

## Electromagnetic metering pumps

The latest electromagnetic metering pump equipped with digital controller & multi-voltage



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# The latest electromagnetic metering pump equipped with digital controller & multi-voltage

EHN Series is the latest electromagnet drive & diaphragm type metering pump. Pump head and driving mechanism employ those of experienced EH-R Series pumps while control unit is newly developed. Multi-voltage from 100 to 240V and digitized EHN Series pump is easy to operate in a variety of chemical feeding application.



VC/VH type

FC type

SH type

## Multi-voltage power source

Multi-voltage power source from AC100 to 240V for all models. You are now free from worrying about power voltage.

## High resolution

Thank to digitized controller, stroke speed can be adjusted by 1 spm step from 1 to 360 spm. Combined with stroke length adjustment, you can do the fine adjustment from very small flow to maximum flow rate.

## Pump head variation

Wide variety of standard pump head (VC/VH), automatic air bleeding type (NAE) and high compression type (55 model).

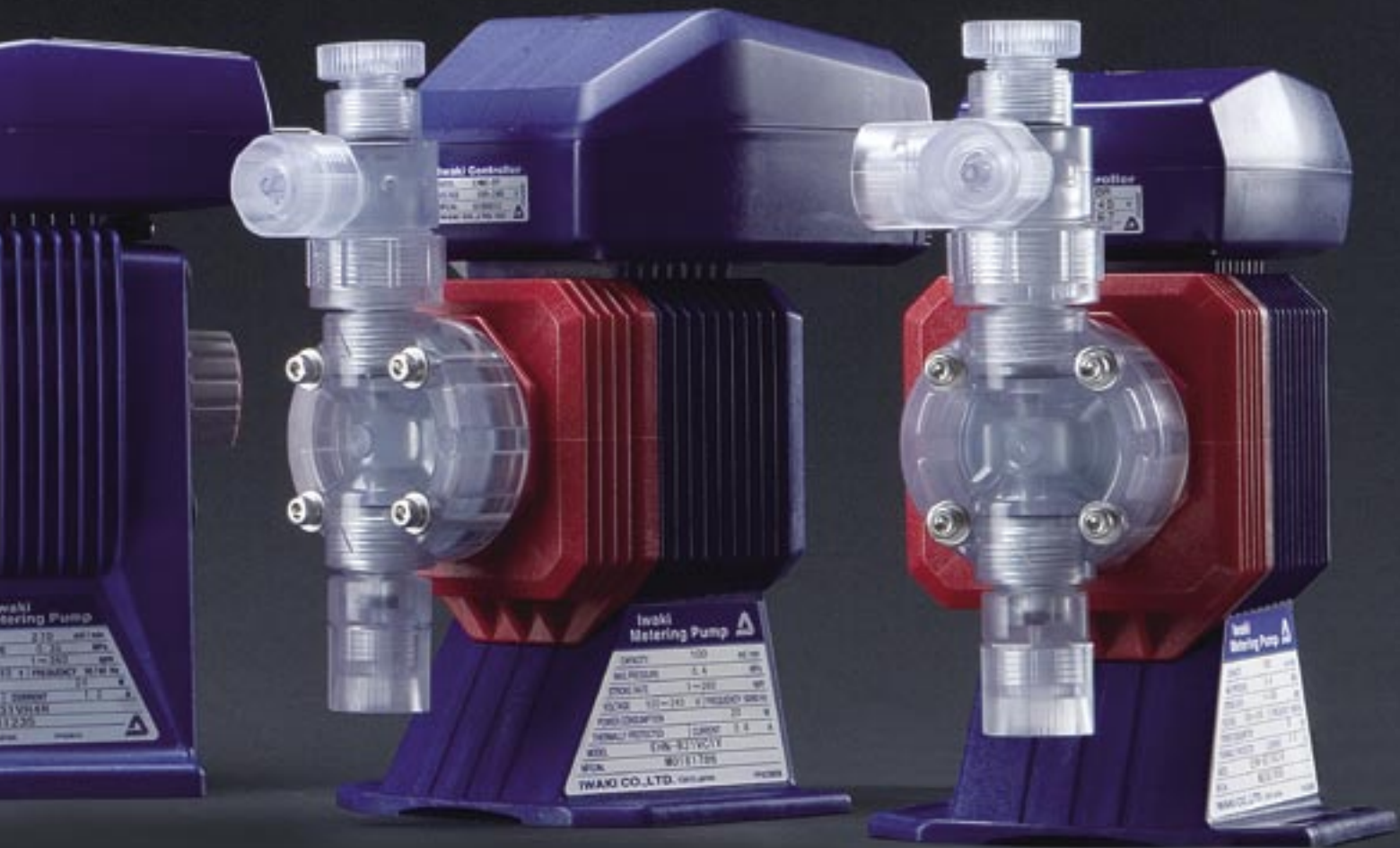
Note : Refer to page 5 for details of NAE and 55.



Stroke length adjusting dial



Control panel



### Control unit

The highly-functional EHN-Y which is equipped with digital and analogue inputs are added to the standard production line as well as EHN-R.

### Air vent valve

Small flow capacity models (EHN-11, 16 & 21) equip air vent valve. Air in the pump chamber can be easily released by turning knob.



### Water/dust-proof

Each unit such as driving unit and control unit is sealed to make the pump IP66 equivalent water/dust-proof.

Note : Do not install pump outdoor.

