

# SPY<sup>®</sup>

## INSPECTION EQUIPMENT

**ACCURATE, TOUGH AND RELIABLE  
IN ANY ENVIRONMENT**



For more details on SPY<sup>®</sup> Products  
and our complete line of equipment,  
please visit [spyinspect.com](http://spyinspect.com) or call (713) 681-5837.

# SPY<sup>®</sup>

## INSPECTION EQUIPMENT

[www.spyinspect.com](http://www.spyinspect.com)

# SPY<sup>®</sup> IN-PLANT HOLIDAY DETECTORS



CE

**SPY<sup>®</sup>**  
INSPECTION EQUIPMENT  
[www.spyinspect.com](http://www.spyinspect.com)



# MODELS

## 115 • 125 • 135

### MODEL 115

1-5 kv dc • 4-50 mils

FOR THIN FILM COATINGS.

Output voltage is infinitely adjustable from one to five kilovolts. Normal output voltage is direct current (DC) unless moisture is detected on the pipe. When moisture is detected, output voltage automatically switches to pulse type output voltage for optimum results.

### MODEL 125

5-25 kv pulse dc • 50-400 mils

For thicker coatings the Model 125 has fully adjustable output voltage from 5-25 kilovolts. For very demanding conditions, a sensitivity switch offers additional control.

### MODEL 135

10-35 kv pulse dc • 64-750 mils

For a wider Pulse DC range with a maximum output voltage to handle even thicker coatings the Model 135 has fully adjustable output voltage from 10 to 35 KV.

State-of-the-art holiday detectors, in a sturdy case, with an easy-to-read, easy-to-use control panel and heavy-duty three wire power cord. A loud klaxon horn, that can be heard above normal plant noise, and a spring electrode wand with twenty feet of high voltage cable complete the system.

### LEADING-EDGE CIRCUITRY

Almost eliminates maintenance and downtime.

### OPERATES ON STANDARD 120 VAC

No batteries are required. Optional 230 VAC/115VAC Isolation Transformer available.

### OUTPUT VOLTAGE

Automatically regulated for 2" to 60" pipe sizes.

### SENSITIVITY SWITCH

Reduce False Signals. The 3-position sensitivity switch allows the user to compensate for the capacitance of the pipe being inspected (i.e. false signal).

### PERMANENT OR SEMI-PERMANENT INSTALLATION

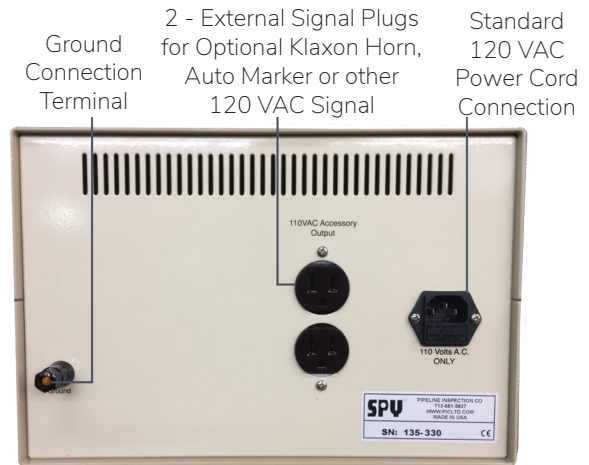
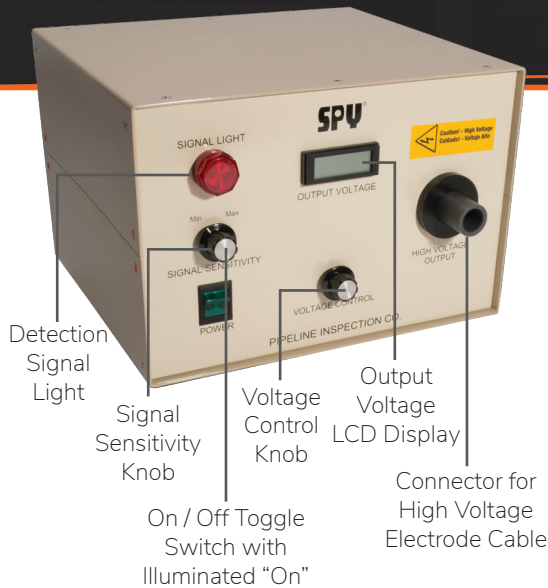
Extremely versatile for automatic or manual operation.

### INTERNAL HEATER

Prevents moisture build-up when the unit is not in use.



For use in any manufacturing industry testing any non-conductive coatings or surfaces applied over a conductive substrate such as pipes, storage tanks, geomembranes, cables, battery cases, film, foil, food packaging, etc.



## SPECIFICATIONS

MODEL	115	125	135
Voltage Type	DC	Pulse DC	Pulse DC
Voltage Range (kV)	1-5 kV	5-25 kV	10-35 kV
Voltage Output Accuracy	±5%	±5%	±5%
Coating Range (Min-Max)	4-50 mils	50-400 mils	64-750 mils
Pulse Repetition Rate	N/A	28 Hz	28 Hz
Operating Temperature	-20°F to 148°F	-20°F to 148°F	-20°F to 148°F
Internal Volt Meter	YES	YES	YES
Display Type	LCD	LCD	LCD
Holiday Indicator Type	Audible / Visual	Audible / Visual	Audible / Visual
Power Requirement	120V AC (Optional Isolation Transformer Available)	120V AC (Optional Isolation Transformer Available)	120V AC (Optional Isolation Transformer Available)
Unit Weight	9.2 lbs	9.6 lbs	9.7 lbs
Unit Dimensions (LxWxH)	12" x 13" x 8.5"	12" x 13" x 8.5"	12" x 13" x 8.5"
Domestic/International Standards Unit Complies With	AS 3894.1, ANSI/AWWA C203, ANSI/AWWA C214, ASTM D4787, ASTM D5162, NACE RP0274, NACE SP0188, NACESP0490, NACE TM0186, NACE TM0384	AS 3894.1, ANSI/AWWA C203, ANSI/AWWA C214, ASTM D4787, ASTM D5162, NACE RP0274, NACE SP0188, NACE SP0490, NACE TM0186, NACE TM0384	AS 3894.1, ANSI/AWWA C203, ANSI/AWWA C214, ASTM D4787, ASTM D5162, NACE RP0274, NACE SP0188, NACESP0490, NACE TM0186, NACE TM0384
Factory Warranty	12 Month	12 Month	12 Month

# 115 • 125 • 135 KITS



## 1X5 DOMESTIC KIT:

- 1 - In-Plant Holiday Detector
- 1 - Klaxon Horn
- 1 - 25 ft Spring / Brush Wand with Brush Adapter Kit
- 1 - Operating Instructions
- 1 - Certificate of Calibration

## 1X5 INTERNATIONAL KIT:

- 1 - In-Plant Holiday Detector
- 1 - Klaxon Horn
- 1 - 230 VAC / 115VAC Isolation Transformer
- 1 - 25 ft Spring / Brush Wand with Brush Adapter Kit
- 1 - Operating Instructions
- 1 - Shipping / Carrying Case
- 1 - Certificate of Calibration



# ELECTRODE TYPES

FOR SPRING ELECTRODES  
the connector has a sealed ball bearing  
in the end to allow the electrode to roll freely.

FOR BRUSH & OTHER TYPE ELECTRODES  
the connection is a simple wing nut.



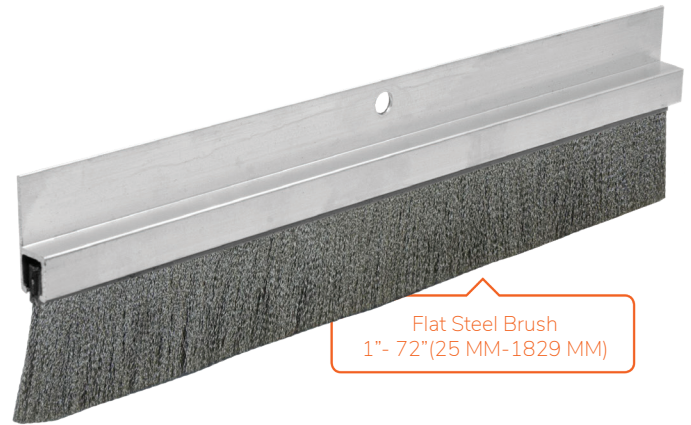
Half-Circle Brush\*  
AVAILABLE IN BRASS,  
STEEL OR NEOPRENE  
2"- 60"(50.8 MM-1524 MM)



Flat Brass Brush  
1"-72"(25 MM-1829 MM)



Full-Circle Brush\*  
AVAILABLE IN BRASS,  
STEEL OR NEOPRENE  
2"- 60"(50.8 MM-1524 MM)



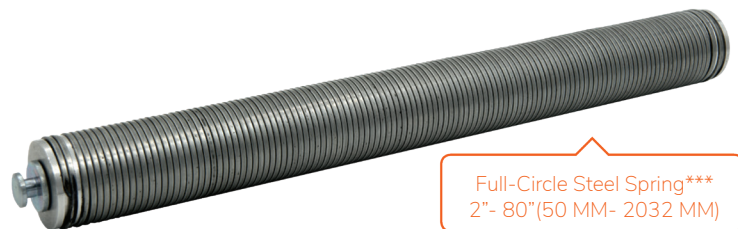
Flat Steel Brush  
1"- 72"(25 MM-1829 MM)



Internal Brush\*\*  
AVAILABLE IN NEOPRENE  
2"-60" (50.8 MM-1524 MM)



Flat Neoprene Brush  
1"- 72"(25 MM-1829 MM)



Full-Circle Steel Spring\*\*\*  
2"- 80"(50 MM- 2032 MM)

Custom size electrodes are always available.  
Contact our sales staff to discuss your specific  
electrode needs.

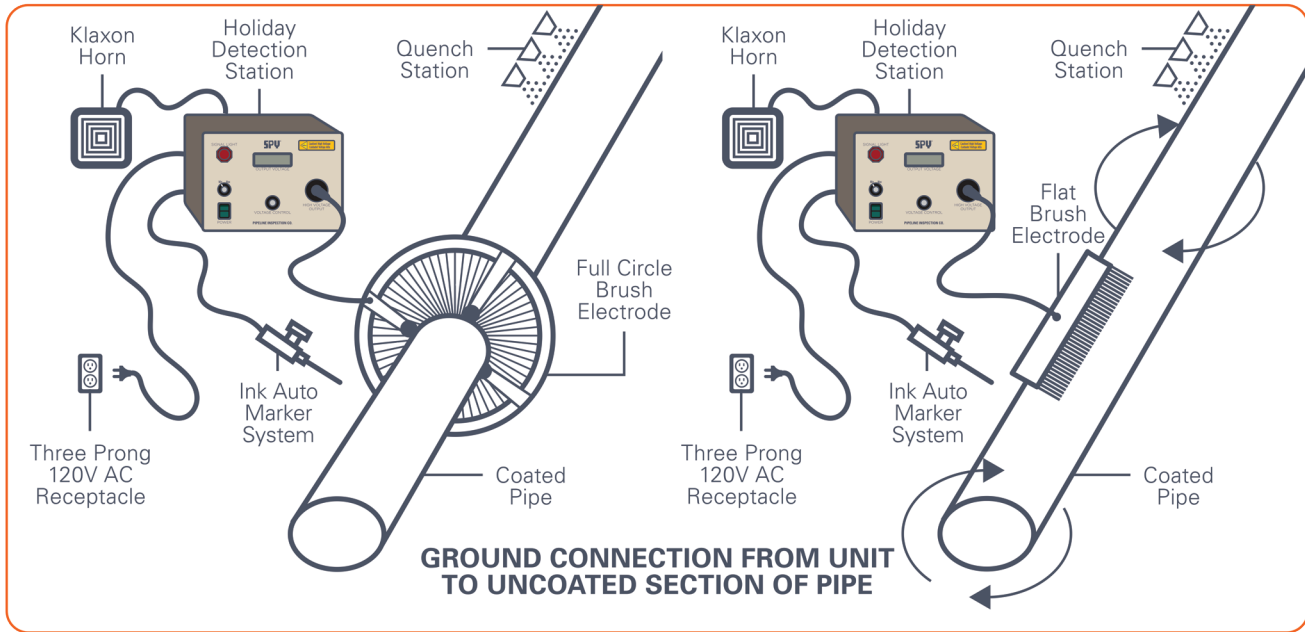
\* Sizes above 12" are built with wheels for support.

\*\* Sizes above 15" are built with support wheels, sizes 12"-14" are built with Teflon guides.

