elcometer





About Elcometer

Elcometer are a leading manufacturer of inspection equipment. Established in 1947, Elcometer are a family run company and are manufacturers of high quality inspection equipment for concrete, coatings and industrial metal detection. We listen to you, our customers, and have built the features and functionality into our products that you want and need to make your life easier.

Elcometer are a worldwide operation with offices in the UK, USA, Germany, France, Belgium and Singapore and with distribution outlets in 150 locations worldwide. This ensures that whatever the industry, application or location, there is an Elcometer specialist local to you.

Our technical capabilities, commitment and investment in research and development, innovation, quality and service make Elcometer the perfect choice for your inspection equipment.

Table of Contents

Product Description	Page	Model Number	Page
Low Voltage Pinhole Detectors	04 - 05	Elcometer 236	12 - 14
Elcometer 270 Low Voltage Pinhole Detector Elcometer 270 Accessories	04 05	Elcometer 260	06
Ultraviolet Pinhole Detector		Elcometer 266	07 - 11
Elcometer 260 UV Pinhole Torch	06	Elcometer 270	04 - 05
High Voltage Holiday Detectors	07 - 14		
Elcometer 266 Holiday Detector Elcometer 266 Accessories	07 - 09 10 - 11		
Elcometer 236 Holiday Detector Elcometer 236 Accessories	12 13 - 14		



Pinhole & Porosity Detection

Premature corrosion of a substrate is usually due to the failure of the coating. A major cause is the presence of flaws in the finished coating. Collectively referred to as a coating's porosity, the main types of flaw are described below:

Runs & Sags: The wet coating moves under gravity leaving a thin dry film.

Cissing: Occurs when a coating does not re-flow to cover the voids

generated by air bubbles being released from the surface of a

coating.

Cratering: Occurs when the substrate is wet or if the coating has poor

flow characteristics, thus creating voids in the coating.

Pinholes: Caused either by air entrapment which is then released from

the surface, or by the entrapment of particulates (dust, sand

etc) which do not stay in place.

Over Coating: If too much coating is applied to a substrate, as it cures it can

crack from the internal stresses of the coating.

Under Coating: Areas are not coated or the coating flows away from the

particular edges, corners of a substrate and welds. Furthermore, over a rough surface profile, insufficient coating

may leave the substrate profile peaks exposed.

Early inspection for coating flaws will prevent the expense and inconvenience of a coating failure.



Wet Sponge Technique

Suitable for measuring insulating coatings less than 500µm (20mils) on conductive substrates. The wet sponge technique is ideal for powder coatings and any thin coatings where the user does not wish to damage the coating.

A low voltage is applied to a sponge and moistened with water and a wetting agent. When the sponge moves over a coating flaw, liquid penetrates to the substrate and completes an electrical circuit, setting off the alarm.

UV Pinhole Detection

UV light can be used as a low cost, quick method of detecting pinholes in coatings. A base coat containing a UV fluorescing additive is applied. When the UV flashlight shines on the coating, areas where the base coat is not covered fluoresce, clearly showing the location of the pinhole.

High Voltage Technique

The high voltage, or porosity technique, can be used to test coatings up to 7.5mm (300mils) thick. This method is ideal for inspecting pipelines and other protective coatings. Coatings on concrete can also be tested using this method.

A power supply generates a high DC voltage which is connected to a suitable probe, and an earth return is connected to the substrate. As the probe is passed over the coated substrate, a flaw is indicated by a spark at the contact point which sets off the alarm.

This technique is suitable for locating the types of flaws described above. Care is required on thin coatings.









Elcometer 270 Pinhole Detectors

The Elcometer 270 range utilises the wet sponge technique and has been designed to set a new standard for wet sponge detectors - a high quality, low voltage detector with similar accessories to a high voltage spark tester.

