

# TDF

## THERMAL MASS FLOW METER

**Approvals:**

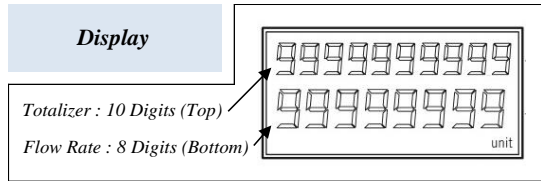


SIZE	STYLE TYPES	MEDIA
1/2 inch ↓ 60 inch	Combine Pipe Insertion	Non Corrosive Dry Gas



**SPECIFICATION**

<b>MODEL &amp; SIZE</b>	TDF-CP : Combine Pipe Type (1/2...2 inch) TDF-IN : Insertion Type (2...60 inch)
<b>APPLICATION</b>	Non Corrosive Dry Gas
<b>PROCESS CONNECTION</b>	TDF-CP : NPT, BSP Male Thread / JIS, ANSI Flange TDF-IN : 3/4"NPT, BSP Male Thread / 1"~3" JIS, ANSI Flange
<b>ACCURACY</b>	+/- 1% of reading + 0.5% of full scale
<b>REPEATABILITY</b>	+/- 0.2% of full scale
<b>RESPONSE TIME</b>	< 1 second
<b>WETTED MATERIALS</b>	316SS
<b>OUTPUT SIGNAL</b>	DC4-20mA
<b>PRESSURE LIMIT</b>	39.2 Bar
<b>GAS TEMPERATURE</b>	0 ... 80°C
<b>POWER</b>	24VDC
<b>DISPLAY</b>	2 Lines Blue Back-Lighted LCD Flow Rate & Totalizer
<b>ELECTRICAL CONNECTION</b>	3/4"NPT Female (std.) / 1/2"NPT Female / M20 X P1.5
<b>ENCLOSURE</b>	Aluminum alloy / IP65
<b>EXPLOSION PROOF (certificate on housing only)</b>	Class I , Groups A, B, C, D Class II , Groups E, F, G



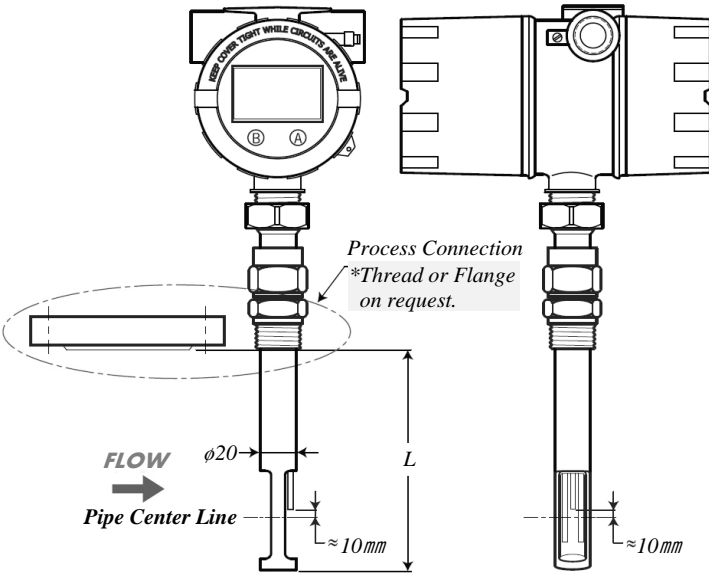
**Model : TDF-CP (Combine Pipe Type)**

Process Connection	Connection Type	"L" Length	Max. Flow Rate
1/2"	NPT / BSP Male Thread or Flange Type Available	330 mm	350 NLPM
3/4"			1,500 NLPM
1"			2,500 NLPM
1-1/4"			4,000 NLPM
1-1/2"			5,000 NLPM
2"			11,500 NLPM

**NOTE.** "L" is standard length.  
Other "L" length, please consult with us.

| FLOW | | PRESSURE | | TEMPERATURE | | AC | | DC | | BATTERY | | OUTPUT | | CONTACT | | DISPLAY |

Model : TDF-IN (Insertion Type)



Pipe Size	Max. Flow Rate
2"	600 Nm <sup>3</sup> /Hr
2-1/2"	800 Nm <sup>3</sup> /Hr
3"	1200 Nm <sup>3</sup> /Hr
4"	2000 Nm <sup>3</sup> /Hr

NOTE. Other pipe size is on request.

### GAS FACTOR TABLE

ACTUAL GAS	SYMBOL	K FACTOR RELATIVE TO N <sub>2</sub>	ACTUAL GAS	SYMBOL	K FACTOR RELATIVE TO N <sub>2</sub>
Acetylene	C <sub>2</sub> H <sub>2</sub>	0.58	Hydrogen Bromide	HBr	1.00
Air	-	1.00	Hydrogen Chloride	HCl	1.00
Ammonia	NH <sub>3</sub>	0.74	Hydrogen Selenide	H <sub>2</sub> Se	0.79
Argon	Ar	1.42	Hydrogen Sulfide	H <sub>2</sub> S	0.80
Bromine	Br <sub>2</sub>	0.81	Isobutane	CH(CH <sub>3</sub> ) <sub>3</sub>	0.20
Butane	C <sub>4</sub> H <sub>10</sub>	0.26	Isobutylene	C <sub>4</sub> H <sub>8</sub>	0.30
1-Butane	C <sub>4</sub> H <sub>8</sub>	0.30	Methane	CH <sub>4</sub>	0.72
Carbon Dioxide	CO <sub>2</sub>	0.74	Methanol	CH <sub>3</sub> OH	0.58
Carbon Monoxide	CO	1.00	Methyl Acetylene	C <sub>3</sub> H <sub>4</sub>	0.43
Carbonyl Sulfide	COS	0.66	Methyl Bromide	CH <sub>3</sub> Br	0.58
Chlorine	Cl <sub>2</sub>	0.86	Methyl Chloride	CH <sub>3</sub> Cl	0.63
Dimethyl Ether	(CH <sub>3</sub> ) <sub>2</sub> O	0.39	Nitric Oxide	NO	1.00
Ethane	C <sub>2</sub> H <sub>6</sub>	0.50	Nitrogen Dioxide	NO <sub>2</sub>	0.74
Ethanol	C <sub>2</sub> H <sub>6</sub> O	0.39	Nitrous Oxide	N <sub>2</sub> O	0.71
Ethyl Acetylene	C <sub>4</sub> H <sub>6</sub>	0.32	Oxygen	O <sub>2</sub>	0.99
Ethyl Chloride	C <sub>2</sub> H <sub>5</sub> Cl	0.39	Propane	C <sub>3</sub> H <sub>8</sub>	0.36
Ethylene	C <sub>2</sub> H <sub>4</sub>	0.60	Propylene	C <sub>3</sub> H <sub>6</sub>	0.41
Helium	He	1.43	Silane	SiH <sub>4</sub>	0.60
Hexane	C <sub>6</sub> H <sub>14</sub>	0.18	Sulfur Dioxide	SO <sub>2</sub>	0.69
Hydrogen	H <sub>2</sub>	1.01	Sulfur Hexafluoride	SF <sub>6</sub>	0.26

\* Please contact us the K Factor value of other gases.

| FLOW | | PRESSURE | | TEMPERATURE | | AC | | DC | | BATTERY | | OUTPUT | | CONTACT | | DISPLAY |