

# Precision Planetary Gearheads

## TYPICAL APPLICATIONS

- Conveyor systems
- Medical pumps
- Packaging equipment
- Machine tools
- Factory automation
- Any application requiring:
  - Speed reduction
  - Torque multiplication

## FEATURES

- Fits C34 brush-type motors
- Fits BN34 brushless motors
- Precision manufactured in accordance with DIN EN ISO 9001 Standards
- Compact design
- High efficiency
- Suitable for continuous, reversing and intermittent operation
- Can be installed in any attitude
- Life-time lubricant for maintenance-free operation
- Large number of ratios available
- Wide operating temperature range

## BENEFITS

- Coaxial arrangement of input and output
- Compact design
- High efficiency
- Low moments-of-inertia
- Can be installed in any attitude
- Suitable for continuous, reversing and intermittent operation
- Low sensitivity to impact load
- Large range of ratios available

*81 mm (3.19 inch) Diameter*



### **Quiet Precision Gearheads**

Moog Components Group precision gearheads, when coupled to our line of brush-type and brushless motors, provide the user with a quiet and powerful precision gearmotor. Available in a wide range of ratios and output torques, these gearmotors will meet the requirements of a vast number of applications. Life-time lubrication ensures long life and maintenance-free operation.

Our engineering department is available for consultation to help you tailor a gearmotor for your specific application.

# Gearheads

## SPECIFICATIONS

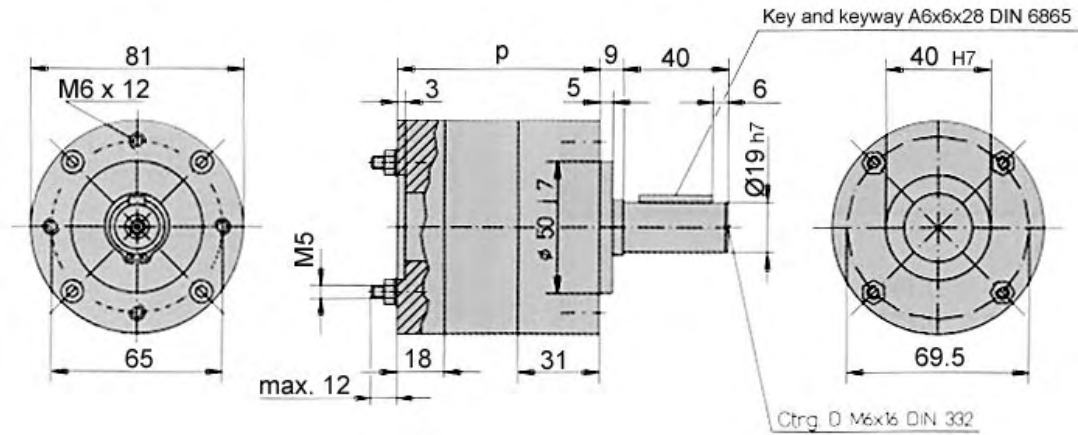
Available Ratios	# of Stages	Output Torque	Shaft Inertia (gcm <sup>2</sup> )
4:1 (3.70:1)	One	20.0 Nm (14.75 ft - lbs)	0.165
4:1 (4.28:1)	One	20.0 Nm (14.75 ft - lbs)	0.134
5:1 (5.18:1)	One	20.0 Nm (14.75 ft - lbs)	0.109
7:1 (6.75:1)	One	20.0 Nm (14.75 ft - lbs)	0.091
14:1 (13.73:1)	Two	60.0 Nm (44.25 ft - lbs)	0.155
16:1 (15.88:1)	Two	60.0 Nm (44.25 ft - lbs)	0.127
18:1 (18.36:1)	Two	60.0 Nm (44.25 ft - lbs)	0.129
19:1 (19.20:1)	Two	60.0 Nm (44.25 ft - lbs)	0.100
22:1 (22.20:1)	Two	60.0 Nm (44.25 ft - lbs)	0.105
25:1 (25.01:1)	Two	60.0 Nm (44.25 ft - lbs)	0.125
27:1 (26.85:1)	Two	60.0 Nm (44.25 ft - lbs)	0.105
29:1 (28.93:1)	Two	60.0 Nm (44.25 ft - lbs)	0.088
35:1 (34.97:1)	Two	60.0 Nm (44.25 ft - lbs)	0.089
46:1 (45.56:1)	Two	60.0 Nm (18.44 ft - lbs)	0.089
51:1 (50.89:1)	Three	120.0 Nm (88.50 ft - lbs)	0.154
59:1 (58.85:1)	Three	120.0 Nm (88.50 ft - lbs)	0.126
68:1 (68.06:1)	Three	120.0 Nm (88.50 ft - lbs)	0.127
71:1 (71.16:1)	Three	120.0 Nm (88.50 ft - lbs)	0.104
79:1 (78.71:1)	Three	120.0 Nm (88.50 ft - lbs)	0.127
93:1 (92.70:1)	Three	120.0 Nm (88.50 ft - lbs)	0.088
95:1 (95.17:1)	Three	120.0 Nm (88.50 ft - lbs)	0.104
100:1 (99.50:1)	Three	120.0 Nm (88.50 ft - lbs)	0.105
107:1 (107.20:1)	Three	120.0 Nm (88.50 ft - lbs)	0.088
115:1 (115.07:1)	Three	120.0 Nm (88.50 ft - lbs)	0.105
124:1 (123.97:1)	Three	120.0 Nm (88.50 ft - lbs)	0.088
130:1 (129.62:1)	Three	120.0 Nm (88.50 ft - lbs)	0.088
139:1 (139.13:1)	Three	120.0 Nm (88.50 ft - lbs)	0.102
150:1 (149.90:1)	Three	120.0 Nm (88.50 ft - lbs)	0.088
169:1 (168.84:1)	Three	120.0 Nm (88.50 ft - lbs)	0.089
181:1 (181.24:1)	Three	120.0 Nm (88.50 ft - lbs)	0.088
195:1 (195.26:1)	Three	120.0 Nm (88.50 ft - lbs)	0.089
236:1 (236.09:1)	Three	120.0 Nm (88.50 ft - lbs)	0.089
308:1 (307.54:1)	Three	120.0 Nm (88.50 ft - lbs)	0.089

