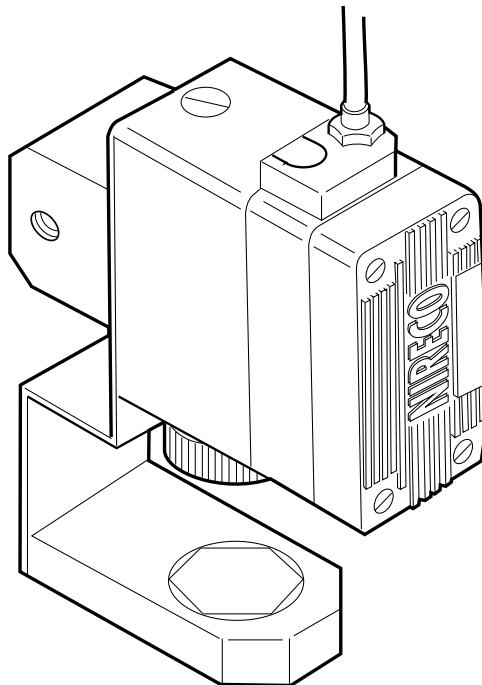


nexen™

formerly Horton Industrial Products

"PH20" TRANSPARENT EDGE GUIDE SENSOR

INSTALLATION, OPERATION AND MAINTENANCE GUIDE



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
(651) 484-5900

www.nexengroup.com

Nexen Group, Inc.
560 Oak Grove Parkway
Vadnais Heights, Minnesota 55127

ISO 9001 Certified



CAUTION

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.

Comply with all applicable codes.

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-NOTES-

I INTRODUCTION

The Horton "PH20" is a photo sensitive edge guide sensor, designed primarily for use with transparent web materials. "PH20" may also be used with opaque materials, and requires no changes or adjustment when converting from transparent to opaque webs.

"PH20" generates a light beam using an incandescent lamp which is focused by a lens (See Fig. 1).

This light beam passes through the web and bounces off a reflector to a Cds light receiving element. The Cds cell converts the light energy it receives into a voltage output to the web guide amplifier. Voltage generated varies in direct proportion to the amount of light received by the Cds cell. Even the most transparent web has a certain amount of refraction, therefore the position of the web within the sensor light beam will affect the amount of light reaching the Cds cell.

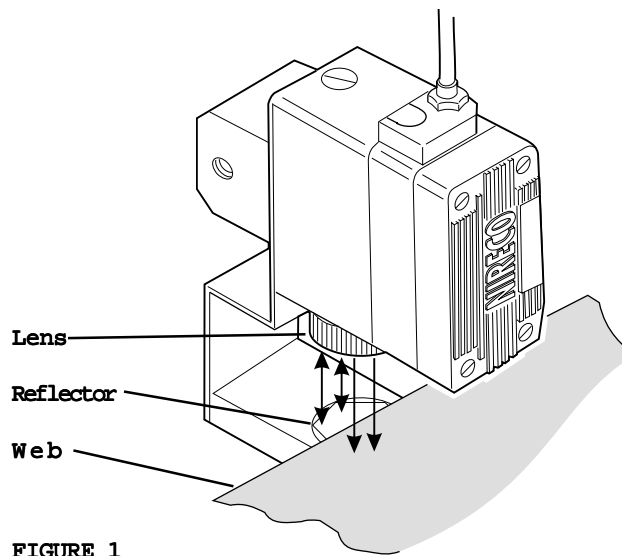


FIGURE 1

I INSTALLATION

- A. Secure "PH20" to threaded extension of adjustment screw of Mounting Bracket (See Figs. 2 & 3).

