

IWAKI  
ELECTROMAGNETIC  
METERING  
PUMPS

**EH-E**



# High-tech combination of pump technology and electronics technology

Electromagnetic Metering Pump EH Series features not only compact, but also 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.



Model for high flow and industrial process

### Functions of the controller

#### Manual mode

Stroke rate can be increased or decreased by 1-spm anywhere within the range 0 to 360 spm, and is able to set either during operation or stop.

#### Proportional control mode

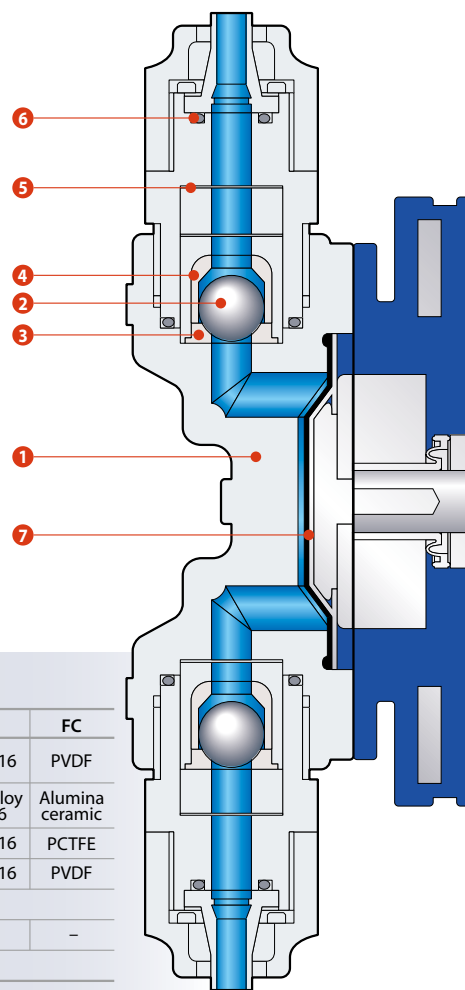
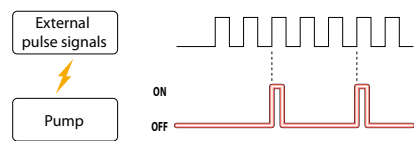
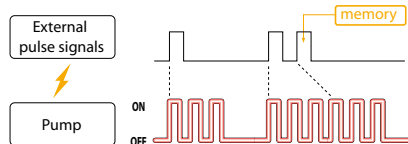
The stroke rate can be proportionally controlled based on external DC0-20mA signals. Select an input signal by means of the keys.

#### 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.

#### Count-control mode

The EH-E pump performs count-control 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 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). It is selectable to store the pulse input or not.



#### Wet-end part materials

Material symbol	VC	V6	VM(E56)	PC	SH	FC
1 Pump head	PVC	PVC	PVC (machined)	GFRPP	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	PVC	GFRPP	SUS316	PVDF
5 Gasket	PTFE					
6 O-ring	FKM	EPDM	FKM	FKM	-	-
7 Diaphragm	PTFE coated EPDM					

Note : Illustration shows EH-E46. EH-E31 & E36 employ 2 stage valve.

### Pump identification

**EH - E 56 VC - 20E P E 5 - □□**

- Series name: EH
- Drive unit symbol: E (48W)
- Diaphragm effective diameter: 56 (55mm)
- Wet-end part material symbol: VC
- Power-supply voltage symbol: 20E (AC220/230/240V single phase)
- Power code terminal symbol: P (With plug)
- Control unit type: E (E type controller)
- Special arrangement code: 5 (Diameter of connecting tube in mm: 5: 9 × 12)

Diaphragm effective diameter:  
 31: 30mm  
 36: 35mm  
 46: 45mm  
 56: 55mm

Wet-end part material symbol:  
 VC, V6, VM, PC, SH, FC

Power-supply voltage symbol:  
 100: AC100/110/115V single phase  
 20E: AC220/230/240V single phase

Power code terminal symbol:  
 P: With plug  
 No Symbol: Crimp-style terminal

Special arrangement code:  
 Diameter of connecting tube (in mm)  
 4: 8 × 13 5: 9 × 12 6: 10 × 12  
 9: Rc 1/4 11: 10 × 16 14: Rc 3/8

## Specifications of pump

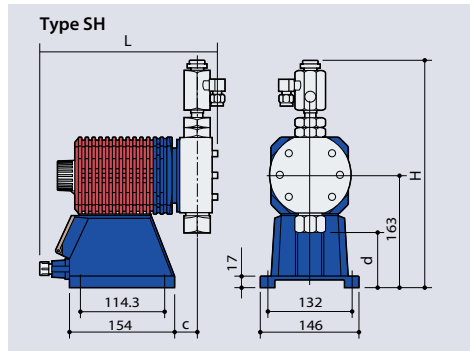
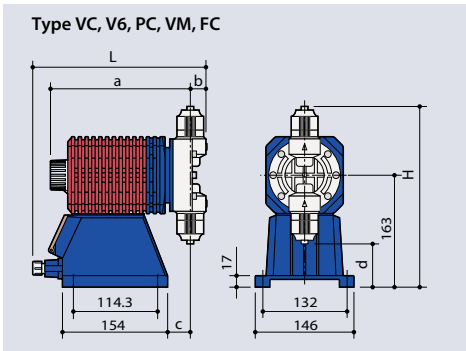
Model		E31	E36	E46	E56
Max.capacity	mL/min	340	520	750	1250
Max.capacity	L/hour	20.4	31.2	45	75
Max. discharge pressure	MPa	1.0	0.7 (SH : 0.6)	0.4	0.2
Power supply	(for both 50/60Hz)	AC100, 110, 115, 220, 230, 240V single phase			
Insulation type, etc.		E type insulation and built-in thermal protector, with a 1.5m or 2.0m power cable			
Stroke rate		0 - 360 spm			
Stroke length		20-100%			
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 X ø12			
Average power consumption		48W			
Average current		AC100/110/115V: 1.8A, AC220/230/240V: 0.8A			

- 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. For E56, it should be 0.05 MPa or higher. 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.

## Specifications of Controller

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

## Dimensions in mm



Model	L	H	a	b	c	d
<b>EH-E31/36</b>	(243)	(246)	(198)	16.5	(28)/(27)	(78)/(79)
<b>EH-E46</b>	(247)	(255)	(199)	19	(29)	(70)
<b>EH-E56</b>	(259)	(266)	(209)	21.5	(39)	(59)
<b>EH-E56VM</b>	(261)	(266)	(210)	23	(39)	(59)

Model	L	H	c	d
<b>EH-E31</b>	(249)	(300)	(27)	(97)
<b>EH-E36</b>	(249)	(303)	(27)	(94)
<b>EH-E46</b>	(254)	(328)	(27)	(92)
<b>EH-E56</b>	(265)	(331)	(38)	(79)

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**Caution for safety use:** Before use of pump, read instruction manual carefully to use the product correctly. Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.

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