

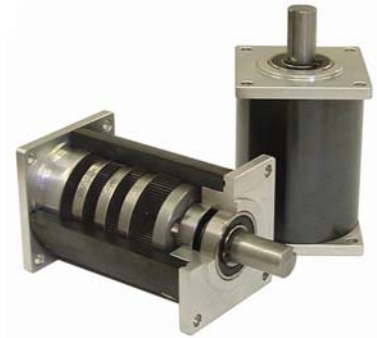
Industrial planetary gearheads

IP57 series

The IP57 gear box is designed to provide long life in industrial automation, industrial, scientific and process control applications that require repetitive cycling featuring high dynamics, accurate velocity or positional control. Advanced manufacturing techniques, combined with a design focused on the needs of state of the art motion control has resulted in a combination of optimised performance characteristics combined with economic prices.

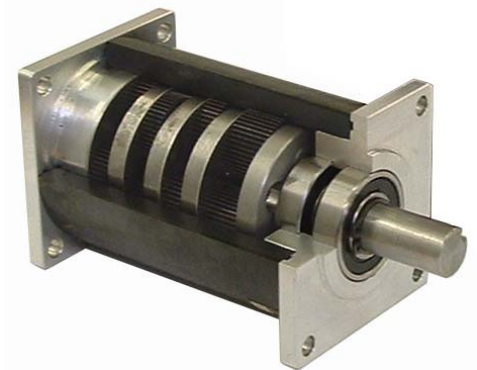
Key features

- Planetary construction for high torque and compact dimensions
- NEMA23 frame size, IP43 for NEMA17 and IP86 for NEMA35 are also available.
- Suitable for use with both servo and stepper motors
- Wide range of standard ratios with additional options also available
- Exact gear ratios simplify calibration in positional control systems
- mounting kit options to fit most motors
- Standard options available from stock



Construction

The IP57 is based on an all metal planetary design for high strength. The materials and the treatment processes employed have been carefully selected to achieve high strength and long life. The output shaft / carrier assembly is machined from solid for optimum strength and torsional rigidity. The IP57 may be constructed with up to 4 stages to provide a gear ratio of up to 10,000:1. Unlike some multi-stage designs this is achieved using a single part annular to improve unit sealing and torsional stiffness. Each gear stage may be provided with a number of alternative ratios. IP57 series gearheads utilise precision gears to provide a controlled backlash and are therefore ideal for use in positioning systems. The design is based on the use of exact gear ratios to make the calibration of digital positioning systems easier.



Gear ratios

The IP57 design enables a wide range of gear ratios to be selected.

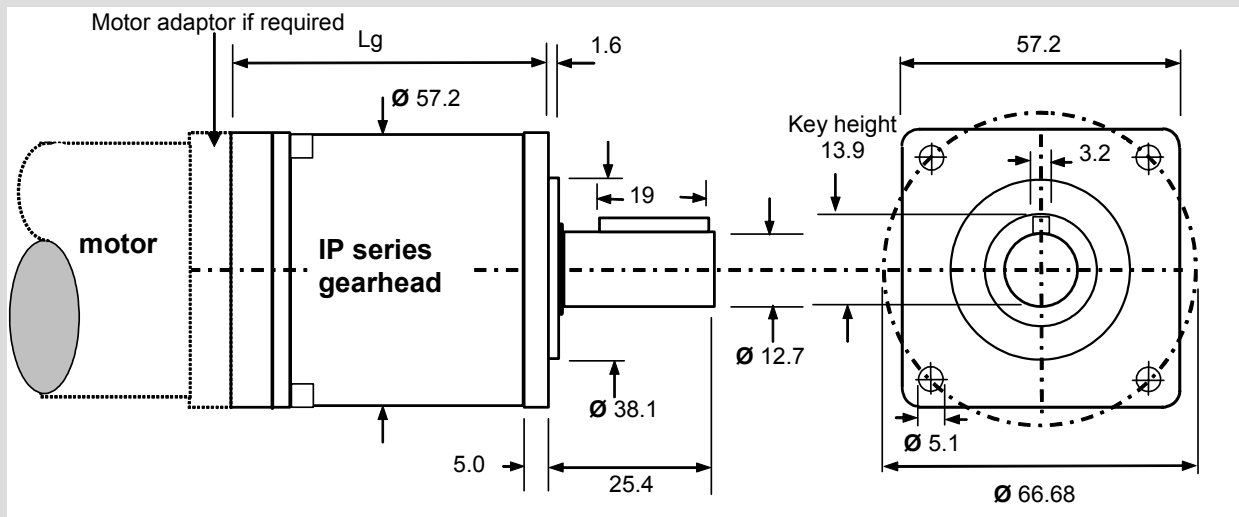
- Standard ratios are usually available from stock
- Semi-standard units are built to order but carry a price premium for small quantities.
- Special ratios may be engineered to meet customer's special projects, typically within a 12 week timescale

