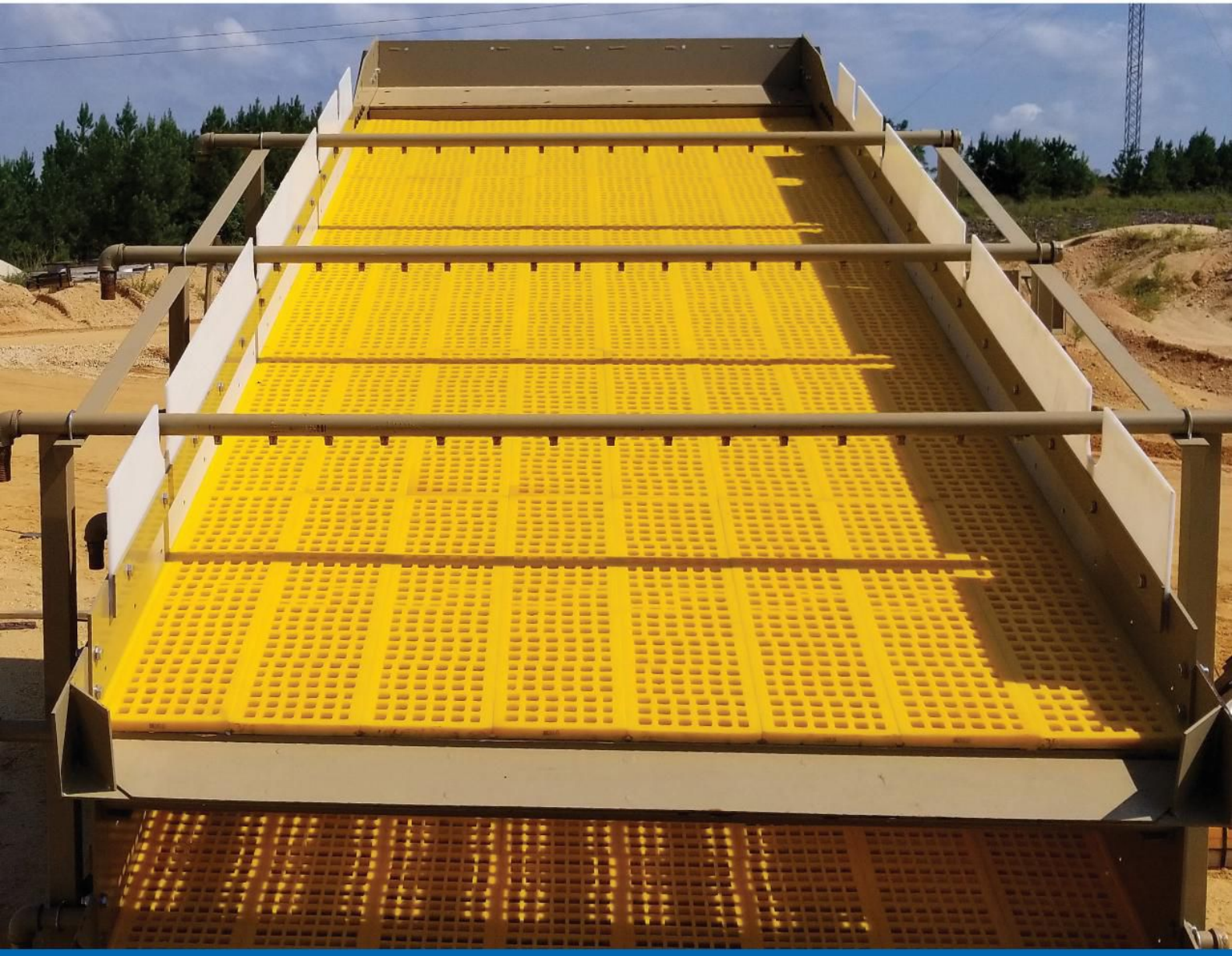
# TEMA ISENMANN

## Reading the Tema Isenmann Stroke Gauge



**TEMA ISENMANN**
Screening & Wear Solutions

# The Tema Isenmann Stroke Gauge

The Tema Isenmann Stroke Gauge is used to measure the stroke (2 x amplitude) generated by a linear motion or circular motion vibrating screen. It is a quick method to check that the screen is operating within manufacturing limits.

## 1. Method

Measure the stroke at each end of the screen and at the drive mechanism side to side as shown in Figures 1 & 2.