# Various combinations of the controller and the pump head meet a wide range of application requirement.

## Basic type

### EHN-R series

The basic model of the EHN series. Key lock function prevents erroneous operation after controller programming. The mounted controller provides EXT and STOP functions. Multiply and dividing operations becomes newly available by EXT functions and allows you to delicate pump control.



## Controller function

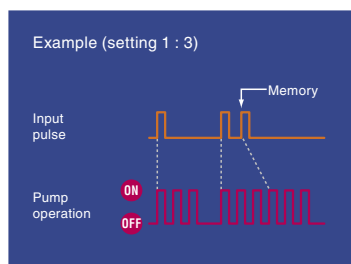
### Manual operation

Pump run/stop and stroke rate setting (1 to 360 spm) can be done by keys. Stroke rate can be set either when pump is running or stopped.

### EXT operation

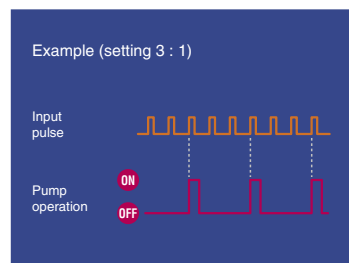
#### Multiply (1 : n)

Pump makes multiply operation by external pulse signal. Pump makes "n" times shots against one pulse signal input. "n" can be set from 1 to 999. Pulses which came while operation are put in memory up to 255 pulses.



#### Dividing (n : 1)

Pump makes dividing operation by external pulse signal. Pump makes one shot against "n" times pulse input. "n" can be set from 1 to 999.

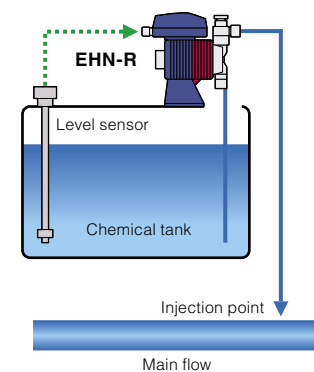


Note : If "n" is set at 1, pump makes synchronous operation. If pump is connected to optionally available EH controller, please use this function.

### STOP function

Pump stops by external contact signal. Pump operates when stop signal input is released. This function enables pump ON/OFF control. This is convenient function when used in combination with level sensor.

Note : It is possible to operate pump while STOP signal comes in (Change over with keys). In this case, when pump is operated in EXT mode, pump operates synchronous with EXT signal input while STOP signal is coming in.



Level sensor watches water level in tank, and stops pump when water level comes to lower limit.

## Digital/Analogue correspondence

### EHN-Y type

Analogue input operation is also available as well as Manual and EXT (Multiply and dividing) operation. STOP function is also provided to control the pump via an external contact signal. DC 12V built-in sensor power is a standard feature.



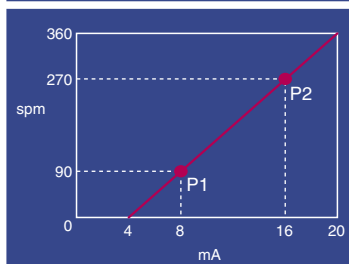
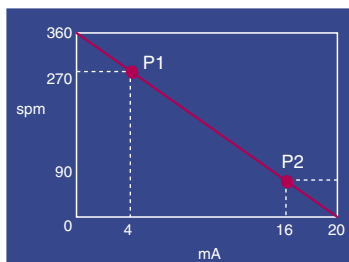
### Controller function

#### Manual operation

Pump run/stop and stroke rate setting (1 to 360 spm) can be done by keys. Stroke rate can be set either when pump is running or stopped.

#### Analogue input operation

Proportional control of spm by programming 2 points between 0-20mA.



#### EXT operation

##### Multiply (1 : n)

Pump makes multiply operation by external pulse signal. Pump makes "n" times shots against one pulse signal input. "n" can be set from 1 to 999. Pulses which came while operation are put in memory up to 255 pulses.

##### Dividing (n : 1)

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Note : If "n" is set at 1, pump makes synchronous operation. If pump is connected to optionally available EH controller, please use this function.

#### STOP function

Pump stops by external contact signal. Pump operates when stop signal input is released. This function enables pump ON/OFF control. This is convenient function when used in combination with level sensor.

Note : It is possible to operate pump while STOP signal comes in (Change over with keys). In this case, when pump is operated in EXT mode, pump operates synchronous with EXT signal input while STOP signal is coming in.

# The pump can be specialized for the need of a special chemical transfer.

## The optimum for gaseous liquid feeding

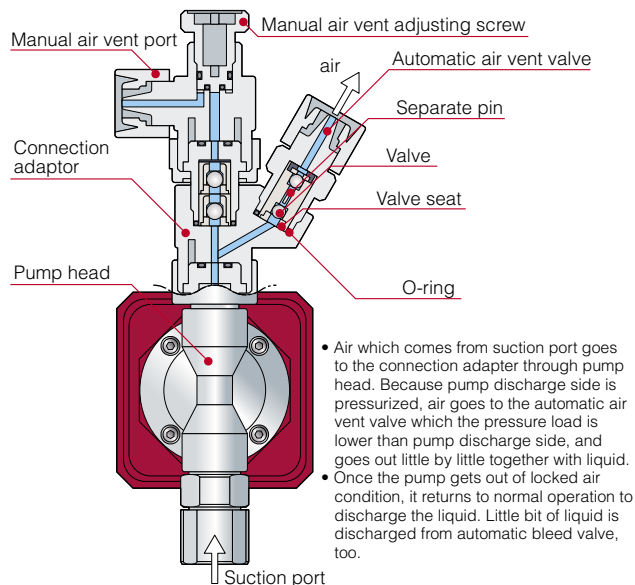
### Automatic air vent type

#### EHN-NAE

This type equips automatic air vent mechanism. An air vent valve built-in pump chamber enables reliable air venting. Also equipped manual air vent valve enables easy pressure release in discharge piping. Gaseous liquid such as sodium hypochlorite or hydrogen peroxide can be injected without gas locking.



