

# Offset Pivot Guide (OPG)

## Design Specifications and Installation Instructions

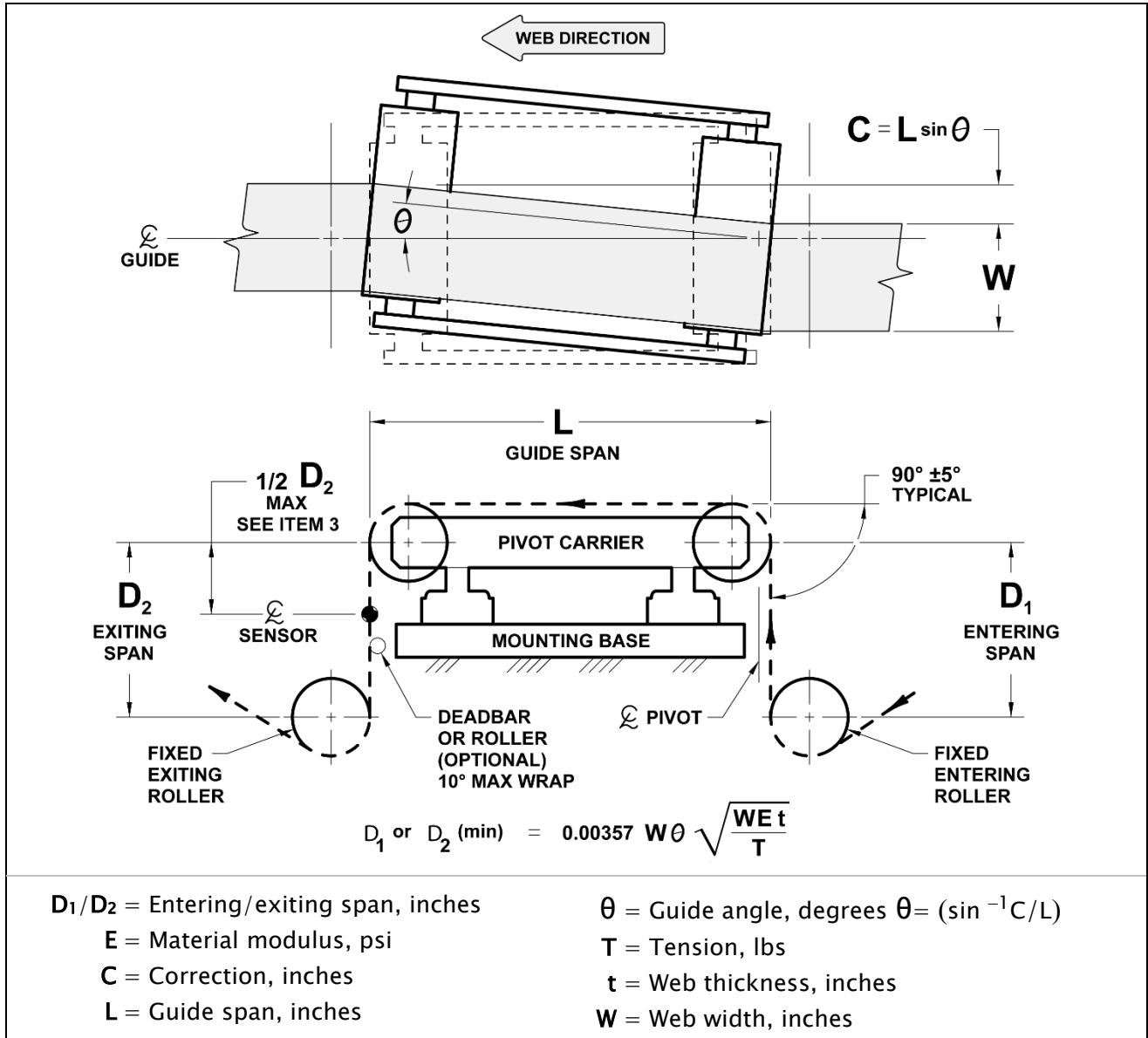


Figure 1. OPG install design specifications

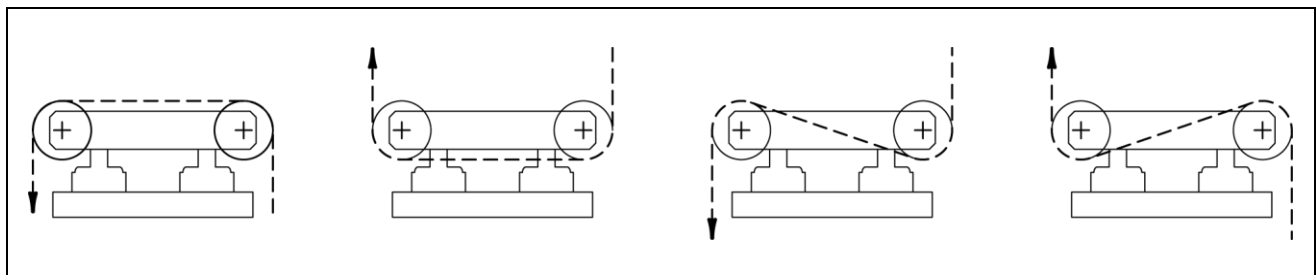


Figure 2. OPG wrap styles

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An Offset Pivot Guide (OPG) is a displacement type guide that provides web position correction with minimum entry and exit span requirements. Designed with parallel rollers, the guide pivots such that the web is twisted; thus, minimizing web stress. This allows OPGs to be used in the least amount of space.

## 1. Design

An OPG has four major parts in addition to the guide rollers.

- 1) The pivot carrier is the moveable structure that holds the guide rollers.
- 2) The mounting base is the fixed structure that bolts to the mounting surface. See the OPG data sheet or drawing for mounting method and dimensions.
- 3) The actuator provides the pivot carrier with movement.
- 4) The race rod or cam track system connects the base to the pivot carrier and allows the pivoting motion.

Each guide is designed for a particular tension, correction, roller size, and wrap style. The guide span “L” should be as long as possible.

## 2. Wrap Style

There are four different “threading arrangements” as shown in Figure 2, and four different mounting arrangements to provide sixteen different standard wrap styles (*See Figure Sheet 1-636, OPG Wrap Styles*). The final assembly drawing will show the approved wrap style.

## 3. Sensor and Dead Bar

The sensor should be located as close as possible to the guide exit roller for optimal accuracy. A dead bar or web support roller may be added to stabilize the web or to prevent the web from touching the sensor. The web should pass through the sensor before it wraps the dead bar or roller.