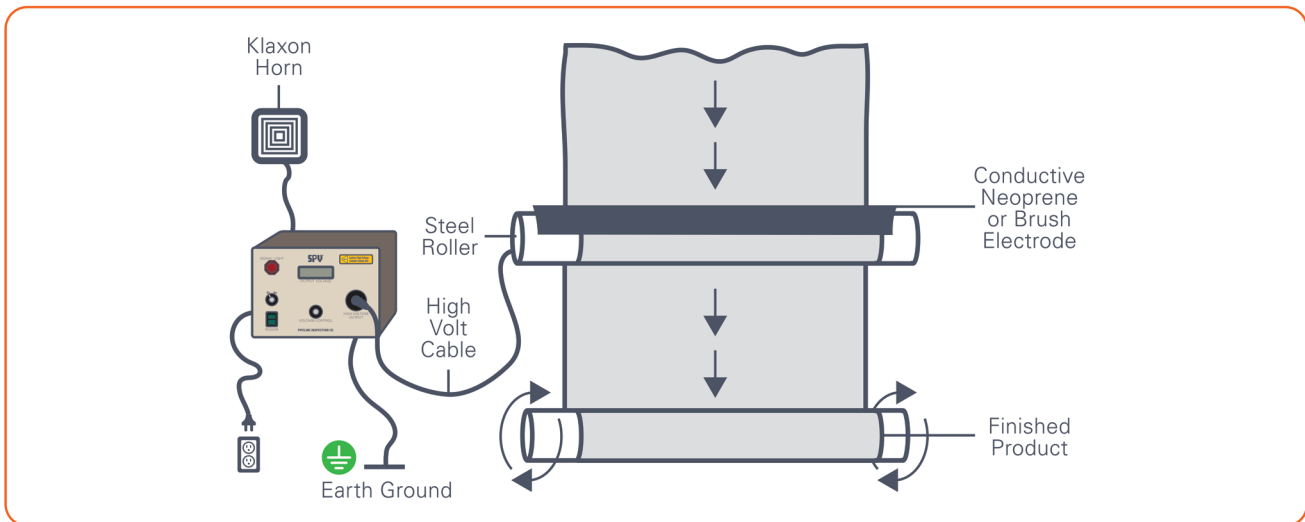
\*\*\* Springs 54" and above are recommended to use a pusher wand due to potential spring sag (Part #11935)

# TYPICAL OPERATIONAL SETUPS

## AUTOMATIC INSPECTION ON PIPE



## AUTOMATIC INSPECTION OF GEOMEMBRANE, FILM, OR FOIL INSPECTION

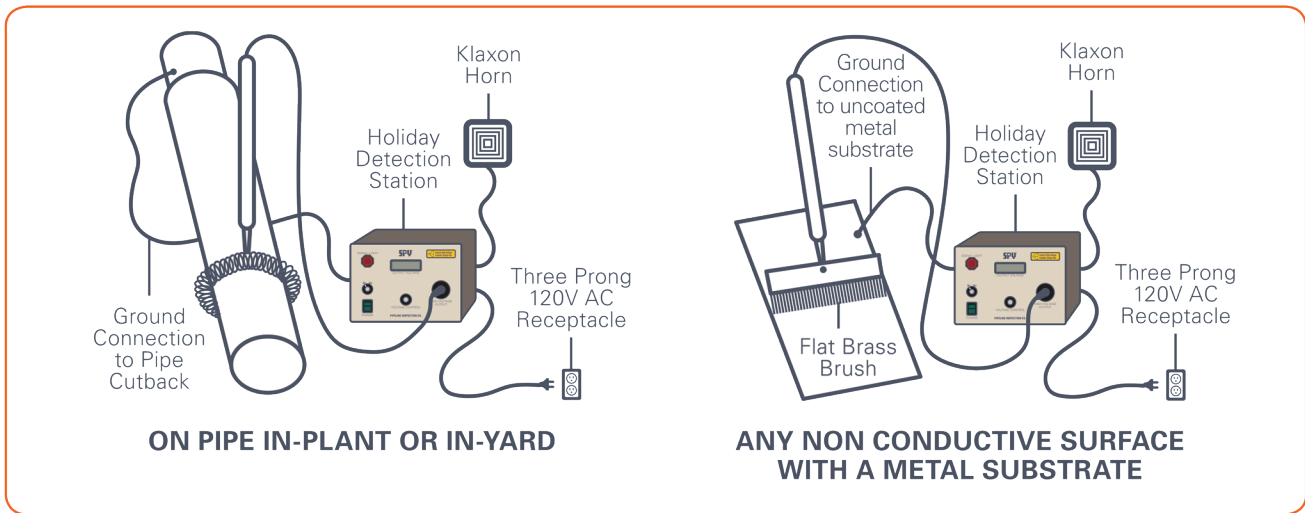




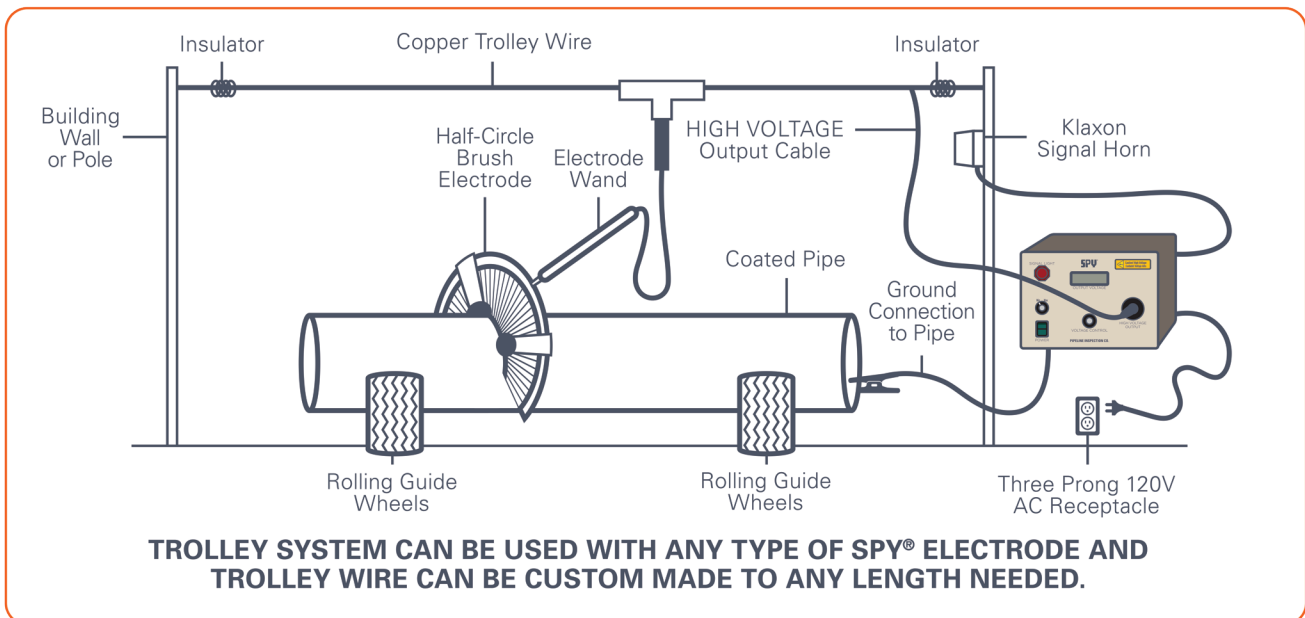
It is very important that the in-plant holiday detector is properly grounded through the plant ground either by the 3-pronged receptacle or by connecting directly to the substrate using a grounding wire attached to the grounding port on the back of the holiday detector case.

## MANUAL INSPECTION

TESTING CAN BE ACCOMPLISHED USING ANY TYPE OF SPY ELECTRODE



## MANUAL INSPECTION USING OVERHEAD TROLLEY WIRE





# ACCESSORIES

A wide variety of optional equipment is available for use with our in-plant holiday detectors to meet various testing requirements and plant testing configurations.



**INK AUTO  
MARKER SYSTEM**  
ITEM #14202



**KLAXON HORN**  
ITEM #12513



**ISOLATION  
TRANSFORMER**  
ITEM #14213



**100 FT WIRE  
TROLLEY SYSTEM**  
(CUSTOM LENGTH  
CABLES AVAILABLE)  
ITEM #11936



**SPRING / BRUSH  
WAND WITH  
25-100 FT HIGH  
VOLT CABLE**  
ITEMS #12769 (25'),  
#13574 (50'),  
#13460 (85'),  
#13090 (100')



**HIGH -VOLT CABLE  
(25 – 150 FT)**  
ITEMS #13813 (25'),  
#12659 (50'),  
#13504 (100'),  
#13719 (150')



**50 FT GROUND  
CABLE**  
(CUSTOM LENGTHS AVAILABLE)  
ITEM #13574

# JEEP METERS

In order to assure the highest accuracy and performance of your holiday detector, SPY® offers a selection of Jeep meters (high voltage meters) designed to accurately measure the high voltage output of SPY® holiday detectors.



## DC / PULSE DC VOLTAGE METER

### MODEL JM

FOR USE WITH ALL IN-PLANT DC AND PULSE DC DETECTORS



## PULSE DC ONLY VOLTAGE METER

### MODEL PJM

FOR USE WITH 125 & 135 ONLY



## DC ONLY VOLTAGE METER

### MODEL DCPJM

FOR USE WITH 115 ONLY

# SPY® JEEP METERS





# MODEL JM

## DC/ PULSE DC HIGH VOLTAGE METER

### 3 HIGH VOLTAGE METERS TO TEST HOLIDAY DETECTOR OUTPUTS

The output voltage of your holiday detector is subject to influence by weather conditions, moisture on the pipe, improper grounding, and soil conditions. In order to assure the absolute highest accuracy and performance from your holiday detectors (jeeps). SPY has three special Jeepmeters for checking detector high voltage output. These Jeepmeters are designed to accurately measure the output voltage of any detector.

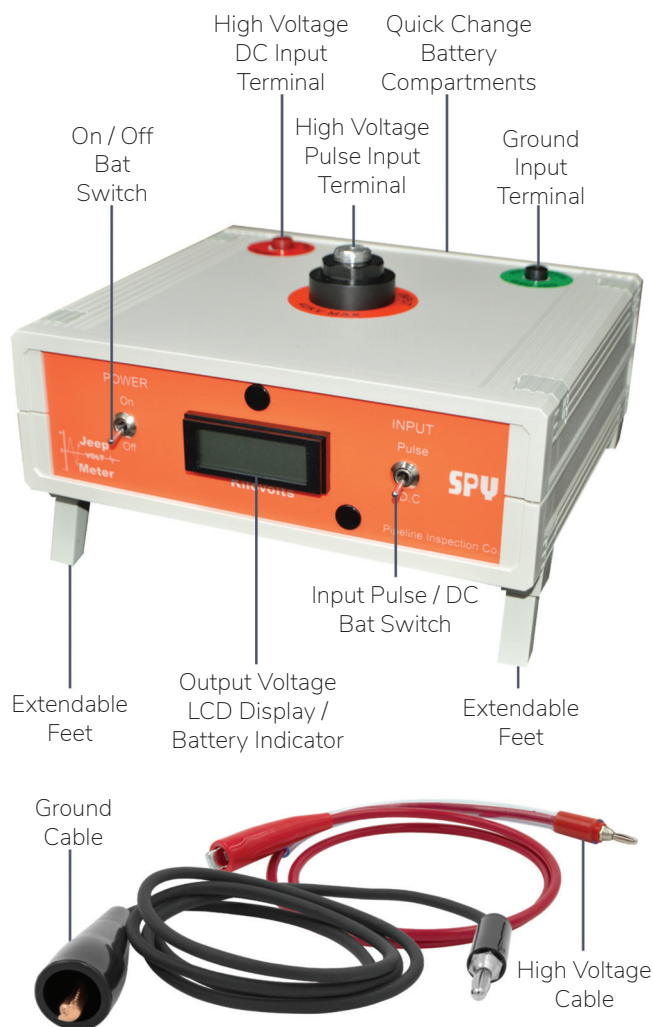
The model JM Jeepmeter provides the ultimate in accuracy and versatility. It features a digital display of measured voltages. The precision measurement displayed eliminates interpretation errors and is perfect for every day use.

This Jeepmeter measures both Pulse DC and DC high voltage output. For Pulse DC type holiday detectors, used to inspect shrink sleeves, tapes, coal tars, etc, the JM will measure up to 35 kV. For DC holiday detectors, used to inspect thin film epoxy coatings, the DC range of JM measures up to 7 kV.

When used with Pulse DC type detectors, this Jeepmeter automatically senses the polarity of the pulse. Leading-edge electronics solve the stability and repeatability problems sometimes experienced in the older models.

