

elcometer®  
inspection equipment



Pinhole & Porosity  
Detection



Premature corrosion of a substrate is usually due to a coating failure. A major cause is the presence of flaws in the finished coating.

Collectively referred to as porosity, the main types of flaws are:

**Runs & Sags:** Coatings move under gravity leaving a thin dry film.

**Cissing:** When a coating does not re-flow to cover the voids generated by air bubbles being released from the surface of a coating.

**Cratering:** If the substrate is wet or the coating has poor flow characteristics, voids are created in the coating.

**Pinholes:** Caused 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, as it cures internal stresses of the coating can cause it to crack.

**Under Coating:** Uncoated areas, or where the coating flows away from edges or corners of a substrate or welds. Insufficient coating over a rough surface profile may also leave the peaks of the profile exposed.

There are essentially, three flaw detection methods in our range:

**Wet Sponge Technique:** A low voltage is applied to a moist sponge. When the sponge moves over a coating flaw, liquid penetrates to the substrate and completes an electrical circuit, setting off the alarm. The wet sponge technique is suitable for measuring insulating coatings less than 500µm (20mils) on conductive substrates, and is ideal for powder coatings and other coatings where the user does not wish to damage the coating.

**High Voltage Technique:** The high voltage, or porosity technique, can be used to test coatings up to 25mm (1") thick and 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 voltage DC or pulsed DC to a probe. As the probe passes over a flaw, a spark at the contact point sets off the alarm. This technique is suitable for locating the types of flaws described above, although care is required on thin coatings.

**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, identifying the location of the pinhole.



# Pinhole & Porosity

## Elcometer 270

## Pinhole Detector

The Elcometer 270 range utilises the wet sponge technique and sets the standard for wet sponge detectors - high quality, low voltage detectors with a wide range of accessories to meet your requirements.

**STANDARDS:**  
AS 3894.2, ASTM D 5162-A,  
ASTM G6, ASTM G62-A, BS 7793-2,  
ISO 8289-A, ISO 14654, JIS K 6766,  
NACE RP 0188, NACE SP 0188,  
NACE TM0384

User selectable voltages:  
9V, 67.5V or 90V

Automatic internal voltage check  
ensures that the selected voltage  
can be achieved

Easy release, snag proof  
cables - available in 4m (13'2")  
& 10m (32'10") lengths

Visual and audible alarms  
indicate a pinhole

A wide range of wand  
accessories available

Each unit can be converted into  
a separate wand with a base unit  
using the separate wand adaptor



## Pinhole Detector

## Elcometer 270

## Accessories

**Standard wand**

A universal flat sponge to suit almost all applications

**Spare flat sponge set****Pack of 3 sponges;**

150 x 60 x 25mm (6 x 2.3 x 1")

T27016867

**Roller sponge wand**

Ideal for large flat surface inspection

**Spare roller sponge**

T27016960

T27018051

**Telescopic wand adaptor**

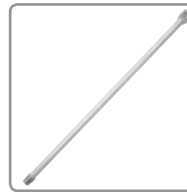
with belt clip - extends to 1m(39"), ideal for floors or high areas

**Separate wand adaptor**

with belt clip - converts the gauge into a separate pinhole detector

T27016998

T27016999

**Extension piece**

420mm (16.5") extensions to expand operators reach. Additional extension pieces can be connected to each other

T27016965

**Pinhole Inspector's Kit**

The complete pinhole detection kit.

Each kit is supplied with:

- 1 x separate wand handle & lead
- 1 x roller wand
- 1 x 10m (32') 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 kit does not include the main instrument; just add the model number to the order

T27018191

**Return cable - 4m (13')**

supplied as standard, complete with crocodile clip and connection plug

T99916954

**Return cable - 10m (32')**

supplied on a drum, complete with clip and connection plug

T99916996

**Wetting agent**

50ml (1.7floz) bottle - helps aid the fast detection of pinholes. Just add to the water used to dampen the sponge

T27018024

## Technical Specification

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Model	Elcometer 270/3	Elcometer 270/4	Certificate
Part Number	D270----3	D270----4	
Part Number with Certificate	D270----3C	D270----4C	●
Voltage	9V and 90V	9V, 67.5V and 90V	
Coating Range (Max)	500µm (20mils)	500µm (20mils)	
Sensitivity	9V: 90kΩ ±5% 90V: 400kΩ ±5%	9V: 90kΩ ±5% 67.5V: 125kΩ ±5% 90V: 400kΩ ±5%	
Battery Life (continuous use)	9V: up to 200 hours 90V: up to 80 hours	9V: up to 200 hours 67.5V: up to 100 hours 90V: up to 80 hours	
Battery Type	3 x AA batteries (rechargeable batteries can also be used, battery life will be reduced by up to 75%)		
Accuracy of Setting	±5%		
Dimensions	Without wand 210 x 42 x 37mm (8.3 x 1.7 x 1.5") Standard wand 175mm (6.9") long (including sponge)		
Weight	610g (21oz) including wand, cable and batteries		
Packing List	Pinhole Detector, standard wand and flat sponge, 4m (13' 2") return lead with crocodile clip, 3 x AA (LR1600) batteries and operating instructions		

● Calibration Certificate supplied as standard.

