

nexen[®]

AIR CHAMP[®] PRODUCTS

User Manual



HT45

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.

Technical Support:
800-843-7445
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www.nexengroup.com



WARNING

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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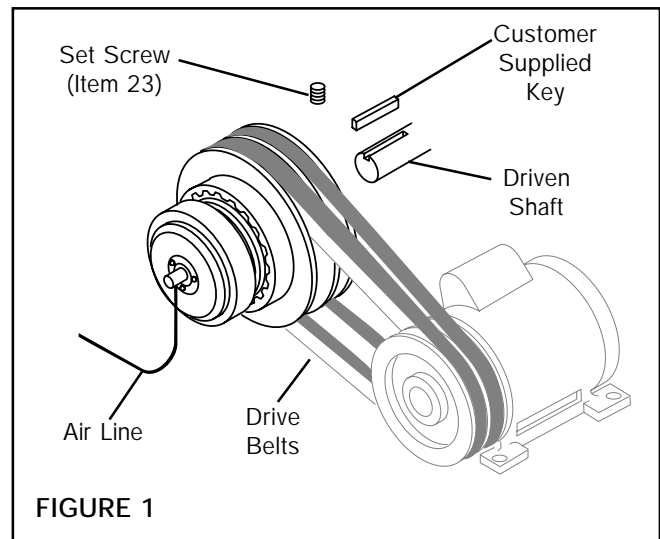
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INTRODUCTION

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.

INSTALLATION

1. Insert customer supplied key into driven unit (See Fig. 1).
2. Slide HT45 onto shaft, and secure with Set Screw (Item (Item 23) (See Fig. 1).
3. Tighten Set Screw (Item 23) to 8 ft. lbs. [10.8 N•m] torque.
4. Install belts connecting HT45 to drive unit (See Fig. 1).
5. Install 1/8" O.D. Air Line into fitting of Rotary Air Union (Item 20) (See Fig 1).



AIR CONNECTIONS

For quick response, a short air line between the control valve and the HT45 is recommended. Where long air lines are required, a quick exhaust valve should be used to insure rapid disengagement.

LUBRICATION

Pneumatically actuated devices require clean, pressure regulated, and lubricated air for maximum performance, and long life. Your local Nexen Distributor carries filters, regulators, and lubricators specifically designed to operate with Nexen Products.

The most effective and economical way to lubricate the HT45 is with an air line lubricator. Available from Nexen, the lubricator injects oil into the pressurized air, forcing an oil mist into the air chamber.

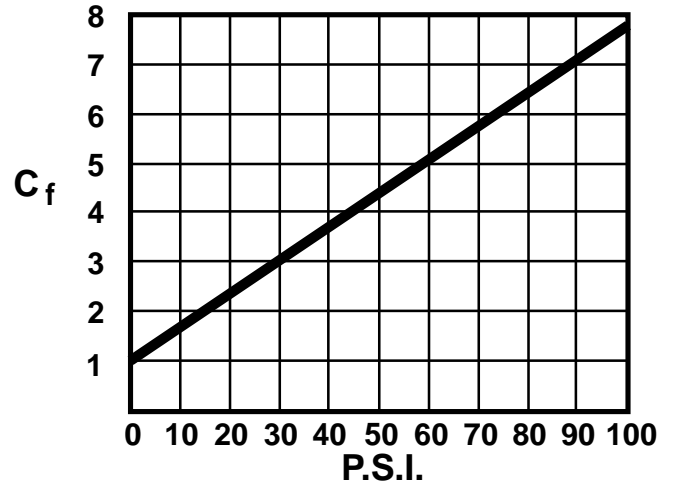
Locate the lubricator above, and within ten feet of the HT45, and use a low viscosity oil such as SAE-10.

NOTE: Synthetic lubricants are not recommended.

To properly set the lubricator:

1. Determine C_f (See Table 1).
2. Multiply C_f by 10.5 (Air Chamber Volume) to determine cu. in./min.
3. Divide cu. in./min. by 1728 to determine cu. ft./min.
4. Multiply cu. ft./min. by cycles per minute.

TABLE 1



NOTE: Nexen recommends one drop of oil every 20 SCFM.

5. Divide twenty by the result of Step 4 to determine time in seconds between drops of oil formed in the lubricator sight gauge.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
Failure to Engage	Air not getting to HT45	Check for control valve malfunction or low air pressure.
	Air Leaks around O-ring Seals.	Replace O-ring Seals.
Failure to Disengage	Broken or weak Waved Springs.	Replace broken or weak Waved Springs.
	Unexhausted air.	Check for control valve malfunction.