### KIT INCLUDES:

- 1 - High Volt Cable
- 1 - Ground Cable
- 2 - 9 Volt Batteries
- 1 - Carrying Case



### SPECIFICATIONS

Measurement Type	DC / Pulse DC
Voltage Range	0-35 kV Pulse DC & 0-7kV DC
Measurement Accuracy	±5%
Display Type	LCD
Battery	2 - 9 Volt Batteries
Unit Weight (w/ battery only)	2.6
Unit Dimensions (L x W x H)	8.25" X 8.75" X 4.25"
Factory Warranty	12 Month
Domestic/International Standards Unit Complies With	CE

# POCKET JEEPMETERS

## MODEL PJM

### PULSE DC ONLY VOLTAGE METER



### KIT INCLUDES:

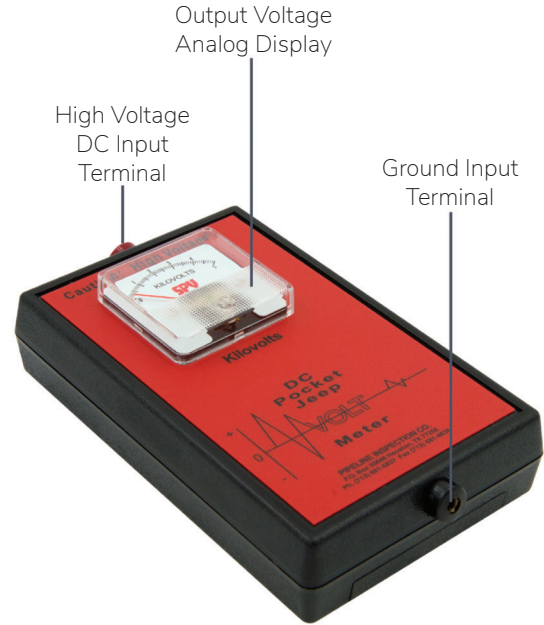
- 1 - High Volt Cable
- 1 - Ground Cable
- 1 - 9 Volt Battery
- 1 - Carrying Case

### SPECIFICATIONS

Measurement Type	Pulse DC
Voltage Range	1-20 kV
Measurement Accuracy	±5%
Display Type	Analog
Battery	9 Volt Battery
Unit Weight (w/ battery only)	0.8
Unit Dimensions (L x W x H)	9.75" X 3.25" X 2.25"
Factory Warranty	12 Month
Domestic/International Standards Unit Complies With	CE

## MODEL DCPJM

### DC ONLY VOLTAGE METER



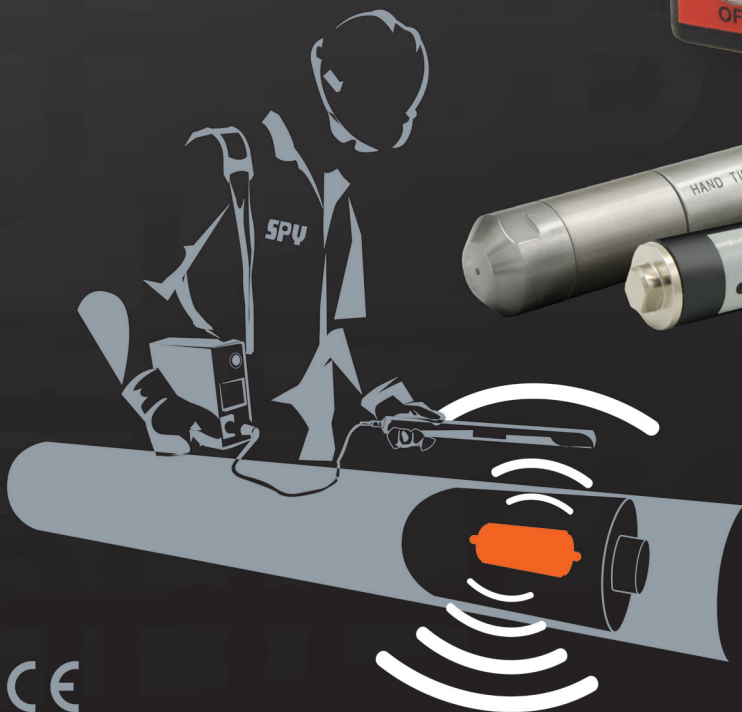
### KIT INCLUDES:

- 1 - High Volt Cable
- 1 - Ground Cable
- 1 - Carrying Case

### SPECIFICATIONS

Measurement Type	DC
Voltage Range	1-5 kV
Measurement Accuracy	±5%
Display Type	Analog
Battery	None
Unit Weight (w/ battery only)	0.36
Unit Dimensions (L x W x H)	6" X 3.5" X 1.75"
Factory Warranty	12 Month
Domestic/International Standards Unit Complies With	CE

# SPY® PIG TRACKING SYSTEMS



CE

**SPY®**  
INSPECTION EQUIPMENT  
[www.spyinspect.com](http://www.spyinspect.com)



# SPY® PIG TRANSMITTERS



For the most reliable signal available, the SPY® Pig Transmitter uses low frequency signals to effectively and consistently penetrate a steel pipe wall. We offer numerous transmitter sizes to cover a full spectrum of pipe diameters. Each transmitter is self-contained and travels inside various pigs, attached to versatile brackets, or towed. A hand-held receiver and wand are used to locate the transmitter.

**SPY TRANSMITTERS** have been proven effective in the field for many years. Each SPY® transmitter is designed and built for long reliable service.

- Rugged casing is liquid-tight.
- Battery operated.
- Coded signal minimizes false readings.
- Strongest signal available.

## APPLICATIONS

- Mainline Transmission
- Gathering Lines
- Subsea Lines
- Municipal Gas
- Water and Wastewater
- Refining and the Process Industries

## ACCESSORIES



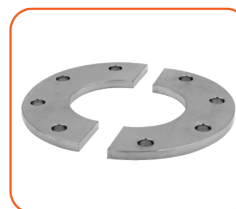
**PT107 MOUNTING CAP**  
ITEM #13340



**PT275 TOWING EYE**  
ITEM #10818



**PT275 MOUNTING CAP**  
ITEM #12341



**PT750 MOUNTING FLANGE**  
ITEM #11374



**3/4 WRENCH FOR  
PT275/750 CAP**  
ITEM #11902



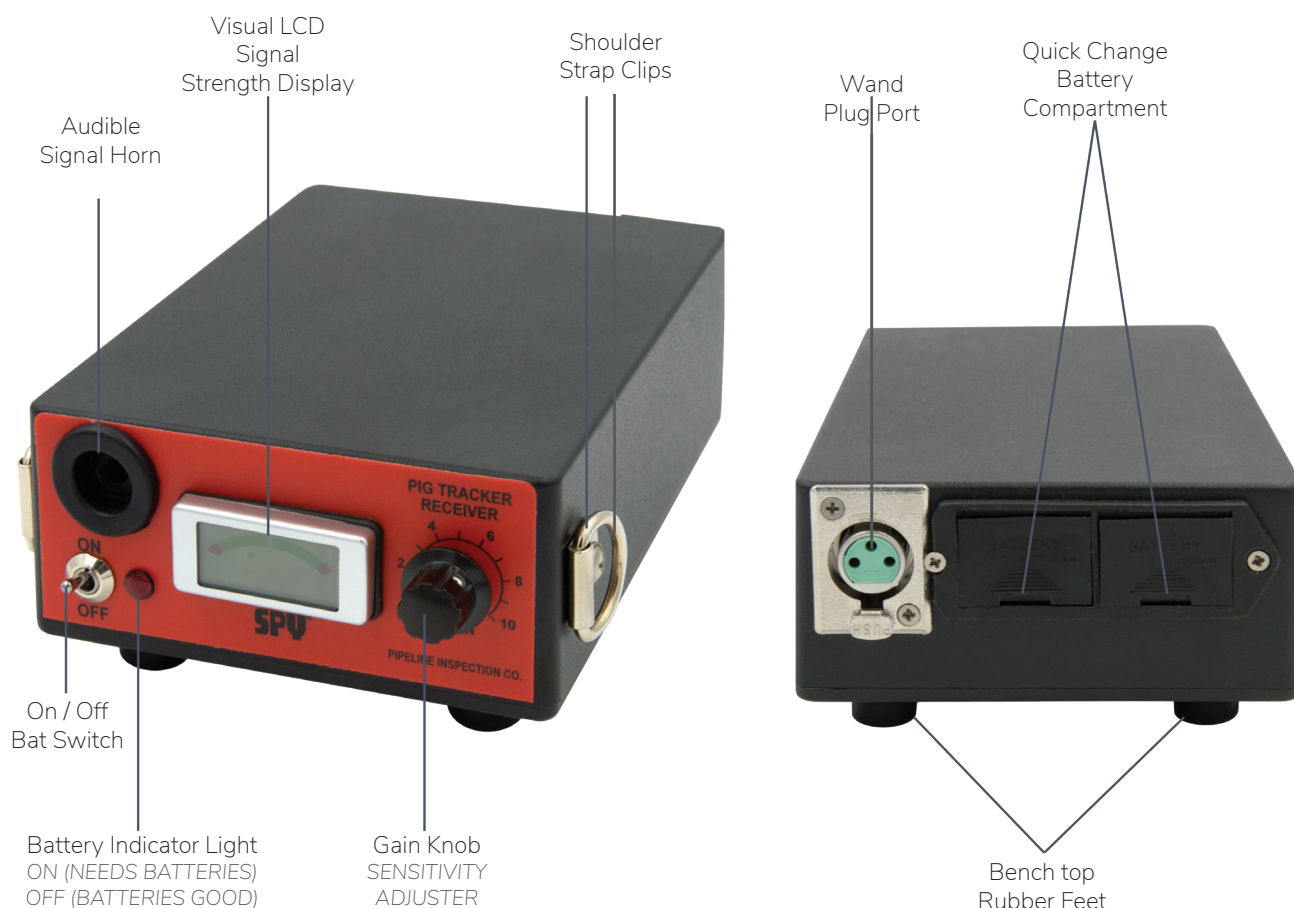
**SHIPPING/ CARRYING  
CASE FOR MODELS  
2, 4, 12 & 23 HZ RECEIVE  
SYSTEMS**  
ITEM #12726

# SPY® NON-INTRUSIVE PIG TRACKING SYSTEMS

RELIABLY AND CONSISTENTLY TRACK THE PASSAGE OF A PIG OR PINPOINT ITS LOCATION.



To locate a pig equipped with a SPY® Transmitter, the SPY® 23 HZ Receive (Pig Tracker Receiver and Wand) registers the changing magnetic field produced by any SPY® Transmitter. When the Transmitter is located, the 23 HZ Receive produces both an audio and visual output. With two standard 9-volt alkaline batteries, the 23 HZ Receive can be powered continuously for approximately 50 hours. Special waterproof wands are available for sub-sea applications, with depths of up to 10,000 feet [3000 meters].



# SPY® NON-INTRUSIVE PIG TRACKING SYSTEMS

SPY® offers two stationary Non-Intrusive Pig Tracking Systems (PTS) when the need for noting the passage of a pig becomes a little less temporary, (i.e.; manpower or distance prevents leap frogging). The model PTS is for use with electromagnetic transmitters and for use with magnet equipped pigs.

## NON-INTRUSIVE

The PTS System is a non-intrusive system that require NO HOLE to be drilled in the pipe. These non-intrusive systems allow for lower installation costs and significantly reduce the overall cost of the monitoring point. This non-intrusive feature makes the PTS a more desirable option than intrusive systems from an installation, maintenance and corrosion prevention standpoint.

## EASY MOUNTING

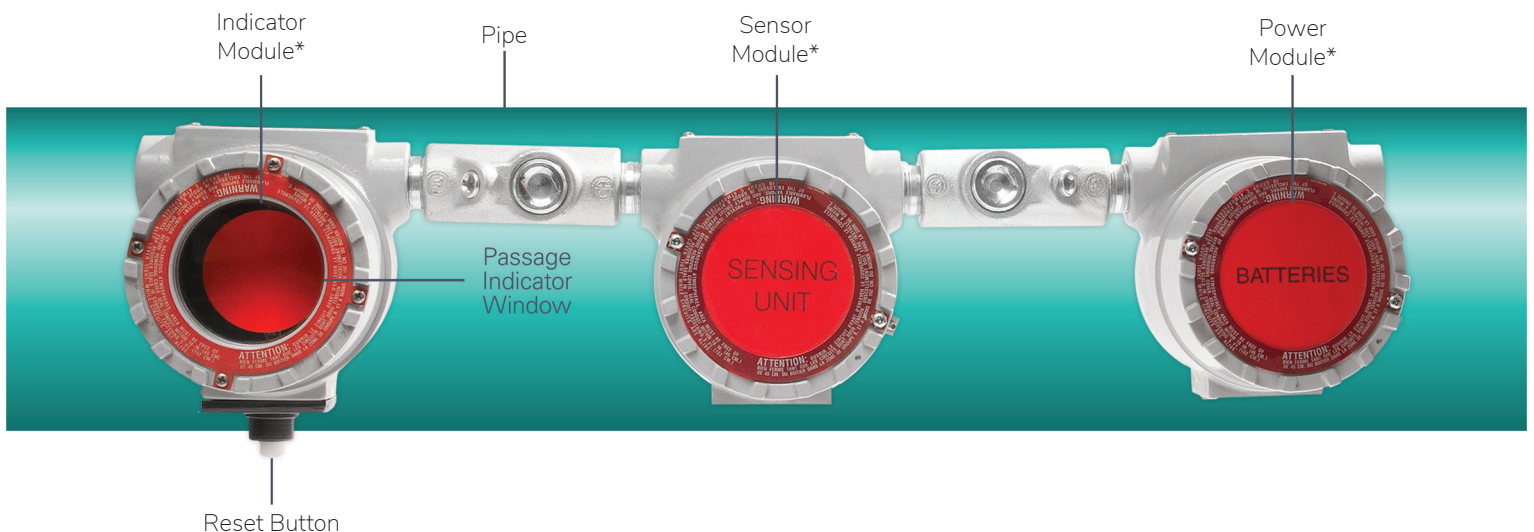
The systems can be permanent or temporary and can be accomplished by using pipe straps or clamps. Units can be installed along the above ground line as often as is needed.

## SAFETY

It also offers safer monitoring. The systems are provided in explosion-proof Class I, Division 1, Groups B, C, & D certified enclosures. The enclosures come complete with an "O" ring seal, which makes the housing NEMA 4X/7. When supplied by the factory as a complete system, proper explosion proof fittings are used and manufacturer specified procedures are followed to connect the units in order to maintain their rating.

## MODULAR DESIGN

The system was designed as a modular system and each section of the system can be sold separately allowing the user the flexibility of only buying and incorporating what is needed. Three quarter inch hubs are provided on each enclosure for conduit connection into your SCADA or recording system.



\* Explosion-proof Class I, Division 1, Groups B, C, & D certified enclosures.