The maximum wrap angle on the dead bar or

support roller is 10 degrees when the guide is at the end of its stroke.

## 4. Location

Since the guide can only control the web at the sensor, locate the guide as close as possible to where the accuracy is needed.

## 5. Mounting

Mount the guide so that the guide rollers are properly aligned (parallel) with the entry and exit idlers. The structure supporting the guide should have a natural frequency greater than 20 Hz. Bracing may be required to assure guide stability. The mounting surface must be flat to prevent binding of the guide mechanism.

## 6. Entry and Exit Spans (D1 and D2)

Generally D1 and D2 should be greater than one half of the maximum web width. In cases of very stiff webs or large corrections use the equation on previous page or consult Maxcess.

## 7. Guide Dynamics

An OPG has a pivot axis that is perpendicular to the mounting base and is located near the outer surface of the entry roller. When the guide is centered, it does not affect the web position. As the guide moves to a position other than the center, the web is twisted in the entry span displacing it to a new position as it moves across the guide span and is finally twisted back in the exit span. Since the sensor is located immediately after the guide exit roller, the control system will continually displace the web to keep it at the guide point of the sensor.

## 8. Servo-Center

Servo-Center is an option that provides a fast, easy means of temporarily centering the guide assembly for set up and threading. *See Figure Sheet 1-493 for Servo-Center adjustment instructions.*



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