






Model XHW Clutch



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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	<div data-bbox="618 562 914 615"> DANGER</div> <p>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, cause injury or death. Comply with all applicable codes.</p>	
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This document is the original, non-translated, version.

Conformity Declaration: In accordance with Appendix II B of CE Machinery Directive (2006/42/EC):

A Declaration of Incorporation of Partly Completed Machinery evaluation for the applicable EU directives was carried out for this product in accordance with the Machinery Directive. The declaration of incorporation is set out in writing in a separate document and can be requested if required.

This machinery is incomplete and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the applicable provisions of the Directive.

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ISO 9001 Certified

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GENERAL SPECIFICATIONS


Specifications	
Torque:	Up to 565 Nm (5000 in-lbs)
Actuation Pressure:	1 - 5.5 bar (14.5 - 80 psi)
Service Temperature:	4.5 - 104 C (40 - 220 F)
Approximate Weight:	Up to 50 kg (110 lbs)

GENERAL SAFETY PRECAUTIONS




CAUTION

Use lifting aids and proper lifting techniques when installing, removing, or placing this product in service.




CAUTION

Use appropriate guarding for moving components. Failure to guard could result in serious bodily injury.




CAUTION

Watch for sharp features when interacting with this product. The parts have complex shapes and machined edges.




WARNING

This product is capable of emitting a spark if misused therefore is not recommended for use in any explosive environment.



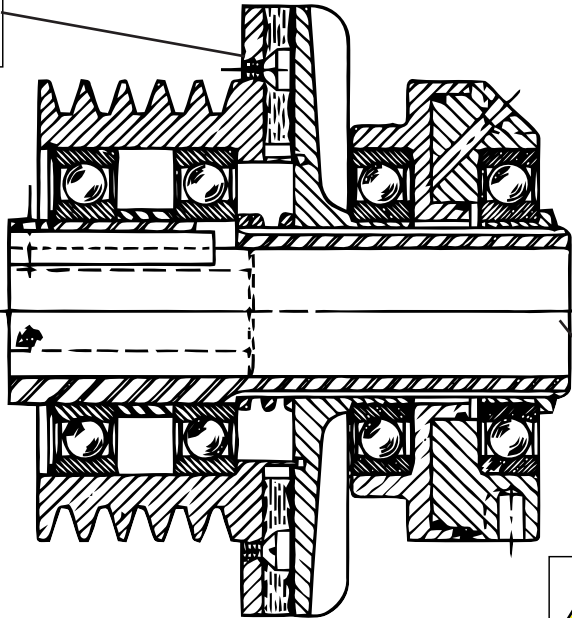
WARNING


Ensure proper guarding of the product is used. Nexen recommends the machine builder design guarding in compliance with OSHA 29 CFR 1910 "Occupational Safety and Health Hazards".



CAUTION


This product has possible pinch points. Care should be taken when interacting with this product.





CAUTION

Surface temperature may exceed safe handling limits during operation. Do not touch.



CAUTION

Use appropriate guarding for moving components. Failure to guard could result in serious bodily injury.

INSTALLATION

Refer to Figures 1 & 2.

SHEAVE MOUNT AND PILOT MOUNT

1. Insert Key (Item #21) into shaft keyway.
2. Slide clutch onto shaft, fully seating Key (Item #21) into Hub (Item #1).
3. Align sheaves and belts.
4. Tighten Set Screws (Item #17 and #28) to 12 ft. lbs. torque.

COUPLING MOUNT

Consists of Pilot Mount Clutch and Coupling Half. Use Dodge Taper-lock bushing #3030 in Coupling Half.

1. Determine the parallel misalignment of the shafts to be coupled. Place a straightedge across the shafts and measure the maximum offset at various points around the periphery of the shafts.
2. Make necessary corrections to keep within the parallel misalignment limits of the clutch coupling.

NOTE

Fix the driving shaft and allow the driven shaft to float. Refer to Table 1 for max. misalignment values.

3. Attach Coupling Adapter Plate Assembly (Item #22) to the clutch, using Cap Screws (Item #31) and Lock washer (Item #32).
4. Slide clutch assembly onto the driving shaft until end of clutch is flush with the shaft end.
5. Insert Key (Item #21) into driving shaft key way.
6. Tighten Set Screws (Item #17 and #23) to 12 ft. lbs. torque.
7. Place the coupling's Flexible Disc (Item #23) over the coupling's adapter plate pins.
8. Insert Dodge Taper-lock bushing (customer supplied) into coupling half.
9. Align the hole (not threads) and slide Taper-lock bushing assembly onto the driven shaft until bushing end is flush with the shaft end.
10. Thread screws into the threaded holes in the coupling and tighten alternately and evenly.

