

IWAKI ELECTROMAGNETIC METERING PUMPS

EWN-Y



Electromagnetic metering pump with the revolutionary EFS Flow Sensor - provides Precise flow monitoring, Feedback & Control.

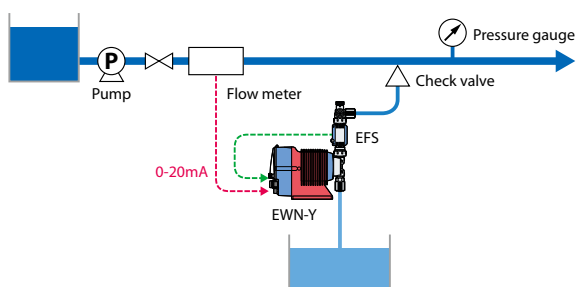
The new EWN-Y electromagnetic pump combined with EFS flow sensor provides accurate real time control & display of dosing rate.

The required flow rate is simply input to the pump. Through feedback from the EFS sensor, the pump constantly adjusts its speed to maintain the set dosing rate - even under changing temperature, viscosity, or suction & discharge pressure conditions.

The EFS is mounted directly on the pump to digitally display dosing rate per minute or hour - ALL WITHOUT ANY CALIBRATION.

The EWN-Y gives a proportional 4-20mA output signal of dosing rate and displays operating history such as total flow volume and power-on time.

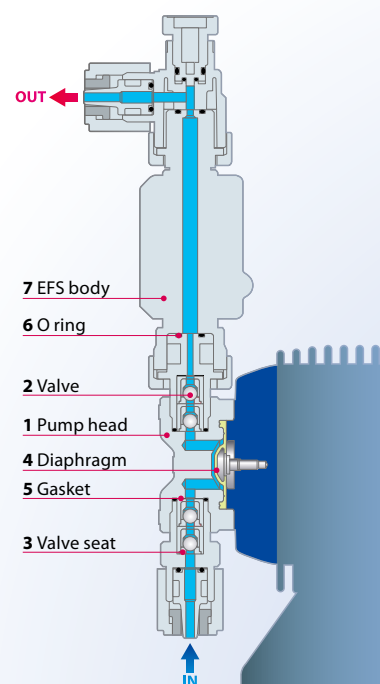
Application example



- The EWN-Y pump automatically recognizes the EFS sensor when connected and powered.
- Install a CAN check valve when discharge-line length is less than 3m.
Use a CBN check valve (purchase separately) when discharge-line length is 3m or more.
- The EFS sensor may not measure dosing rate if non-conductive media such as oil are present.
Remove such impurities from dosing pipework before using the EFS, to give the required minimum conductivity of 1000mS/m.

Wet-end materials

	VC	VH
1 Pump head	PVC	
2 Valve	Alumina ceramic	Hastelloy C276
3 Valve seat	FKM	EPDM
4 Diaphragm	PTFE+EPDM EPDM is not wet-end	
5 Gasket	PTFE	
6 O ring	FKM	EPDM
7 EFS body	PVDF	
EFS electrode	Titanium	Hastelloy C22 or equivalent



Specifications

Pump

Model		EWN-B11	EWN-B16	EWN-B21	EWN-B31	EWN-C16	EWN-C21	EWN-C31	EWN-C36
Max. discharge capacity	mL/min	38	65	100	200	80	130	270	420
	mL/shot	0.05 to 0.11	0.09 to 0.18	0.14 to 0.28	0.28 to 0.56	0.09 to 0.22	0.14 to 0.36	0.3 to 0.75	0.47 to 1.17
Max. discharge pressure	MPa	1.0	0.7	0.4	0.2	1.0	0.7	0.35	0.2
Stroke rate	% (spm)	0.1 to 100 (1 to 360)							
Stroke length	% (mm)	50 to 100 (0.5 to 1.0)				40 to 100 (0.5 to 1.25)			
Current	A	0.8				1.2			
Average power consumption	W	20				24			

- The specification above is based on pumping clean water at room temperature and rated voltage.
- Flow rates were collected at the maximum discharge pressure, 100% stroke length and 360spm.

