

NE Nema Series: Lightweight, Compact and Low Friction



Parker Bayside's NEMA gearheads feature a high-efficiency spur-gear design, in a light, compact package. Designed to mount directly to the face of NEMA face stepper and servo motors, NEMA gearheads are ideal for applications requiring smooth operation and low starting torque. Ratios from 3:1 to 100:1 are available in NEMA 23, 34 and 42 frame sizes.

3 Frame Sizes

NE23

NE34

NE42

Ratios

3:1 20:1

5:1 30:1

8:1 50:1

10:1 100:1

15:1



Performance Specifications

	Units	Ratio	Frame Size		
			NE23	NE34	NE42
Nominal Output Torque, $T_{nom r}$	in-lb	3	16	64	123
	Nm		2	7	14
	in lb	5	27	107	205
	Nm		3	12	23
	in lb	8-10	40	142	250
	Nm		5	16	28
	in lb	15	46	170	300
	Nm		5	19	34
Max. Acceleration Output Torque, $T_{acc r}$	in lb	3	24	95	185
	Nm		3	11	21
	in lb	5	40	160	307
	Nm		5	18	35
	in lb	8-10	60	210	375
	Nm		7	24	42
	in lb	15	70	255	450
	Nm		8	29	51
Nominal Input Speed, $N_{nom r}$	RPM	All	4,000	4,000	4,000
Max. Input Speed, N_{maxr}	RPM	All	5,500	5,000	4,500
Standard Backlash ⁽¹⁾	arc min	3, 5, 8, 10	30	25	25
	arc min	15-100	20	20	20
Low Backlash ⁽¹⁾	arc min	3, 5, 8, 10	15	15	15
	arc min	15-100	10	10	10
Efficiency at Nominal Torque	%	All	98%	98%	98%
Moment of Inertia	oz in sec²	All	0.00007	0.0005	0.004
	gm cm sec ²		0.0051	0.0408	0.306
Maximum Weight	lb	All	1.0	3.0	6.0
	kg		0.5	1.4	3.0
Radial Load ⁽²⁾	lb	All	20	80	200
	N		90	350	890
Axial Load	lb	All	10	30	60
	N		45	135	265

(1) Measured at 2% of rated torque

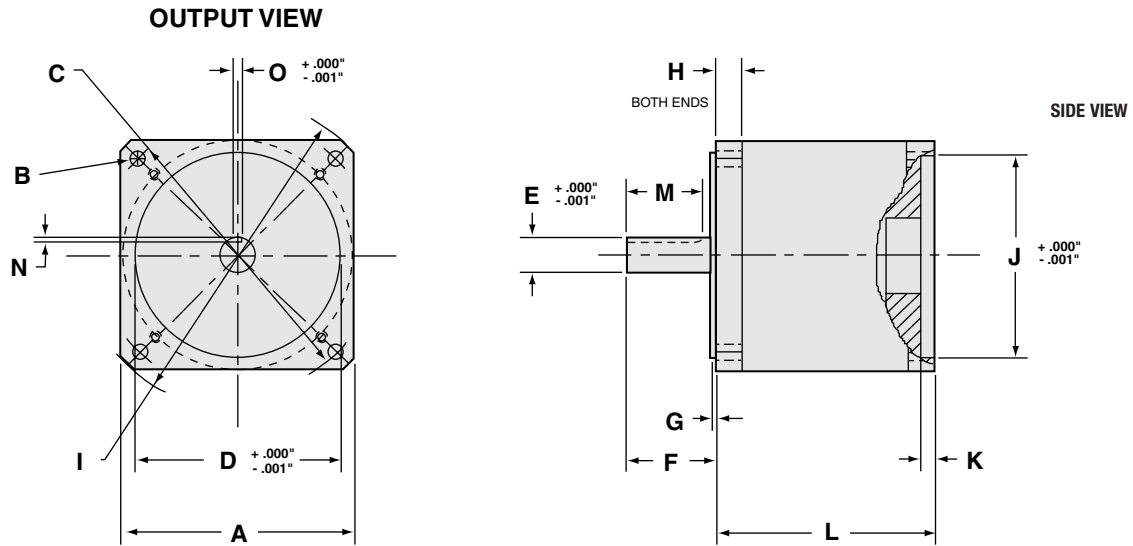
(2) Radial Loads are measured at 12.7mm (0.5in) from the gearhead mounting surface.
These ratings are based on gearhead making more than one revolution on output shaft.

