

Electromagnetic metering pumps **EH/E** type





Ligh-tech combination of pump technology and electronics technology

Electromagnetic Metering Pump EH Series features a new EH-E pump. The EH-E pump is not only compact, but it can achieve a maximum flow rate of 1.25 L/min. The EH-E pump's controller includes a microcomputer that enables a single pump to provide not only manual operations, but also automatically controlled operations based on various input signals (current and pulse signals).



High resolution

The discharge volume is adjusted in terms of stroke length and rate. The stroke length can be adjusted between 20% and 100%, and the stroke rate can be set between 0 and 360 spm, which enables the EH-E pump to provide a wide range of flow rates.

Microcomputer built-in controller

The controller includes a microcomputer that enables a single pump to operate in four modes (manual / proportional control / pulse control / count control), switching between modes by means of the keys.

Water- and dust-proof structure

The pump body, aluminium die-cast frame is molded by reinforced plastics (GFRPP), has a water- and dust-proof structure that is immune to liquids and atmosphere corrosion. The water-proof level is IP65.

Chemical resistance features

Materials available for the pump head are PVC, GFRPP (Polypropylene), PVDF (Fluororesin), and SUS (Stainless steel). All other wetted-parts consist of corrosion-proof materials; Hastelloy C276, ceramic, fluoroelastomer, PTFE, etc.

Easy maintenance

The pump consists of only a few unitized components, so not only is operation simple but also periodical maintenance presents no problem.

Model for high flow and industrial process

Manual mode

Stroke rate can be increased or decreased by 1-spm unit anywhere within the 0 to 360 spm range and it can be specified either during operation or stop.

Proportional control mode

The stroke rate can be proportionally controlled based on external DC0-20mA signals. Select an input signal by means of the keys.

Pulse control mode

The EH-E pump performs division control operations in response to external pulse signals. The pump provides one shot per (n) times pulse inputs. Set the number (n) between 1 and 999 by means of the keys.



Functions of the controller

Count-control mode

The EH-E type pump performs countcontrol operations in response to external pulse signals. The pump provides (n) times shots per pulse input. Set the number (n) between 1 and 999 by means of the keys. If a next pulse is input before a set number of shots have been completed, the pump is capable of storing that pulse signal (max. 255 pulses).



Wot-ond part materials

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Material symbol	VC	V6	PC	VM (E55)	SH	FC
1 Pump head	PVC	PVC	GFRPP	PVC (machined)	SUS316	PVDF
2 Valve	Alumina ceramic	SUS316	Alumina ceramic	Alumina ceramic	Hastelloy C276	Alumina ceramic
3 Valve seat	FKM	EPDM	FKM	FKM	SUS316	PCTFE
4 Valve guide	PVC	PVC	GFRPP	PVC	SUS316	PVDF
6 Gasket	PTFE					
6 O-ring	FKM	EPDM	FKM	FKM	-	-
7 Diaphragm	PTFE coated EPDM					

Note : Illustration shows EH-E45 & E55. EH-E30 & E35 employs 2 stage valve.

Pump identification

	<u>EH</u> - <u>E</u> <u>55</u> <u>VC</u> - @ @ <u></u>	$\frac{20E}{3} \stackrel{P}{\bigcirc} \frac{E}{0} \stackrel{5}{\bigcirc} - \frac{\Box}{0} \stackrel{\Box}{\bigcirc}$	
Series name	Wet-end part material symbol VC V6 PC VM SH FC	 Power code terminal symbol P : With plug 	 Diameter of connecting tube(in mm) 4:8 X 13 5:9 X 12 6:10 X 12
Drive unit symbol E: 48W	Power-supply voltage symbol	No Symbol : Crimp-style terminal	9: Rc 1/4 11 : 10 X 16 14 : Rc 3/8
	5 100 : AC110/110/115V single phase	Control unit type	Special arrangement code
 Diaphragm effective diameter 30 : 30mm 35 : 35mm 45 : 45mm 55mm 	20E : AC220/230/240V single phase	E : E type controller	

Specifications of pump

Model		E30	E35	E45	E55		
Max.capacity	mL/min	340	520	750	1250		
Max. discharge pressure	MPa	1.0	0.7 (SH : 0.6)	0.4	0.2		
Power supply	(for both 50/60Hz)	AC100, 110, 115, 220, 230, 240V single phase					
Insulation type, etc.		E type insulation and built-in thermal protector, with a 1.5m or 2.0m power cable					
Stroke rate		0 - 360 spm					
Stroke length			20-1	00%			
Ambient temperature	Ambient temperature 0 - 40 °C						
Range of liquid temperature		Type VC, V6, VM 0 - 40°C Type PC, SH, FC 0 - 60°C					
Ambient humidity		30 - 85%RH					
Connection for types VC, V6, PC	;, VM mm		ø8 X ø13, ø9 X ø12		ø10 X ø16, ø9 X ø12		
Connection for type SH		Rc 1/4	Rc 1/4	Rc 3/8	Rc 3/8		
Connection for type FC	mm		ø10)	K ø12	•		

The max. discharge value in the table above represents the performance measured with clean water under the max. discharge pressure.
Actual discharge may increase if operation is conducted at a lower pressure.
Set the discharge pressure at 0.12 MPa or higher to prevent over-feeding trouble.
If the pressure is to be lower than these levels, make sure to use a check valve or a back pressure valve, which is supplied as an optional item.

EH-E55

Specifications of Controller

Display			4 digit, 14 segment, LCD			
Setting method			4 Operating Keys ▲, ▼, EXT, START/STOP			
Control function	Manual		0 - 360spm			
		Proportional to input signal	Input signal : DC4-20mA, 0-20mA, 20-4mA, 20-0mA			
Extern signal input	External	Count control (1: n)	No voltage contact, n=1-999, No. of stroke : Fixed at 360 spm, Count memory : Max. 255 pulse input			
	input	Pulse control (n : 1)	No voltage contact, n=1-999, No. of stroke : Fixed at 360 spm, Count memory			
		STOP input	No voltage contact (Make OFF)			

Dimensions in mm

Type VC, V6, PC, VM, FC



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EH-E30/35	242	246	197	16.5	26.5	80
EH-E45	247	255	199	19	29	71
EH-E55	257	265.5	206.5	21.5	36	60.5
EH-E55VM	258	265.5	206.5	23	36	60.5



330.5

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