

# Elcometer 331<sup>2</sup> Model TH Concrete Covermeters



Elcometer 331<sup>2</sup> Covermeter with Half-Cell

This easy to use gauge not only quickly and accurately identifies the location, orientation, depth and diameter of rebar, but also the potential for corrosion.

Designed to meet IP65 this all-in-one rugged waterproof gauge can be used in the harshest of environments.

**At a glance:**

Accurately identify location & orientation of rebar in concrete as well as potential corrosion

Holds up to 240,000 readings.

Fully interchangeable search heads and Half-Cell kits – no need to return to factory.

Can be used in accordance with:	
ACI 318	DGZfP:B3
ASTM C876	DIN 1045
BS 1881:201	EC 2
BS 1881:204	SIA 162
BS 8110	SIS 2006
CP 110	TR60
DGZfP:B2	UNI10174

- **Fast and accurate:**  
Locate and determine orientation of rebar quickly, easily & accurately.
- **Corrosion check:**  
Check for potential corrosion of rebar using the same gauge.
- **Large memory**  
Holds up to 240,000 readings in linear or grid batches.
- **Large, easy to read backlit display:**  
Graphical display clearly shows statistics, batches, graph plots and numerical readings
- **Interchangeable search heads and Half-Cell kits:**  
Select from standard search head, narrow pitch search head, deep cover search head, borehole probe, Copper Half-Cell Kit and Silver Half-Cell Kit.
- **Powerful Covermaster<sup>®</sup> Software:**  
Ultimate data management tool to store cover & Half-Cell readings and produce professional reports quickly and easily.
- **Intuitive menus in multiple languages:**  
Allows use straight out of the box
- **International bar sizes:**  
User selectable bar sizes include metric, US Bar Numbers, ASTM/Canadian and Japanese for use anywhere in the world.
- **Rechargeable battery supply:**  
Battery packs can be charged inside or outside the gauge.

**Concrete Covermeters**

Locating steel reinforcement bars and metal pipes is essential in the construction and maintenance of structures. Damage caused when a drill or a fastener makes contact with a pipe is costly. A drill making contact with rebars or tendon ducts however, not only destroys the drill bit, but can lead to serious structural damage.

Before carrying out any maintenance work, it is vital to identify the location, orientation and depth of sub-surface metalwork. It is also useful to establish the condition of the metal work and assess the corrosion potential, so maintenance work can be scheduled accordingly.

Elcometer have six covermeters in their range, The Elcometer 331<sup>2</sup> H & HM are Half-Cell only instruments, the Elcometer 331<sup>2</sup> Model B is a Covermeter only and the Elcometer 331<sup>2</sup> Models BH, SH and TH incorporate the Half-Cell technology required to assess potential corrosion of rebar. Finally, the THD model can accurately locate stainless steel rebar.

Elcometer offer a comprehensive range of concrete inspection equipment to meet all of your requirements.

ELCOMETER 331 <sup>2</sup> RANGE FEATURES					
	Model B	Model BH	Model SH	Model TH	Model THD
Rebar location	.	.	.	.	.
Rebar orientation	.	.	.	.	.
Depth of cover	.	.	.	.	.
Half Cell capability		.	.	.	.
Large cover thickness reading mm or inches	.	.	.	.	.
Large Half Cell reading mV		.	.	.	.
Large graphics display with backlight	.	.	.	.	.
Multiple language menu structure	.	.	.	.	.
Signal strength bar	.	.	.	.	.
Interchangeable heads with LED & keypad	.	.	.	.	.
User selectable bar range sizes & numbers	.	.	.	.	.
Measurement sound modes	.	.	.	.	.
<b>Locate</b> <i>(tone increases as head approaches bar)</i>	.	.	.	.	.
<b>Under Cover</b> <i>(tone only sound for low cover)</i>			.	.	.
<b>Maxpip™</b> <i>(tone only as head passes rebar centre)</i>			.	.	.
Autosize mode bar diameter determination			.	.	.
Orthogonal mode bar diameter determination			.	.	.
RS232 Output – direct to printer or PC			.	.	.
EDTS <sup>+</sup> Excel link software			.	.	.
Data logging with alpha numeric batch identification			10 linear batches of 1,000 readings each	240,000 readings in linear or grid batches <sup>1</sup>	240,000 readings in linear or grid batches <sup>1</sup>
Statistics			.	.	.
Minimum & maximum cover limits			.	.	.
Date & time			.	.	.
Rugged waterproof case (IP65)	.	.	.	.	.
Adjustable beep volume & earphone socket	.	.	.	.	.
Stainless Steel measurement mode					.
Part numbers	W331B---*	W331BH--*	W331SH--*	W331TH--*	W331THD--*