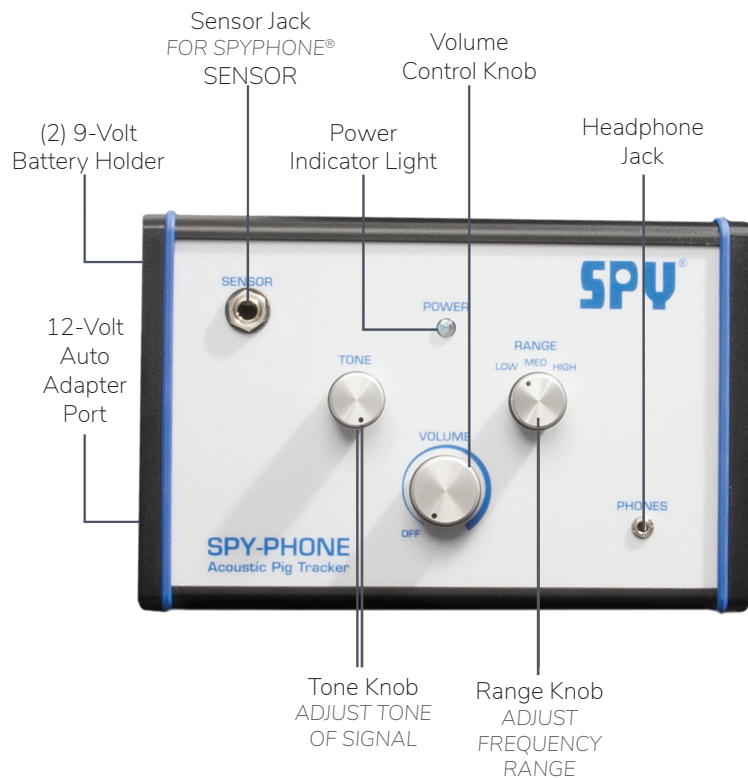
# SPY® ACOUSTIC PIG TRACKER

## SPYPHONE®

The SPYPhone® allows you to listen to any internal pipeline travelers in motion. It is not a geophone. The pick-up sensors cover a wide range of frequencies from 1Hz- 20KHz. The SPYPhone® also allows the user to set and restrict multiple frequency ranges. The versatile pick-up sensor, which comes with a 3" contact spike, can also be magnetically attached directly to exposed valves or pipes. You may also securely attach the sensor to a steel probe. The 12-volt auto adapter allows you to listen from the comfort of your vehicle. Plug in the full-spectrum FM transmitter and you can listen for pipeline travelers through your sound system.

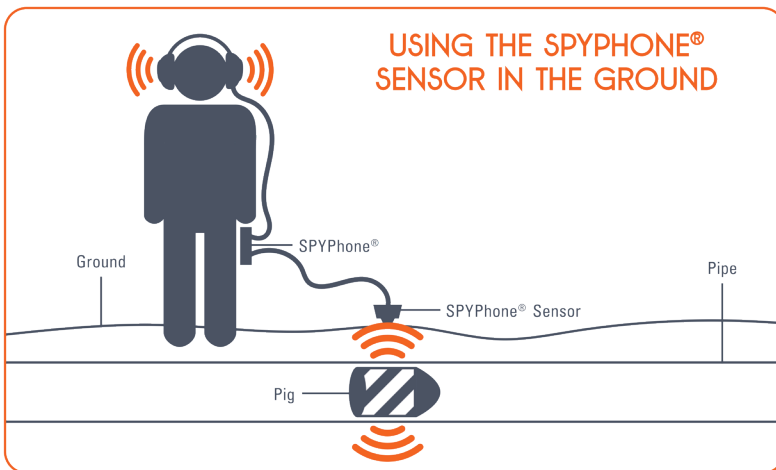
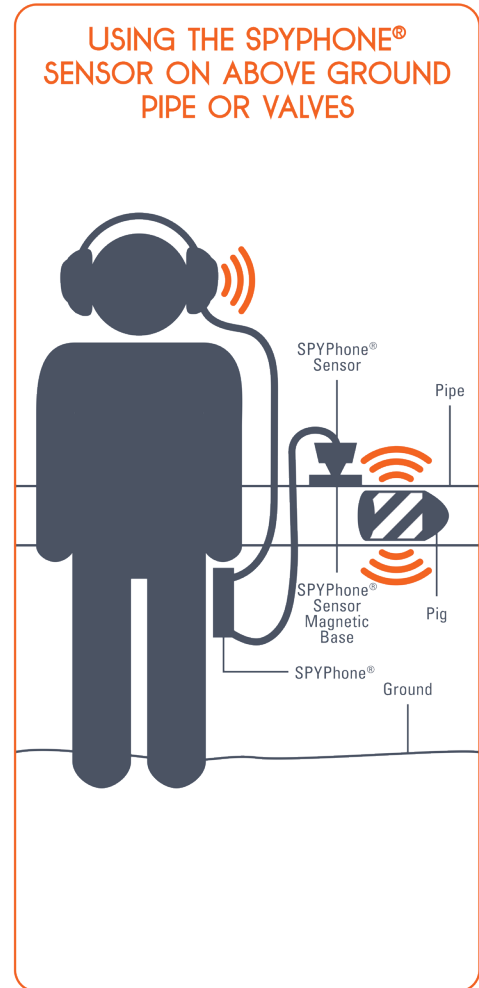
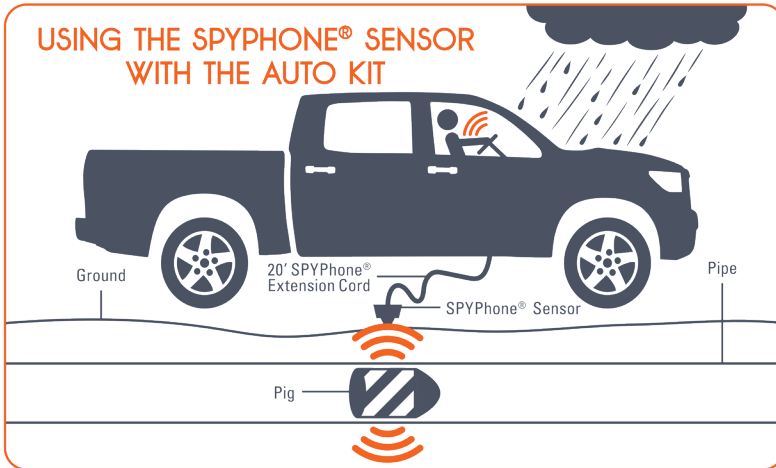
## AUTO-KIT STANDARD ACCESSORIES

- 20' SPYPhone® Sensor Extension Cord
- FM Transmitter
- Auto Power Cord
- Head Phones
- SPYPhone® Sensor (pick up sensor)
- SPYPhone® Sensor Magnetic Base
- (2) 9-Volt Batteries





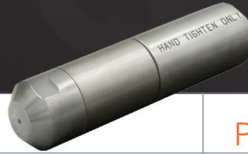
# THREE WAYS TO USE THE SPYPHONE®



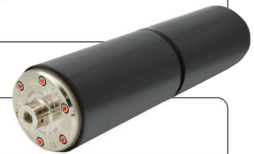
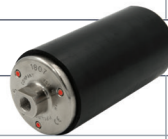
## SPECIFICATIONS

FREQUENCY	BATTERY	SIGNAL INDICATOR TYPE	UNIT WEIGHT	UNIT DIMENSIONS L x W x H	FACTORY WARRANTY	DOMESTIC / INTERNATIONAL STANDARDS
1 Hz – 20 KHz (Acoustic)	9V Battery or 12V Auto Adapter	Audible	1.5 lbs	8.5" x 5.5" x 2"	12 Month	CE Compliant

# SPECIFICATIONS



TRANSMITTERS	PT101	PT107
Minimum Pipe Size	2" – 4" [50.8mm – 101.6mm]	2" – 8" [50.8mm – 203.2mm]
Transmitter Length	4.1875" [106.4mm]	6.3125" [160.33mm]
Transmitter Diameter	1" [25.4mm]	1.25" [31.75mm]
Maximum Hours of Signal	60 Hours	60 Hours
Batteries Required	1 Lithium 3V	1 Lithium 3V
Maximum Pickup Range (free air)	15' – 20' [4.72M – 6.096M]	20' – 25' [6.1M – 7.62M]
Ground Cover Depth Pickup Range	4' [1.23M – 1.83M]	6' – 8' [1.83M – 2.44M]
Maximum Operation Pressure	1000 PSI [69 Bar]	1000 PSI [69 Bar]
Temperature Range	-20oF – 180oF [-29oC – 82oC]	-20oF – 180oF [-29oC – 82oC]
*Minimum Pipe Bend (Medium – High Density Polly Pig)	2" – 5D* 3" – 4" 3D*	2" – 5D* 3" – 8" 3D*



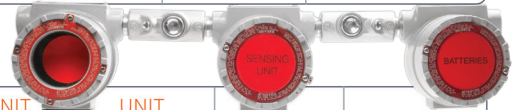
TRANSMITTERS	PT275	PT750
Minimum Pipe Size	6" [152.4mm] and Up	12" [304.8mm] and Up
Transmitter Length	7.5" [190.5mm]	13.875" [352.4mm]
Transmitter Diameter	3" [76.2mm]	3.5625" [90.5mm]
Maximum Hours of Signal	200 Hours	500 Hours
Batteries Required	4 "AA" Batteries	8 "C" Alkaline
Maximum Pickup Range (free air)	60' – 75' [18.29M – 22.86M]	100' [30.5M]
Ground Cover Depth Pickup Range	15' [4.6M]	25' – 30' [7.6M – 9.1M]
Maximum Operation Pressure	2000 PSI [138 Bar]	3000 PSI [207 Bar]
Temperature Range	-20oF – 180oF [-29oC – 82oC]	-20oF – 180oF [-29oC – 82oC]
*Minimum Pipe Bend (Medium – High Density Polly Pig)	3D*	3D*

## PTR



FREQUENCY	BATTERY	BATTERY LIFE	DISPLAY TYPE	SIGNAL INDICATOR TYPE	UNIT WEIGHT (LB)	UNIT DIMENSIONS L x W x H	FACTORY WARRANTY	DOM. / INTL. STANDARDS
23 Hz Receive	2 x 9 Volt	50 Hrs	LCD	Audible / Visual	1.5	7.5" x 5.25" x 2.5"	12 Month	CE Compliant

## PTS



ENCLOSURE	POWER INPUT	POWER OUTPUT	TRANSMIT SPEED	DISPLAY TYPE	UNIT WEIGHT (LB)	UNIT DIMENSIONS L x W x H	FACTORY WARRANTY	DOM. / INTL. STANDARDS
Enclosure Class 1, Division 1, Groups B, C & D Blind modules	Either 129 Volts AC or ±3VDC (Sensor Module) and 18 Volts DC for Indicator **	Normal Open non-latching Dry Contacts rated at 1A at 250 Volts AC	PTS Passage Indicator NOT a Presence Indicator	Visual	9.4	26" x 26" x 4.75"	12 Month	CE Compliant

\*\* Other types of power supply inputs can be used, but must be specified on order entry to allow for modifications to be made to the modules.

# SPY® PORTABLE HOLIDAY DETECTORS



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**SPY**®

INSPECTION EQUIPMENT

[www.spyinspect.com](http://www.spyinspect.com)

# MODELS

## 780 • 785 • 790

### SPY INSPECTION EQUIPMENT

offers three Portable SPY® Model Holiday Detectors that combine leading-edge circuitry in combination with our field proven accessories and electrode configurations for accurate, reliable inspection of any small / large coated surface over a metal substrate such as storage tanks, pipes, bridges, wind turbines, etc.

### INFINITE VOLTAGE SETTING

allows you to set the voltage exactly to the level you desire for the coating you are inspecting. Not six settings, not twenty... any setting you desire over the complete range of each detector model. Whatever the pipe size, two inches through sixty inches, whatever the coating – somastic, tar, asphalt, extruded coats and tapes or thin film epoxy coatings – you have at your control the exact voltage setting required.

### AUTO REGULATED VOLTAGE

keeps your voltage constant! Over a range of two inch through sixty inch pipe the detector output voltage automatically adjusts under the working load to the voltage levels you set. Now you can forget compensations for pipe size, or moisture on the pipe – the detectors automatically make these adjustments.

### QUICK RELEASE BATTERY

easily slips into position with a snap that announces positive contact and a secure lock in position. Two batteries and a universal charger are part of the package. For continuous service, one battery is kept charging (approx. 8 hours) while the other powers the unit.

