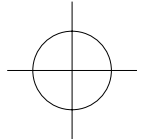


ECLIPSE[™] PRODUCTS

User Manual



Eclipse Linear Motion Brake

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

In accordance with Nexen's established policy of constant product improvement, the specifications contained in this manual are subject to change without notice. Technical data listed in this manual are based on the latest information available at the time of printing and are also subject to change without notice.

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ISO 9001 Certified



DANGER

Read this manual carefully before installation and operation.

Follow Nexen's instructions and integrate this unit into your system with care.

This unit should be installed, operated and maintained by qualified personnel ONLY.

Improper installation can damage your system or cause injury or death.

Comply with all applicable codes.

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Product Overview

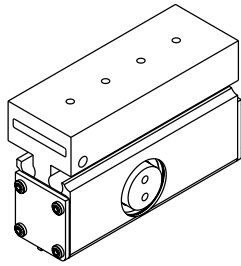
The Nexen Linear Brake is a braking system designed for holding and E-stop applications of linear stages, especially for linear motors and other linear motion devices. This Linear Brake is well suited for applications such as:

- pick-and-place robots
- vertical holding systems
- systems requiring E-stops
- linear motors
- ball screw drives
- belt drives

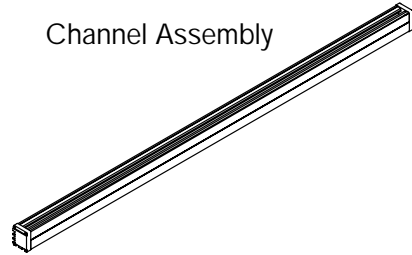
Hardware Overview

Nexen's Linear Brake has two main components: the Channel assembly and the Brake-Head assembly. The Channel assembly mounts to the Stage Base and serves as the outer housing of the Linear Brake. The Channel assembly controls the linear movement of the Brake-Head and supplies the braking surface for the Brake-Head. The Brake-Head mounts to the Motor Stage, and a spring inside the Brake-Head applies outward braking force against the inside surfaces of the Channel assembly. When an appropriate amount of air is applied, the brake will disengage.

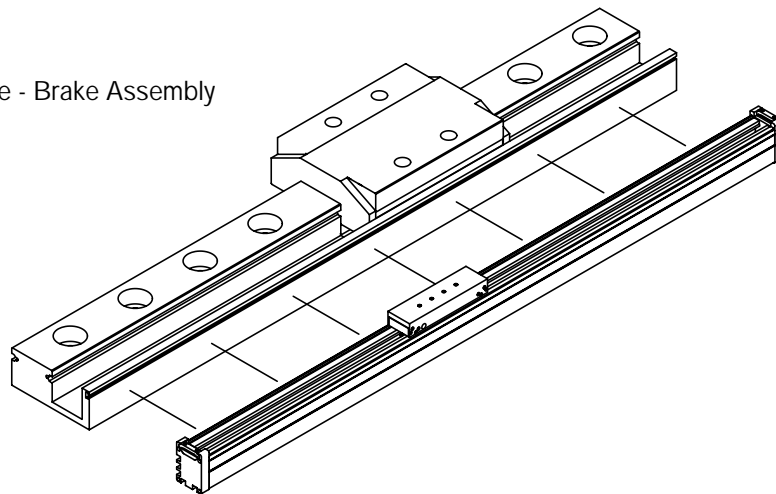
Brake-Head Assembly



Channel Assembly



Stage - Brake Assembly



INSTALLATION

INSTALLATION OF CHANNEL

NOTE: Refer to Figure 1.

- Carefully measure and position the Channel (Item 1) for mounting to the Stage Base. The brake channel is extremely versatile, permitting a variety of possible mounting configurations.

NOTE: When designing your specific Channel mounting configuration, first consider how the Brake-Head will be mounted to the Motor Stage. The Brake-Head, Channel, and Motor Stage must work together without interference.

- Space the supplied M5 T-slot nuts (Item 5) at a minimum of 15 cm (6 in) apart. Using the supplied M5 T-slot nuts (Item 5) and customer supplied M5 fasteners, carefully position and install Channel (Item 1). Note that the Stage Base may have to be modified to accept these fastening devices. Be sure to consult the motor/stage manufacturer before making any such modifications.