TABLE 1

ANGULAR MISALIGNMENT	PARALLEL MISALIGNMENT	DRIVING SHAFT INSERTION	DRIVEN SHAFT INSERTION
.150	.015	10.25	3.0

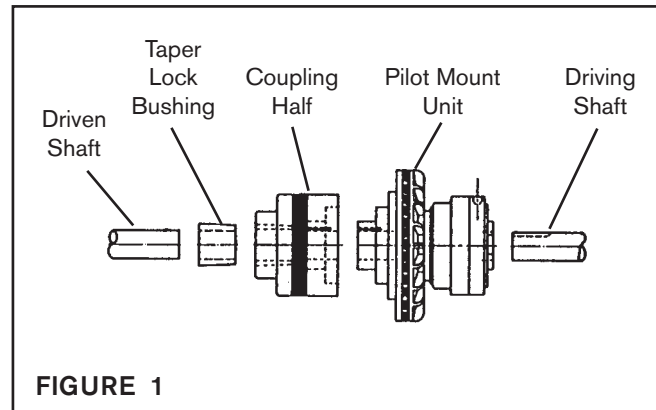


FIGURE 1

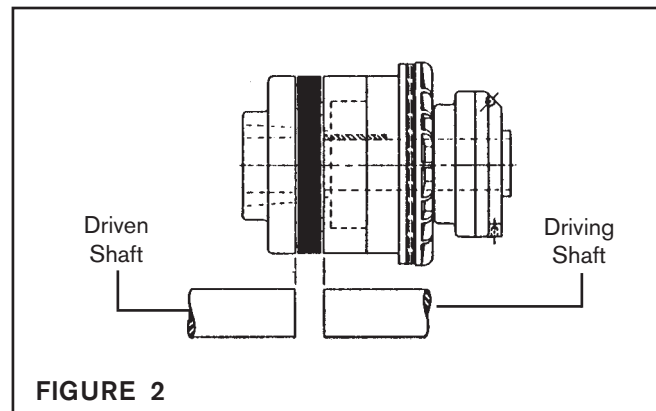


FIGURE 2

11. Align the pins in the Coupling Flange (Item #24) with the holes in the flexible disc.
12. Push entire assembly together.

NOTE

Automatic spacing is accomplished by spacers molded into the flexible coupling.

13. Secure the driven shaft.

	CAUTION
	<p>This unit has rotating parts. Provide a guard that will not restrict the flow of cooling air around the unit when installed in an area where injury to an operation could occur.</p>

LUBRICATION

NOTE

Nexen pneumatically actuated devices require clean, pressure regulated air for maximum performance and life. All seals in Nexen Pneumatically operated devices are lubricated for life and do not require additional lubrication.

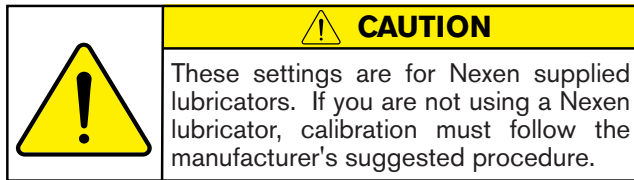
However, some customers prefer to use an air line lubricator, which injects oil into the pressurized air, forcing an oil mist into the air chamber. This is acceptable, but care must be taken to ensure once an air mist lubrication system is used, it is continually used over the life of the product as the oil mist may wash free the factory installed lubrication.

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

Synthetic lubricants are not recommended.

Nexen product's bearings are shielded and pre-lubricated, and require no further lubrication.

LUBRICATOR DRIP RATE SETTINGS



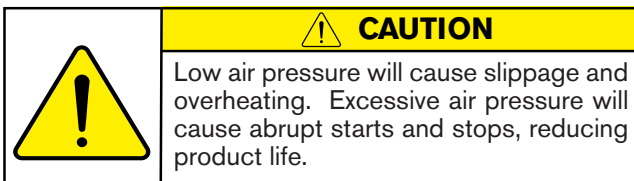
1. Close and disconnect the air line from the unit.
2. Turn the Lubricator Adjustment Knob counterclockwise three complete turns.
3. Open the air line.
4. Close the air line to the unit when a drop of oil forms in the Lubricator Sight Gage.
5. Connect the air line to the unit.
6. Turn the Lubricator Adjustment Knob clockwise until closed.
7. Turn the Lubricator Adjustment Knob counterclockwise one-third turn.
8. Open the air line to the unit.