#### Principle of operation (NAE type)



#### Wet-end material

Material code	VC	VH
Pump head	PVC	
Connection adaptor	PVC	
Separate pin	Titanium	Hastelloy C276
Valve	Alumina ceramic	Hastelloy C276
Valve seat	FKM	EPDM
O-ring	FKM	EPDM

#### Specification

Model	EHN-B11-NAE	EHN-B16-NAE	EHN-C21-NAE
Max. discharge capacity	mL/min 30	55	110
Discharge capacity per shot	mL/shot 0.04 - 0.08	0.08 - 0.15	0.12 - 0.31
Max. discharge pressure	MPa 1.0	0.7	
Stroke length adjustable range	%		40 - 100
Stroke rate	spm 1 - 360		
Connection (Hose dia.)	Ø4 x Ø9		
Power voltage	AC100 - 240V 50/60Hz single phase		
Accessory	Check valve CA-1, PVC braided hose 3m		

Operating condition : Liquid temperature 0 - 40 °C. Ambient temperature 0 - 40 °C  
 Note: Max. discharge capacity represents the figure when pumping clear water at ambient temperature at max. discharge pressure. Pump discharges more liquid than shown above if it runs at lower discharge pressure. If discharge pressure is 0.12MPa or lower, be sure to use check valve to avoid over-feeding.

## The optimum for sodium hypochlorite feeding

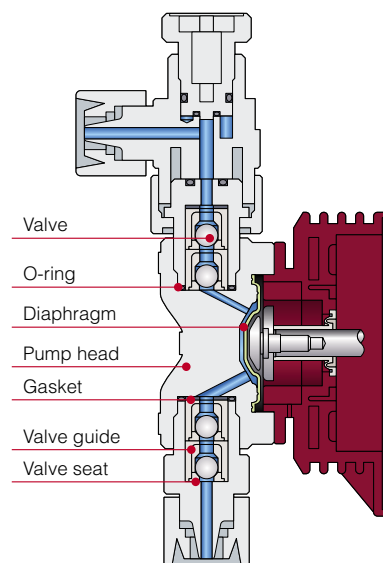
### High compression head type

#### EHN-55

Increased compression ratio due to minimized dead volume in pump chamber. Suitable for injection of boiler chemicals such as hydrazine or so.



#### Construction (55 type)



#### Wet-end material

Material code	VC
Pump head	PVC
Valve	Alumina ceramic
Valve seat	FKM
Valve guide	PVC
Gasket	PTFE
O-ring	FKM
Diaphragm	PTFE coated EPDM

#### Specification

Model	EHN-B11VC-55	EHN-B21VC-55
Max. discharge capacity	mL/min 38	100
Discharge capacity per shot	mL 0.05 - 0.11	0.14 - 0.28
Max. discharge pressure	MPa 1.0	0.4
Stroke length adjustable range	%	
Stroke rate	spm 1 - 360	
Connection (Hose dia.)	Ø4 x Ø9	
Power voltage	AC100 - 240V 50/60Hz single phase	
Accessory	Check valve CA-1, PVC braided hose 3m	

Operating condition : Liquid temperature 0 - 40 °C. Ambient temperature 0 - 40 °C  
 Note 1 : Max. discharge capacity represents the figure when pumping clear water at ambient temperature at max. discharge pressure. Pump discharges more liquid than shown above if it runs at lower discharge pressure. If discharge pressure is 0.12MPa or lower, be sure to use check valve to avoid over-feeding.

# The EHN series meets the needs of various chemical feeding in water treatment fields.

**Injection of boiler compound into through flow boiler** EHN-R

Because the pump can inject very small capacity, pure boiler compound can be injected without diluting.

**CT-U25N/50NR Tank**

Boiler compound

A Injection to discharge side of feeding pump  
B Injection to suction side of feeding pump

Water softener Feeding pump

Water

Boiler

Steam

**Metering dose** EHN-R | EHN-Y

Pump operates at pre-set number of shots by receiving signal from proximity switch. Number of shot can be set from 1 - 999.

CT-U Tank

EHN-R  
EHN-Y

Proximity switch

Proximity switch stops vessel or starts injection.

**Sterilizing of swimming pool water (Residual chlorine concentration control)** EHN-R

Continuous injection of sodium hypo-chlorite. Combined with Chlorine sterilizer, residual chlorine concentration can be controlled precisely.

Balancing tank

Swimming pool

Hair catcher

Filtration pump

Check valve

Filter

CT-U120N Tank

Filter

Residual chlorine sensor

Residual chlorine meter

Waste water

Pulse signal

**Automatic chlorine sterilizer IMP series**

EHN-R

\* Please refer to the single goods catalog of the separate volume for details of the IMP series.

**Electroless plating system (Planting solution supply/ Conductivity control of cleaning water)** EHN-R

Conductivity controller TC-300

SV

Solenoid valve

Conductivity sensor

Pure water washing bath

Washing bath

Plating solution bath

EHN-R  
CT-U Tank

\* Please refer to the single goods catalog of the separate volume for details of the TC-300.