Specification are subject to change without notice

NE NEMA Series

Dimensions

OUTPUT VIEW



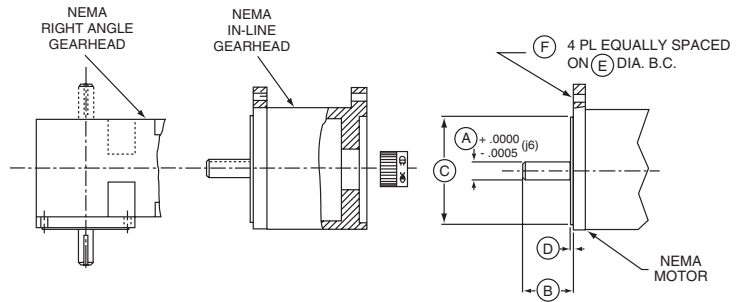
Frame Size	A Square Flange		B Bolt Hole		C Bolt Circle		D Pilot Diameter		E Output Shaft Diameter		F Output Shaft Length		G Pilot Thickness		H Flange Thickness	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
NE 23	2.27	58	0.195	5.0	2.625	66.7	1.500	38.1	0.375	9.5	1.00	25.4	0.062	1.6	0.19	5
NE 34	3.25	83	0.218	5.5	3.875	98.4	2.875	73.0	0.500	12.7	1.25	31.8	0.067	1.7	0.38	10
NE 42	4.20	107	0.281	7.1	4.950	125.7	2.187	55.5	0.625	15.9	1.50	38.1	0.093	2.4	0.50	13

Frame Size	I Housing Diameter		J Input Pilot Diameter		K Input Pilot Depth		L Housing Length		M Keyway Length		N Keyway Depth		O Keyway Width	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
NE 23	3.00	76	1.501	38.13	0.125	3.2	2.30	58	0.75 flat	19 flat	0.015 flat	0.4 flat	—	—
NE 34	4.38	111	2.876	73.05	0.200	5.1	3.00	76	1.06	27	0.072	1.8	0.124	3.15
NE 42	5.63	143	2.188	55.58	0.187	4.7	3.75	95	1.13	29	0.108	2.7	0.187	4.75



MOUNTING TO NEMA-FRAMED MOTORS: DIRECT MOUNT

Gearheads attach directly to motors with NEMA mounting dimensions (see table). Parker Bayside's clamp-on-pinion and mounting hardware are included with gearheads, so your motor can be up and running in a matter of minutes.



NEMA DIMENSIONS

Dimension	Motor Mounting Dimensions					
	NE23		NE34		NE42	
	in	(mm)	in	(mm)	in	(mm)
A Motor Shaft Diameter	0.250	(6.4)	.375/.500	(9.5/12.7)	0.625	(15.9)
B Motor Shaft Length	0.810	(20.6)	1.250	(31.8)	1.380	(35.1)
C Pilot Diameter	1.500	(38.1)	2.875	(73.0)	2.186	(55.5)
D Pilot Length	0.063	(1.6)	0.063	(1.6)	0.093	(2.4)
E Mounting Bolt Circle	2.625	(66.7)	3.875	(98.4)	4.950	(125.7)
F Bolt Hole Size	0.195	(5.0)	0.218	(5.5)	0.281	(7.1)

All dimensions are in inches (millimeters).

MOUNTING TO NON-NEMA FRAMED MOTORS: ADAPTER MOUNT

For motors with non-NEMA dimensions, Parker Bayside supplies a mounting kit including a clamp-on-pinion, adapter plate and all necessary hardware. When ordering, simply provide the part number or outline drawing of your motor, and the gearhead will be shipped ready to mount.

How to Order

1. Pick frame size and ratio.
2. Pick options.
3. Specify motor, make and model for mounting kit.

NEMA gearheads are supported by a worldwide network of offices and local distributors. Call **1-800-305-4555** for application engineering assistance or for the name of your local distributor. Information can also be obtained at www.baysidemotion.com or www.parkermotion.com

Order Numbering Example: **N E 3 4 - 0 1 0 - X X X L B**

FRAME SIZE	RATIO	SPECIAL	OPTIONAL
23	003 020	(Factory Issued)	<u>LOW BACKLASH</u>
34	005 030		
42	008 050		
	010 100		
	015		
	(all ratios are exact)		

Specifications are subject to change without notice.