## SPECIFICATIONS

MODEL	780	785	790
Voltage Type	DC	Pulse DC	Pulse DC
Voltage Range (kV)	1-5 kV	1-15 kV	5-35 kV
Voltage Output Accuracy	±5%	±5%	±5%
Coating Range (Min-Max)	4-50 mils	4-150 mils	50-750 mils
Pulse Repetition Rate	N/A	28 Hz	28 Hz
Operating Temperature	-20°F to 148°F	-20°F to 148°F	-20°F to 148°F
Internal Volt Meter	YES-User Adjustable	YES-User Adjustable	YES-User Adjustable
Display Type	LCD	LCD	LCD
Holiday Indicator Type	Audible / Visual	Audible / Visual	Audible / Visual
Power Type	12V Rechargeable Battery	12V Rechargeable Battery	12V Rechargeable Battery
Quick Release Battery*	YES	YES	YES
Battery charge time	Approx. 8 Hours	Approx. 8 Hours	Approx. 8 Hours
Unit Weight (w/ battery only)	7.45 lb	7.45 lb	7.45 lb
Unit Dimensions (w/o battery)	21.5" x 5" x 5.5" (L x W x H)	21.5" x 5" x 5.5" (L x W x H)	21.5" x 5" x 5.5" (L x W x H)
Unit Dimensions (w/ battery)	21.5" x 5" x 8" (L x W x H)	21.5" x 5" x 8" (L x W x H)	21.5" x 5" x 8" (L x W x H)
Domestic/International Standards Unit Complies With	AS 3894.1, ANSI/AWWA C203, ANSI/AWWA C214, ASTM D4787, ASTM D5162, NACE RP0274, NACE SP0188, NACE SP0490, NACE TM0186, NACE TM0384	AS 3894.1, ANSI/AWWA C203, ANSI/AWWA C214, ASTM D4787, ASTM D5162, NACE RP0274, NACE SP0188, NACE SP0490, NACE TM0186, NACE TM0384	AS 3894.1, ANSI/AWWA C203, ANSI/AWWA C214, ASTM D4787, ASTM D5162, NACE RP0274, NACE SP0188, NACE SP0490, NACE TM0186, NACE TM0384

\*Battery life is dependent upon selected voltage and load applied. Typical battery life 8 hours.



# MODELS

## 780 • 785 • 790

Tough, Reliable and Dependable,  
for decades SPY® Holiday Detectors  
have been built to handle the most  
EXTREME environments!

### IMPROVED CONTROL

- Horn and light for holiday indication.
- Easy carry top handle.
- Comfortable ergonomic rear handle.
- Infinitely adjustable voltage.
- Output voltage automatically regulated.
- Quick and easy battery installation.

### FAST SETUP. INTELLIGENT OPERATIONS.

- Integral Voltmeter to verify voltage setting.
- Indicator light cycles off to indicate holiday is present.
- Loud audible alarm for heavy equipment environments.

### PROVEN RELIABILITY

- Lightweight and durable construction with proven leading edge circuitry.
- Infinite specific voltage adjustments on the fly.
- Automatic compensation for moisture (780 only).

### MODEL 780 DC

1-5 kV range (thin film only). 4 – 50 mils.

### MODEL 785 PULSE DC

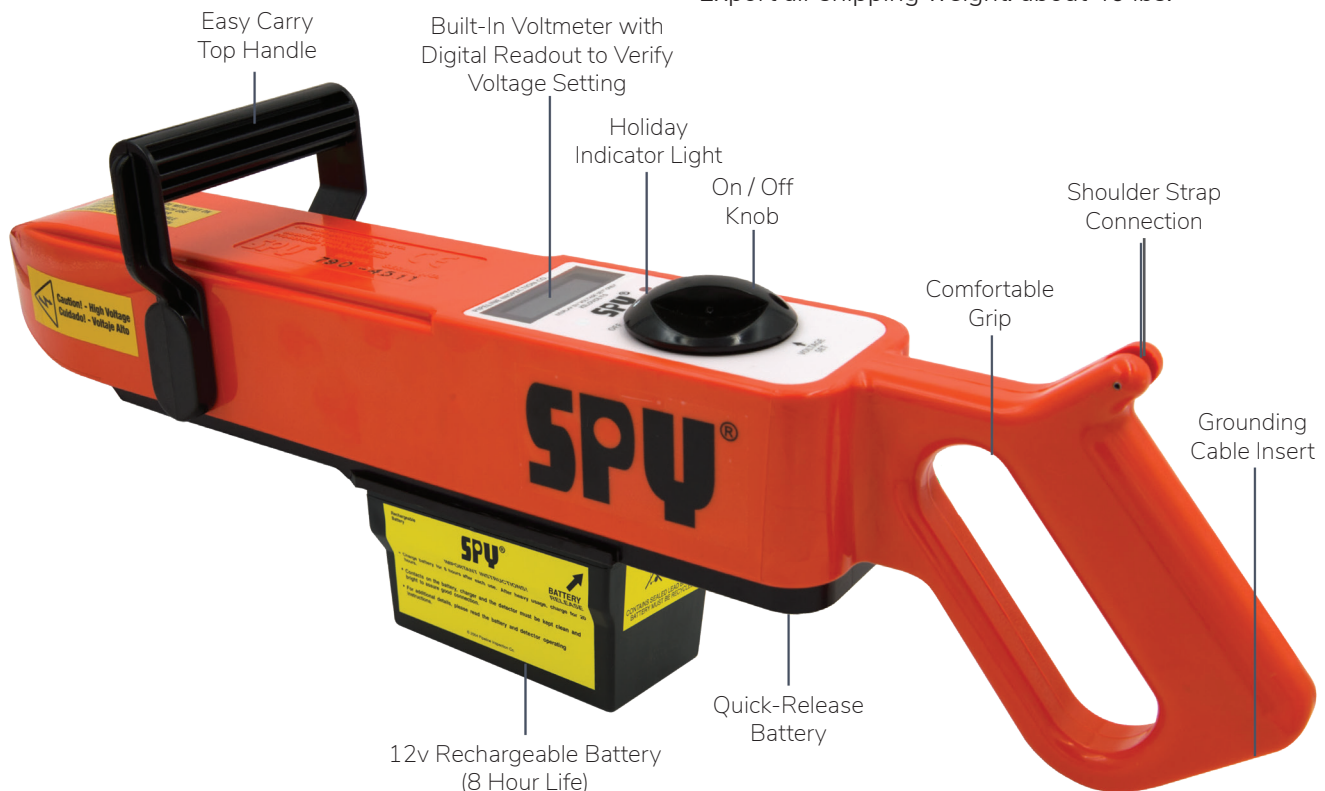
1-15 kV range (thin film only). 4 – 150 mils.

### MODEL 790 PULSE DC

5-35 kV range. 50 – 750 mils.

**CARRYING / SHIPPING CASE** Injection molded waterproof cases constructed of ultra high-strength polypropylene copolymer resin. Case is waterproof and dust tight with a submersible design (IP67) that is resistant to corrosion and impact damage. Its molded-in hinge, patented “trigger release” latch system, comfortable, snap-down rubber over molded cushion grip handle, secure stacking, and automatic ambient pressure equalization valve. Resistant to UV, solvents, corrosion, and fungus.

**WEIGHT** Average domestic shipping weight (dependent on electrode size): 35 lbs.  
Export air shipping weight: about 40 lbs.



# 780 • 785 • 790 KITS



## 780 / 785 / 790 KIT INCLUDES:

- 2 - 12V Rechargeable Batteries
- 1 - 12V Charger
- 1 - DC Paddle
- 1 - 50 FT Ground Cable
- 1 - Electrode Wand with Spring Connector
- 1 - Shoulder Strap
- 1 - Brush Adapter Kit
- 1 - SPY® Screwdriver
- 1 - Quick Connect Ground Clamp
- 1 - Shipping/Carrying Case  
(Case Dimensions: 26" x 24" x 8")
- 1 - Operating Instructions
- 1 - Certificate of Calibration
- 1 - Clip for Shoulder Strap



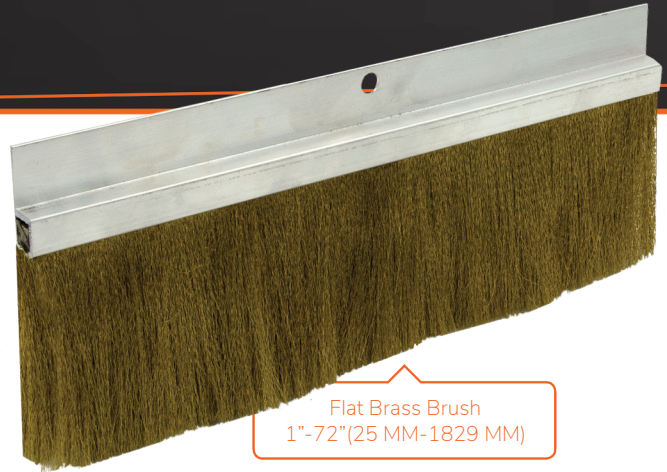
# ELECTRODE TYPES

FOR SPRING ELECTRODES  
the connector has a sealed ball bearing in the end to allow the electrode to roll freely.

FOR BRUSH & OTHER TYPE ELECTRODES  
the connection is a simple wing nut.



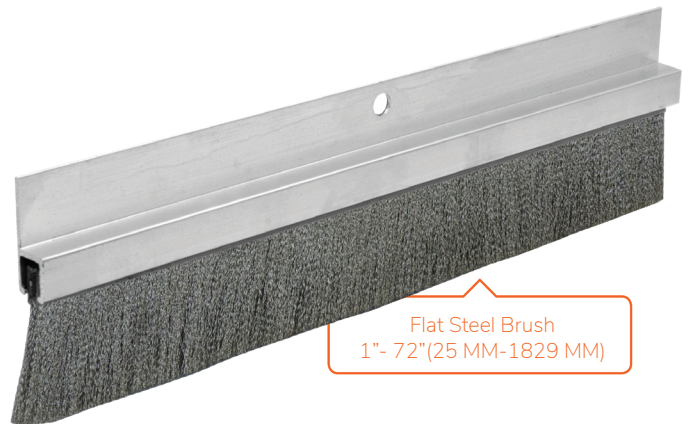
Half-Circle Brush\*  
AVAILABLE IN BRASS,  
STEEL OR NEOPRENE  
2"- 60"(50.8 MM-1524 MM)



Flat Brass Brush  
1"-72"(25 MM-1829 MM)



Full-Circle Brush\*  
AVAILABLE IN BRASS,  
STEEL OR NEOPRENE  
2"- 60"(50.8 MM-1524 MM)



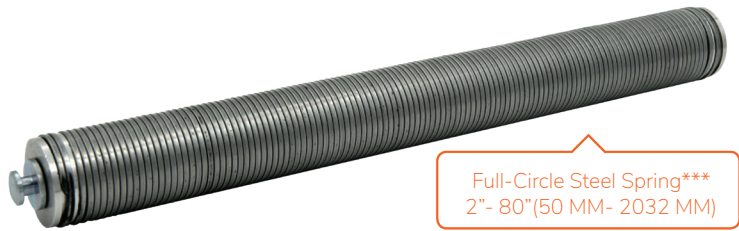
Flat Steel Brush  
1"- 72"(25 MM-1829 MM)



Internal Brush\*\*  
AVAILABLE IN NEOPRENE  
2"-60" (50.8 MM-1524 MM)



Flat Neoprene Brush  
1"- 72"(25 MM-1829 MM)



Full-Circle Steel Spring\*\*\*  
2"- 80"(50 MM- 2032 MM)

Custom size electrodes are always available.  
Contact our sales staff to discuss your specific  
electrode needs.

\* Sizes above 12" are built with wheels for support.

\*\* Sizes above 15" are built with support wheels, sizes 12"-14" are built with Teflon guides.

\*\*\* Springs 54" and above are recommended to use a pusher wand due to potential spring sag (Part #11935)

# ACCESSORIES

SPY® has all of the optional hardware and equipment you need to get the best results from your portable holiday detector.



ADAPTER FOR  
ELCOMETER SPRING  
ITEM #13996



BRUSH ADAPTER KIT  
ITEM #11934



ADAPTER FOR TINKER  
& RASOR SPRING  
ITEM #13995



GROUND CABLE  
(50 – 600 FT)  
ITEMS: 12884 (50'),  
11925 (100'), 13422 (160'),  
13874 (200'), 13587 (300'),  
13849 (400'), 13870 (500'),  
13588 (600')



DC PADDLE  
ITEM #11994



GROUND PAD  
(FOR USE WITH 790 ONLY)  
ITEMS: 12239 (3' x 1.5'),  
13419 (6' x 3')



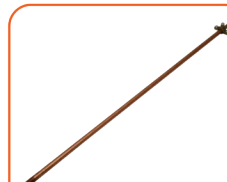
SPRING SUPPORT /  
PUSHER WAND (18"–72")  
ITEM #11935



GROUNDING COLLAR  
(FOR USE WITH 790 ONLY)  
ITEMS: 14188 (4" - 8"),  
14189 (10" - 18"), 14190 (20" - 30"),  
14191 (32" - 42"), 14192 (48" - 60")



FLEX-WAND (36"–72")  
ITEM #13203



GROUNDING ROD  
ITEM #14196



SPRING / BRUSH WAND  
ELECTRODE (36"– 72")  
ITEM #11932



SHOULDER MOUNT  
BATTERY ADAPTER  
ITEM #14262



# JEEP METERS

In order to assure the highest accuracy and performance of your holiday detector, SPY® offers a selection of Jeep meters (high voltage meters) designed to accurately measure the high voltage output of SPY® holiday detectors.



