PRODUCT BROCHURE / TECHNICAL OVERVIEW

Kiln Diameter Measuring Instrument

Diameter Measuring Wheel for rotary kiln support rollers, kiln tyres, shells, rotary dryers and ball mill trunnions

By Floor Tech PVC Fabricators

Industrial measuring support for maintenance, wear checking, cylindricity study and alignment decision-making.

1. Product Overview

Floor Tech supplies a Kiln Diameter Measuring Instrument, also called a Diameter Measuring Wheel, for measuring the diameter of large rotating cylindrical surfaces during operation. The instrument is used like a practical industrial caliper for components that are subject to wear during service life.

The measured diameter helps plant maintenance teams decide whether re-machining, replacement or fine-tuning adjustment is required. These corrective actions support the alignment of rotary kilns, dryers and ball mills and help reduce deviation caused by wear.

Primary use	Diameter measurement of large rotating cylindrical surfaces.
Maintenance value	Supports wear checking, cylindricity study, re-machining decisions and alignment maintenance.
Typical users	Cement plants, rotary kiln maintenance teams, mining plants, dryer operators and industrial maintenance contractors.

Applications

Rotary Kilns

Support rollers, tyres and shell diameter measurement.

Rotary Dryers

Support rollers, tyres and shell wear checks.

Ball Mills

Trunnions, tyres / tires and shell measurement.

Cement Plants

Kiln maintenance, alignment and shutdown planning.

Mining & Minerals

Large rotating equipment inspection.

Maintenance Teams

Practical field measurement support.

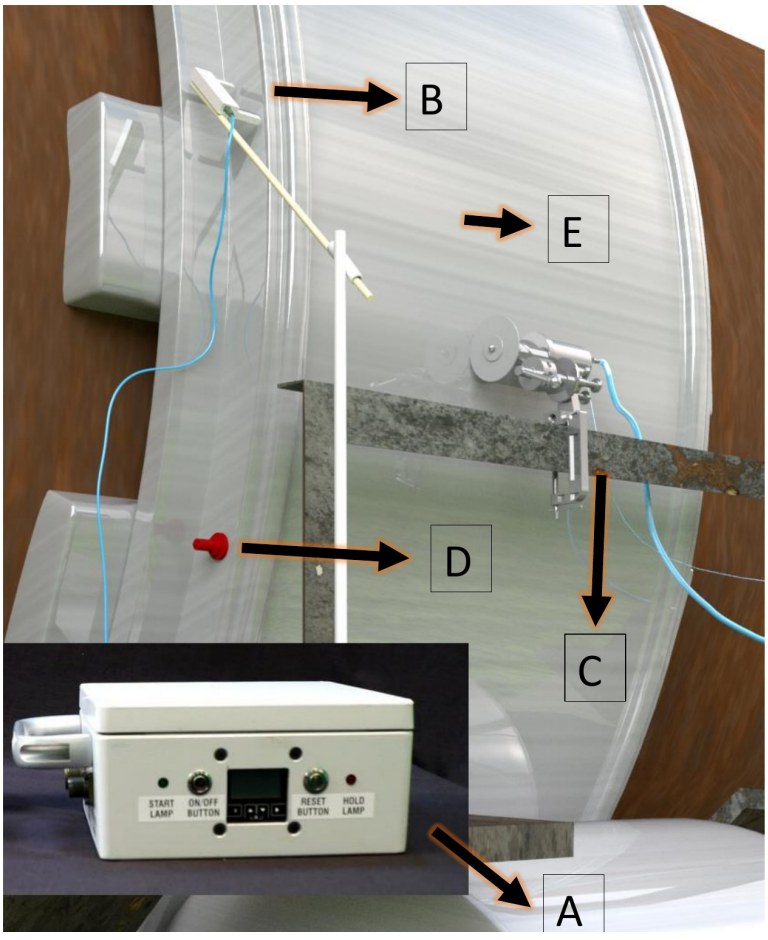
2. Working Principle

The measuring wheel is kept in contact with the rotating cylindrical surface. A spring-loaded lever maintains sufficient contact pressure between the measuring wheel and the surface to be measured.

