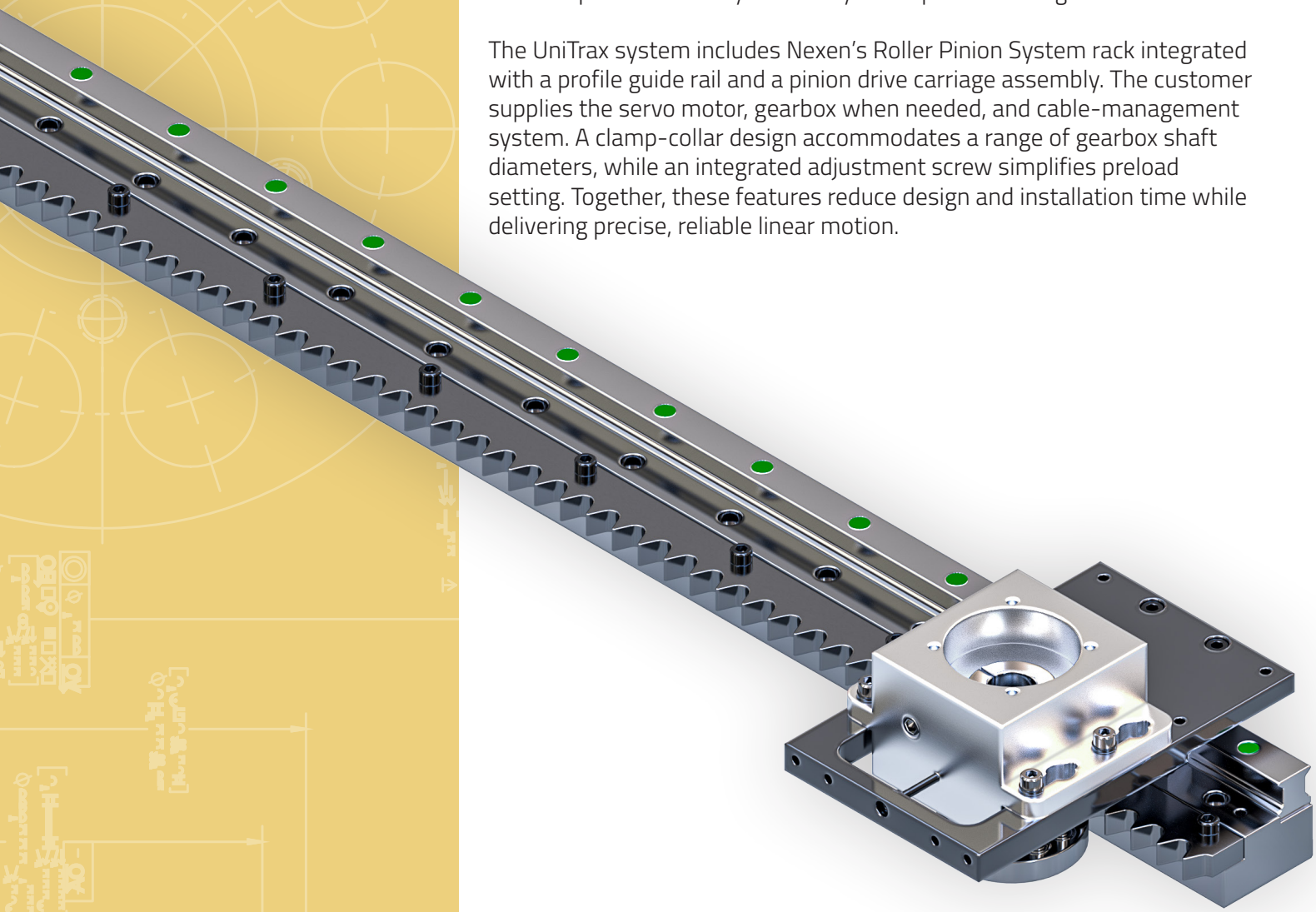
UniTrax Motor-Ready Linear Axis

Utilizing Nexen Group's industry-tested Roller Pinion System, the new prepackaged UniTrax Motor-Ready Linear Axis delivers high thrust forces and exceptional accuracy in an easy-to-implement design.