## Elcometer 280

## Pulsed DC Holiday Detector

The Elcometer 280 is a 'stick type' holiday detector which has been designed to make pulsed DC high voltage holiday detection safer, easier and more reliable than ever before.

**STANDARDS:**

AS 3894.1, ANSI/AWWA C203,  
ANSI/AWWA C214, ASTM D4787,  
ASTM D5162, ISO 2746, ISO 29601,  
JIS G 3491, JIS G 3492,  
NACE RP0274, NACE SP0188,  
NACE SP0490, NACE TM0186,  
NACE TM0384

Flashing display, bright LED and a user adjustable volume alarm indicates detection of a holiday

0.5 - 35kV range (user selectable) for detecting porosity in coatings up to 25mm (1") thick

Safety trigger integrated inside the handle cuts power if released

Rugged, shock proof and water resistant design to ensure long life, even in harsh environments

A wide range of interchangeable probe accessories available - compatible with all Elcometer holiday detectors

Ideal for testing clean, damp, dirty or slightly conductive coatings

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

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



## Pulsed DC Holiday Detector

Using state of the art electronics, the Elcometer 280 allows users to inspect coatings - without connecting the earth return lead to the component substrate, ideal for inspecting large surfaces and pipelines.

### Powerful

The Elcometer 280 uses the high voltage pulsed DC technique to detect holidays in coatings - even if the coating is damp, dirty or slightly conductive.

### Safe

From the two stage safety switch, bright LED's and screen icons which signify when the high voltage is on, to the extended ribbing to protect the user from spark creep, the Elcometer 280 sets the standard for high voltage measurement safety.

### User Friendly

Balanced, ergonomic design, complete with shoulder strap allows long periods of continuous use.

### Versatile

Using the wide range of probe accessories, users can detect porosity/holidays in coatings up to 25mm (1") thick.

### Tough

Rugged, shockproof and water resistant, each unit is designed for use even in the harshest of environments.

## Elcometer 280



Right angled wire brush probe



Internal circular wire pipe brush probe



Band brush probes



External 'C-type' wire brush



Right angled rubber probe



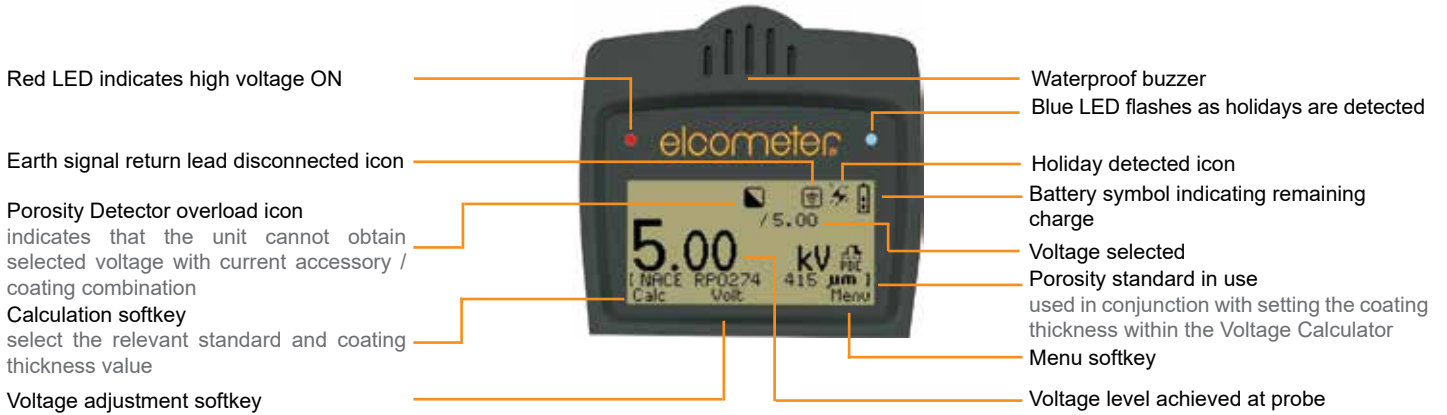
Rolling Springs



# Pinhole & Porosity

## Elcometer 280

### Key Features



\* the battery life is dependant on selected voltage and load applied - see Technical Specification for more information



