

## Direct drive pumps

### Easy-to-install canned motor pumps



Our RD series design features small canned motor centrifugal pumps powered by brushless DC motors. They are designed to be cool, quiet, compact and lightweight.



# Easy-to-install canned motor pumps

Our RD series design features small canned motor centrifugal pumps powered by brushless DC motors. They are designed to be cool, quiet, compact and lightweight. A variety of features, including a seal-less design to prevent leakage, enables the pumps to meet a full spectrum of user needs, with emphasis on ease of installation, operation and maintenance.

Note: RD series is only exclusive for machine-installing application.



RD-05

RD-05H



RD-20/30



RD-12/12Z  
Hose type

RD-12/12Z  
Thread type

RD-12/12Z  
Quick fastener type

## Specifications

Model	Tube Connection (IN x OUT) mm	Max. capacity L/min	Max. head m	Motor					Ambient temperature °C	Liquid temperature range °C	Mass kg
				Output W	Power consumption W	Revolution speed min <sup>-1</sup>	Power voltage VDC	Operating condition			
RD-05	14 x 8	4.7	3.6	4.4	9.6	3500	24	continuous	0 - 40	0.4	
RD-05H		7.9	11	18	39	6000				0.5	
RD-20	18 x 18	19.5	9.3	28	60	3200				0 - 40	1.3
RD-30		23.5	11.5	45	77	3500			0 - 50		0 - 80
RD-30TV24-HV		23.5	11.5	45	77	3500					

• Operating voltage: 14 V to 24 V (Excluding RD-30TV24-HV) • An optional 500 mm cable is available. (Excluding RD-05H)

• The RD-30TV24-HV can be controlled by 1-5V external control signals. Its performance data above is based on operation with a 5V external control signal.

Model	Connection sizes (IN x OUT)			Max. capacity L/min	Max. head m	Motor			Ambient temperature °C	Liquid temperature range °C	Mass kg
	Quick fastener	Thread	Hose mm			Power consumption W	Rated voltage VDC	Operating condition			
RD-12	P16 x P14	NPT3/8 x NPT3/8	18 x 18	12.7	6.8	24	24	continuous	0 - 50	0 - 75	0.4
RD-12Z	P16 x P10	NPT3/8 x NPT1/4	18 x 10	3.8	10.5	28.8				0 - 60	

• The RD-12/12Z can be controlled by 1-5V external control signals. Its performance data above is based on operation with a 5V external control signal.

• An optional 500 mm cable is available.

### Caution



- The specification above shows the average performance at 24VDC power voltage in our shipping inspection. There may be individual deviation up to 10% at each product. Pump performance changes with power voltage fluctuation.
- Pump performance changes when s.g. exceeds 1.0 or viscosity exceeds 1mPa·s. Contact us for detail.
- Contact us for operation out of the standard specification range.
- Avoid frequently turning on/off a pump. Operating life may be adversely affected by load increment.

**Typical applications**

- Medical care: Biochemical analysis, cooling devices, poultice/low temperature therapeutic machines, cooling for laser treatment
- Physical/chemical analysis: Thermostatic devices, demineralizers, a variety of analyzers
- Automatic vending machine: Dispensers • Photography: Automatic film developers, x-ray film developers
- Semiconductors: Cooling devices • Surface treatment: Small-scale plating machines
- Solar power systems: Electric water heaters, solar battery collectors • Electric cars: Radiators, heaters

**Compact and lightweight with a seal-less structure**

The canned motor type products in our RD series are light and compact. Unlike conventional magnetic drive pumps, they do not require a large amount of space for installation. Their seal-less structure eliminates leaks and problems involving seal replacement.

**Long life**

A DC brushless motor is employed as the pump drive. This type of motor reduces concerns over brush abrasion, ensuring a service life as long as that of an AC motor.

**Facilitating standard compliance**

The RD series pumps power source voltage is classified as safety voltage (50 V or less), which allow the user to easily comply with international standards such as UL, CSA, CE and GS.

**Standardized models**

Unlike AC power sources, which require different voltages and frequencies depending on the country in which they are used, DC power sources use the same voltage in all areas. Because the RD series has a DC motor, the user is not troubled by motor voltage.