- Supplied ready to use
- Automatic sensitivity calibration and voltage checks
- Low battery indicator
- Visual and audible alarms
- Integral and separate wand functionality
- A wide range of fully interchangeable wand accessories see page 5
- Four model variants in single, dual or triple voltages
- Easy release snag proof cables
- Large standard sponge
- An inspection kit for all your requirements is available as an accessory









Model		Elcometer 270/1	Elcometer 270/2	Elcometer 270/3	Elcometer 270/4
Part number		D2701	D2702	D2703	D2704
Voltage		9V	67.5V	9V and 90V	9V, 67.5V and 90V
Maximum mea	surement range	300µm (12 mils)	500μm (20 mils)	500μm (20 mils)	500μm (20 mils)
Sensitivity		90kΩ ±5%	125kΩ ±5%	9V: 90kΩ ±5%	9V: 90kΩ ±5%
				90V: 400kΩ ±5%	67.5V: 125kΩ ±5%
					90V: 400kΩ ±5%
Battery life (cor	ntinuous use)	Up to 200 hours	Up to 100 hours	9V: up to 200 hours	9V: up to 200 hours
				90V: up to 80 hours	67.5V: up to 100 hours
					90V: up to 80 hours
Battery type			3 x AA (LR1	600) 1.5V alkaline	
		(NiMH rechargea	ble batteries can also be	e used, battery life will be	reduced by up to 75%)
Accuracy of se	tting			±5%	
Dimensions	Without wand		210 x 42 x 37	mm (8.3 x 1.7 x 1.5")	
	Standard wand		175mm (6.9	") long with sponge	
	Flat sponge		150 x 60 x 25mr	n (6 x 2.4 x 1") approx.	
Weight			610g (21oz) including	g wand, cable and batteri	es
Packing list		Pinhole detector gauge, standard wand and sponge, return lead with crocodile clip,			

Can be used in accordance with:

ASTM 3894.2, ASTM G6, ASTM G62-A, ASTM D 5162 A, ISO 8289, ISO 8289 A, ISO 14654, BS 7793-2, NACE RP 0188, NACE TM0384

batteries x 3, operating instructions



Elcometer 270 Accessories



T27016960 Roller sponge wand
T27018051 Spare roller sponge set



T27016867 Standard wand with flat sponge
T27018050 Spare rectangular sponges 150 x 60 x 25mm (6 x 2.3 x 1") - pack of 3



T27018024 Wetting agent 50ml (1.7 fl oz)



T27016999 Handle, lead and belt clip to make a separate wand



T27016998 Telescopic handle with lead and belt clip - extends to 1m (39")



T27016965 420mm (16.5") extension piece



T99916996 10m (394") signal return cable and storage drum



T27018191 Inspectors kit complete with: 1 x separate wand handle & lead, 1 x roller wand, 1 x 10m (394") signal return cable, 2 x extension pieces, 1 x telescopic extension, 1 x belt clip, 1 x bottle of wetting agent, 3 x AA batteries, 1 x spare flat sponge, 1 x spare roller sponge

The inspectors kit does not include the main instrument, simply add your model number to your order.



Elcometer 260 Surefire® Fluorescenator UV Pinhole Flashlight

The Elcometer 260 provides a quick, low cost method of testing coatings for pinholes.

Developed for the industrial and marine markets, the Elcometer 260 features a six Watt purple Class 1 light emitting diode. The flashlight has a beam wavelength of 405nm (±5nm), which the human perceives as a purple light.

A UV reflecting additive is applied to the base coat. When the UV flashlight shines the purple light on the coating, any areas where the base coat is not covered by subsequent coating, fluoresces clearly identifying any pinholes.

Battery powered, the Elcometer 260 features a click-on/push-off button with a lockout tailcap to prevent accidental activation during transport or storage.

The flashlight is manufactured from rugged aerospace-grade aluminium and is O-ring sealed to protect it from moisture, dust or coating particulates. A Pyrex® lens with an anti-reflective coating adds to its durability.



Part number	D2601
Light source	Class 1 Light Emitting Diode (LED) IEC60825-1 (A2:2002)
Beam wavelength	405nm ±5nm
Flashlight casing	Hard anodised aluminium
Battery life (continuous use)	45 minutes
Battery type	2 x 123A lithium batteries
Lens type	Pyrex [®] lens with anti-reflective coating
Power output	6 Watts
Dimensions	150mm x 38mm (6" x 1.5")
Weight	190g (6.75oz)
Packing list	Elcometer 260 Surefire® Fluorescenator UV Pinhole Flashlight, 2 x 123A lithium batteries operating instructions

ANSI/ESNA RP-27.3-96, ASTM E2501

Accessories	
T26020140	UV Protective glasses
T26020141	2 x Replacement lithium 123A batteries



Elcometer 266 DC Holiday Detector

The Elcometer 266 has been specifically designed to revolutionise high voltage DC testing of coatings by making it safer, easier and more reliable than previously possible.

