THERMAL INSERTION MASS FLOW METER
EXPLOSTION PROOF TDF SERIES

Flow Rate & Totalizer LCD Display
Wide Turndown Ratio of 100:1
Full Range Temperature Compensate

TDF Series is assembled with a thermal dispersion sensor. The sensors use three ratio: temperature detector, reference sensor, compensation sensor through a Wheatstone Bridge to provide a output signal 4~20mA, for measuring temperature when the sensor is immersed into process gases.
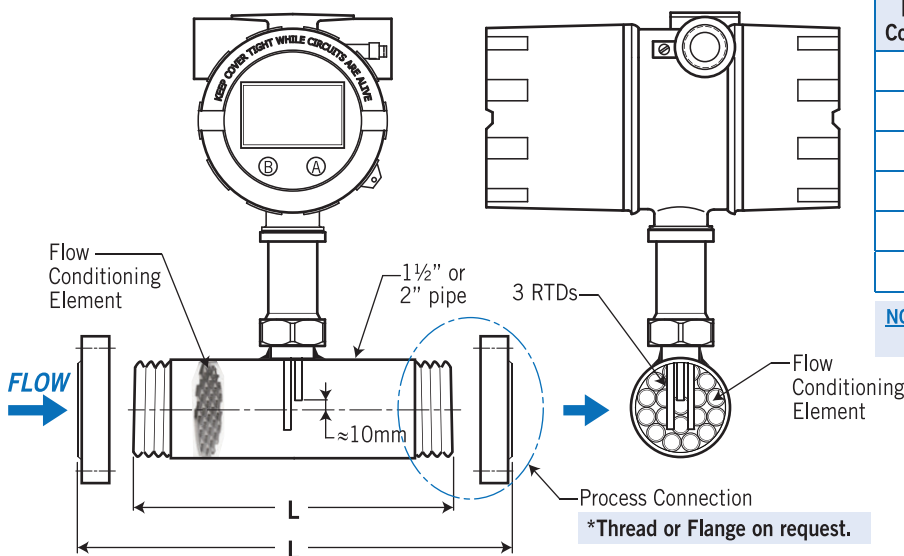
Style Types

- **TDF-IN: Insertion Style**
  – Application for the large diameter, duct and chimney.
  – Measuring the flow in pipe or air channel which inner diameter bigger than 2".
  – Pipe/Line size compatibility is from 2" to 60"; bigger than 60" is on request.
  – Measuring Range: 0.6 M/S to 60 M/S
  – Calibrated in mass flow range or mass flow rate.
  – Thread and Flange type avaialble

- **TDF-CP: Combine Pipe Style**
  – Application for the measuring pipe, and the pipe size is from ½" to 2".
  – Measuring Range: Air / 0.6 SCFM (1 NCMH) ~ 410 SCFM (700 NCMH).
  – Calibrated in mass flow range.

Technical Data

Function Type: Flow Rate with Totalizer LCD Display & Blue Back Lighted
Enclosure Material: Aluminum or SS316 available
Wetted Parts Material: 316 stainless steel
LCD Display: Totalizer 10 digital (top); Flow rate 8 digital (bottom)
Output Signal: 0-5 VDC Linear min. load 1000Ω or 4-20mA Linear, loop resistance 500Ω
Input Power: 24VDC or 110/220VAC
Process Connection: TDF-IN: ¾"NPT, BSP male thread; or flange 1"~3" JIS, ANSI, DIN and clamp available
TDF-CP: ½"~2" NPT, BSP male thread; or flange type available
Conduit Connection: ½" or ¾"NPT female, or M20 x P1.5 (with adaptor); others option available
Detection Length: Standard 1¾"; and option 2"~60"
Working Temperature: 0~80°C
Working Pressure: maximum 40 kg/cm²
Housing: IP68
Explosion Proof: Class I, Groups A, B, C, D; Class II, Groups E, F, G; NEMA 4X
Response Time: 1 second
Accuracy: ±1% of reading +0.5% of full scale
Repeatability: ±0.2% of full scale
Wide Turndown Ratio: 100:1
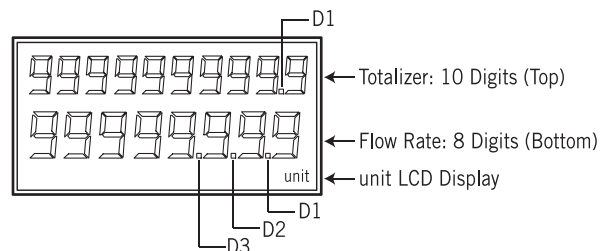**Unit:** Flow unit: Kg , GAL, Nℓ, Nm³, cc, ℓ, M³ ; Time unit: Day, Hr, Min, Sec

Approvals:

EAC

Display Digital Decimal Point Function

Flow Rate with Totalizer LCD Display :

- D1
- Totalizer: 10 Digits (Top)
- Flow Rate: 8 Digits (Bottom)
- unit LCD Display
- D1
- D2
- D3

