IWAKI

EHN
series

Electromagnetic metering pumps

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.

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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

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.

Stroke length adjusting dial

Control panel

Pump head variation

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

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

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.

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

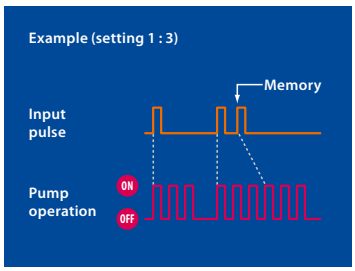
Manual operation

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

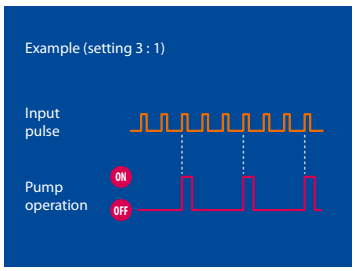
Multiply (1 : n)

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.

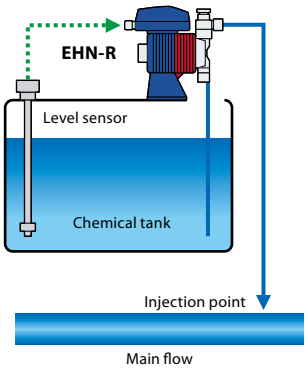


- If "n" is set at 1, pump makes synchronous operation. If pump is connected to optionally available EH controller, please use this function.

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.

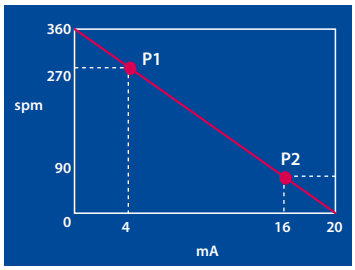
Controller function

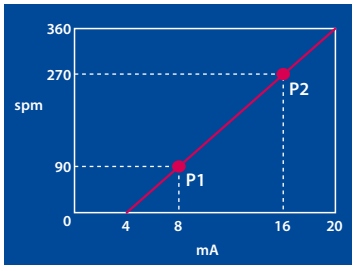
Manual operation

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

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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

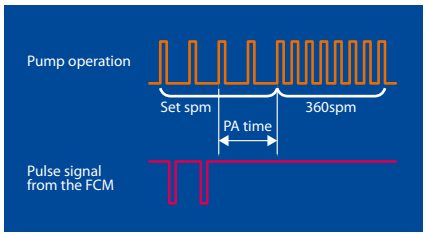
Pump stops by external contact signal. Pump operates when stop signal input is released. This function enables pump ON/OFF control. This is convenient function when used in combination with level sensor.

- 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

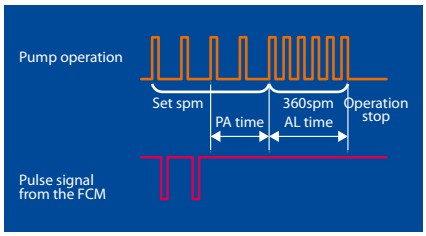
PA mode

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



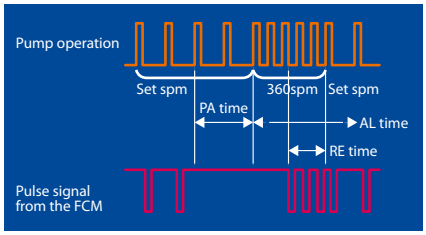
PA+AL mode

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.



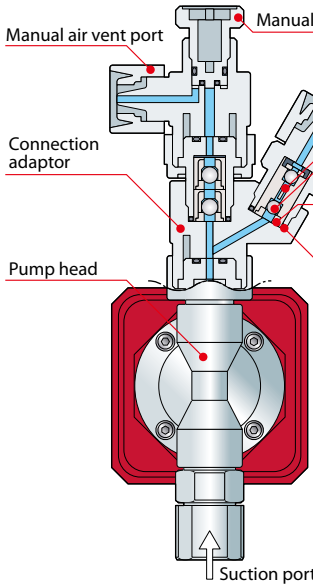
The pump can be specialized for the need of a special chemical transfer.

