



IWAKI
ELECTROMAGNETIC
METERING
PUMPS

EHN



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



PC/PH/PP 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

Thanks 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/PC/PH/PP), automatic air bleeding type (NAE) and high compression type (55 model).



Stroke length adjusting dial



Control panel



Control unit

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

• Refer to page 5 for details of NAE and 55.

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.

• 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

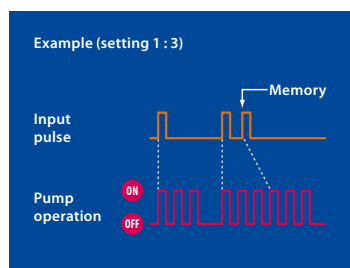
Manual operation

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

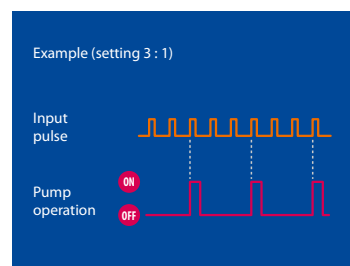
Multiply (1 : n)

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.

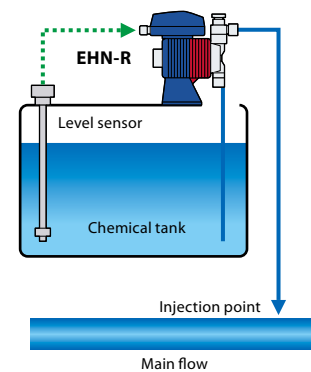


- If "n" is set at 1, pump makes synchronous operation. If pump is connected to optionally available EH controller, please use this function.

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.

- 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.

Electromagnetic metering pump for sodium hypochlorite

EHN-YN series

- The features of both the EHN-Y and the FCM flow checker are integrated into the EWN-YN.
- Auxiliary functions including keypad lock and priming operation (max operation with the up and down keys depressed) are provided to support users.
- The FCM flow checker is optionally available.
- The pump gives an alarm and starts running at full speed(360spm), removing entrained air or clogging, when the FCM does not detect a suction line flow. Operation at a set speed or programmed behaviour will be restored after the problems are removed.
- The following three behavioural patterns are available.
PA mode/PA+AL mode/PA+AL+RE mode
- Monitoring/alarming a suction-line flow ensures safer pump operation.



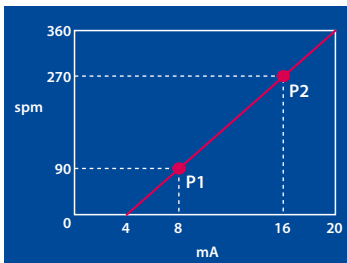
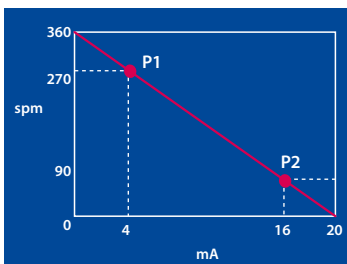
Controller function

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)

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.

- 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

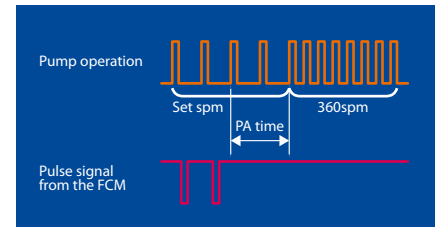
Pump stops by external contact signal. Pump operates when stop signal input is released. This function enables pump ON/OFF control. This is convenient function when used in combination with level sensor.

- 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.

Auto restoration

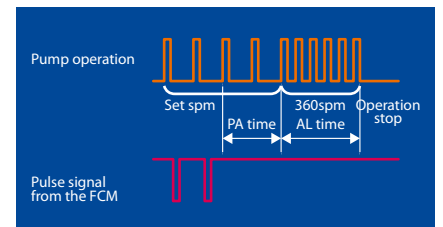
PA mode

When the FCM does not detect a suction-line flow for the PA time, the pump starts to run at full speed (360spm).