Replace \* with 1, 2 or 3 to complete part number. 1=240V UK, 2=220V Euro, 3=110V US

<sup>1</sup> Linear batch mode: up to 200 batches of 1,000 readings Grid batch mode: up to 1,000 batches, maximum number of readings 240,000

<b>Bar diameter ranges</b>	Metric: 5 - 50mm bar diameters in 21 values US Bar Numbers: #2 - #18 bar sizes in 16 values ASTM/Canadian: 10 – 55M bar diameters in 8 values Japanese: 6 – 57mm bar diameters in 16 values
<b>Rechargeable power supply</b>	7.4 lithium ion battery pack provides up to 32 hours of continuous use (20 hrs if backlight on). Rechargeable in 4 hours either inside or outside the gauge using external charger.
<b>Maximum operating temperature</b>	50°C / 122°F
<b>Unit dimensions (including head &amp; lead)</b>	230 x 130 x 125mm / 9 x 5.1 x 4.9"
<b>Unit weight</b>	1.54kg / 3.4lbs

## Search Head & Half-Cell Accessories



### Standard Search Head

Designed to meet most of your measurement requirements.

Cover range: 40mm / 1.6" bar 15mm to 95mm / 0.6" to 3.75"  
 8mm / 0.3" bar 8mm to 70mm / 0.3" to 2.75"  
 Dimensions: 155 x 88 x 42mm / 6.1 x 3.5 x 1.65"  
 Sensing area: 120 x 60mm / 4.72 x 2.36"  
 Part number: **TW33119124-1A**



### Narrow Pitch Search Head

Accurately measures the cover thickness when the gaps between each of the rebars (pitch) are close together

Cover Range: 40mm / 1.6" bar 8mm to 80mm / 0.3" to 3.1"  
 8mm / 0.3" bar 5mm to 60mm / 0.2" to 2.4"  
 Dimensions: 155 x 88 x 42mm / 6.1 x 3.5 x 1.65"  
 Sensing area: 120 x 60mm / 4.72 x 2.36"  
 Part number: **TW33119124-2A**



### Deep Cover Search Head

The ideal search head for accurately measuring rebars that are deep within the structure

Cover Range: 40mm / 1.6" bar 35mm to 180mm / 1.4" to 7"  
 8mm / 0.3" bar 25mm to 160mm / 1.0" to 6.3"  
 Dimensions: 170 x 94 x 54mm / 6.7 x 3.7 x 2.1"  
 Sensing area: 160 x 80mm / 6.3 x 3.15"  
 Part Number: **TW33119171A**



### Dual Search Head for High Tensile and Stainless Steels

The ability to detect high tensile steel and three grades of stainless steel (304, 316 and Duplex).  
 For use with Model THD only.

Cover Range: 40mm / 1.6" bar 35mm to 180mm / 1.4" to 7"  
 8mm / 0.3" bar 25mm to 160mm / 1.0" to 6.3"  
 Dimensions: 170 x 94 x 54mm / 6.7 x 3.7 x 2.1"  
 Sensing area: 160 x 80mm / 6.3 x 3.15"  
 Part Number: **TW33120014D**



### Borehole Probe

The solution for locating tendon ducts and multiple layers of rebar lying deep within the concrete.

Measurement depth: Short probe: 0- 40cm / 0 - 6" Long Probe: 0 – 100cm / 0 – 40"  
 Approximate detection ranges: Tendon duct (70mm / 2.75" diameter: up to 90mm / 3.54"  
 Reinforcement bar: up to 60mm / 2.36"  
 Part Number: Short Metric – **TW33119223-1A** Long Metric – **TW33119223-2A**  
 Short Imperial – **TW33119223-3A** Long Imperial – **TW33119223-4A**



### Extension Arm Kit

This kit allows the user to scan bridge decks and floor areas from a standing position. It can be connected to either the standard or narrow pitch search heads.

