

Web Guide Sensors

Models PH30P and PH11P

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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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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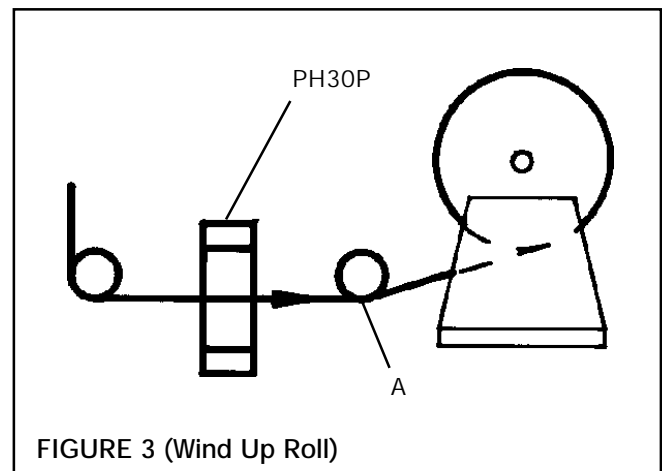
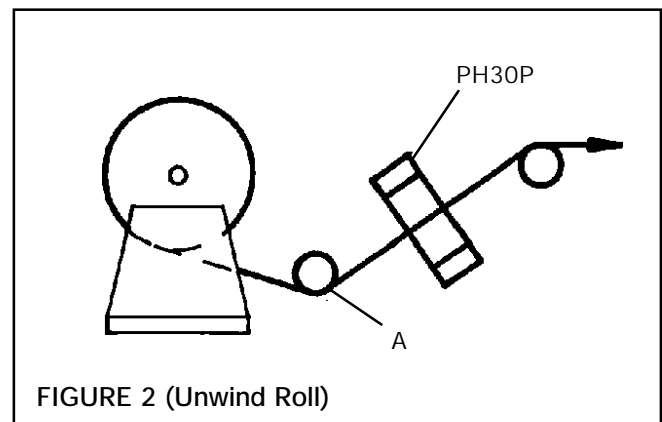
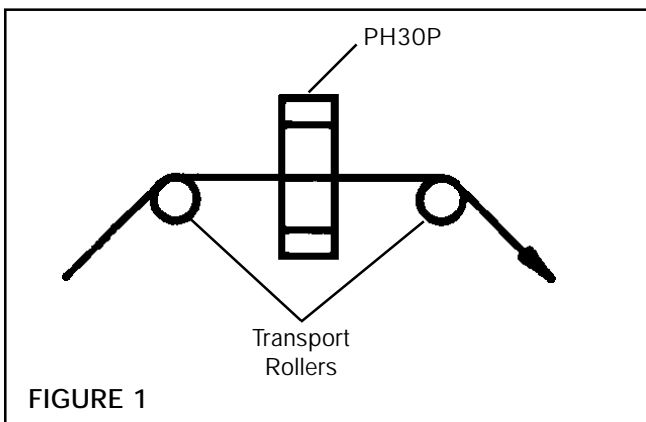
INTRODUCTION

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.

Nexen's PH30P and PH11P are electrical photo sensors designed for use with a web guide amplifier, and are used to sense the edge of an opaque web of material by using a light beam in the normal visual spectrum. The center of this light beam is the desired position of the web.

The sensor is composed of a lamp housing and a sensor housing separated by a mounting bar. The length of this mounting bar is the primary difference between PH30P, and PH11P. Both units are provided with air purge fittings which allow low pressure air, 28 to 85 psi (2 to 6 kg/CM²) to be directed across the lamp and sensor lenses to keep them clear in a dusty or dirty atmosphere.

PH30P is designed for normal applications where the web pass line is constant., as is always the case in mid-process web guiding where the web is supported by web transport rollers before it enters, and after it leaves the sensor (See Fig. 1). The pass line will also be constant if roll A is present on an unwind or winding stand (See Figs. 2 & 3). If roll A is not present, PH11P must be used because the web path will vary vertically as the wind or unwind roll changes diameter. The wide distance between the lamp housing and sensor housing on PH11P will accommodate the change in web position. PH11P is also equipped with guard plates to prevent the web from contacting the lamp lens or sensor lens.