**Sterilizing of distilled water (Proportional mixing of cleaning water and sterilizing agent)** EHN-R | EHN-Y

Pump injects sterilizing agent in proportion to the flow rate of cleaning water by the signal from pulse oscillating flow meter. Same mixing concentration can be kept regardless of the change of cleaning water flow rate.

Main flow (Cleaning water)

Pulse oscillating flow meter

Line mixer

Check valve

CT-U Tank

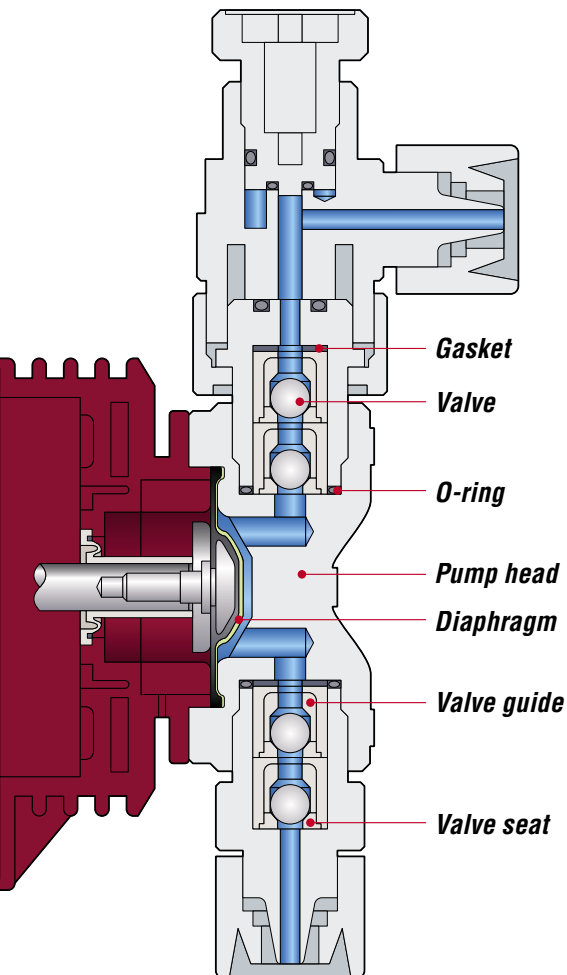
Sterilant

Pulse signal

Nozzle

EHN-R, EHN-Y

# Technical data



## Construction and materials

Material symbol	VC	VH	FC	SH
Pump head	PVC	PVC	PVDF	SUS316
Valve	Alumina ceramic	Hastelloy C276	Alumina ceramic	Hastelloy C276
Valve seat	FKM	EPDM	PCTFE	SUS316
Valve guide	PVC	PVC	PVDF	SUS316
Gasket	PTFE			
O-ring	FKM	EPDM	-	-
Diaphragm	PTFE+EPDM (EPDM of diaphragm is not wet-end.)			

PVC: Transparent polyvinyl chloride

FKM: Fluor rubber

EPDM: Ethylene-propylene-diene-methylene

PCTFE: Polychlorotrifluoroethylene

PTFE: Poytetrafluoro ethylene

PVDF: Poly vinylidene fluoride

## Pump identification

### (VC/VH)

**EHN - B 11 VC 1 R - NAE**

- Drive unit code**  
(Average power consumption)  
B: 20W  
C: 24W
- Diaphragm effective diameter**  
11: 10mm  
16: 15mm  
21: 20mm  
31: 30mm  
36: 35mm
- Wet-end material code**  
VC, VH
- Connection hose dia.** (in mm)  
1:  $\varnothing 4 \times \varnothing 9$  \*2:  $\varnothing 4 \times \varnothing 6$  \*3:  $\varnothing 6 \times \varnothing 8$   
4:  $\varnothing 8 \times \varnothing 13$  \*5:  $\varnothing 9 \times \varnothing 12$   
PVC braided hose (Standard)  
\* Teflon or polyethylene hose (Special specification)
- Controller**  
R: Standard  
Y: Digital/Analogue correspondence
- Special configuration**  
NAE: Automatic air vent  
55: High compression pump head, etc.

### (FC/SH)

**EHN - B 11 FC 2 R**

- Drive unit code**  
(Average power consumption)  
B: 20W  
C: 24W
- Diaphragm effective diameter**  
11: 10mm  
21: 20mm  
31: 30mm  
36: 35mm
- Wet-end material code**  
FC, SH
- Connection hose dia.** (in mm)  
Pump type FC 2:  $\varnothing 4 \times \varnothing 6$  6:  $\varnothing 10 \times \varnothing 12$   
SH 9: Rc 1/4
- Controller**  
R: Standard  
Y: Digital/Analogue correspondence



## Specifications of pump (VC/VH)

Model		EHN-B11	EHN-B16	EHN-B21	EHN-B31	EHN-C16	EHN-C21	EHN-C31	EHN-C36	
Max. discharge capacity	mL/min	38	65	100	230	80	130	270	450	
	mL/shot	0.05 - 0.11	0.09 - 0.18	0.14 - 0.28	0.32 - 0.64	0.09 - 0.22	0.14 - 0.36	0.30 - 0.75	0.50 - 1.25	
Max. discharge pressure	MPa	1.0	0.70	0.40	0.20	1.0	0.70	0.35	0.20	
Stroke rate	spm	1 - 360								
Stroke length		50 - 100% (0.5 - 1.0mm)				40 - 100% (0.5 - 1.25mm)				
Connection (Hose dia.)	mm	Ø4 × Ø9			Ø8 × Ø13		Ø4 × Ø9		Ø8 × Ø13	
Power voltage		AC100 - 240V 50/60Hz single phase								
Air vent valve		○			×		○		×	
Accessory	Check valve	CA-1			CA-2-L		CA-1		CA-2	CA-2-L
	Braided hose	Ø4 × Ø9 or Ø8 × Ø13 made in PVC/3 m								

Note 1: The maximum discharge capacity of each model represents the figure when the pump is pumping clean water at maximum discharge pressure, rated voltage, ambient temperature, and 360 spm with stroke length 100%.