## DC / PULSE DC VOLTAGE METER

### MODEL JM

FOR USE WITH ALL IN-PLANT DC  
AND PULSE DC DETECTORS



## PULSE DC ONLY VOLTAGE METER

### MODEL PJM

FOR USE WITH 785 & 790 ONLY

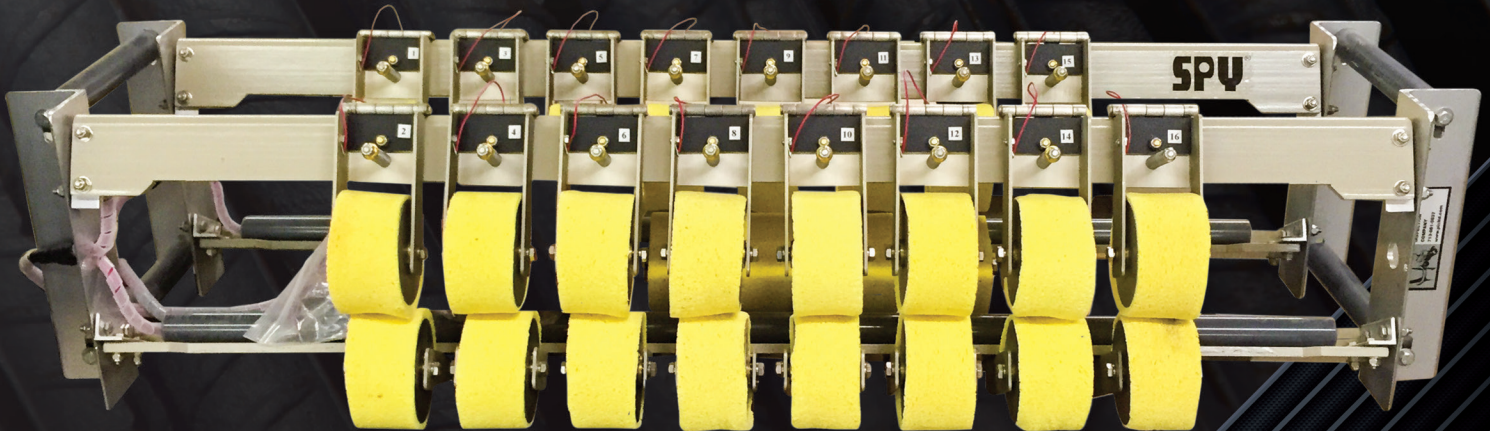


## DC ONLY VOLTAGE METER

### MODEL DCPJM

FOR USE WITH 780 ONLY

# SPY® MULTI-STATION REBAR HOLIDAY DETECTION SYSTEMS





# MODEL MSRB-PLC

THE NEXT GENERATION  
IN HIGH-PERFORMANCE  
REBAR HOLIDAY  
DETECTION SYSTEMS

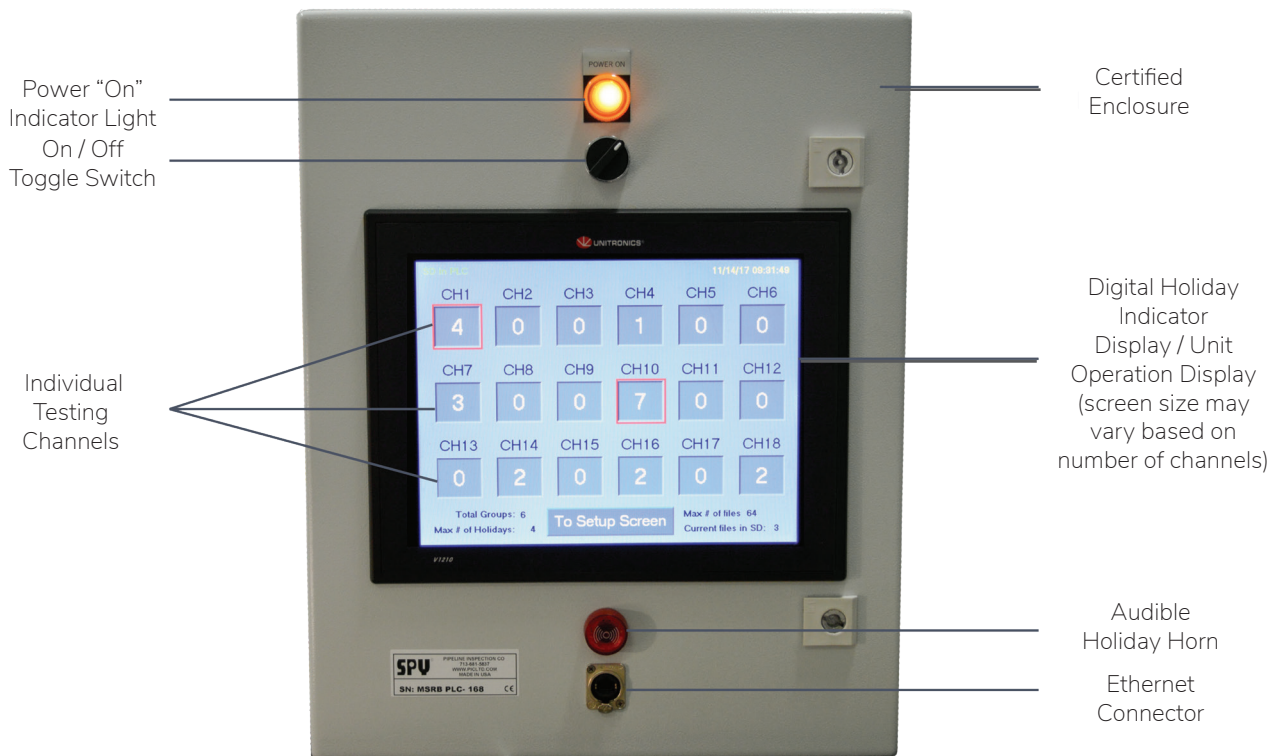
## THE MSRB-PLC REBAR HOLIDAY DETECTION SYSTEM

uses an inductive sensor to sense the approach of a freshly coated rebar batch after the rebar exits the cooling process which then activates the MSRB-PLC Holiday Detection System to prepare for the rebar batch to pass through our dual-roller wet sponge electrodes (RBRS). Moisture from the sponge electrodes conducts a low inspection voltage (67 Volts) to the coating of each coated rebar which allows the MSRB-PLC System to detect any holiday (defect) in the rebar coating. The MSRB-PLC Holiday Detection System is preprogrammed by the operator with a predetermined holiday threshold per stick of rebar or per foot per stick of rebar, once the pre-programmed holiday threshold has been surpassed on any channel an audible alert is set off on the system enclosure and a visual alert is shown on the system display (displays shows # of holidays per channel) which allows the operator to identify which stick of rebar needs to be removed from the batch for re-coating.

Once the batch has completely passed through the sponge electrodes (RBRS) the MSRB-PLC Rebar Holiday System data logs to its PLC memory the following data: date/time stamp for the batch run and the number of holidays per channel then the MSRB-PLC Holiday Detection System resets in preparation for the next rebar batch.

The MSRB-PLC Rebar Holiday Detection System is capable of testing an infinite number of channels and recorded data can be accessed later through the Ethernet connection on a PC/Laptop for further analysis.

The MSRB-PLC Rebar Holiday Detection System comes in a standard 3 channel configuration but the system can easily be customized to meet the needs of any rebar coating plant configuration.



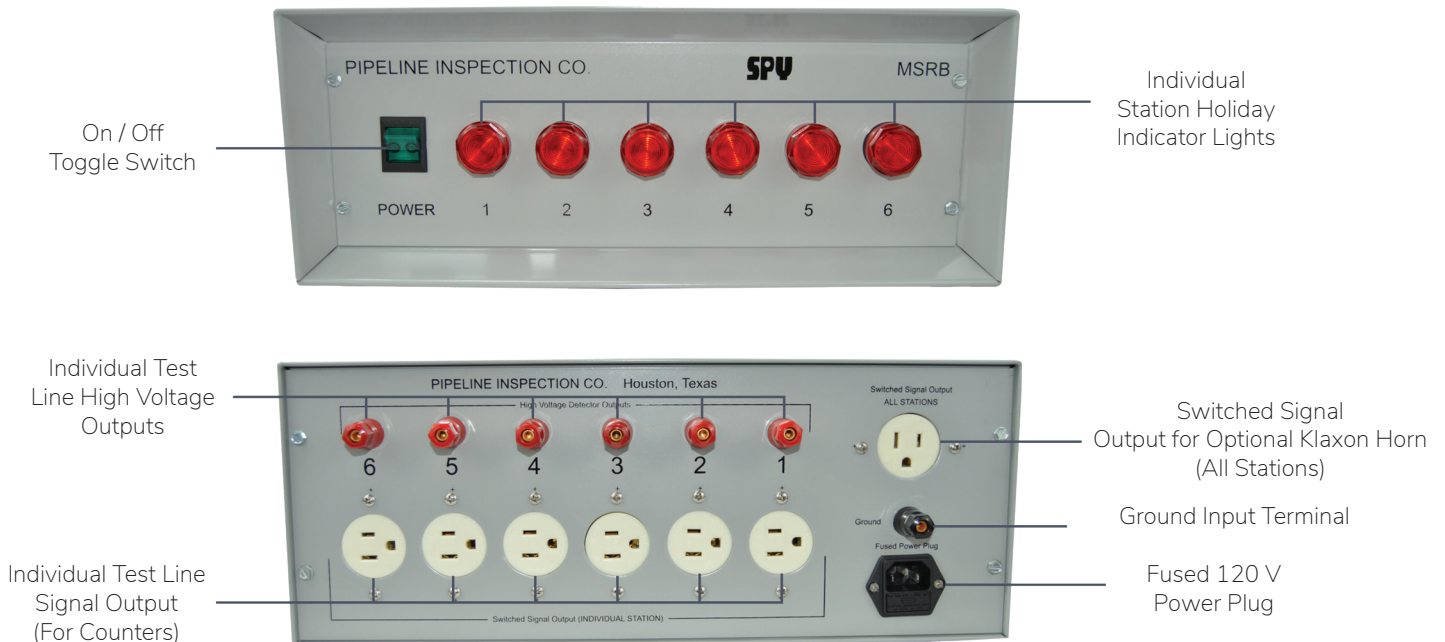
# MODEL MSRB

**THE MSRB SYSTEM** continuously monitors the coating line process as reinforcing bar runs through the RBRS dual-roller wet sponge electrodes unit. When a holiday is discovered, a red light flashes at the appropriate station on the detector unit for a visual indication, and the unit sends an electrical output to a plug on the back of the unit. The MSRB signal output plugs drive any 120 Volt AC customer furnished horn, bell, recorder or computer.

**MSRB DETECTOR UNITS** operate off a standard 60 120-Volt, 60 cycle single phase power source. They control output to the electrodes and detect holidays. Red signal lights on the front of the unit flash to indicate holidays. Switched signal plugs on the back of the MSRB provide for output to customer-supplied remote counter / signal systems. An individual detector can be supplied with from three to six stations as required. For rebar coating layouts with more than six lines, multiple MSRB detectors can be installed to match the number of lines as needed.

## KEY FEATURES:

- Reliably detects the most minute coating pinholes, scratches and other breaks.
- Simple setup and operation.
- Operates from a standard 120V, 60-cycle single phase power source.
- Rugged, trouble-free circuitry.
- Additional MSRB units can be added to match rebar coating line layouts.
- Compact size allows placement in any control station.
- Allows visual and (optional) audible detection of alarms.