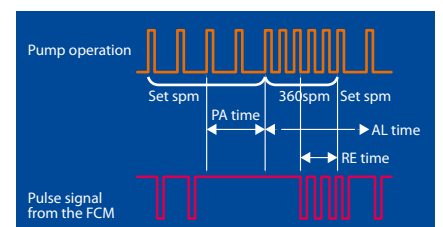
PA+AL mode

When the FCM does not detect a suction-line flow for the PA time, the pump starts to run at full speed (360spm) for the AL time and stops afterward.



PA+AL+RE mode

When the pump starts to run at full speed (360spm) for the AL time and the FCM keeps detecting a suction-line flow over the RE time, operation at a set seed or programmed behaviour will be restored.



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

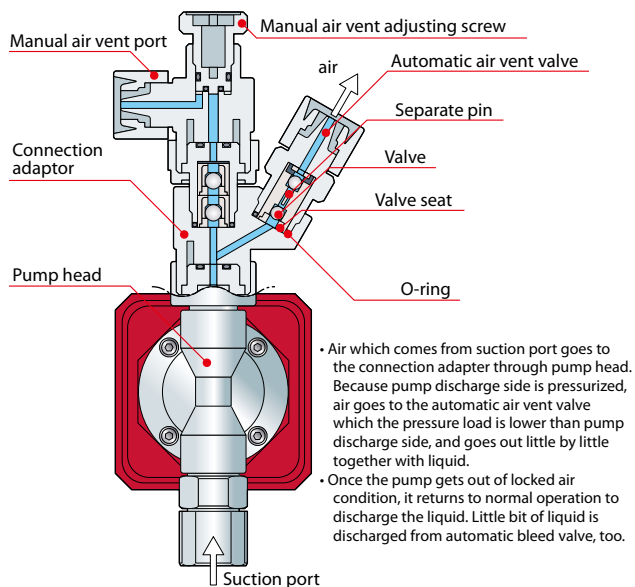
The optimum for gaseous liquid feeding

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 can be injected without gas locking.



Principle of operation (NAE type)



Wet-end material

Material code	VC	VC-S6	VC-HC	VH
Pump head	PVC			
Connection adaptor	PVC			
Separate pin	Titanium	SUS316	Hastelloy C276	
Valve	Alumina ceramic			Hastelloy C276
Valve seat	FKM		EPDM	
O-ring	FKM			

Specification

Model	EHN-B11-NAE	EHN-B16-NAE	EHN-C16-NAE	EHN-C21-NAE	
Max. discharge capacity	mL/min	30	55	65	110
Discharge capacity per shot	mL/shot	0.04 to 0.08	0.08 to 0.15	0.07 to 0.18	0.12 to 0.31
Max. discharge pressure	MPa	1.0	0.7	1.0	0.7
Stroke length adjustable range	%	50 to 100		40 to 100	
Stroke rate	spm	1 to 360			
Connection (Hose dia.)	Ø4 × Ø9				
Power voltage	AC100 to 240V 50/60Hz single phase				
Accessory	Check valve CA-1, PVC braided hose 3m				

Operating condition : Liquid temperature 0 - 40 °C. Ambient temperature 0 to 40 °C
 • 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.

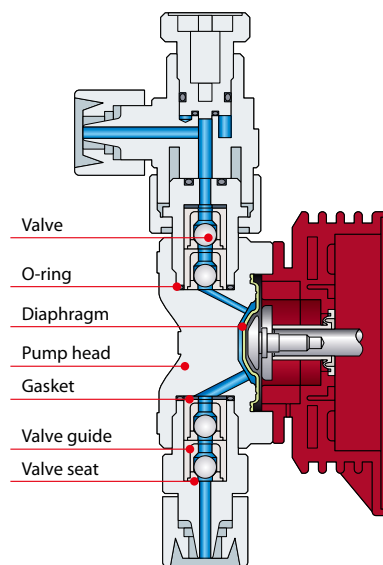
The optimum for sodium hypochlorite feeding

