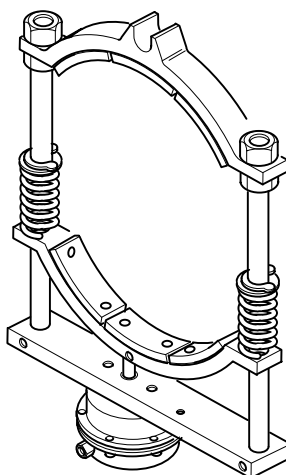





# DIAPHRAGM BRAKE MODEL 8K, AND 12K INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS




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Read this manual carefully, making full use of its explanations and instructions. The “Know How” of safe, continuous, trouble-free operation depends on the degree of your understanding of the system and your willingness to keep all components in proper operating condition. Pay particular attention to all **NOTES, CAUTIONS, and WARNINGS** to avoid the risk of personal injury or property damage. It is important to understand that these **NOTES, CAUTIONS, and WARNINGS** are not exhaustive. Nexen cannot possibly know or evaluate all conceivable methods in which service may be performed, or the possible hazardous consequences of each method. Accordingly, anyone who uses a procedure that is not recommended by Nexen must first satisfy themselves that neither their safety or the safety of the product will be jeopardized by the service method selected.

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# INSTALLATION

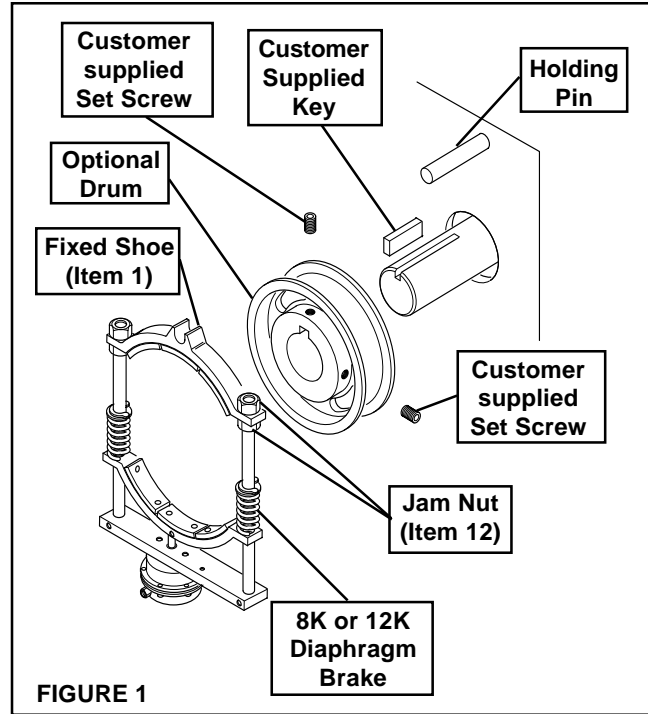
## BRAKE WITH OPTIONAL DRUM

1. Insert a customer supplied Key onto the shaft (See Figure 1).
2. Slide the optional Drum over the customer supplied Key and onto the shaft (See Figure 1).
3. Secure the optional Drum to the shaft using two customer supplied Set Screws (See Figure 1).
4. Position the Diaphragm Brake on the optional Drum (See Figure 1).
5. Using a customer supplied Holding Pin, secure the Diaphragm Brake in place with the Holding Pin passing through the slot in the Diaphragm Brake (See Figure 1).

**NOTE**

**Allow sufficient clearance between the Friction Facings (Item 3) and the optional Drum to allow free rotation of the Drum (See Figure 1).**

6. Adjust the Fixed Shoe (Item 1) by loosening the Jam Nuts (Item 12) (See Figure 1).
7. Tighten the Jam Nuts (Item 12) (See Figure 1).