INSTALLATION

1. Vertically mount both PH30P and PH11P with the sensor housing at the top and the lamp housing at the bottom, in order to eliminate ambient light from the sensor (See Figs. 4 & 5).
2. Mount sensor solidly with mounting holes provided in sensor. If the web edge position must be changed from time to time, provisions must be made to change sensor position.

NOTE: Sensor must be firmly mounted or it will change position due to machine vibration. If this happens, the center point of the sensor will change and the web will be moved to the new sensor position.



WARNING

Extra transport rollers between sensor and roll stand or guide roll mechanism it is trying to control will cause a time lag in web guide correction. This time lag will cause hunting (See Fig. 5).

PH30P

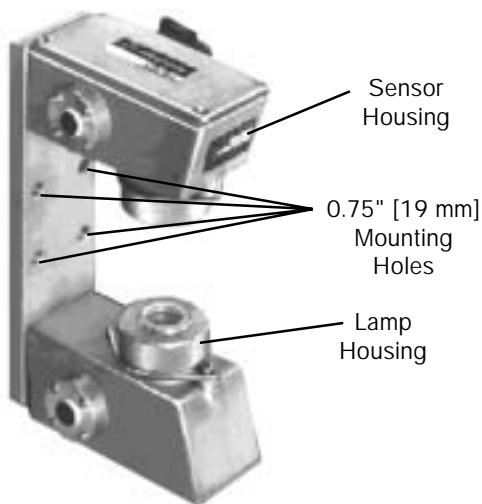


FIGURE 4

PH11P

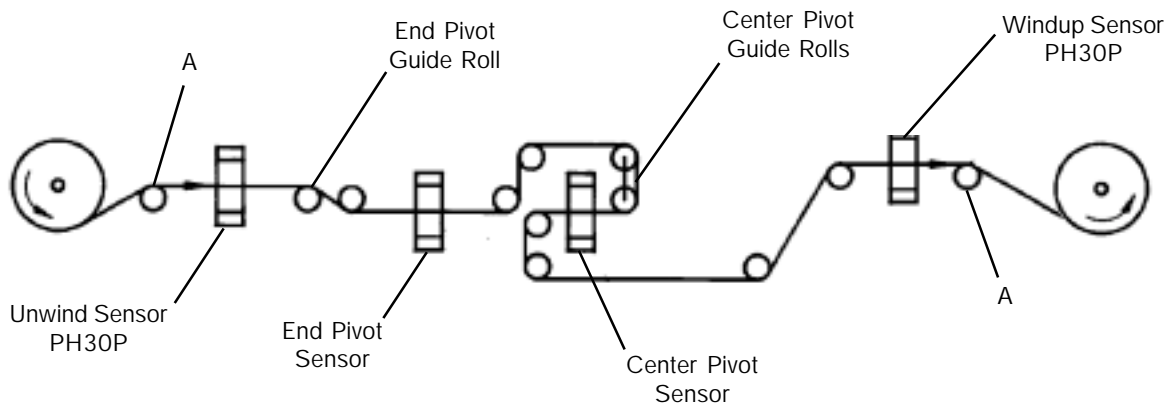
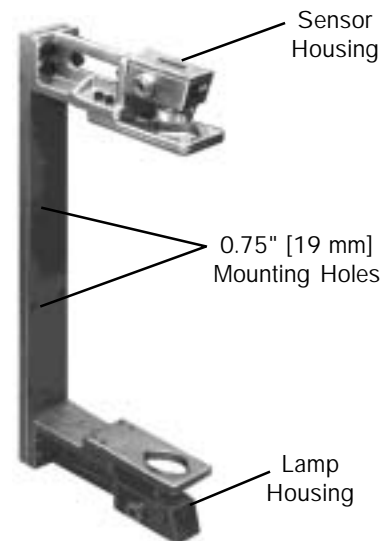