PARTS REPLACEMENT

ROTARY AIR UNION

1. Disconnect air line from Rotary Air Union.
2. Remove three Slotted Pan Head Screws (Item 22) (See Fig. 2).
3. Remove Retaining Washer (Item 21) (See Fig. 2).
4. Remove Rotary Air Union (Item 20), and Rotary Air Union Seal (Item 19) (See Fig. 2).
5. Install new Rotary Air Union and Rotary Air Union Seal).
6. Install Retaining Washer.
7. Secure Retaining Washer to HT45 with three Slotted Pan Head Screws.
8. Connect air line to Rotary Air Union.

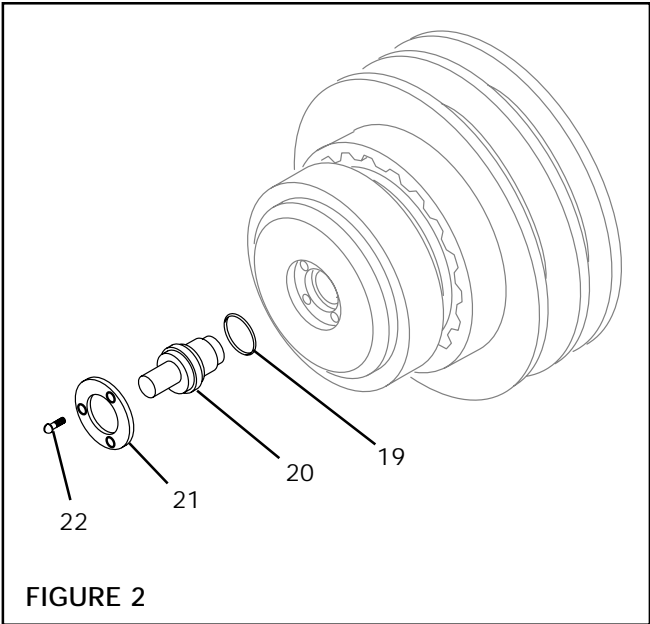


FIGURE 2

O-RING SEALS

1. Disconnect air line from Rotary Air Union.
2. Remove three Slotted Pan Head Screws (Item 22) (See Fig. 3).
3. Remove Retaining Washer (Item 21) (See Fig. 3).
4. Remove Rotary Air Union (Item 20), and Rotary Air Union Seal (Item 19) (See Fig. 3).
5. Remove four Socket Head Caps Screws (Item 8) and Lock Washers (Item 7) (See Fig. 3).
6. Remove Piston (Item 1) from Cylinder (Item 5) (See Fig. 3).
7. Remove O-ring Seals (Items 3 & 4) (See Fig. 3)
8. Clean O-ring Seal grooves and O-Ring contact surfaces with fresh cleaning solvent.
9. Lubricate o-ring grooves and O-ring Seals (Items 3 & 4) with fresh o-ring lubricant.
10. Install new O-ring Seals.
11. Slide Piston (Item 1) with new O-rings Seals (Items 3 & 4) into Cylinder (Item 5) (See Fig. 3).

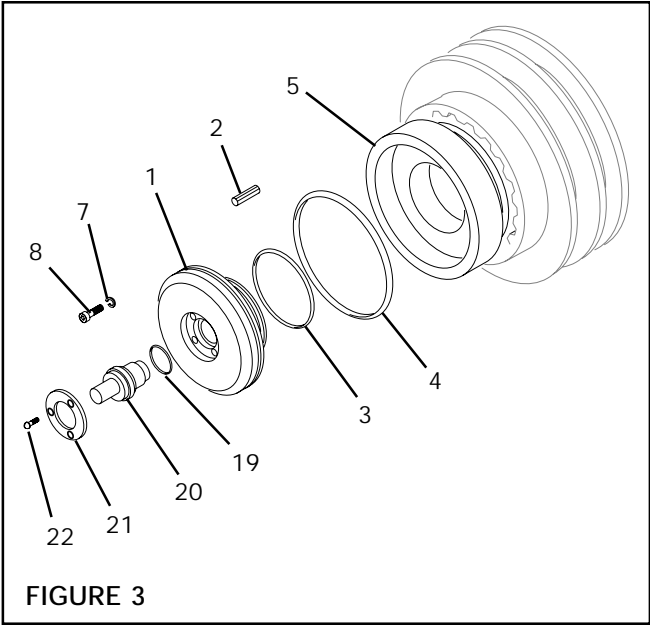


FIGURE 3

NOTE: When sliding Piston into Cylinder, make sure that Slotted Pin (Item 2) lines up with hole in Cylinder, also exercise to avoid pinching of O-ring Seals.

