

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.

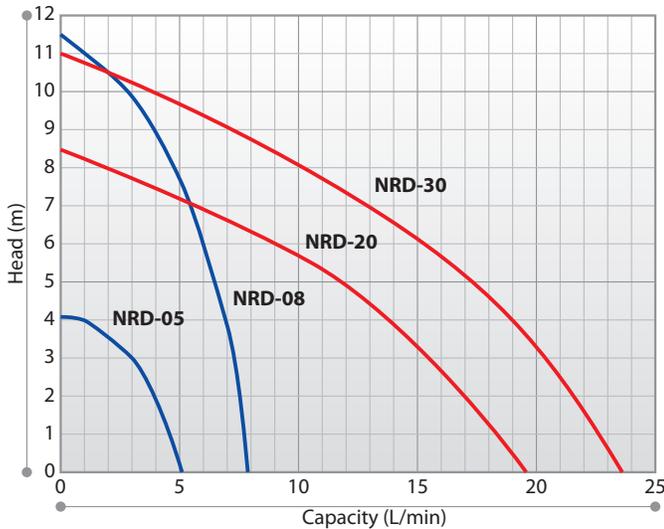
- **Eliminate maintenance costs** - Superior engineering combined with built-in safety, NRD is designed to last the life of your system; no service calls or parts kits required.
- **Ease of integration** - BLDC motors with integral driver/controller simplifies wiring and UL regulatory compliance. NRD's 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.

Typical applications

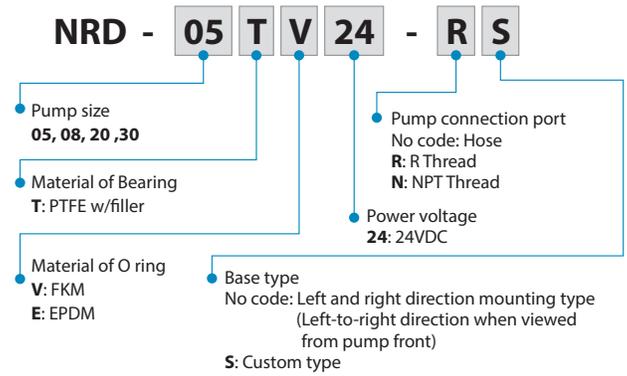
Fuel cells: Cogeneration systems (cooling and circulation)
Medical: Biochemical analysis, cooling systems, patient temperature management cooling for laser treatment
Physical/chemical analysis: Thermostats, pure water equipment, different types of analyzers
Photo: Automatic film developing machines, X-ray film developing machines
Semiconductors: Semiconductor cooling systems
Surface treatment: Small plating machines
Solar power systems: Electric water heaters, solar battery heat collectors
Electric cars: Radiators, heaters



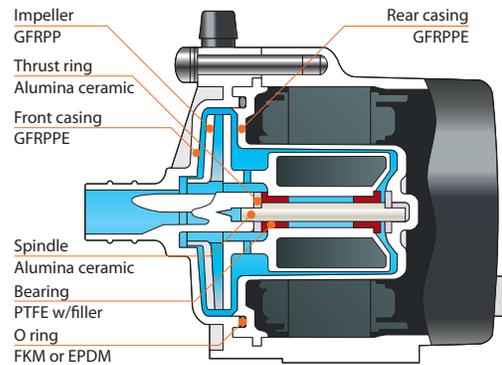
Performance curves



Pump identification



Wet End Materials



Specifications

Model	Connection sizes mm		Max. Capacity ¹ L/min	Max. Head ¹ m	Noise ² dB	Limit of specific gravity	Motor		Mass kg
	IN	OUT					Power voltage V	Output W	
NRD-05	14	8	5.1	4.1	up to 40	1.07	DC24	6	0.4
	R3/8	R1/8							
	3/8 NPT	1/8 NPT							
NRD-08	14	8	7.9	11.5	up to 45	1.07	DC24	22	0.4
	R3/8	R1/8							
	3/8 NPT	1/8 NPT							
NRD-20	21	17	19.5	8.5	up to 55	1.0	DC24	28	1.2
	R1/2	R3/8							
	1/2 NPT	3/8 NPT							
NRD-30	21	17	23.5	11	up to 55	1.0	DC24	45	1.2
	R1/2	R3/8							
	1/2 NPT	3/8 NPT							

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 NRD-05/08: 1.07 gm, NRD-20/30: 1.0 gm).

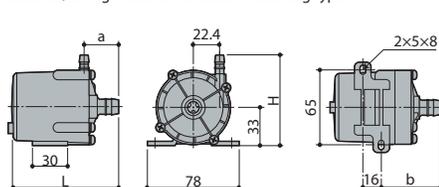
• Specifications/Environmental conditions

Ambient temperature: 0°C to 50°C, Working liquid temperature: 0°C to 80°C, Relative humidity: 35% to 85% RH

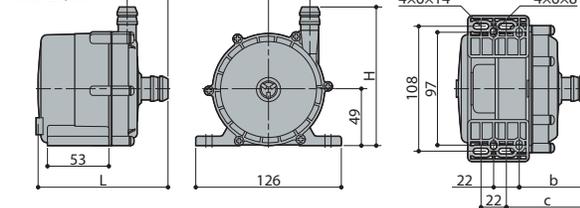
Please note that the above conditions vary depending on working liquid and heat cycle specifications.

Dimensions (mm)

NRD-05/08 Right and left direction mounting type



NRD-20/30



NRD-05/08 Right and left direction mounting type

Specification	H	L	a	b
Hose	78	91	29.5	50.5
R Thread	75.5	90.5	29	50
NPT Thread	75.5	90.5	29	50

NRD-20/30

Specification	H	L	a	b	c
Hose	119	112	35	59.5	70.5
R Thread	115	107	30	54.5	65.5
NPT Thread	115	107	30	54.5	65.5



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