

IWAKI
ANTI-GAS LOCK
PUMP UNIT

EWN-Y-A+EFS

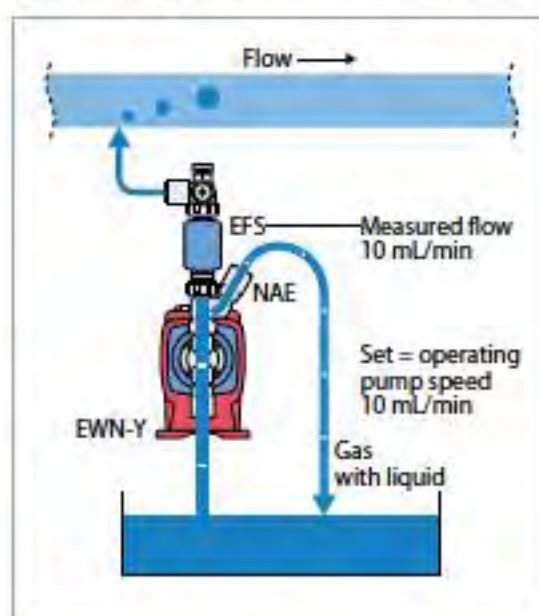


The Auto-air vent valve eliminates the gas-lock problem with continuance bleeding liquid and gas constructions.

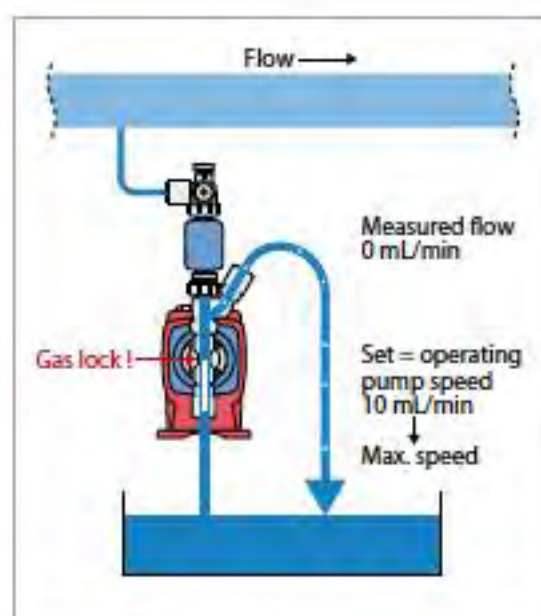
A precise flow measuring per stroke and a feed back control enable precise chemical dosing, mean while the bleeding system is normally difficult to keep precise dosing.

The system can also bleed gas out as short time as possible, even if setting discharge flow is small.

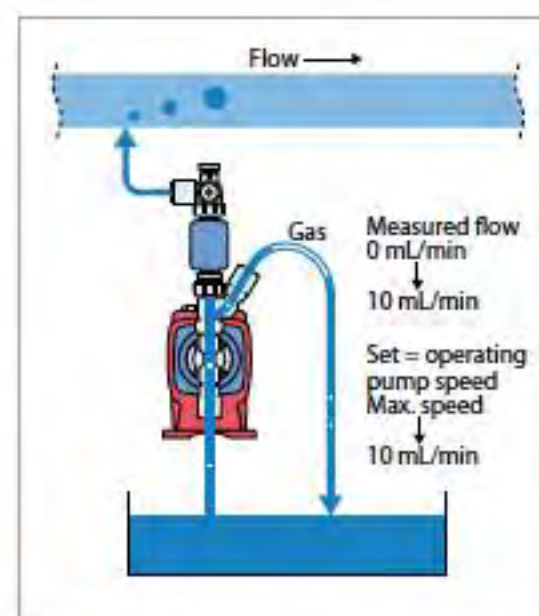
Philosophy of the Non-Gas Lock system



The bleeding system takes gas and liquid out from the pump chamber. However, dosing capacity is kept setting volume due to feed back control with the flow signal.



When large volume of gas comes into the pump chamber, pump discharge capacity will be "zero" until bleeding the gas out. The feed back control increase pump operating speed, thus gas bleeding time will be in short time.



