



# Surtronic Duo

## Roughness checker



# Surtronic Duo

A portable tool for checking surface roughness.

## What it does

Surtronic Duo measures Ra at the touch of a button and shows the result on a large LCD window. Cycle time is about 5 seconds and the result is saved until another measurement is taken.

Additional parameters Rz, Rp, Rv and Rt can be displayed and units of measure switched between inch and metric without re-measuring the part.

There is no setting up or programming of the device, it is ready to use out of the box. Operator training is not required. Battery life is 5,000 measurements minimum.

## How it does it

A diamond stylus is drawn across the part. The motorized traverse mechanism is cam driven to ensure that the correct horizontal distance is traveled.

Vertical movement of the stylus as it travels across peaks and valleys is detected by a piezo-electric pick up which converts mechanical movement into an electrical signal.

The electrical signal is digitized and sent to a microprocessor where the parameters are instantly calculated using standardized algorithms.

## Keeping it simple

Surtronic Duo keeps the process simple. It is the perfect tool for any inspector to check roughness anywhere.

- Auditing batch production before shipment
- Process control on the production line
- Quality control as an entry level instrument
- Checking large components or structures

## Splits into two pieces

The bottom half contains the traverse mechanism and stylus pick up assembly. This is placed on the surface to be measured. It has a wide base to ensure stability.

The upper half includes the large LCD display, start button, mode and parameter buttons. This is held comfortably in the hand for easy operation and clear viewing of the results.



Surtronic Duo uses an infra-red (IrDA) link between the upper and lower units to provide remote, cable free operation up to a distance of one meter (40 inches).



## Error proof calibration

Even calibration of the Surtronic Duo is easy and foolproof. First, the operator pushes a button to select calibration mode.

Then, using the roughness standard supplied with the instrument, the operator simply measures as usual.

Storage of the result and subsequent measurement compensation based on the calibration constant are completely automatic.

## Energy efficient by design

Automatic shut-off after 5 minutes of inactivity and a low power consumption LCD help to preserve battery life.

The rapid mechanical traverse and 5 second cycle time conserve enough energy to provide a minimum of 5,000 measurements on a single set of batteries.

Standard off-the-shelf calculator type batteries are used and replacement is easy using a wide blade screwdriver or large coin.

## Surface mount digital technology

Surtronic Duo uses modern electronic circuitry and components to optimize performance and extend useful operating life. Outstanding reliability and 5% of reading accuracy are just two of the features rarely found in instruments at this price level.

## Pre set to industry standards

Surtronic Duo is configured to measure using the most common industrial settings:

- 5mm (0.2in) traverse length
- 0.8mm (0.03in) cut off
- 2CR filter
- 5µm (200µin) radius diamond stylus

Pre-setting these critical functions eliminates errors and ensures correlation between multiple operators.

## Available in two versions:

### Surtronic Duo - 2 parameters

Reference code 112/2916-03

For basic roughness checking of parameters Ra and Rz

### Surtronic Duo - 5 parameters

Reference code 112/3115-01

Includes basic roughness parameters Ra and Rz plus advanced parameters Rp, Rv and Rt

## Both versions include:

- Surtronic Duo
- Calibration standard
- Batteries
- Carrying case
- Operation guide

## Technical specifications

Gauge range	200µm (0.008in)
Accuracy	5% of reading + 0.1µm (4µin)
Pick up type	Piezoelectric
Gauge force	200mg
Stylus	Diamond, Radius 5µm (200µin)
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Cut off value	0.8mm ± 15% (0.03in ± 15%)
Filter	2CR
Traverse length	5mm (0.2in)
Traverse speed	2mm/sec (0.08in/sec)
Display units	µm / µin
Battery life	5,000 operations minimum
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## Parameter results

Code 112/2916-03 Ra, Rz

Code 112/3115-01 Ra, Rz, Rv, Rp, Rt

Parameters	Range	Resolution
Ra:	40µm (1600µin)	0.01µm (0.4µin)
Rz, Rv, Rp, Rt:	199µm (7800µin)	0.1µm (4µin)

## Dimensions

Overall dimensions 125x80x38mm (4.92x3.15x1.5 in)  
Weight 200gm (7oz)

## Component dimensions and condition

Min bore 65mm (2.6in)  
Min diameter 25mm (1.0in)  
Max temperature 35°C (95°F)

## Nominal operating conditions

Temperature 20°C (68°F)  
Humidity 0 to 80% non condensing

## Storage conditions

Temperature 0 to 50°C (32°F to 122°F)  
Humidity 0 to 80% non condensing

Taylor Hobson pursues a policy of continual improvements due to technical development in all their instruments. We therefore reserve the right to depart from catalogue specifications.

## Serving a global market

Taylor Hobson is world renowned as a manufacturer of precision measuring instruments used for inspection in research and production facilities. Our equipment performs at nanometric levels of resolution and accuracy.

To complement our precision manufacturing capability we also offer a host of metrology support services to provide our customers with complete solutions to their measuring needs and total confidence in their results.

### Contracted Services from Taylor Hobson

- Inspection services**  
 measurement of your production parts by skilled technicians using industry leading instruments in accord with ISO standards
- Metrology training**  
 practical, hands-on training courses for roundness and surface finish conducted by experienced metrologists
- Operator training**  
 on-site instruction will lead to greater proficiency and higher productivity
- UKAS Calibration and Testing**  
 certification for artifacts or instruments in our laboratory or at customer's site

### For the above services, contact our Center of Excellence:

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