



TECHNICAL GUIDANCE

INDICATION AND OUTPUT OF FLOW RATE, TOTALIZATION AND ALARM,
MIDDLE TO LARGE CONNECTION AND HIGH FLOW RATE MEASUREMENT VERSION

TF-2261N ALL-IN-ONE

MINI THERMAL MASS FLOWMETER

■ OUTLINE

In addition to TF-2000N series Mini Thermal Flowmeter (Middle to Large connection version), a new Flowmeter for high flow rate measurement has been added.

TF-2261N has LCD indication of flow rate and totalization. Also, functions of scaled output pulse and DC4 to 20mA are provided. Furthermore, two-point field adjustable alarm contacts are provided. TF-2261N can be operated by DC24V power supply.

■ FEATURES

- ❑ Wide range of process connection for high flow rate
Connections of 25mm to 80mm are available. They are useful with the extensive use in Air and Nitrogen supply lines etc.
- ❑ Simultaneous indication of flow rate and totalization
Large two-line LCD is provided.
- ❑ Output of current, pulse and alarm functions are provided.
Remote indication, batch processing and safety operations are achieved by one unit.
- ❑ Mass flow measurement
Flow measurement is not influenced by the change in pressure and temperature.
- ❑ Excellent in durability
Excellent durable sensor supported by old know-how is used.
- ❑ Whole quantity passage detection system
Pressure loss is very small.
- ❑ High speed response
High pressure response - 90% within one second
- ❑ Selection up to six scale ranges can be made.
Max. 6 scale ranges can be preset for switch selection.

■ STANDARD SPECIFICATION

Fluid	Air, Nitrogen
Scale range	Min. 0 to 80m ³ /h (nor) / 25mm Max. 0 to 1500m ³ /h (nor) / 80mm
Rangeability	1 : 20 (std.)
Gas press.	- 0.07 to 1.0MPa
Gas temp.	0 to 50°C
Temp. change effect	Span: ±0.1%F.S./°C
Press. change effect	0.1%F.S./0.1MPa
Response	1 sec. for 90%
Material	Tube: SUS316 Sensor: Combination of SUS316, Glass, CTFE, and PT Seal: Viton Housing: AC2A
Finish	Housing: Munsell: N8.5 Stainless body not painted
Construction	Waterproof (Equiv. to IP65)
Installation	Horizontal or Vertical (*)
Ambient temp.	0 to 50°C
Cable connection	2 × G1/2 (Terminal: M3 screw)
Power supply	DC24V (DC22V to DC27V)
Consumption	Approx. 5.5W
Process connection	Screw: Rc (1B to 2B) Flange: JIS10K (25A to 80A)

Installation & flow directions: Horizontal and Left to Right (standard) set up at factory

* Specify the installation direction when ordering.



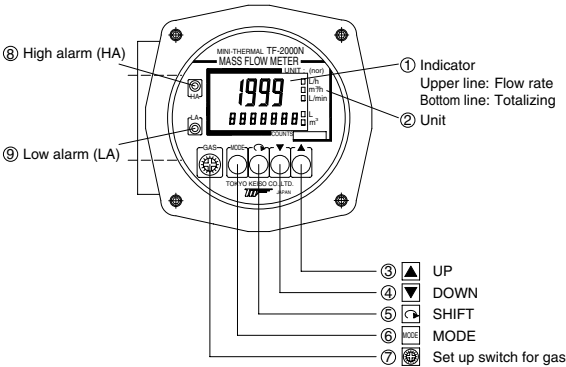
■ SCALE RANGE AND PRESSURE LOSS

Connection	Scale range m ³ /h(nor)		Pressure loss (kPa) (*)
25mm	Min.	0 to 80	32
	Max.	0 to 160	
32mm	Min.	0 to 150	39
	Max.	0 to 300	
40mm	Min.	0 to 200	38
	Max.	0 to 400	
50mm	Min.	0 to 300	32
	Max.	0 to 600	
65mm	Min.	0 to 500	33
	Max.	0 to 1000	
80mm	Min.	0 to 700	35
	Max.	0 to 1500	