Note 2: 0.12MPa or more discharge pressure is needed to prevent over feeding (0.05MPa or more for the EHN-B31 and C36).

If the discharge pressure is at or below the required MPa, install a check valve or back pressure valve.

Operating condition: Liquid temperature range is 0 - 60 °C(0 - 40 °C for VC/VH)

Ambient temperature range is 0 - 40 °C

## (FC/SH)

Model		EHN-B11	EHN-B21	EHN-C21	EHN-C31	EHN-C36
Max. discharge capacity	mL/min	38	100	130	270	410
	mL/shot	0.05 - 0.11	0.14 - 0.28	0.14 - 0.36	0.30 - 0.75	0.46 - 1.14
Max. discharge pressure	MPa	1.0	0.40	0.70	0.35	0.20
Stroke rate	spm	1 - 360				
Stroke length		50 - 100% (0.5 - 1.0mm)			40 - 100% (0.5 - 1.25mm)	
Connection	FC	Ø4 × Ø6			Ø10 × Ø12	
	SH	Rc 1/4				
Power voltage		AC100 - 240V 50/60Hz single phase				
Air vent valve		SH: ○		FC: ×		
Accessory		FC: BVC(Back pressure valve)			SH: CS-1S(Check valve)	

Note 1: The maximum discharge capacity of each model represents the figure when the pump is pumping clean water at maximum discharge pressure, rated voltage, ambient temperature, and 360 spm with stroke length 100%.

Operating condition: Liquid temperature range is 0 - 60 °C (on condition that liquid quality is not changed by freezing, viscosity change, or slurry interfusion).

## Specifications of controller

Model		R	Y
Operation mode	Mode	EXT (Pulse dividing or multiply)	
	Mode selection	EXT & START/STOP keys	
Control	Setting	<ul style="list-style-type: none"> <li>Manual stroke rate 1 - 360spm</li> <li>EXT                             <ul style="list-style-type: none"> <li>Digital input operation                                     <ul style="list-style-type: none"> <li>Multiply 1 : n n=1 - 999</li> <li>Dividing n : 1 n=1 - 999</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Manual stroke rate 1 - 360spm</li> <li>EXT                             <ul style="list-style-type: none"> <li>Digital input operation                                     <ul style="list-style-type: none"> <li>Multiply 1 : n n=1 - 999</li> <li>Dividing n : 1 n=1 - 999</li> </ul> </li> <li>Analogue input operation                                     <ul style="list-style-type: none"> <li>Set point 1 Amperage: 0 - 20 mA Stroke rate: 0 - 360 spm</li> <li>Set point 2 Amperage: 0 - 20 mA Stroke rate: 0 - 360 spm</li> </ul> </li> </ul> </li> </ul>
	Setting method	3 operating keys	4 operating keys
	Stop	No voltage contact (Make off/Make on can be selected by changing controller setting)	
Display		4-digit LCD	
Input	Pulse	No voltage contact, Open collector	
	Stop	No voltage contact, Open collector	
Output	Sensor power	-	DC 12V 20mA or less
Power voltage		AC100 - 240V 50/60Hz single phase	

# Optional accessories

## Check valve

Mount the check valve at the end of discharge hose for the prevention of over feeding, backflow, and siphon action.

Note: CB type is an option.