When the gas bleeding is completed, the pump discharge volume returns to the setting valve immediately by the feed back control with the flow signal.

IWAKI ELECTROMAGNETIC METERING PUMPS

EFS



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

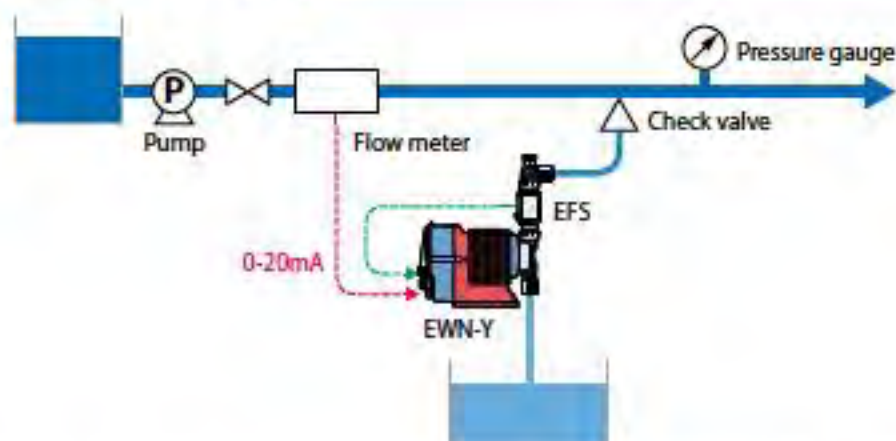
The new EWN-Y electromagnetic pump combined with EFS flow sensor provides accurate real time control & display of dosing rate.

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.

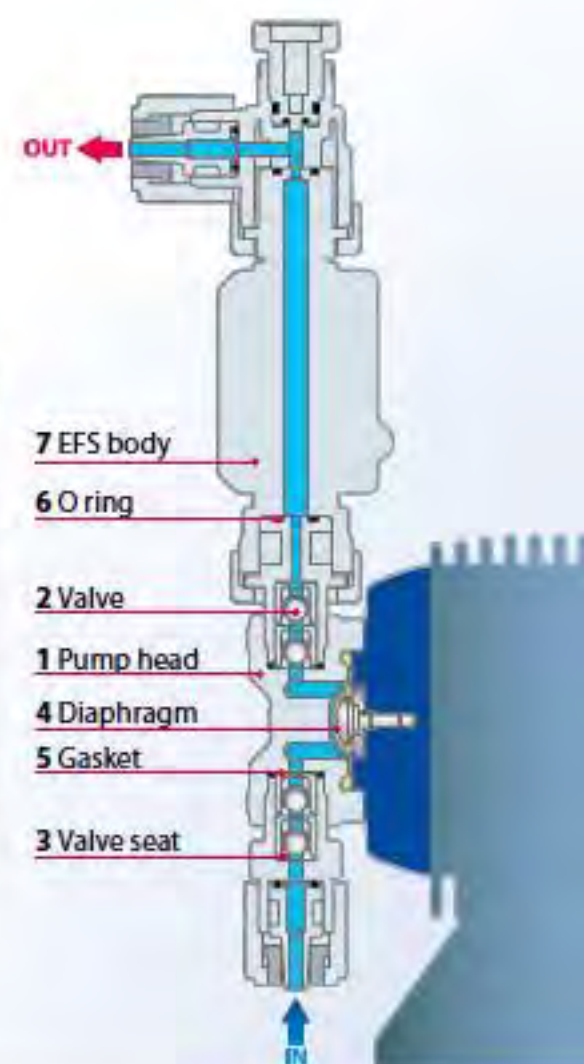
Application example



- 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.