Controller

Operation mode	MAN control	Operation at MAN speed Feedback control ^{Note1}	0.1 to 100.0% (1 to 360spm) 0.1 to 999.9mL/min 0.001 to 59.994L/H 0.001 to 15.829GPH
	EXT control	ANA.R (analogue rigid)	4-20, 20-4, 0-20, 20-0mA (proportional operation with stroke rate)
		ANA.V (analogue variable) BATCH (batch operation) ^{Note1}	2 point setting (set point 1 and 2, flow rate or stroke rate) 0.1 to 99999.9mL 0.001 to 99.999L 0.001 to 26.385G
Display	LCD		14x5 backlit LCD ^{Note2} indicates operating conditions, a flow rate and units.
	LED	ON Green/Orange x1	Lights orange as powered on. Blinks green while ready for operation
		STOP Red/Orange x1 OUT Red x1	Lights red at STOP signal input, Lights orange at Pre-STOP signal input Flashes at each output
Keypad	5 keys		START/STOP, EXT, ▲, ▼, Disp
Control function	STOP/Pre-STOP		Pump keeps running during Pre-STOP signal input Operation stop at STOP signal input ^{Note3}
	Priming (PRIME)		Max spm operation by pressing ▲ and ▼ keys
	Key lock		Keypad lock and release
	Inter lock		Operation stop at contact input ^{Note3}
	Calibration		Setting of the liquid volume per shot
	Buffer		BATCH Buffer on/off, Accumulated to the maximum volume at each rate
	Upper limit ^{Note4}		Stroke rate 100.0% (fixed rate), Standard: 360spm / High compression: 180spm / High pressure and viscosity: 240spm
Input	Buffer pulse ^{Note5}		No voltage contact or open collector ^{Note6}
	Analogue		0 to 20 mADC (input resistance 220Ω)
	STOP/Pre-STOP (level sensor)		No voltage contact or open collector ^{Note6}
	AUX		No voltage contact or open collector ^{Note6}
	Interlock		No voltage contact or open collector ^{Note6}
	Batch Start/Stop		No voltage contact or open collector ^{Note6}
Output	OUT1		No voltage contact (mechanical relay) 250VAC at 3A (resistance load), Enable or disable the alarms of STOP, Pre-STOP, Interlock, Batch, Out of measurement and Poor flow
	OUT2		No voltage contact (photoMOS) 24 VAC/DC at 0.1A, Enable or disable the alarms of STOP, Pre-STOP, Interlock, Batch, Out of measurement and Poor flow or Synchronous output (sensor/pump)
	Analogue		4 to 20mADC (The max load resistance is 500Ω)
Buffer memory			Nonvolatile memory
Power voltage ^{Note7}			100 to 240VAC 50/60Hz

Electromagnetic flow sensor

Model	Capacity	Accuracy	Pump
EFS-05	Above 40mL/min	±5%RD	EWN-B11/16/21, EWN-C16/21
	Below 40mL/min	±2mL/min	
EFS-10	Above 120mL/min	±5%RD	EWN-B31, EWN-C31/36
	Below 120mL/min	±2mL/min	

Note1: Available with the EFS flow sensor

Note2: A push of any keypad lightens the backlit LCD. The LCD stops lightening 1 minute after the last key operation.

Note3: Operation resumption at contact input is also programmable.

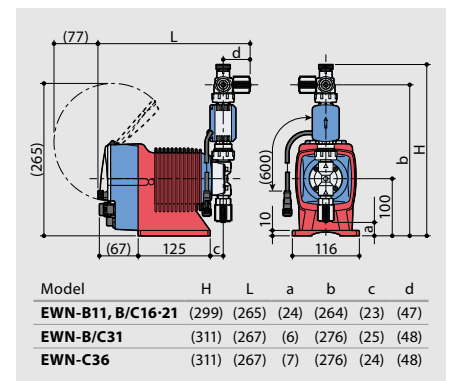
Note4: The pump can not run over the upper limit even if set to run beyond that speed in an EXT mode.

Note5: The maximum frequency of the input pulse is 100Hz (Duty 50:50).

Note6: The maximum applied voltage is 12V at 2.3mA. The minimum application load should be 1mA or below when using a relay.

Note7: Observe the allowable voltage of 90 to 264VAC. Otherwise failure may result.

Dimension (mm)



Pump identification

EWN - B 11 VC 1 J Y - FT - 00

- Drive unit symbol** (Average power consumption)
B: 20W
C: 24W
- Wet-end materials symbol**
VC, VH
For details, see the table of materials.
- Diaphragm diameter**
11: 10mm
16: 15mm
21: 20mm
31: 30mm
36: 35mm
- Connection**
1: Ø4xØ9 (B11/16/21, C16/21)
4: Ø8xØ13 (B31, C31, C36)
- Power code**
J: Japan/Asia
- Controller function code**
Y: High functional
- Electromagnetic flow sensor code**
Code Dia. Body material Electrode O ring
FT 05/10 PVDF Titanium FKM
FF 05/10 PVDF Hastelloy C22 or equivalent FKM
FH 05/10 PVDF Hastelloy C22 or equivalent EPDM
- Special configuration code**

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() Country codes

Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly.
Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.

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