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 or hydrogen peroxide can be injected without gas locking.

Principle of operation (NAE type)



- Air which comes from suction port goes to the connection adapter through pump head. Because pump discharge side is pressurized, air goes to the automatic air vent valve which the pressure load is lower than pump discharge side, and goes out little by little together with liquid.
- Once the pump gets out of locked air condition, it returns to normal operation to discharge the liquid. Little bit of liquid is discharged from automatic bleed valve, too.

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-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			

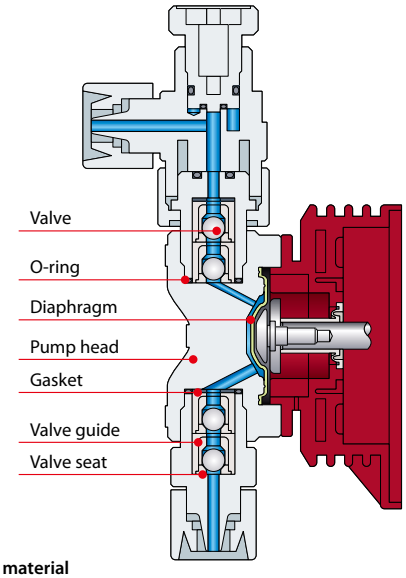
Operating condition : Liquid temperature 0 - 40 °C. Ambient temperature 0 to 40 °C
- Max. discharge capacity represents the figure when pumping clear water at ambient temperature at max. discharge pressure. Pump discharges more liquid than shown above if it runs at lower discharge pressure. If discharge 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.

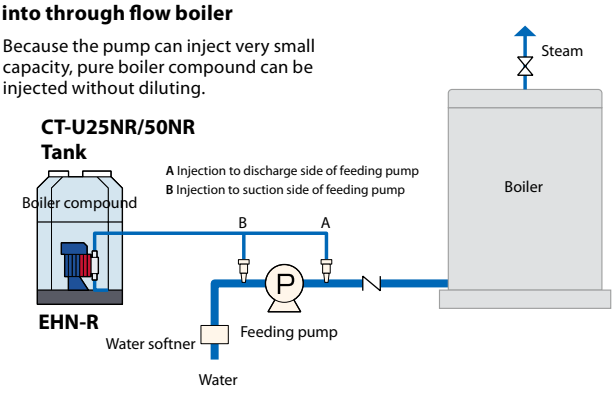
EHN series

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

Injection of boiler compound into through flow boiler

EHN-R

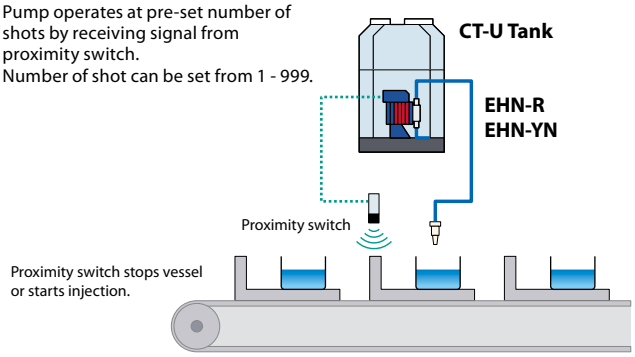
Because the pump can inject very small capacity, pure boiler compound can be injected without diluting.



Metering dose

EHN-R EHN-YN

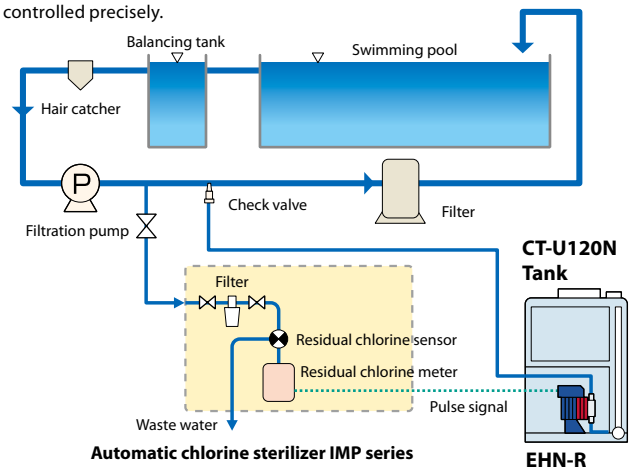
Pump operates at pre-set number of shots by receiving signal from proximity switch.
Number of shot can be set from 1 - 999.