The UniTrax system includes Nexen's Roller Pinion System rack integrated with a profile guide rail and a pinion drive carriage assembly. The customer supplies the servo motor, gearbox when needed, and cable-management system. A clamp-collar design accommodates a range of gearbox shaft diameters, while an integrated adjustment screw simplifies preload setting. Together, these features reduce design and installation time while delivering precise, reliable linear motion.



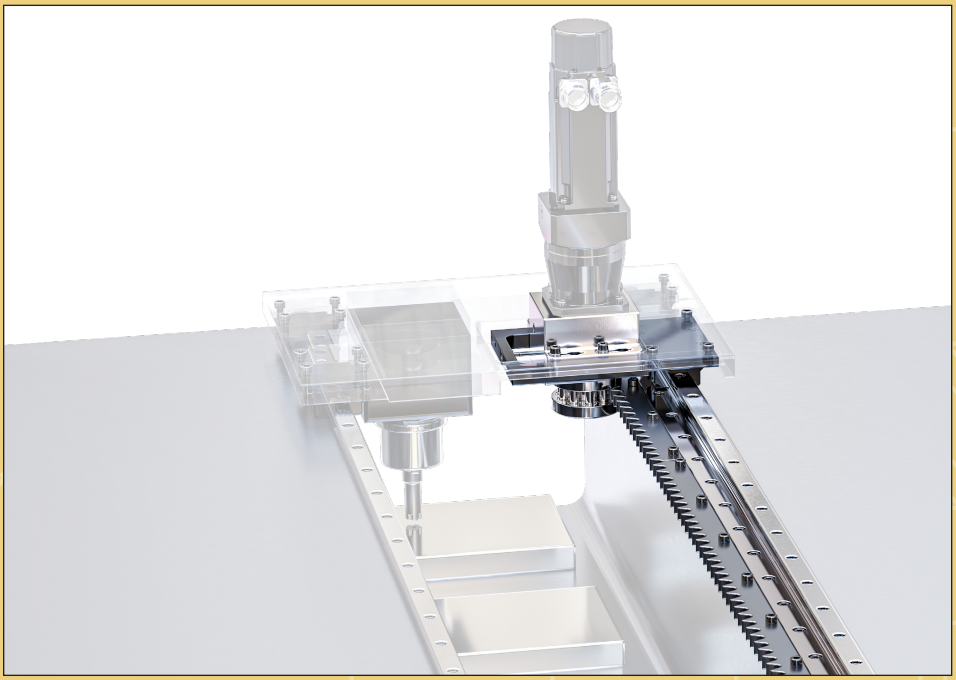
Key Features

- Integrated rack and rail
- Zero backlash
- Positional accuracy up to ±80 µm
- Repeatability of ±20 µm
- Maximum speed of 4 m/s
- Corrosion-resistant construction
- High-capacity bearing blocks
- High thrust capacity for a variety of applications
- Lubrication-free operation for speeds up to 1m/s
- Use as standalone axis or configured with an additional carriage plate

Reliability, Accuracy, and Zero Backlash

When an application demands repeatable positioning accuracy, UniTrax provides machine builders and system integrators with a streamlined linear motion solution backed by Nexen engineering and product quality.

Top-Mount Configuration



Applications

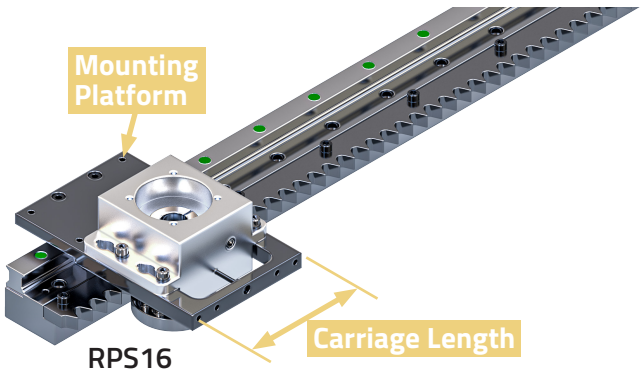
- Cartesian robots
- Dirty and corrosive environments
- Custom drilling equipment
- Angular cutting machines
- Food processing
- Gantry routers
- Nondestructive testing equipment
- Measurement systems
- Multihead system on a common axis
- Plasma and laser cutting
- Vacuum environments
- Welding equipment
- Woodworking

