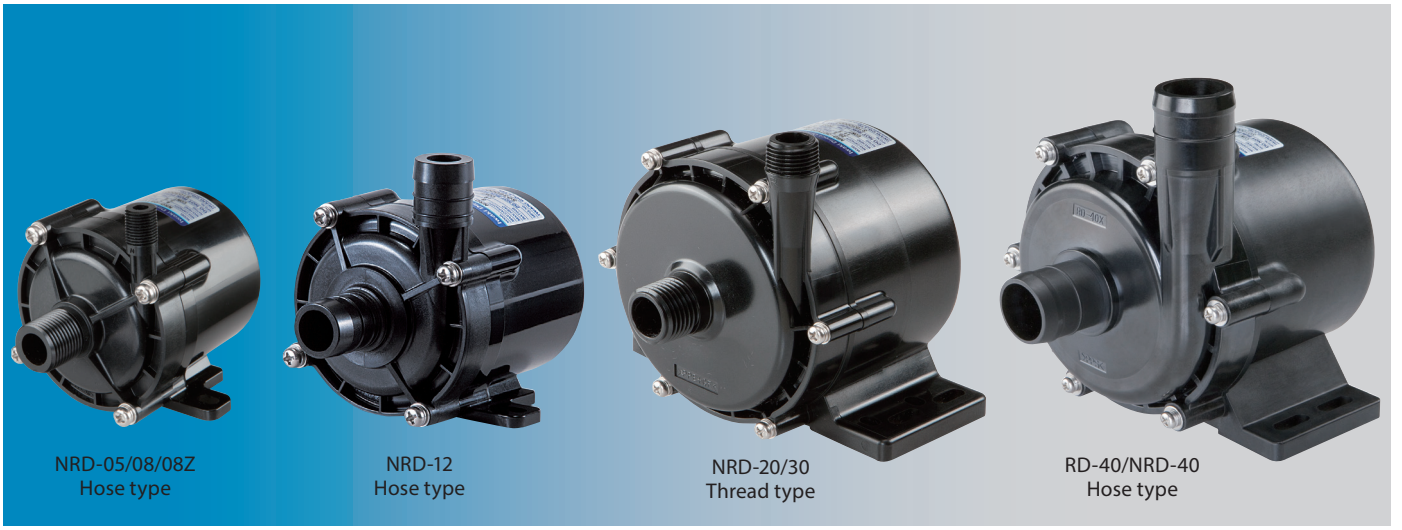
IWAKI

NRD
series

Direct Drive Seal-less Pump

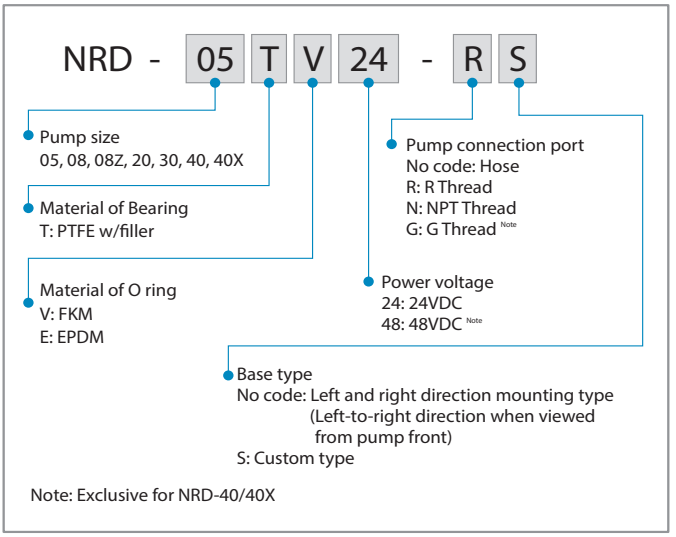


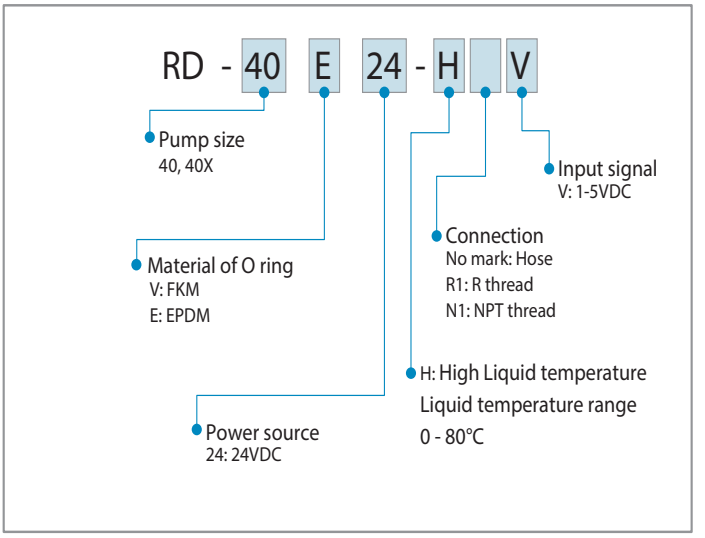
Our NRD series design features small canned motor centrifugal pumps powered by brushless DC motors. They are incredibly compact, lightweight, and quiet. A variety of features, including a seal-less design to prevent leakage, enable the pumps to meet a full spectrum of user needs with emphasis on ease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