AIR CONNECTIONS

All Nexen pneumatically actuated devices require clean and dry air, which meet or exceeds ISO 8573.1:2001 Class 4.4.3 quality.

NOTE

For quick response, Nexen recommends a quick exhaust valve and short air lines between the Control Valves and the product. Align the air inlet ports to a down position to allow condensation to drain out of the air chambers of the product.

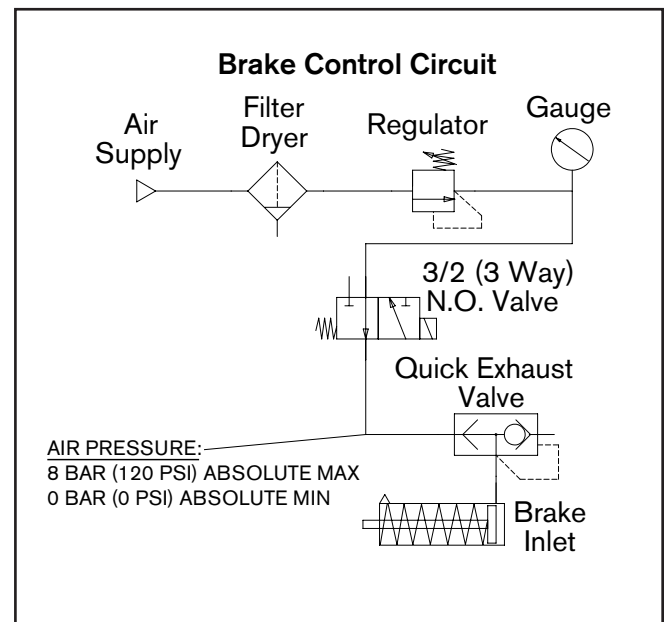


NOTE

The use of rigid pipe or tubing, when connected directly to the clutch will prevent proper actuation of the unit due to the necessary movement of the air chamber and hose upon engagement. Use only flexible hose or tubing.

Due to bearing seal drag, the outer portion of the clutch will rotate when the clutch is engaged, a 7/16 inch diameter rod inserted into the 1/2-inch diameter hole located in the Piston (Item #6) and fastened to a fixed pipe will prevent damage to the hose.

The following are common air supply schemes used with this product. These are examples and not an all-inclusive list. All air circuits to be used with this product must be designed following ISO 4414 guidelines.



OPERATION









	 WARNING
	Never exceed maximum operating speeds listed for your product. (See Table 2).

TABLE 2

Size	Max RPM
XHW	1,200

	 CAUTION
	Never exceed life of facing material. Facing life depends on the volume of material and the total energy over the life of the unit. Expected life (in hrs) can be found by: $\text{Time} = \text{Volume} / (\text{Power} * \text{Wear Rate})$.

	 WARNING
	Ensure proper guarding of the product is used. Nexen recommends the machine builder design guarding in compliance with OSHA 29 CFR 1910 "Occupational Safety and Health Hazards".

	 CAUTION
	The temperature limits for this product line are 4.5-104 Degree Celsius (40-220 Degree F).

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Failure to engage.	Air not getting to the clutch due to a control valve malfunction or low air pressure.	Check control valve and air pressure setting.
	Defective O-ring Seals, causing air leaks.	Replace O-ring Seals.
	Lack of lubrication on the Hub spline or in the air chamber.	Lubricate the Hub spline with a thin film of Never Seez® or check air line lubricator settings.
	Rigid pipe or tubing for air line connections.	Use flexible pipe or tubing for all air line connections.
Failure to disengage.	Friction lock due to a lack of lubrication on the Hub spline or in the air chamber.	Lubricate the Hub spline with a thin film of Never Seez® or check air line lubricator settings.
	Broken Return Spring.	Install new Return Spring.
	Unexhausted air due to a control valve malfunction.	Check or replace control valve.
Excessive drag on the air line.	Defective Bearings.	Replace Bearings.
	Air line not properly supported.	Rest the air line against a support that is parallel to the centerline of the clutch.

PARTS REPLACEMENT



CAUTION

Working with spring loaded or tension loaded fasteners and devices can cause injury. Wear safety glasses and take the appropriate safety precautions.

Refer to Figures 3 & 4.

NOTE

Inspect the Friction Facing (Item #4), and replace when worn to approximately 3/16 inch to 1/4 inch thick.

FRICITION FACING (ITEM #4)

1. Remove Retaining ring (Item #13) and Bearing Adapter (Item #7).
2. Slide Piston (Item #6), Air Chamber (Item #5) and Friction Disc (Item #3) off Hub (Item #1).
3. Remove the eight brass Machine Screws (Item #16) and the Friction Facing (Item #4).