Sterilizing of swimming pool water (Residual chlorine concentration control)

EHN-R

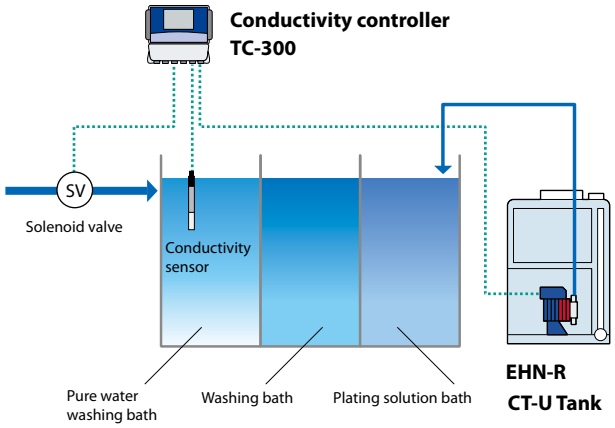
Continuous injection of sodium hypo-chlorite.
Combined with Chlorine sterilizer, residual chlorine concentration can be controlled precisely.



• 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

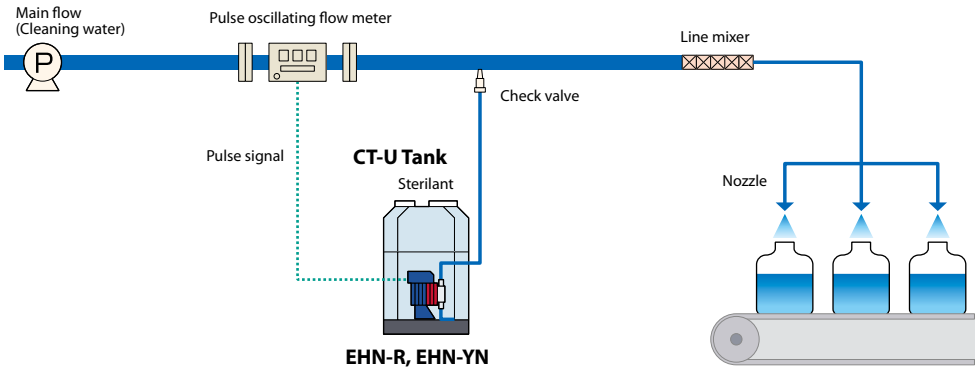


• Please refer to the single goods catalog of the separate volume for details of the TC-300.

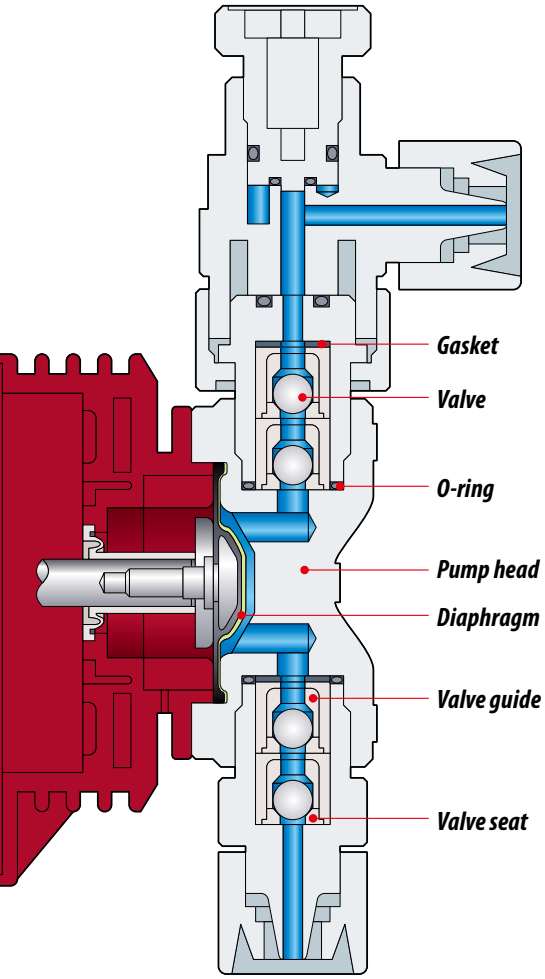
Sterilizing of distilled water (Proportional mixing of cleaning water and sterilizing agent)

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.