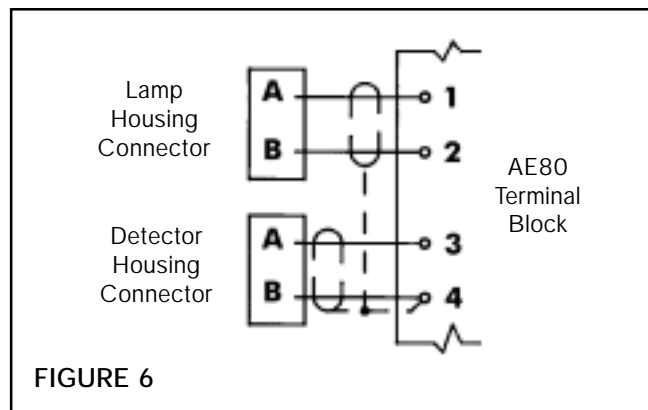
FIGURE 5

ELECTRICAL CONNECTIONS

1. Remove male cable end connector from Lamp Housing. Using customer supplied 18 AWG shielded cable, connect pins **A** and **B** to terminals 1 and 2 (See Fig. 6).
2. Remove female cable end connector from Sensor Housing. Using customer supplied 18 AWG shielded cable, connect pins **A** and **B** to terminals 3 and 4 (See Fig. 6).

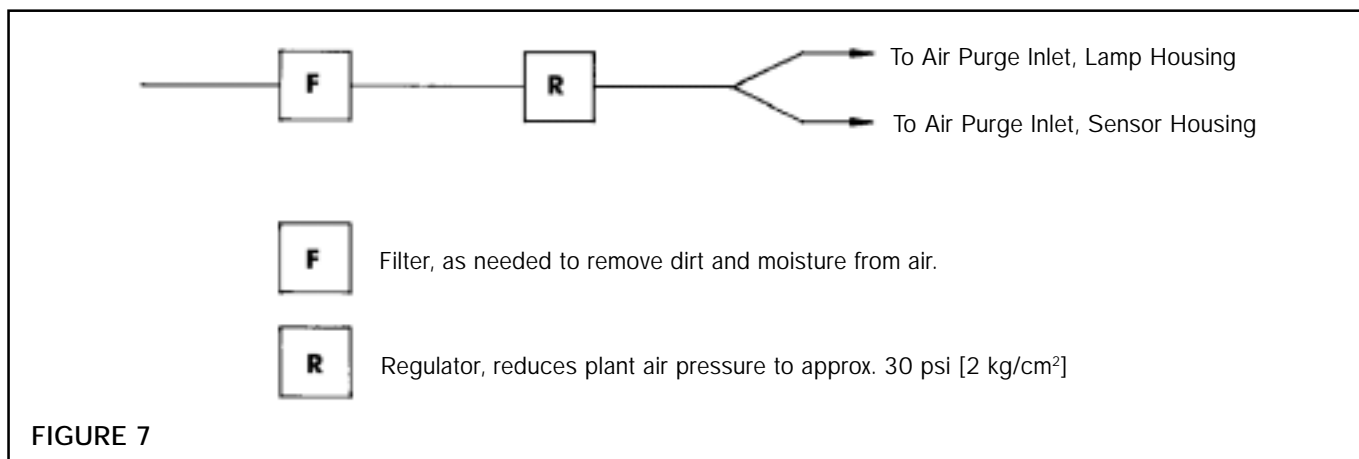
NOTE: Maximum cable length is 130 ft. [40 m].

3. Connect both shield wires to terminal 4 (See Fig. 6).



AIR PURGE CONNECTIONS

1. Purging air passes over lamp and sensor lenses to keep them clean. Install air filtration as required to remove impurities from plant air supply (See Fig. 7).
2. Install air pressure regulator to reduce plant air to approximately 30 psi [2 Kg/CM²], at a rate of 15 SCM [400 NL/min.] (See Fig. 7).



TUNING & CALIBRATION

All tuning and calibration is done at the controller, not the photo sensor.

Refer to appropriate Maintenance and Illustration Manual for Web Guide Amplifier being used.