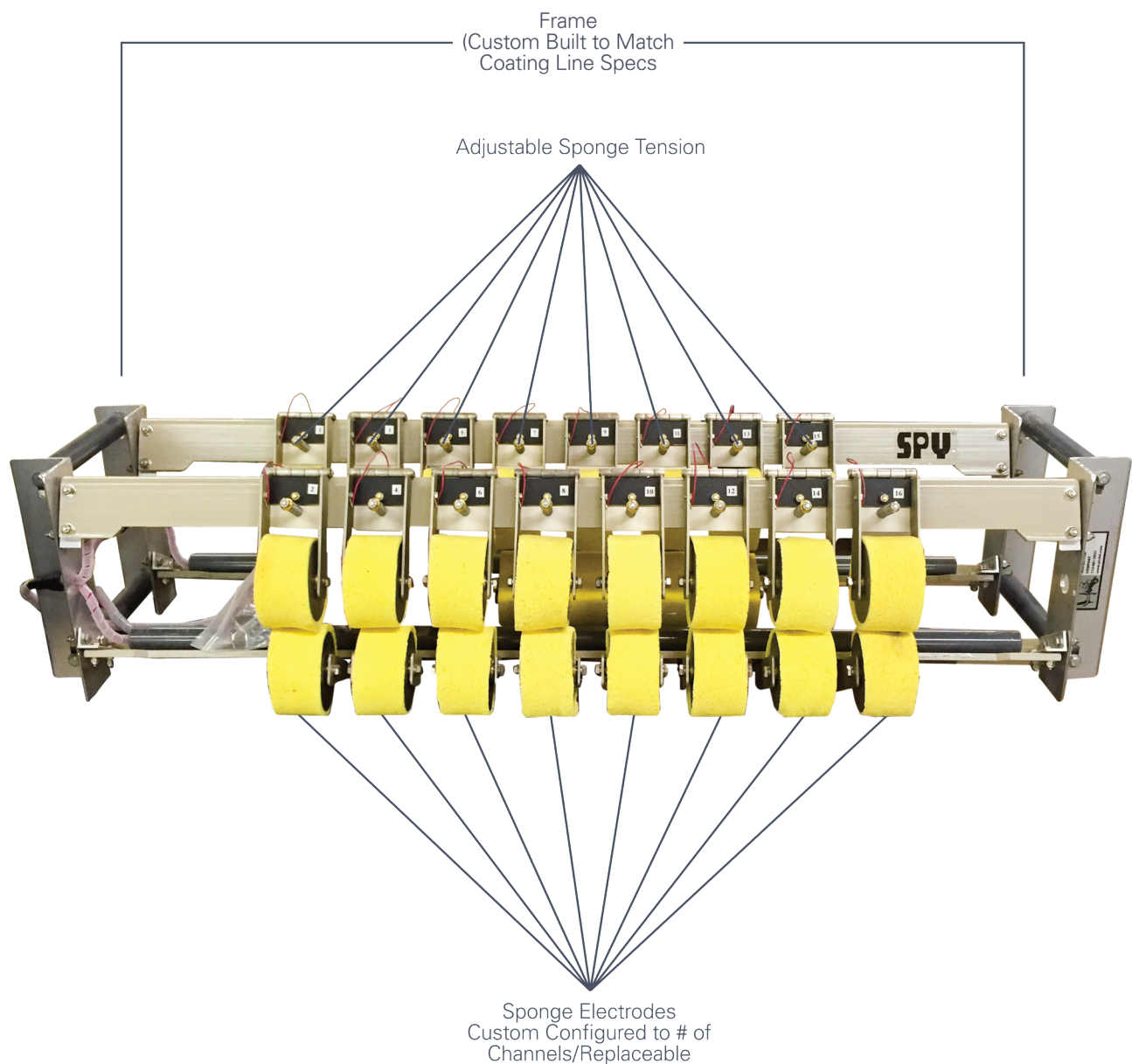




# MODEL RBRS

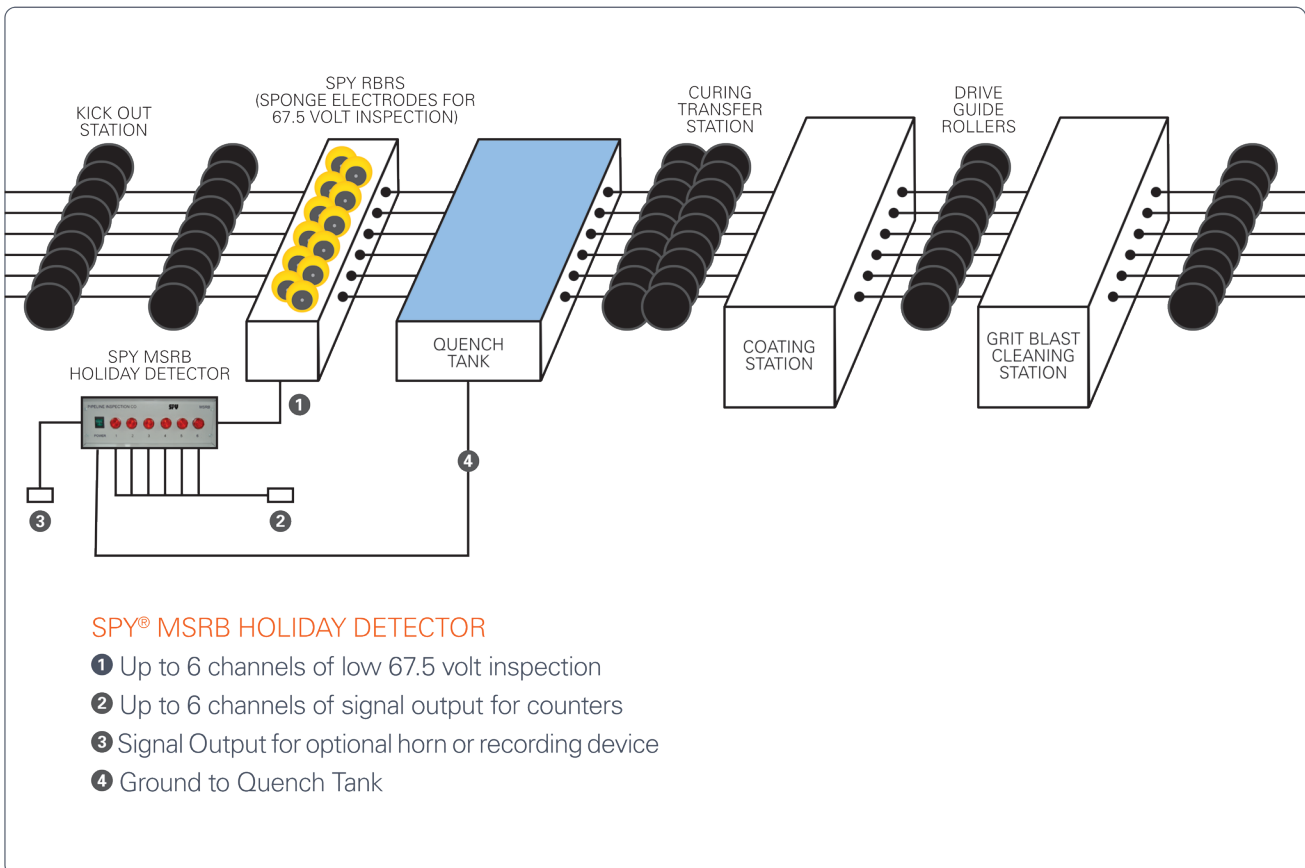
## RBRS DUAL-ROLLER WET SPONGE ELECTRODES UNIT.

The system is available in 3 – 24 coating line configurations. As the rebar lines run from the quench tank through the RBRS electrode units, moisture from the sponge electrodes conduct a 67.5 low voltage inspection of the rebar coating.



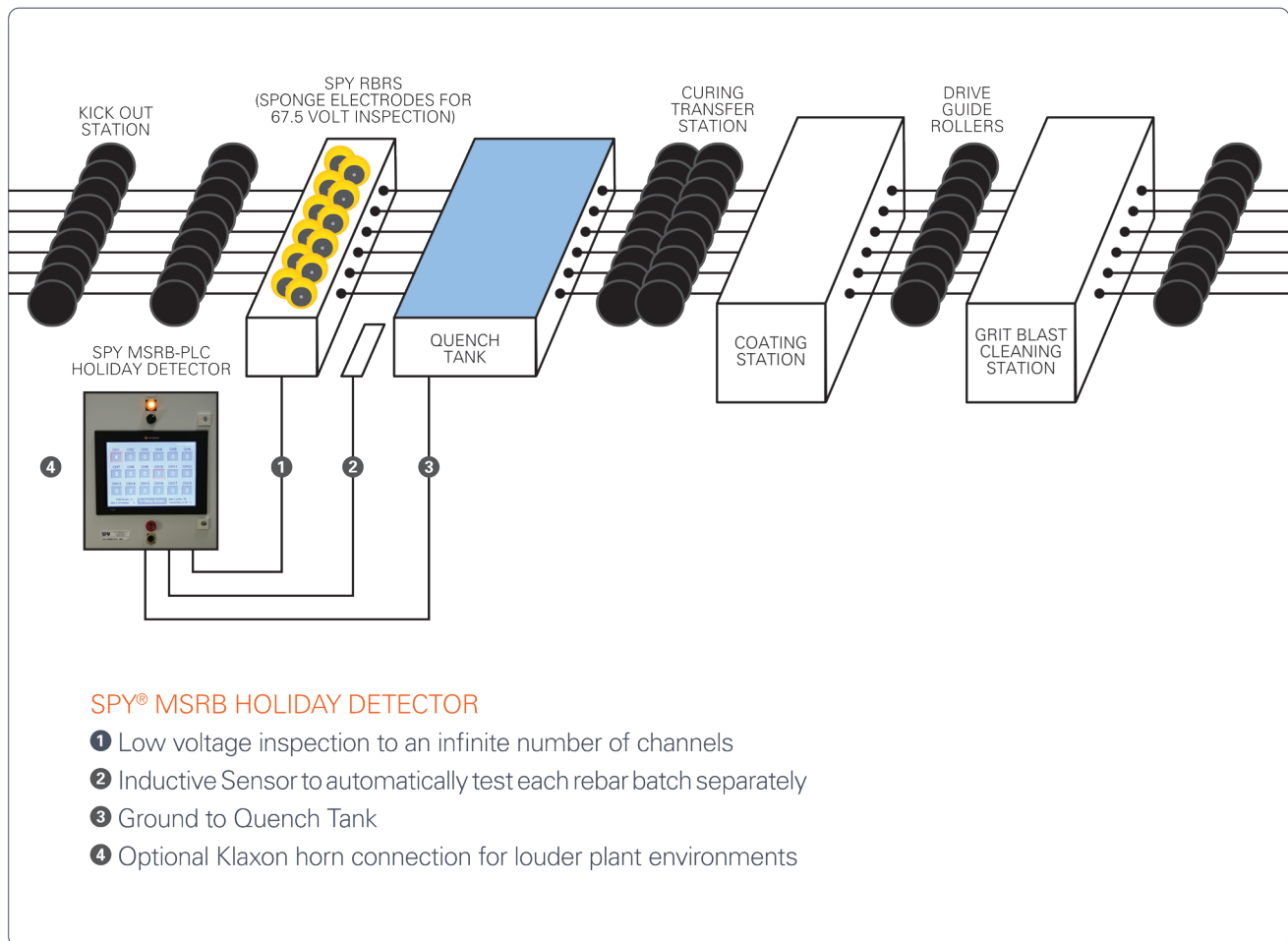
# TYPICAL SYSTEM INSTALLATION & OPERATION

## ILLUSTRATION OF MSRB SETUP ON REBAR COATING LINE



# TYPICAL SYSTEM INSTALLATION & OPERATION

## ILLUSTRATION OF MSRB-PLC SETUP ON REBAR COATING LINE





# MODEL MSRB & MSRB-PLC SPECIFICATIONS

MODEL	MSRB	MSRB-PLC
Voltage Type	DC	DC
Voltage Range (kV)	67.5 Volts	67.5 Volts
Voltage Output Accuracy	±5%	±5%
Coating Range (Min-Max)	1 - 20 mils	1 - 20 mils
Operating Temperature	32°F to 122°F	32°F to 122°F
Display Type	LED	LED
Holiday Indicator Type	Visual / (Optional) Audio	Visual / (Optional) Audio
Power Requirement	120V AC (Optional 220V – 120V transformer)	120V AC (Optional 220V – 120V transformer)
Unit Weight (lb)	10.7	20
Unit Dimensions (LxWxH)	10" x 15.5" x 6.5"	15.75" x 20" x 9"
Domestic/International Standards Unit Complies With	AS 3894.2, ASTM A775, ASTM A934, ASTM D 5162-A, ASTM G6, ASTM G62-A, BS 7793-2, JIS K 6766, NACE SP 0188, NACE TM0384	AS 3894.2, ASTM A775, AASTM A934, ASTM D 5162-A, ASTM G6, ASTM G62-A, BS 7793-2, JIS K 6766, NACE SP 0188, NACE TM0384
Factory Warranty	12 Month	12 Month

# SPY® WET SPONGE HOLIDAY DETECTORS



MODELS 670 & 673

CE

**SPY**®  
INSPECTION EQUIPMENT  
[www.spyinspect.com](http://www.spyinspect.com)

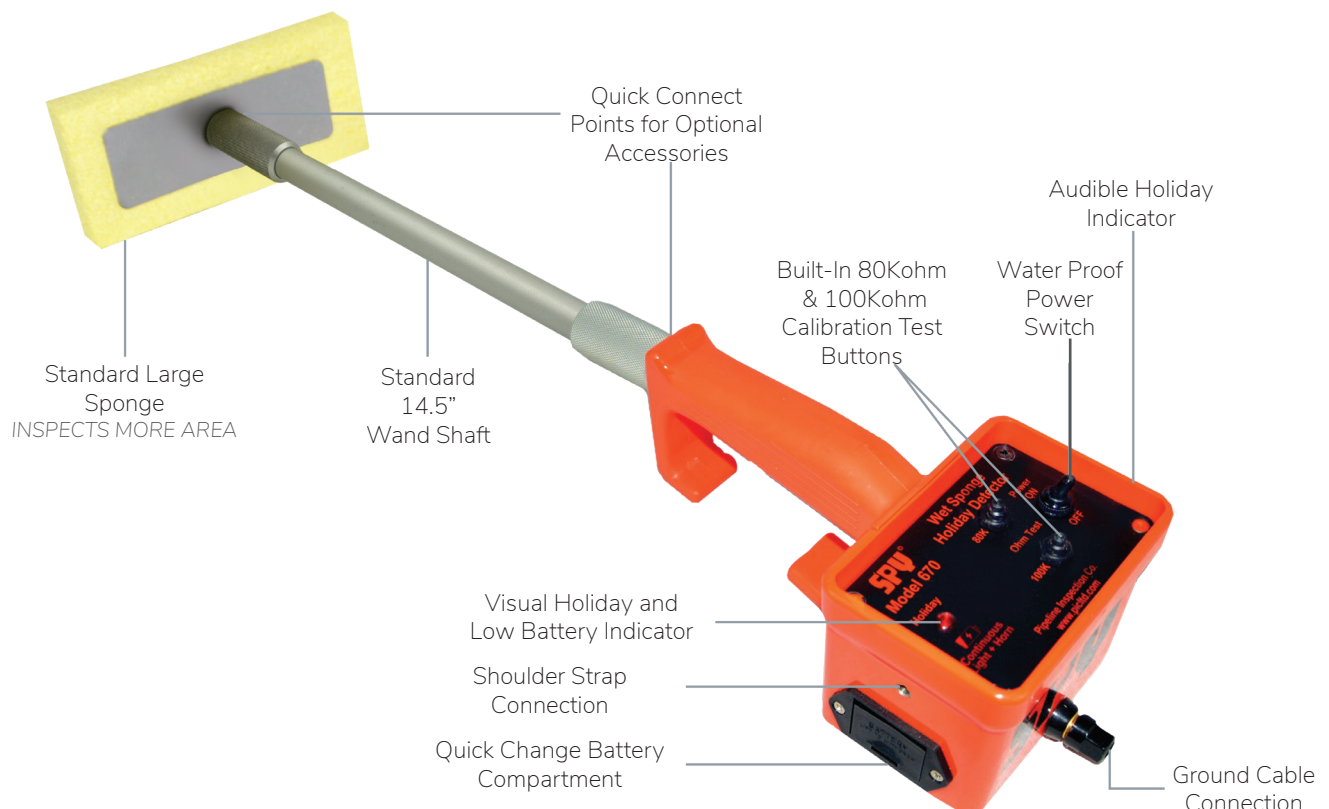
# SPY® PORTABLE 670 WET SPONGE HOLIDAY DETECTOR

## FAST AND EASY NON-DESTRUCTIVE INSPECTION OF PAINTS, EPOXY PAINTS AND COATINGS 1-20 MILS

- Ergonomic, Balanced,  
Lightweight Handheld Design.
- Rugged, Durable Construction
- 67.5 Volt DC-Sensitive and Accurate
- Quick Change Battery Compartment
- A Wide Range of Quick Change Accessories
- Inspection Kit w/Carrying Case (Optional)

**SPY® MODEL 670** operates on a single 9-volt alkaline battery. Unit output voltage is 67.5 volts DC. This voltage makes the detector highly sensitive and accurate. Compact and light weight with no bulky battery packs allowing for nondestructive inspection of paints, epoxy paints and coatings 1-20 Mils.