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 : Poytetrafluro 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: Ø4 × Ø9 ***2**: Ø4 × Ø6 ***3**: Ø6 × Ø8
4: Ø8 × Ø13 ***5**: Ø9 × Ø12
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.

(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**: Ø4 × Ø6 **6**: Ø10 × Ø12
SH **9**: Rc 1/4

Controller
R: Standard
YN: 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 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	CA-2-L
	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.

Model	Connection		Set press.	Material			Applicable pump	Wet end material code
	IN	OUT	MPa	Body	Spring	O-ring		
CA-1VC-4	ø4×ø9 Hose	R3/8, R1/2 Thread	0.17 ±0.04	PVC	Hastelloy C276	FKM		VC
CA-1VE-4						EPDM	B11·16·21 C16·21	VH
CA-1VC-4x6	ø4×ø6 Hose					FKM		VC
CA-1VE-4x6						EPDM		VH
CA-2VC-8	ø8×ø13 Hose					FKM	C31	VC
CA-2VE-8						EPDM		VH
CA-2VCL-8			0.05 +0.04 −0.03			FKM	B31 C36	VC
CA-2VEL-8						EPDM		VH
CA-1VCH-4	ø4×ø9 Hose		0.34 ±0.04	PVC		FKM	B11·16·21 C16·21	VC
CA-1VEH-4						EPDM		VH
CB-1VC-4	ø4×ø9 Hose	ø4×ø9 Hose	0.17 ±0.04	PVC	Hastelloy C276	FKM	B11·16·21 C16·21	VC
CB-1VE-4						EPDM		VH
CB-2VC-8	ø8×ø13 Hose	ø8×ø13 Hose				FKM	C31	VC
CB-2VE-8						EPDM		VH
CB-2VCL-8			0.05 +0.04 −0.03			FKM	B31 C36	VC
CB-2VEL-8						EPDM		VH
CB-1VCH-4	ø4×ø9 Hose	ø4×ø9 Hose	0.34 ±0.04	PVC		FKM	B11·16·21 C16·21	VC
CB-1VEH-4						EPDM		VH
CS-1S	Rc1/4 Thread	Rc1/4 Thread	0.2 ±0.03	SUS316	Hastelloy C276	—	B11·21 C21·31	SH
CS-1SL			0.05 ±0.03				C36	
CS-1E	ø4×ø6 Hose	R3/8 Thread	0.12 ±0.04	SUS304	Hastelloy C276	EPDM	B11·16·21 C16·21	VH
CS-1E-2		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		Applicable pump	Wet end material code
	IN	OUT	Body	Rubber		
CV-1VC-1	ø4×ø9 Hose	R3/8, R1/2 Thread	PVC	FKM	B11·16·21 C16·21	VC
CV-1VE-1				EPDM		VH
CV-1VC-2	ø4×ø6 Hose			FKM		VC
CV-1VE-2				EPDM		VH
CV-2VC-4	ø8×ø13 Hose			FKM	B31 C31·36	VC
CV-2VE-4				EPDM		VH

Back pressure valve

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

Model	Connection		Set press.	Material			Applicable pump	Wet end material code
	IN	OUT	MPa	Body	Valve	O-ring		
BVC-1TV-4H	ø4×ø6 Hose	R3/8, R1/2 Thread	0.2 ±0.02	PVDF	FKM	—	B11·21 C21	FC
BVC-1TV-10H	ø10×ø12 Hose		0.1 ±0.02				C36	
BVC-1TV-10H			0.2 ±0.02				C31	
BVC-1PVL-8H	ø8×ø13 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)

