

 Reliability Creativity Service	Product Specifications		FZ01-362B1	1/6
	Momentary/Accumulated Flow Meter		Model	NW□□-□TN-□ NW□□-□TP-□

1-1. Individual Specifications (NW05·NW10)

NW Series		NW05-NTN	NW05-PTN	NW05-TTN	NW10-NTN	NW10-PTN	NW10-PTN-4	NW10-TTN
NW-P Series (with pulse output)		NW05-NTP	NW05-PTP	NW05-TTP	NW10-NTP	NW10-PTP	NW10-PTP-4	NW10-TTP
Nominal diameter		5mm			10mm			
Accuracy guaranteed flow-rate range		0.3 to 3.0 L/min			1.5 to 20 L/min			1.0 to 10 L/min
Precision	Momentary display	±2%RS±0.05L/min (At the standard installation position)			±2%RS±0.2L/min (At the standard installation position)			
	Accumulated display	±2%RS (At the standard installation position)						
Fluid to be measured		For water and hot water	For water and chemical fluids Note) Please select suitable model by checking whether the wetted parts main materials have resistance against your liquid to be measured.		For water and hot water	For water and chemical fluids Note) Please select suitable model by checking whether the wetted parts main materials have resistance against your liquid to be measured.		
Fluid viscosity range		0.5 to 1.5 mPa·s (equivalent to water)						
Fluid temperature range		0 to +60°C (Should not get frozen.)						
Ambient temperature / humidity		0 to +60°C 35 to 85%RH (No dew condensation)						
Working ambient temperature/humidity range		0 to +60°C 35 to 85%RH (no dewing)						
Maximum working pressure		1MPa (at the fluid temperature of 20°C)						
Pressure drop (at the accuracy guaranteed maximum flow-rate)		12 kPa or less			20 kPa or less			15 kPa or less
Pulse output unit (NW-P series only)		10mL/P (standard)			1L/P (standard)			
LCD	Momentary	Minimum delta unit	0.05L/min			0.2L/min		
		Display and unit	00.00L/min			000.0L/min		
	Accumulated	Display and unit	000000.00L			0000000.0L		


 Reliability Creativity Service	Product Specifications	FZ01-362B1	2/6
	Momentary/Accumulated Flow Meter	Model	NW□□-□TN-□ NW□□-□TP-□

LCD	Refresh interval	2 sec (Standard setting) The setting can be changed by the button operation: Selectable from 0.5, 1, 2, 3, 4, and 5sec					
	Miscellaneous Function	Accumulated display zero clear (reset) function Trip accumulation function Instantaneous flow-rate value hold function Function to change decimal points of accumulated flow volume and instantaneous flow-rate vale					
	Rotation range	Approximately 270° to the left and 50° to the right from the original position Do not rotate the display further than the position where it's rotation is stopped by the stopper.					
Standard installation position *1		Position so that the face of LCD faces up against the ground					
Flow direction		Direction of the arrow indicated on the product					
Pipe connection		R 1/2					
Protection grade		indoor specifications (Equivalent to IP X4)					
Power supply		Lithium battery (Battery life: Approximately 4 years, battery not replaceable)					
Weight		Approximately 280g			Approximately 250g		
Major material *3	Casing	Modified PPO	PP	ETFE	Modified PPO	PP	ETFE
	Vane wheel	CF-POM		ETFE	CF-POM		ETFE
	Pivot	SUS304	PA	ETFE	SUS304	PA	ETFE
	O-ring	NBR	FKM		NBR	FKM	
	Magnet	Sa-Co *2			Ba-Fe		Sa-Co *2
Others		CE Marking product , RoHS directive corresponded					


 Reliability Creativity Service	Product Specifications	FZ01-362B1	3/6
	Momentary/Accumulated Flow Meter	Model	NW□□-□TN-□ NW□□-□TP-□

1-2. Individual Specifications (NW20)

NW Series	NW20-NTN	NW20-PTN	NW20-PTN-4
NW-P Series (with pulse output)	NW20-NTP	NW20-PTP	NW20-PTP-4
Nominal diameter	20mm		
Accuracy guaranteed flow-rate range	3.0 to 60 L/min		
Precision	Momentary display	±2%RS±0.5L/min (At the standard installation position)	
	Accumulated display	±2%RS (At the standard installation position)	
Fluid to be measured	For water and hot water	For water and chemical fluids Note) Please select suitable model by checking whether the wetted parts main materials have resistance against your liquid to be measured.	
Fluid viscosity range	0.5 to 1.5 mPa·s (equivalent to water)		
Fluid temperature range	0 to +60°C (Should not get frozen.)		
Ambient temperature / humidity	0 to +60°C 35 to 85%RH (no dew condensation)		
Working ambient temperature/humidity range	0 to +60°C 35 to 85%RH (no dewing)		
Maximum working pressure	1MPa (at the fluid temperature of 20°C)		
Pressure loss (at the accuracy guaranteed maximum flow-rate)	60 kPa or less		
Pulse output unit (NW-P series only)	1L/P (standard)		
LCD	Momentary	Minimum delta unit	0.5L/min
		Display and unit	000.0L/min
	Accumulated	Display and unit	0000000.0L