- **Eliminate maintenance costs -** Superior engineering combined with built-in safety, NRD 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. NRD's multiple mounting configurations, make it easy to find a home for this pump.
- **Precision temperature control -** NRD's unique dual bearing system reduces heat generation and helps your system maintain temperature accuracy.
- **Reduce system size -** NRD'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, NRD pump life will typically exceed 25K hours.
- **Reduce system noise -** With documented sound levels at 40 dB or lower, NRD allows for whisper-quiet operation.
- **Variable Flow -** Flow rate can be adjusted with an external signal at 1-5 VDC

NRD series

Model Identification Codes





Specifications

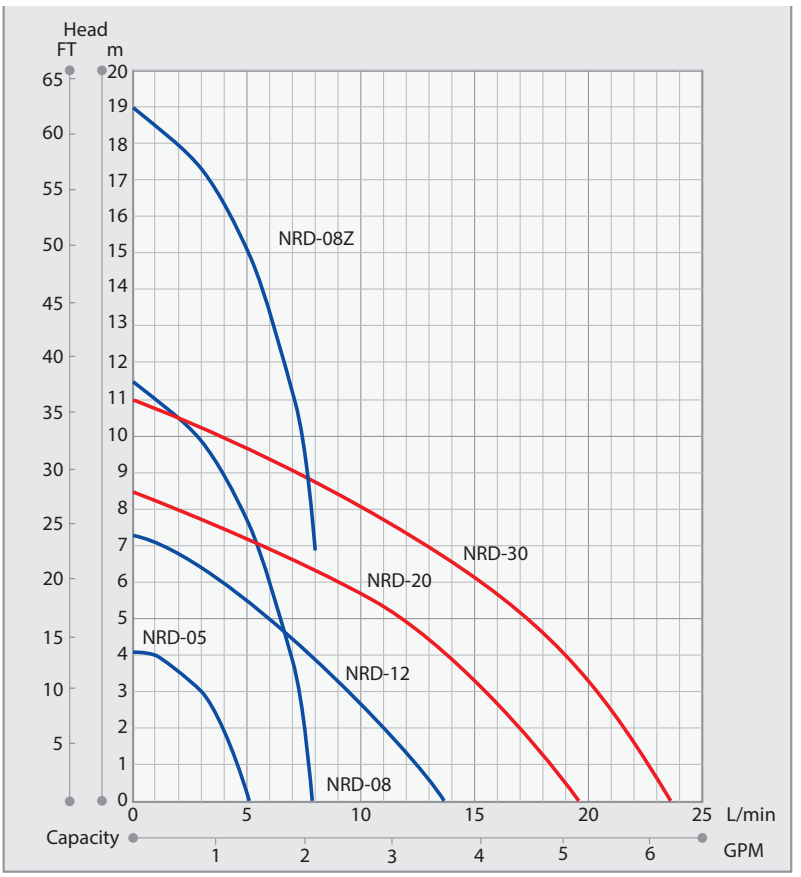
Model	Connection sizes in (mm)		Max. Capacity[1] GPM (L/min)	Max. Head[1] FT (m)	Noise[2] dB	Limit of specific gravity	Motor		Mass lbs (kg)
	IN	OUT					Power voltage V	Output W	
NRD-05	0.55 (14)	0.31 (8)	1.3 (5.1)	13.5 (4.1)	up to 40	1.07	DC24	6	0.9 (0.4)
	R3/8	R1/8							
	3/8 NPT	1/8 NPT							
NRD-08	0.55 (14)	0.31 (8)	2.1 (7.9)	37.7 (11.5)	up to 45	1.07	DC24	22	0.9 (0.4)
	R3/8	R1/8							
	3/8 NPT	1/8 NPT							
NRD-08Z	0.55 (14)	0.31 (8)	2.1 (8.0)	62.3 (19)	up to 45	1.07	DC24	33	0.9 (0.4)
	R3/8	R1/8							
	3/8 NPT	1/8 NPT							
NRD-12	0.71 (18)	0.71 (18)	3.6 (13.6)	24.3 (7.4)	up to 45	1.07	DC24	17	0.9 (0.4)
	R3/8	R3/8							
	3/8 NPT	3/8 NPT							
NRD-20	0.83 (21)	0.67 (17)	5.2 (19.5)	27.9 (8.5)	up to 55	1.0	DC24	28	2.6 (1.2)
	R1/2	R3/8							
	1/2 NPT	3/8 NPT							
NRD-30	0.83 (21)	0.67 (17)	6.2 (23.5)	36.1 (11)	up to 55	1.0	DC24	45	2.6 (1.2)
	R1/2	R3/8							
	1/2 NPT	3/8 NPT							
RD-40	1 (25)	0.75 (19)	6.6 (25)	49.2 (15)	up to 55	1.0	DC24	85	3.3 (1.5)
	1 NPT	1/2 NPT							
RD-40X	1 (25)	0.75 (19)	18.5 (70)	26.2 (8)	up to 55	1.0	DC24	72	3.3 (1.5)
	1 NPT	3/4 NPT							
NRD-40	1.06 (27)	0.82 (21)	6.6 (25)	49.2 (15)	up to 55	1.0	DC48	85	3.3 (1.5)
	R1	R1/2							
	1 NPT	1/2 NPT							
	G1 · 1/2	G1 · 1/4							
NRD-40(X)	1.06 (27)	0.82 (21)	18.5 (70)	26.2 (8)	up to 55	1.0	DC48	72	3.3 (1.5)
	R1	R3/4							
	1 NPT	3/4 NPT							
	G1 · 1/2	G1 · 1/2							

