



## Wide Web Interface

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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ISO 9001 Certified

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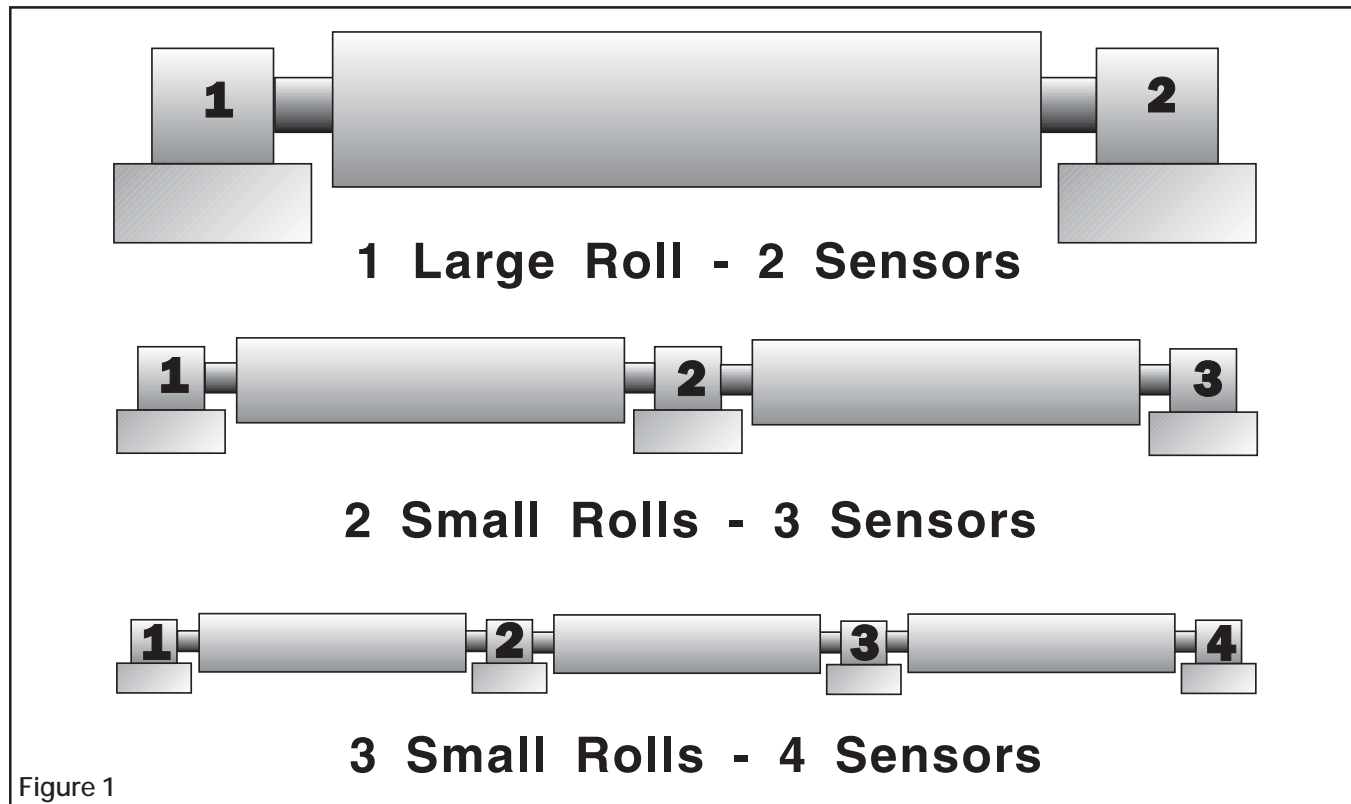
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## INTRODUCTION

The Nexen Wide Web Control System is designed for tension control of webs too wide to be sensed with only one sensing roller. As web widths increase, the sensing roller increases in weight—not only because it is longer but because it is also must be mechanically stiffer due to the greater span length. Each Tension Sensor has a maximum tare weight limit. Eventually the tare weight becomes high relative to tension and a disproportionately large sensor must be used.

At this time, Nexen recommends spanning the width of the web with several shorter and lighter sensing rolls placed end to end (See Figure 1). Support the rolls with standard pillow block bearings located on the outside end and double bearings at each junction. With each bearing resting on a Tension Sensor, the resultant generated forces are distributed to all sensors.

The procedures covered in INSTALLATION, ELECTRICAL CONNECTIONS, and CALIBRATION are the only factors which make the Wide Web Control System unique. The Sensors, Tension Controller, and Electro-Pneumatic Converter (if used) should be installed and operated according to the corresponding maintenance and installation manuals.



