

## W-300 MINI-WHEEL FLOWMETER

### OUTLINE

The W-300 is a rotary vane type flowmeter for measuring liquids. The rotary vane containing a magnet is placed in the stream. The flow rate is measured without contacting the wheel by detecting the number of rotations which is proportional to the flow rate. A wide variety of materials for body materials and various kinds of outputs are available to meet every application.

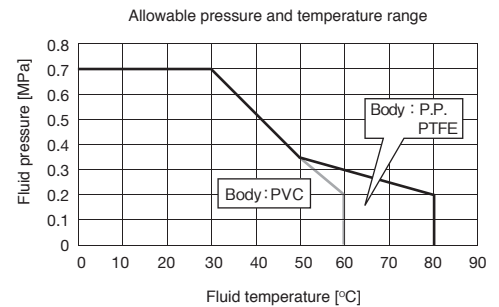
### FEATURES

- Pulse, voltage output
- Visible wheel rotation
- The model of its body made of resin is non-metallic for all wet parts
- Easy overhauling, cleaning and maintenance
- Complying with customers' requests for materials and connectors.



### STANDARD SPECIFICATION

- Measuring fluid : Liquids. The liquid viscosity is 2.0 mPa·s or less.
- Fluid pressure : Maximum 0.7 MPa, See "Allowable pressure and temperature range."
- Fluid temperature : 0 to 80°C for those made of resin except those bodies made of PVC  
: 0 to 60°C for those bodies made of PVC and metal
- Ambient temperature: 5 to 60°C
- Flow direction and posture : The pipe line on which flowmeter is installed, is either in horizontal or vertical. For the installation on horizontal pipe, the wheel shaft must be always in horizontal and flow path (center line of pipe line) must be situated in the upper side of the wheel to fill the wheel chamber fully with liquids.
- Construction : Indoor use, Non waterproof
- Mass : Approx. 400 g for those bodies made of resin  
Approx. 700 g for those bodies made of metal
- Accuracy : ±8 % of F.S. for W-3□1 and W-3□2  
±5 % of F.S. for W-3□3 and W-3□4  
±3 % of F.S. for W-3□5 through W-3□8



### MODEL CODE

Model code				Description	
W-3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Output	1			Open collector pulse	10 to 26 V DC power supply
	2			0 to 5 V DC	±12 V DC power supply
	7			0 to 5 V DC	12 V DC power supply
	8			1 to 5 V DC	12 V DC power supply
Range of flow rate and connection size	1			0.3 to 1 L/min	Rc1/4
	2			0.6 to 3 L/min	
	3			0.75 to 5 L/min	
	4			1 to 10 L/min	
	5			2 to 20 L/min	Rc3/8
	6			3 to 30 L/min	
	7			4 to 40 L/min	Rc1/2
	8			5 to 50 L/min	
	Z			Special	
Material of body	P	R		P.P.(Polypropylene)	
	V	R		PVC (Rigid polyvinyl chloride)	
	T	R		PTFE	
	6	R		SUS316	
	Z	R		Special	

Model	Diameter of flow path (mm)	Pressure drop (kPa) *
W-3□1	φ 1.6	56
W-3□2	φ 3	60
W-3□3	φ 4	40
W-3□4	φ 6.4	18
W-3□5	φ 10	13
W-3□6	φ 12	8
W-3□7	φ 14	7
W-3□8	φ 16	6

\* at max. flow

Note : Consult us if special materials are required.

FUNCTION

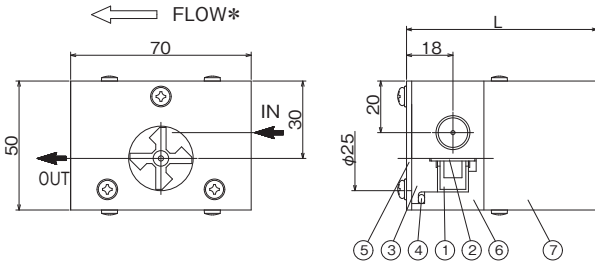
Model	Output	Power supply	Electric connection
W-31 □	Open collector pulse (Unscaled pulse) Load rating : Max. 26 V DC, 12 mA	10 to 26 V DC, 23 mA	M3 Screw terminal, 4 core cable*1, *2
W-32 □	0 to 5 V DC	±12 V DC, +10 mA/-3 mA	Exclusive connector, 5 core cable, 2 m length attached
W-37 □	0 to 5 V DC	12 V DC ±10%, 15 mA	Exclusive connector, 4 core cable, 2 m length attached
W-38 □	1 to 5 V DC	12 V DC ±10%, 15 mA	Exclusive connector, 4 core cable, 2 m length attached

\*1 Cables are customers' scope of supply unless otherwise specified.

\*2 It is also possible to connect a 3 core cable by short-circuiting the output and the power supply on the minus terminal.

DIMENSION

《W-3 □ 1》

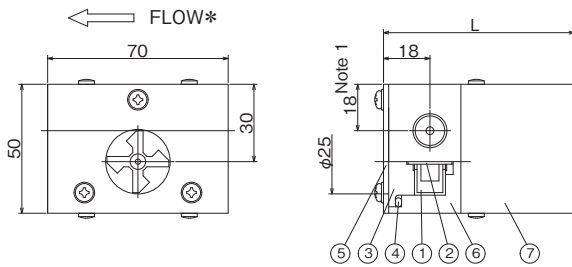


[STANDARD MATERIAL]

Part No.	Name	Material
1	Wheel / Bearing	PPS/ Carbon containing PTFE
2	Shaft	Quartz glass
3	Monitoring window	Polycarbonate
4	O ring	NBR
5	Cover (lid)	SUS304
6	Flow path body	See MODEL CODE
7	Cover	SPCC

Consult us for materials other than standards.

《W-3 □ 2 ~ 3 □ 8》



Note 1 When the connection size is Rc3/8 or 1/2, this size is 19 mm.

Note 2 The cable entry to M3 Screw terminal is located on the back cover (bore Φ 7 mm 1 or 2 pieces)

Note 3 The cable entry for the connector is located on the side cover. It is located on the left hand side for W-32 □, and right side for W-37 □ and W-38 □.

Model	L (mm)	
	Rc1/4, 3/8	Rc1/2
W-31 □	74	77
W-32 □	58	61
W-37 □	68	71
W-38 □	68	71

\* The model with an opposite flow direction is also available. Specify the direction when ordering.

NOTES

- Do not put a signal cable along with other power lines.
- Inside diameter of process piping and fitting must be more than that of flow path nozzle.
- Install the flowmeter at the places free from the influence of external magnetic field which affects the characteristics.
- Use this flowmeter at the places where there is no stagnation of air around the wheel and also in the state of water filled up.
- Avoid the air blow. Otherwise, the wheel and shaft might be damaged.
- The upstream straight runs of more than 10 D (D:inside diameter of pipe) is recommended when uneven or whirling flow is expected.

\* Specification is subject to change without notice.

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