**Flow adjustment feature**

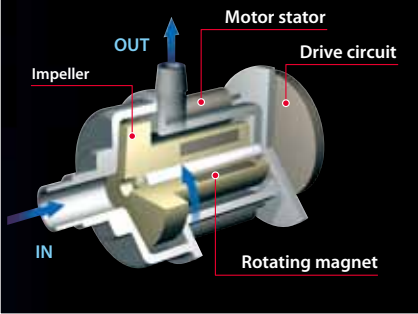
Easy flow adjustment by changing power supply voltage. For the RD-12/12Z, the external variable signal of 1-5VDC makes flow adjustment.

**Built-in drive circuit**

All you have to do is connecting the power supply to run the pump.  
(Note) The external variable signal is required as well as the power supply for the RD-12/12Z.

**Operating principle**

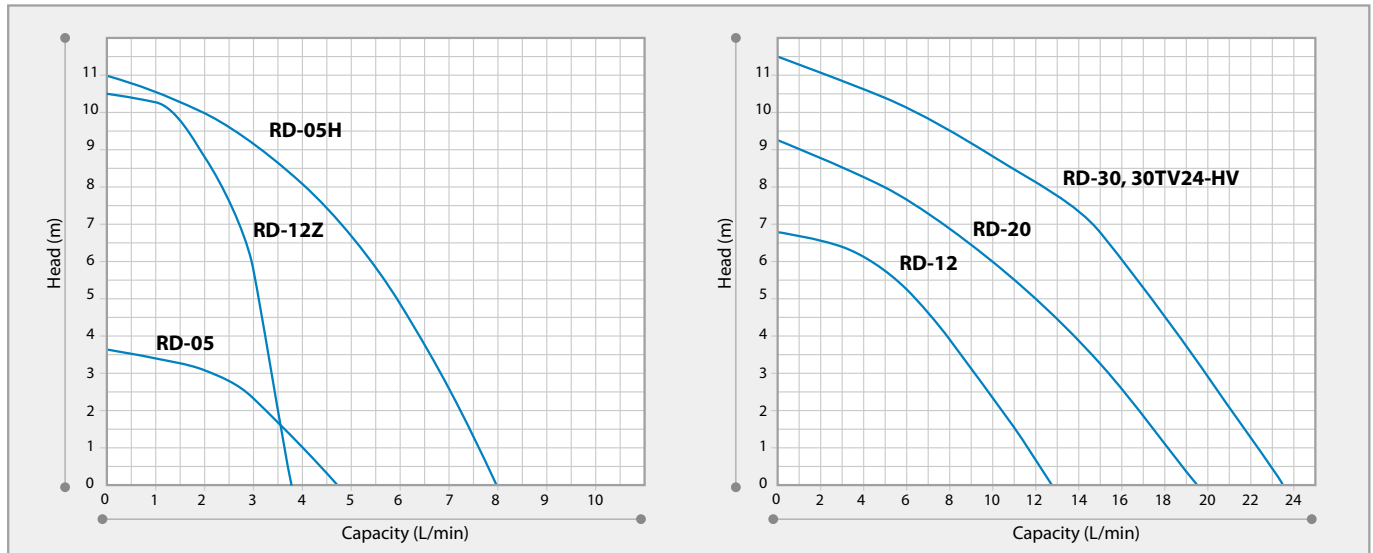
These canned centrifugal pumps directly drive the rotor magnet incorporating an impeller. The pump chamber is completely sealed from the exterior by a casing. The impeller, driven by a rotating magnetic field, requires no shaft seal. In addition, these products have a simpler and more compact structure than pumps which have external drive magnet.



