TECHNICAL GUIDANCE

Made of Non-metallic Materials for Wet Parts with Compact Design
For Monitoring and Alarm of Liquids

W-200

MINI-WHEEL FLOWMETER

OUTLINE

The W-200 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. The compactly designed flowmeter with its body made of resin is non-metallic for all wet parts.

FEATURES

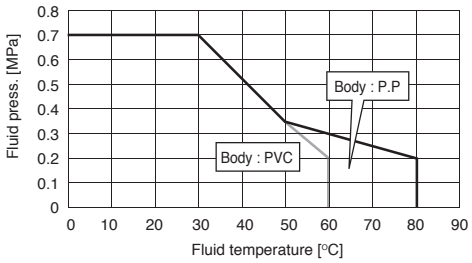
- ❑ Pulse, voltage, or current output
- ❑ Visible wheel rotation
- ❑ The model of its body made of resin is non-metallic for all wet parts
- ❑ Easy overhauling, cleaning and maintenance
- ❑ Compact shape

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 W-21□ except those made of PVC
  : 0 to 60°C for W-21□ including those made of PVC, W-22□ and W-23□
- 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.
- Mass : Approx. 200 g for W-2□1 through W-2□6
  Approx. 400 g for W-2□7 and W-2□8
- Accuracy : ±8 % of F.S. for W-2□1 and W-2□2
  ±5 % of F.S. for W-2□3
  ±3 % of F.S. for W-2□4 through W-2□8

Model	Output	Power supply	Electric connection	Enclosure
W-21 □	Open collector pulse (Unscaled pulse) Load rating : Max. 18 V DC, 15 mA	5 to 18 V DC, 12 mA	3-core AWG26 1 m provided	Equivalent to IP64
W-22 □	0 to 10 V DC Load resistance : More than 10 kΩ	24 V DC ±10%, 20 mA	4-core AWG26 1 m provided	Drip proof (Equivalent to IP62)
W-23 □	4 to 20 mA Load resistance : Less than 500Ω	24 V DC ±10%, 50 mA		

Allowable pressure and temperature range



MODEL CODE

Model code						Description	
W-2	□	□	—	□	□		
Output	1					Pulse output : Open collector	
	2					Voltage output : 0 to 10 V DC	
	3					Current output : 4 to 20 mA DC	
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	Rc3/8
		5				2 to 20 L/min	
		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)	
				6	R	SUS316	

Note : Consult us if special materials are required.

Model	Diameter of flow path (mm)	Pressure drop (kPa) *
W-2 □ 1	φ1.6	56
W-2 □ 2	φ3.2	60
W-2 □ 3	φ4	40
W-2 □ 4	φ6	18
W-2 □ 5	φ10	13
W-2 □ 6	φ12	8
W-2 □ 7	φ14	7
W-2 □ 8	φ15	6

* at max. flow

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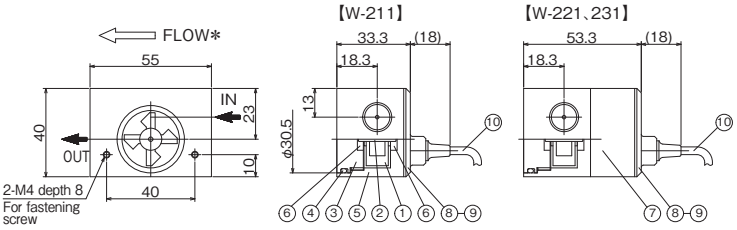
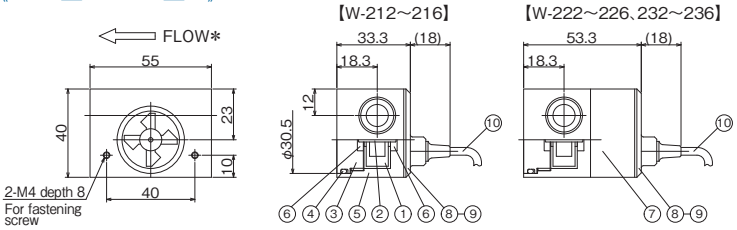
DIMENSION

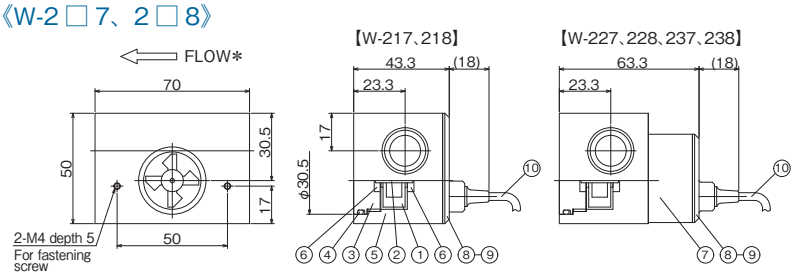
《W-2□1》



《W-2□2～2□6》



《W-2□7、2□8》



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

[STANDARD MATERIAL]

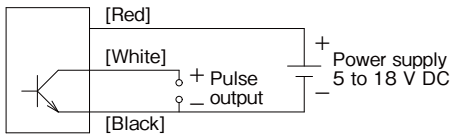
Part No.	Name	Material
1	Wheel / Bearing	PPS/ Carbon containing PTFE
2	Shaft	Quartz glass
3	Monitoring window	Polycarbonate
4	O ring	NBR
5	Flow path body	See MODEL CODE
6	Bush	PTFE
7	Cover	ABS
8	Cover (lid)	ABS
9	Fastening screws	SUS304
10	Cable	PVC sheath

Consult us for materials other than standards.

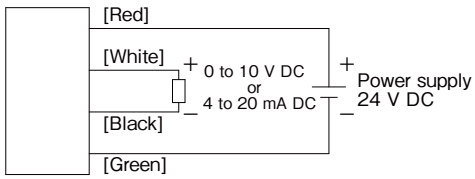
WIRING

Connect the lead wire from flowmeter as follows. Various flow indicators are available for your application. Consult us.

《W-21□Pulse output》



《W-22□Voltage output　W-23□Current output》



Note: As power supply and load are connected inside, they are not isolated.

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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