### 81 mm Technical Data

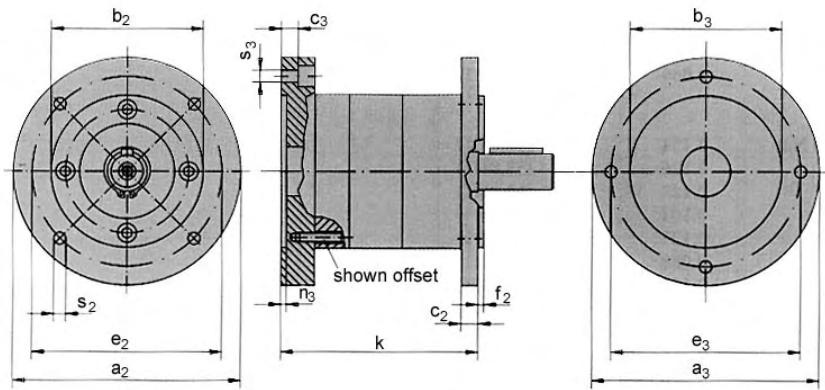
Parameter	Units	1-Stage	2-Stage	3-Stage
Max Input Speed	rpm	5000	5000	5000
Efficiency	%	80	75	70
Approx. Backlash (no-load, input locked)	DMS°	1.0	1.5	2.0
Radial Load	N	400	600	1000
Axial Load	N	80	120	200
Max Permitted Fitting Pressure	N	1500	1500	1500
Weight	kg	1.8	2.5	3.2
Dimension (diameter x length)	mm	81 x 126	81 x 148	81 x 170
Lubrication	Grease (life-time lubrication)			
Installation Attitude	Any			
Operating Temperature	-15 to +80° C			
Direction of Rotation	Same for input and output shaft			

## Package Dimensions

### Basic Version



### Standard Flange Version



Gear Unit Length P81 / SP81	1-Stage	2-Stage	3-Stage
P	77	99	121
K	104	125	147

DIM of Motor Mounting Flange		$a_3$	$b_3$	$c_3$	$e_3$	$n_3$	$s_3$
Motor size 56 (B14, B3/B14)	C 80	81	50 H7	9	65	3.0	5.3
	C 105	105	70 H7	9	85	3.0	6.3
Motor size 63 (B14, B3/B14)	C 90	90	60 H7	9	75	3.0	5.3
	C 120	120	80 H7	9	100	3.5	6.3