The top-mount rack configuration is ideal for mounting on a flat surface, allowing for versatility in machine design. The gearhead and motor are mounted on top of the drive station allowing for easier access for maintenance. Standard actuator lengths: 1 and 1.5 meter. Please contact Nexen if a different length is required for your application.

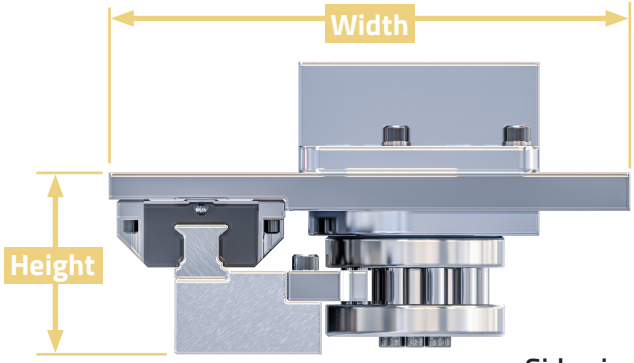
	Accuracy (± µm)	Repeatability (± µm)	Backlash (µm)	Max. Speed (m/s)	Max Travel Length (mm)	Thrust Capacity (N)			Lubrication Free Operation	Temp. Range	Noise Level
						Acceleration	Average **	Static			
RPS16	100 (Single Bearing), 80 (Fully Supported*)	20	0	4	874 or 1319.5	1500	1000	2000	Yes up to 1m/s	-5 to 40°C	up to 75 dB (Speed Dependent)

**Fully Supported requires an additional rail to be added parallel to the UniTrax with two bearing blocks on it and an additional bearing block added to the UniTrax. The UniTrax comes with a single bearing. Please see installation manual for more details.*

*** "Average Thrust Capacity (N)" is the continuous thrust the system can generate without reducing its maximum design life.*



