



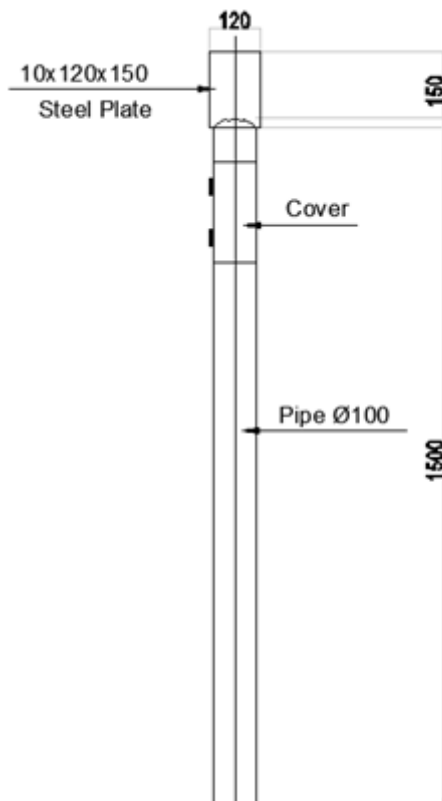
KORTEK
Corrosion Technologies Co. Ltd.

APPLICATION

A permanent durable steel test station used for the measurement of pipe to soil potentials, current flow, testing of insulated flanges, resistance bonds, anode outputs etc.

STEEL TEST STATION DATA

Length:	1,500 mm (without name plate) (or upon customer request)
Diameter:	114mm
Wall Thickness:	3mm
Terminals	Phenolic plate with brass terminal
Finish:	Hot Dip Galvanised





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APPLICATION

CP Test Station:

Cap, Terminal Board and Collect Nut made from Makrolon® polycarbonate. One of the toughest plastics in the world.

Hardware:

Standard nickel plated brass or optional stainless steel for guaranteed long service life. Up to 11 terminals accessible from both sides of the board.

Accessories:

All BigFink® terminal boards can accommodate COTTShunts®, Slide Resistors, COTTMeters® (Volt or Amp) Burndy connectors, Cott bonding/shorting straps, Banana Jacks, ZAPGard®, locking devices, lightning arrestors and flange mounting brackets.

Colors:

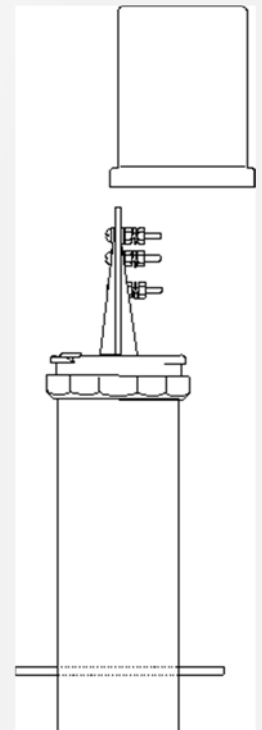
Red, Orange, Yellow, Green, Blue, White and Black are standard on BigFink® and COTTPipe®. Any color is available as an option.

Support Post:

COTTPipe® PE (standard) polyethylene has over 20 years of proven durability. COTTPipe® PC (optional) polycarbonate is available for the toughest applications. Standard length 6 feet, available to 40 feet.

Sizes:

Available in models to fit 1-1/4", 2" and 3" pipe
Anchor
COTTPipe® PE is easily installed and prevents pullout.





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The Flush FINK® cathodic protection test station and terminal enclosure is a high strength, maintenance free, non conductive, flush mounted, below ground terminal. Its patented Bell Jar design keeps test leads dry even when the enclosure is covered by flood water.

CP Test Station

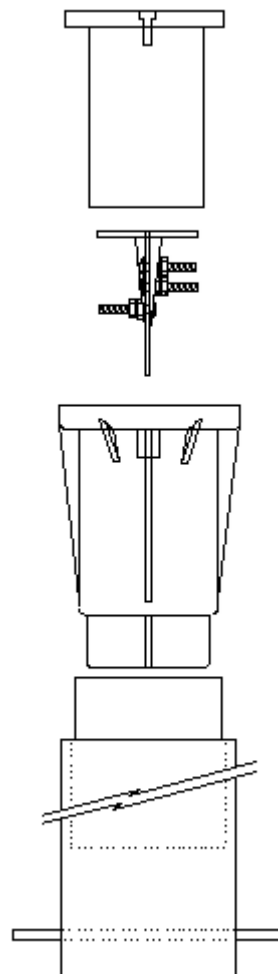
Watertight Bell, Terminal Board and Housing are made from Macroblend® polycarbonate alloy, one of the worlds toughest plasticks. Flush Fink® is impervious to impact, traffic loads and chemical spills common to street usage

Support Post

CottPipe® PE (standard) polyethylene blend has over 20 years proven durability. CottPipe® PC (optional) polycarbonate is available for the toughest applications. Standard lenght 1 foot – available to 400 feet with Cott's Telescoping Extender.