12. Install four Socket Head Cap Screws and Lockwashers (Items 7 & 8).

13. Tighten Socket Head Cap Screws to 8 ft. lbs. [10.8 N•m] torque.
14. Install Rotary Air Union and Rotary Air Union Seal.
15. Install Retaining Washer.
16. Secure Retaining Washer to HT45 with three Slotted Pan Head Screws.
17. Connect air line to Rotary Air Union.

FRICITION FACINGS

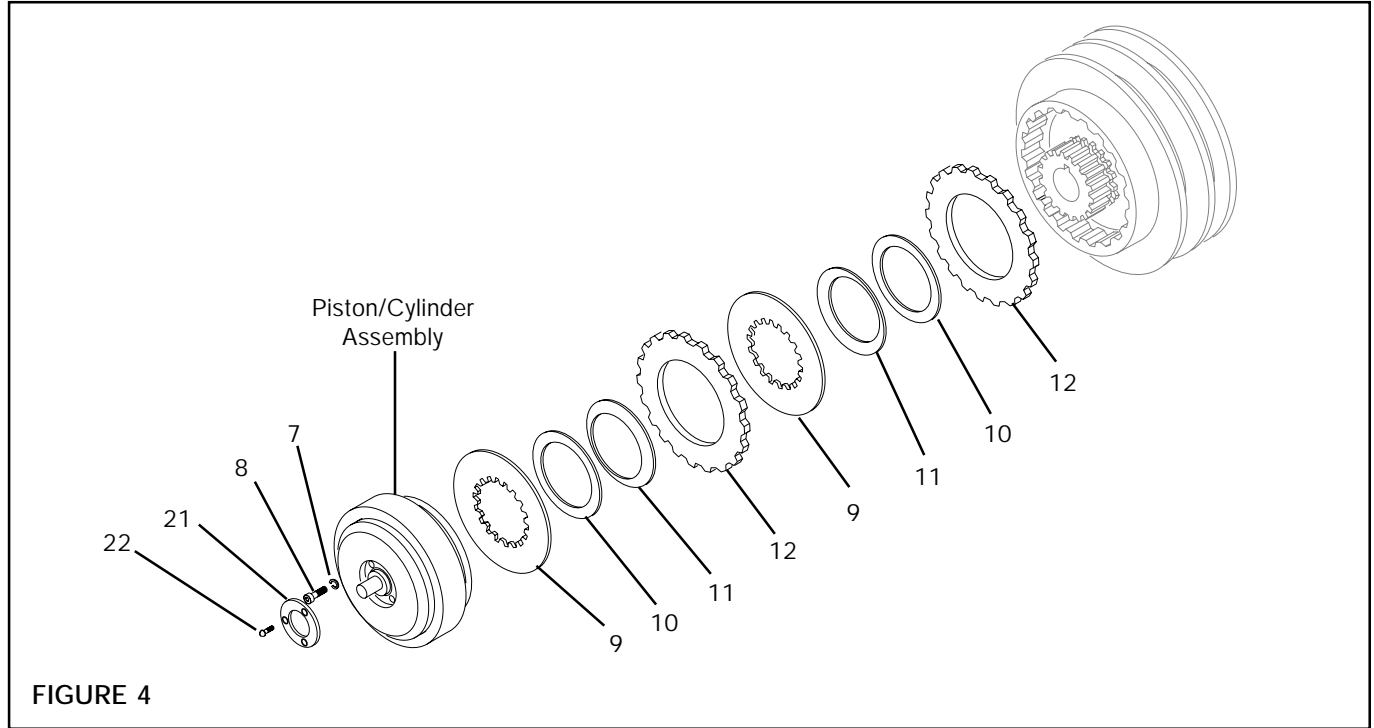


FIGURE 4

1. Disconnect Air Line From Rotary Air Union.
2. Remove three Slotted Pan Head Screws (Item 22) (See Fig. 4).
3. Remove Retaining Washer (Item 21) (See Fig. 4).
4. Remove Socket Head Cap Screws and Lockwashers (Items 7 & 8) (See Fig. 4).
5. Remove Cylinder and Piston Assembly.
6. Remove Inner Plate (Item 9) (See Fig. 4).
7. Remove Friction Facings, Waved Springs, and Spring Back-Up Washers (Items 10, 11, & 12) (See Fig. 4).
8. Install new Friction Facings, Waved Springs, and Spring Back-Up Washers in the same order that they were removed.
9. Install Inner Plate.
10. Install Cylinder and Piston Assembly.
11. Install Socket head Caps Screws and Lockwashers.
