IWAKI

RD
series

Direct Drive Seal-less Pump



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, enable the pumps to meet a full spectrum of user needs, with emphasis on ease of installation, operation and maintenance.

- **Eliminate maintenance costs -** Superior engineering combined with built-in safety, RD is designed to last the life of your system; no service calls or parts kits required.
- **Ease of integration -** BLDC motors with integral driver/controller simplifies wiring and UL regulatory compliance. RD's multiple mounting configurations, including 'heads-up' into a reservoir, make it easy to find a home for this pump.
- **Precision temperature control -** RD's unique dual bearing system reduces heat generation and helps your system maintain temperature accuracy.
- **Reduce system size -** RD's canned motor design offers the most compact package available.
- **Extend system life -** Manufactured under strict ISO 9001/14001 quality standards and assembled with the most chemically-inert materials, RD pump life will typically exceed 25K hours.
- **Reduce system noise -** With documented sound levels at 40 dB or lower, RD allows for whisper-quiet operation.

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series

Model Identification Code

RD - 12 T E 24 - □□ N1 V 12

Pump size
05, 05H, 12, 12Z, 20, 30

Material of Bearing
No code: **RD-05, 05H** PPS w/filler
RD-20, 30 PTFE w/filler
T: PTFE

Material of O ring
V: FKM
(Excluding RD-12/12Z Note 1)
E: EPDM

Power voltage
24: 24VDC

RD-12/12Z/30 only

Liquid temperature
No code: 0 - 40°C
RD-12, 12Z: 0 - 60°C
05: 0 - 60°C
H: High temperature
0 - 80°C

Connection
(Allowable pressure)
No code: Hose
N1 Note2 : NPT thread
N2 Note2 : NPT thread (Allowable pressure 0.6MPa)

Input signal
V: 1 - 5 VDC

Motor size Note2
12: 12W (RD-12)
14: 14W (RD-12Z)

RD - 40 E 24 - H V

Pump size
40, 40X

Material of O ring
V: FKM
E: EPDM

Power source
24: 24VDC

H: High Liquid temperature
Liquid temperature range
0 - 80°C

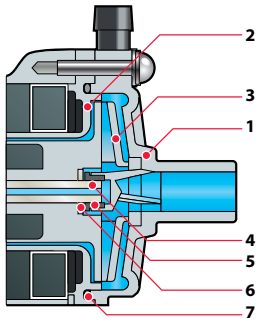
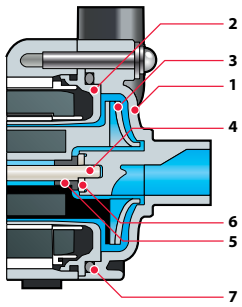
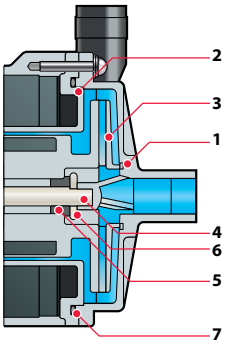
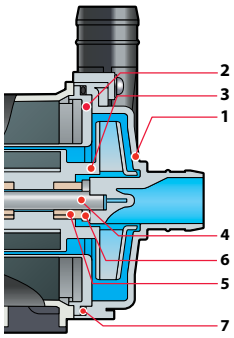
Connection
No mark: Hose
R1: R thread
N1: NPT thread

Input signal
V: 1-5VDC



Note 1: FKM O rings of the RD-12/-12Z are available as an option. Contact us for detail.
Note 2: Excluding RD-05, 05H, 20, 30