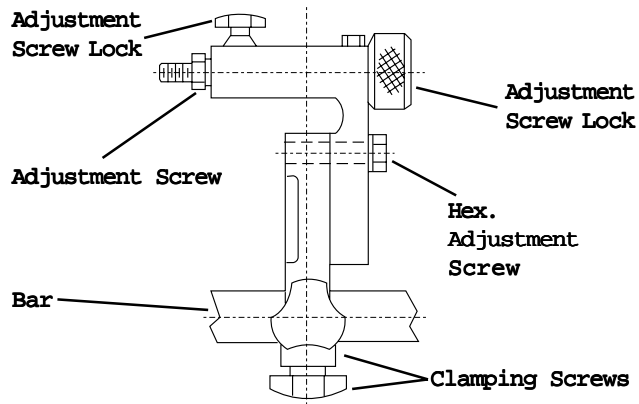


FIGURE 2

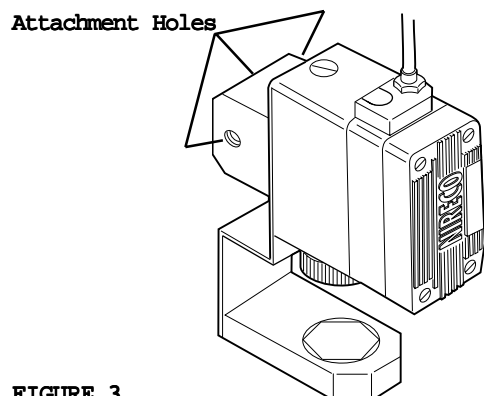


FIGURE 3

NOTE
Make sure lock nut on threaded extension is tight against "PH20"

- B. Secure Mounting Bracket to customer supplied sensor mounting bar (1 in. [25 mm] square) mounted across web (See Fig. 4).

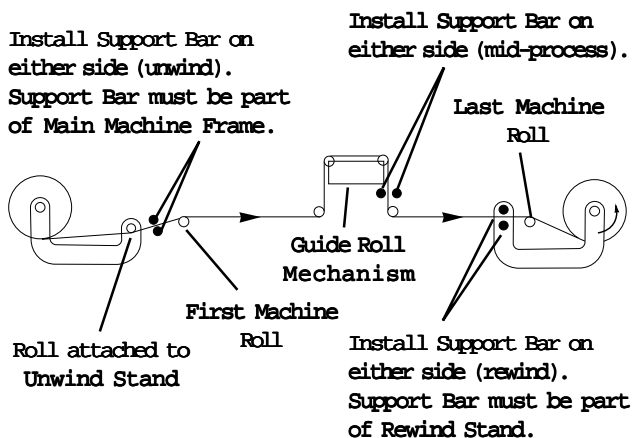


FIGURE 4

NOTE
When positioning "PH20", make sure web passes through light beam at an angle of 5 to 45 degrees from perpendicular (See Fig. 5).

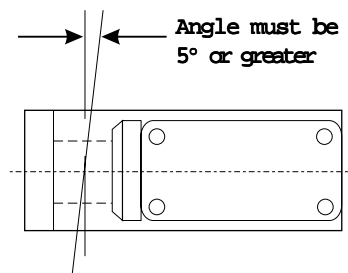


FIGURE 5

- C. Make sure Sensor is securely mounted on Mounting Bracket, and Mounting Bracket is securely mounted to machine. Looseness in these mountings will cause Sensor movement and prevent accurate edge guiding.

I ELECTRICAL CONNECTIONS

- A. "PH20" comes with a 16 f. [5m], 4 conductor, shielded cable. Connect wiring to Web Guide

Amplifier according to instructions provided with Amplifier (See Fig. 6 for color coding and significance of wires).