Voltage adjustable using the keypad - no need for screwdriver: 0.5kV - 1kV in 50V steps 1kV to 30kV in 100V steps

Voltage calculator automatically sets the correct voltage from your coating thickness value

Internal Jeep tester ensures that the selected voltage equals the test voltage



elcometer

Elcometer 266 Features



No need to use look up tables with the integrated voltage calculator. Enter the test standard and the coating thickness and the gauge will automatically program the correct voltage.



Adjust voltage via keypad on the gauge, no need for screwdrivers.

Sensitivity to current can be manually preset or automatically adjusted by the gauge for partially conductive coatings.



Interchangeable Probe Handles:

500 - 5,000 Volts

500 - 15,000 Volts

500 - 30,000 Volts



Internal calibrated jeep tester and closed loop system ensures that the generated test voltage is accurately measured and continuously controlled, regardless of climatic conditions.



Bright LEDs on the handle, as well as a loud audible alarm, clearly indicate if the gauge is on (Red) and when a spark is detected (Blue).



The optional second hand grip is designed for two handed use without compromising its safety. Ideal for testing pipes and tank floors.



Large, backlit display enables easy viewing even in dark environments. When a flaw is detected the backlight also flashes.



The easy to use menu driven displays can be viewed in multiple languages for optimum versatility.



Rechargeable battery packs can be charged inside or outside the gauge. Batteries are fully charged within 4 hours and provide up to 40 hours continuous use between charges.



Elcometer 266 can be used with the accessories from the following gauges:
Elcometer 236 & Elcometer 136
Models AP, APS, AP/S1 & AP/S2
Models 780, 785 & 790
Models 10/20 & 14/20



Elcometer 266 Safety Features



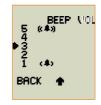
2-stage safety switch ensures that if the Elcometer 266 handle is not gripped, the handle will switch off.



The extended ribbing provides extra protection to the user and has been specifically designed to meet standard EN61010. High voltage testing has never been safer.



The speaker on the gauge clearly emits a ticking noise to indicate that there is voltage at the handle.



A loud audible alarm is activated when a spark is detected. The beep volume can also be adjusted to ensure it can be heard - even in noisy environments.

Technical Specification			ecertificate available
Part numbers	D2661	D2662	D2663
Voltage	UK 230V	EUR 230V	US 110V
Compatible with 0 - 5kV handle	✓	✓	✓
Compatible with 0 - 15kV handle	✓	✓	✓
Compatible with 0 - 30kV handle	✓	✓	✓
Waterproof IP65 case	✓	✓	✓
High voltage output accuracy		±5% or ±50V below 1000 Volt	S
Measured current flow accuracy		±5% of full scale	
Display resolution		100 Volts, 1μA	
Output current		0 - 100 μA maximum	
Operating temperature ^a		0°C to 50°C (32°F to 120°F)	
Power supply	Internal re	chargeable lithium ion battery, full	y charged within 4 hours
Typical battery life (backlight off)	DC5: 40 hours	DC15: 20 hours	DC30: 10 hours
Typical battery life (backlight on)	DC5: 20 hours	DC15: 15 hours	DC30: 8 hours
Instrument case		High impact ABS	
Earth lead length		10m (32'6")	
Dimensions		520 x 370 x 125mm (20.5 x 1	4.5 x 5")
Weight	Base unit (includi	ng battery pack): 1.2kg (2.7lb) F	landle: 0.6kg (1.3lb)
Packing list	handle, 10m (394	") earth signal return lead with cro	curly connection cable for high voltage codile clip, battery charger and mains rying case, operating instructions.
		66 DC Holiday Detector does not i our required handle voltage from t	nclude the handle, select the he part numbers listed on page 10

Can be used in accordance with:

ANSI/AWWA C 213, AS3894.1, ASTM D4787, ASTM G 6, ASTM D5162, ASTM G 62, BS1344-11, EN14430, JIS G3491, JIS G3492, ISO 2746, NACE RP0274, NACE RP 04901, NACE RP0188



Elcometer 266 Accessories



T26620033-1 Elcometer 266 DC5 Handle T26620033-2 Elcometer 266 DC15 Handle T26620033-3 Elcometer 266 DC30 Handle
 Voltage Output
 Coating Thickness

 Volts
 mm
 mils

 500 - 5,000
 1.25
 50

 500 - 15,000
 3.75
 150

 500 - 30,000
 7.50
 300



T26620081 Second Hand Grip



 T26620082
 Elcometer models 236 and 136 to Elcometer 266 Adapter

 T26620083
 Models 780, 785 and 790 to Elcometer 266 Adaptor

 T26620084
 Models AP, APS, AP/S1, AP/S2, 10/20 & 14/20 to Elcometer 266 Adapter



T26619975 Band Brush Probe



 T26619988-1
 Probe Extension Piece
 500
 19.7

 T26619988-2
 Probe Extension Piece
 1000
 39



 T26620022-1
 Right Angle Wire Brush Probe
 T99926621
 250
 9.8

 T26620022-2
 Right Angle Wire Brush Probe
 T99926622
 500
 19.7

 T26620022-3
 Right Angle Wire Brush Probe
 T99926623
 1000
 39

Electrode only

inches

inches

395

mm

metres



T99916996 Earth Signal Return Lead 10



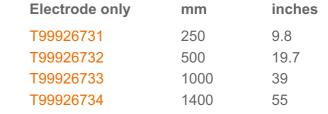
Length

Pipe Diameter

Elcometer 266 Accessories



T26620022-11	Right Angle Rubber Probe
T26620022-12	Right Angle Rubber Probe
T26620022-13	Right Angle Rubber Probe
T26620022-14	Right Angle Rubber Probe





T26620024-1	Rolling Spring Assembly
T26620024-2	Rolling Spring Assembly
T26620024-3	Rolling Spring Assembly
T26620024-4	Rolling Spring Assembly
T26620024-5	Rolling Spring Assembly
T26620024-6	Rolling Spring Assembly
T26620024-7	Rolling Spring Assembly
T26620024-8	Rolling Spring Assembly
T26620024-9	Rolling Spring Assembly
T26620024-10	Rolling Spring Assembly
T26620024-11	Rolling Spring Assembly
T26620024-12	Rolling Spring Assembly
T26620024-13	Rolling Spring Assembly

T26620024-14 Rolling Spring Assembly

	Pipe Diar	neter
Rolling spring only	mm	inche
T9996197A	50	2
T9996197B	75	3
T9996197C	100	4
T9996197D	150	6
T9996197E	200	8
T9996197F	250	10
T9996197G	300	12
T9996197H	350	14
T9996197I	400	16
T9996197J	450	18
T9996197K	500	20
T9996197L	600	24
T9996197M	750	30
T9996197N	1000	36



		Electrode only	mm	inches
T26620071-1	Circular Brush Probe Assembly	T9993766-	38	1.5
T26620071-2	Circular Brush Probe Assembly	T9993767-	51	2
T26620071-3	Circular Brush Probe Assembly	T9993768-	64	2.5
T26620071-4	Circular Brush Probe Assembly	T9993769-	76	3
T26620071-5	Circular Brush Probe Assembly	T9993770-	89	3.5
T26620071-6	Circular Brush Probe Assembly	T9993771-	102	4
T26620071-7	Circular Brush Probe Assembly	T9993772-	114	4.5
T26620071-8	Circular Brush Probe Assembly	T9993773-	127	5
T26620071-9	Circular Brush Probe Assembly	T9993774-	152	6
T26620071-10	Circular Brush Probe Assembly	T9993775-	203	8
T26620071-11	Circular Brush Probe Assembly	T9993776-	254	10
T26620071-12	Circular Brush Probe Assembly	T9993777-	305	12

Additional Accessories

T26619950	Rechargeable Battery Pack
T26619893	Curly Connecting Cable
T26620085	Elcometer 266 Pipe Testing Kit



Elcometer 236 DC Holiday Detector

The Elcometer 236's convenient carrying case allows the probe handle and accessories to be attached to the front making the Elcometer 236 ideal for field, site or laboratory inspection.

