nexen

WEB CONTROL PRODUCTS

User Manual

Splice Detector System

Models JC100 and JD100

FORM NO. L-20164-A-0501

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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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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ISO 9001 Certified

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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.

The Nexen-Nireco Splice Detector System is used to signal the presence of a splice as it passes through a web fed machine. In many applications, the pressure between two nip rolls or the printing rolls in a machine is so high that two thickness of web passing through will cause problems.

Nexen-Nireco Splice Detector Systems can sense these splices and actuate a normally open or normally closed relay for about three seconds.every time a splice passes through. On a complex machine with many of these tightly nipped points it is often necessary to install several Splice Detector Systems to “follow” the splice through the machine and signal the various nip rolls to open at the appropriate time.

COMPONENTS

Nexen-Nireco Splice Detector Systems are composed of a JD100 Splice Sensor and JC 100 Splice Controller (See Fig. 1).

JD 100 Splice Sensors are composed of a light transmitter on one arm of a sensor housing and a light receiver on the other arm.

JC 100 Splice Controller provides the excitation signal to the JD 100 lamp, and also receives and interprets the return signal from the receiver. The logic board allows the JC 100 to constantly compare the amount of light received with the amount previously received. In this way it “knows” immediately when the double thickness of a splice is passing through the light path, allowing less light to pass.

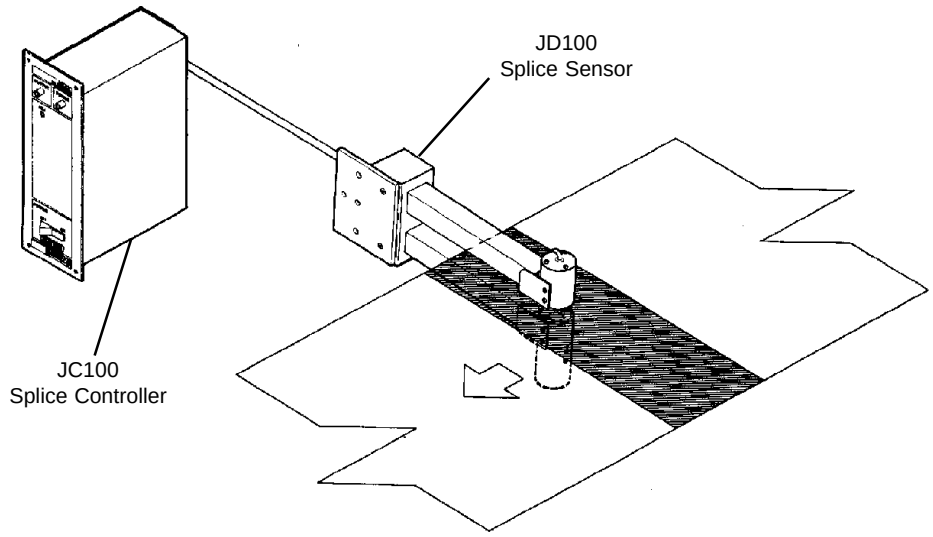

FIGURE1

FIGURE 1

MOUNTING

NOTE: JD100 and JC100 are electronic components and should be mounted in a shock and vibration free area which has an ambient temperature of more than 32° F, [0° C] and less than 122° F [50° C].

JD100 SPLICE SENSOR

1. Align JD100 vertically in respect to web and mount JD100 with transmitter pointing down and receiver pointing up (See Fig. 2).

2. Adjust JD100 so that web is approximately half way between transmitter and receiver.

JC100 SPLICE CONTROLLER

1. Locate JC100 within four feet (two meters) of JD100.

NOTE: JC100 cable may be extended up to 100 feet using 18 AWG six conductor cable.