Colors

Red, orange, Yellow, Green, Blue, White and Black are standard on Flush Fink® and CottPipe®. Any color is available as an option.



Hardware

Standard nickel plated brass or optional stainless steel for guaranteed long service life. Up to 11 terminals accessible from both sides of the board

Accessories

All Flush Fink® terminal boards can accomodate CottShunts® Slide Resistors, Rheostats, CottMeters® (volt or amp), Burndy connectors, Cott bonding / shorting straps, Banana Jacks and lightning arrestors.

Dimensions

5-1/2" diameter x 8" height fits 4" schedule 40 pipe



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IR-Free corrosion coupon accurately measures the integrity of pipeline cathodic protection systems without the need to interrupt all current sources. This revolutionary device is designed for easy installation next to existing test stations. It also withstands harsh field environments and eliminates the effects of stray earth currents, producing accurate measurements every time.

Unlike other corrosion coupons, IR-free coupon is designed to evaluate cathodic protection systems without interrupting rectifiers, foreign bonds or sacrificial anodes. The coupon consist of a bare, cold-rolled steel cylinder head and No. 12 stranded wires, which are inserted along side a 2-inch PVC tube.

The PVC tube shields the reference electrode from potential gradients, resulting in accurate, precise cathodic protection measurements. These measurements also meet anticipated federal regulations and industry standards for considering IR drop in structure-to-soil potential readings.

IR-free corrosion coupon is built to last. The wire-coupon interface is environmentally sealed to keep the steel, copper and solder components corrosion-free, making the coupon virtually indestructible.

- Carbon Steel - AISI 1018 (ASTM A108, AMS5069)
- Includes twin cables with #12 AWG (4 mm²) stranded copper wire and THHN insulation.

CARBON STEEL	
#Part	Surface Area
COU075	0.155 sq in (1 cm ²)
COU100	1.55 sq in (10 cm ²)
COU170	1.353 sq in (8.73 cm ²)
COU220	1.55 sq in (10 cm ²)
COU425	15.5 sq in (100 cm ²)

DUCTILE IRON	
#Part	Surface Area
COU200	1.55 sq in (10 cm ²)

ALUMINUM	
#Part	Surface Area
COU300	1.55 sq in (10 cm ²)

STAINLESS STEEL	
#Part	Surface Area
COU350	1.55 sq in (10 cm ²)






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- **Material:** High-Impact ABS, ceramic plug with Moisture Retention Membrane (MRM™).
- Each cell is individually tested for internal resistance, continuity, IR-drop, sensitivity and stability. Stelth reference electrodes are then certified, with a unique serial number, allowing for traceability of any cell throughout its lifetime
- Our proprietary Moisture Retention Membrane MRM™ traps moisture and the internal chemistry inside the reference electrode; the MRM™ also prevents contaminated ground water from entering the reference electrode.
- Stelth reference electrodes can be frozen; they come back to life once thawed.
- A major breakthrough – the hydrocarbon-proof (HCP™) Stelth reference electrode that can be used in all environments. If you have facilities contaminated by gasoline, crude oil, brake fluid, transmission fluid etc. and are unable to get a potential reading, the HCP™ reference electrode will solve your problem.
- **Working Temperature Range:** 32°F to + 176°F (0°C to + 80°C)
- **Material Temperature Range:** -60°F to + 185°F (-51°C to + 85°C)






Stelth Model Name	Model Chemistry	Use	Minimum Service Life	Size	Standard Lead Wire
Stelth® 1 	SRE-002	Water Service Saturated Soil or Submerged Applications	30 years	1.215" (31 mm) width x 8.25" (203 mm) length.	20' (6.1 m) of #14 (2.5mm ²) RHH-RHW wire standard
Stelth® 2 	SRE-007	Buried Service Underground Applications Dry Soil Conditions	30 years	1.5" (38.1 mm) width x 7" (178 mm) length.	20' (6.1 m) of #14 (2.5 mm ²) RHH-RHW wire standard
Stelth® 5 	SRE-016	Marine Thru-Hull For Marine Vessels	10 years		Any length of wire available.