## SYSTEM FUNCTION

All Nexen Tension Controllers and Tension Meters are designed to operate with an input from one or two Tension Sensors. The Wide Web Control System may have from three to six sensors, depending on the number of sensing rolls required to span the width.

The Wide Web Interface Unit takes the input from three, four, five, or six sensors and puts out two signals, each equivalent to one sensor, basing the Wide Web Control System upon standard Tension Sensors and standard Tension Controllers or Tension Meters.

Because the standard power supply in the control or meter is not powerful enough to excite multiple sensors, a five volt power supply is required to provide a non-fluctuating DC voltage to the Tension Sensors.

## INSTALLATION

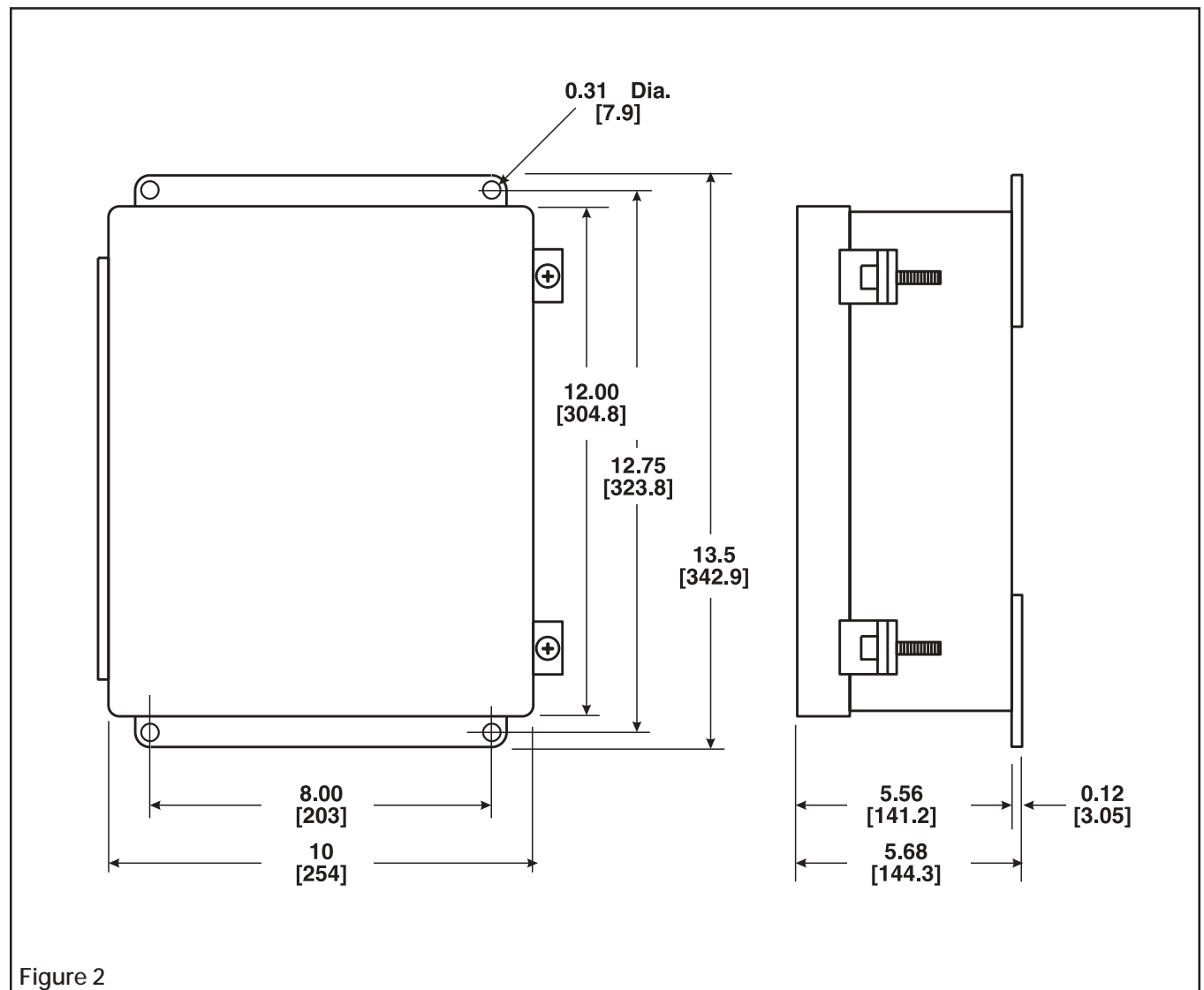
### TENSION CONTROLLER, METER, SENSOR(S), AND POWER SUPPLY

Mount the Tension Controller, Tension Meter, Tension Sensor(s), and Power Supply according to instructions.