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	ø4×ø9 Hose	ø4×ø9 Hose	66	PVC	FKM	FKM	B11·16·21 C16·21	VC
AQ-E-1					EPDM	EPDM		VH
AQ-V-2	ø4×ø6 Hose	ø4×ø6 Hose			FKM	FKM		VC
AQ-E-2					EPDM	EPDM		VH
AQ-V-4	ø8×ø13 Hose	ø8×ø13 Hose			FKM	FKM	B31 C31·36	VC
AQ-E-4					EPDM	EPDM		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		Applicable pump	Wet end material code
	Hose	Flange	Body	Check valve model		
15FCA-1VC	ø4×ø9	JIS10K15AFF	PVC	CA-1VC	B11·16·21 C16·21	VC
15FCA-1VE				CA-1VE		VH
15FCA-2VC	ø8×ø13			CA-2VC	C31	VC
15FCA-2VE				CA-2VE		VH
15F×4	ø4×ø9	JIS10K15A		—	B11·16·21 C16·21	—
15FS×4				—		—
15F×8	ø8×ø13	JIS10K15AFF		—	B31 C31·36	—
20FCA-1VC	ø4×ø9	JIS20K20AFF		CA-1VC	B11·16·21 C16·21	VC
20FCA-1VE				CA-1VE		VH
20FCA-2VC	ø8×ø13			CA-2VC	C31	VC
20FCA-2VE				CA-2VE		VH
20Fx4	ø4×ø9			—	B11·16·21 C16·21	—
20Fx8	ø8×ø13			—	B31 C31·36	—

• Please ask us for ø4×ø6, ø9×ø12 connection.

Hose joint

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

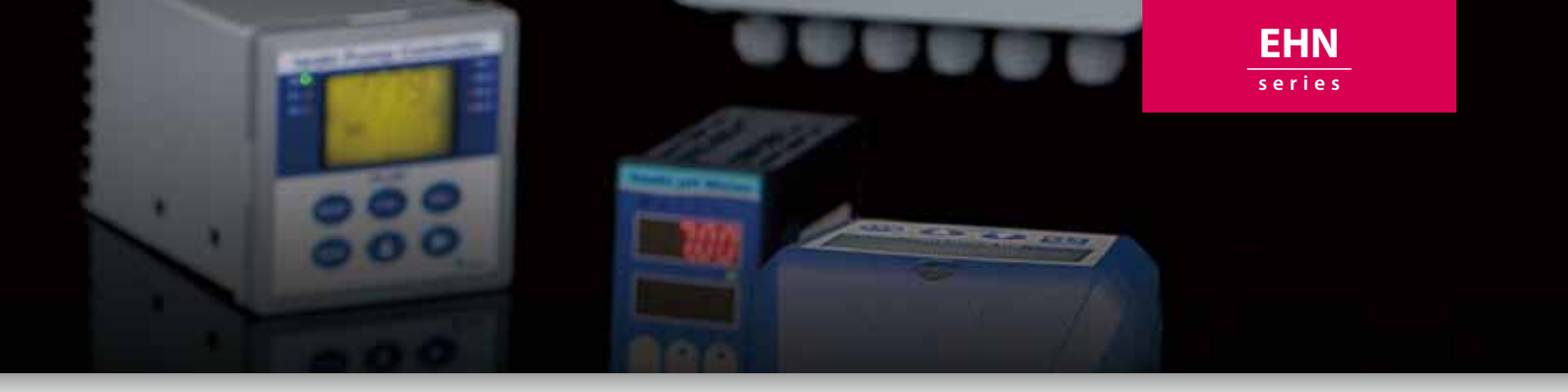
Thread connection

Model	Connection		Material	Applicable pump	Wet end material code
	Hose	Thread	Body		
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	Applicable pump	Wet end material code
	Hose	VP plumbing	Body		
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			

• 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		
AV-E30/35VC-4	ø8×ø13	PVC	FKM	B31·C31·36	VC
AV-E30/35V6-4			EPDM		VH