NOTE

The machine screws are assembled with a red anaerobic compound. If removal is difficult, strike the end of the screwdriver with a hammer to break the crystalline structure of the compound before attempting to remove the screws.

4. Install new friction facing. Tighten the replacement screws to 265 in-lbs. [29.9 Nm].
5. Reassemble clutch.

O-Ring (ITEM #14 and #15)

1. Remove Retaining Ring (Item #13) and Bearing Adapter (Item #7).
2. Gently apply air pressure to the air inlet, and separate the Piston (Item #6) and Air Chamber (Item #5).
3. Remove O-Rings (Item #14 and #15).
4. Lubricate with O-Ring lubricant and install new O-Rings.
5. Align the Spring Pin (Item #18) with the piston and air chamber.
6. Reassemble the clutch.

AIR CHAMBER BEARING (ITEM #11)

1. Remove Retaining Ring (Item #13) and Bearing Adapter (Item #7).
2. Remove Air Chamber (Item #5) and Piston (Item #6) from Hub (Item #1).
3. Separate Air Chamber (Item #5) and Piston (Item #6).

NOTE

Care must be taken to prevent damage to O-Rings (Items #14 and #15).

4. Using a bearing puller, remove the bearing from the piston and air chamber.

NOTE

When installing new bearings, carefully align the bearing O.D. with the housing bore. Apply Loctite RC601 or equivalent to the outer race of the new bearing.

5. Press new bearings into the air chamber bore and into the piston.
6. Reinstall O-Rings (Items #14 and #15).
7. Align the Spring Pin (Item #18) with the piston and air chamber.
8. Reassemble the clutch.

SHEAVE, PILOT, OR DISC DRIVE BEARINGS (ITEM #11)

1. Remove Retaining Rings (Items #9 and #12).
2. Fully support the sheave, pilot, or drive disc and press out the Hub (Item #1).
3. Remove Bearings (Item #11) and Spacer (Item #8).
4. Press first bearing into place and install spacer, the press second bearing into place.
5. Reassemble the clutch.

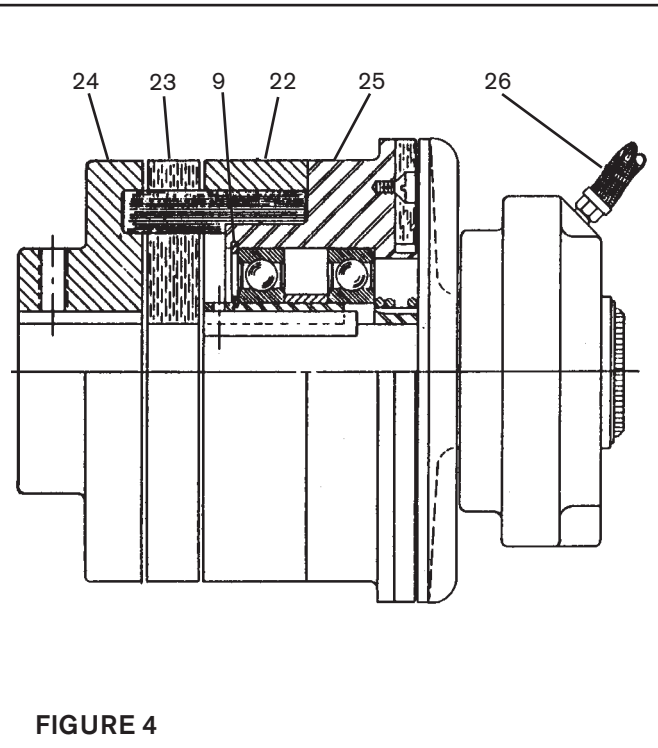
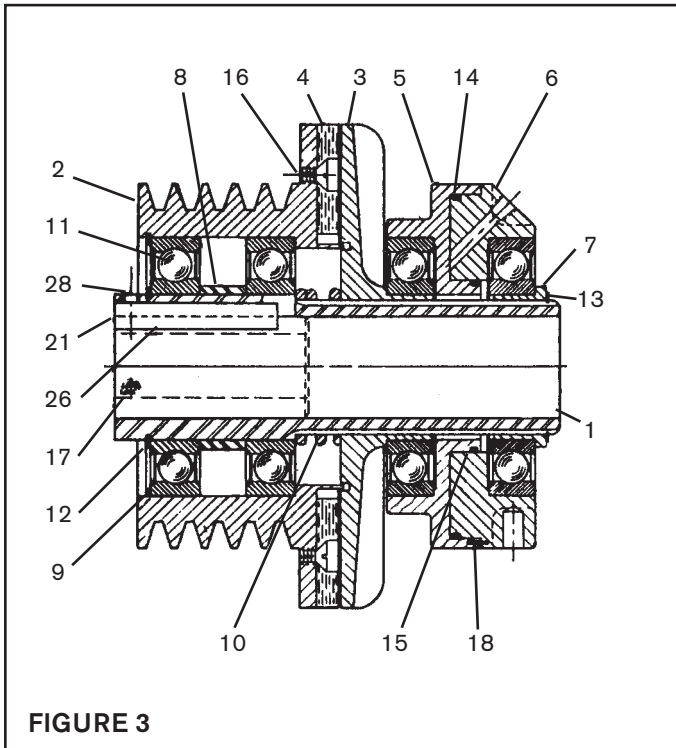
RETURN SPRING (ITEM #10)