 Reliability Creativity Service	Product Specifications	FZ01-362B1	4/6
	Momentary/Accumulated Flow Meter	Model	NW□□-□TN-□ NW□□-□TP-□

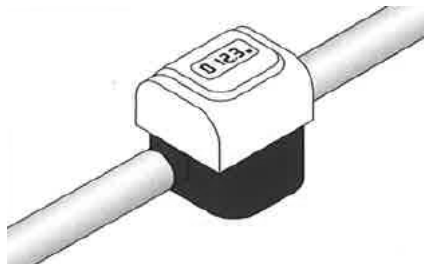
LCD	Refresh interval	2 sec (Standard setting) The setting can be changed by the button operation: Selectable from 0.5, 1, 2, 3, 4, and 5sec	
	Miscellaneous Function	Accumulated display zero clear (reset) function Trip accumulation function Instantaneous flow-rate value hold function Function to change decimal points of accumulated flow volume and instantaneous flow-rate vale	
	Rotation range	Approximately 270° to the left and 50° to the right from the original position Do not rotate the display further than the position where it's rotation is stopped by the stopper.	
Standard installation Position* ¹		Position so that the face of LCD faces up against the ground	
Flow direction		Direction of the arrow indicated on the product	
Pipe connection		R 3/4	
Protection grade		indoor specifications (Equivalent to IP X4)	
Power supply		Lithium battery (Battery life: Approximately 4 years, battery not replaceable)	
Weight		Approximately 500g	
Main materials of wetted parts ³	Casing	Modified PPO	PP
	Vane wheel	CF-POM	
	Pivot	SUS304	PA
	O-ring	NBR	FKM
	Magnet	Ba-Fe	Sa-Co ^{*2}
Others		CE Marking product , RoHS directive corresponded	

 Reliability Creativity Service	Product Specifications	FZ01-362B1	5/6
	Momentary/Accumulated Flow Meter	Model	NW□□-□TN-□ NW□□-□TP-□

3. Specifications Common to Products with Pulse Output

Output signal format	NPN Open drain pulse (Equivalent to open collector pulse)
	Pulse ON time: Approximately 5msec (one-shot pulse) Maximum applicable voltage : 30V DC Output capacity ON-time resistance: 150Ω or less, OFF-time resistance: 100kΩ or more (Input current Residual voltage should be 1.5V or lower at 10mA or lower.)
Pulse output unit change function	Pulse is outputted at increasing of the value of the designated number of digits Designation of the number of digits can be changed by the button operation
Signal cable	Lead wire length: Approximately 500mm 2-core AWG26 Outer diameter ϕ 2.4 White: +/Black: -


- *1: The standard installation position means the position that the LCD display faces upward against the ground.
 Accuracy is not guaranteed for installation positions other than the standard installation position.
 Also, note that durability of the product is deteriorated in case of installation positions other than the standard installation position because amount of wearing is to be increased.



- *2: This magnet is not in touch with liquid.

*3: Material symbols

Modified PPO	Glass fiber reinforced NORYL (Polyphenylene oxide)
PP	Polypropylene
ETFE	Fluororesin (Ethylene-tetrafluoro ethylene)
CF-POM	Carbon fiber reinforced Polyacetal or Polyoxymethylene
PA	Polyamide
SUS304	Stainless
FKM	Fluoro Rubber
NBR	Nitrile Rubber (Acrylonitrile-Butadiene Rubber)
Sa-Co	Samarium-Cobalt
Ba-Fe	Barium-Ferrite

 Reliability Creativity Service	Product Specifications	FZ01-362B1	6/6
	Momentary/Accumulated Flow Meter	Model	NW□□-□TN-□ NW□□-□TP-□

4. Precautions for handling

Before handling the product, be sure to read the handling manual carefully. And, use the product correctly.

4-1 Working environment, fluid to be measured

- (1) Ensure that the wetted parts' materials have corrosion resistance against fluid to be measured.
- (2) Keep the product away from a strong magnetic field or a source of electric noise.
- (3) The product is not explosion-proof specification. Do not use the product in an explosive atmosphere such as flammable gas, etc.
- (4) In case flow in the pipe has pulsation, the measurement accuracy is to be affected. When feeding the fluid with a constant rate pump, etc., which causes pulsation of flow, cancel the pulsation using an accumulator, etc.
- (5) Avoid installation at a place exposed to direct sunlight and/or rain (Indoor specification).

4-2. Precautions for piping

- (1) No air shall be in the fluid to be measured. The measurement accuracy is to be affected.
Do not install the product at a place where air accumulation can easily occur (e.g. upstream side of a falling pipe).
Also, before start measurement, remove air sufficiently.
- (2) For the installation position, install the product in the standard installation position (The display faces upward against the ground).
- (3) Devices such as a flow-rate adjusting valve, etc., which disturb flow shall be installed in the downstream of the flowsensor.
- (4) Avoid installing the product where it is exposed to excessive pressure, such as water hammer, etc.
- (5) In case foreign substances, oil, etc., exist in the piping, install the flowsensor after cleaning inside of the pipe.
- (6) Make sure to align the flow direction of the fluid with the flow direction indicated by the arrow on the main body.
- (7) Provide straight pipe portion of 5D or more at the upstream and 3D or more at the downstream of the flowsensor.
- (8) Around the place of installation, provide enough space for maintenance.