### WIDE WEB INTERFACE UNIT

Mount Wide Web Interface Unit in a location convenient to all Tension Sensors. Nexen recommends a central location within the 16 Ft. [ 4.8 M] cable length of each Tension Sensor. If this is not possible, extend Tension Sensor cables as described in the Tension Sensor Maintenance Instructions. Refer to Figure 2 for Wide Web Interface Unit mounting dimensions.

**NOTE:** This unit is an electronic device and should not be mounted in a location where it will be subject to excessive heat (below 32° or above 122° F [below 0° or above 50° C]), shock, vibration, or moisture.



## WIRING INSTALLATION GUIDELINES

This product is designed to minimize the effects of ElectroMagnetic Interference (EMI) on its operation, but as with any electronic device, proper installation and wiring methods are necessary to ensure proper operation. By doing so, the interference from external effects such as electrical line spikes, electrical noise, static electricity, etc. will be minimized. The following methods outline wiring installation guidelines to protect your system:

- All input and output signal and sensor cables must be shielded with the shields tied to earth ground at one end. In case of very high frequency (MHz range) electrical noise, both ends of the shield need to be tied to earth ground.
- Keep cable length as short as possible. Think of them as antennae for noise.
- Use power line filters to suppress interference on the AC voltage lines that power the unit.
- Place a resistor-capacitor network (snubber) across inductive coils such as relays and solenoids in order to stop electrical interference at the source (See Figure 3).
- Isolate signal and sensor cables from cables carrying AC voltages, power for high current loads or relays and solenoids. Either relocate the signal and sensor cables away from other cables or use grounded metal conduits to shield them. This will reduce the potential for noise interference between the signal and sensor cables and the other noisy cables.

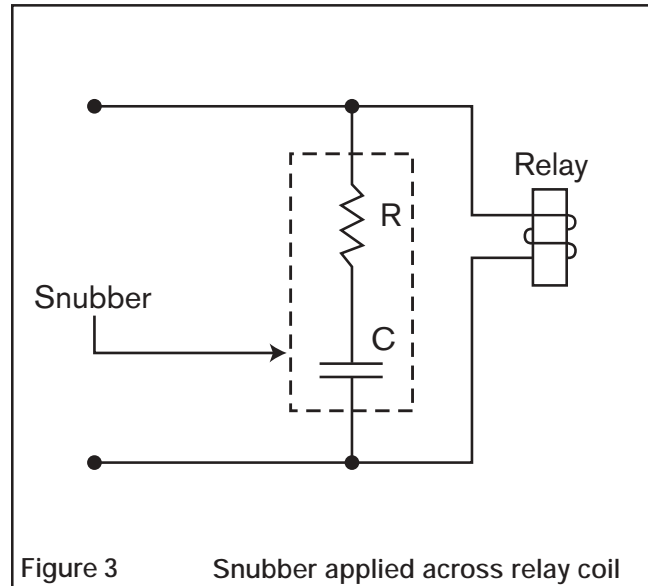


Figure 3 Snubber applied across relay coil

For environments that experience high levels of static electricity follow these additional guidelines:

- Remove the static charge from material carrying it. In the case of webs that carry static charges, there are static charge removal products available such as static bars and ionized blowers.
- Ensure that sensors and machine frames are grounded to earth through a low impedance path.
- Wrap grounding tinsel around sensors and cables that are close to the source of the static electricity and ground the tinsel to earth.
- Tie all signal and sensor cable shields directly to earth ground without passing through the electronic device. This will help prevent high voltage interference from coupling into other circuits within the device.