An accessory pouch, which accommodates the additional rechargeable battery (optional) can also be attached to the soft carrying case - thereby extending inspection time without the need for recharging the unit.

- Robust and fully portable
- Audio and visual alarms for noisy environments
- Supplied with a band brush probe
- Digital display of output voltage or current
- Adjustable sensitivity
- 15kV and 30kV options available with fully adjustable output voltage

The Elcometer 236 is available in two versions: 0.5 - 15kV and 0.5 - 30kV. Each unit provides the user with complete control of voltage and sensitivity settings. Due to the method of operation, the Elcometer 236 minimises the risk of additional coating damage and avoids the danger of coating popping off the surface which can occur with some high voltage systems.







echnical Specification		
Part numbers	D23615A UK 230V	D23630A UK 2340V
	D23615B EUR 230V	D23630B EUR 230V
	D23615D US 110V	D23630D US 110V
Voltage output	0.5 - 15kV in 100V steps	0.5 - 30kV in 100V steps
Display resolution	0.01kV	0.1kV
Range of coating thickness	0 - 3.75mm (approximate)	0 - 7.5mm (approximate)
	0 - 150 mils (approximate)	0 - 300mils (approximate)
Alarms		Audio &Visual
Power Supply	NiMH 12\	/ internal rechargeable battery
Battery Life (approximate)		e optional external battery pack can increase this to 4 hours of continuous use
Unit Dimensions	200 :	x 170 x 70mm (6 x 7 x 3")
Product Weight		2.8kg (6lb 3oz)
Shipping List	2m & 10m (79" & 394") s	andle and lead, band brush probe, signal return/earth leads, battery ransit case and instruction book

Can be used in accordance with:

ANSI/AWWA C 213, AS3894.1, ASTM D4787, ASTM G 6, ASTM D5162, ASTM G 62, BS1344-11, EN14430, JIS G3491, JIS G3492, ISO 2746, NACE RP0274, NACE RP 04901, NACE RP0188



Elcometer 236 Accessories

	/	
	,	
1		

T236155971 Telescopic Probe Handle
T236155972 Telescopic Probe Handle

mminches600 - 120024 - 471800 - 360071 - 142

Length

Length

Length

inches

9.8

19.7

39.4

mm

Length



T2362669- Band Brush Probe



T2362663AProbe Extension Piece250T2362663BProbe Extension Piece500T2362663CProbe Extension Piece1000T2362666-Coupling Piece - link Extension Pieces together



Electrode only inches mm Right Angle Rubber Probe T99926731 250 9.8 T23638081 Right Angle Rubber Probe T99926732 500 19.7 T23638082 T23638083 Right Angle Rubber Probe T99926733 1000 39.4



Electrode only mm inches 9.8 T23638071 Right Angle Wire Brush Probe T99915511 250 T23638072 Right Angle Wire Brush Probe T99926622 500 19.7 T23638073 Right Angle Wire Brush Probe T99926623 1000 39.4

Additional Accessories

T23615550	External Battery Pack
T23615579	The Elcometer Pipe testing Kit has been created to allow the pipeline inspector to create probes for non standard pipe sizes. Each Kit allows the user to create either 1 external spring for use on a 940mm (37") diameter pipe or up to 3 springs of user defined lengths.
	Larger diameters can be made by connecting additional spring lengths together. Spring lengths can be purchased separately - see page 14.



Pipe Diameter

Pipe Diameter

Elcometer 236 Accessories



		Spring only	mm	inches
T2362649A	External Pipe Rolling Spring Assembly	T9996197A	50	2
T2362649B	External Pipe Rolling Spring Assembly	T9996197B	75	3
T2362649C	External Pipe Rolling Spring Assembly	T9996197C	100	4
T2362649D	External Pipe Rolling Spring Assembly	T9996197D	150	6
T2362649E	External Pipe Rolling Spring Assembly	T9996197E	200	8
T2362649F	External Pipe Rolling Spring Assembly	T9996197F	250	10
T2362649G	External Pipe Rolling Spring Assembly	T9996197G	300	12
T2362649H	External Pipe Rolling Spring Assembly	T9996197H	350	14
T2362649I	External Pipe Rolling Spring Assembly	T9996197I	400	16
T2362649J	External Pipe Rolling Spring Assembly	T9996197J	450	18
T2362649K	External Pipe Rolling Spring Assembly	T9996197K	500	20
T2362649L	External Pipe Rolling Spring Assembly	T9996197L	600	24
T2362649M	External Pipe Rolling Spring Assembly	T9996197M	750	30
T2362649N	External Pipe Rolling Spring Assembly	T9996197N	1000	36