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 to 0.11	0.14 to 0.28
Max. discharge pressure	MPa	1.0	0.4
Stroke length adjustable range	%	50 to 100	
Stroke rate	spm	1 to 360	
Connection (Hose dia.)	Ø4 × Ø9		
Power voltage	AC100 to 240V 50/60Hz single phase		
Accessory	Check valve CA-1, PVC braided hose 3m		

Operating condition: Liquid temperature 0 to 40 °C. Ambient temperature 0 to 40 °C
 • 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-U25NR/50NR Tank

Boiler compound

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

Water softener Feeding pump Boiler

Water

Steam

EHN-R

Metering dose EHN-R EHN-YN

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-YN

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.

Hair catcher Balancing tank Swimming pool

Filtration pump Check valve Filter

Filter Residual chlorine sensor Residual chlorine meter

Waste water Pulse signal

Automatic chlorine sterilizer IMP series

CT-U120N Tank

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

Solenoid valve (SV) 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-YN

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 leaning water flow rate.

Main flow (Cleaning water) Pulse oscillating flow meter

Line mixer Check valve

Pulse signal

CT-U Tank Sterilant

Nozzle

EHN-R, EHN-YN

Technical data

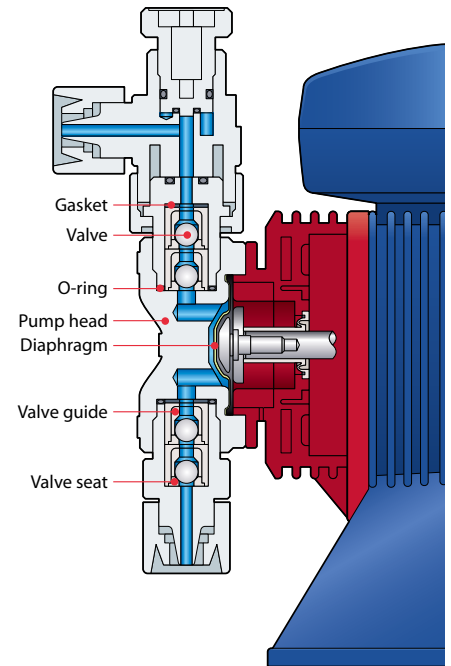
Construction and materials (VC/VH/PC/PH/PP)

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

Construction and materials (FC/SH)

Material symbol	FC	SH
Pump head	PVDF	SUS316
Valve	Alumina ceramic	Hastelloy C276
Valve seat	PCTFE	SUS316
Valve guide	PVDF	SUS316
Gasket	PTFE	
O-ring	-	-
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/PC/PH/PP)

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
 PC
 PH
 PP
- 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
 YN: Digital/Analogue correspondence
- Special configuration**
 NAE: Automatic air vent
 55: High compression pump head, etc.

Pump identification (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
 YN: Digital/Analogue correspondence

**Specifications of pump
(VC/VH/PC/PH/PP)**

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 to 0.11	0.09 to 0.18	0.14 to 0.28	0.32 to 0.64	0.09 to 0.22	0.14 to 0.36	0.30 to 0.75	0.50 to 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 to 360							
Stroke length		50 to 100% (0.5 to 1.0mm)				40 to 100% (0.5 to 1.25mm)			
Connection (Hose dia.)	mm	Ø4 × Ø9			Ø8 × Ø13		Ø4 × Ø9		Ø8 × Ø13
Power voltage		AC100 to 240V 50/60Hz single phase							
Air vent valve		○			×		○		×
Accessory	Check valve	CA-1			CA-2-L		CA-1		CA-2
	Braided hose	Ø4 × Ø9 or Ø8 × Ø13				made in PVC/3 m			

• 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%.