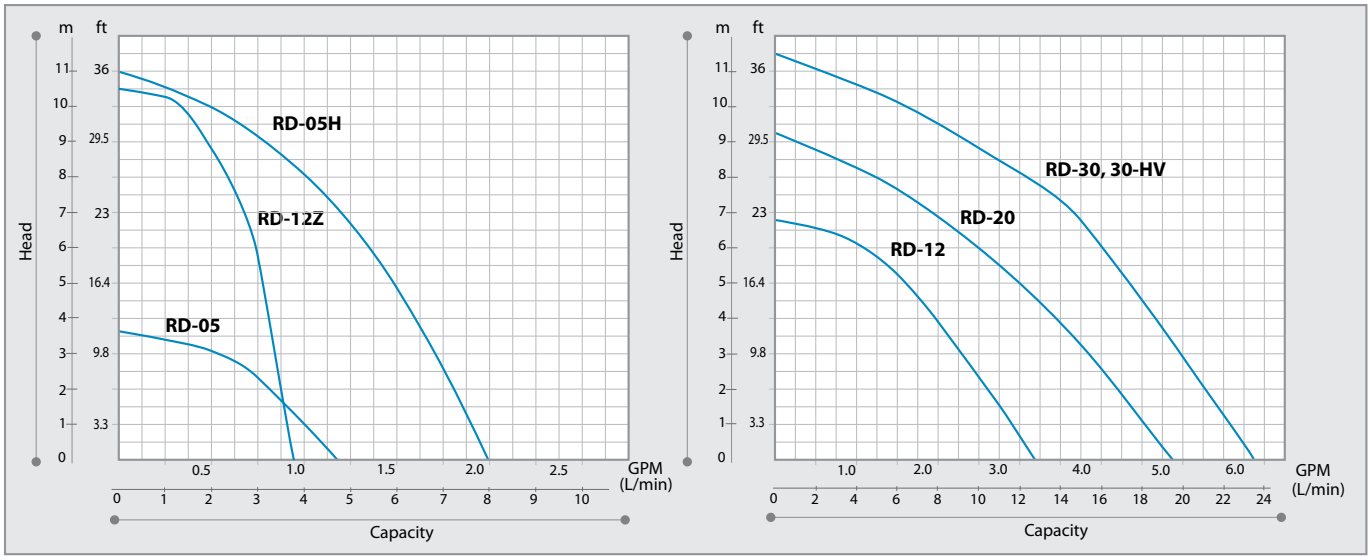
Construction and Materials

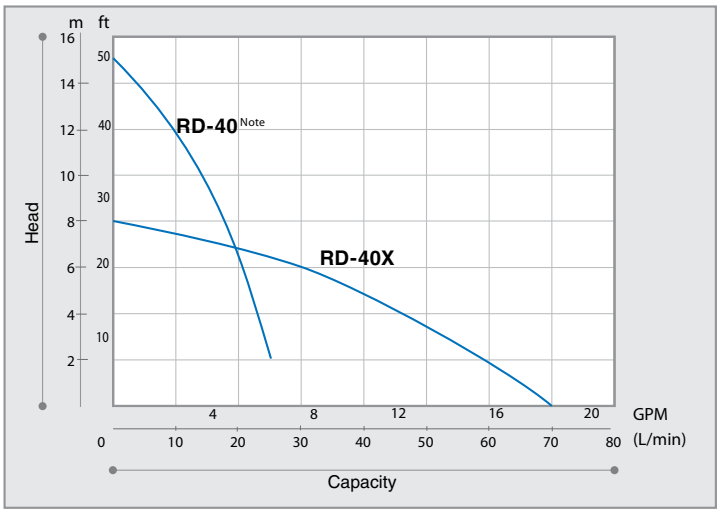
	RD-05, 05H	RD-12,12Z	RD-20, 30	RD-40
				
1 Casing	GFRPPE	GFRPPS	PPE	GFRPPS
2 Rear casing	GFRPPE	GFRPPS	PPE	GFRPPS
3 Impeller	GFRPP	GFRPPS	GFRPP	GFRPPS
4 Spindle	Alumina Ceramic			
5 Bearing	PTFE/PPS	PTFE	PTFE	PTFE
6 Thrust ring	Alumina Ceramic			
7 O-ring	FKM or EPDM	FKM or EPDM	FKM or EPDM	FKM or EPDM

Performance Curves

RD series

Performance curves are the average obtained at inspection. There may be individual deviation up to 10% at each product.





The above performance curves of the RD-12, /-12Z and /-30-HV are based on operation with a 5V external control signal.



Note: Do not exceed 6.6 GPM in operation, or cavitation may take place.
The above curves are based on operation with a 5V external control signal.

Specifications

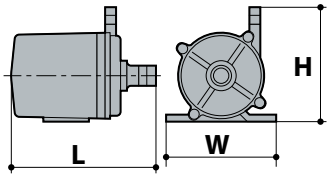
* Minimum quantities apply.