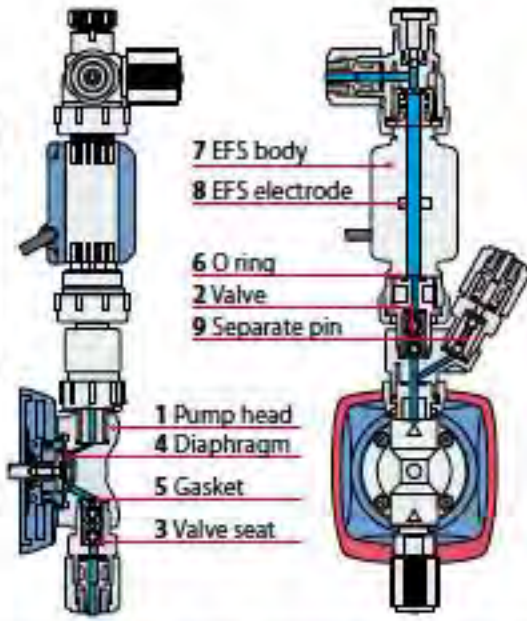
Wet-end materials

	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



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8 EFS electrode	Titanium	Hastelloy C22 or equivalent
9 Separate pin	Titanium	Hastelloy C276



Specifications of pump

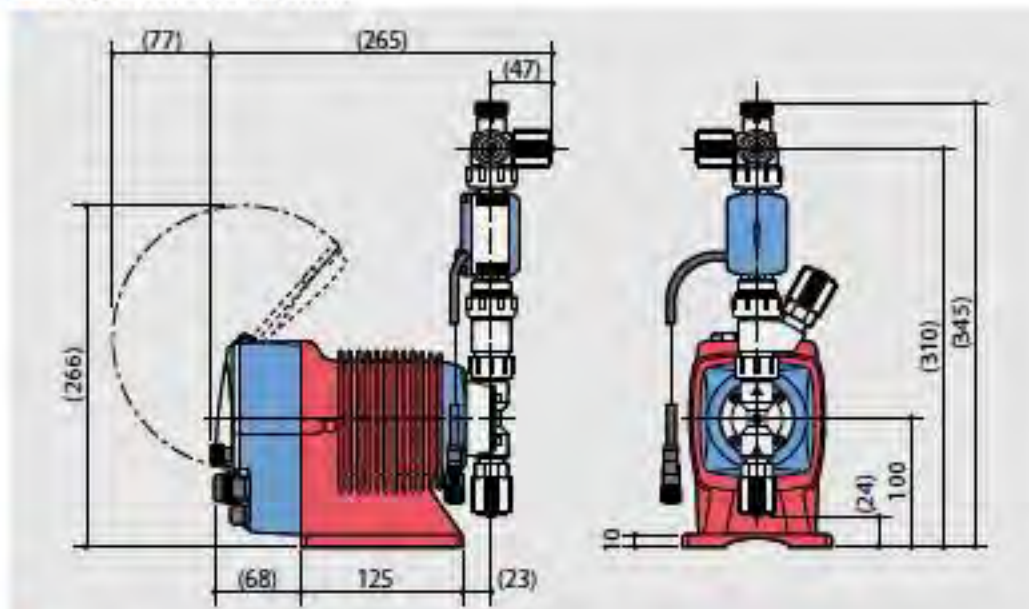
Model		EWN-B11	EWN-B16	EWN-C16	EWN-C21
Capacity	mL/min	30	55	65	130
	L/H	1.8	3.3	3.9	7.8
Discharge capacity per shot	mL/shot	0.04 to 0.08	0.08 to 0.15	0.09 to 0.18	0.14 to 0.36
Rated discharge pressure	MPa	1.0	0.7	1.0	0.7
Stroke length adjustable range	%	50 to 100		40 to 100	
Stroke rate	%(spm)	0.1 to 100 (1 to 360)			
Standard connection (Hose dia)	mm	ø4xø6			
Current	A	0.8		1.2	
Average power consumption	W	20		24	
Power voltage		100 to 240 VAC 50/60Hz			

Note 1: Each discharge capacity shown above is at the discharge pressure (stroke length 100%, stroke rate 100%) and increases as a discharge pressure reduces.
 Note 2: The performance is based on pumping clean water at ambient temperature at rated voltage.
 Note 3: Liquid temperature range: VC/VH types -10 to 40 °C
 Liquid characteristics must not change (viscosity, freezing or slurries contained)

Specifications of flow sensor

Accuracy: ±5%RD*
 Required conductivity of medium: 1000 mS/m or more
 *The accuracy will be ±2mL/min if the flow is less than 40mL/min.