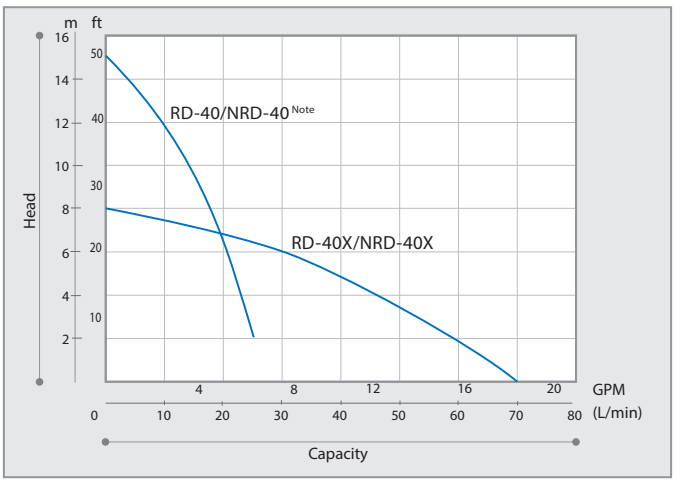
Note1: The numerical values listed in the table represent the average performance values for when NRD series models are shipped from the factory.
The individual differences between models may result in an error discrepancy of ±10%.
Note2: Noise was measured at a location 1 meter away from pump front, using the A scale.
- Test performance using pure water at room temperature.
- The maximum discharge rate is the discharge rate for when the pump head is at 0 meters and the maximum pump head is based on the shut-off total head.
- The viscosity limit of the working fluid is up to 1.0 mPa·s (with specific gravity of 1.07 for the NRD-05/08/08Z/40/40X and 1.0 for the NRD-20/30).
- Specifications/Environmental conditions

Ambient temperature: 0°C to 50°C (08Z: 0°C to 40°C), Working liquid temperature: 0°C to 80°C (08Z: 0°C to 50°C), Relative humidity: 35% to 85% RH (40/40X: 35% to 90%)
Please note that the above conditions vary depending on working liquid and heat cycle specifications.
12 VDC option available for OEM applications. Contact Iwaki America for details.