1. Remove Retaining Ring (Item 13) and Bearing adapter (Item #7).
2. Slide Piston (Item #6), Air Chamber (Item #5) and Friction Disc (Item #3) off Hub (Item #1).
3. Remove old Return spring and install new Return Spring (Item #10).
4. Reassemble the clutch.

REPLACEMENT PARTS

The Item or "Balloon" Number for all Nexen Products is used for part identification on all Product Parts List, Product Price List, 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.



ITEM NO.	DESCRIPTION	NO. REQD.
1	Hub	1
2 ¹	Sheave	1
3	Friction Disc	1
4 ³	Friction Facing	1
5	Air Chamber	1
6	Piston	1
7	Adapter-Bearing	1
8	Spacer-Bearing-Inner	1
9	Retaining Ring	1
10 ³	Spring	1
11 ³	Bearing (Sheave, Pilot, Air Chamber, & Piston)	4
12	Retaining Ring	1
13	Retaining Ring	1
14 ³	O-Ring (Large)	1

ITEM NO.	DESCRIPTION	NO. REQD.
15 ³	O-Ring (Small)	1
16 ³	F.H.M. Screws (Brass)	8
17	Set Screws	2
18	Spring Pin	1
19	Plug, Neoprene (Not Shown)	1
21	Key (Shaft)	1
22	Adapter Plate (Coupling)	1
23	Flexible Disc (Coupling)	1
24	Coupling Flange (Coupling)	1
25	Drive Disc (Pilot Mount)	1
26	Flexible Air Hose	1
27 ²	Bushings	1
28	Set Screws	1
31	Screw, Cap (Coupling)	6
32	Lockwasher (Coupling)	6

¹ State diameter size desired.

² State bore size desired.

³ Repair Kit Items (Repair Kit and product number 8482)

WARRANTY

Warranties

Nexen warrants that the Products will (a) be free from any defects in material or workmanship for a period of 12 months from the date of shipment, and (b) will meet and perform in accordance with the specifications in any engineering drawing specifically for the Product that is in Nexen's current product catalogue, or that is accessible at the Nexen website, or that is attached to this Quotation and that specifically refers to this Quotation by its number, subject in all cases to any limitations and exclusions set out in the drawing. 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 for the Buyer for any breach of any warranties provided in connection with this agreement will be, at the election of Nexen: (a) repair or replacement with new, serviceably used, or reconditioned parts or products; or (b) issuance of credit in the amount of the purchase price paid to Nexen by the Buyer for the Products.

Agent's Authority

Buyer agrees that no agent, employee or representative of Nexen has authority to bind Nexen to any affirmation, representation, or warranty concerning the Products other than those warranties expressly set forth herein.

Limitation on 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 damages, 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.

Inspection

Buyer shall inspect all shipments of Products upon arrival and shall notify Nexen in writing, of any shortages or other failures to conform to these terms and conditions which are reasonably discoverable upon arrival without opening any carton or box in which the Products are contained. Such notice shall be sent within 14 days following arrival. All notifications shall be accompanied by packing slips, inspection reports and other documents necessary to support Buyer's claims. In addition to the foregoing obligations, in the event that Buyer receives Products that Buyer did not order, Buyer shall return the erroneously shipped Products to Nexen within thirty (30) days of the date of the invoice for such Products; Nexen will pay reasonable freight charges for the timely return of the erroneously shipped Products, and issue a credit to Buyer for the returned Products at the price Buyer paid for them, including any shipping expenses that Nexen charged Buyer. All shortages, overages and nonconformities not reported to Nexen as required by this section will be deemed waived.

Limitation on Actions

No action, regardless of form, arising out of any transaction to which these terms and conditions are applicable may be brought by the Buyer more than one year after the cause of action has accrued.

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