## ELECTRICAL CONNECTIONS

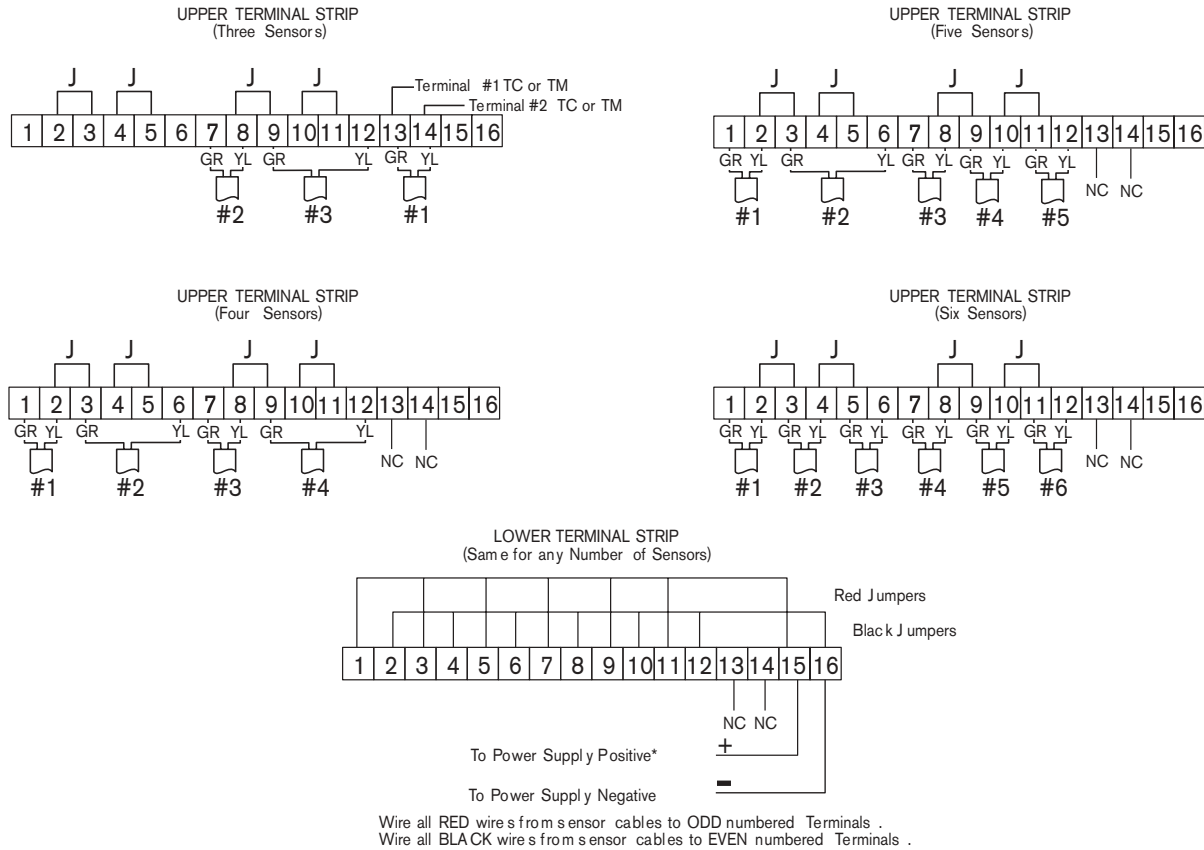


Figure 4

1. Use cables provided with the Tension Sensors to connect the Tension Sensors to the Wide Web Interface Unit (See Figure 4).

**NOTE:** Number the Sensors from one side of the Web to the other as shown in Figure 1. Make sure the sensors are wired to the correct terminals, as defined by the number of sensors being used; i.e., Sensor No. 2 can be wired to two different locations depending on the number of sensors being used.

2. Use customer supplied 18 AWG cable to connect the positive lead of the power supply unit to Terminal 15 on the lower terminal strip. Connect the negative lead to Terminal 16 (See Figure 4).
3. Use customer supplied 18 AWG cable to connect the power supply unit to 110 VAC.
4. Use customer supplied 18 AWG cable to connect the interface unit printed circuit board terminals TB2 numbers 1 - 6 to the Tension Controller (See Fig. 5).
5. Wire the Tension Controller or Tension Meter as normal for all other connections (Refer to Installation Instructions provided with unit).

