



TECHNICAL GUIDANCE

AXIAL-FLOW TYPE, CE MARKING AND HIGH PERFORMANCE
Suitable to Control Cooling Water and Various liquids

TW-100 MINI TURBINE FLOWMETER

OUTLINE

TW-100 Series Axial-flow rotary vane type Flowmeter has been realized by adopting the mag-wheel technology which has been cultivated up to today. Since there is little axial stress, which is one of the main features, the life becomes longer and the reliability has been improved very much.

Fluid is spirally introduced to the magnet wheel in flat configuration by the whirlpool guide built in upstream, and the flow rate is measured by the rotating speed of wheel being picked up by Hole IC.

FEATURES

- Drainage air purging is possible by back-flow rotation inhibition guide of wheel.
- L type connector can be directly installed with whirlpool guide.
- CE marking (TW-15□, 16□)
- Excellent linearity of voltage output type owing to CPU measuring circuit.
- Compact in design and made of precision casting.
- Preeminent cost performance

MODEL CODE

Model code			Description	
TW-1	□	□		
Output	5		Open collector pulse	
	6		DC0~5V	
	7		Open collector pulse + 1 point alarm	
	8		DC0~5V + 1 point alarm	
	Z		Special	
Scale range and size	0	0.2~2L/min	Rc1/4	
	1	0.3~3L/min		
	2	0.5~5L/min		
	3	1~10L/min	Rc3/8	
	4	2~20L/min		
	Z	Special		



Representative indicator
RR900N Series

STANDARD SPECIFICATIONS

- Measuring fluid : Cooling water and various liquids (Viscosity: Less than 2mPa·s. Equivalent to water, and liquid not corroding wetted parts materials)
- Fluid pressure : Max. 1.0MPa at 25°C
- Fluid temp. : 0 to 60°C (Without freezing)
- Ambient temp. : 0 to 60°C
- Installation : Horizontal or Vertical
- Flow direction : Indicated by arrow on the body.
- Weight (approx.) : Approx. 0.33kg
- Accuracy : Pulse output Linearity $\pm 3\%$ F.S.
DC0 to 5V output $\pm 3\%$ F.S.

PRESSURE LOSS

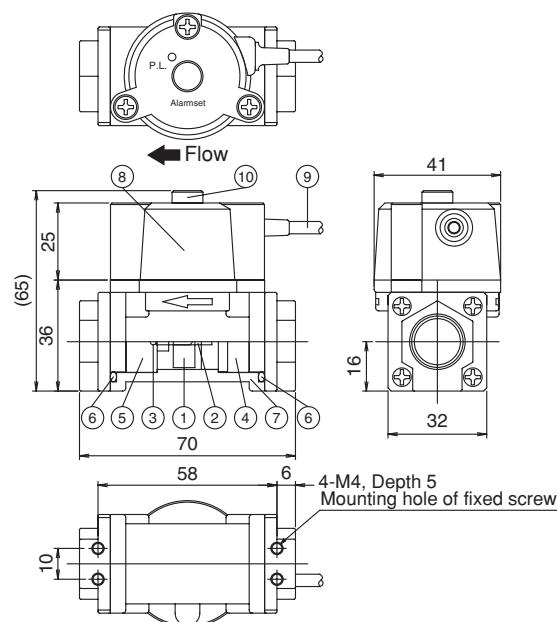
Model	ΔP (kPa)*
TW-1□0	40
TW-1□1	32
TW-1□2	20
TW-1□3	11
TW-1□4	18

* at max flow

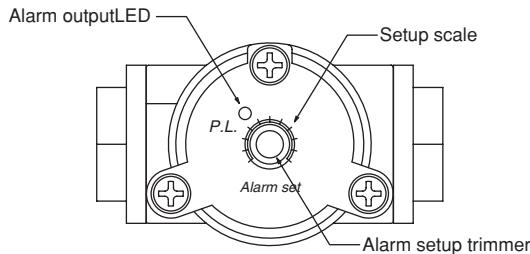
FUNCTION

Model	Power supply	Output	Electric connection
TW-15□	DC12~24V, 10mA	NPN Open Collector pulse (Unscaled pulse) Load rating: Max.DC24V,15mA	4-core equivalent AWG28 (1m)
TW-16□	DC12V $\pm 10\%$, 30mA	DC0~5V Load rating: More than 100k Ω	4-core equivalent AWG28 (1m)
TW-17□	DC24V $\pm 10\%$, 50mA	<ul style="list-style-type: none"> • NPN Open collector pulse (unscaled pulse) Load rating: Max DC24V, 10mA • Alarm output : Low alarm, one point relay contact (SPDT), unexcited when alarming • Alarm setting : Freely adjustable by potentiometer between 10 and 100% of max rated flow • Contact rating : Less than DC24V, 100mA • Hysteresis : Less than 5% of max flow rate 	6-core equivalent AWG28 (1m)
TW-18□	DC24V $\pm 10\%$, 50mA	<ul style="list-style-type: none"> • DC0 to 5V (Same as TW-16□) • Alarm output (Same as TW-17□, but not excited when alarming) 	6-core equivalent AWG28 (1m)

DIMENSION & STRUCTURAL DRAWING



Alarm output type



*Rubber stopper (4mm high): Provided only for alarm output type.

STANDARD MATERIAL

No	Part name	Material
①	Wheel	Nylon12 + Ferrite
②	Shaft	ZrO ₂
③	Ball bearing	ZrO ₂
④	Vortex guide	PBT
⑤	Downstream guide	PBT
⑥	O-ring	NBR
⑦	Flow path body	SCS14
⑧	Cover	ABS
⑨	Cable	PVC
⑩	Rubber stopper	-

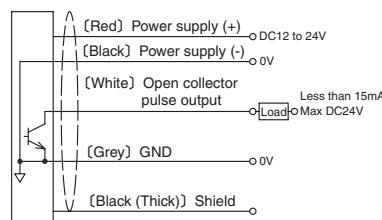
Wetted part: ① to ⑦

ZrO₂: Zirconia

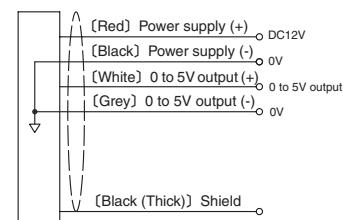
PBT: Polybutylene terephthalate

CONNECTING DIAGRAM

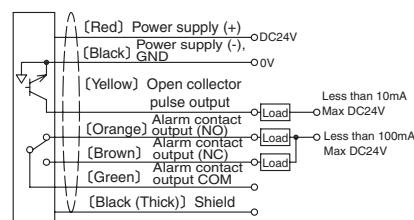
TW-15□



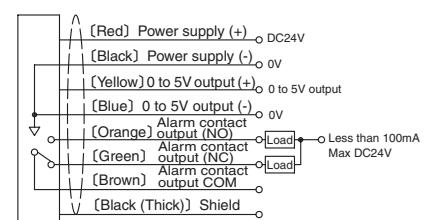
TW-16□



TW-17□



TW-18□



PRECAUTION

- Avoid installing the signal cable side by side with other electric power or power line.
- Since the external magnetic field may affect the property, install at the place not to be influenced by magnetism.
- Install at the place where there is no stagnant air around the wheel, and use it with water filled to the brim.
- Before installation, flush the piping in order to prevent the foreign matter from mixing up.
- Install a filter in case there is the possibility of foreign matter getting mixed in.
- The Instruction Manual describes, in details, installation, operation, and maintenance.
- Contact Tokyo Keiso Co., Ltd. with Serial No. and Mfg. No.

* Specification is subject to change without notice.



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