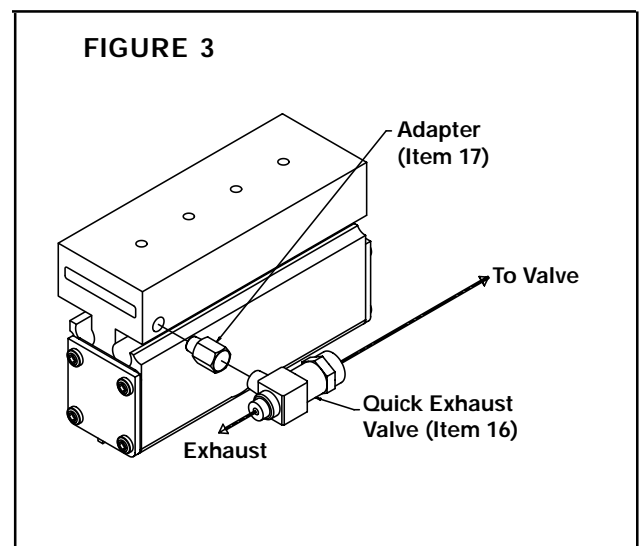
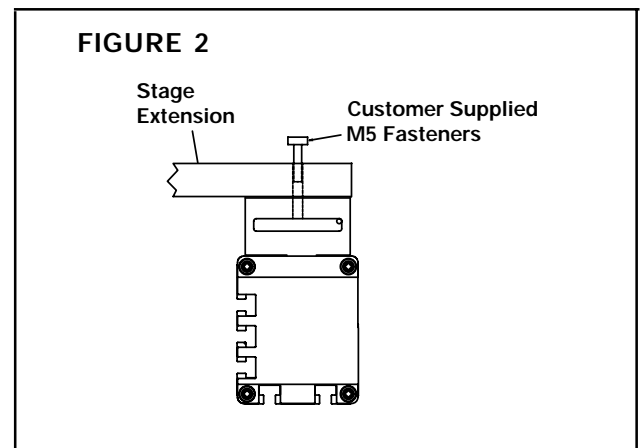
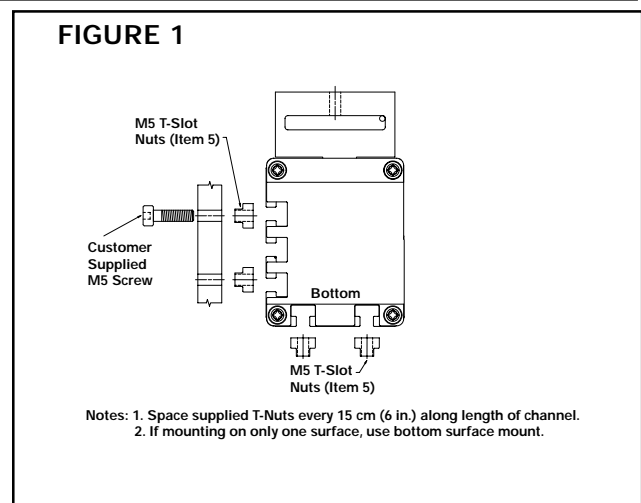
Caution: The Linear Brake Channel must be mounted rigidly to ensure proper force performance. It is recommended that the channel be mounted upright, with the open end pointing up).

Caution: Use care to ensure proper alignment. Misalignment can cause uneven stresses to develop, which can lead to binding or premature failure of the Brake and/or the Motor Stage.

INSTALLATION OF BRAKE-HEAD

NOTE: Refer to Figures 2 and 3.

- Carefully measure and position the Nexen Brake-Head Assembly for mounting to the Motor Stage. Because of the possibility of side loads and moments, careful alignment is extremely important. The four M5 holes on the top of the Brake-Head assembly permit many variations of mounting configurations.
- Using customer supplied M5 fasteners and fixturing, secure the Brake-Head to the linear stage. To ensure proper, friction-free movement, Nexen recommends keeping the Brake-Head Assembly centered throughout the full length of the channel.
- Using a 1/8th-inch NPT fitting (Item 17), connect the Quick Exhaust (Item 16) to the proper valving. Use a length of flexible tubing that is long enough to avoid interference and binding. The tubing must be long enough to permit free movement throughout the entire length of Brake-Head travel.



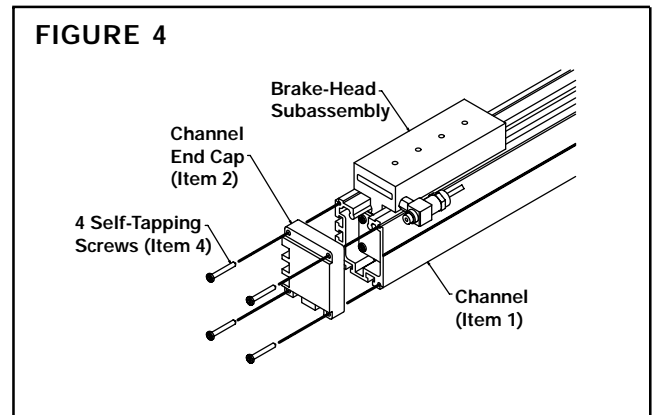
For long life, the Nexen Linear Brake requires clean, pressure-regulated air (filtered to 5 microns or better).