## Pulsed DC Holiday Detector

## Elcometer 280

## Technical Specification

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Description	Model S	Model T	Certificate
Elcometer 280 Pulsed DC Holiday Detector Inspection Kit	D280-S-KIT	D280-T-KIT	○
Elcometer 280 Pulsed DC Holiday Detector	D280-S----	D280-T----	○
Rugged, Shockproof & Water Resistant	■	■	
Integrated Safety Trigger Switch	■	■	
Quick Release Battery Pack	■	■	
Internal Jeep Tester	■	■	
Integrated Voltage Calculator		■	
Pulsed DC High Voltage Range	0.5kV - 35kV		
Voltage Adjustment	User adjustable: 0.5 - 1kV: 10 Volt steps, 1 - 35kV: 100V steps		
High Voltage Output Accuracy	±5% or ±50V below 1000 Volts		
Pulse Repetition Rate	~30Hz		
Operating Temperature	0°C to 50°C (32°F to 120°F)		
Power Supply	Rechargeable battery Pack; Battery fully charged within 4 hours		
Typical Battery Life	Battery life is dependant upon selected voltage and load applied; 12" (DN305) Rolling Spring: 30 hours at 10kV; 12 hours at 35kV 40" (DN1016) Rolling Spring: 22 hours at 10kV; 8 hours at 35kV		
Instrument Case Dimensions	PC ABS case; (l x w x h): 603 x 219 x 193mm (23.7 x 8.6 x 7.6")		
Weight (no probes attached)	3.0kg (6.6lb) - including battery pack		
Packing List	<p><b>Elcometer 280 Pulsed DC Holiday Detector</b> Gauge ( Model S or T), 5m (16') trailing signal return lead, battery pack, battery charger with UK, EUR, US and AUS plugs, shoulder strap and operating instructions</p> <p><b>Elcometer 280 Pulsed DC Holiday Detector Inspection Kit</b> Gauge (Model S or T), 5m (16') trailing signal return lead, battery pack (2 supplied with Model T), battery charger with UK, EUR, US and AUS plugs, stainless steel rolling spring holder (supplied with Model T only), 250mm (9.8") probe extension shaft, shoulder strap and operating instructions - packed in a light weight, rugged, wheeled transit case - ideal for transportation</p>		

## Accessories

Light weight, rugged, wheeled transit case - ideal for gauge transportation, with additional space to house up to 20m (66') of phosphor bronze or 6m (30') of stainless steel rolling spring	T28022769
Grounding mats are ideal for testing on ungrounded pipes. The conductive rubber mat is wrapped around the coated pipe and connected to both the grounding pin (supplied separately) and the signal return lead.	
750mm (29.5") long - for pipe diameters up to 9" (NPS)/ 229mm (DN)	T28022637-1
1500mm (59") long - for pipe diameters up to 18" (NPS)/ 457mm (DN)	T28022637-2
2500mm (98.5") long - for pipe diameters up to 30" (NPS)/ 762mm (DN)	T28022637-3
3500mm (137.5") long - for pipe diameters up to 42" (NPS)/ 1067mm (DN)	T28022637-4
Grounding pin; 60cm (23.5") long x 0.2cm (0.75") diameter	T28022748
Trailing signal return lead, 5m (16')	T28022622
10m (32') earth lead, clips each end (for use with the grounding mat)	T28022749
10m (32') earth lead, clip / Elcometer 280 connector (for use with the grounding mat)	T28022750

**For a full range of rolling springs, rubber or wire brush probes and other accessories see page 14**



○ Optional Calibration Certificate available.

## Elcometer 266

## Holiday Detector

The Elcometer 266 revolutionises High Voltage DC testing of coatings porosity detection making it safer, easier and more reliable than ever before.

### STANDARDS:

ANSI/AWWA C213, AS 3894.1,  
ASTM C 536, ASTM C 537,  
ASTM D 4787, ASTM D 5162-B,  
ASTM G 62-B, BS1344-11,  
DIN 55670, EN 14430, ISO 2746,  
ISO 29601, JIS K 6766,  
NACE RP0274, NACE RP0188,  
NACE RP0190, NACE RP0490,  
NACE SP0188, NACE SP0490

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

Adjustable Voltage:  
0.5kV - 1kV in 50V steps  
1kV to 30kV in 100V steps

A wide range of probe brushes and rolling springs available

To change maximum voltage range, select a different handle; 5kV, 15kV or 30kV DC or 30kV DC continuous

Visual and audible alarms, Bright LEDs on the handle, as well as a loud buzzer, clearly indicate when a holiday is detected