**CA type:** Standard accessory



**CB type:** In-line type check valve. Install it between hoses.



**CS type:** Stainless type for high liquid temperature. General model and boiler model are available.



Model	Connection		Set press. MPa	Material Body	Material Spring	Material O-ring	Applicable pump	Wet end material code
	IN	OUT						
CA-1VC-4	ø4xø9	R3/8, R1/2 Thread	0.17 ±0.04	PVC	Hastelloy C276	FKM	B11 · 16 · 21	VC
CA-1VE-4	Hose					EPDM	C16 · 21	VH
CA-1VC-4x6	ø4xø6					FKM	C16 · 21	VC
CA-1VE-4x6	Hose					EPDM	C31	VH
CA-2VC-8	ø8xø13 Hose	R3/8, R1/2 Thread	0.05 +0.04 -0.03	PVC	Hastelloy C276	FKM	B31	VC
CA-2VE-8						EPDM	C36	VH
CA-2VCL-8						FKM	C36	VC
CA-2VEL-8						EPDM	C36	VH
CA-1VCH-4	ø4xø9 Hose	R3/8, R1/2 Thread	0.34 ±0.04	PVC	Hastelloy C276	FKM	B11 · 16 · 21	VC
CA-1VEH-4						EPDM	C16 · 21	VH
CA-1VH-4						EPDM	C16 · 21	VH
CA-1VEH-4						EPDM	C16 · 21	VH
CB-1VC-4	ø4xø9	ø4xø9	0.17 ±0.04	PVC	Hastelloy C276	FKM	B11 · 16 · 21	VC
CB-1VE-4	Hose	Hose				EPDM	C16 · 21	VH
CB-2VC-8	ø8xø13 Hose	ø8xø13 Hose				FKM	C31	VC
CB-2VE-8						EPDM	C31	VH
CB-2VCL-8	ø8xø13 Hose	ø8xø13 Hose	0.05 +0.04 -0.03	PVC	Hastelloy C276	FKM	B31	VC
CB-2VEL-8						EPDM	C36	VH
CB-1VCH-4	ø4xø9 Hose	ø4xø9 Hose	0.34 ±0.04	PVC	Hastelloy C276	FKM	B11 · 16 · 21	VC
CB-1VEH-4						EPDM	C16 · 21	VH
CS-1S	Rc1/4 Thread	Rc1/4 Thread	0.2 ±0.03	SUS316	Hastelloy C276	—	B11 · 21 C21 · 31 C36	SH
CS-1SL	—	—	0.05 ±0.03	—	—	—	—	—
CS-1E	ø4xø6	R3/8 Thread	0.12 ±0.04	SUS304	Hastelloy C276	EPDM	B11 · 16 · 21 C16 · 21	VH
CS-1E-2	Hose	R1/2 Thread						

## Backflow prevention valve

Mount the backflow prevention valve at the end of discharge hose for the prevention of backflow.



Model	Connection		Material Body	Material Rubber	Applicable pump	Wet end material code
	IN	OUT				
CV-1VC-1	ø4xø9	R3/8, R1/2 Thread	PVC	FKM	B11 · 16 · 21	VC
CV-1VE-1	Hose			EPDM	C16 · 21	VH
CV-1VC-2	ø4xø6			FKM	C16 · 21	VC
CV-1VE-2	Hose			EPDM	C16 · 21	VH
CV-2VC-4	ø8xø13 Hose	R3/8, R1/2 Thread	PVC	FKM	B31	VC
CV-2VE-4				EPDM	C31 · 36	VH

## Back pressure valve

The back pressure valve enhances the dosing accuracy and prevents backflow. Set pressure is adjustable.



Model	Connection		Set press. MPa	Material			Applicable pump	Wet end material code
	IN	OUT		Body	Valve	O-ring		
BVC-1TV-4H	ø4xø6	R3/8, R1/2 Thread	0.2 ±0.02	PVDF	FKM	Note	B11 · 21	FC
BVC-1TV-10H	ø10xø12						C21	
BVC-1TV-10H	Hose						C31	
BVC-1PVL-8H	ø8xø13	R3/8, R1/2 Thread	0.2 ±0.02	PVC	FKM	FKM	C31	VC
BVC-1PEL-8H					Hose	EPDM	EPDM	C31

Note: Gasket (made in PTFE)

## Accumulator

Mount the accumulator on discharge side hose to reduce vibration comes from pulsation.



Model	Connection		Capacity ml	Material Body	Material		Applicable pump	Wet end material code
	IN	OUT			Vladar	O-ring		
AQ-V-1	ø4xø9	ø4xø9	66	PVC	FKM	FKM	B11 · 16 · 21 C16 · 21	VC
AQ-E-1	Hose	Hose			EPDM	EPDM		VH
AQ-V-2	ø4xø6	ø4xø6			FKM	FKM		VC
AQ-E-2	Hose	Hose			EPDM	EPDM		VH
AQ-V-4	ø8xø13	ø8xø13	66	PVC	FKM	FKM	B31	VC
AQ-E-4	Hose	Hose			EPDM	EPDM	C31 · 36	VH

## Hose flange

The hose flange is the adapter for connecting hose to flange. Hose flange with the check valve is also available.



Model	Connection		Material Body	Material Check valve model	Applicable pump	Wet end material code
	Hose	Flange				
15FCA-1VC	ø4xø9	JIS10K15AFF	PVC	CA-1VC	B11 · 16 · 21	VC
15FCA-1VE				CA-1VE	C16 · 21	VH
15FCA-2VC				CA-2VC	C31	VC
15FCA-2VE				CA-2VE	C31	VH
15F×4	ø4xø9	JIS10K15A	PVC	—	B11 · 16 · 21 C16 · 21	—
15FS×4				—	C16 · 21	—
15F×8	ø8xø13	JIS10K15AFF	PVC	—	B31 C31 · 36	—
20FCA-1VC				CA-1VC	B11 · 16 · 21	VC
20FCA-1VE				CA-1VE	C16 · 21	VH
20FCA-2VC				CA-2VC	C31	VC
20FCA-2VE	CA-2VE	C31	VH			
20F×4	ø4xø9	JIS20K20AFF	PVC	—	B11 · 16 · 21 C16 · 21	—
20F×8				ø8xø13	—	B31 C31 · 36

Note: Please ask us for ø4xø6, ø9xø12 connection.

## Hose joint

The hose joint offers a secure connection between hose and pipe.



### Thread connection

Model	Connection		Material Body	Applicable pump	Wet end material code
	Hose	Thread			
V4-3/8-1	ø4×ø9	3/8	PVC	B11 · 16 · 21 C16 · 21	VC VH
V4-1/2-1		1/2			
V8-3/8-4	ø8×ø13	3/8		B31 C31 · 36	
V8-1/2-4		1/2			

### VP plumbing connection

Model	Connection		Material Body	Applicable pump	Wet end material code
	Hose	VP plumbing			
V4-16-1	ø4×ø9	VP16	PVC	B11 · 16 · 21 C16 · 21	VC VH
V4-20-1		VP20			
V8-16-4	ø8×ø13	VP16		B31 C31 · 36	
V8-20-4		VP20			

Note: ø4×ø6, ø9×ø12 connection is prepared.