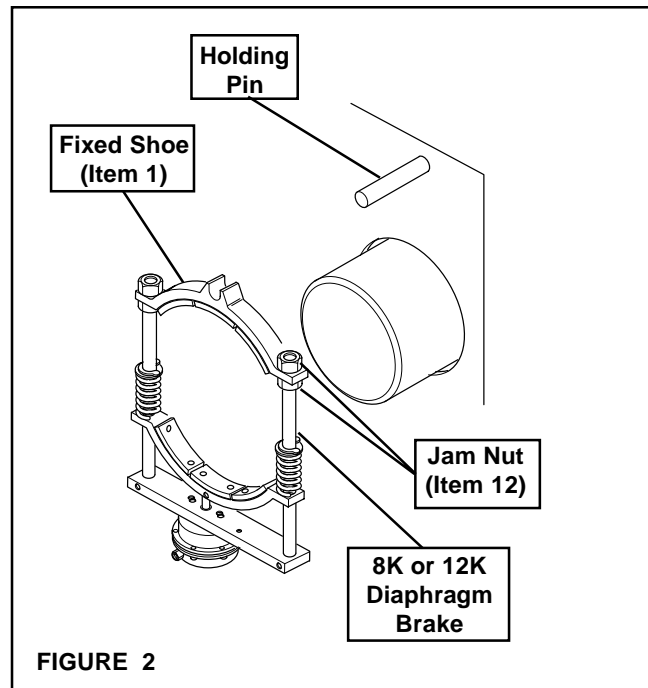
## BRAKE WITHOUT OPTIONAL DRUM

1. Position the Diaphragm Brake on the shaft (See Figure 2).
2. Using a customer supplied Holding Pin, secure the Diaphragm Brake in place with the Holding Pin passing through the slot in the Diaphragm Brake (See Figure 2).

**NOTE**

**Allow sufficient clearance between the Friction Facings (Item 3) and the shaft to allow free rotation of the shaft (See Figure 2).**

3. Adjust the Fixed Shoe (Item 1) by loosening the Jam Nuts (Item 12) (See Figure 2).
3. Tighten the Jam Nuts (Item 12) (See Figure 2).



# AIR CONNECTIONS

Pneumatically actuated devices require clean, pressure regulated air for maximum performance and long life. Your Nexen distributor carries filters and regulators specifically designed to operate with the Nexen 8K and 12K Diaphragm Brake.

For quick response, a short air line between the control valve and the 8K or 12K Diaphragm Brake is recommended. The 8K and 12K Diaphragm Brakes have a 1/8" NPT female pipe thread for connection to the air controls. The volume of air required is less than five cubic inches. For optimal control, 1/4" air controls are recommended.

The 8K and 12K Diaphragm Brakes work on static air pressure (See Chart 1).