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

Dual safety switch on handle to avoid accidental switch on (Grey/orange probe handles only)

**2**YEAR\*  
WARRANTY



For a full range of rolling springs, rubber or wire brush probes and other accessories see page 14

## Key Features

**Interchangeable DC probe handles\*\***

Part Number	Description
T26620033-1	DC5 (0.5 - 5kV)
T26620033-2	DC15 (0.5 - 15kV)
T26620033-3	DC30 (0.5 - 30kV)
T26620033-4	DC30S (0.5 - 30kV)

**Integrated voltage calculator**

Enter the test standard & the coating thickness then the gauge will automatically programme the correct voltage

**Testing has never been safer**

Ribbing provides additional user protection - specifically designed to meet EN 61010

**Second hand grip is available**

Ideal for testing pipes and tank floors with 2 hands - without compromising safety

Part Number	Description
T26620081	Second Hand Grip

**Removeable, quick charge batteries**

Fully charge the battery pack in 4 hours, within the gauge or separately, for up to 40 hours of continuous testing

**Universal probe adaptors**

Enables the Elcometer 266 to work with all major holiday detector's accessories. For the complete range of adaptors see page 14

Part Number	Description
T99923482	Rechargeable lithium ion battery pack

## Technical Specification



Description	Part Number <sup>†</sup>	Certificate
Elcometer 266*	D266----4	○
High Voltage Output Accuracy	±5% or ±50V below 1000 Volts	
Operating Temperature	0°C to 50°C (32°F to 120°F)	
Power Supply	Rechargeable battery Pack; battery fully charged within 4 hours	
Measured Current Flow Accuracy	±5% of full scale ; 0 - 100µA maximum Output Current	
Typical Battery Life - Backlight Off (On)	DC5: 40 (20) hours    DC15: 20 (15) hours    DC30: 10 (8) hours	
Instrument Case Dimensions	Waterproof, ABS case; 520 x 370 x 125mm (20.5 x 14.5 x 5")	
Weight	Base unit (including battery pack): 1.2kg (2.7lb)    Handle: 0.6kg (1.3lb)	
Packing List	Elcometer 266 DC Holiday Detector, battery pack, curly connection cable for high voltage handle, 10m (32') signal return lead, battery charger with UK, EUR, US and AUS plugs, band brush, shoulder strap, tough plastic carry case and operating instructions	

## Probe Handles



Part Number	Description	Voltage Range	Certificate
T26620033-1	Elcometer 266 Probe Handle Voltage <sup>†**</sup>	DC5 (0.5 - 5kV)	○
T26620033-1C	Elcometer 266 Probe Handle Certified <sup>†**</sup>	DC5 (0.5 - 5kV)	
T26620033-2	Elcometer 266 Probe Handle Voltage <sup>†**</sup>	DC15 (0.5 - 15kV)	○
T26620033-2C	Elcometer 266 Probe Handle Certified <sup>†**</sup>	DC15 (0.5 - 15kV)	
T26620033-3	Elcometer 266 Probe Handle Voltage <sup>†**</sup>	DC30 (0.5 - 30kV)	○
T26620033-3C	Elcometer 266 Probe Handle Certified <sup>†**</sup>	DC30 (0.5 - 30kV)	
T26620033-4	Elcometer 266 Probe Handle Voltage <sup>†**</sup> (Continuous Voltage)	DC30S (0.5 - 30kV)	○
T26620033-4C	Elcometer 266 Probe Handle Certified <sup>†**</sup> (Continuous Voltage)	DC30S (0.5 - 30kV)	
T26620081	Second Hand Grip		

<sup>†</sup> The Elcometer 266 does not include the probe handle; please select the required handle from the list above.

\* The Elcometer 266 main instrument is supplied with a one year warranty against manufacturing defects. The warranty can be extended to two years via [www.elcometer.com](http://www.elcometer.com)

\*\* Probe handles are supplied with a one warranty against manufacturing defects.

○ Optional Calibration Certificate available.

## Elcometer 236

## Holiday Detector

The Elcometer 236 Holiday Detector provides high voltage porosity testing to detect pits, flaws, holes, etc. in a wide variety of non-metallic coatings.

**STANDARDS:**

ANSI/AWWA C213, AS 3894.1, ASTM C 536, ASTM C 537, ASTM D 4787, ASTM D 5162-B, ASTM G 62-B, BS1344-11, DIN 55670, EN 14430, ISO 2746, ISO 29601, JIS K 6766, NACE RP0274, NACE RP0188, NACE RP0190, NACE RP0490, NACE SP0188, NACE SP0490

Standard and telescopic handles available for hard to reach areas

Available in 2 versions; 15 and 30kV; fully adjustable in 100 Volt steps



Adjustable sensitivity allows use on partially conductive surfaces

Integrated neon bulb in the handle, together with buzzer indicate when a holiday has been located

A wide range of probe brushes and springs available

## Holiday Detector

## Elcometer 236

The Elcometer 236 provides the user with complete control of voltage and sensitivity settings and is available in 2 versions, 15kV and 30kV.