2. Install JC100 into control panel (See Mounting Dimensions).

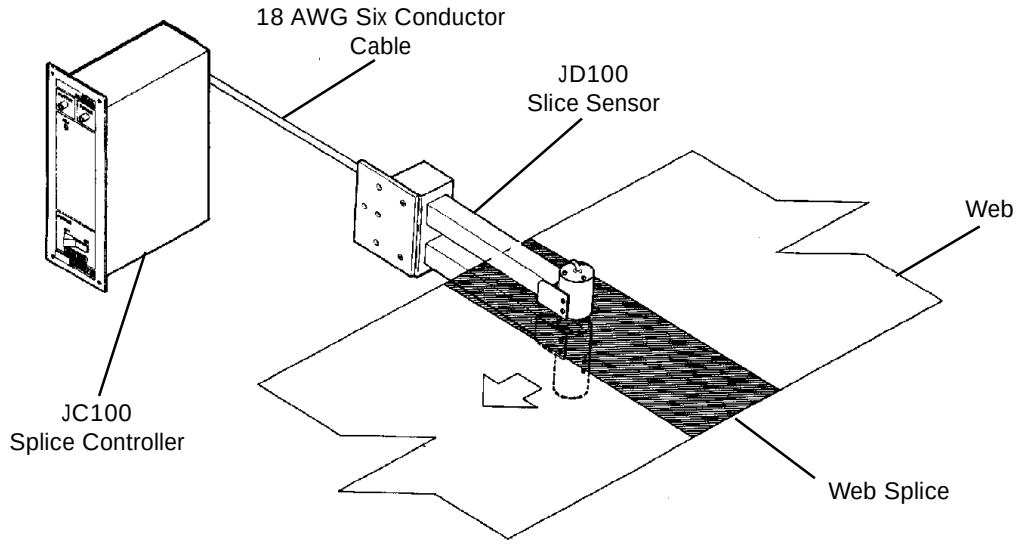

FIGURE 2

ELECTRICAL CONNECTIONS

1. Using cable provided with JD100 connect JD100 to terminal strip of JC100 (See Fig. 3).

2. Provide AC power (115, 127, 220, 240 VAC) to Terminals 10 and 11 (See Fig. 3)

3. Connect Terminal 12 to ground (See Fig. 3).

   NOTE: The output signal is a dry contact relay closure available at Terminals 7, 8, and 9. Terminal 8 iscommon. A normally open contact, which closes when the system "sees" a splice, is available between Terminals 7 and 8. A normally closed contact, which opens when the splice is present is available between terminals 8 and 9. Maximum rating for these contacts is 200 VAC, 2 amps. The contacts stay in their energized position approximately three seconds each time a splice passes through the sensor.

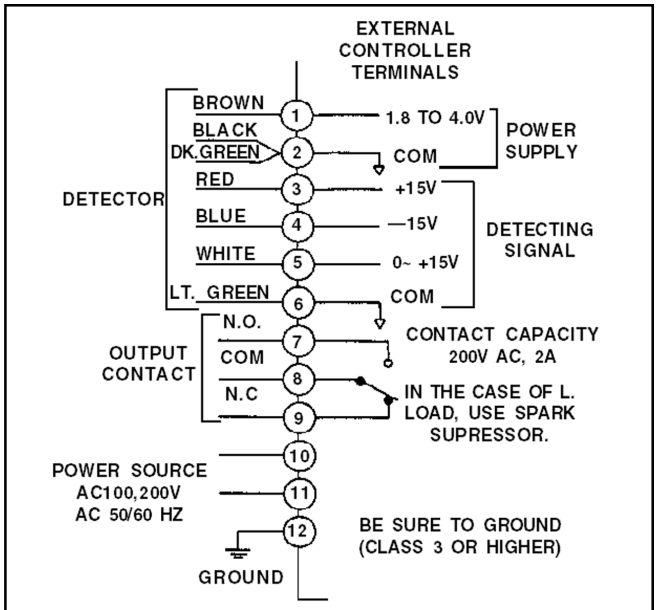

FIGURE 3

SETUP AND CALIBRATION

SETUP

1. Remove four Screws securing Cover of JC100 (See Fig. 4)

2. Using Voltage Select Jumper, select correct voltage as applied to terminals 10 and 11, select from 115, 127, 220, or 240 VAC (See Fig.5).

