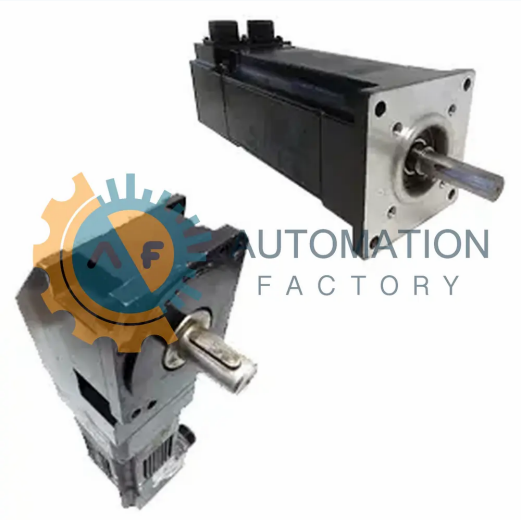
Pacific Scientific — R Servomotors

R65GEAA-R2-NS-NV-00



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The **R65GEAA-R2-NS-NV-00** is a brushless servo motor produced by Pacific Scientific within the R Servomotors series. It delivers closed-loop rotary motion for positioning tables, pick-and-place axes, and other automation duties requiring precise speed and torque control. Its 5.75-inch square frame and inch-based mounting pattern support installation in machinery with matching interfaces. A size-21 frameless resolver inside the housing provides shaft-angle data to the drive, and the motor does not include secondary feedback.

Under continuous load, the motor produces **13.6 Nm** of stall torque at the flange, supported by its rare-earth samarium-cobalt magnets and four-pole rotor geometry. The rated mechanical speed is **2000 rpm**, making the motor suitable for medium-throughput axes. When rapid acceleration is required, the electromagnetic stack can supply up to **33.3 Nm** of peak torque for brief intervals. The motor has a torque constant of **1.3 Nm/ARMS** and a voltage constant of **0.79 VRMS/rad/s**, providing electrical values used to configure the drive's current and speed control loops. Its rotor inertia is **1.26 × 10?³ kg·m²**, which must be considered when setting acceleration rates and servo gains for the connected load.

The motor has a thermal resistance of **0.42 °C/W**, indicating the relationship between internal power loss and the resulting temperature rise. Its **36 min** thermal time constant indicates how gradually the winding temperature changes as the operating load varies. The integrated **24 V DC brake** locks the shaft when it is de-energized, helping prevent load drift on vertical axes during a power loss. A mass of 18 kg and a 5-inch magnetic stack length contribute to the motor's damped response during speed changes. Static friction is 0.26 Nm, while viscous damping

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is 0.075 Nm/kRPM, giving the controller additional values for predicting low-speed behavior. The standard housing does not include a shaft seal, and the motor uses the standard winding option for this frame.

Specifications

Continuous Stall Torque:	13.6 Nm	**Frame Size:**	5.75" Square	**Holding Brake:**	24V dc brake
Housing Style:	Standard	**Inertia:**	1.26 kgm²x10?³	**Magnet Material:**	Rare earth (samarium cobalt)
Mass:	18.0 kg	**Mounting Type:**	English	**Number Of Poles:**	4
Peak Torque:	33.3 Nm	**Primary Feedback:**	Frameless resolver, transmitter type, size 21	**Product Type:**	Servo Motor
Rated Speed (RPM):	2000	**Rotor Inertia:**	1.26e-3 kgm2	**Secondary Feedback:**	No secondary
Shaft Seal:	No shaft seal	**Stack Length:**	5 inches	**Static Friction:**	0.26 Nm
Thermal Resistance:	0.42 C/W	**Thermal Time Constant:**	36 min	**Torque Constant (rms):**	1.3 Nm/ARMS
Viscous Damping:	0.075 Nm/kRPM	**Voltage Constant (rms):**	0.79 VRMS/rad/s	**Winding Type:**	Standard
Last Verified:	11/19/2026 12:34 AM				

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