Each unit is supplied in a convenient carry case which also holds the probe handle and an additional (optional) external re-chargeable battery pack which doubles the testing time available.

Due to its unique design, the probe handle can be replaced with a telescopic probe handle - extending the measurement reach up to almost 4m (13'), ideal for testing on large/high structures.



### Technical Specification

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	Elcometer 236 15kV	Elcometer 236 30kV	Certificate
Part Number	D236--15KV	D236--30KV	○
Part Number with Certificate	D236--15KVC	D236--30KVC	●
Voltage Output	0.5 - 15kV in 100V steps	0.5 - 30kV in 100V steps	
Display Resolution	0.01kV	0.1kV	
Approximate Thickness Range	0 - 3.75mm (0 - 150mils)	0 - 7.5mm (0 - 300mils)	
Operating Temperature	0°C to 50°C (32°F to 120°F)		
Alarms	Audible & Visual		
Power Supply	12V internal rechargeable battery		
Battery Life (approximate)	10/12 hours continuous use, 20/24 hours with the optional external battery pack		
Dimensions	200 x 170 x 70mm (6 x 7 x 3")		
Weight	2.8kg (6lb 3oz)		
Packing List	Elcometer 236, probe handle and lead, band brush probe, 2m (79") & 10m (394") signal return/earth leads, battery charger with 3 mains cables (UK, EUR and US), carry case, transit case and operating instructions		

### Accessories

T23622790-1	Telescopic probe handle, 600 - 1200mm (24 - 47")
T23622790-2	Telescopic probe handle, 1800 - 3600mm (71 - 142")
T236139031	2m (6.5') earth signal return lead
T236139032	10m (32') earth signal return lead
T23615550	External battery pack (doubles operational use between charges)



For a full range of rolling springs, rubber or wire brush probes and other accessories see page 14



○ Optional Calibration Certificate available.

## Elcometer 236, 266 & 280 High Voltage Holiday Detector Accessories


### Batteries, Chargers & Earth Signal Return Leads

	Part Number	Description	Compatible with		
			Elcometer 236	Elcometer 266	Elcometer 280
	T23615550	External rechargeable battery pack	■		
	T23613907	Battery charger & mains lead (UK 240V)	■		
	T23613908	Battery charger & mains lead (EU 220V)	■		
	T23613909	Battery charger & mains lead (US 110V)	■		
	T99923482	Rechargeable battery pack		■	■
	T99919999	Battery Charger with UK, EUR, US and AUS plugs		■	■
	T236139031	Earth signal return lead, 2m (6.5')	■		
	T236139032	Earth signal return lead, 10m (32')	■		
	T99916954	Earth signal return lead, 4m (13')		■	
	T99916996	Earth signal return lead, 10m (32')		■	
	T28022750	10m (32') earth lead, clip / Elcometer 280 connector			■
	T28022622	Trailing signal return lead, 5m (16')			■

### Telescopic Probes, Probe Extension Rods

	T23622790-1	Telescopic probe handle, 0.6 - 1.20m (24 - 47")	□		
	T23622790-2	Telescopic probe handle, 1.8 - 3.60m (71 - 142")	□		
	T99919988-3	Probe extension rod, 250mm (9.8")	□	■	■
	T99919988-1	Probe extension rod, 500mm (20")	□	■	■
	T99919988-2	Probe extension rod, 1000mm (39")	□	■	■

### Accessory Adaptors Allows other manufacturer's accessories to fit Elcometer models

	T99920084	Adaptor for models: AP, APS, AP/S1, AP/S2, AP/W, 10/20, 14/20, 10, 20 & 20S	□	■	■
	T99920083	Adaptor for models: P20, P40, P60, 780, 785 & 790	□	■	■
	T99920252	Adaptor for models: PHD 1-20 & PHD 2-40	□	■	■
	T99922747	Adaptor for models: 4S, 4.0, 8.0, 35	□	■	■
	T99920082	Adaptor for current range to fit old accessories	■	■	■
T99922768	Adaptor for Elcometer 136 and older 236 models	■			