Cover Range: 40mm / 1.6" bar 15mm to 95mm / 0.6" to 3.75"  
 8mm / 0.3" bar 8mm to 70mm / 0.3" to 2.4"  
 Dimensions: 155 x 88 x 42mm / 6.1 x 3.5 x 1.65"  
 Sensing area: 120 x 60mm / 4.72 x 2.36"  
 Part Number: **TW33119222**



### Half-Cell Probe Kit

Consisting of either a copper electrode in a copper sulphate solution (Cu/CuSO<sub>4</sub>) or a silver electrode in a silver chloride solution (Ag/AgCl), each Half-Cell is a sealed unit so there is no need to mix chemicals on site. Supplied with a 25m (80ft) cable, every Half-Cell Kit is guaranteed for 5 years.

Part Number: Cu/CuSO<sub>4</sub> – **TW331CUKIT**  
 Ag/AgCl – **TW331AGKIT**

Elcometer 331 <sup>2</sup> Gauges	
Part Number	Description
W331B---*	Elcometer 331 <sup>2</sup> Model B Covermeter (Supplied complete with Standard Search Head)
W331BH--*	Elcometer 331 <sup>2</sup> Model BH Covermeter with Half-Cell (Order search heads or Half-Cell probes separately)
W331SH--*	Elcometer 331 <sup>2</sup> Model SH Covermeter with Half-Cell (Order search heads or Half-Cell probes separately)
W331TH--*	Elcometer 331 <sup>2</sup> Model TH Covermeter with Half-Cell (Order search heads or Half-Cell probes separately)
W331THD-*	Elcometer 331 <sup>2</sup> Model THD Covermeter with Half-Cell (Order search heads or Half-Cell probes separately)
Replace * with 1, 2 or 3 to complete part number. 1=240V UK, 2=220V Euro, 3=110V US	

Elcometer 331 <sup>2</sup> Search Heads & Half-Cell	
TW33119124-1A	Elcometer 331 <sup>2</sup> Standard Search Head
TW33119124-2A	Elcometer 331 <sup>2</sup> Narrow Pitch Search Head
TW33119171A	Elcometer 331 <sup>2</sup> Deep Cover Search Head
TW33119223-1A	Elcometer 331 <sup>2</sup> Borehole Probe 0 - 40cm
TW33119223-2A	Elcometer 331 <sup>2</sup> Borehole Probe 0 – 100cm
TW33119223-3A	Elcometer 331 <sup>2</sup> Borehole Probe 0 – 16"
TW33119223-4A	Elcometer 331 <sup>2</sup> Borehole Probe 0 – 40"
TW331CUKIT	Elcometer 331 <sup>2</sup> Half Cell Probe Kit Cu/CuSO <sub>4</sub> (Cannot be used with the Model B)
TW331AGKIT	Elcometer 331 <sup>2</sup> Half Cell Probe Kit Ag/AgCl (Cannot be used with the Model B)
TW33119668-1	Elcometer 331 <sup>2</sup> Half Cell Probe Cu/CuSO <sub>4</sub> (Cannot be used with the Model B)
TW33119668-2	Elcometer 331 <sup>2</sup> Half Cell Probe Ag/AgCl (Cannot be used with the Model B)
TW33120014D	Elcometer 331 <sup>2</sup> High Tensile and Stainless Steel Dual Search Head (Can only be used with Model THD)

Elcometer 331 <sup>2</sup> Accessories & Spares	
TW33119683	Elcometer 331 <sup>2</sup> Extension Reel 100m (325ft)
TW33119678	Elcometer 331 <sup>2</sup> Extension Reel 25m (80ft)
TW33119677	Elcometer 331 <sup>2</sup> Rebar Cable with Clip 1.7m (5.6ft)
TW33116983	Elcometer 331 <sup>2</sup> Half Cell Connecting Cable 1.7m (5.6ft)
TW33119201	Elcometer 331 Straight Cable 1.8m (5.9ft)
TW33119199	Elcometer 331 Curly Cable
TW33119038	Elcometer 331 Replacement Battery Pack
TW33119222	Elcometer 331 Extension Arm Kit
TW33119218	Elcometer 331 Calibration Test Block
T99912220	Elcometer 331 Replacement Earphones