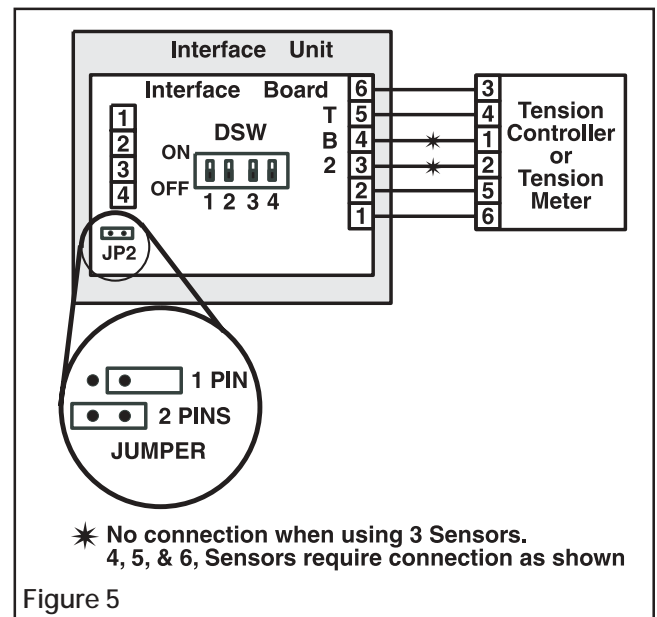


Figure 5

**NOTE:** If the interface unit is used in conjunction with a TC820 Tension Controller connect the provided Jumper across both pins of JP2, otherwise leave the Jumper on 1 Pin of JP2 (See Figure 5).

## CALIBRATION

1. Set Dip Switch **DSW** located on the interface board to the positions indicated depending on the number of sensors being used (See Table 1 and Figure 5).
2. Zero adjust the Tension Meter or Tension Controller according to the installation instructions in the appropriate literature for these units.
3. Install calibration weights on each sensing roll (See Figure 5). Secure one end of the rope or cable, making sure the cable or rope passes the sensing roll at the middle of its span. Calibration weights must be of an equal weight and the sum of the weights must be less than the maximum web tension value on the tension indicator, i.e., 100 Lbs., 500 Lbs. etc. For tension indicator values rated in **PLI**, the sum of the weights must be less than the maximum **PLI** times the web width.
4. For tension indicators rated in pounds, multiply the sum of the calibration weights by the correct span factors for the number of sensors being used (See Table 2). This will provide the corrected calibration value for **No. 1** and **No. 2** span.
5. For Tension Meters rated in **PLI**, divide the sum of the calibration weights by the material width of the machine. This will provide a simulated **PLI** value. Multiply the simulated **PLI** by the correct factors given in Figure 7 for the number of sensors being used. This will yield the corrected calibration value for **No. 1**, and **No. 2** span.
6. Set the Tension Meter or Tension Controller range switch to **HIGH**.
7. Set the Tension Meter or Tension Controller selector switch to **No. 1**.
8. Adjust **No. 1** span until the tension indicator displays the corrected calibration value for **No. 1** from Step 4 or 5.
9. Set the Tension Meter or Tension Controller selector switch to **No. 2**.
10. Adjust **No. 2** span until the tension indicator displays the corrected calibration value for **No. 2** from Steps 4 or 5.

Table 1

DSW SWITCH POSITIONS				
NUMBER OF SENSORS	DSW SWITCH NO.			
	1	2	3	4
3	OFF	OFF	ON	OFF
4	ON	OFF	ON	OFF
5	ON	OFF	OFF	ON
6	OFF	ON	OFF	ON

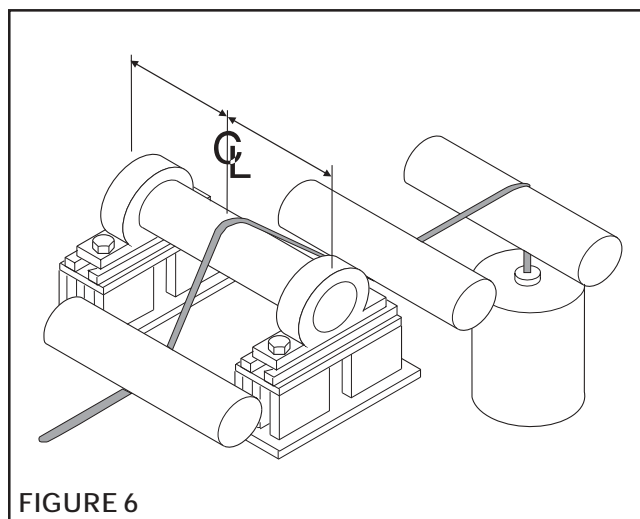


FIGURE 6

Table 2

SPAN FACTORS				
SPAN POSITION	NUMBER OF SENSORS			
	3	4	5	6
NO. 1	0.25	0.50	0.375	0.50
NO. 2	0.75	0.50	0.625	0.50

11. Set the Tension Meter or Tension Controller selector switch to **TOTAL**.
12. The tension indicator must now read the sum of the calibration weights from Step C or the simulated **PLI** value from Step 5.

## REPLACEMENT PARTS

Interface Board.....Nexen Part No. 15597



## WARRANTY

### 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.

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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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