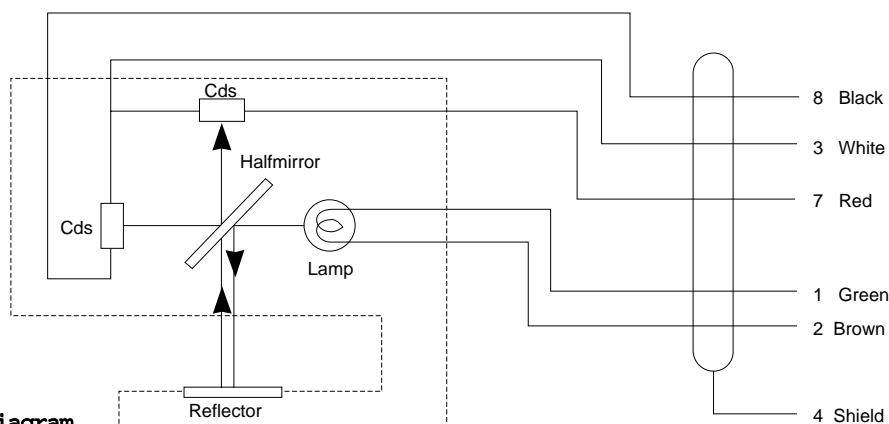


FIGURE 6
"PH20" Schematic Diagram

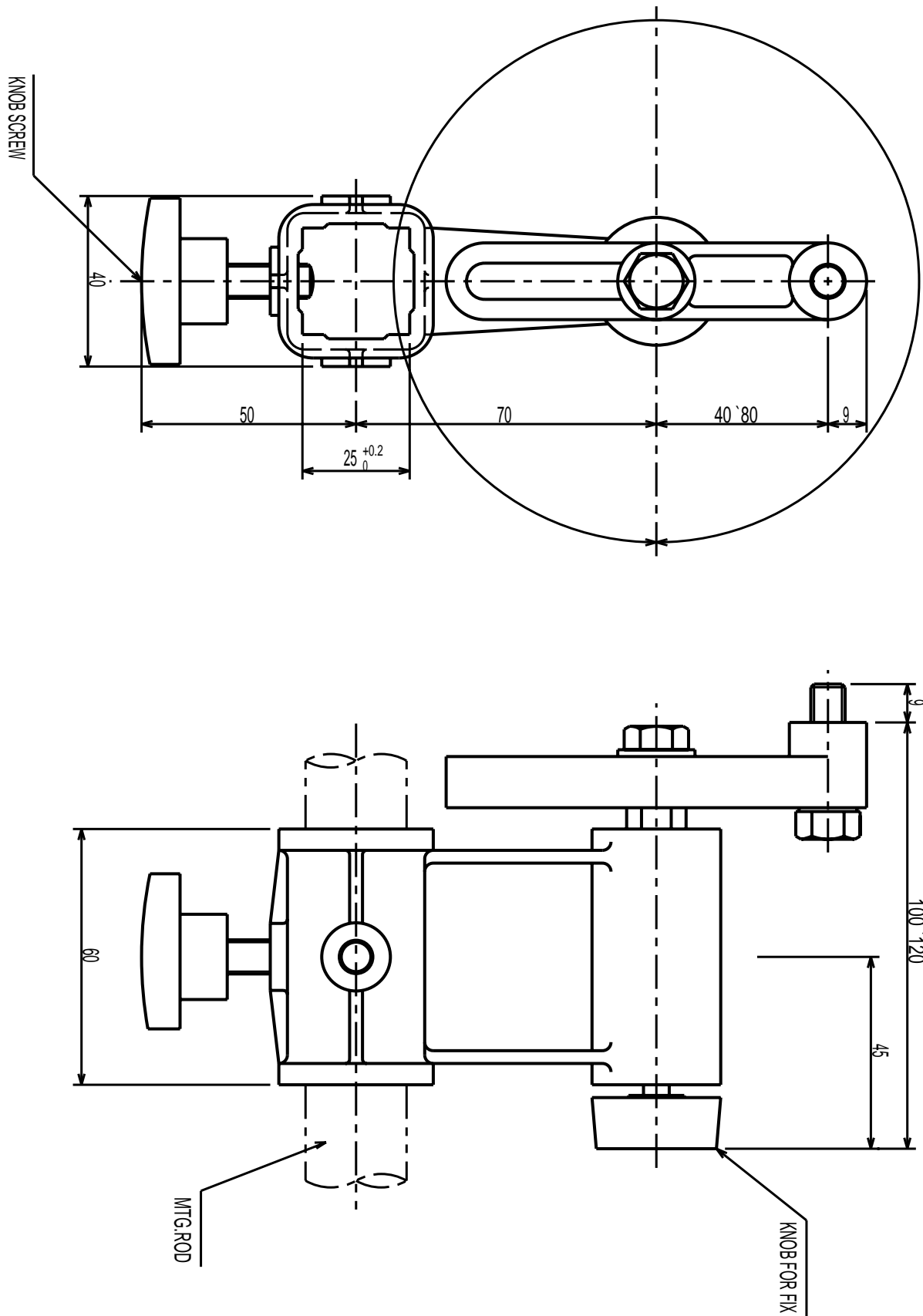


FIGURE 7
Screw Guider Dimensions

V. MAINTENANCE

- B. Incandescent lamps deteriorate during their service life. If it becomes impossible to achieve electrical balance with Balance Control Pot on Web Guide Amplifier, proceed as follows:

1. Set Balance Pot to its mid-travel position.
2. Insert web into Sensor light path until light spot on web is a half-circle (this centers web in Sensor).
3. Remove Adjustment Screw Cap (See Fig. 7).
4. Using a small screw driver, adjust light intensity with the variable resistor exposed in Step 3 until web position indicator on Web Guide Amplifier is in its middle or balanced position.
5. Reinstall Adjustment Screw Cap.

- C. Lamp life is approximately six months, based on an eight hour per day usage. To replace lamp:

1. Loosen screws on Lamp Access Cover
(See Fig. 7).

NOTE

These are captive screws and should not separate from cover.

- 2 Remove burnt out lamp.
- 3 Install new lamp.
- 4 Replace cover and tighten screws.
- 5 Adjust light intensity (See Section IV, Para. B).

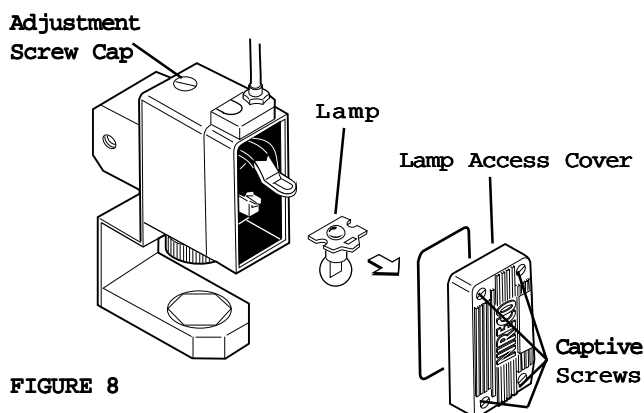


FIGURE 8

V. SPECIFICATIONS

Light path length	1.15 in. [32 mm], lens to reflector
Power supply	4.5 VDC
Lamp type	Incandescent
Wave length	Visual spectrum
Receiver element	CdS cell

Measurement range $\pm .12$ in. [3 mm] from light path center
Measurement accuracy004 in. [0.1 mm]
Weight2 lbs. [0.9 kg.]
Ambient temperature 32° ~ 122° F° [0 ~ 50° C]
Housing Aluminum die casting

VL REPLACEMENT PARTS

Item	Description	Qty.	P/N
1	Lamp	1	1858

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WARRANTY

Nexen Group, Inc. (Nexen) warrants its product(s) [the Product(s)] will be free from defects in materials and workmanship under normal use and service conditions for a period of 12 months from the date of shipment. NO OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, OR OF FITNESS FOR A PARTICULAR PURPOSE, ARE GIVEN, AND ALL SUCH OTHER WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

Conditions

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) the claimant has complied with the warranty claim procedures set out below in Warranty Claim Procedures.

Exclusive Remedy

"The sole and exclusive remedy for a breach of this warrant shall be, at Nexen's sole election, repair or replacement with new, serviceably used or reconditioned Product, or issuance of a credit in the amount of the current Nexen discounted price for the Product."

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 Nexen and deliver the Product to Nexen within one year of the date on which the alleged defect first became apparent.

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