REMOVAL

REMOVAL OF BRAKE-HEAD FROM CHANNEL

NOTE: Refer to Figure 4.

1. Remove the 4 screws (Item 4) from one Channel End Cap (Item 2 or 3). Remove the End Cap from the Channel.
2. Apply 4.1 bar (60 psi) or more (depending on brake head model) of air pressure to the Brake-Head Assembly.
3. Carefully slide the Brake-Head assembly out the open end of the Channel (Item 1).
4. Remove air pressure from the Brake-Head.



INSTALLATION

INSTALLATION OF BRAKE-HEAD INTO CHANNEL

1. Apply 4.1 bar (60 psi) or more (depending on brake head model) of air pressure to the Brake-Head Assembly.
2. Carefully slide the Brake-Head assembly into the Channel (Item 1).
3. Remove air pressure from the Brake-Head.
4. Attach the End Cap (Item 2 or 3) by installing four screws (Item 4) and torquing to 14.1 N-m (125 in-lbs.).

SPECIFICATIONS

Channel and Brake-Head

Model	Length of Travel
960117	400 mm (15.7 in.)
960118	500 mm (19.7 in.)
960119	700 mm (27.6 in.)
960120	900 mm (35.4 in.)
960121	1100 mm (43.3 in.)
960122	1600 mm (63.0 in.)

Minimum Holding Force: 222N (50 lbf)
(all Brake-Heads)

Mass: 1.1 kg (2.4 lbs.)

Minimum Release Pressure: 4.1 bar (60 psi)

Channel Alone

Model	Length of Travel
960111	400 mm (15.7 in.)
960112	500 mm (19.7 in.)
960113	700 mm (27.6 in.)
960114	900 mm (35.4 in.)
960115	1100 mm (43.3 in.)
960116	1600 mm (63.0 in.)

Brake-Head Alone

Model	Holding Force
960110	222N (50 lbf)

WARRANTY

Warranties

Nexen warrants that the Products will be free from any defects in material or workmanship for a period of 12 months from the date of shipment. NEXEN MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. This warranty applies only if (a) the Product has been installed, used and maintained in accordance with any applicable Nexen installation or maintenance manual for the Product; (b) the alleged defect is not attributable to normal wear and tear; (c) the Product has not been altered, misused or used for purposes other than those for which it was intended; and (d) Buyer has given written notice of the alleged defect to Nexen, and delivered the allegedly defective Product to Nexen, within one year of the date of shipment.

Exclusive Remedy

The exclusive remedy of the Buyer for any breach of the warranties set out above will be, at the sole discretion of Nexen, a repair or replacement with new, serviceably used or reconditioned Product, or issuance of credit in the amount of the purchase price paid to Nexen by the Buyer for the Products.

Limitation of Nexen's Liability

TO THE EXTENT PERMITTED BY LAW NEXEN SHALL HAVE NO LIABILITY TO BUYER OR ANY OTHER PERSON FOR INCIDENTAL DAMAGES, SPECIAL DAMAGES, CONSEQUENTIAL DAMAGES OR OTHER DAMAGES OF ANY KIND OR NATURE WHATSOEVER, WHETHER ARISING OUT OF BREACH OF WARRANTY OR OTHER BREACH OF CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE, EVEN IF NEXEN SHALL HAVE BEEN ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH POTENTIAL LOSS OR DAMAGE. For all of the purposes hereof, the term "consequential damages" shall include lost profits, penalties, delay images, liquidated damages or other damages and liabilities which Buyer shall be obligated to pay or which Buyer may incur based upon, related to or arising out of its contracts with its customers or other third parties. In no event shall Nexen be liable for any amount of damages in excess of amounts paid by Buyer for Products or services as to which a breach of contract has been determined to exist. The parties expressly agree that the price for the Products and the services was determined in consideration of the limitation on damages set forth herein and such limitation has been specifically bargained for and constitutes an agreed allocation of risk which shall survive the determination of any court of competent jurisdiction that any remedy herein fails of its essential purpose.

Limitation of Damages

In no event shall Nexen be liable for any consequential, indirect, incidental, or special damages of any nature whatsoever, including without limitation, lost profits arising from the sale or use of the Products.

Warranty Claim Procedures

To make a claim under this warranty, the claimant must give written notice of the alleged defect to whom the Product was purchased from and deliver the Product to same within one year of the date on which the alleged defect first became apparent.

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