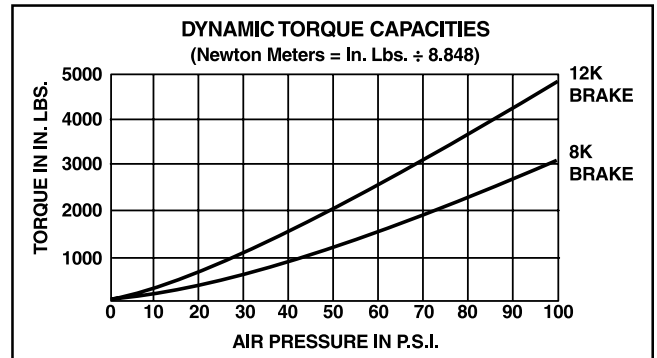


CHART 1

## TROUBLESHOOTING

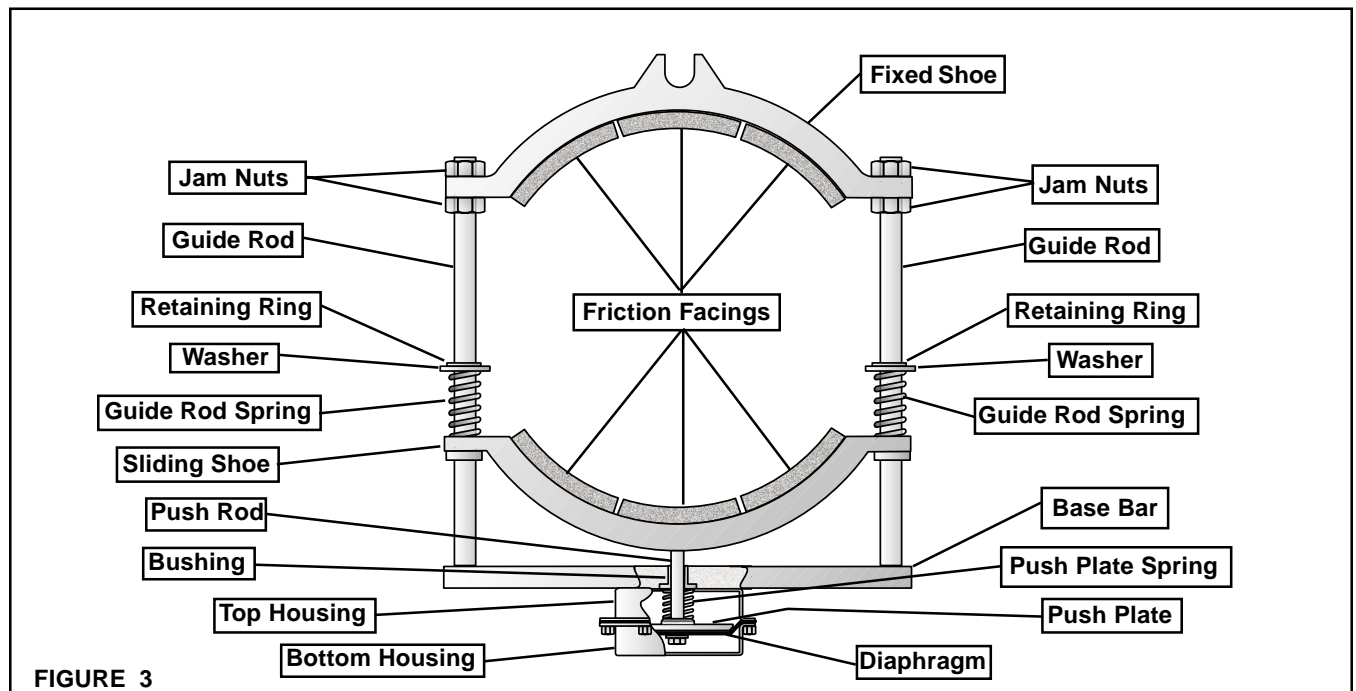


FIGURE 3

PROBLEM	PROBABLE CAUSE	SOLUTION
Failure to engage.	Ruptured Diaphragm.	Replace the Diaphragm.
	Faulty air controls.	Check the air controls for proper operation.
Failure to disengage.	Faulty or damaged Guide Rod Compression Springs.	Replace the Guide Rod Compression Springs.
	Faulty or damaged Push Plate Spring.	Replace the Push Plate Spring.
	Faulty air controls.	Check the air controls for proper operation.
8K or 12K Diaphragm Brake slippage.	Foreign material on the Optional Brake Drum or on the shaft.	Clean the Optional Brake Drum or shaft.
	Foreign material on the Friction Facings.	Replace the Friction Facings.
	8K or 12K Diaphragm Brake working outside its torque and heat dissipating range.	Check the application.

# PARTS REPLACEMENT

## FRICITION FACINGS

1. Remove two Jam Nuts (Item 12) and slide the Fixed Shoe (Item 1) off the Guide Rods (Item 21); then, remove the second two Jam Nuts (Item 12) (See Figure 4).

### WARNING

**Special attention should be exercised when working with retaining rings. Always wear safety goggles when working with spring or tension loaded fasteners or devices.**

2. Remove the two Retaining Rings (Item 24), Washers (Item 23), and Guide Rod Springs (Item 22) (See Figure 4).
3. Remove the Set Screw (Item 13); then, slide the Sliding Shoe (Item 2) off the Guide Rods (Item 21) (See Figure 4).

### NOTE

**The Flat Head Machine Screws (Item 20) are assembled with an anaerobic locking compound. Inserting a properly fitting screwdriver into the head of the Flat Head Machine Screw and striking the end of the screwdriver with a hammer will break the crystalline structure of the locking compound and allow removal of the Flat Head Machine Screw. Never use an impact wrench to remove the Flat Head Machine Screws.**

4. Remove the Flat Head Machine Screws (Item 20) from the Fixed Shoe (Item 1) and the Sliding Shoe (Item 2); then, remove the Friction Facings (Item 3) from the Fixed Shoe and Sliding Shoe (See Figure 4).
5. Using new Flat Head Machine Screws (Item 20), secure the new Friction Facings (Item 3) to the Fixed Shoe (Item 1) and the Sliding Shoe (Item 2) (See Figure 4).
6. Tighten the Flat Head Machine Screws (Item 20) to 26 In. Lbs. [2.9 N•m] torque (See Figure 4).
7. Slide the Sliding Shoe (Item 2) back onto the Guide Rods (Item 21) (See Figure 4).
8. Reinstall and tighten the Set Screw (Item 13) to 80 In. Lbs. [9.0 N•m] torque (See Figure 4).