• 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		
MFV-SVC-1	ø4×ø9	PVC	PTFE+EPDM	FKM	B11·16·21 C16·21	VC
MFV-SVH-1				EPDM		VH

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	VC
FSV-8x13	ø8×ø13					B31, C31·36	
FSE-4x9	ø4×ø9			Hastelloy C276	EPDM	B11·16·21, C16·21	VH
FSE-8x13	ø8×ø13					B31, C31·36	

• For ø4× ø6 and ø9× 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	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					B31, C31·36	

• For ø9×ø12, 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	ø4×ø9	ø4×ø6	PVC	FKM	B11·16·21 C16·21	VC
HJ-1/18V		ø6×ø11				
HJ-2/3V	ø4×ø6	ø6×ø8				

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

T-joint

Use T-joint for a branch pipe.

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

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
FCP-1VE			EPDM			VH

Controller

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

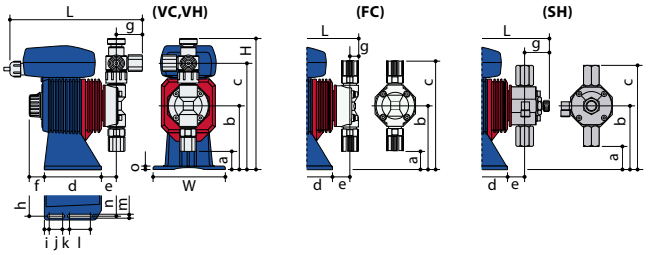
The FCM flow checker monitors the suction-line flow and sends a signal to the pump at each shot. Its mounting position is beneath the pump inlet, so the FCM can detect a system upset under any piping or operating condition. Also, the signals from the FCM can be stored to the pump to record the total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

Model		FCM-VC-1	FCM-VC-2	FCM-VH-1	FCM-VH-2
Power valtage		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			

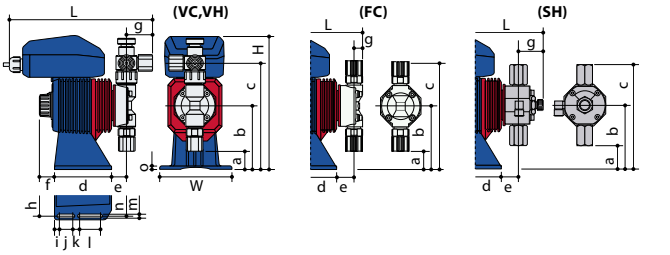
• Run the pump with 100% stroke length when the FCM is installed.
• Install a check valve to observe the minimum discharge pressure of 0.2MPa.
• Loosen the hex socket head screw(M3) and adjust the adjusting screw (remove it as necessary) when the pulse output from the FCM is unstable.

Dimensions (mm)

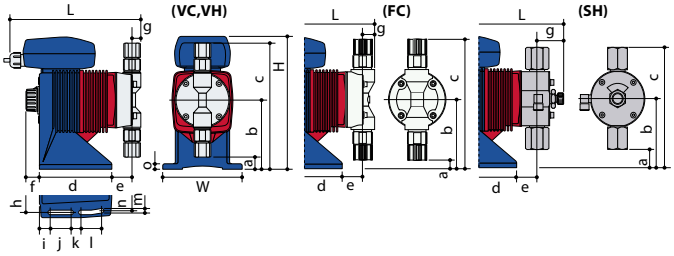
EHN-B□R



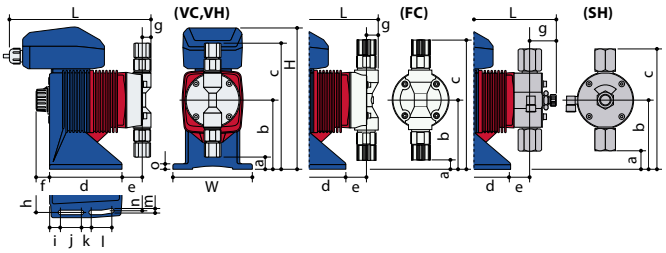
EHN-B□YN



EHN-C□R



EHN-C□YN



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-YN (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-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)

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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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Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control.
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