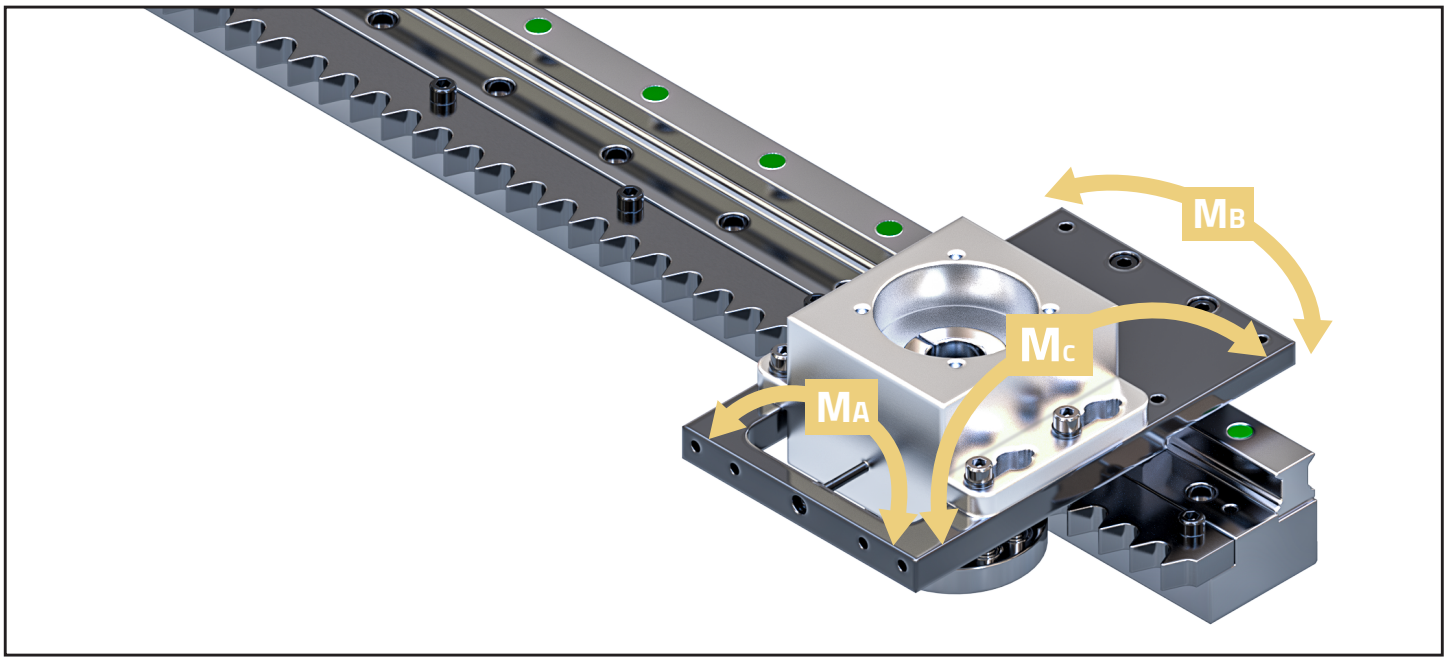
RPS16

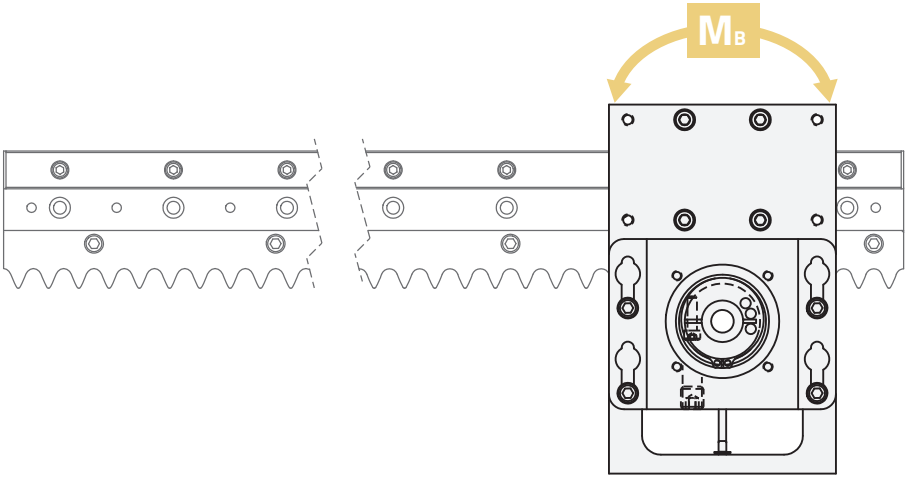


Side view

	Overall Height (without Gearhead)	Overall Width	Drive Carriage Length	Mounting Platform Bolt Pattern
RPS16	110 mm	195 mm	120 mm	M6, 53 X 100 mm