### NOTE

**Inspect the Guide Rod Springs (Item 22) for signs of fatigue or cracking. If the Guide Rod Springs show signs of fatigue or cracking they must be replaced (See Figure 4).**

9. Reinstall the Guide Rod Springs (Item 22), Washers (Item 23), and Retaining Rings (Item 24) onto the Guide Rods (Item 21) (See Figure 4).
10. Install a Jam Nut (Item 12) onto each Guide Rod (Item 21); then, slide the Fixed Shoe (Item 1) onto the Guide Rods and install the remaining two Jam Nuts (Item 12) securing the Fixed Shoe to the Guide Rods (See Figure 4).

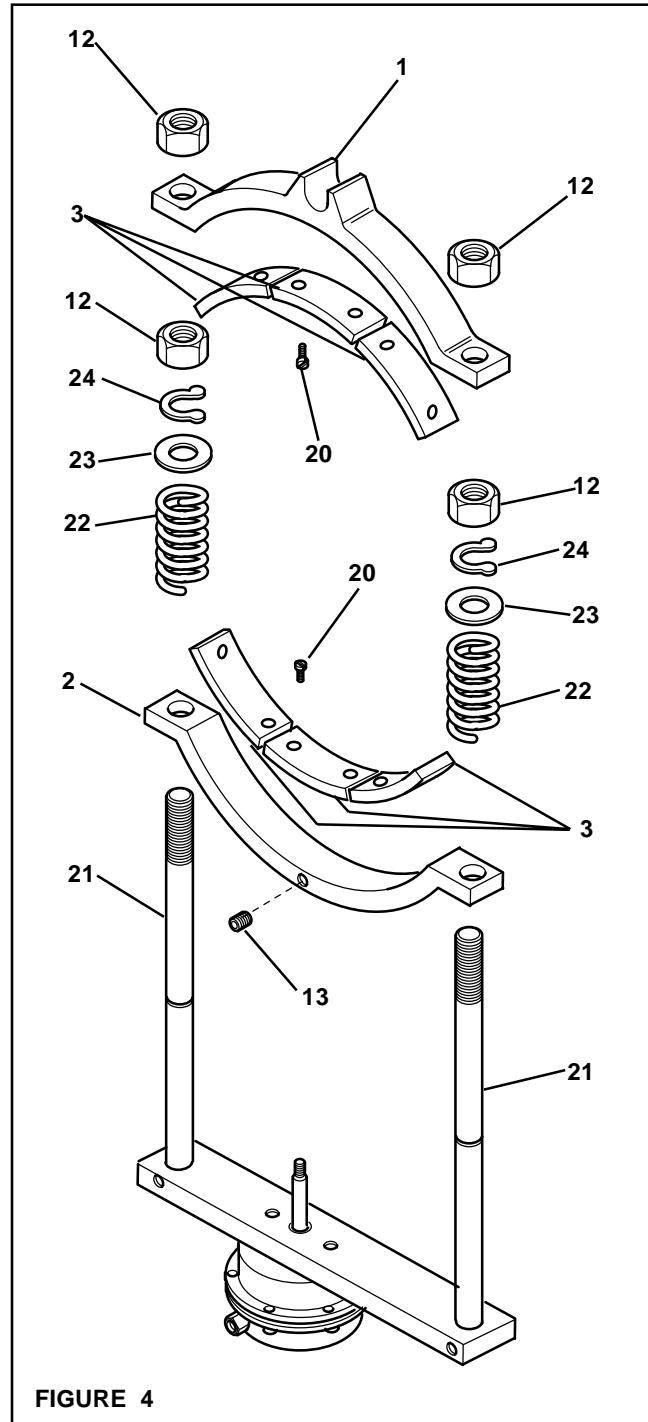


FIGURE 4

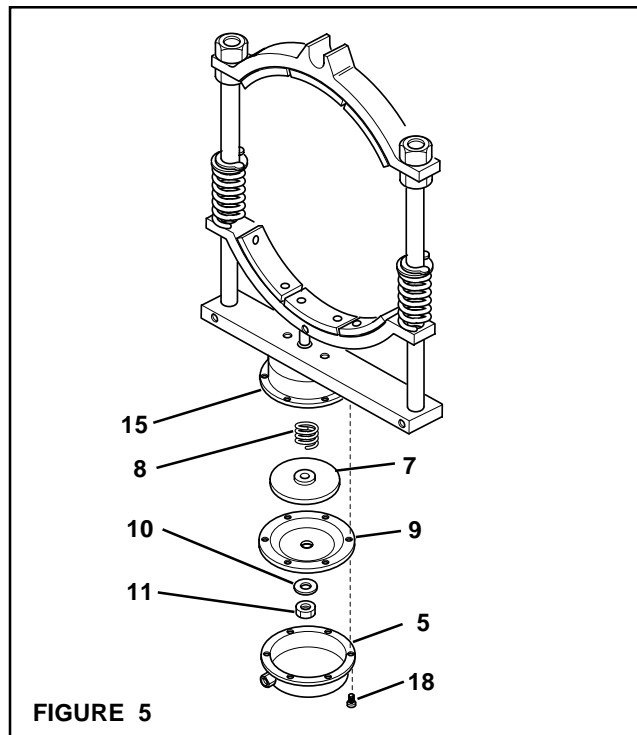


1. Remove the Socket Head Cap Screws (Item 18) securing the Top Housing (Item 15) to the Bottom Housing (Item 5) (See Figure 5).
2. Remove the Bottom Housing (Item 5); then, remove the Jam Nut (Item 11), Washer (Item 10), Diaphragm (Item 9), Push Plate (Item 7), and Push Plate Spring (Item 8) (See Figure 5).

**NOTE**

**Inspect the Push Plate Spring (Item 8) for signs of fatigue or cracking. If the Push Plate Spring shows signs of fatigue or cracking it must be replaced (See Figure 5).**

3. Reinstall the Push Plate Spring (Item 8) (See Figure 5).
4. Reinstall the Push Plate (Item 7) and Diaphragm (Item 9) (See Figure 5).