12. Tighten Socket Head Cap Screws to 8 ft. lbs. [10.8 N•m] torque.
13. Install Retaining Washer.
14. Secure Retaining Washer to HT45 with three Slotted Pan Head Screws.
15. Connect air line to Rotary Air Union.

BEARINGS

1. Disconnect air line from Rotary Air Union.
2. Remove belts connecting HT45 to drive unit.
3. Remove HT45 from driven shaft.
4. Remove Retaining Ring (Item 18) (See Fig. 5).

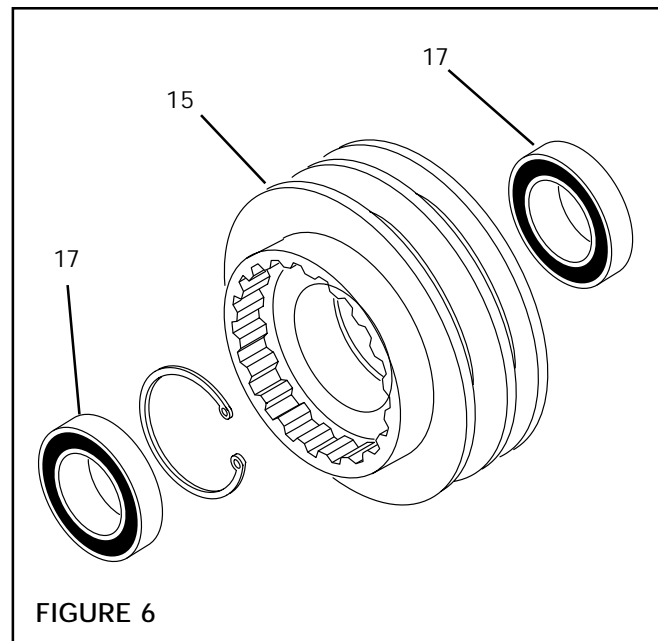
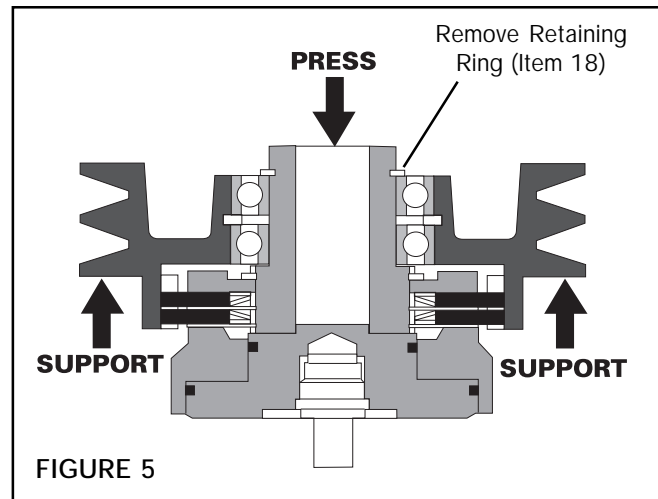
CAUTION

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

5. Fully supporting Sheave (Item 15), press Hub (Item 6), and Piston/Cylinder Assembly out of Sheave (See Fig. 5).
6. Using a bearing puller, remove Bearings (Item 17) from Sheave (Item 15) (See Fig. 6).

NOTE: Do not reuse bearings. Applying force to inner bearing race to remove bearing held by outer race causes damage to bearings.

7. Carefully align O.D. of new Bearings with bore of Sheave, and press new Bearings into Sheave.
8. Slide Hub, and Cylinder/Piston Assembly into Sheave and new Bearings.
9. Install Retaining Ring (Item 18).
10. Install HT45 (See INSTALLATION).