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Stelth Model Name	Model Chemistry	Use	Minimum Service Life	Size	Standard Lead Wire
Stelth® 6 	SRE-019	Concrete Service Ideal Size to Retrofit into Existing Concrete Dry Soil Conditions	30 years	0.75" (19 mm) width x 6.25" (159 mm) length.	20'(6.1 m) of #14 (2.5 mm ²) RHH-RHW wire
Stelth® 7: 1 cm² New Design 	SRE-022-ND	IR-Free Probe 1 cm² Coupon On-Off Potential Depolarization Potential DC Current Density	30 years	2" (63.5 mm) width x 11" (280 mm) length.	Any length of RHH-RHW black #16-3 tray cable wire available.
Stelth® 7: 10 cm² New Design 	SRE-023-ND	IR-Free Probe 10 cm² Coupon On-Off Potential Depolarization Potential DC Current Density	30 years	2" (51 mm) width x 15" (381 mm) length.	Any length of RHH-RHW black #16-3 tray cable wire available.
Stelth® 7: Rocket 	SRE-031	IR-Free Probe 100 cm² Coupon On-Off Potential Depolarization Potential DC Current Density	30 years	2" (51 mm) width x 12.75" (324 mm) length.	Any length of RHH-RHW black #16-5 tray cable wire available.
Stelth® 7: AC-20 cm² 	SRE-024-AC20	AC Mitigation Monitoring Depolarization Potential On-Off Potential DC & AC Current Density Native Potential	30 years	2" (51 mm) width x 16" (406.5 mm) length.	Any length of RHH-RHW black #16-5 tray cable wire available.



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Stelth Model Name	Model Chemistry	Use	Minimum Service Life	Size	Standard Lead Wire
Stelth® 7: AC-200 cm² 	SRE-031-AC200	AC Mitigation Monitoring Depolarization Potential On-Off Potential DC & AC Current Density Native Potential	30 years	2" (51 mm) width x 21.25" (540 mm) length.	Any length of RHH-RHW black #16-5 tray cable wire available.
Stelth® 7: Triton Rocket 	SRE-031-BE-V	AC Mitigation Monitoring Depolarization Potential On-Off Potential DC & AC Current Density Native Potential	30 years	2" (51 mm) width x 21.25" (540 mm) length.	Any length of RHH-RHW black #16-5 tray cable wire available.
Stelth® 8 	SRE-034	Thru-Hull Tanks Tank Interior Applications Fluid Tank Service	20 years	4.25" (108 mm) width top x 0.5" (12.7 mm) width ceramic plug x 12" (305 mm) length high-impact ABS (any length available).	Material: 18.8 Stainless steel, aluminum, non-stick coating, high-impact ABS and a ceramic plug with moisture retention membrane
Stelth® 9 	SRE-037	Deep Water Service Extra Weight to Facilitate Application at Deep Submerged Levels	20 years	With 5 lb. weight: 2" (51 mm) width x 20" (508 mm) length (different weights available).	100' (30.5 m) of RHH-RHW black #10 wire (any length of wire available).



Permanent Cu/CuSO₄ Reference Electrode (Packaged)

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APPLICATION



This permanent reference electrode is used to measure CP potentials on buried pipelines, storage tanks and other buried metallic structures to which CP has been applied.

COPPER COPPER SULPHATE REFERENCE ELECTRODE DATA

Cell Type:	Permanent Buried Cu/CuSO ₄
Casing:	Porous Ceramic Pot
Electrolyte:	Saturated Copper Sulphate Crystals
Packaging:	Cotton Bag
Backfill:	75% Gypsum / 20% Bentonite / 5% Sodium Sulphate (or to suit client specification)
Weight (Gross):	Approx. 25 kgs.
Dimensions:	~120 mm x 300 mm (Bare Dimensions) ~200 mm x 410 mm (Packaged Dimensions)

CABLE DATA

Cable:	1x10 mm ² XLPE/PVC stranded copper conductor cable, 600/1000V grade. Colour Black (or to meet client specification)
Cable Length:	10 m. (or to meet client specification)

Permanent Cu/CuSO₄ Reference Electrode (AccuRef 30)



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AccuRef 30 Permanent Cu/CuSO₄ Reference Electrode

Features & Benefits:

- ❖ Electrodes are buried directly with native soil backfill – no need for composite backfills. Note: These products are suitable for use in neutral soil having a chloride ion content <500ppm. [AccuRef Silver/Silver Chloride electrodes are recommended for use in higher chloride ion content soils]
- ❖ Depressed electrolyte freezing temperature of -20°C allows electrodes to experience a deep frost without freezing and cracking.
- ❖ Design life of 30 years.
- ❖ Large electrical contact area (electrically active surface area) having hygroscopic characteristics promotes good electrode-to-soil electrical contact. [Note: Soil moisture content is a requirement for a buried metallic structure potential reading versus any permanently installed reference electrode, which means that readings in ultra-dry soil are not possible]