## Air vent valve

Use the air vent valve for the B31, C31, and C36 types as necessary.



Model	Connection		Material		Applicable pump	Wet end material code
	Hose	Body	Rubber	Body		
AV-E30/35VC-4	ø8×ø13	PVC	FKM	B31 · C31 · 36	VC VH	
AV-E30/35V6-4			EPDM			

Note: Please contact to Iwaki for 9×12 connection.

## Multifunction valve

The multifunction valve functions as a back pressure valve, air vent valve, and relieve valve. The set pressure of the back pressure valve is fixed to 0.2MPa.



Model	Connection		Material			Applicable pump	Wet end material code
	Hose	Body	Diaphragm	Rubber	Body		
MFV-SVC-1	ø4×ø9	PVC	PTFE+EPDM	FKM	B11 · 16 · 21 C16 · 21	VC VH	
MFV-SVH-1				EPDM			

## Strainer with a foot valve

Mount the strainer at the end of suction hose. The strainer with a foot valve prevents backflow and foreign matter interfusion. Inlet bore can be selected according to hose bore.



Model	Connection		Material			Applicable pump	Wet end material code
	Hose	Strainer	Body	Valve ball	Rubber		
FSV-4x9	ø4×ø9	Aflon	PVC	Alumina ceramic	FKM	B11 · 16 · 21, C16 · 21 B31, C31 · 36	VC
FSV-8x13	ø8×ø13						
FSE-4x9	ø4×ø9			Hastelloy C276	EPDM	B11 · 16 · 21, C16 · 21 B31, C31 · 36	VH
FSE-8x13	ø8×ø13						

Note1: For ø4× ø6 and ø9× ø12, contact us.

Note2: PVDF strainers (FSTC type) are also available.

Note3: Mesh size is 20 mesh.

## Foot valve with a strainer

Mount the foot valve at the end of suction hose. The foot valve with a strainer and a ceramic weight ball prevents backflow and foreign matter interfusion. Inlet bore can be selected according to hose bore.



Model	Connection		Material			Applicable pump	Wet end material code
	Hose	Strainer	Body	Valve ball	Rubber		
FSC-4x6	ø4×ø6	PE	PVC	Alumina ceramic	FKM	B11 · 16 · 21 C16 · 21	VC
FSC-4x9	ø4×ø9						
FSC-8x13	ø8×ø13						

Note1: For ø9×ø12, contact us.

Note2: Mesh size is 150 mesh.

## Reducing joint

Use the reducing joint to a connection between different bore hoses.



Model	Connection		Material		Applicable pump	Wet end material code
	Hose	Hose	Body	O-ring		
HJ-1/2V	ø4×ø9	ø4×ø6	PVC	FKM	B11 · 16 · 21 C16 · 21	VC
HJ-1/18V		ø6×ø11				
HJ-2/3V	ø4×ø6	ø6×ø8				

Note1: VH type is available as option.

Note2: Same bore hoses are available as option.

## T-joint

Use T-joint for a branch pipe.



Model	Connection		Material Body	Applicable pump	Wet end material code
	Hose	Body			
TJ-4H	ø4×ø9	PVC	B11 · 16 · 21, C16 · 21 B31, C31 · 36	VC, VH	
TJ-8H	ø8×ø13				

## Flow counter/Controller

The pressure sensor detects pulsation to monitor the flow. Air lock and hose disconnection are also can be detected.



