



# TECHNICAL GUIDANCE

CE MARKING AND HIGH PERFORMANCE

## W-100 MINI-WHEEL FLOWMETER

### OUTLINE

W-100 Series paddle wheel type Flowmeter has been realized by adopting the mag-wheel technology which has been cultivated up to today.

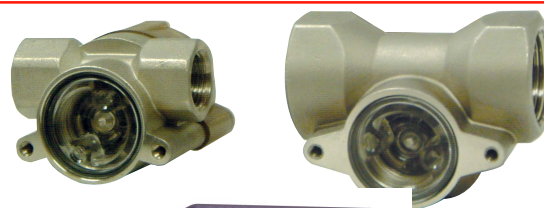
What is more, the CPU signal processing circuit has been integrated and excellent linearity of an analog output is achieved.

### FEATURES

- The flow of fluid can be directly monitored.
- Easy reassembling and cleaning
- Preeminent cost performance
- CE marking
- Excellent linearity of voltage output type owing to CPU measuring circuit.
- Compact in design and made of precision casting.

### MODEL CODE

Model code			Description	
W-1	<input type="checkbox"/>	<input type="checkbox"/>		
Output	1		Open collector pulse	
	2		DC0 to 5V	
	3		Open collector pulse + 1 point alarm	
	4		DC0 to 5V + 1 point alarm	
	Z		Special	
Scale range and Size	1		0.6 to 3L/min	Rc1/4
	2		0.6 to 5L/min	
	3		1.2 to 10L/min	Rc3/8
	4		2 to 20L/min	
	5		5 to 50L/min	Rc3/4
	6		8 to 80L/min	
	7		10 to 100L/min	
	Z		Special	



Typical indicator  
RR900 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 50°C (Without freezing)
- Ambient temp. : 0 to 50°C
- Installation : Horizontal (Axis of wheel should be horizontal, and install the flow path upward.) or vertical.
- Mass (approx.) : Approx. 0.23kg (W-1□1 to W-1□4)  
Approx. 0.39kg (W-1□5 to W-1□7)
- Construction : Equiv. to IP65 (W-11□, W-12□)  
Equiv. to IP64 (W-13□, W-14□)
- Accuracy : Pulse output Linearity ±5% F.S.  
DC0 to 5V output ±3% F.S.

### PRESSURE LOSS / FLOW PATH DIA.

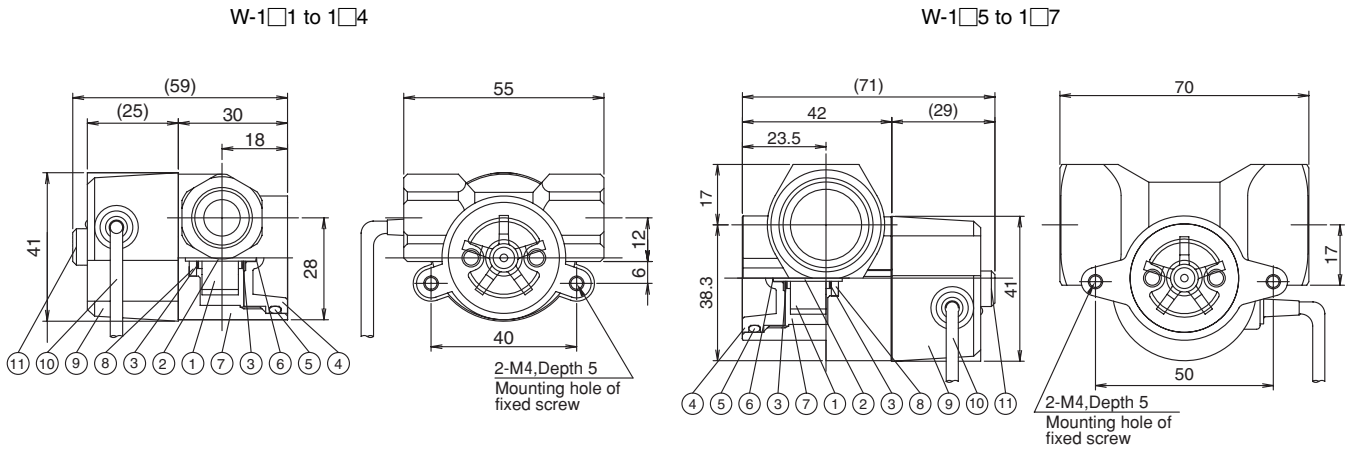
Model	ΔP (kPa)*	Diameter of flow path (mm)
W-1□1	15	4
W-1□2	10	5.8
W-1□3	10	8.5
W-1□4	20	12
W-1□5	5	18
W-1□6	15	18
W-1□7	15	20

