

Electromagnetic metering pumps

High resolution & ultra compact



DC power voltage / vertically- or horizontally- oriented pump head

The HRP series is powered by 12VDC or 24VDC and offers an ideal fit for built-in applications. Select vertically- or horizontally-oriented pump head to get optimum mounting position in various host machines.

High resolution

Digitally-controlled spm range is 0-720spm. The minimum flow of 0.055ml per shot offers a constant imperceptible injection.

Waterproof and dustproof structure

The sealed drive unit and control unit are enclosed to a water/dust-proof rating of IP65.

- This pump is not completely water resistant. Protect the pump with a cover when installing it out of doors.

Operational function

HRP pumps are controlled by an external signal and are available in the following types.

Pulse control type

A pulse signal input controls pump operation (stroke rate). The pump makes one shot per pulse synchronously.

- An input signal is required to enable operation in addition to power activation for this type.
- The pump can not exceed a maximum of 720spm, even if the external signal input instructs the pump to run beyond that speed.

4-20mA control type

The input of 4-20mA proportionally controls the pump operation (stroke rate).

- An input signal is required to enable operation in addition to power activation for this type.

1-5V control type

The input of 1-5V proportionally controls the pump operation (stroke rate).

- An input signal is required to enable operation in addition to power activation for this type.

Stop control type

The input of the stop signal suspends the pump operation.

- The type of pump starts to run at 720spm upon power activation.

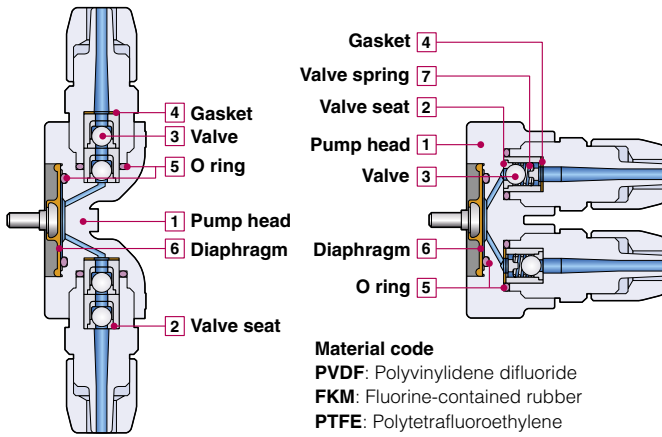
Optional air vent valves are available.

Pat. Pend.

JAPAN



Wet end materials



	1 Pump head	2 Valve seat	3 Valve	4 Gasket	5 O ring	6 Diaphragm	7 Valve spring
Materials	PVDF	FKM	Alumina ceramic	PTFE	FKM	PTFE+EPDM	PEEK

• Valve spring is HRP-54H only. • EPDM is not a wet end. • Contact us for other valve seat, valve and O ring materials.

Identification

HRP - 5 4 V - 1 P 1 - □□

- Series name**
- Drive unit**
(Average power consumption)
5: 5.6W
- Discharge capacity**
4: 38mL/min
- Pump head**
V: Vertically oriented
H: Horizontally oriented
- Power voltage**
1: 12VDC
2: 24VDC
- Special version**
- Connection bore**

No.	Tube connection bore
1	Ø3×Ø6
2	Ø4×Ø6
3	Ø1/8"×Ø1/4"
- Control method**
P: Pulse control
A: 4-20mA control
V: 1-5V control
S: Stop control

Specification

Pump & Drive units

Model	flow rate mL/min	Max. discharge pressure MPa	Stroke rate spm	Tube connection bore	Power voltage V	Power consumption W	Current value A	Weight kg
HRP-54V/H-1	38	0.2	0 - 720	3mm×6mm, 4mm×6mm, 1/8"×1/4"	DC12	5.6	1.5	0.5
HRP-54V/H-2					DC24		1.0	

- This specification is based on pumping ambient clean water at rated voltage.
- Flow rate is collected at the maximum discharge pressure and 720spm. The flow rate increases as a discharge pressure decreases.
- 0.12MPa or more discharge pressure is needed to prevent over feeding. If the discharge pressure is at or below the required MPa, install a check valve or back pressure valve.
- Allowable room temperature: 0 - 40 °C • Allowable liquid temperature: 0 - 40 °C • Allowable voltage deviation: ±5% of the rated voltage **12VDC: 11.4V - 12.6V, 24VDC: 22.8V - 25.2V**

Control unit

Control type	Upper limit spm	Operation	Input signal	Control type	Upper limit spm	Operation	Input signal	
Pulse control type	720spm	One shot per signal (Synchronous operation) ^{Note2}	No-voltage contact or open collector ^{Note1}	1 - 5V control type	720spm	1-5VDC proportional operation to 0-720spm	Voltage: 1-5VDC (Current capacity of 25mA or more)	
	720spm	4-20mADC proportional operation to 0-720spm	Current: 4-20mADC		Stop control type	720spm (Fixed)	The pump stops during contact input.	No-voltage contact or open collector ^{Note1}
	720spm	4-20mADC proportional operation to 0-720spm	Current: 4-20mADC			720spm (Fixed)	The pump stops during contact input.	No-voltage contact or open collector ^{Note1}

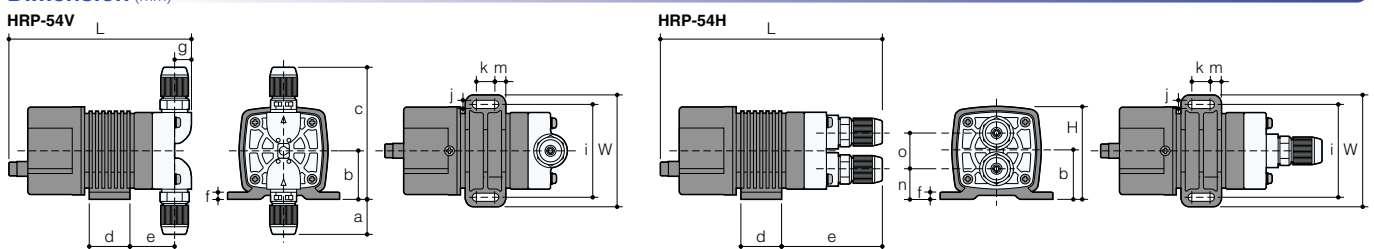
Note1: The maximum applied voltage to the contact is 12V at 5mA. When using a contact type relay, the minimum application load should be 5mA or below.

Note2: The external pulse signal is entered to run the pump over the upper limit spm, the signal is cancelled.

Power cable

Conduction section area	0.32 mm ² (Triplex cable)	Standard	UL3265
Length	600 mm	Terminal treatment	Bared

Dimension (mm)



Model	W	H	L	a	b	c	d	e	f	g	i	j	k	m	n	o
HRP-54V	62	—	(101)	(19)	27	(73)	22.5	(25)	4	9.5	51.5	4.5	10	6	—	—
HRP-54H	62	(51.5)	(122)	—	—	—	—	(56)	—	—	—	—	—	—	17.2	19.6

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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.

⚠ 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.