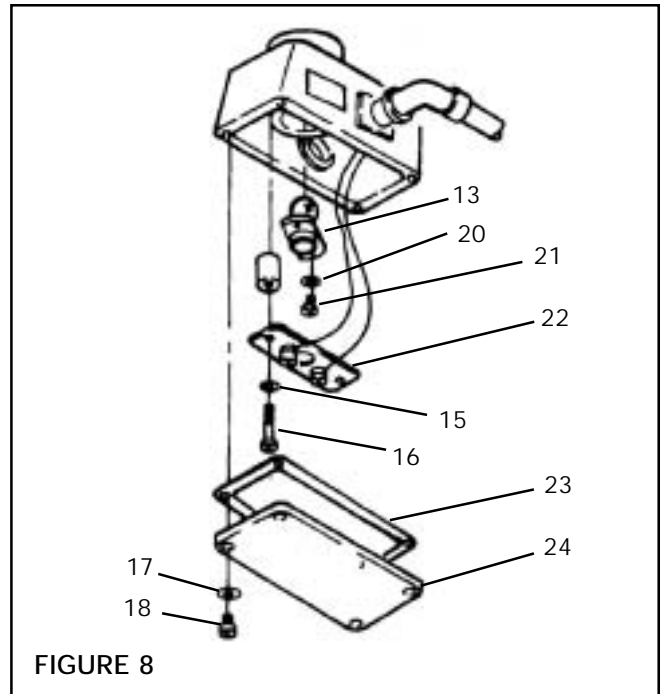
MAINTENANCE

No periodic or scheduled maintenance is required for either PH30P or PH11P. The only replaceable items are the Lamp Assembly and the Sensor Assembly.

LAMP REPLACEMENT (See Fig. 8)

1. Remove four Phillips Head Screws (Item 18) and Washers (Item 17).

2. Remove Lamp Housing Cover and Gasket (Items 23 & 24).
3. Remove two Phillips Head Screws (Item 16) and Washers (Item 15).
4. Remove Lamp Connector (Item 22).
5. Remove two Phillips Head Screws (Item 21) and Washers (Item 20).
6. Remove and replace Lamp Assembly (Item 13).
7. Reverse above procedure to reassemble Lamp Housing.

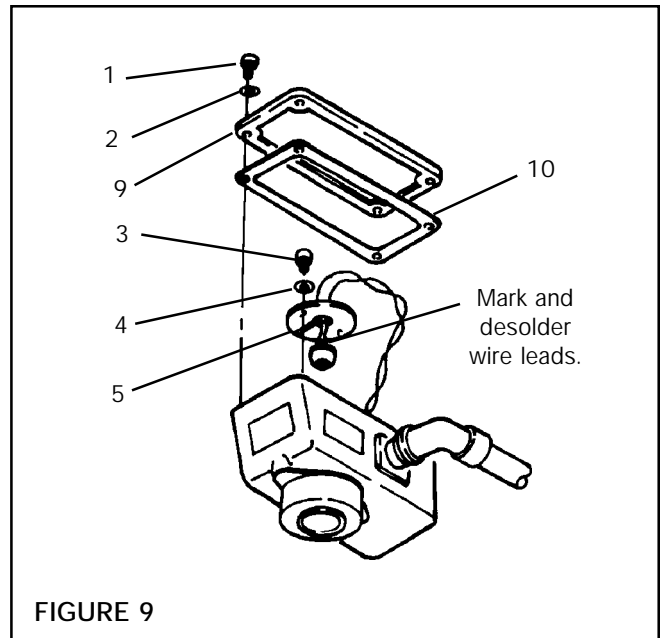


SENSOR REPLACEMENT (See Fig. 9)

1. Remove four Phillips Head Screws (Item 1) and Washer (Item 2).
2. Remove Sensor Housing Cover (Item 9) and Gasket (Item 10).
3. Remove two Phillips Head Screws (Item 3) and Washers (Item 4).
4. Remove Sensor Cover (Item 5).
5. Mark and desolder wire leads from old Sensor unit (Silicone Photo Diode SPD).
6. Replace SPD and resolder wire leads.

NOTE: Maintain wire polarity per marks made in Step 4.