• 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 to 60 °C(0 to 40 °C for VC/VH)

Ambient temperature range is 0 to 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 to 0.11	0.14 to 0.28	0.14 to 0.36	0.30 to 0.75	0.46 to 1.14
Max. discharge pressure	MPa	1.0	0.40	0.70	0.35	0.20
Stroke rate	spm	1 to 360				
Stroke length		50 to 100% (0.5 to 1.0mm)			40 to 100% (0.5 to 1.25mm)	
Connection	FC	Ø4 × Ø6			Ø10 × Ø12	
	SH	Rc 1/4				
Power voltage		AC100 to 240V 50/60Hz single phase				
Air vent valve		SH: ○		FC: ×		
Accessory		FC: BVC(Back pressure valve)			SH: CS-1S(Check valve)	

• 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 to 60 °C (on condition that liquid quality is not changed by freezing, viscosity change, or slurry interfusion).

Specifications of controller

Model		R
Operation mode	Mode	EXT (Pulse dividing or multiply)
	Mode selection	EXT & START/STOP keys
Control	Setting	• Manual stroke rate 1 to 360spm
		• EXT · Digital input operation Multiply 1 : n n=1 to 999 Dividing n : 1 n=1 to 999
	Setting method	3 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	-
Power voltage		AC100 to 240V 50/60Hz single phase

Model		EHN-YN
Operational/control function		Manual, EXT (DIV/MULT/ANA) STOP, FCM, Priming
Operation	Manual	1-360spm
	EXT	Multiplier 1:n n=1 to 999 Divisor n:1 n=1 to 999 Analogue Input 0-20mA, Set point 1 and 2
Alarm setting		PA time OFF 1 to 60 min AL time OFF 1 to 60 min RE time OFF 1 to 60 min, 1 to 60 sec
Output		After PA time (during 360spm operation)/ After AL time (during operation stop)/ After PA time (through AL time and operation stop)/ At each pump shot
		Sensor power voltage 12VDC at 10mA
Input		Pulse (FCM flow checker)
		Pulse (MULTI/DIV)
		STOP
		0 to 20mA
Keypad lock		Available
Power voltage		100 to 240VAC 50/60Hz

*The FCM flow checker is available with B11/16/21 and C16/21 types.

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.



Accumulator

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



Model	Connection		Capacity ml	Material		Applicable pump	Wet end material code	
	IN	OUT		Body	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 C31 · 36	VC
AQ-E-4	Hose	Hose			EPDM	EPDM		VH

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

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	Applicable pump	Wet end material code
	Hose	Flange			
15FCA-1VC	ø4xø9	JIS10K15AFF	CA-1VC	B11 · 16 · 21	VC
15FCA-1VE			CA-1VE	C16 · 21	VH
15FCA-2VC	ø8xø13	JIS10K15AFF	CA-2VC	C31	VC
15FCA-2VE			CA-2VE		VH
15Fx4	ø4xø9	JIS10K15A	—	B11 · 16 · 21 C16 · 21	—
15Fx4			—		
15Fx8	ø8xø13	JIS10K15AFF	—	B31 C31 · 36	—
20FCA-1VC	ø4xø9	JIS10K15AFF	CA-1VC	B11 · 16 · 21	VC
20FCA-1VE			CA-1VE	C16 · 21	VH
20FCA-2VC	ø8xø13	JIS10K15AFF	CA-2VC	C31	VC
20FCA-2VE			CA-2VE		VH
20Fx4	ø4xø9	JIS10K15A	—	B11 · 16 · 21 C16 · 21	—
20Fx4			—		
20Fx8	ø8xø13	JIS10K15AFF	—	B31 C31 · 36	—

• Please ask us for ø4xø6, ø9xø12 connection.

Backflow prevention valve

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



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

Hose joint

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



Thread connection

Model	Connection		Material	Applicable pump	Wet end material code
	Hose	Thread			
V4-3/8-1	ø4xø9	3/8	PVC	B11 · 16 · 21 C16 · 21	VC VH
V4-1/2-1		1/2			
V8-3/8-4		3/8			
V8-1/2-4	ø8xø13	1/2		B31 C31 · 36	

VP plumbing connection

Model	Connection		Material	Applicable pump	Wet end material code
	Hose	VP plumbing			
V4-16-1	ø4xø9	VP16	PVC	B11 · 16 · 21 C16 · 21	VC VH
V4-20-1		VP20			
V8-16-4		VP16			
V8-20-4		VP20			

• ø4xø6, ø9xø12 connection is prepared.