Gear ratios options

| Single stage units | 2 stage units | 3 stage units |
|--------------------|---------------|---------------|
| | ● 9:1 | ○ 36:1 |
| ● 3:1 | ○ 12:1 | ● 45:1 |
| ○ 4:1 | ● 15:1 | ○ 60:1 |
| ■ 5:1 | ○ 16:1 | ● 75:1 |
| ○ 7:1 | ○ 20:1 | ○ 80:1 |
| ■ 10:1 | ■ 25:1 | ● 90:1 |
| | ● 30:1 | ● 125:1 |
| | ○ 40:1 | ● 150:1 |
| | ■ 50:1 | ■ 250:1 |
| | ○ 70:1 | ● 300:1 |
| | ■ 100:1 | ○ 400:1 |
| | | ■ 500:1 |
| | | ○ 700:1 |
| | | ■ 1000:1 |

Dimensions: mm

IP57 series

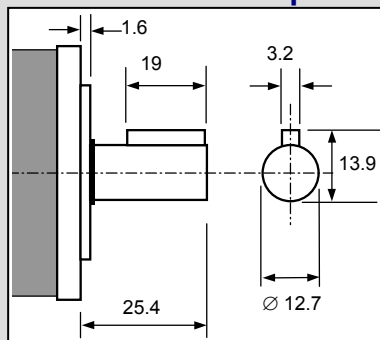


IP57 Gearhead length (Lg) : mm

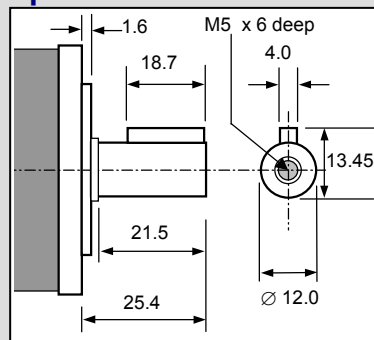
| Single stage units | | 2 stage units | | 3 stage units | |
|--------------------|----|---------------|----|---------------|----|
| ● 3:1 B | 54 | ● 9:1 B | 66 | ○ 36:1 B | 79 |
| ○ 4:1 B | 54 | ○ 12:1 B | 66 | ● 45:1 B | 79 |
| ■ 5:1 A | 54 | ● 15:1 B | 66 | ○ 60:1 B | 79 |
| ○ 7:1 A | 68 | ○ 16:1 B | 66 | ● 75:1 B | 79 |
| ■ 10:1 A | 68 | ○ 20:1 B | 66 | ○ 80:1 B | 79 |
| | | ■ 25:1 A | 66 | ● 90:1 B | 93 |
| | | ● 30:1 B | 80 | ● 125:1 A | 79 |
| | | ○ 40:1 B | 80 | ● 150:1 A | 93 |
| | | ■ 50:1 A | 80 | ■ 250:1 A | 93 |
| | | ○ 70:1 A | 80 | ● 300:1 B | 93 |
| | | ■ 100:1 A | 80 | ○ 400:1 B | 93 |
| | | | | ■ 500:1 A | 93 |
| | | | | ○ 700:1 A | 93 |
| | | | | ■ 1000:1 A | 93 |

Also see preferred shaft options for above ratios:

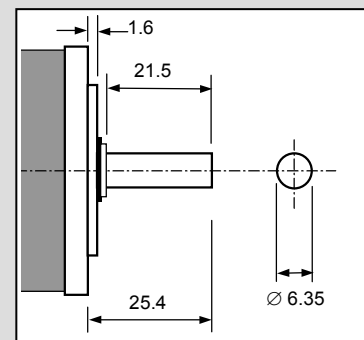
IP57 Gearhead output shaft options:



Standard shaft 'type A'
(Available from stock)



Semi-standard shaft 'type B'
(Special order only)

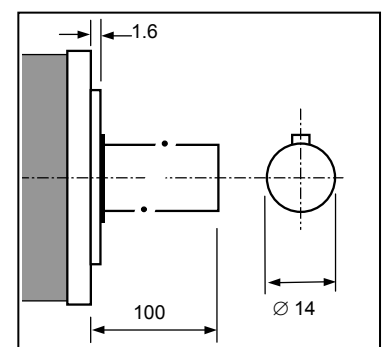


Semi-standard shaft 'type C'
(Special Order only)

Note: The preferred shaft options for each gear ratio are shown in the table above. When using the type 'C' shaft the maximum torque capacity of the gearhead is limited to 4 Nm

Special shafts

Special shafts can be provided to meet customer special requirements
The limiting values that may be specified are shown in the drawing



Specification

IP57 series

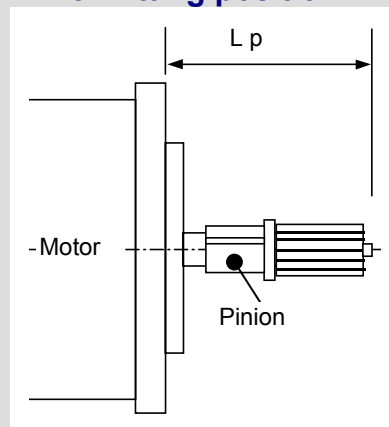
| Gearhead | Number of stages | Gear ratio (i:1) | Maximum Continuous Torque (Nm) | Max. Peak Torque (Nm) | Typical Backlash (arc min.) | Efficiency | Typical Inertia @ input (Kgcm ²) | Mass (Kg) |
|----------|------------------|------------------|--------------------------------|-----------------------|-----------------------------|------------|----------------------------------------------|-----------|
| IP57-M01 | 1 | 5 | 6 | 12 | 20 | 92% | 0.027 | 0.7 |
| | | 10 | 5.4 | 10.5 | | | 0.018 | |
| IP57-M02 | 2 | 25 | 15 | 24 | 30 | 84% | 0.024 | 0.9 |
| | | 50 | | | | | 13.5 | |
| | | 100 | 0.017 | | | | | |
| IP57-M03 | 3 | 125 | 20 | 40 | 40 | 78% | 0.024 | 1.1 |
| | | 250 | | | | | 0.017 | |
| | | 500 | | | | | 0.017 | |
| | | 1000 | | | | | 0.017 | |
| | | 10,000 | | | | | 0.017 | |

Note: Maximum Torque ratings apply for Shaft options A & B
Maximum Torque capacity of Shaft Option C = 3 Nm

General Specification

| | |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Maximum Shaft Radial Load | 500 N @ 12 mm from gearhead mounting face for shaft options A & B 80 N @ 12 mm from gearhead mounting face for shaft option C |
| Maximum Shaft Axial Load | 490 N |
| Maximum Recommended input speed | 5000 rpm |
| Output Bearing type | Ball Bearings |
| Operating Temperature range | -40 to + 65 Degree C |
| Typical Input Friction @ motor | ≤ 0.05 Nm |

Pinion fitting position



| Gearhead Ratio | Dimension 'Lp' | |
|----------------|--------------------------------|-----------------------------|
| | Motor shaft diameter ≤ 6.35 mm | Motor shaft diameter ≤ 8 mm |
| 5:1 | 28.25 / 28.35 mm | 41.95 / 42.05 mm |
| 10:1 | 41.95 / 42.05 mm | |
| 25:1 | 22.35 / 22.45 mm | 36.05 / 36.15 mm |
| 50:1 | 36.05 / 36.15 mm | |
| 100:1 | | |
| 250:1 | | |
| 500:1 | | |
| 1000:1 | | |

Note: standard pinion fitted to motor shaft using Loctite 638 adhesive.