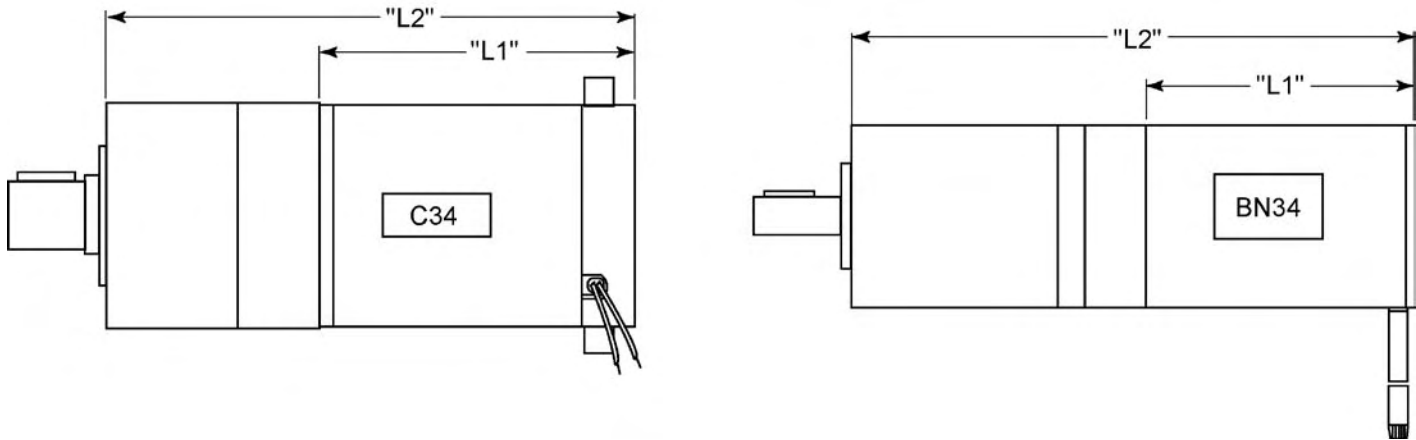
DIM of Gear Unit Output Flange		$a_2$	$b_2$	$c_2$	$e_2$	$f_2$	$s_2$
C 90		90	60 J7	9	75	2.5	M5
C 105		105	70 J7	9	85	2.5	M6
C 120		120	80 J7	9	100	3.0	6.5

We reserve the right to make technical changes.

**Note:** All dimension on this page are in millimeters.

# Gearheads

## Dimensional Drawings



## Motor + Gearhead Dimensions\*

Unit Type	L1 Max	L2 Max (1-Stage)	L2 Max (2-Stage)	L2 Max (3-Stage)
C34-L60	6.00 in (152.4 mm)	9.781 in (248.4 mm)	10.647 in (270.4 mm)	11.514 in (292.5 mm)
C34-L70	7.00 in (177.8 mm)	10.781 in (273.8 mm)	11.647 in (295.8 mm)	12.514 in (317.9 mm)
C34-L80	8.00 in (203.2 mm)	11.781 in (299.2 mm)	12.647 in (321.2 mm)	13.514 in (343.3 mm)
BN34-25	2.50 in (63.5 mm)	6.281 in (159.5 mm)	7.147 in (181.5 mm)	8.014 in (203.6 mm)
BN34-35	3.50 in (88.9 mm)	7.281 in (184.9 mm)	8.147 in (213.8 mm)	9.014 in (229 mm)
BN34-45	4.50 in (114.3 mm)	8.281 in (210.3 mm)	9.147 in (232.3 mm)	10.014 in (254.4 mm)
BN34-55	5.50 in (139.7 mm)	9.281 in (235.7 mm)	10.147 in (257.7mm)	11.014 in (279.8 mm)

\*All dimensions are reference dimensions

## Ordering Information - Examples

81-46:1 – 81 mm gearhead, 46:1 ratio  
 81-308:1 – 81 mm gearhead, 308:1 ratio