### Band brush probes



	T99919975	Band brush probe	□	■	■
	T99922751	Phosphor bronze brush probe	□	■	■

□ Older Elcometer 236 models may require adaptor piece T99922768

## High Voltage Holiday Detector Accessories

## Elcometer 236, 266 &amp; 280

Wire Brush Probes, flat brush, internal and external pipe brush probes

Part Number	Description			Compatible with			
				Elcometer 236	Elcometer 266	Elcometer 280	
				Width			
	T99920022-1	Right angled wire brush probe	0.25m	9.8"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920022-2	Right angled wire brush probe	0.50m	19.7"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920022-3	Right angled wire brush probe	1.00m	39"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99926621	Spare wire brush electrode	0.25m	9.8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99926622	Spare wire brush electrode	0.50m	19.7"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99926623	Spare wire brush electrode	1.00m	39"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
				Diameter			
	T99920071-1	Internal circular wire pipe brush probe	38mm	1.5"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-2	Internal circular wire pipe brush probe	51mm	2.0"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-3	Internal circular wire pipe brush probe	64mm	2.5"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-4	Internal circular wire pipe brush probe	76mm	3.0"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-5	Internal circular wire pipe brush probe	89mm	3.5"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-6	Internal circular wire pipe brush probe	102mm	4.0"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-7	Internal circular wire pipe brush probe	114mm	4.5"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-8	Internal circular wire pipe brush probe	127mm	5.0"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-9	Internal circular wire pipe brush probe	152mm	6.0"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-10	Internal circular wire pipe brush probe	203mm	8.0"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-11	Internal circular wire pipe brush probe	254mm	10"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-12	Internal circular wire pipe brush probe	305mm	12"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-13	Internal circular wire pipe brush probe	356mm	14"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-14	Internal circular wire pipe brush probe	406mm	16"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-15	Internal circular wire pipe brush probe	508mm	20"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	T99920071-16	Internal circular wire pipe brush probe	610mm	24"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T9993766-	Spare circular wire brush electrode	38mm	1.5"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993767-	Spare circular wire brush electrode	51mm	2.0"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993768-	Spare circular wire brush electrode	64mm	2.5"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993769-	Spare circular wire brush electrode	76mm	3.0"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993770-	Spare circular wire brush electrode	89mm	3.5"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993771-	Spare circular wire brush electrode	102mm	4.0"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993772-	Spare circular wire brush electrode	114mm	4.5"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993773-	Spare circular wire brush electrode	127mm	5.0"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993774-	Spare circular wire brush electrode	152mm	6.0"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993775-	Spare circular wire brush electrode	203mm	8.0"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993776-	Spare circular wire brush electrode	254mm	10"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993777-	Spare circular wire brush electrode	305mm	12"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993778-	Spare circular wire brush electrode	356mm	14"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993779-	Spare circular wire brush electrode	406mm	16"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993780-	Spare circular wire brush electrode	508mm	20"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T9993781-	Spare circular wire brush electrode	610mm	24"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Older Elcometer 236 models may require adaptor piece T99922768

# Pinhole & Porosity

## Elcometer 236, 266 & 280 High Voltage Holiday Detector Accessories

### Wire Brush Probes, band brush, flat brush, internal and external pipe brush probes



Part Number	Description	Compatible with		
		Elcometer 236	Elcometer 266	Elcometer 280
T99922752	'C-type' wire brush holder† (order C-type brush from the list below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922907	'C-type' wire brush support handle*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



	Description	Outside Diameter (OD)				
		DN	NPS			
T99922745-1	External 'C-type' wire brush	150 - 250mm	6 - 9"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-2	External 'C-type' wire brush	250 - 350mm	9 - 12"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-3	External 'C-type' wire brush	350 - 450mm	12 - 16"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-4	External 'C-type' wire brush	450 - 550mm	16 - 20"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-5	External 'C-type' wire brush	550 - 650mm	20 - 24"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-6	External 'C-type' wire brush	650 - 750mm	24 - 28"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-7	External 'C-type' wire brush	750 - 850mm	28 - 32"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-8	External 'C-type' wire brush	850 - 950mm	32 - 36"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-9	External 'C-type' wire brush	950 - 1050mm	36 - 40"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922745-10	External 'C-type' wire brush	1050 - 1150mm	40 - 44"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

† Wire brush supplied separately

\* Wire brush support handle ideal for two handed use or second person for large diameters

### Conductive Rubber Probes



	Description	Width				
		mm	in			
T99920022-11	Right angled rubber probe	250mm	9.8"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99920022-12	Right angled rubber probe	500mm	19.7"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99920022-13	Right angled rubber probe	1000mm	39"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99920022-14	Right angled rubber probe	1400mm	55"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99926731	Spare rubber electrode	250mm	9.8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99926732	Spare rubber electrode	500mm	19.7"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99926733	Spare rubber electrode	1000mm	39"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99926734	Spare rubber electrode	1400mm	55"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### Rolling Springs Holders