5. Reinstall the Washer (Item 10) and Hex. Head Jam Nut (Item 11); then, seal the Hex. Head Jam Nut (Item 11) to the Push Rod (Item 6, using an anaerobic single-compound adhesive (See Figure 5).
6. Using the Socket head Cap Screws (Item 18), secure the Bottom Housing (Item 5) to the Top Housing (Item 15); then, tighten them to 75 In. Lbs. [8.5 N•m] torque (See Figure 5).

**FIGURE 5****REPLACEMENT PARTS**

The item or balloon number for all Nexen products is used for part identification on all product parts lists, product price lists, unit assembly drawings, bills of materials, and instruction manuals.

When ordering replacement parts, specify model designation, item number, part description, and quantity. Purchase replacement parts through your local Nexen Distributor.

## PARTS LIST

ITEM	DESCRIPTION	QTY
1	Fixed Shoe	1
2	Sliding Shoe	1
3	Friction Facing (8K Brake)	4
3	Friction Facing (12K Brake)	6
4	Base Bar	1
5	Bottom Housing	1
6	Push Rod	1
7	Push Plate	1
8	Push Plate Spring	1
9	Diaphragm	1
10	Washer	1
11	Jam Nut	1
12	Jam Nut	4
13	Set Screw	1
15	Top Housing	1
16	Bushing	1
18	Socket Head Cap Screw	6
20	Flat Head Machine Screw (8K Brake)	8
20	Flat Head Machine Screw (12K Brake)	12
21	Guide Rod	2
22	Guide Rod Spring	2
23	Washer	2
24	Retaining Ring	2
25	Set Screw	2
30	Socket Head Cap Screw	2

