

Precision Stepper Motors



Compact, efficient brushless power for precision motion, propulsion, and mission-critical actuation.

Frontgrade's precision stepper motors are designed for reliable positioning and controlled incremental motion. The stepper motors delivers high holding torque, repeatable step accuracy, and responsive low-speed operation in a compact package. Its brushless construction supports long service life and low maintenance, while its discrete-step operation simplifies position and velocity control.

Frontgrade can configure the stepper motor to be operated in full-step, half-step, or micro-stepping modes to balance torque, resolution, vibration, and acoustic performance. When paired with an encoder, the stepper motor can support closed-loop control, stall detection, and position verification for higher-reliability applications. Configurable windings, shafts, connectors, feedback devices, brakes, gearboxes, and environmental options make the motor suitable for industrial, medical, aerospace, defense, and scientific systems.

FEATURES:

- Accurate, incremental motion with precise speed, torque, and position
- Fast acceleration and dynamic response with quiet operation and low vibration
- Brushless, low-maintenance construction
- Optional gearbox, encoder, and brake High torque, power density, operating efficiency

APPLICATIONS:

- Optical filter-wheel and lens positioning
- Sensor calibration and alignment mechanisms
- EO/IR payload adjustment
- Radar and communications equipment tuning
- Gimbal coarse-positioning axes

Stepper Motors

©2026 Frontgrade Technologies—All rights reserved. Specifications are subject to change without notice. Product availability is not guaranteed, for preliminary data only. All trademarks are property of their respective owners. The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement. V0.1 20260820

Part Number	Holding Torque (in-oz)	Running Torque (in-oz)	Winding Resistance @ 25°C	Torque Constant $\left(\frac{\text{in-oz}}{\text{amp}}\right)$	Detent Torque (in-oz)
16247	1.3	0.7 @ 8 pps	225	10.8	0.4 to 0.7
200-18-166	1.4	0.63 @ 14.7 pps	68.8	6.4	0.35
16576	6	3.7 @ 61 PPS	31.5	7.0	0.6
16595	2.7	1.2 @ 61 pps	68.5	7.5	0.85
16267	2.7	1.0 @ 61 pps	63	7.0	0.38 to 0.7
16271	2.7	1.2 @ 60 pps	68	7.9	0.65 to 0.95
16276	2.7	1.2 @ 60 pps	68	7.9	0.50 to 0.85
16249	2.7	1.2 @ 61 pps	68	7.0	0.38 to 0.7
16270	1.6	0.63 @ 976 pps	73	10.5	0.12
16299	2.7	1.2 @ 61 pps	62	8	0.7 to 1.0
200-18-137	3.2	1.7 @ 8 pps	264	29.74	1.0
16225	60	36 @ 8 pps	62	180	6 to 15
16486	34	16.0 @ 60 pps	59.3	130	11
16485	45	20.0 @ 60 pps	31.0	90	11
16345	35	21 @ 60 pps	62	70	10.5
16427	15	8.7 @ 60 pps	14	30	10.5
200-20-38	12.6	7.1 @ 18.5 pps	112.5	20.5	2.7
16283	18.7	8.2 @ 5.55 pps	10	29.7	4 in-oz
16484	28.4	4.90 @ 62.5 pps	16.4	17.6	1.3
16570	65	31 @ 100 pps	36	200	4.5 to 9.5
16298	42	29.0 @ 8 pps	315	594.8	14.0
16334	140	75 @ 50 pps	27.8	200	45 to 70
200-45-5		200 @ 26.667	19.7	424.84	16
16458	227.5	122 @ 10 pps	20.9	257	25 to 50

Stepper Motors

©2026 Frontgrade Technologies—All rights reserved. Specifications are subject to change without notice. Product availability is not guaranteed, for preliminary data only. All trademarks are property of their respective owners. The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement. V0.1 20260820