Dimensions

Model: TDF-CP (Combine Pipe Type)

- Flow Conditioning Element
- 1½" or 2" pipe
- 3 RTDs
- FLOW
- ≈10mm
- Flow Conditioning Element
- Process Connection
- ***Thread or Flange on request.**
- L
- L

Insertion Length / Flow Rate

Process Connection	Connection Type	" L " Length	Max. Flow Rate
½"	NPT / BSP or Flange Type Avaialble	13"	350 NLPM
¾"		13"	1,500 NLPM
1"		13"	2,500 NLPM
1¼"		13"	4,000 NLPM
1½"		13"	5,000 NLPM
2"		13"	11,500 NLPM

NOTE. L is standard length. Other L length please consult with the factory.

unit=mm

FLOW

01-Apr-2018

Dimensions

Model: TDF-IN (Insertion Type)

Process Connection
*Thread or Flange on request.

FLOW
Pipe Center Line

O.D
L
≈10mm
≈10mm
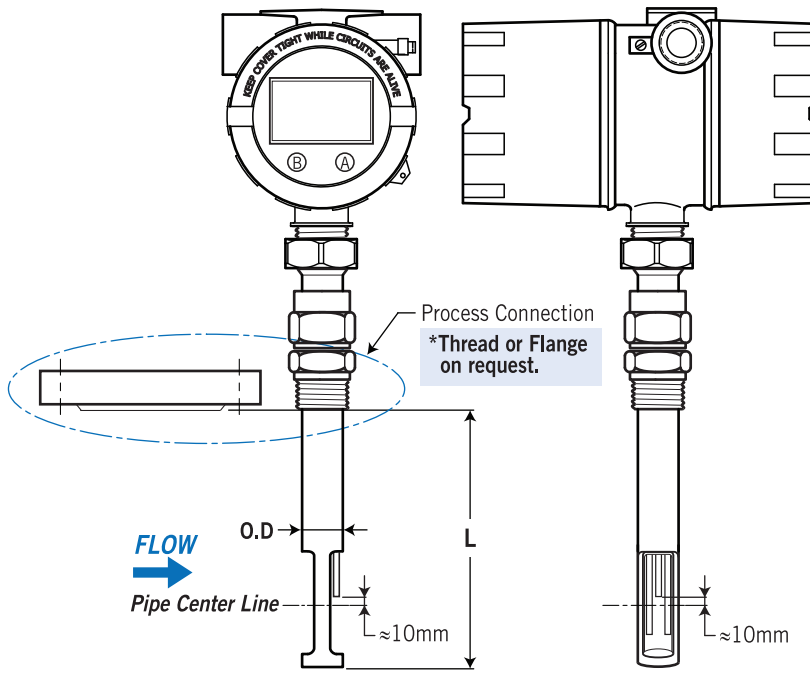
unit=mm

Insertion Length / Flow Rate

" O.D "	Length " L "	Max. Flow Rate	Pipe Size
ø20mm	Standard 1¾", option 2"~60"	600 Nm³/Hr	2"
		800 Nm³/Hr	2½"
		1200 Nm³/Hr	3"
		2000 Nm³/Hr	4"

*Other pipe size is on request.

Ordering Information

TDF	Code	Style Types		
	IN	Insertion Style	CP	Combine Pipe Style

		Code	Process Connection Type	
			(1) Thread Type **(2)** Flange Type **(3)** Clamp Type **(4)** Coupling Type	

			Code	Connection Size
				For TDF-IN: **(A)** ¾" (thread only) **(B)** 1" **(C)** 1½" **(D)** 2" **(E)** 3" **(O)** Option
				For TDF-CP: **(F)** ½" **(G)** ¾" **(H)** 1" **(I)** 1¼" **(J)** 1½" **(K)** 2"

Code	Connection Rating
	Thread Type: **(1)** NPT, male **(2)** BSP, male Flange Type: **(3)** JIS 10K **(4)** JIS 20K **(5)** ANSI 150# **(6)** ANSI 300# **(7)** PN10 **(8)** PN16 **(9)** PN25 **(O)** Option: please fill in the requested rating _____

Code	Electronic Connection
	(E) ¾"NPT Female, Standard **(F)** ½"NPT Female **(G)** M20xP1.5 **(O)** Option

Code	Flow Range
	Please fill in the requested flow range directly, ie: 4,000 NLPM. (Please refer to the table of Insertion Length / Flow Rate.)

Code	Length of L
I	(for TDF-IN) Please fill in the requested length directly, ie: L=14".
C	(for TDF-CP) Please fill in the standard length, ie: L=13".

Code	Output Signal
	(1) 4~20 mA

Code	Input Power
	(A) 110VAC **(B)** 220VAC **(C)** 24VDC

Code	Housing Material / Explosion Proof
A	Aluminum alloy / **(Ex. Certificate on Housing Only)** Class I, Groups A, B, C & D; Class II, Groups E, F & G; NEMA 4X

TDF											Complete Ordering Code