Specifications:

- ❖ Sealed cable type/length (standard): 25 feet of #12 AWG stranded copper wire coated with XLP (USE-2/RHH/RHW-2) insulation; 600V rating, 90°C max. temp. in wet & dry environments
- ❖ Active electrical contact surface area: approx.. 16..4 inches²
- ❖ Half-cell materials: 99.99% copper and saturated copper sulfate gel electrolyte
- ❖ Max. diameter: 2.77 inches, Overall length (not including sealed cable): 15 inches, Weight (including sealed cable): 3.9 lbs

Permanent Cu/CuSO₄ Reference Electrode (AccuRef 30 with integrated coupon)



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AccuRef 30 Permanent Cu/CuSO₄ Reference Electrode

Reference Electrode Features:

- ❖ Applications: Direct burial in soil, assuming low (<500ppm) levels of chloride ion contamination.
- ❖ Low freezing Point: -20°C
- ❖ Design life of 30 years.
- ❖ High Purity Materials: Copper rod and copper sulfate crystals
- ❖ Cost: Less expensive than most copper sulfate permanent electrodes
- ❖ Tip: Moisture absorbent ceramic tip
- ❖ Evaporation: Will not dry out at low humidity and/or high heat
- ❖ Wire: 25 feet #12 AWG XLPE RHW-2 lead wire; cross-linked Polyethylene jacket, direct burial, low leakage, 600 V, 90°C rating. Longer lengths of wire are available.
- ❖ Electrical Contact Surface Area: Approximately 16.4 square inches (a cylindrical surface, 1.5" in diameter and 3.5" in length)



Coupon Features:

- ❖ Integrated coupon/holder assembly
- ❖ Integrated PVC pipe adapter for optional PVC pipe connection (nominal 3" diameter pipe)
- ❖ Carbon steel coupon (AISI 1018, ASTM A108, AMS5069) with 10 cm. surface area
- ❖ #12 AWG(4 mm) standard copper wire, green colored THHN insulation, single wire, 25' long for coupon connection. Longer lengths of wire are available.

Dimensions: 4.0" maximum outside diameter, 20.75" long, with pipe adapter attached.




Weight: 5.25 pounds



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- **Material:** High-Impact ABS, ceramic plug with Moisture Retention Membrane (MRM™).
- Each cell is individually tested for internal resistance, continuity, IR-drop, sensitivity and stability. Stelth reference electrodes are then certified, with a unique serial number, allowing for traceability of any cell throughout its lifetime
- Our proprietary Moisture Retention Membrane MRM™ traps moisture and the internal chemistry inside the reference electrode; the MRM™ also prevents contaminated ground water from entering the reference electrode.
- Stelth reference electrodes can be frozen; they come back to life once thawed.
- A major breakthrough – the hydrocarbon-proof (HCP™) Stelth reference electrode that can be used in all environments. If you have facilities contaminated by gasoline, crude oil, brake fluid, transmission fluid etc. and are unable to get a potential reading, the HCP™ reference electrode will solve your problem.
- **Working Temperature Range:** 32°F to + 176°F (0°C to + 80°C)
- **Material Temperature Range:** -60°F to + 185°F (-51°C to + 85°C)

Stelth Model Name	Model Chemistry	Use	Minimum Service Life	Size	Standard Lead Wire
Stelth® 1 	SRE-004	Water Service Saturated Soil or Submerged Applications	30 years	1.215" (31 mm) width x 8.25" (203 mm) length.	20' (6.1 m) of #14 (2.5mm ²) RHH-RHW wire standard
Stelth® 2 	SRE-008	Buried Service Underground Applications Dry Soil Conditions	30 years	1.5" (38.1 mm) width x 7" (178 mm) length.	20' (6.1 m) of #14 (2.5 mm ²) RHH-RHW wire standard
Stelth® 5 	SRE-017	Marine Thru-Hull For Marine Vessels	10 years		Any length of wire available.