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

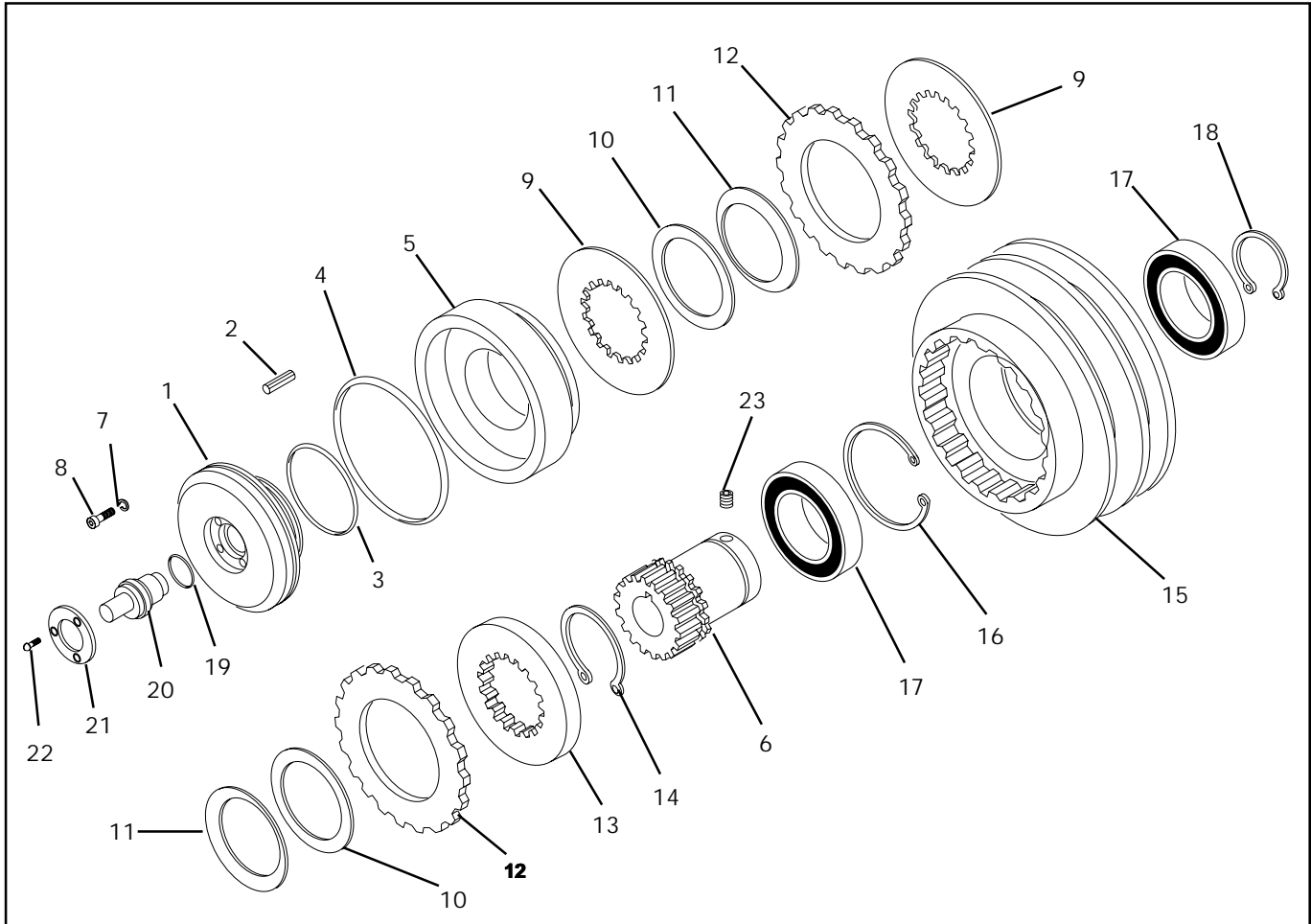


FIGURE 7

ITEM	DESCRIPTION	QTY
1	Piston	1
2	Slotted Spring Pin	1
3	O-Ring Seal	1
4	O-Ring Seal	1
5	Cylinder	1
6	Hub	1
7	Lockwasher	4
8	Socket Head Cap Screw	4
9	Inner Plate	2
10	Back-Up Spring Washer	2
11	Waved Spring	2
12	Outer Friction Plate	2

ITEM	DESCRIPTION	QTY
13	Flange End	1
14	Retaining Ring (Ext.)	1
15	Sheave	1
16	Retaining Ring (Int.)	1
17	Ball Bearing	2
18	Retaining Ring (Ext.)	1
19	O-Ring Seal	1
20	Rotary Air Union	1
21	Retaining Washer	1
22	Slotted Head Pan Screw	3
23	Socket Head Set Screw	1

WARRANTIES

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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