3. Set Power Switch (located on Front Panel) to ON, Power Lamp should glow (See Fig. 6

4. Test sensor calibration by inserting a single thickness of the lightest material to be run on the machine into the light beam of JD100. The sensor has been pre-calibrated at the factory and the single thickness of web should cause the Output Lamp to light and the Relay to energize for approximately three seconds.

5. If the system passed the above test, set Power Switch to OFF and reinstall Cover and four Screws. The system is now calibrated and ready to run.

6. If the single thickness of the lightest material did not trigger the Output Lamp and Relay, proceed to calibrate system.

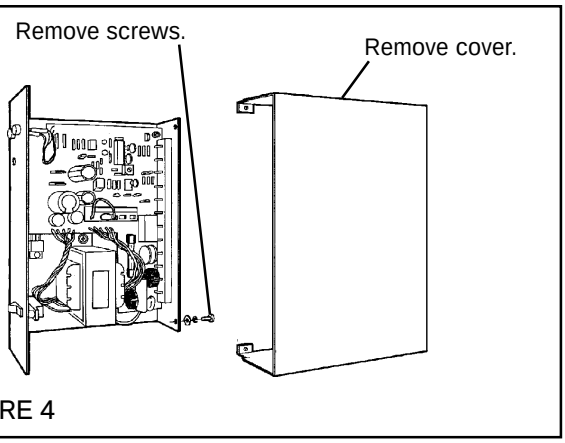

FIGURE 4

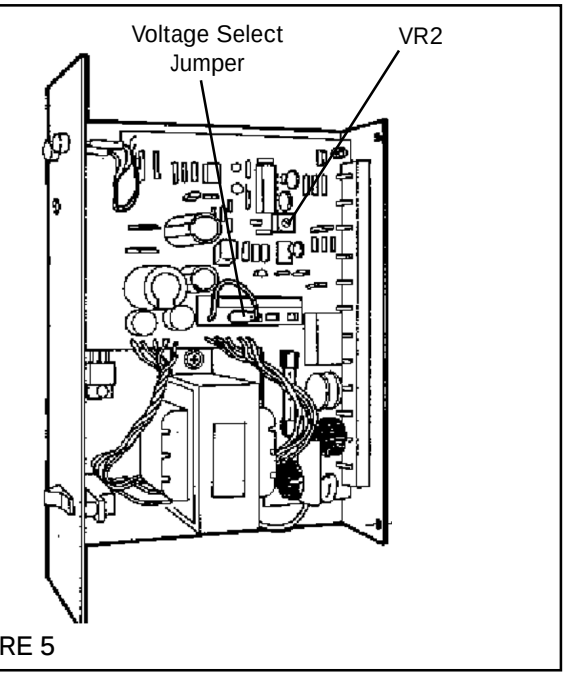

FIGURE 5

CALIBRATION

1. If the test material did not trigger the system, re-insert test material into light path of JD100.

2. Measure voltage between Terminals 5 and 6. Adjust Trim Pot marked ADJ (located on Front Panel) until voltage is between 8.5 and 10.5 VDC (See Fig. 6.

3. System sensitivity is adjusted with VR2 (located on JC100 Main Board . This should normally set to 5, or the middle of the scale. Sensitivity can be increased by clockwise rotation of VR2 and decreased by counterclockwise rotation (See Fig. 5.

WARNING

Too much sensitivity will cause false triggering when there is a minor change in ambient light. Low sensitivity may cause the sensor to occasionally "MISS" a splice as it passes through the sensor.

4. After completing calibration, set Power Switch to OFF, and reinstall Cover and four Screws. System is now calibrated and ready to run.

