



TECHNICAL GUIDANCE

AXIAL-FLOW TYPE, MASS PRODUCTION & COST EFFECTIVE

TW-080/090 Series

Very suitable to control cooling water and various liquids

MINI-TURBINE FLOWMETER

OUTLINE

TW-080 / 090 Series axial-flow mini-turbine flowmeter is a mass-produced type and most cost effective, based on the know-how which has been accumulated with TW-100.

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.
- ❑ Preeminent cost performance
- ❑ Excellent linearity of voltage output type owing to CPU measuring circuit.
- ❑ Compact in design and made of precision casting.



Representative indicator RR900N Series

MODEL CODE

Model code			Description	
TW-0	□	□		
Function	8		DC0 to 5V output	
	9		Open collector pulse	
	Z		Special	
Scale range and Size	0	0.2 to 2 L/min	Rc1/4	
	1	0.3 to 3 L/min		
	2	0.5 to 5 L/min		
	3	1 to 10 L/min	Rc3/8	
	4	2 to 20 L/min		
	Z	Special		

STANDARD SPECIFICATION

- Measuring fluid : Cooling water and various liquids (Viscosity: Less than 2mPa · s. Equivalent to water, and liquid not corroding wetted parts materials)
- Max. operating pressure: 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 a single way arrow on the body.
- Weight (approx.) : TW-08□ : 0.3kg
TW-09□ : 0.2kg
- Accuracy : Pulse output Linearity ±3% F.S.
DC0 to 5V output ±3% F.S.

PRESSURE LOSS

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

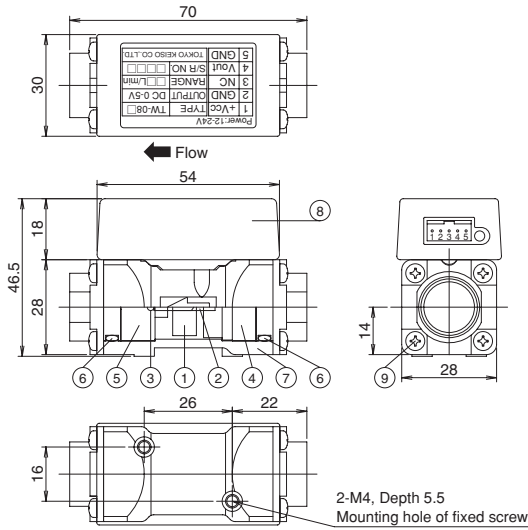
* at max flow

● Function

Model	Power supply	Output	Electrical connection
TW-08□	DC12 to 24V 18mA	DC0 to 5V Load resistance: 100kΩ or more	Connector IL-G-5P-S3L2-SA (JAE)
TW-09□	DC12 to 24V 12mA	NPN Open collector pulse (Unscaled pulse) Load rating: Max. DC24V, 15mA	3-core AWG#24 equivalent to AWG24 (1m)

DIMENSION & STRUCTURAL DRAWING

TW-08□ Series



TERMINAL CONFIGURATION

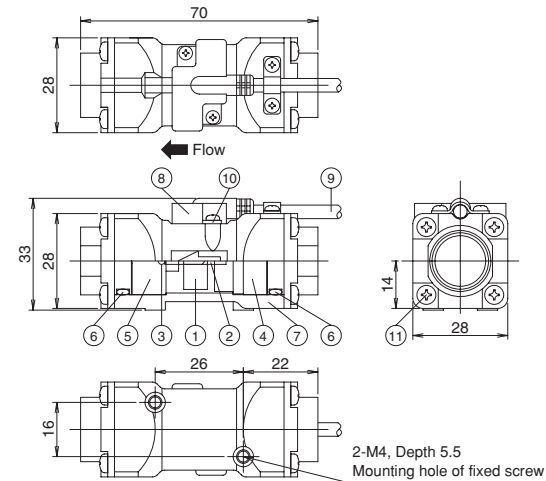
No	TW-08□
1	Power supply (+)
2	Power supply (-)
3	NC. (Unused)
4	0 to 5V Output (+)
5	0 to 5V Output (-)

STANDARD MATERIAL

No	Parts name	Material
①	Wheel	Nylon 12 + 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	Setscrew	SUS304

Wetted part: ① to ⑦

TW-09□ Series



WIRE COLOR

Wire color	TW-09□
Red	Power supply (+)
Black	Power supply (-), GND
White	Open collector pulse output
Black (thick)	Shield

STANDARD MATERIAL

No	Parts name	Material
①	Wheel	Nylon 12 + 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 (Equivalent to UL)
⑩	Circuit board	—
⑪	Setscrew	SUS304

Wetted part: ① to ⑦

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.
- Confirm that there is no stagnant air around the wheel, and use the flowmeter with water filled to the brim.
- Flush the piping before installation so that the foreign matter may not mix in.
- 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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