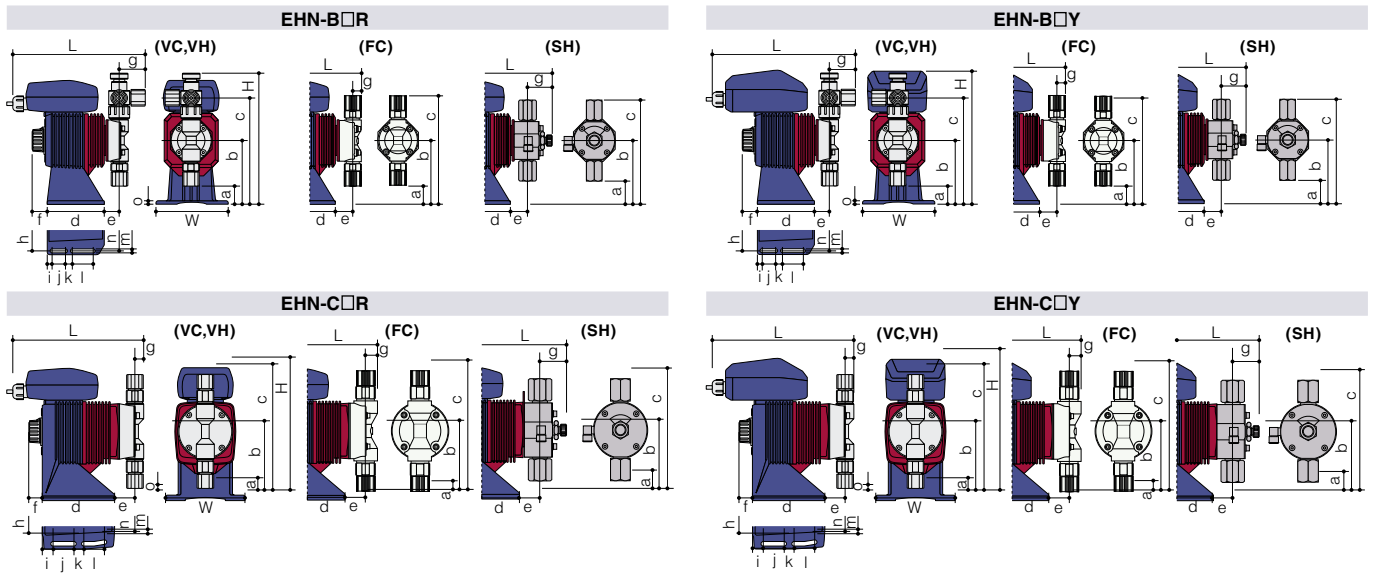
### Flow counter

Model	Material			Applicable controller	Applicable pump	Wet end material code
	Sensor	Body	Rubber			
FCP-1VC	Alumina ceramic	PVC	FKM	FCU-01 S3D2-CK	B11 · 16 · 21 C16 · 21	VC VH
FCP-1VE			EPDM			

### Controller

Model	Electric specification				Applicable pump	Note
	power voltage	setting method	Output	Warning time		
FCU-01	AC100/200V	DIN Rail	open collector (3 output)	1 - 20 min	B11 · 16 · 21 C16 · 21	Iwaki product Omron product
S3D2-CK	AC100 - 240V		relay output (1c)	0.1 - 1/1 - 10s		

## Dimensions (mm)



EHN-R (VC,VH)

Model	W	H	L	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
EHN-B11,16,21	100	(184)	(192)	(26)	90	(150)	81.5	(25)	(21)	(37)	88	7	16	10	32	6.2	88	5
EHN-B31	100	(174)	(174)	(8)	90	(172)	81.5	(27)	(21)	(16)	88	7	16	10	32	6.2	88	5
EHN-C16,21	116	(194)	(210.5)	(36)	100	(160)	105	(27)	(18)	(37)	100	8	37	15	30	7	95	8
EHN-C31	116	(189)	(191.5)	(17.5)	100	(182.5)	105	(29)	(18)	(16)	100	8	37	15	30	7	95	8
EHN-C36	116	(189)	(191)	(18)	100	(182)	105	(28.5)	(18)	(16)	100	8	37	15	30	7	95	8

EHN-R (FC,SH)

Model	W	H	L	a	b	c	d	e	f	g
EHN-B11,21FC	100	(174)	(167)	(27)	90	(153)	81.5	(25)	(21)	(12)
EHN-C21FC	116	(189)	(185.5)	(37)	100	(163)	105	(27)	(18)	(12)
EHN-C31FC	116	(189)	(191.5)	(18.5)	100	(181.5)	105	(29)	(18)	(16)
EHN-C36FC	116	(189)	(191)	(18.5)	100	(181.5)	105	(28.5)	(18)	(16)
EHN-B11,21SH	100	(174)	(188)	(34)	90	(146)	81.5	(24)	(21)	(34)
EHN-C21SH	116	(189)	(209)	(44)	100	(156)	105	(26)	(18)	(36.5)
EHN-C31SH	116	(189)	(209)	(34)	100	(166)	105	(28)	(18)	(34.5)
EHN-C36SH	116	(189)	(208.5)	(31)	100	(169)	105	(28)	(18)	(34)

EHN-Y (VC,VH)

Model	W	H	L	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
EHN-B11,16,21	100	(191)	(208.5)	(26)	90	(150)	81.5	(25)	(21)	(37)	88	7	16	10	32	6.2	88	5
EHN-B31	100	(191)	(189.5)	(8)	90	(172)	81.5	(27)	(21)	(16)	88	7	16	10	32	6.2	88	5
EHN-C16,21	116	(206.5)	(227)	(36)	100	(160)	105	(27)	(18)	(37)	100	8	37	15	30	7	95	8
EHN-C31	116	(206.5)	(208)	(17.5)	100	(182.5)	105	(29)	(18)	(16)	100	8	37	15	30	7	95	8
EHN-C36	116	(206.5)	(207.5)	(18.5)	100	(181.5)	105	(28.5)	(18)	(16)	100	8	37	15	30	7	95	8

EHN-Y (FC,SH)

Model	W	H	L	a	b	c	d	e	f	g
EHN-B11,21FC	100	(191)	(183.5)	(27)	90	(153)	81.5	(25)	(21)	(12)
EHN-C21FC	116	(206.5)	(202)	(37)	100	(163)	105	(27)	(18)	(12)
EHN-C31FC	116	(206.5)	(208)	(18.5)	100	(181.5)	105	(29)	(18)	(16)
EHN-C36FC	116	(206.5)	(207.5)	(18.5)	100	(181.5)	105	(28.5)	(18)	(16)
EHN-B11,21SH	100	(191)	(204.5)	(34)	90	(146)	81.5	(24)	(21)	(34)
EHN-C21SH	116	(206.5)	(225.5)	(44)	100	(156)	105	(26)	(18)	(36.5)
EHN-C31SH	116	(206.5)	(225.5)	(34)	100	(166)	105	(28)	(18)	(34.5)
EHN-C36SH	116	(206.5)	(225)	(31)	100	(169)	105	(28)	(18)	(34)

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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.