

Key Features

- Width 165 mm
- Travels 100 to 400 mm
- High Load Capacity 45 kg, 450 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



G165-B/5 LINEAR POSITIONING STAGE

POSITIONING LINEAR STAGE

Introducing the G165-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 G165-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 G165-B/5 is no exception, offering unparalleled precision, durability, and safety for a wide range of industrial applications.

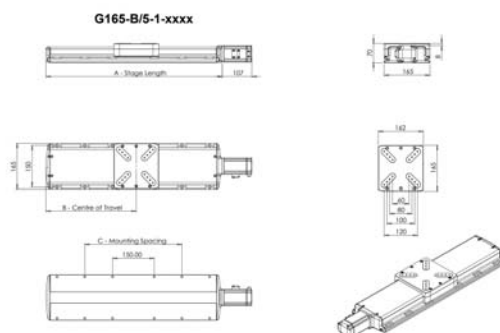
APPLICATIONS FOR LINEAR STAGES

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	G165-B/5-100	G165-B/5-150	G165-B/5-200	G165-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	±1.75	±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	±2.5	±3	±4	±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/s²	-	-	-	-	Max.

Mechanical Properties

Guide Type		Ball Bearing Guide	-	-	-	
Load Capacity	kg	45	45	45	45	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	6.3	6.8	7.3	8.3	±5 %

G165 Series - Motor and Encoder Options G165-B/5-xxx-E?-B?

E1 - High resolution multi-turn absolute encoder

E2 - 1024 line incremental encoder

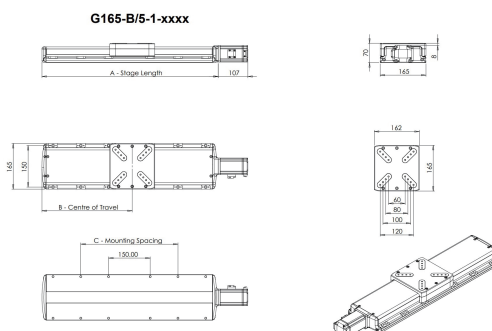
E3 - 2048 line incremental encoder

E4 - 2500 line incremental encoder

B0 - No Brake

B1 - With Brake

Product Dimensions (mm)	Travel	Hard Stop	A	B	C
G165-B/5-100	100	116	335	165	150
G165-B/5-150	150	166	385	190	150
G165-B/5-200	200	216	435	215	150, 350
G165-B/5-300	300	316	535	265	150, 350
G165-B/5-400	400	416	635	315	150, 350, 550



Specifications

Motion	Unit	G165-B/5-400	Tolerance
Travel range	mm	400	-
Position Accuracy, Uncalibrated	µm	±12	Typ.
Position Accuracy, Calibrated	µm	±3	Max.
Resolution System	µm	0.05	Typ.
Bi-directional Repeatability	µm	±0.1 ~ ±0.5	Typ.
Flatness / Straightness	µm	±6	Max.
Yaw, Pitch & Roll	µad	±29	Max.
Maximum Velocity, No Load	mm/s	500	Max.
Maximum Acceleration	m/s ²	-	Max.

Mechanical Properties

Guide Type Ball Bearing Guide

Load Capacity	kg	45	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	9.3	±5 %

G165 Series - Motor and Encoder Options G165-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
G115-B/5-100	100	116	335	165	150
G115-B/5-150	150	166	385	190	150
G115-B/5-200	200	216	435	215	150, 350
G115-B/5-300	300	316	535	265	150, 350
G115-B/5-400	400	416	635	315	150, 350, 550