Dimensions in mm



Specifications of controller

Model	EWN-Y		
Operational mode	Auto control	Feedback control	0.1 to 999.9mL/min 0.001 to 59.994 L/H 0.001 to 15.829 GPH
	EXT control	Analog rigid	4 to 20, 20 to 4, 0 to 20, 20 to 0mA proportional control to stroke rates
		Analog variable	2 - point setting (Analog variable) (Proportional control to flow/stroke rates in the range of 0-20mA)
	BATCH	0.1 to 99999.9 mL 0.001 to 99.999 L 0.001 to 26.385 G	
Display	LCD	14seg-5digits backlit LCD Operating conditions and Flow rates etc	
	LED	ON	A 2-color LED lights in orange when turning on power and in green during operation.
		STOP	A 2-color LED lights in red when receiving the STOP signal and in orange when receiving the PreSTOP signal.
OUT		A LED lights in red when the pump is transmitting a signal to external devices.	
Keypad	5keys	START/STOP, EXT, ▲(UP), ▼(DOWN), Disp	
Control function	STOP/Pre-STOP	Pump keeps running when Pre-STOP is activated. Pump stops when STOP is activated.*1	
	Prime	Pump runs at max. stroke rate while up and down keys are pushed.	
	Key lock	Key can be locked and unlocked.	
	Inter lock	Operation stop at contact input*1	
	Reading calibration	Reading adjustment of flow volume per shot	
	Buffer	ON/OFF of the batch control buffer memory	
Input	Pulse signal input for batch control	No voltage contact or open collector*2	
	Analogue	0 to 20mADC (Input resistance is 220Ω.)	
	STOP/Pre-STOP (Level sensor)	No voltage contact or open collector*2	
	AUX	No voltage contact or open collector*2	
	Interlock	No voltage contact or open collector*2	
	Batch	No voltage contact or open collector*2	
Output	OUT1	No voltage contact (Mechanical relay), 250VAC 3A (Resistive load) Either the Signal recognition output*3, Control error, or Poor flow detection is selectable (default: STOP).	
	OUT2	No voltage contact (PhotoMOS relay), AC/DC24V 0.1A Either the Sensor signal output, Synchronous output, Signal recognition output*3, Control error or Poor flow detection is selectable.	
	Analogue	4 to 20mA DC (Allowable load resistance : 500Ω)	
Data logging		Total flow volume Total number of strokes (1=1000 shots) Total number of signal outputs (OUT1) Total number of signal outputs (OUT2) Total power connection time Total operating time	
Buffer memory		Nonvolatile memory	
Power voltage**		100 to 240VAC 50/60Hz	

Note 1: The setting can be changed to "operation resumption at contact input".
 Note 2: The maximum applied voltage from the pump to an external contact is 12V at 2.3mA. When using a mechanical relay, its minimum application load should be 1mA or below.
 Note 3: STOP/ Pre-STOP/ Interlock/ Batch completion outputs are separately enabled.
 Note 4: Observe the specified power voltage range. Otherwise failure may result. The allowable power voltage range is 90 to 264VAC.

Identifications

■ Pump

EWN - B 11 VC □ E Y A

- Series symbol**
EWN series
- Drive unit symbol**
Average power consumption
B: 20W C: 24W
- Diaphragm diameter**
Effective diaphragm dia.
09: 8mm 11: 10mm
16: 15mm 21: 20mm
- Wet-end material symbol**
For details, see the table of materials.
- Power code**
E: With European cord
A: With Australian cord
- Connection**
Blank: ø4 x ø6 (B09,B11,B16,B21,C16,C21)
ø9 x ø12 (B31,C31,C36)
For other option, please contact us.
- Special version code**
A: Automatic air vent type
- Controller function code**
Y: Multi-function type

■ Flow sensor

EFS - 05 - F T

- Series symbol**
EFS series
- Inlet size**
05: 5mm
- Material of body**
F: PVDF
- Material of electrode**
T: Titanium
H: Hastelloy

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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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