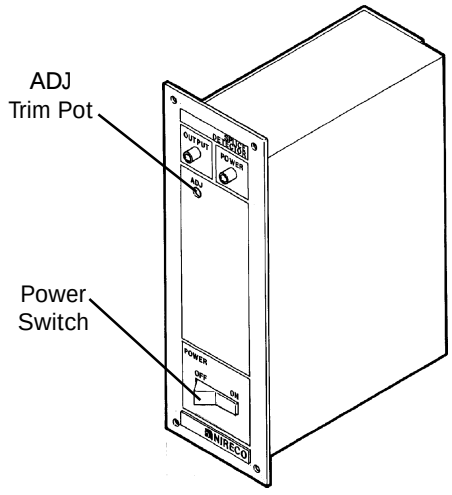

FIGURE 6

FORM NO. L-20164-A-0501

OPERATION

1. With a single thickness of web in the light path of JD100, set Power Switch to ON. Power Lamp should light (See Fig.7.

2. Output Lamp may or may not light. If Output Lamp lights, it will go off after approximately three seconds.

3. In either case, the system is calibrated to one thickness of the web after approximately three seconds. Any time light transmission is decreased by the presence of a double thickness of web, the Output Lamp will light and the Relay will change state for approximately three seconds.

4. The system is re-calibrated for each different web run on the machine in the same manner. After three seconds of running, the system re-calibrates itself to the new web thickness.

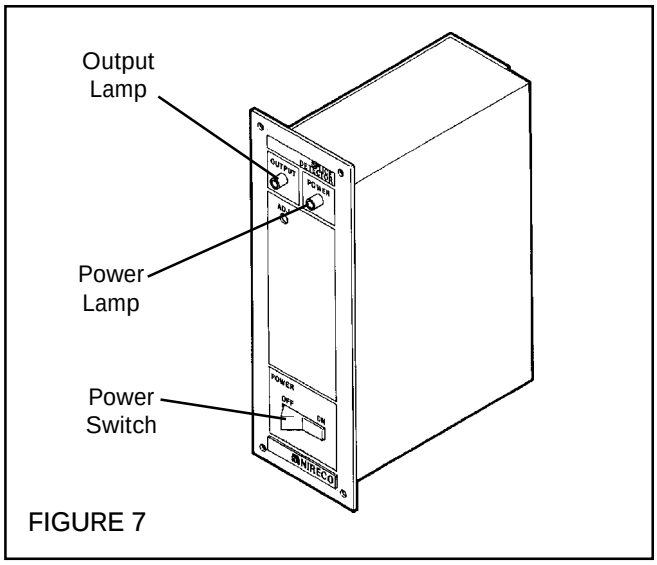

FIGURE 7

MAINTENANCE

1. JD100 sensitivity is affected by foreign material on the Light Transmitter and Receiver. Periodically clean these surfaces with a soft, clean, dry cloth.

2. Incandescent lamps deteriorate during their service life. Replace lamp if it is burned out.

   a. Remove Screw A on Transmitter Housing (See Fig. 8).

   b. Pull Lamp Holder out of Transmitter Housing. (See Fig. 8).

WARNING

Care must exercised when removing Lamp from Transmitter Housing to prevent damage to Lamp Wires.

