

# Reciprocating Diaphragm Liquid Pumps HSR series

## HSR-80

**Rotation speed : Up to 3000min<sup>-1</sup>**  
(reference)

**Suitable for high pressure liquid transfer application**



- \*Improved volume efficiency by using a unique method (Compared with our products)
- \*Relatively less flow fluctuation even if pressure fluctuates

HSR-80 series are reciprocating diaphragm liquid pumps developed for build in equipment. Despite its compact design, it has a maximum rotation speed of 3000 min<sup>-1</sup> and is capable of transferring liquid at high pressure. The discharge capacity is up to 1200 mL / min, which covers wide capacity range.



Model with relief valve function



**Transfer liquid at high pressure**

Max. rotation speed 3000min<sup>-1</sup>  
Max. discharge pressure 0.6MPa  
Capable of transferring liquid at high pressure.



**Wide capacity range**

Rotation speed 3000min<sup>-1</sup> : Capacity 1200mL/min  
Rotation speed 2000min<sup>-1</sup> : Capacity 800mL/min  
Rotation speed 1000min<sup>-1</sup> : Capacity 400mL/min  
\*Discharge pressure at 0.5MPa

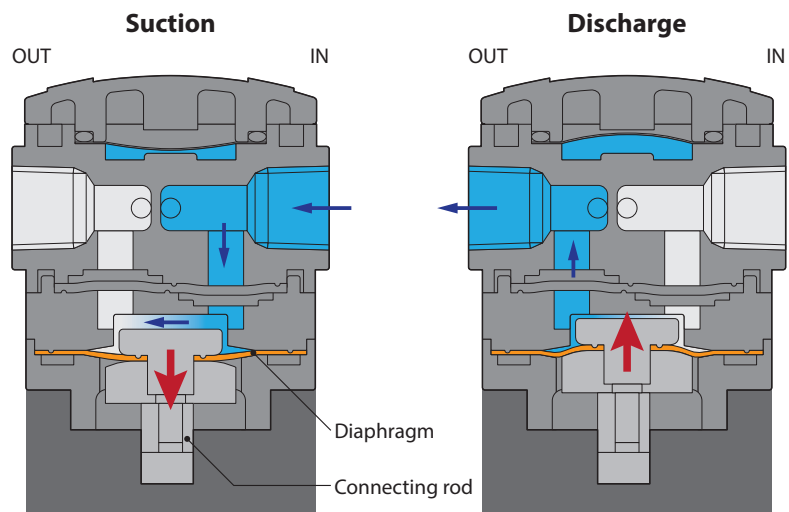
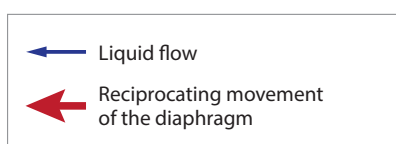


**Protection mechanism for abnormal pressure**

Relief valve function can be available (Above photo). Prevents damage to pumps and pipes due to abnormal rise in discharge pressure.  
\*Please install a protective function such as an external relief valve, when without relief valve function is selected.

### Operating Principle

The rotary motion of the motor is changed to reciprocating motion via a connecting rod, and the diaphragm is moved up and down (reciprocating motion) in the pump chamber to feed the liquid from the IN-side to OUT side.



# Pump identification



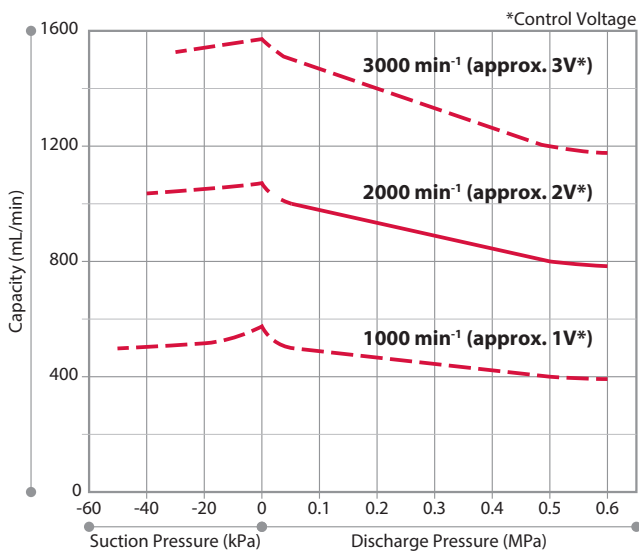
- ① Series name
- ② Materials of wet end  
P : GFRPP
- ③ Materials of valve  
V : FKM  
E : EPDM
- ④ Connection  
R : Rc1/4  
G : G1/4
- ⑤ Relief valve  
No symbol : Without relief valve function  
S : With relief valve function
- ⑥ Base  
No symbol : Without base  
B : With base
- ⑦ Rated voltage  
D4 : DC24V brushless motor  
(Variable speed control)
- ⑧ Special specifications  
No symbol : Standard specifications  
01 - 99 : Special specifications