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 Hose	R3/8, R1/2 Thread	0.2 ±0.02	PVDF	FKM	—	B11 · 21 C21	FC
BVC-1TV-10H	ø10xø12 Hose		0.1 ±0.02				C36	
BVC-1TV-10H			0.2 ±0.02				C31	
BVC-1PVL-8H	ø8xø13 Hose	R3/8, R1/2 Thread	0.2 ±0.02	PVC	FKM	FKM	C31	VC
BVC-1PEL-8H				EPDM	EPDM			VH

• Gasket (made in PTFE)

Air vent valve

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



Model	Connection Hose	Material		Applicable pump	Wet end material code
		Body	Rubber		
AV-E30/35VC-4	ø8xø13	PVC	FKM	B31 · C31 · 36	VC
AV-E30/35V6-4			EPDM		VH
AV-E30/35PC-4	ø8xø13	GFRPP	FKM	B31 · C31 · 36	PC
AV-E30/35P6-4			EPDM		PH

• Please contact to Iwaki for 9x12 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 Hose	Body	Material		Applicable pump	Wet end material code
			Diaphragm	Rubber		
MFV-5VC-1	ø4xø9	PVC	PTFE+EPDM	FKM	B11 · 16 · 21 C16 · 21	VC
MFV-5VH-1				EPDM		VH
MFV-5PC-1	ø4xø9	GFRPP	PTFE+EPDM	FKM	B11 · 16 · 21 C16 · 21	PC
MFV-5PH-1				EPDM		PH

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 Hose	Strainer	Material			Applicable pump	Wet end material code
			Body	Valve ball	Rubber		
FSV-4x9	ø4xø9	Aflon	PVC	Alumina ceramic	FKM	B11 · 16 · 21, C16 · 21 B31, C31 · 36	VC
FSV-8x13	ø8xø13						
FSE-4x9	ø4xø9			Hastelloy C276	EPDM	B11 · 16 · 21, C16 · 21 B31, C31 · 36	VH
FSE-8x13	ø8xø13						
FSPV-4x9	ø4xø9	Aflon	GFRPP	Alumina ceramic	FKM	B11 · 16 · 21, C16 · 21 B31, C31 · 36	PC
FSPV-8x13	ø8xø13						
FSPV-4x9	ø4xø9			Hastelloy C276	EPDM	B11 · 16 · 21, C16 · 21 B31, C31 · 36	PH
FSPV-8x13	ø8xø13						

• For ø4x ø6 and ø9x ø12, contact us.
 • PVDF strainers (FSTC type) are also available.
 • 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 Hose	Strainer	Material			Applicable pump	Wet end material code
			Body	Valve ball	Rubber		
FSC-4x6	ø4xø6	PE	PVC	Alumina ceramic	FKM	B11 · 16 · 21 C16 · 21 B31, C31 · 36	VC
FSC-4x9	ø4xø9						
FSC-8x13	ø8xø13						

• For ø9xø12, contact us.
 • 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	ø4xø9	ø4xø6	PVC	FKM	B11 · 16 · 21 C16 · 21	VC
HJ-1/18V		ø6xø11				
HJ-2/3V		ø6xø8				

• VH type is available as option.
 • Same bore hoses are available as option.

T-joint

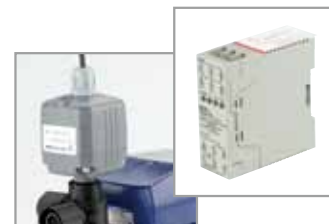
Use T-joint for a branch pipe.