3. Push Lamp in while rotating Lamp counterclockwise to remove Lamp from Transmitter Housing.

4. Reverse above procedure to install new Lamp into Transmitter Housing.

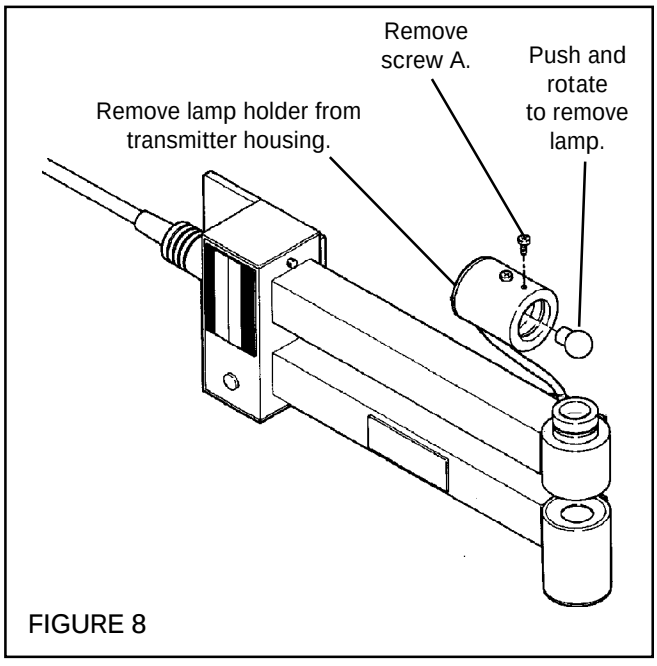

FIGURE 8

SPECIFICATIONS AND PARTS LIST

Supply Voltage	115, 127, 220, 240 VAC.
Power Supply Fuse	250, 0.1A, Slow Blow
Output Contact Rating	200 VAC, 2A
Output Time	3 Seconds (Approximately)
Temperature Range	32o to 122o F [0o to 50o C]
Detectable Web Thickness	0.002" to 0.008" [0.05 to 0.2 mm] paper or equivalent.
Replacement Lamp	M813, 6V, 3W.