### Packing List

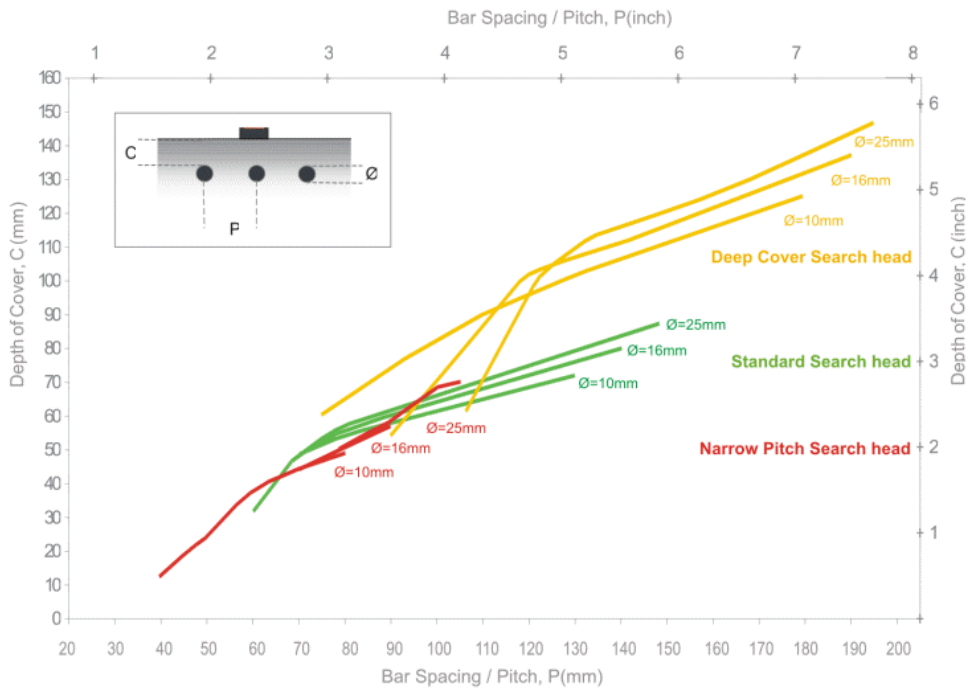
**Elcometer 331<sup>2</sup> Model B:** Concrete Covermeter, Standard Search head, Search head connecting cable, Rechargeable battery pack and battery charger, Earphone, Shoulder strap, Plastic carrying case and Operating instructions.

**Elcometer 331<sup>2</sup> Model BH, SH, TH and THD:** Concrete Covermeter with Half Cell, Search head connecting cable, Rechargeable battery pack and battery charger, Earphone, Shoulder strap, Plastic carrying case and Operating instructions. **Model SH, TH and THD** are also supplied with Covermaster<sup>®</sup> & EDTS<sup>+</sup> Excel<sup>®</sup> link transfer software and PC cable. (Search Heads and Half-Cell Probes are not included as standard and must be ordered separately.)

**Half-Cell Probe Kits:** Half-Cell Probe, 25m extension cable on spool, 1.7m red rebar cable with connecting clip, 1.7m black half cell connecting cable, plastic end cap and Operating instructions.



## Elcometer 331<sup>2</sup> Measurement Resolution



## Related Products



Elcometer 331<sup>2</sup> with Half-Cell & memory

Elcometer 331<sup>2</sup> Covermeters with Half-Cell allow users to not only identify the location, orientation, depth and diameter of stainless steel rebar, but also the potential for corrosion all in one easy-to-use gauge.

The gauges store up to 240,000 cover and Half-Cell readings side by side in their extensive memories. Available in models SH and TH, the Elcometer 331<sup>2</sup> Covermeter with Half-Cell is perhaps the most versatile and cost effective Covermeter on the market today.



Elcometer 331<sup>2</sup> B Covermeter

The Elcometer 331<sup>2</sup> Model THD is the only gauge on the market today that measures the thickness of concrete cover of both stainless steel rebars and metal pipes. Reporting the depth of the concrete, the location and orientation of the rebar or metal pipe, the covermeter can even determine the diameter of the rebar.

Elcometer has a wide range of products available for the concrete inspection process including rebar locators, concrete test hammers, surface contamination testing etc.

For further information contact Elcometer or visit [www.elcometer.com](http://www.elcometer.com)

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