T99920086	Phosphor bronze rolling spring holder Order the relevant phosphor bronze spring(s) from the list on page 17	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T99922746	Stainless steel rolling spring holder Order the relevant stainless steel spring(s) from the list on page 17	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Older Elcometer 236 models may require adaptor piece T99922768



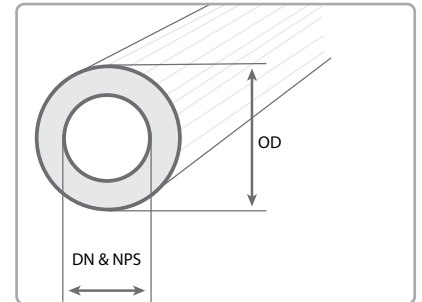
## High Voltage Holiday Detector Accessories

## Elcometer 236, 266 &amp; 280

Rolling Springs Available in phosphor bronze or stainless steel

Each spring is supplied with an easy-release coupling piece, allowing users to quickly connect and disconnect the rolling spring from stanchions, pillars, etc.

Please note that rolling springs are not supplied with a spring holder. Please order the appropriate rolling spring holder separately.



Rolling springs are available in 2 versions, phosphor bronze round spring and 304 stainless steel box section spring. The 19mm (0.75") diameter phosphor bronze springs are almost 3 times lighter than the 34mm (1.33") diameter stainless steel springs.

## Rolling Spring Dimensions

Rolling Spring Dimensions		Nominal Pipe Size		Pipe Outside Diameter (OD)				
Part Number	Phosphor Bronze	Stainless Steel	DN	NPS	millimeters (mm)		inches (")	
			(mm)	(inches)	min OD	max OD	min OD	max OD
T99920438-15A		-	40	1.5	48	54	1.9	2.1
T99920438-15B		-			54	60	2.1	2.4
T99920438-20A		-	50	2.0	60	66	2.4	2.6
T99920438-20B		-			66	73	2.6	2.9
T99920438-25A	T99922744-25A		65	2.5	73	80	2.9	3.1
T99920438-25B	T99922744-25B				80	88	3.1	3.5
T99920438-30A	T99922744-30A		80	3.0	88	95	3.5	3.7
T99920438-30B	T99922744-30B				95	100	3.7	3.9
T99920438-35A	T99922744-35A		90	3.5	100	108	3.9	4.3
T99920438-35B	T99922744-35B				108	114	4.3	4.5
T99920438-40A	T99922744-40A		100	4.0	114	125	4.5	4.9
T99920438-45A	T99922744-45A				125	136	4.9	5.4
T99920438-45B	T99922744-45B		114	4.5	136	141	5.4	5.6
T99920438-50A	T99922744-50A		125	5.0	141	155	5.6	6.1
T99920438-50B	T99922744-50B				155	168	6.1	6.6
T99920438-60A	T99922744-60A		152	6.0	168	180	6.6	7.1
T99920438-60B	T99922744-60B				180	193	7.1	7.6
T99920438-70A	T99922744-70A		178	7.0	193	213	7.6	8.4
T99920438-70B	T99922744-70B				213	219	8.4	8.6
T99920438-80A	T99922744-80A		203	8.0	219	240	8.6	9.4
T99920438-90A	T99922744-90A				240	264	9.4	10.4
T99920438-100A	T99922744-100A		254	10.0	264	290	10.4	11.4
T99920438-110A	T99922744-110A				290	320	11.4	12.6
T99920438-120A	T99922744-120A		305	12.0	320	350	12.6	13.8
T99920438-140A	T99922744-140A				350	375	13.8	14.8
T99920438-140B	T99922744-140B		356	14.0	375	400	14.8	15.7

□ Older Elcometer 236 models may require adaptor piece T99922768

## Elcometer 236, 266 & 280 High Voltage Holiday Detector Accessories

Rolling Springs Available in phosphor bronze or stainless steel



Rolling springs are available in 2 versions, phosphor bronze round spring and 304 stainless steel box section spring. The 19mm (0.75") diameter phosphor bronze springs are almost 3 times lighter than the 34mm (1.33") diameter stainless steel springs.