COMPONENT DIMENSIONS

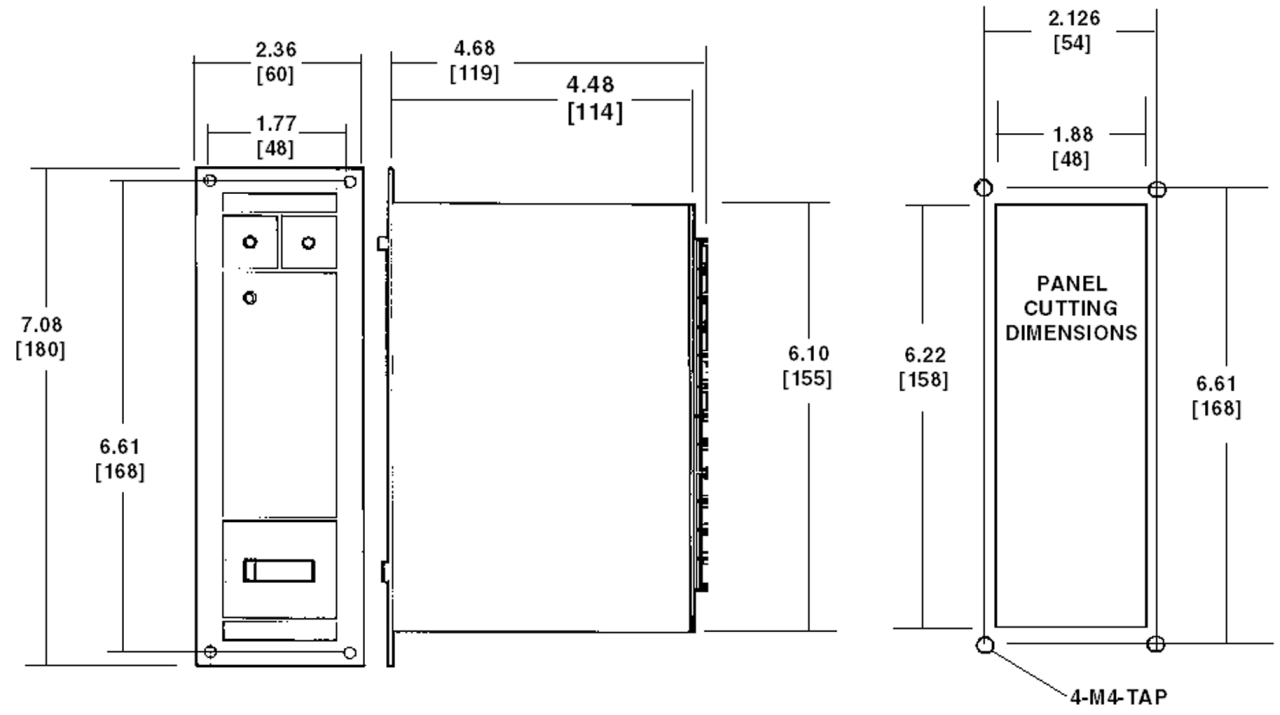

FIGURE 9
JC100 Splice Controller Mounting Dimesions

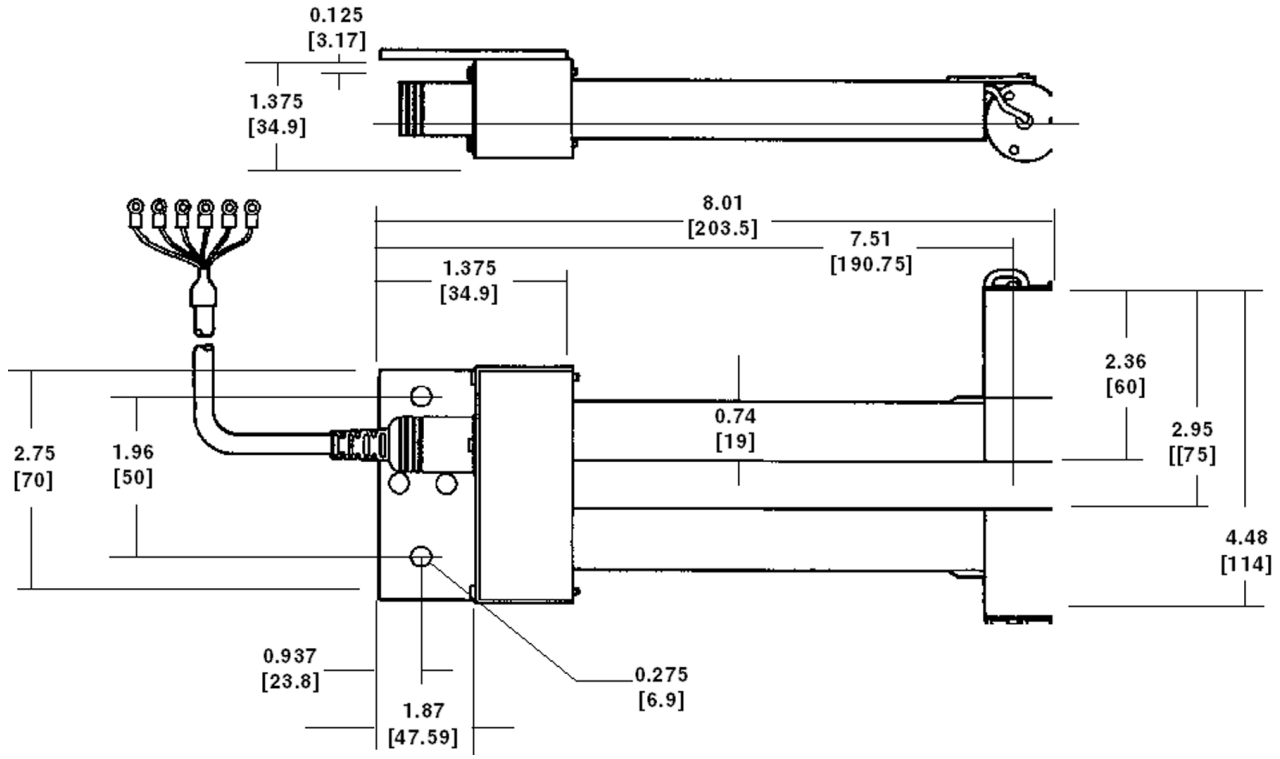

FIGURE 10
JD100 Splice Sensor Mounting Dimesions

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.

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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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