**Construction and material**

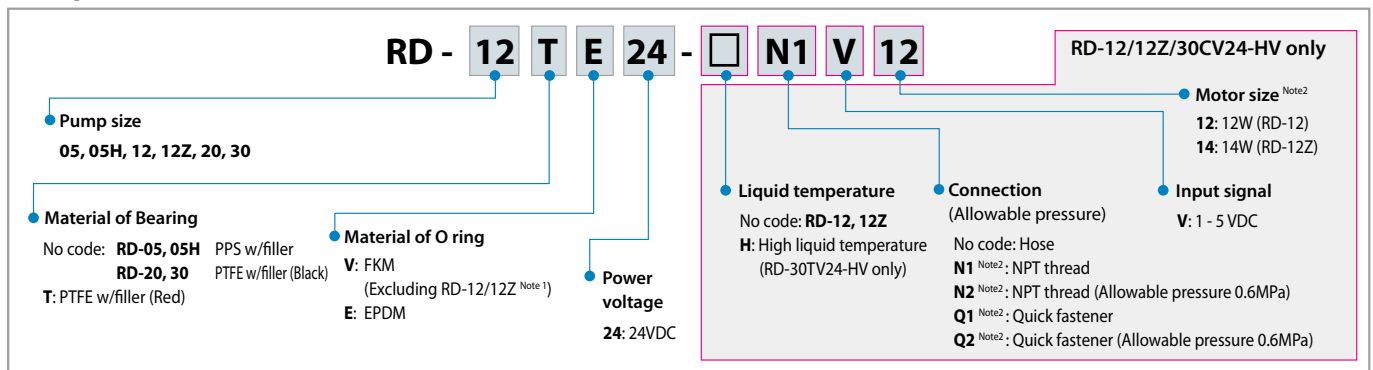
	RD-05, 05H	RD-12, 12Z	RD-20, 30
<b>1 Casing</b>	PPE	GFRPPS	PPE
<b>2 Rear casing</b>			
<b>3 Impeller</b>	GFRPP	GFRPPS	GFRPP
<b>4 Spindle</b>		Alumina ceramic	
<b>5 Bearing</b>	PPS w/filler or PTFE w/filler (Red)	PTFE w/filler (Red)	PTFE w/filler (Black) or PTFE w/filler (Red)
<b>6 Thrust ring</b>		Alumina ceramic	
<b>7 O ring</b>	FKM or EPDM	EPDM	FKM or EPDM

## Performance curves



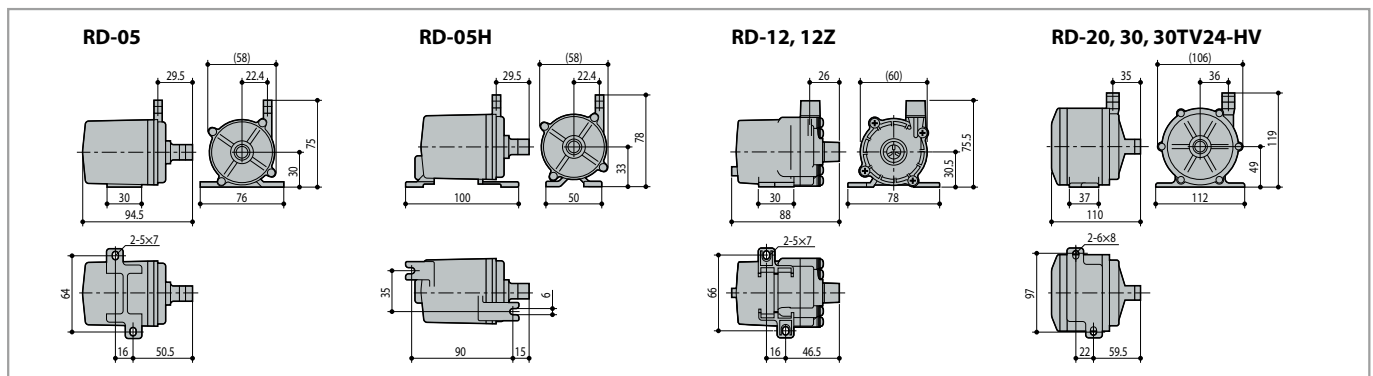
• Performance curves are the average obtained at our shipping inspection. There may be individual deviation up to 10% at each product.  
 • The above performance curves of the RD-12, /-12Z and /-30TV24-HV are based on operation with a 5V external control signal.

## Pump identification



Note 1: FKM O rings of the RD-12/-12Z are available as an option. Contact us for detail. Note 2: Excluding RD-30TV24-HV

## Dimensions (mm)



• RD-12, 12Z illustration shows thread type. Please contact us for details.

## www.iwakipumps.jp

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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.

