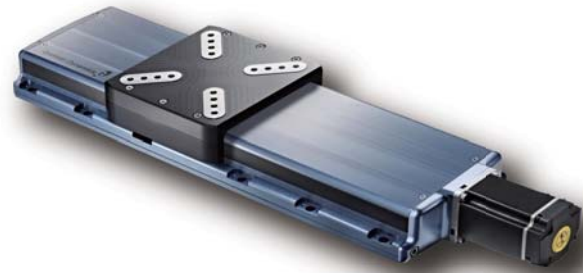


Key Features

- Width 190 mm
- Travels 100 to 1200 mm
- High Load Capacity 80 kg, 800 N
- Speed 500 mm/s
- Side Cover To Protect Against Particles
- High Resolution Multi-turn Encoder
 - Absolute or Incremental
 - 1024, 2048 & 2500 per Rev. 1Vpp and TTL



G190-B/5 LINEAR POSITIONING STAGE

POSITIONING LINEAR STAGE

Introducing the G190-B/5, the latest high-precision linear stage from Gorman Dynamics.

This linear stage is designed to withstand even the most demanding industrial conditions, making it ideal for use in a variety of industries. Its high stiffness and use of high-quality components, such as high-precision ball-screw, heavy-duty recirculating ball bearing guides, and motor fitted with high resolution multi-turn absolute rotary encoders, sets it apart from the competition.

The G190-B/5 series stages are optimized with high-precision, high precision ball-screws that are protected from debris by the stage sealing system. Precision recirculating linear bearings, along with machining and assembly, enable excellent geometric performance specifications.

At Gorman Dynamics, we pride ourselves on delivering high-quality, reliable solutions for our clients.

The G190-B/5 is no exception, offering unparalleled precision, durability, and safety for a wide range of industrial applications.

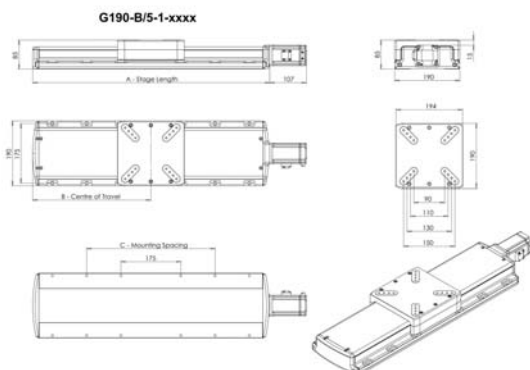
APPLICATIONS FOR LINEAR STAGES

Precision linear stages are crucial in various applications requiring exceptional accuracy and precision.

They are extensively used across industries such as laser cutting, scanning, digital printing, and electronics assembly and inspection.

These stages are indispensable for tasks like Automatic Optical Inspection (AOI) and laser micro-machining, where ultra-precision and precise scan motion are required. In the realm of medical and scientific equipment, precision linear stages are crucial for ensuring accuracy and repeatability.

Across various industries and applications, the implementation of precision linear stages is essential for achieving desired outcomes and delivering top-quality output.



Specifications

| Motion | Unit | G190-B/5-100 | G190-B/5-150 | G190-B/5-200 | G190-B/5-300 | Tolerance |
|---------------------------------|------------------|--------------|--------------|--------------|--------------|-----------|
| Travel range | mm | 100 | 150 | 200 | 300 | - |
| Position Accuracy, Uncalibrated | µm | ±6 | ±6 | ±8 | ±10 | Typ. |
| Position Accuracy, Calibrated | µm | ±1.5 | ±1.5 | ±1.5 | ±2.5 | Max. |
| Resolution System | µm | 0.05 | 0.05 | 0.05 | 0.05 | Typ. |
| Bi-directional Repeatability | µm | ±0.1 ~ ±0.5 | ±0.1 ~ ±0.5 | ±0.1 ~ ±0.5 | ±0.1 ~ ±0.5 | Typ. |
| Flatness / Straightness | µm | ±2 | ±2.5 | ±3 | ±3.5 | Max. |
| Yaw, Pitch & Roll | µad | ±14 | ±14 | ±19 | ±23 | Max. |
| Maximum Velocity, No Load | mm/s | 500 | 500 | 500 | 500 | Max. |
| Maximum Acceleration | m/s ² | - | - | - | - | Max. |

Mechanical Properties

| | | | | | | |
|----------------------------------|--------------------|----|------|------|------|------|
| Guide Type | Ball Bearing Guide | | | | | |
| Load Capacity | kg | 80 | 80 | 80 | 80 | Max. |
| Push / Pull Force Capacity | N | - | - | - | - | Max. |
| Permissible Torque in θ_x | Nm | - | - | - | - | Max. |
| Permissible Torque in θ_y | Nm | - | - | - | - | Max. |
| Permissible Torque in θ_z | Nm | - | - | - | - | Max. |
| Stage Weight | kg | 11 | 11.9 | 12.8 | 14.6 | ±5 % |

G190 Series - Motor and Encoder Options G190-B/5-xxx-E?-B?