How to Order

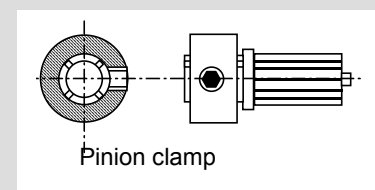
Typical Part Number: **IP57** - **M** **01** - **5** - **A**

↑ ↑ ↑ ↑ ↑
 Ø 57 mm Planetary Gearhead Motor mounting Number of stages Ratio Output shaft option

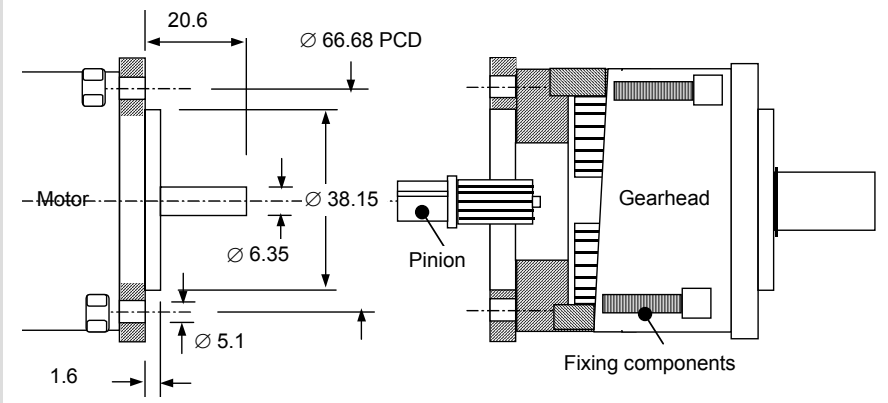
Pinion clamp for 6 & 6.35 mm bore pinions: 400MAX00024
Pinion clamp for 8 mm bore pinions: 400MAX00025

Optional Pinion clamp

An optional pinion clamp may be ordered separately. This enables the pinion to be clamped in position using an Alan key supplied with the clamp kit.

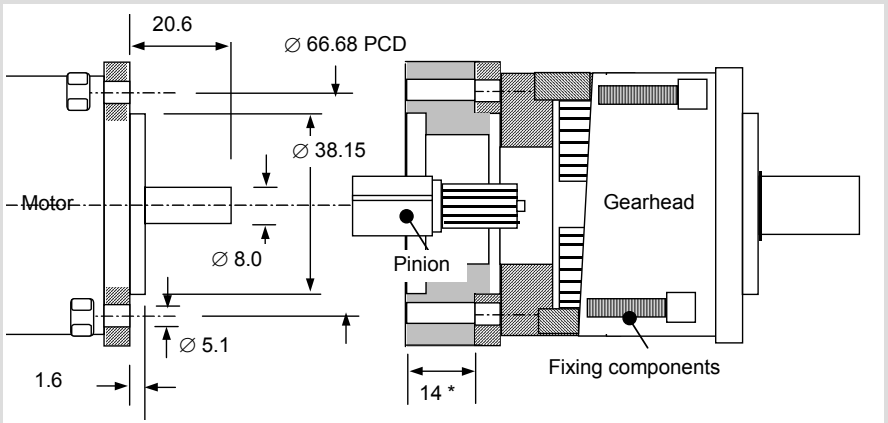


Standard NEMA23 Motor mounting kit for motors with 6.35 mm diameter shaft



| Gearhead | | Fitting Kit | |
|-----------------|---|-------------|-------------|
| IP57-M01- 5 B | } | 400MAX00001 | |
| IP57-M01- 10 B | | 400MAX00002 | |
| IP57-M02- 25 B | } | 400MAX00003 | |
| IP57-M02- 50 B | | } | 400MAX00004 |
| IP57-M02- 100 B | | | |
| IP57-M03- 250 B | } | 400MAX00004 | |
| IP57-M03- 500 B | | | |
| IP57-M03-1000 B | | | |