Inspect large surfaces faster and with less operator fatigue using a quick attach, easy to use roller sponge electrode (Optional Accessory).





# SPY® 673 WET SPONGE DETECTORS

## FOR PLANT OR STATIONARY OPERATIONS

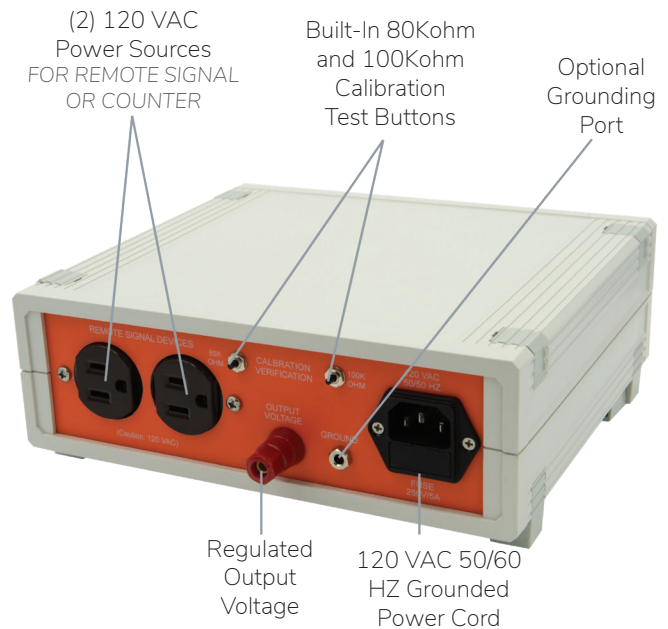
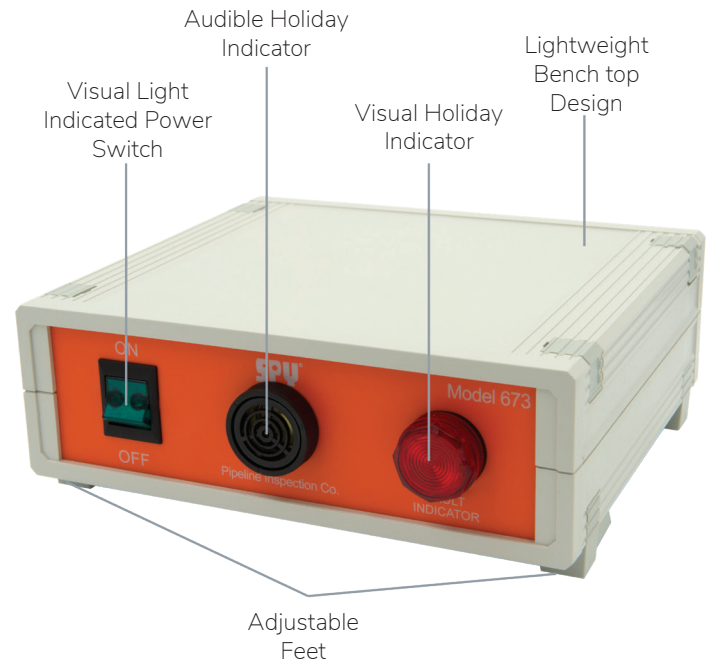
**THE SPY® MODEL 673 WET SPONGE DETECTOR IS HIGHLY SENSITIVE AND ACCURATE. UNIT OUTPUT VOLTAGE IS 67.5 VOLTS DC.**

A uniform coating of only 1 mil of paint or other non-conductive material is sufficient to repel this small current. If a pinhole holiday is encountered, moisture from the sponge will seep in to create a free path for electrical flow, activating the horn and light indicator.

For coatings from 1 mil up to 10 mils thick, ordinary tap water can be used to wet the sponge.

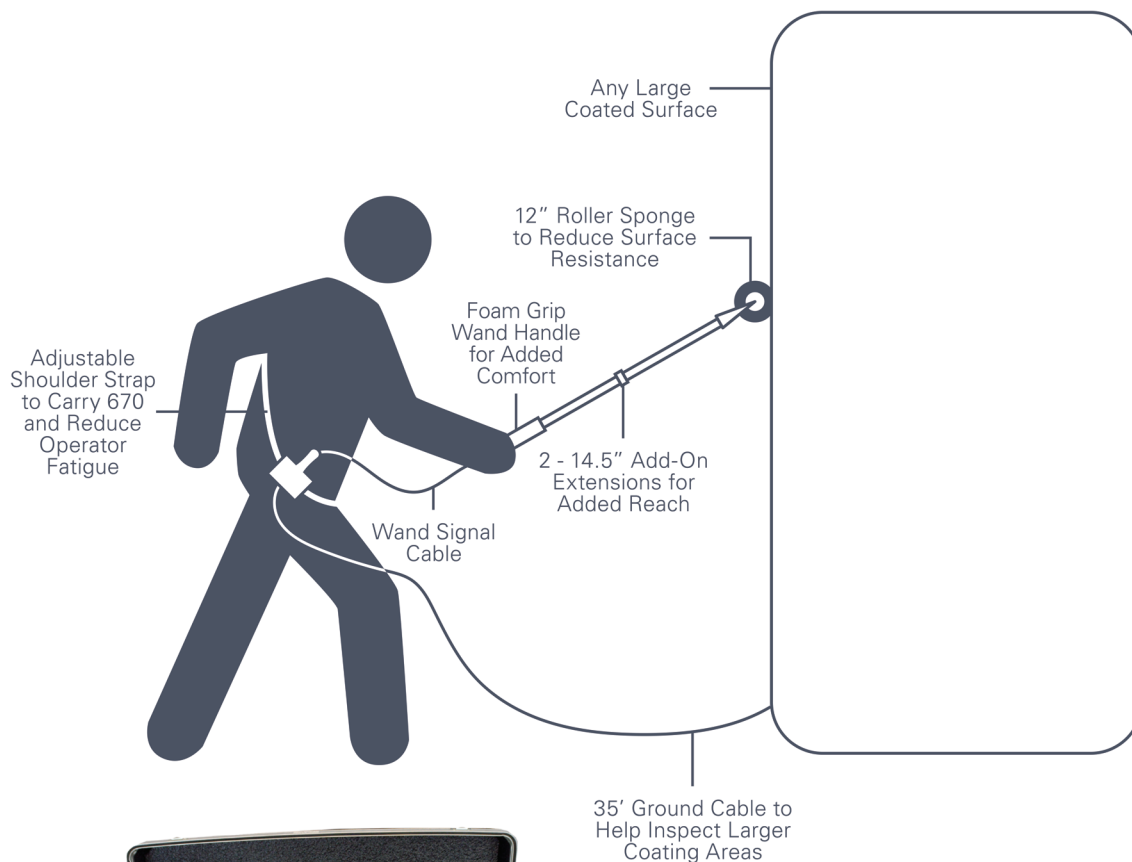
Above 10 mils, for coatings of 11 to 20 mils thickness, a non-sudsing wetting agent (such as SPY® Wetting Agent) is recommended to increase the ability for the moisture to swiftly make its way through pinholes in the thicker coating.

Inspect large surfaces faster with a quick attach, easy to use roller sponge electrode.



# SPY® WET SPONGE INSPECTION KIT

## OPTIONAL 670 INSPECTION KIT FOR ADDED OPERATOR COMFORT AND INSPECTION CAPABILITY



### KIT INCLUDES:

- |   |                        |
|---|------------------------|
| 1 - Carrying / Shipping Case            | 1 - 35ft Ground Cable  |
| 1 - 12" Roller Sponge Axle              | 1 - Foam Wand Handle   |
| 3 - Spare Roller Sponges                | 1 - Wand Signal Cable  |
| 2 - 14.5" Extension Shafts              | 1 - 4oz. Wetting Agent |
| 1 - Spare Flat Sponge<br>(4" x 8" x 2") | 2 - 9 Volt Batteries   |
|   | 1 - Shoulder Strap     |

# MODEL 670 & 673 ACCESSORIES



**670 GROUND CABLE (25 FT.)**  
ITEM #11927



**SHOULDER STRAP**  
ITEM #10187  
(670 ONLY)



**16OZ BOTTLE OF WETTING AGENT**  
ITEM #14001



**ROLLER SPONGE WAND**  
ITEM #14160



**4OZ BOTTLE OF WETTING AGENT**  
ITEM #13985



**14.5" EXTENSION ROD FOR WAND**  
ITEM #14162



**FLAT SPONGE WAND FOR 670**  
ITEM #14159



**FLAT SPONGE (SPONGE ONLY)**  
4" X 8" X 2"  
ITEM #11322



**ROLLER SPONGE AXLE**  
AVAILABLE IN 12", 18" & 24" SIZES



**ROLLER SPONGE REPLACEMENT PACKS**  
AVAILABLE IN PACKS OF 3, 5 OR 7



# MODEL 670 & 673 ACCESSORIES



## KLAXON HORN

ITEM #12513  
(673 ONLY)



## 673 SPONGE WAND

ITEM #12711



## WET SPONGE INSPECTION KIT

ITEM #670KIT  
(DETECTOR NOT INCLUDED)

### KIT INCLUDES:

- |   |                        |
|---|------------------------|
| 1 - Carrying/Shipping Case              | 1 - 35ft Ground Cable  |
| 1 - 12" Roller Sponge Axle              | 1 - Foam Wand Handle   |
| 3 - Spare Roller Sponges                | 1 - Wand Signal Cable  |
| 2 - 14.5" Extension Shafts              | 1 - 4oz. Wetting Agent |
| 1 - Spare Flat Sponge<br>(4" x 8" x 2") | 2 - 9 Volt Batteries   |
|   | 1 - Shoulder Strap     |

# MODEL 670 & 673 SPECIFICATIONS

MODEL	670 	673 
Voltage Type	DC	DC
Voltage Range (kV)	67.5 Volts	67.5 Volts
Voltage Output Accuracy	±5%	±5%
Coating Range (Min-Max)	1 - 20 mils	1 - 20 mils
Operating Temperature	32°F to 122°F	32°F to 122°F
Holiday Indicator Type	Audible/Visual	Audible/Visual
Battery	9 Volt Battery	120V AC
Battery Life	Dependent Upon Load Applied (Number of Holidays)	N/A
Low Battery Indicator	Yes	120V AC (Optional 220V to 120V transformer)
Unit Weight Only Unit Weight With Battery Only	0.9 lbs 1.8 lbs	1.9 lbs
Unit Dimensions (LxWxH) With Wand	9" x 4.5" x 3.25" 25" x 4.5" x 8"	9" x 9" x 3.25"
Domestic/International Standards Unit Complies With	AS 3894.2, ASTM D 5162-A, ASTM G6, ASTM G62-A, BS 7793-2, JIS K 6766, NACE SP 0188, NACE TM0384	AS 3894.2, ASTM D 5162-A, ASTM G6, ASTM G62-A, BS 7793-2, JIS K 6766, NACE SP 0188, NACE TM0384
Factory Warranty	12 Month	12 Month

# SPY® CONTACT INFORMATION

Our SPY® sales and engineering team is always ready to help with new ideas and projects. We are dedicated to providing customers with a superior level of service.

## SHIPPING ADDRESS

10507 ELLA BOULEVARD, SUITE 100  
HOUSTON, TEXAS 77038

## WEBSITE

[WWW.SPYINSPECT.COM](http://WWW.SPYINSPECT.COM)

## TELEPHONE

713-681-5837

## FAX

713-681-4838

## E-MAIL

[SALES@SPYINSPECT.COM](mailto:SALES@SPYINSPECT.COM)





# SPY®

## INSPECTION EQUIPMENT



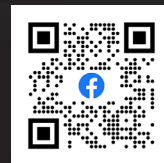
SEE OUR COMPLETE PRODUCT LINE  
AT [SPYINSPECT.COM](http://SPYINSPECT.COM)



### WORLDWIDE AVAILABILITY

SPY has a worldwide distributor network to ensure that SPY® products are available where and when they are needed.

Follow us on



### SPY INSPECTION EQUIPMENT

10507 Ella Boulevard, Suite 100

Houston, Texas 77038

PHONE: 713-681-5837

FAX: 713-681-4838