# Specifications

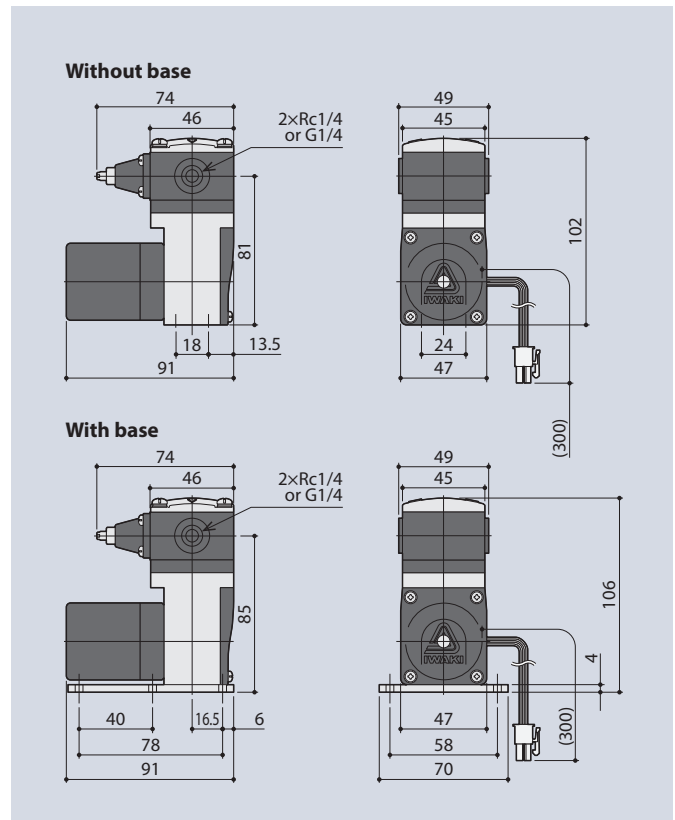
Model	Rated specification		Max. discharge capacity mL/min	Max. discharge pressure MPa	Motor		Speed		Self-priming height m	Connection	Mass g	Noise dB
	Capacity mL/min	Pressure MPa			Voltage V	Current A	Rated min <sup>-1</sup>	Variable range min <sup>-1</sup>				
<b>HSR-80</b>	800 (2000min <sup>-1</sup> )	0.5	1400 (Reference)	0.6	DC24	1.4	2000	1000 - 3000	2	Rc1/4 or G1/4	700	50

\*Set the discharge pressure below the specified value (0.6MPa or less).  
 \*The discharge rate is the value when clean water at 20°C is transferred. Note that the discharge rate varies depending on the liquid temperature, viscosity, specific gravity, etc.  
 \*The max. discharge capacity is at 3000 min<sup>-1</sup> 0MPa. However, this is a reference value because the discharge capacity is not stable due to overfeeding around 0MPa.  
 \*The self-priming height is specified at 0m above sea level. Note that the self-priming height decreases at high altitudes.  
 \*The fluid temperature range FKM : 5 to 45°C, EPDM : 0 to 45°C. (There shall be no change in liquid property such as freezing and slurry generation.)  
 \*The ambient temperature range 0 to 45°C.  
 \*The maximum noise value at the rated value is 50dB or less when clean water at 20°C is transferred. (A scale, 1m)

# Performance curves



# Dimension in mm



# Wet-end materials

Material code	PV	PE
Pump head		GFRPP
Valve seat		GFRPP
Valve	FKM	EPDM
Diaphragm UNIT	SUS316+PTFE	
Camber diaphragm	PTFE	

\*Both materials of the diaphragm unit are in contact with fluid.

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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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