Model	Connection Hose	Material Body	Applicable pump	Wet end material code
TJ-8H	ø8xø13			

Flow counter/Controller

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



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

Model	Electric specification				Applicable pump	Note
	power voltage	setting method	Output	Warning time		
S3D2-CK	AC100 to 240V	DIN Rail	relay output (1c)	0.1 - 1/1 - 10s	B11 · 16 · 21 · C16 · 21	Omron product

Flow checker

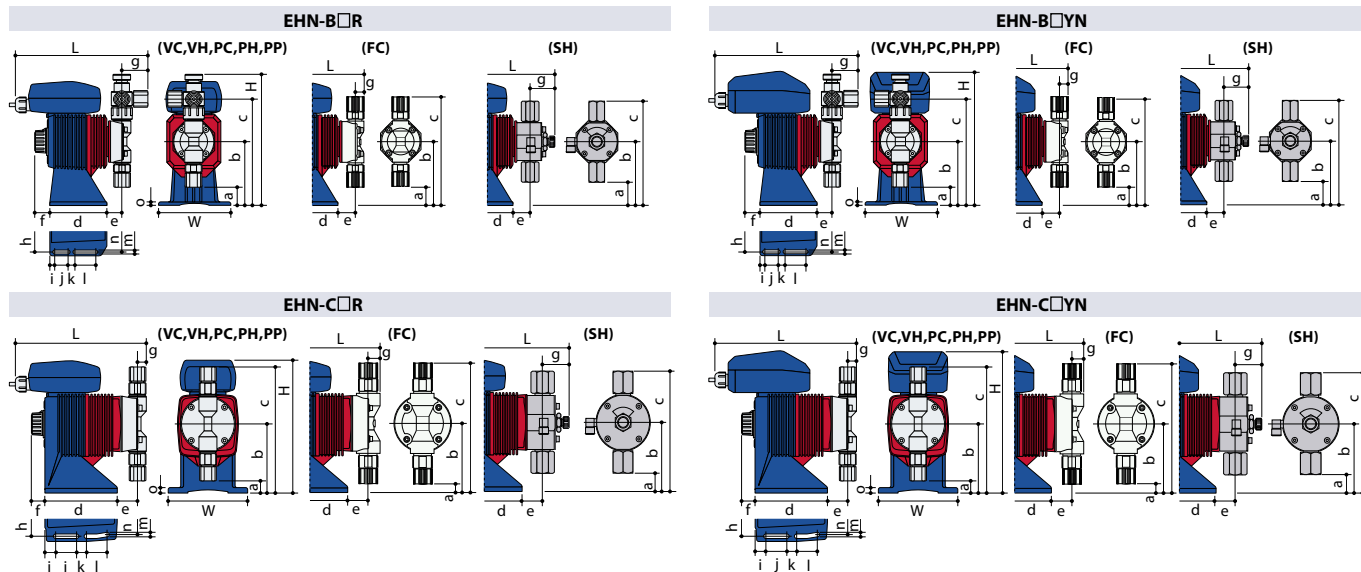
The FCM flow checker monitors the suction-line flow and sends a signal to the pump at each shot. Its mounting position is beneath the pump inlet, so the FCM can detect a system upset under any piping or operating condition. Also, the signals from the FCM can be stored to the pump to record the total number of pump shots.



Model	FCM-VC-1	FCM-VC-2	FCM-VH-1	FCM-VH-2
Power voltage	DC5-24V			
Output	NPN open collector			
Max. power consumption (Load capacity)	8mA (15mA)			
Materials	Wet ends	PVC		
	O ring	FKM	EPDM	
Min. discharge capacity	0.1 ml/shot (Max. capacity varies with pump spec.)			
Min. discharge pressure	0.2 MPa (Max. pressure varies with pump spec.)			
Applicable pumps	EHN-B/C-11/16/21			
Connection	4x9mm	4x6mm	4x9mm	4x6mm
Environmental condition	Liquid temp.	0 - 40°C		
	Relative humidity	35 - 85%RH		
	Ambient temp.	0 - 40°C		
	Max viscosity	20mPa·s or below		

• Run the pump with 100% stroke length when the FCM is installed.
 • Install a check valve to observe the minimum discharge pressure of 0.2MPa.
 • Loosen the hex socket head screw(M3) and adjust the adjusting screw (remove it as necessary) when the pulse output from the FCM is unstable.