RD-	Connections (Hose) inches (mm)		Max Flow GPM (LPM)	Max TDH FT (m)	Max S.G.	Motor				Weight lbs (kg)	Options
	Suction	Discharge				Voltage VDC	Current (A)	Starting Current (A)	Power (W)		
05	0.55 (14)	0.32 (8)	1.2 (4.7)	11.8 (3.6)	1.0	24	0.4	1.5	4.4	0.9 (0.4)	Consult Factory
05H	0.55 (14)	032 (8)	2.1 (7.9)	36.1 (11)	1.0	24	1.6	4.0	18	1.1 (0.5)	
12*	3/8 NPT 0.71 (18)		3.4 (12.7)	22.3 (6.8)	1.0	24	1.0	4.0	12	1.3 (0.4)	High Temp 0-5V Control
12Z*	3/8 NPT 0.71 (18)	1/4 NPT 0.4 (10)	1.0 (3.8)	34.4 (10.5)	1.0	24	1.2	5.0	14	1.3 (0.4)	
20	0.71 (18)		5.2 (19.5)	30.5 (9.3)	1.0	24	2.5	8.0	28	2.9 (1.3)	-----
30	0.71 (18)		6.2 (23.5)	37.7 (11.5)	1.0	24	3.2	10.0	45	2.9 (1.3)	High Temp 0-5V Control
40	1 NPT 1 (25)	1/2 NPT 0.75 (19)	6.6 (25)	49.2 (15)	1.0	24	5.5	10.0	85	3.3 (1.5)	
40X	1 NPT 1 (25)	3/4 NPT 1 (25)	18.5 (70)	26.2 (8)	1.0	24	5.3	10.0	72	3.3 (1.5)	

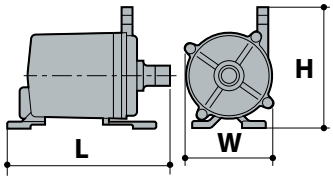
12 VDC option available for OEM applications. Contact Iwaki America for details.

Dimensions

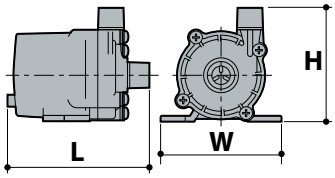
RD-05



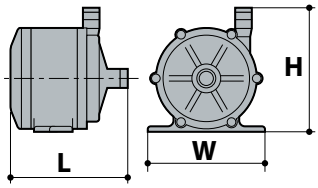
RD-05H



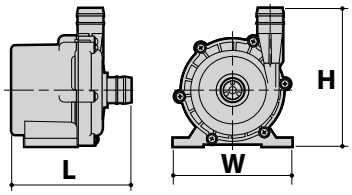
RD-12, 12Z



RD-20, 30, 30-HV



RD-40, 40X

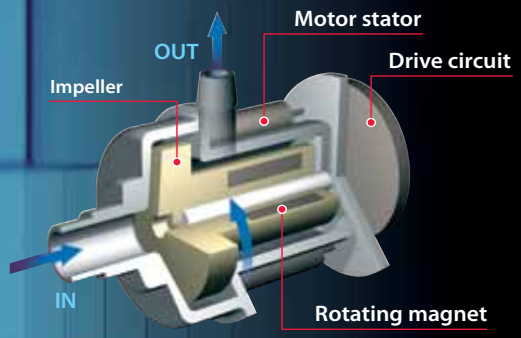


Inches (mm)

Model		W	H	L
RD-05		3.0 (76)	3.0 (75)	3.7 (94.5)
RD-05H		2.3 (58)	3.1 (78)	4.3 (109.5)
RD-12/12Z		3.1 (78)	3.0 (75.5)	3.5 (88)
RD-20/30		4.4 (112)	4.7 (119)	4.3 (110)
RD-40	Hose	5.0 (126)	5.5 (139)	5.0 (127)
	NPT		5.2 (133)	
RD-40X	Hose		5.6 (143)	
	NPT		5.3 (134)	

Operating Principle

Brushless DC motor technology with integral drive circuit creates a rotating magnetic field that drives the inner magnet/impeller assembly. The fluid is contained in the pump end sealed with a single static o-ring. This design provides a simple compact package.



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

IALT-00010.L Oct 2012

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