**Double Deck Horizontal Linear Motion Vibrating Screen**

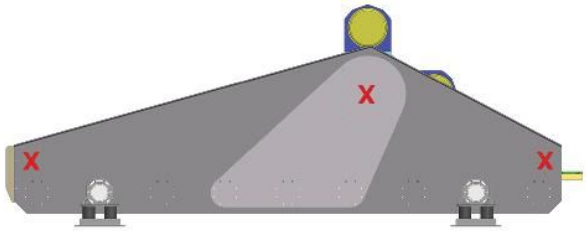



Figure 1

**Double Deck Circular Motion Inclined Vibrating Screen**

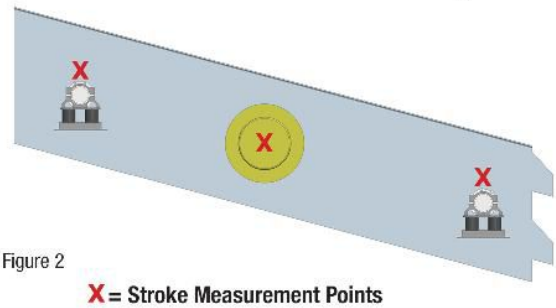



Figure 2

**X = Stroke Measurement Points**

From the information we can determine the gravitational force being generated by the drive of the vibrating screen and whether the screen is structurally sound.

A. To determine the gravitational force (G) on the screen:

$$\text{G–Force} = \frac{\text{stroke}}{2} \times \frac{\text{rpm}^2}{900\,000}$$

**The G-Force should typically be:**

Horizontal Screens operate in a range of 4.2 to 6 G's
Inclined Screens operate in a range of 3.2 to 4.0 G's

**Note:** The G-Force is related to the aperture size and application. Before making changes to the G-Force please consult your Screen Manufacturer.

B. The stroke at the feed end of the screen should be the same on either side. The same will apply at the discharge end. However, the stroke at the feed and discharge end are normally marginally different.

If the stroke at either the feed or discharge end are not the same left to right there is a possibility that the screen is experiencing torsional twisting and or resonance problems.

Check that none of the Screen Runners or Cross Members are cracked or broken. If so, replace immediately to reduce further damage.

Check that the isolation springs, Rosta mounts or rubber buffers are within tolerance. If not replace all isolators simultaneously.

After repairs re-check the screen stroke to ensure it is operating within manufacturing limits.

## 2. Operating and Reading the Stroke Gauge

### A. Linear Motion

The Stroke Gauge is magnetically backed and should be placed onto the screen side plates at the positions indicated in Figures 1 & 2 marked with **X.**

**Note:** To ensure the Stroke Gauge sticks to the side plate clean the area of dirt prior to use.

The Stroke Gauge should be rotated until the arrow is running on itself. This angle will indicate the slope of the drive action on a Linear Motion Vibrating Screen. Typically this is at 45° from the horizontal.

**Note:** The drive angle can vary between screen manufacturers.

Read off the stroke where the two "V's" intersect i.e. 5 mm as indicated in Figure 3. The stroke on a Linear Motion Vibrating Screen can also be read from the circles. The circles that just touch will indicate the stroke i.e. 6 mm as indicated in Figure 4.

Figure 3

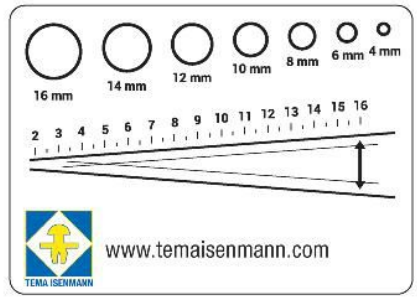
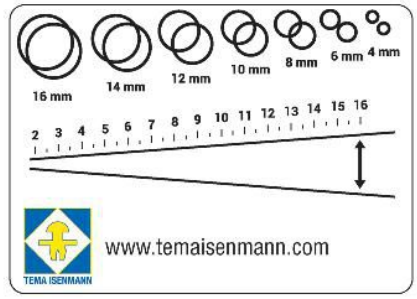



Figure 4

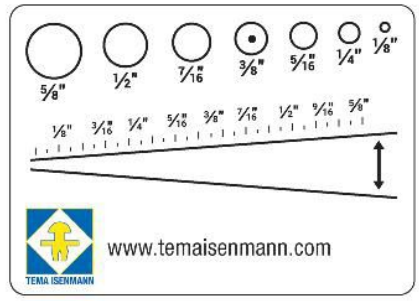



### B. Circular Motion

With circular motion either using single or double eccentric shafts mounted at the center of gravity of the vibrating screen one can only use the circles on the Stroke Gauge. The circle that is clear with the most focused "dot" in the middle of it indicates the stroke i.e. 3/8"
as indicated in Figure 5.

**Note:** Rotation of the Stroke Gauge is not necessary when measuring circular motion.

Figure 5




**Caution:** The stroke gauge is magnetic backed and could affect the magnetic coding on credit cards etc. if contact is made.

**The Tema Isenmann Stroke Gauge is available in both imperial & metric versions**

Tema Isenmann products are subject to continuous development and Tema Isenmann reserves the right to make changes to the specifications and design of its products without prior notification.

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