Dimensions (mm)



EHN-R (VC,VH,PC,PH,PP)

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-YN (VC,VH,PC,PH,PP)

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-YN (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)

IWAKI CO., LTD. 6-6 Kanda-Sudacho 2-chome Chiyoda-ku Tokyo 101-8558 Japan
 TEL: (81)3 3254 2935 FAX: 3 3252 8892

()Country codes

IWAKI has global net work.
 Please find your distributor location at

www.iwakupumps.jp

European office : IWAKI Europe GmbH
 Germany : IWAKI Europe GmbH
 Holland : IWAKI Europe GmbH (Netherlands Branch)
 Italy : IWAKI Europe GmbH (Italy Branch)
 Spain : IWAKI Europe GmbH (Spain Branch)
 Belgium : IWAKI Belgium N.V.
 Denmark : IWAKI Nordic A/S
 Finland : IWAKI Suomi Oy
 France : IWAKI France S.A.
 Norway : IWAKI Norge AS
 Sweden : IWAKI Sverige AB
 U.K. : IWAKI Pumps (UK) Ltd.

TEL: (49)2154 9254 0 FAX: 2154 9254 48
 TEL: (49)2154 9254 50 FAX: 2154 9254 55
 TEL: (31)74 2420011 FAX: (49)2154 925448
 TEL: (39)0444 371115 FAX: 0444 335350
 TEL: (34)93 37 70 198 FAX: 93 47 40 991
 TEL: (32)13 67 02 00 FAX: 13 67 20 30
 TEL: (45)48 24 2345 FAX: 48 24 2346
 TEL: (358)9 2745810 FAX: 9 2742715
 TEL: (33)1 69 63 33 70 FAX: 1 64 49 92 73
 TEL: (47)23 38 49 00 FAX: 23 38 49 01
 TEL: (46)8 511 72900 FAX: 8 511 72922
 TEL: (44)1743 231363 FAX: 1743 366507

U.S.A. : IWAKI America Inc.
 Argentina : IWAKI America Inc. (Argentina Branch)
 Singapore : IWAKI Singapore Pte Ltd.
 Indonesia : IWAKI Singapore (Indonesia Branch)
 Malaysia : IWAKI Sdn. Bhd.
 Australia : IWAKI Pumps Australia Pty Ltd.
 Hong Kong : IWAKI Pumps Co., Ltd.
 China : GFTZ IWAKI Engineering & Trading Co., Ltd.
 : IWAKI Pumps (Shanghai) Co., Ltd.
 Korea : IWAKI Korea Co., Ltd.
 Taiwan : IWAKI Pumps Taiwan Co., Ltd.
 Thailand : IWAKI (Thailand) Co., Ltd.
 Vietnam : IWAKI Pumps Vietnam Co., Ltd.

TEL: (1)508 429 1440 FAX: 508 429 1386
 TEL: (54)11 4745 4116 FAX: (54)11 4745 4116
 TEL: (65)6316 2028 FAX: 6316 3221
 TEL: (62)21 6906606 FAX: 21 6906612
 TEL: (60)3 7803 8807 FAX: 3 7803 4800
 TEL: (61)2 9899 2411 FAX: 2 9899 2421
 TEL: (852)2607 1168 FAX: 2607 1000
 TEL: (86)20 84350603 FAX: 20 84359181
 TEL: (86)21 6272 7502 FAX: 21 6272 6929
 TEL: (82)2 2630 4800 FAX: 2 2630 4801
 TEL: (886)2 8227 6900 FAX: 2 8227 6818
 TEL: (66)2 322 2471 FAX: 2 322 2477
 TEL: (84)613 933456 FAX: 613 933399

⚠ Caution for safety use:
 Before use of pump, read instruction manual carefully to use the product correctly.

⚠ Legal attention related to export.

Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control. Please be reminded that export license could be required when products are exported due to export control regulations of countries.

Actual pumps may differ from the photos.
 Specifications and dimensions are subject to change without prior notice.
 For further details please contact us.