A magnetic trigger pointer is mounted on the rotating cylinder. A light barrier / fork sensor is mounted on a stable non-moving surface. When the magnetic trigger passes through the light barrier sensor, the controller receives a trigger signal.

The first trigger starts the measurement. The second trigger, after one complete rotation, stops the measurement. The final diameter is then shown on the display controller unit.

1. Wheel contact Spring-loaded measuring wheel contacts the rotating surface.	**2. Trigger setup** Magnetic flag is fixed on the rotating cylinder.	**3. Sensor setup** Light barrier sensor is fixed on a static base.
4. First trigger Controller starts counting at the first trigger.	**5. One rotation** Measurement continues for one full rotation.	**6. Display reading** Controller holds and displays the final diameter.

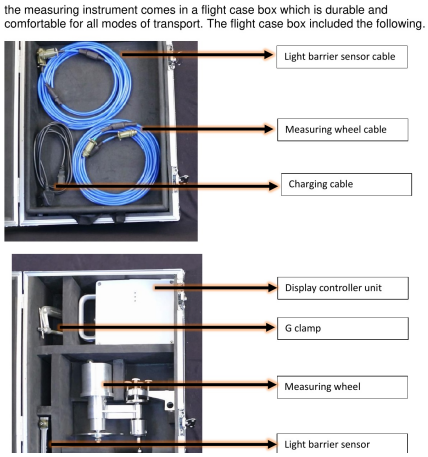


Schematic reference: display controller unit, light barrier sensor, spring-loaded measuring wheel with encoder, magnetic flag switch and diameter to be measured.

A. Display controller unit
B. Light barrier sensor
C. Spring-loaded measuring wheel with encoder
D. Magnetic flag switch
E. Diameter to be measured

3. Tool Kit Contents

The instrument is supplied as a tool kit in a durable flight case box suitable for transport and site use. The kit is arranged to support field measurement work around rotating equipment.

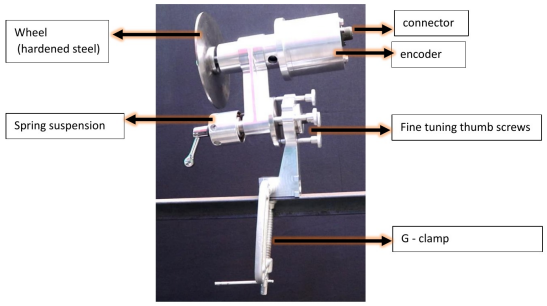


- Display controller unit
- Spring-loaded measuring wheel with encoder
- Light barrier sensor / fork sensor
- Magnetic flag / trigger switch
- G-clamp mounting arrangement
- Measuring wheel cable
- Light barrier sensor cable
- Charging cable
- Durable flight case box
- Lithium-ion battery powered controller

Why the kit format helps

A dedicated case keeps the controller, measuring wheel, sensor and cables together for transport between departments, plants or shutdown jobs. This helps maintenance teams keep the measuring setup organized and ready for repeat use.

4. Main Components of the System



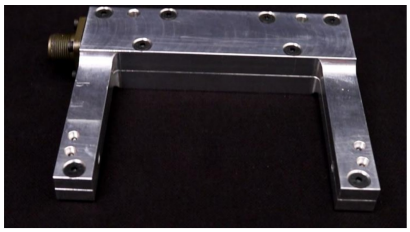
Measuring wheel assembly

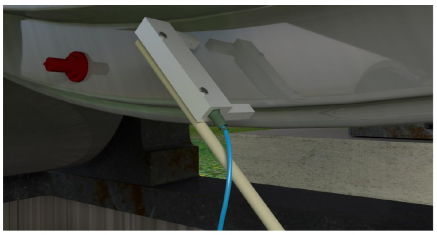
The measuring wheel assembly includes a hardened steel wheel, encoder, connector, spring suspension, fine-tuning thumb screws and G-clamp arrangement. The assembly is mounted close to the roller, tyre or shell so that the wheel can run in stable contact with the surface.