Applied Load



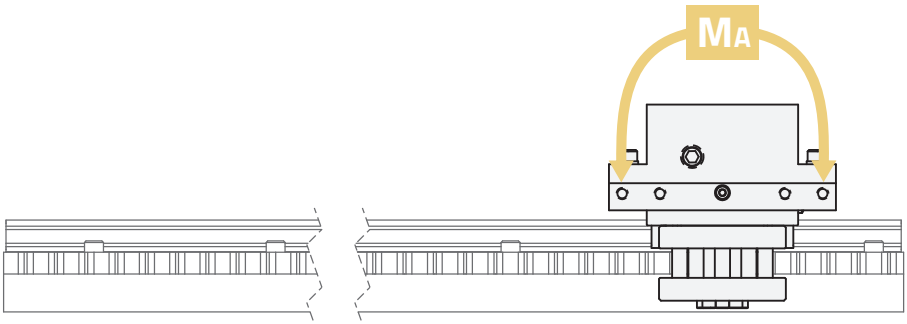


Moment in the yawing direction

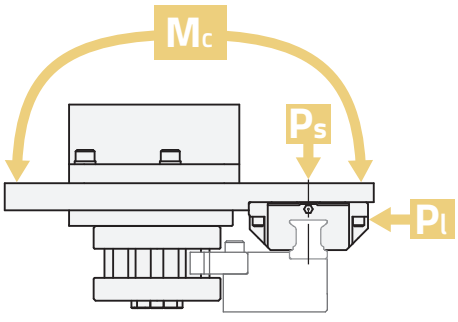
Calculation for Bidirectional Equivalent Loads

UniTrax utilizes a profile rail to support the applied load. The profile rail can accept loads in several directions simultaneously. The equivalent load (Pe) can be calculated using the equation below. This equivalent load can be used to ensure the applied load is within the rating of the profile rail bearing.

$$Pe = Ps + Pl$$



Moment in the pitching direction



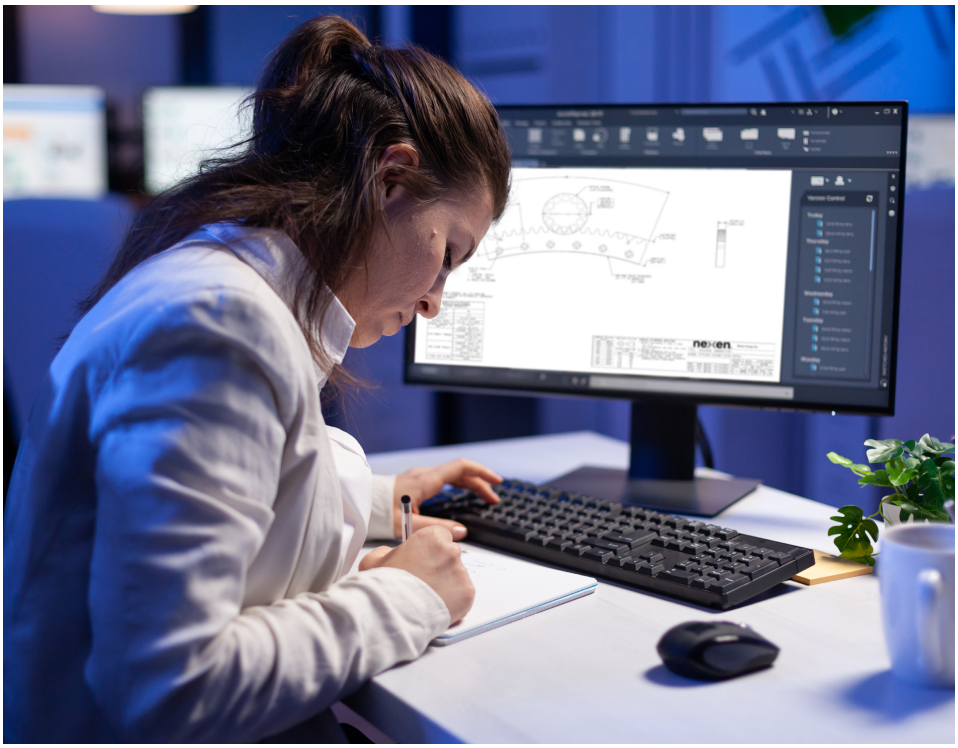
Moment in the rolling direction

	Profile Rail Size	Dynamic - C (N)	Static - CO (N)	M_A - Pitch (Nm)	M_B - Yaw (Nm)	M_C - Roll (Nm)
RPS16	20 mm	23,700	30,510	280	280	370

Engineering Support

Nexen Group engineers and manufactures precision motion control for OEM machine designers, system integrators, and maintenance personnel, keeping equipment running trouble-free in the harshest environments.

Contact Nexen Group to see how our engineers can help design the must-have motion control products for your next project.



- CE
- RoHS
- REACH
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