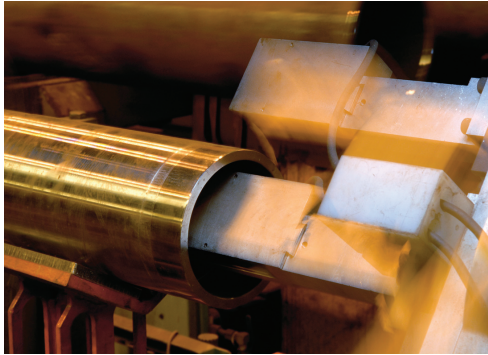


Laser End Measurement System

Tenaris offers the Laser End Measurement System, which measures external and internal diameters, wall thickness, external and internal ovality and eccentricity.



▲ *The customer receives a data output tailored to his requirements.*

Market Situation

Increasingly, the offshore industry demands tighter dimensional tolerances on pipe ends in order to reduce installation cycle time. For line pipe subject to high dynamic loads, such as Steel Catenary Risers and fatigue sensitive flowlines, a full geometrical assessment of pipe ends enables a more efficient alignment prior to welding and minimizes the Hi/Lo differential.

Tenaris Solution

Today, Tenaris offers offline/online measurement of pipe end dimensions using high-precision laser tools. The Laser End Measurement System performs an automated dimensional inspection and measures the following variables: external and internal diameters, wall thickness, external and internal ovality and eccentricity. Laser End Measurement System generates a complete list of the dimensions of each pipe and introduces cost savings through logistical and pipe handling reductions.

Process

Laser End Measurement System utilizes laser optical displacement sensors, which measure the distance between the sensor's measuring head and the surface of the tube with great accuracy.

Applications

- Replaces manual inspection and provides 100% automated process control.
- Provides information about each pipe end (OD, ID and WT max, average and min).
- Additional services that can be offered to simplify welding operations are:
 - Identification of pipes with families of tolerances
 - Identification of pipes sequences and the rotation angles for all the pipes that comply with the max Hi/Lo required. The sequences are calculated by Tenaris Best Match software using Laser End Measurement System data, evaluating the best fit that can be achieved with pipes accurately aligned on ID axis.

Advantages

- Offers the capability to record 100% of the data, which can be customized and saved on a CD.
- Provides a full dimensional scan of pipe ends with very detailed information (up to 1,000 measurements).
- Performs the inspection offline/online so that the information is available as soon as the material is ready for shipment, reducing time, logistics and costs.
- Reduces the chance for human error.
- Sorts information by families or best sequence for welding, based on customer requirements.

Capabilities

- Outside Diameter Range from 5 1/2" to 16".
- Inside diameter larger than 110 mm.
- Takes up to 1,000 measurements per turn.
- Measures in a section whose position can be set up to 120 mm from the pipe end. If requested, additional measurements can be agreed.
- Data output tailored to customer requirements and recorded on CD.

* Please contact your Tenaris sales representative for more details.



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