Display controller unit

The controller includes a display for reading results, on/off control, reset button, connectors for the measuring wheel, light barrier sensor and charging cable, and a lithium-ion battery for using the kit without external power supply.

5. Light Barrier Sensor and Installation Setup





Light barrier sensor

The light barrier sensor is designed to provide a precise start/stop trigger pulse for each revolution. It includes a light emitter, light receiver and cable connector.

Positioning the sensor

The light barrier fork is aligned so the magnetic flag switch passes through it. When the flag interrupts the light beam, the sensor sends an electrical pulse to the controller unit. This pulse is used to start and stop the measurement cycle.

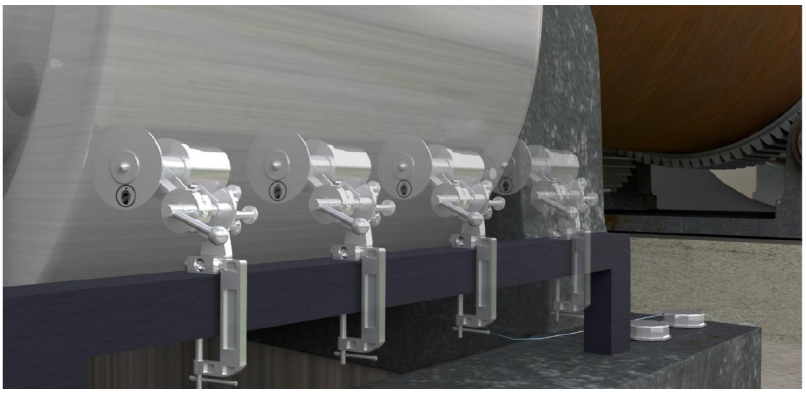
Site setup note

The measuring wheel should be clamped to a stable fabricated platform near the support roller or tyre. Contact surfaces should be clean to provide sufficient stability. Cable connectors should be correctly aligned and firmly inserted into the controller ports.

6. Measurement Procedure and Cylindricity Study

For kiln axis alignment or general wear checking, one centre reading is commonly taken. For cylindricity study, multiple readings may be taken across the width of the roller or tyre to give a clearer basis for re-machining or replacement decisions.

- Confirm the surface to be measured: support roller, tyre, shell or trunnion.
- Clean the contact area and mount the measuring wheel using the G-clamp arrangement.
- Position the magnetic flag on the rotating cylindrical surface.
- Align the light barrier sensor on a stable non-moving base.
- Connect the measuring wheel and light barrier sensor cables to the controller.
- Switch on the controller unit and allow the first trigger to start the reading.
- After one complete rotation, allow the second trigger to stop the reading.
- Read the final diameter displayed on the controller unit.
- Repeat at other positions if cylindricity information is required.



Example of measuring wheel placement at different positions across the width for diameter and cylindricity review.

7. Quotation and Technical Discussion Checklist

For a faster and more accurate response, share the following details with Floor Tech before quotation or technical discussion.

Application	Rotary kiln, rotary dryer, ball mill or other rotating cylinder.
Part to measure	Support roller, tyre / tire, shell, trunnion or other cylindrical surface.
Approximate diameter range	Approximate diameter of the part to be measured.
Measurement purpose	Wear checking, cylindricity study, re-machining decision or alignment support.
Plant location / country	Required for logistics, support discussion and quotation.
Quantity required	Number of tool kits or enquiry quantity.
Documentation requirement	Catalogue, technical overview, schematic, operating procedure or quotation checklist.

Why choose Floor Tech

Application-focused support

Product discussion based on your kiln, dryer, ball mill or rotating equipment requirement.

Practical tool kit

Portable measuring wheel system with controller, sensor, cables and flight case.

Direct technical discussion

Discuss measurement purpose, site requirement and quotation directly with Floor Tech.

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Note: This brochure is for product understanding and quotation discussion. Measurement setup and work near rotating equipment must follow the safety procedures and approval of the concerned plant / site authority.