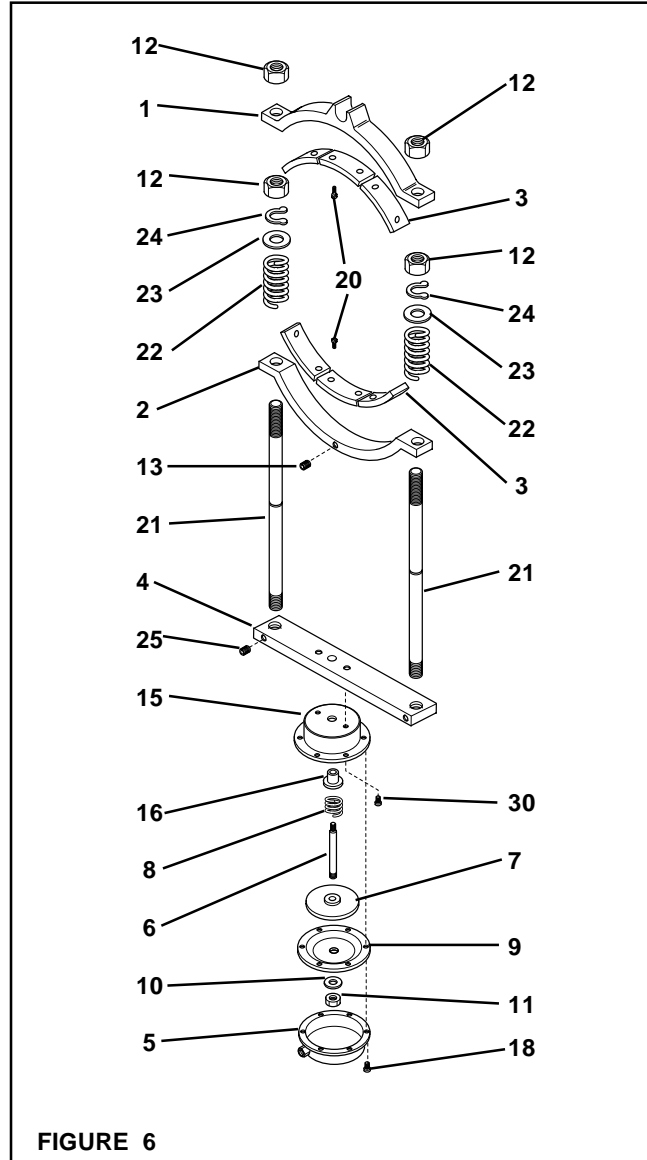


FIGURE 6

## ACCESSORIES

DESCRIPTION	PROD. NO.
Drum 8 In. [203.20 mm] — no bore	845300
Drum 12 In. [304.80 mm] — no bore	845600

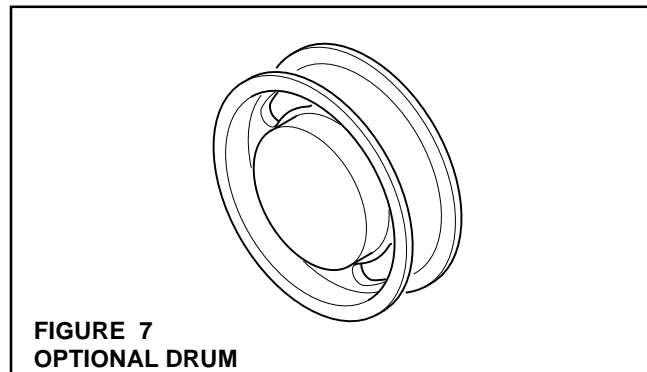


FIGURE 7  
 OPTIONAL DRUM

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.



## WARRANTY

Nexen Group, Inc. (Nexen) warrants its product(s) [the Product(s)] will be free from defects in materials and workmanship under normal use and service conditions for a period of 12 months from the date of shipment. NO OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, OR OF FITNESS FOR A PARTICULAR PURPOSE, ARE GIVEN, AND ALL SUCH OTHER WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

### Conditions

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) the claimant has complied with the warranty claim procedures set out below in Warranty Claim Procedures.

### Exclusive Remedy

The sole and exclusive remedy for a breach of this warrant shall be, at Nexen's sole election, repair or replacement with new, serviceably used or reconditioned Product, or issuance of a credit in the amount of the current Nexen discounted price for the Product.

### 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 Nexen and deliver the Product to Nexen within one year of the date on which the alleged defect first became apparent.

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