\* at max flow

### FUNCTION

Model	Power supply	Output	Electric connection
W-11□	DC12~24V, 10mA	NPN Open Collector pulse (Unscaled pulse) Load rating: Max.DC24V,15mA	4-core, AWG24 (1m)
W-12□	DC12V±10%, 30mA	DC0 to 5V Load rating: More than 100kΩ	4-core, AWG24 (1m)
W-13□	DC24V±10%, 50mA	NPN Open collector pulse (Unscaled pulse) Load rating: Max DC24V, 10mA Alarm output : Low alarm, 1-point relay contact (SPDT), unexcited when alarming Alarm setting : Adjustable arbitrarily by potentiometer between 10 to 100% of max rated flow rate Contact rating : DC24V, less than 100mA Hysteresis : 5% of max rated flow rate	6-core, AWG28 (1m)
W-14□	DC24V±10%, 50mA	DC0 to 5V (Same as W-12□) Alarm output (Same as W-13□), but excited when alarming	7-core, AWG28 (1m)

**DIMENSION & STRUCTURAL DRAWING**



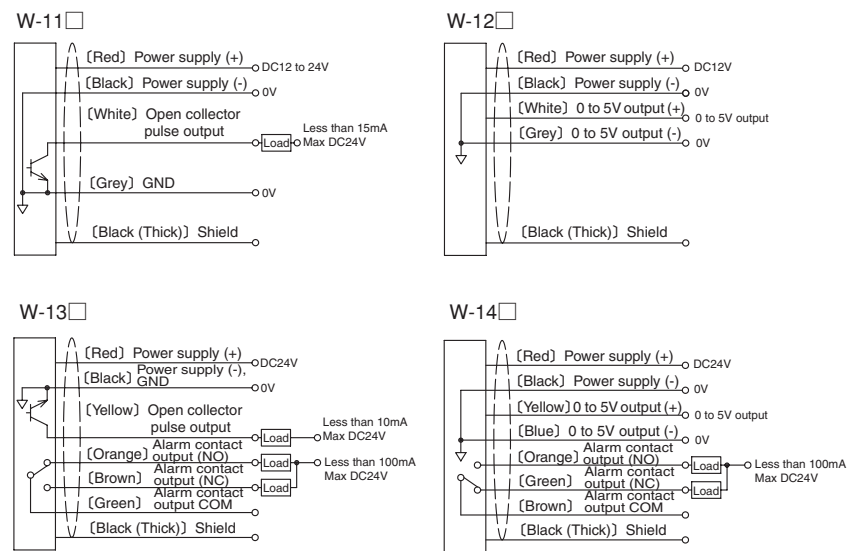
\* Rubber stopper (4mm thick) is provided for alarm output version alone.

**STANDARD MATERIAL**

No	Parts name	Material
①	Wheel/ Ball bearing	Nylon12/ Engineering/ Plastic (M250)
②	Shaft	HC-276@
③	Washer	PTFE
④	Monitoring window	Acryl
⑤	O-ring	NBR
⑥	O-ring	NBR
⑦	Flow path body	SCS14
⑧	BUSH	Polyacetal
⑨	Cover	ABS
⑩	Cable	PVC
⑪	Rubber stopper	-

Wetted part: ① to ⑧

**WIRING DIAGRAM**



**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.
- The diameter of process piping / fitting is to be more than that of the flow path.
- Install at the place where there is no stagnant air around the wheel, and use it with water filled to the brim.
- Avoid the air blow because the wheel or axis may get damaged.
- Before installation, flush the piping in order to prevent the foreign matter from mixing up.
- Install a filter in case there may be 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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