TECHNICAL GUIDANCE

NON-METALLIC MATERIAL CONSTRUCTION
For Monitoring, Alarm and Control of Liquids

W-200
MINI-WHEEL FLOWMETER

OUTLINE

W-200 series rotary vane type flowmeter has been realized by adopting the mag-wheel technology that has been cultivated up to today.
The wetted part is perfectly nonmetal and compact flowmeter for liquids.
W-200 series is suitable for Pure / Ultra pure water or corrosive chemical process lines.

FEATURES

- ❏ Non-metallic material construction
- ❏ Checking of flow condition by rotation of rotary vane
- ❏ Easy to reassemble and wash
- ❏ Best cost performance
- ❏ Compact design
- ❏ Easy handling and wiring

MODEL CODE

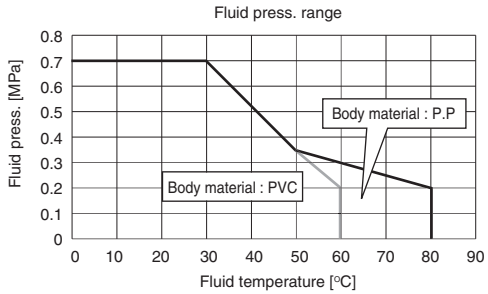
Model code					Description	
W-2	□	□	—	□□		
Output	1				Open collector (Unscaled pulse)	
	2				DC0 to 10V	
	3				DC4 to 20mA	
Range of flow rate Connection size		1			0.3 to 1 L/min	Rc 1/4
		2			0.6 to 3 L/min	
		3			0.75 to 5 L/min	
		4			1 to 10 L/min	Rc 3/8
		5			2 to 20 L/min	
		6			3 to 30 L/min	
		7			4 to 40 L/min	Rc 1/2
		8			5 to 50 L/min	
		Z			Special	
Material of body				PR	Polypropylene (P.P.)	
				VR	U-PVC (PVC)	
				6R	SUS316 (Option)	

FUNCTION

Model	Power supply	Output	Construction	Electric connection
W-21□	DC5~18V 12mA	Open collector pulse (Unscaled pulse) Load rating : Max. DC18V 15mA	Equivalent to IP64	3-core AWG26 1m provided
W-22□	DC24V±10% 20mA	DC0 to 10V Load resistance : More than 10kΩ	Drip proof (Equivalent to IP62)	4-core AWG26 1m provided
W-23□	DC24V±10% 50mA	DC4 to 20mA Load resistance : Less than 500Ω	Drip proof (Equivalent to IP62)	4-core AWG26 1m provided

STANDARD SPECIFICATIONS

- Measuring liquid : Various liquids (To be less than 2.0 mPa•s)
- Fluid pressure : Max. 0.7MPa (Refer to Fluid press. range)
- Fluid temp. : [W-21□] 0 to 80°C(PVC body : 0 to 60°C)
  [W-22□, W-23□] 0 to 60°C
- Ambient temp. : 5 to 60°C
- 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.)
- Mass : Approx. 0.2 kg (W-2□1~2□6)
  Approx. 0.4 kg (W-2□7, 2□8)
- Accuracy : ±8%F.S. (W-2□1, 2□2),
  ±5%F.S. (W-2□3),
  ±3%F.S. (W-2□4~2□8)



PRESSURE DROP AND DIAMETER OF FLOW PATH

Model	Press. Drop (kPa)*	Diameter of flow path (mm)
W-2□1	56	1.6
W-2□2	60	3.2
W-2□3	40	4
W-2□4	18	6
W-2□5	13	10
W-2□6	8	12
W-2□7	7	14
W-2□8	6	15

* at max. flow

MATERIAL (STANDARD)

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

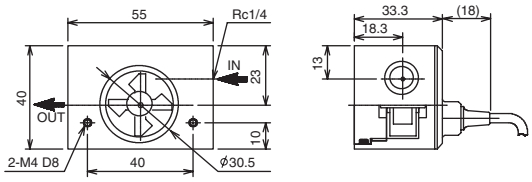
PPS: Polyphenylene sulfide
C-PTFE: Carbon containing PTFE
[Note]
Inform us of fluid name when you use liquid other than water.