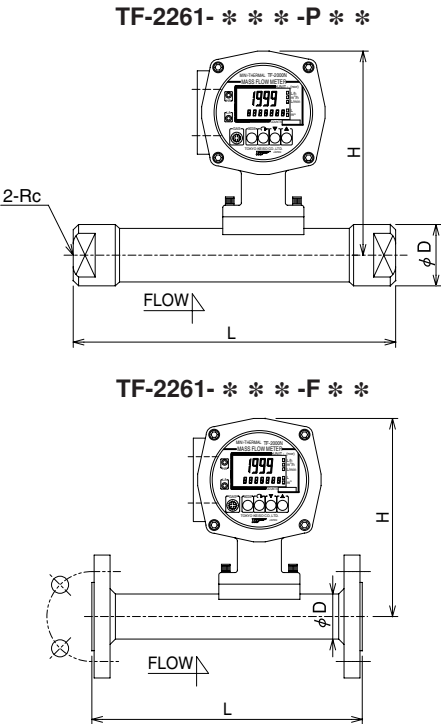
* Pressure loss (at 1atm, 25°C) at the time of maximum flow in the maximum range;
The rough value of the pressure loss is proportional to the square of flow rate and is in inverse proportion to the pressure.

Indication	Flow rate: 4 digits LCD Height: 13mm Totalization: 7 digits LCD Height: 6mm
Accuracy	Flow rate: ±2%F.S. ±1dig. Totalization: ±2.1%F.S. Totalizing count: 60 to 18000c/h
Low cut-off	Std. 5%F.S. (Adjustable) Flow rate, Totalization, Current output, & Pulse output
Output	Current output : Accuracy ±2%F.S. DC4 to 20mA (Load resistance: 450 ohms or less) Pulse output Output : Open collector Rating : DC30V 30mA Max. Pulse width : (Approx.) 100ms fixed Pulse rate : Synchronized with pulse count Flow rate alarm output Output : Open collector Action : "ON" when operating (With Red LED for operating confirmation) Rating : DC30V 30mA Max. Setting : Push key at front panel No. of points : 2 points (H + L alarm) Setting range: 0 to 100% of F.S. Hysteresis : 1.0%F.S. fixed
Data backup	Setting of parameter and totalizing value is memorized by EEPROM. (Retaining: For 10 years)

FRONT PANEL



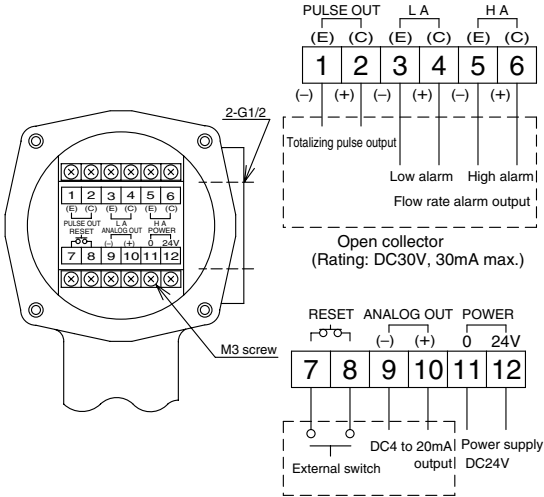
DIMENSIONS



DIMENSION TABLE

Connection	L	D		H	Mass (kg)	
		Flange	Screw		Flange	Screw
25mm	195	34	50	166	5.0	3.3
32mm	215	43	60	175	5.5	3.2
40mm	230	49	65	177	5.7	3.3
50mm	270	61	75	183	6.8	4.0
65mm	290	77	—	191	9.4	—
80mm	320	89	—	198	10.4	—

TERMINAL



MODEL CODE

Model code						Contents
TF-2261	N	—	—	—	—	
Full scale flow rate (A • B) × 10 ^C		A	B	C		m ³ /h (nor)
Connection rating					P	Rc screw
					F	Flange
Connection size					25	25mm (1")
					32	32mm (1 1/4")
					40	40mm (1 1/2")
					50	50mm (2")
					65	65mm
					80	80mm

CAUTION FOR INSTALLATION

- Straight run upstream and downstream (d: inside diameter)

Upstream	Downstream
10d	5d

- Installation of the pipe is the same connection as flowmeter.
- Rc screw connection is to be used for the pipe less than Sch. 80.
- Pipe which is different from connection of flowmeter is ±1 size. Install the necessary straight run of the same connection as the flowmeter.
- Install valves downstream if any.
- Before installing the flowmeter onto process piping, flush and clean the whole piping.
- Use the shielded cable for wiring and do not locate it near to power supply line etc. to avoid the electric noise.
- There is the arrow mark showing the flow direction. Make the installation so that the measured gas can flow as per the arrow marking.

* Specification is subject to change without notice.

TOKYO KEISO CO., LTD.

Head Office : Shiba Toho Building, 1-7-24 Shibakoen, Minato-ku, Tokyo 105-8558
Tel : 03-3431-1625 (KEY) ; Fax : 03-3433-4922
e-mail : overseas.sales@tokyokeiso.co.jp ; URL : http://www.tokyokeiso.co.jp