NRD
series

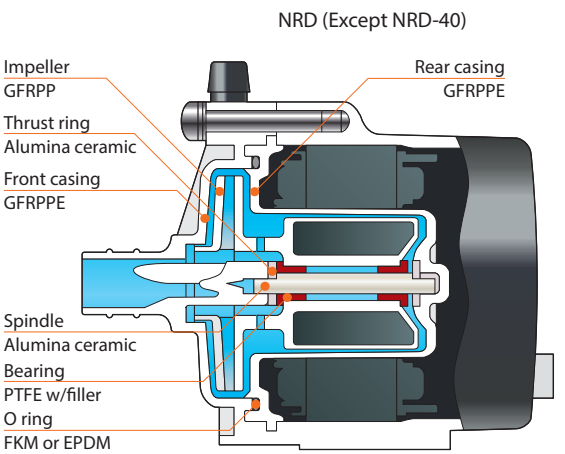
Performance curves

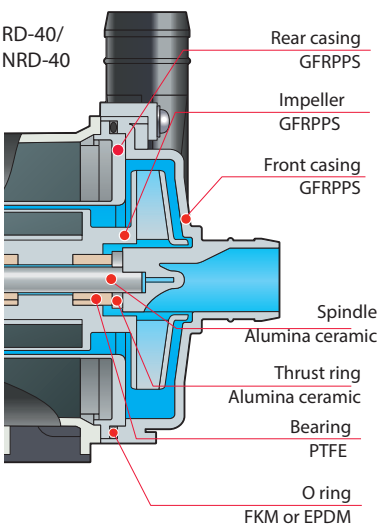




Note: Do not exceed 6.6 GPM in operation, or cavitation may take place.
The above curves are based on operation with a 5V external control signal.

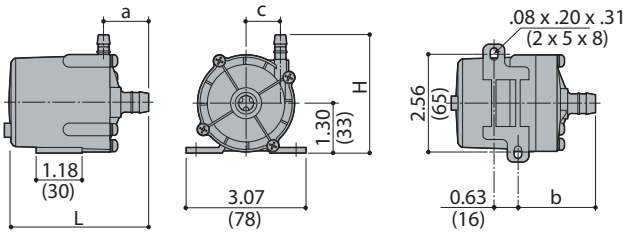
Wet End Materials





Dimensions

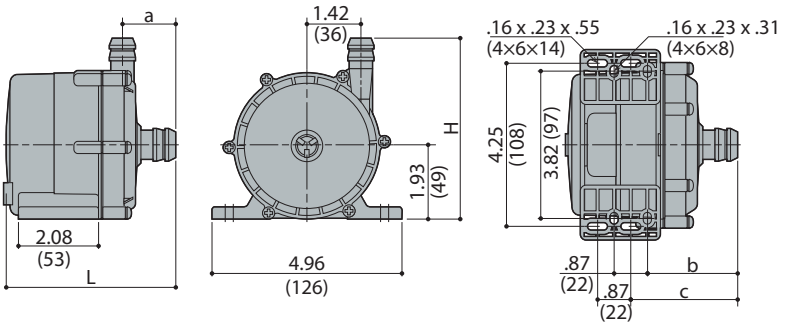
NRD-05/08/08Z/12 (Right and left direction mounting type)



Inches (mm)

		H	L	a	b	c
NRD-05/08/08Z	Hose	3.07 (78)	3.58 (91)	1.16 (29.5)	1.99 (50.5)	0.88 (22.4)
	R Thread	2.97 (75.5)	3.56 (90.5)	1.14 (29)	1.97 (50)	
	NPT Thread					
NRD-12	Hose	3.31 (84)	3.64 (92.5)	1.22 (31)	2.05 (52)	0.83 (21)
	R Thread					
	NPT Thread					

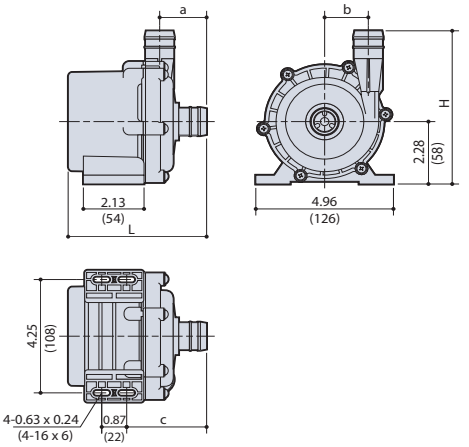
NRD-20/30



Inches (mm)

NRD-20/30	H	L	a	b	c
Hose	4.69 (119)	4.41 (112)	1.38 (35)	2.34 (59.5)	2.78 (70.5)
R Thread	4.53 (115)	4.21 (107)	1.18 (30)	2.14 (54.5)	2.58 (65.5)
NPT Thread					

RD-40(X)/NRD-40(X)



Inches (mm)

		H	L	a	b	c
RD-40/ NRD-40	Hose	5.47 (139)	5.00 (127)	1.65 (42)	1.46 (37)	2.95 (75)
	R Thread	5.23 (133)				
	NPT Thread					
	G Thread Note	5.43 (138)	4.76 (121)	1.44 (36.5)		2.66 (67.5)
RD-40X/ NRD-40X	Hose	5.63 (138)	5.00 (127)	1.65 (42)	1.57 (40)	2.95 (75)
	R Thread	5.28 (134)				
	NPT Thread					
	G Thread Note	5.43 (138)	4.84 (123)	1.44 (36.5)		2.76 (70)

Note: Exclusive for NRD-40/40X

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