TOKYO KEISO CO.,LTD.

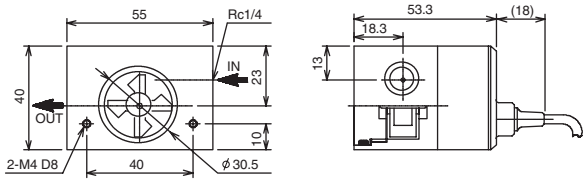
TG-ES696-6E DEC. 2007K
TG-ES696-7E OCT. 2010K

DIMENSION

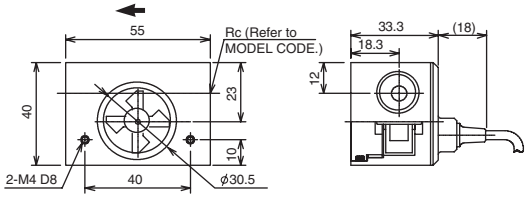
● W-211 (◄ Flow direction)



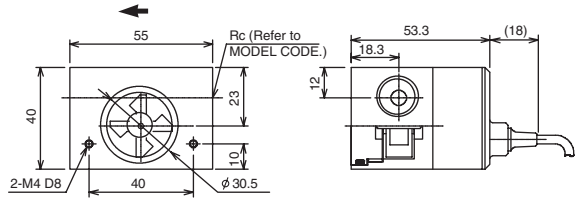
● W-221, 231 (◄ Flow direction)



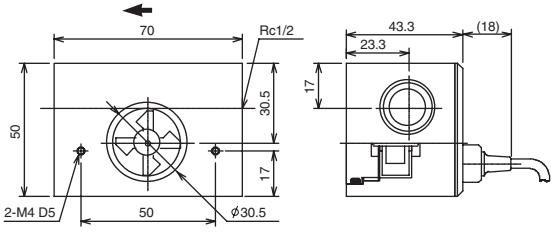
● W-212 to 216 (◄ Flow direction)



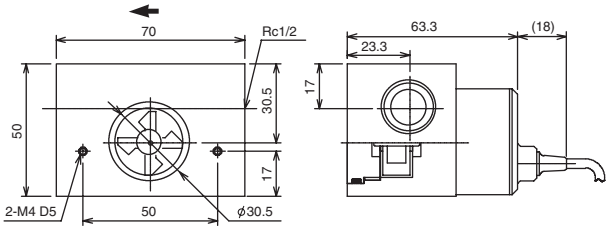
● W-222 to 226, W-232 to 236 (◄ Flow direction)



● W-217, 218 (◄ Flow direction)

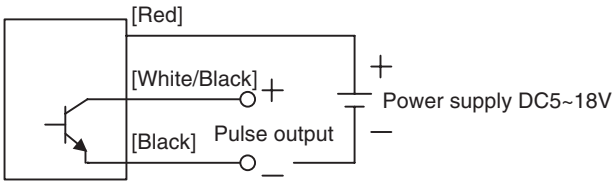


● W-227, 228, 237, 238 (◄ Flow direction)

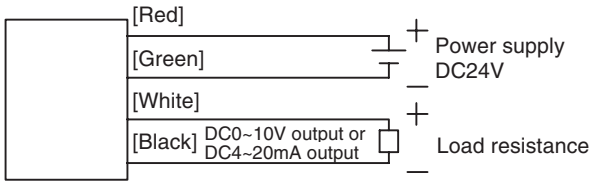


WIRING

● W-21□ (Open collector pulse output)



● W-22□ (DC0 to 10V output), W-23□ (DC4 to 20mA output)



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

◆ Combination with W-200 and Indicators
W-21□ → IR16□0, RR9□0N
W-22□ → IR-6130-□□
W-23□ → IR46□□-02, TM-21□□

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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JQA-2172