



TECHNICAL GUIDANCE

Available for various materials and any applications

W-300

MINI-WHEEL FLOWMETER

OUTLINE

W-300 Series is a compact rotary vane type flowmeter whose various output circuits have been integrated on the basis of the know-how accumulated in the mag-wheel flowmeter with the established reputation. Stainless steel and resin are available for the material of the body. It can be selected in accordance with the application.

FEATURES

- ❑ The wetted part made of resin is a nonmetallic construction.
- ❑ The various output versions are available in accordance with the application.
- ❑ Compact design
- ❑ Easy handling and wiring
- ❑ Checking of flow condition by rotation of rotary vane

MODEL CODE

Model code		Description
W-3	□ □ - □ □	
Function	1	Open collector (Unscaled pulse)
	2	DC0 to 5V output (DC ± 12V Power supply)
	3	DC0 to 5V output + Alarm 1 point (DC 24V Power supply)
	4	Alarm 1 point (DC24V Power supply)
	5	DC4 to 20mA output (DC24V Power supply)
	7	DC0 to 5V output (DC12V Power supply)
	8	DC1 to 5V output (DC12V Power supply)
	9	DC0 to 10V output (DC18 to 36V Power supply)
	Range of flow rate Connection size	1
2		0.6~3 L/min
3		0.75~5 L/min
4		1~10 L/min
5		2~20 L/min
6		3~30 L/min
7		4~40 L/min
8		5~50 L/min
Z		Special design
Material of body	P	Polypropylene (P.P)
	V	U-PVC (PVC)
	T	Teflon (PTFE)
	B	Brass
	6	SUS316
	Z	Special design
Connection	R	Rc thread
	N	NPT thread



MATERIAL (STANDARD)

Parts name	Material
Wheel/Bearing	PPS/C-PTFE
Shaft	Quartz glass
Bush	PTFE
Window	Poly carbonate
O ring	NBR
Cover	SPCC
Cable	PVC coated
Body	Refer to MODEL CODE

PPS: Polyphenylene sulfide
C-PTFE: Carbon containing PTFE
Note: Inform us of fluid name when you use other liquid than water.

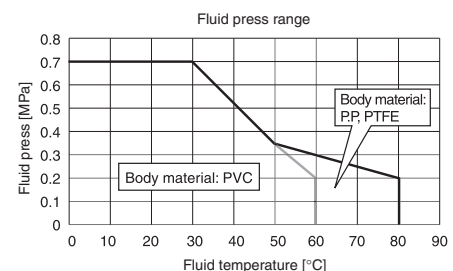
PRESSURE DROP AND DIAMETER OF FLOW PATH

Model	Press. Drop (kPa)*	Diameter of flow path (mm)
W-3□1	56	1.6
W-3□2	60	3.2
W-3□3	40	4
W-3□4	18	6
W-3□5	13	10
W-3□6	8	12
W-3□7	7	14
W-3□8	6	16

* at max. flow

STANDARD SPECIFICATION

- Measuring liquid : Various liquids (To be less than 2.0mPa*s)
- Fluid pressure : Max. 0.7MPa (Refer to fluid press range)
- Fluid temp. : 0 to 80°C (Resin)
: 0 to 60°C (Metal, PVC body)
- Ambient temp. : 5 to 60°C
- Scale range : 8 different scale ranges. Refer to MODEL CODE for details.
- Process connection : Rc threads (std.) Refer to MODEL CODE for details.
- Installation : Flow of fluid: Make it parallel or vertical. (Make the position of wheel shaft parallel and the flow path to be on the upper part of wheel.)
- Construction : In-door use (Non-waterproof)
- Mass : Resin type Approx. 0.4 kg, Metal type Approx. 0.7 kg
- Accuracy : ±8%F.S. (W-311, 312)
±5%F.S. (W-3□1, 3□2)
±3%F.S. (W-3□3~3□8)



FUNCTION

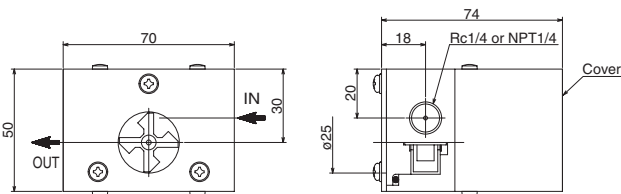
Model	Power supply	Output		Electric connection
W-31□	DC10~26V 23mA	Open collector pulse (Unscaled pulse) Load rating: Max. DC26V, 12mA		M3 terminal (4-core cable) *1
W-32□	DC ± 12V +10mA, -3mA	DC0~5V		Connector (5-core cable) *2 JAE (AMP) 171822-5
W-33□	DC24V ± 10% 70mA	DC0~5V +1 alarm point	Alarm contact: 1 point (L) Relay output (SPDT) Alarm setting: Freely adjustable by adjustment knob between 10 to 50% of maximum rating flow rates	M3 terminal (4-core + 2-core cable)
W-34□	DC24V ± 10% 50mA	1 alarm point	Contact rating: DC24V, 2A Reset span: Less than 10% of max. flow rate	M3 terminal (2-core + 2-core cable)
W-35□	DC24V ± 10% 40mA	DC4~20mA Load resistance: 500Ω or less		M3 terminal (2-core + 2-core cable)
W-37□	DC12V ± 10% 15mA	DC0~5V		Connector (4-core cable) *2 JAE (AMP) 171822-4
W-38□	DC12V ± 10% 15mA	DC1~5V		Connector (4-core cable) *2 JAE (AMP) 171822-4
W-39□	DC18~36V 15mA	DC0~10V		Connector (4-core cable) *2 JAE (AMP) 171822-5

*1: 3-core cable is also available.

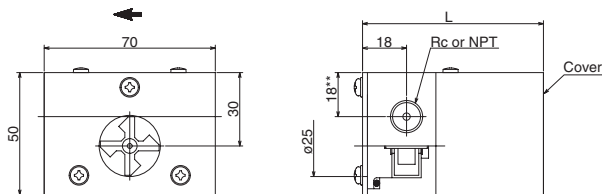
*2: Although connector and cable are customer's supply, but we can supply them as accessory.

DIMENSION

● W-3□1 (← Flow direction)



● W-3□2~3□8 (← Flow direction)



*19mm in case of connection size 3/8" and 1/2"
Cable entry is at rear cover, but depending on each model, the location differs.

	L (mm)		Possible combination of indicator
	Rc1/4, 3/8	Rc1/2	
W-31□	74	77	IR series, RR900N
W-32□	58	61	IR4600*, TM-2000
W-33□	97	100	
W-34□	74	77	
W-35□	82	85	IR4600*, IR-6000*, TM-2000*
W-37□	68	71	IR4600*
W-38□	68	71	IR4600*
W-39□	58	61	

* Power supply for Flowmeter is required. Refer to the instruction manual for connection.

NOTES

- Never hold a signal cable when handling.
- Do not put a signal cable adjacent to other power lines.
- Installation is to be made at the place free from the influence of external magnetic field which affects the property.
- Inside diameter of process piping and fitting is to be more than of flow path nozzle.

- Use this flowmeter where there is no stagnation of air around the wheel and also in the state of water filled up.
- Open and close valve slowly in order to lighten water hammer.
- When being used opening downstream, be careful about the cavitation which may be easily caused.
- Avoid the air blow since wheel and shaft may be damaged.

* Specification is subject to change without notice.

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