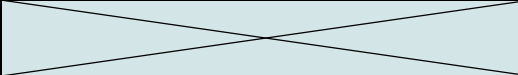
### Sensors

Division	Description	
	Connection /Fitting	Pipe Size
<b>Inline</b>	NPT Thread	<b>1" ~ 12" (25 ~ 300mm)</b>
	Flange	
<b>Insertion</b>	Compression Fitting	<b>1" ~ 40" (25 ~ 1500mm)</b>
	Flange Fitting	

For insertion type sensors, mounting accessories (such as compression fitting and flange fitting are supplied upon request.

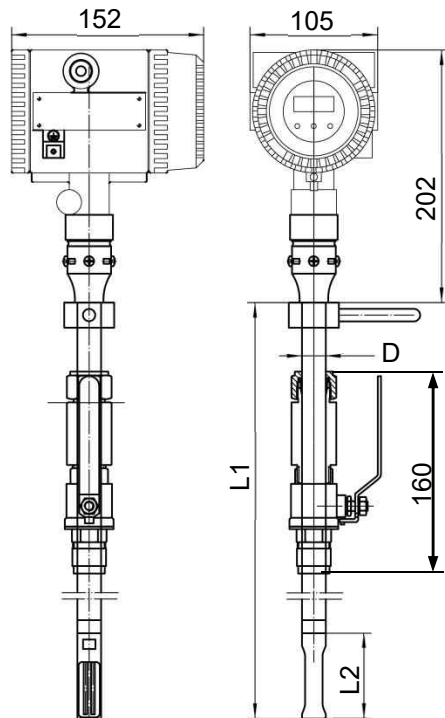
## SPECIFICATIONS

**Technical Specifications**

Model		MST100	MST400
<b>Fluids measured</b>		Air, nitrogen, natural gas and other non-corrosive gases	
<b>Pipe Size</b>	<b>Inline Sensor</b>	DN15 ~ DN100	DN8 ~ DN25
	<b>Insertion Sensor</b>	DN32 ~ DN4000	
<b>Flow Velocity Range</b>		0.5 ~ 100 Nm/s	0.3 ~ 30 Nm/s
			0.6 ~ 60 Nm/s
			0.9 ~ 90 Nm/s
			1.2 ~ 120 Nm/s
<b>Measured Variables</b>		Flow Rate and Total	
<b>Output</b>		4-20mA, Pulse, 2 Relays, RS-485, HART (optional)	4-20mA, Pulse, RS-485, HART (optional)
<b>Material</b>		Sensor: SUS 316 Wetted Part: SUS 304 Housing: Cast Aluminum	Sensor: SUS 316 Wetted Part: Aluminum Alloy Housing: Aluminum Alloy
<b>Max. Pressure</b>		16 barG	
<b>Max. Temperature</b>		-20~ 120℃ (standard, optionally up to 300℃)	-20~ 150℃
<b>Enclosure</b>		IP-65 Ex-proof (Exd IIC T3)	IP-54
<b>Power Supply</b>		24VDC 220VAC	10~35VDC, 200mA
<b>Response Time</b>		1 second	1 second
<b>Accuracy</b>		±1% Reading	±1.5% FS ±0.3 Reading
<b>Repeatability</b>		±0.5%, Reading	±0.3%, Reading

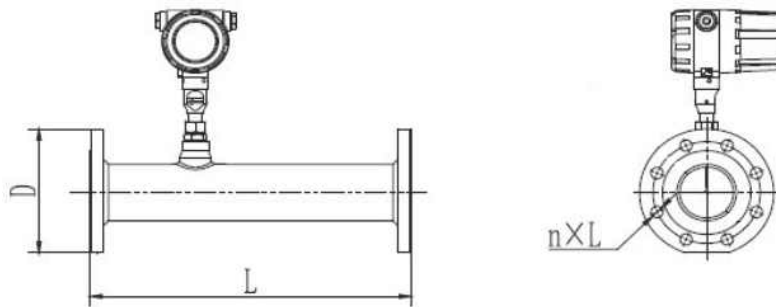
DIMENSIONS

MST100 - Insertion Type



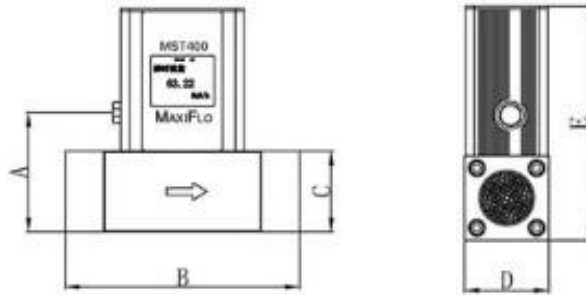
Size	Probe Length L1	Tip Length L2	Probe Diameter D
DN32 ~ DN50	230	30	12.7
DN65 ~ DN800	400	67	18
DN900 ~ DN1000	450	67	18

MST100 – Inline, Flanged Type



Size	Length L	Out-diameter D	Holes x Dia. n x L	Size	Length L	Out-diameter D	Holes x Dia. n x L
15A	280	95	4 x 15	80A	400	185	8 x 19
20A	280	100	4 x 15	100A	400	210	8 x 19
25A	280	125	4 x 19	125A	400	250	8 x 23
32A	350	135	4 x 19	150A	400	280	8 x 23
40A	350	140	4 x 19	200A	400	330	12 x 23
50A	350	155	4 x 19	250A	400	400	12 x 25
65A	400	175	4 x 19	300A	400	445	16 x 25

**MST400**



Size	A	B	C	D	E
DN8	68	134	46	46	127.5
DN10	68	134	46	46	127.5
DN15	68	134	46	46	127.5
DN20	68	134	46	46	127.5
DN25	68	134	46	46	127.5

(Unit: mm)

## Model Selection Guide

MST###-###-#-##-##/Options		Code	
<b>Model Designator</b>	Standard Version	<b>MST100</b>	
	Micro Thermal Mass Flow Meter/Controller	<b>MST400</b>	
<b>Pipe Size in mm</b>	<i>(Describe the dimensions in case of duct)</i>	<b>###</b>	
<b>Indicator/Converter</b>	Integral	<b>I</b>	
	Remote	<b>R</b>	
<b>Sensor</b>	Inline Type	JIS Flange	<b>F1</b>
		ANSI Flange	<b>F2</b>
		DIN Flange	<b>F3</b>
		Threaded (NPT, PT, etc.)	<b>F4</b>
		Sanitary Ferrule	<b>F5</b>
		Other	<b>FX</b>
	Insertion Type	Compression Fitting (1/2" or 3/4" NPT)	<b>IC</b>
		Flanged Fitting	<b>IF</b>
<b>Power Supply</b>		220VAC	<b>P1</b>
		24VDC	<b>P2</b>
<b>Options</b>		HART instead of RS-485	<b>HT</b>
		Explosion Proof Enclosure (Exd IIC T3)	<b>EX</b>

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