Full assembly includes spring, holder and 250mm extension piece.



		Brush only	mm	inches
T2363907A	Internal Pipe Wire Brush Assembly	T9993766-	38	1.5
T2363907B	Internal Pipe Wire Brush Assembly	T9993767-	51	2
T2363907C	Internal Pipe Wire Brush Assembly	T9993768-	64	2.5
T2363907D	Internal Pipe Wire Brush Assembly	T9993769-	76	3
T2363907E	Internal Pipe Wire Brush Assembly	T9993770-	89	3.5
T2363907F	Internal Pipe Wire Brush Assembly	T9993771-	102	4
T2363907G	Internal Pipe Wire Brush Assembly	T9993772-	114	4.5
T2363907H	Internal Pipe Wire Brush Assembly	T9993773-	127	5
T2363907I	Internal Pipe Wire Brush Assembly	T9993774-	152	6
T2363907J	Internal Pipe Wire Brush Assembly	T9993775-	203	8
T2363907K	Internal Pipe Wire Brush Assembly	T9993776-	254	10
T2363907L	Internal Pipe Wire Brush Assembly	T9993777-	305	12

Full assembly includes wire brush, holder and 250mm extension piece.

elcometer

Other Products from Elcometer



Ultrasonic Material Thickness Gauges



Surface Profile Gauges



Surface Cleanliness



Climatic Condition Testing



Coating Thickness Gauges



Adhesion Testing



Visit our website for the complete range of Elcometer inspection products for coatings, concrete and industrial metal detection.

Available in English, French, German, Spanish, Dutch & Chinese.

ENGLAND

Elcometer Instruments Ltd Edge Lane, Manchester, M43 6BU Tel: +44 (0)161 371 6000 Fax: +44 (0)161 371 6010 sales@elcometer.com www.elcometer.com

DEUTSCHLAND

Elcometer Instruments GmbH Himmlingstraße18, D-73434 Aalen Tel: +49 (0)7366 91 92 83 Fax: +49 (0)7366 91 92 86 de_info@elcometer.de www.elcometer.de

BELGIQUE / BELGIË

Elcometer SA Rue Vallée 13, B-4681 Hermalle /s Argenteau Tel: +32 (0)4 379 96 10 Fax: +32 (0)4 374 06 03 be_info@elcometer.be www.elcometer.be

FRANCE

Elcometer SARL 97 Route de Chécy. 45430 Bou Tel: +33 (0)2 38 86 33 44 Fax: +33 (0)2 38 91 987 66 fr_info@elcometer.com www.elcometer.fr

USA

Elcometer Inc. 1893 Rochester Industrial Drive, Rochester Hills, Michigan, 48309 Tel: +1 248 650 0500 Toll Free: 800 521 0635 Fax: +1 248 650 0501 inc@elcometer.com www.elcometer.com

CANADA

Elcometer Ltd
PO Box 622, 401 Ouelette Avenue,
Windsor, Ontario N9A 6N4
Tel: +1 248 650 0500
Toll Free: 800 521 0635
Fax: +1 248 650 0501
ca_info@elcometer.com
www.elcometer.com

SINGAPORE

Elcometer (Asia) Pte. Ltd. 896 Dunearn Rd, Sime Darby Centre #03-09, Singapore 589472, Tel: +65 6462 2822 Fax: +65 6462 2860 asia@elcometer.com www.elcometer.com

Due to our commitment to continuous research and development, we reserve the right to alter prices and specifications without notice.

elcometer is the registered trademark of Elcometer Instruments Ltd.

All other trademarks are acknowledged.©2007

www.elcometer.com