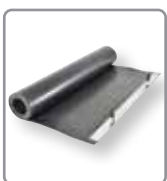
### Rolling Spring Dimensions

Part Number		Nominal Pipe Size		Pipe Outside Diameter (OD)			
		DN	NPS	millimeters (mm)		inches (")	
Phosphor Bronze	Stainless Steel	(mm)	(inches)	min OD	max OD	min OD	max OD
T99920438-160A	T99922744-160A	406	16.0	400	435	15.7	17.1
T99920438-160B	T99922744-160B			435	450	17.1	17.7
T99920438-180A	T99922744-180A	457	18.0	450	500	17.7	19.7
T99920438-200A	T99922744-200A	508	20.0	500	550	19.7	21.7
T99920438-220A	T99922744-220A	559	22.0	550	600	21.7	23.6
T99920438-240A	T99922744-240A	610	24.0	600	650	23.6	25.6
T99920438-260A	T99922744-260A	660	26.0	650	700	25.6	27.6
T99920438-280A	T99922744-280A	711	28.0	700	750	27.6	29.5
T99920438-300A	T99922744-300A	762	30.0	750	810	29.5	31.9
T99920438-320A	T99922744-320A	813	32.0	810	860	31.9	33.9
T99920438-340A	T99922744-340A	864	34.0	860	910	33.9	35.8
T99920438-360A	T99922744-360A	914	36.0	910	960	35.8	37.8
T99920438-380A	T99922744-380A	965	38.0	960	1010	37.8	39.8
T99920438-400A	T99922744-400A	1016	40.0	1010	1060	39.8	41.7
T99920438-420A	T99922744-420A	1067	42.0	1060	1110	41.7	43.7
T99920438-440A	T99922744-440A	1118	44.0	1110	1160	43.7	45.7
T99920438-460A	T99922744-460A	1168	46.0	1160	1210	45.7	47.6
T99920438-480A	T99922744-480A	1219	48.0	1210	1270	47.6	50.0
T99920438-500A	T99922744-500A	1270	50.0	1270	1320	50.0	52.0
T99920438-520A	T99922744-520A	1321	52.0	1320	1370	52.0	53.9
T99920438-540A	T99922744-540A	1372	54.0	1370	1425	53.9	56.1

Other sizes are available upon request. Please contact your nearest distributor for more information.

### Grounding Mats

Grounding mats are ideal for testing on ungrounded pipes. The conductive rubber mat is wrapped around the coated pipe and connected to both the grounding pin (supplied separately) and the signal return lead.



Part Number	Description	Outside Diameter (OD)		Compatible with		
		DN	NPS	Elcometer 236	Elcometer 266	Elcometer 280
T28022637-1	Grounding Mat	up to 229mm	up to 9"			■
T28022637-2	Grounding Mat	up to 457mm	up to 18"			■
T28022637-3	Grounding Mat	up to 762mm	up to 30"			■
T28022637-4	Grounding Mat	up to 1067mm	up to 42"			■
T28022748	Grounding pin; 60cm (23.5") long					■
T28022749	10m (32') earth lead, clips each end					■
T28022750	10m (32') earth lead, clip / Elcometer 280 connector					■

□ Older Elcometer 236 models may require adaptor piece T99922768

## UV Pinhole Flashlight

The Elcometer 260 UV Pinhole Flashlight is battery powered and housed in a rugged aluminium case providing a quick, low cost method of testing coatings for pinholes.

Featuring a three-Watt purple light emitting diode, the Elcometer 260 UV flashlight has a beam wavelength of 405nm ( $\pm 5$ nm), which the human eye perceives as a purple light.

Designed with a specialised diffuser lens that emits a smooth beam image (with no streaks, hot spots or dark spots) and used with National Surface Treatment Centre approved safety glasses for improved contrast, the Elcometer 260 UV flashlight provides optimum integrity and reliability of the visual inspection.

The Elcometer 260 UV flashlight can detect pinholes from both the base and top coats. A UV reflective additive is applied to the base coat. When inspecting the fluorescent base coat look for black spots or grey areas that indicate pinholes. When inspecting the non-fluorescent top coat, look for glowing spots that indicate pinholes in the top coat (shining through from the base coat).

- Low cost and easy to use: Use UV reflecting base coat and shine the purple light onto the surface. Any fluorescence identifies pinholes
- Rugged: Manufactured from aluminium alloy and O'ring sealed to protect it from moisture and dust
- Portable and secure: Battery powered and features a recessed click-on/push off button to prevent accidental activation during transport or storage.

## Elcometer 260



**STANDARDS:**  
ASTM E2501

### Technical Specification

Part Number	D260----2
Lens Type	Dual element diffuser
Power Output	3 Watt
Beam Wavelength	405nm $\pm 5$ nm
Flashlight Casing	Hard anodised aluminium
Battery Type	2 x CR123A batteries
Battery Life	6 hours (continuous use)
Dimensions	150 x 35mm (6 x 1.4")
Weight	173g (6.1oz)
Packing List	Elcometer 260 UV Pinhole Flashlight, UV protective glasses, nylon belt holster, 2 x CR123A batteries, operating instructions

### Accessories

T26020140	UV Protective Glasses
T26020141	2 x Replacement 123A batteries



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