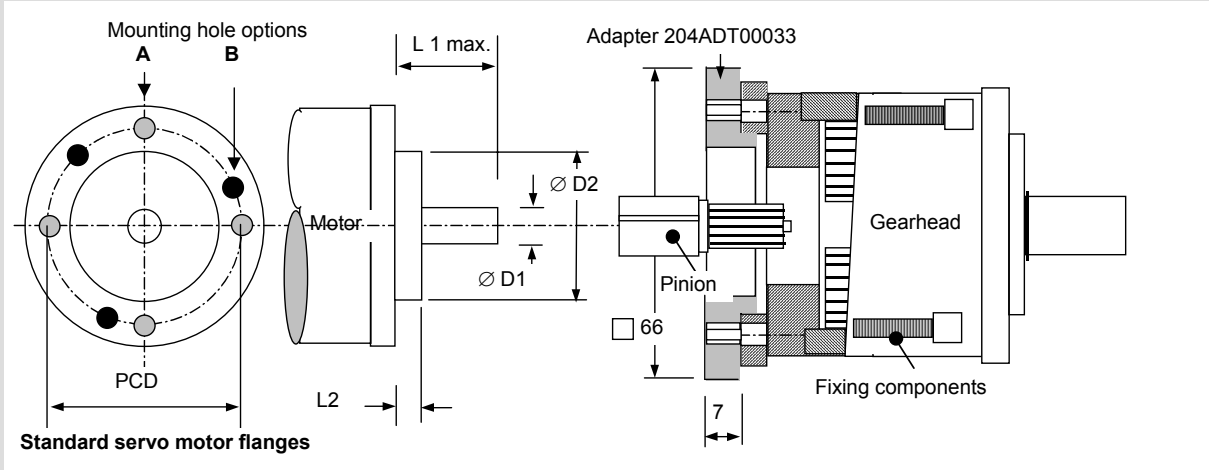
Standard NEMA23 Motor mounting kit for motors with 8.0 mm diameter shaft



| Gearhead | | Fitting Kit | |
|------------------|---|-------------|-------------|
| IP57-M01- 5 B * | } | 400MAX00017 | |
| IP57-M01- 10 B | | 400MAX00018 | |
| IP57-M02- 25 B * | } | 400MAX00019 | |
| IP57-M02- 50 B | | } | 400MAX00020 |
| IP57-M02- 100 B | | | |
| IP57-M03- 250 B | } | 400MAX00020 | |
| IP57-M03- 500 B | | | |
| IP57-M03-1000 B | | | |

Note * Gearhead assembly length increased by 14 mm on 5: & 25:1 ratios

Motor mounting kits for motors with round flange and face mounting



| Motor Details | Shaft diameter | Ø D1 | 6 mm | 6 mm | 8 mm |
|---------------|---------------------------|------|---------------------|-------------|-------------|
| | Max shaft length | L1 | 25 mm | 25 mm | 25 mm |
| | Bearing register | Ø D2 | 28 mm | 25 mm | 25 mm |
| | Max register length | L2 | 8.8 mm | 3 mm | 3 mm |
| | Mounting holes | | 3 x M4 | 4 x M5 max | 4 x M5 max |
| | Mounting hole | PCD | 50 mm | 38.89 mm | 38.89 mm |
| | Standard Gearheads | | Fitting kits | | |
| | IP57-M01- 5 B | } | 400MAX00005 | 400MAX00009 | 400MAX00013 |
| | IP57-M01- 10 B | | 400MAX00006 | 400MAX00010 | 400MAX00014 |
| | IP57-M02- 25 B | | 400MAX00007 | 400MAX00011 | 400MAX00015 |
| | IP57-M02- 50 B to | | 400MAX00008 | 400MAX00012 | 400MAX00016 |
| | IP57-M03-1000 B | | | | |
| | Special Fitting Tools | | None | 204MSC00002 | 204MSC00008 |

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [mclennan](#) manufacturer:

Other Similar products are found below :

[1271-12-188](#) [M66CE-24](#) [MSE570 EVO 2](#) [1308-24-510](#)