7. Reverse Steps 4 through 1 to reassemble Detector Housing



SPECIFICATIONS

Lamp Voltage Output	12VDC, supplied by Web Guide Amplifier
Output	0-500 mVDC depending on web position within light path.
Sensitivity	0.004" [0.1 mm] web movements can be sensed (opaque webs only)
Air Consumption	15 SCFM (400 ml/mm) @ 30 psi [2 kg/CM2]
Temperature Range	14° to 140° F [-10° to +60° C]

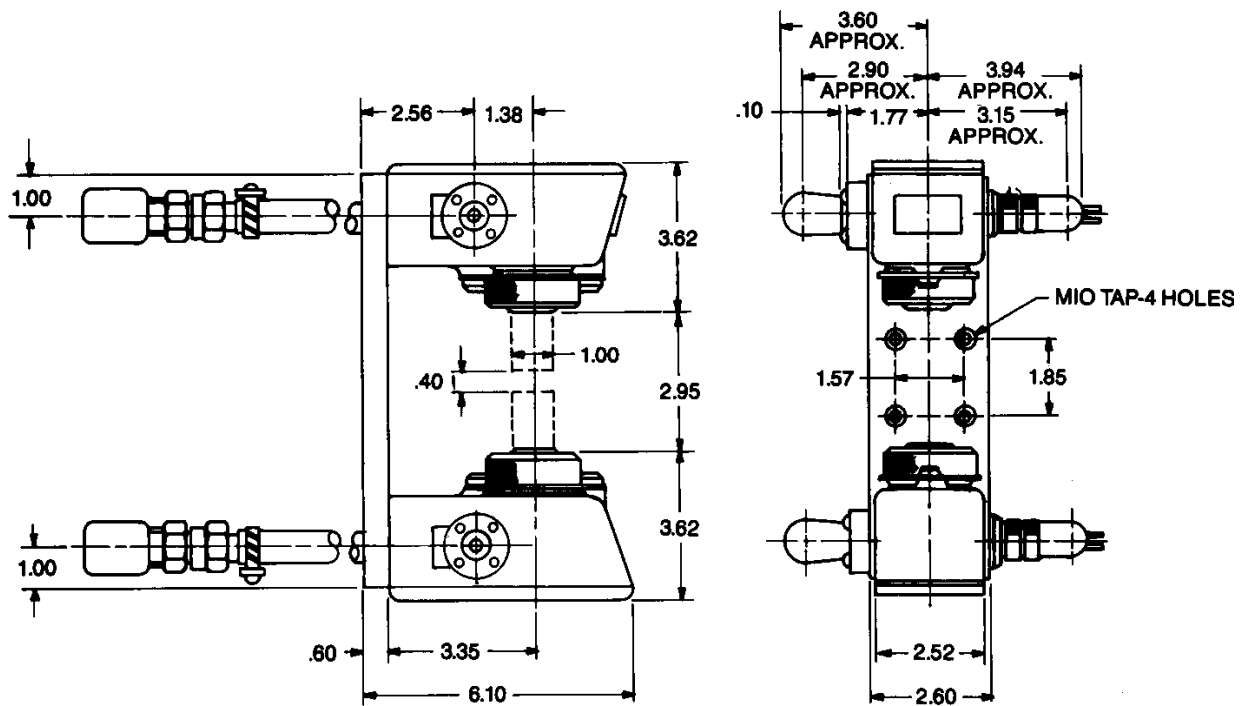


FIGURE 10
PH30P Mounting Dimensions

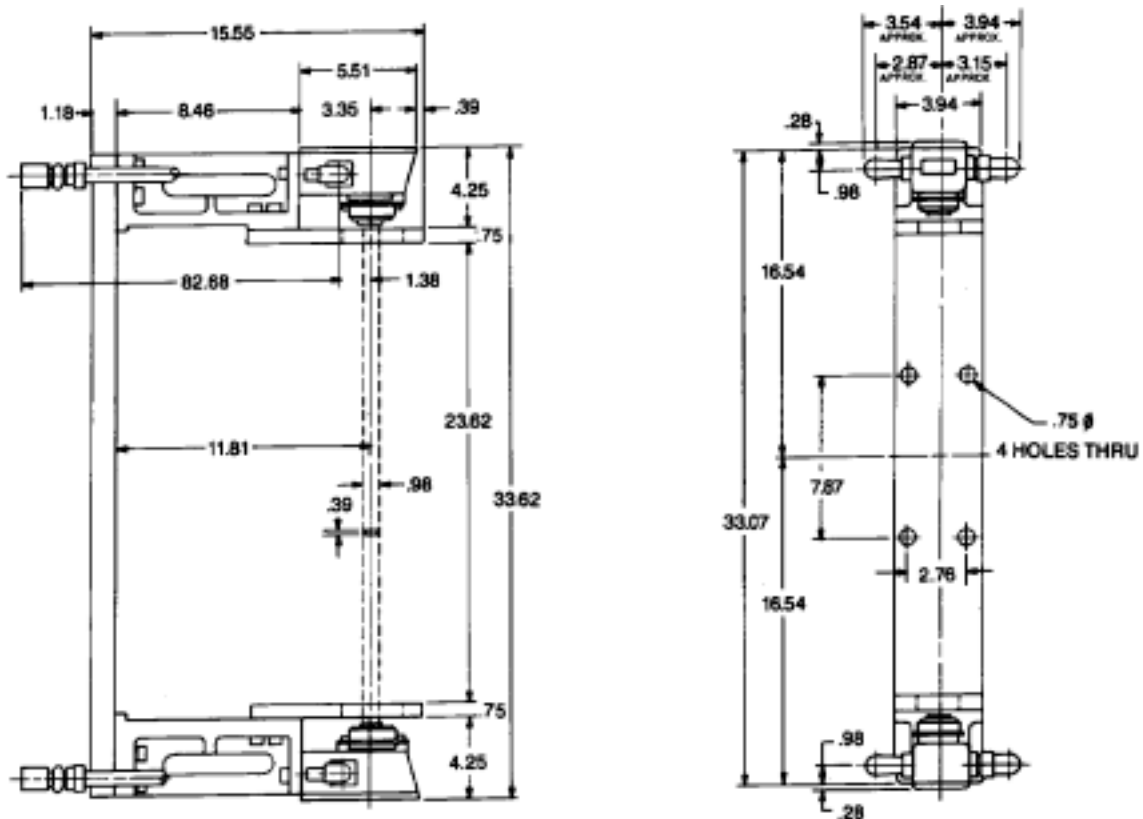


FIGURE 11
PH11P Mounting Dimensions

REPLACEMENT PARTS

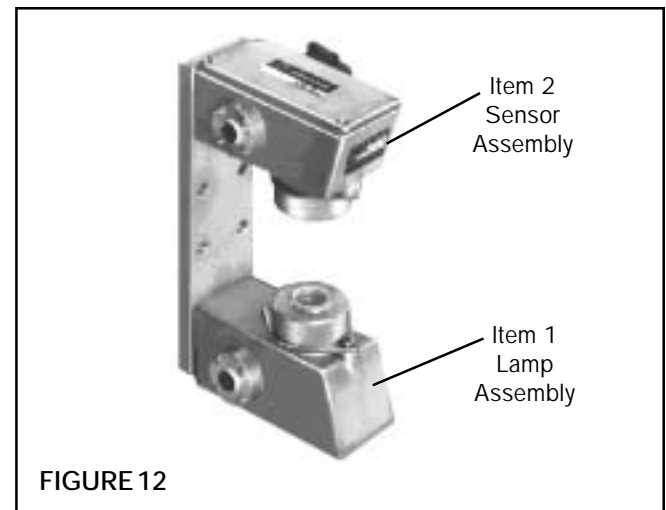
The item or balloon number for all Nexen products is used for part identification on all product parts lists, product price lists, unit assembly drawings, bills of materials, and instruction manuals.

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

PARTS LIST

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.

ITEM	DESCRIPTION	P/N	QTY.
1	Lamp Assembly	2849	1
2	Sensor Assembly	2850	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.

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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.

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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