E1 - High resolution multi-turn absolute encoder

E2 - 1024 line incremental encoder

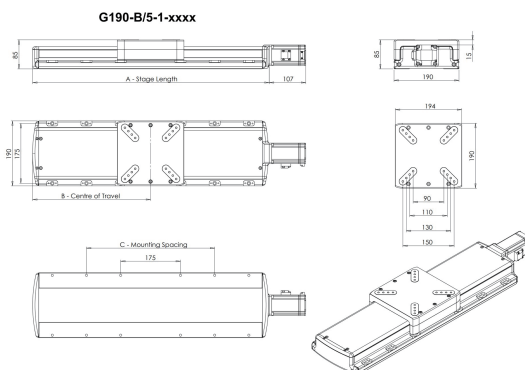
E3 - 2048 line incremental encoder

E4 - 2500 line incremental encoder

B0 - No Brake

B1 - With Brake

| Product Dimensions (mm) | Travel | Hard Stop | A | B | C |
|-------------------------|--------|-----------|-----|-----|--------------------|
| G190-B/5-100 | 100 | 116 | 392 | 197 | 175, 275 |
| G190-B/5-150 | 150 | 166 | 442 | 222 | 175, 275 |
| G190-B/5-200 | 200 | 216 | 492 | 247 | 175, 275 |
| G190-B/5-300 | 300 | 316 | 592 | 297 | 175, 275 |
| G190-B/5-400 | 400 | 416 | 692 | 347 | 175, 275, 575 |
| G190-B/5-500 | 500 | 516 | 792 | 397 | 175, 275, 575 |
| G190-B/5-600 | 600 | 616 | 892 | 447 | 175, 275, 575, 775 |



Specifications

| Motion | Unit | G190-B/5-400 | G190-B/5-500 | G190-B/5-600 | Tolerance |
|---------------------------------|------------------|--------------|--------------|--------------|-----------|
| Travel range | mm | 400 | 500 | 600 | - |
| Position Accuracy, Uncalibrated | µm | ±12 | ±13 | ±15 | Typ. |
| Position Accuracy, Calibrated | µm | ±2.5 | ±3.0 | ±3.0 | Max. |
| Resolution System | µm | 0.05 | 0.05 | 0.05 | Typ. |
| Bi-directional Repeatability | µm | ±0.1 ~ ±0.5 | ±0.1 ~ ±0.5 | ±0.1 ~ ±0.5 | Typ. |
| Flatness / Straightness | µm | ±4.5 | ±5.5 | ±6.5 | Max. |
| Yaw, Pitch & Roll | µad | ±29 | ±32 | ±38 | Max. |
| Maximum Velocity, No Load | mm/s | 500 | 500 | 500 | Max. |
| Maximum Acceleration | m/s ² | - | - | - | Max. |

Mechanical Properties

| | | | | | |
|----------------------------------|--------------------|------|------|----|------|
| Guide Type | Ball Bearing Guide | | - | - | |
| Load Capacity | kg | 80 | 80 | 80 | Max. |
| Push / Pull Force Capacity | N | - | - | - | Max. |
| Permissible Torque in θ_x | Nm | - | - | - | Max. |
| Permissible Torque in θ_y | Nm | - | - | - | Max. |
| Permissible Torque in θ_z | Nm | - | - | - | Max. |
| Stage Weight | kg | 16.4 | 18.2 | 20 | ±5 % |

G190 Series - Motor and Encoder Options G190-B/5-xxx-E?-B?

E1 - High resolution multi-turn absolute encoder

E2 - 1024 line incremental encoder

E3 - 2048 line incremental encoder

E4 - 2500 line incremental encoder

B0 - No Brake

B1 - With Brake

| Product Dimensions (mm) | Travel | Hard Stop | A | B | C |
|-------------------------|--------|-----------|-----|-----|--------------------|
| G190-B/5-100 | 100 | 116 | 392 | 197 | 175, 275 |
| G190-B/5-150 | 150 | 166 | 442 | 222 | 175, 275 |
| G190-B/5-200 | 200 | 216 | 492 | 247 | 175, 275 |
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| G190-B/5-600 | 600 | 616 | 892 | 447 | 175, 275, 575, 775 |