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Stelth Model Name	Model Chemistry	Use	Minimum Service Life	Size	Standard Lead Wire
Stelth® 6 	SRE-020	Concrete Service Ideal Size to Retrofit into Existing Concrete Dry Soil Conditions	30 years	0.75" (19 mm) width x 6.25" (159 mm) length.	20'(6.1 m) of #14 (2.5 mm ²) RHH-RHW wire
Stelth® 7: 1 cm² New Design 	SRE-025-ND	IR-Free Probe 1 cm² Coupon On-Off Potential Depolarization Potential DC Current Density	30 years	2" (63.5 mm) width x 11" (280 mm) length.	Any length of RHH-RHW black #16-3 tray cable wire available.
Stelth® 7: 10 cm² New Design 	SRE-026-ND	IR-Free Probe 10 cm² Coupon On-Off Potential Depolarization Potential DC Current Density	30 years	2" (51 mm) width x 15" (381 mm) length.	Any length of RHH-RHW black #16-3 tray cable wire available.
Stelth® 7: Rocket 	SRE-032	IR-Free Probe 100 cm² Coupon On-Off Potential Depolarization Potential DC Current Density	30 years	2" (51 mm) width x 12.75" (324 mm) length.	Any length of RHH-RHW black #16-5 tray cable wire available.
Stelth® 7: AC-20 cm² 	SRE-027-AC20	AC Mitigation Monitoring Depolarization Potential On-Off Potential DC & AC Current Density Native Potential	30 years	2" (51 mm) width x 16" (406.5 mm) length.	Any length of RHH-RHW black #16-5 tray cable wire available.



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Stelth Model Name	Model Chemistry	Use	Minimum Service Life	Size	Standard Lead Wire
Stelth® 7: AC-200 cm² 	SRE-032-AC200	AC Mitigation Monitoring Depolarization Potential On-Off Potential DC & AC Current Density Native Potential	30 years	2" (51 mm) width x 21.25" (540 mm) length.	Any length of RHH-RHW black #16-5 tray cable wire available.
Stelth® 8 	SRE-035	Thru-Hull Tanks Tank Interior Applications Fluid Tank Service	20 years	4.25" (108 mm) width top x 0.5" (12.7 mm) width ceramic plug x 12" (305 mm) length high-impact ABS (any length available).	Material: 18.8 Stainless steel, aluminum, non-stick coating, high-impact ABS and a ceramic plug with moisture retention membrane
Stelth® 9 	SRE-038	Deep Water Service Extra Weight to Facilitate Application at Deep Submerged Levels	20 years	With 5 lb. weight: 2" (51 mm) width x 20" (508 mm) length (different weights available).	100' (30.5 m) of RHH-RHW black #10 wire (any length of wire available).

Portable Ag/AgCl Reference Electrode



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SURVEY & EQUIPMENT**



BORIN stands behind every STEALTH reference electrode you buy:

- We test EVERY SINGLE reference electrode we make
- You can track/trace any STEALTH
- Every STEALTH is calibrated for the life of the cell
- Our STEALTH reference electrodes will work for years and remain stable after you retire

If you've ever wanted to depend on the stability of a STEALTH reference electrode for your CIS or DCVG studies, the STEALTH 3 portable is for you. Our STEALTH 3 portable has ceramic rounded tip with a wing nut instead of a wire at the end – making it ideal for use above ground.

The innovative ceramic tip also features our proprietary Moisture-Retention Membrane (MRM™), which lets moisture in, traps it within the ceramic, and keeps the cell's internal electrolytes from leeching out.

Just a few reasons BORIN STEALTH solid-state reference electrodes are unique:

- Never need recharging or recalibrating
- Impregnated with membrane that keeps electrolytes from drying out or getting contaminated
- Trap hydrogen sulfide or excess chloride ions before they cause damage
- Let you know when you have dangerous levels of AC to deal with
- Can thrive in ALL environments, even those chemically detrimental to other reference electrodes
- Remain accurate for their lifetime
- Won't die every winter

Uses:	Portable for Water and/or Soil Applications
Size:	1.215" (31 mm) width x 8.25" (209.5 mm) length high-impact Lexan® tube
Standard Lead wire:	N/a
Material:	Lexan® electrode case housing; ceramic tip with Moisture Retention Membrane (MRM™)
Service Life:	Minimum 10-year service life
Shelf Life:	Infinite shelf life, infinite stability
Certified Potential Range:	±5 millivolts vs. standard
pH Range:	4–9 pH
Working Temperature Range:	32° F to +176° F (0° C to 80° C)
Material Temperature Range:	-60° F to +185° F (-51° C to 85° C)
Weight of STEALTH 3 (no wire):	0.55 lbs.



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APPLICATION

KORTEK Ag/AgCl reference electrode is designed to use in seawater.

You can use KORTEK Ag/AgCl reference electrodes for your tank applications.

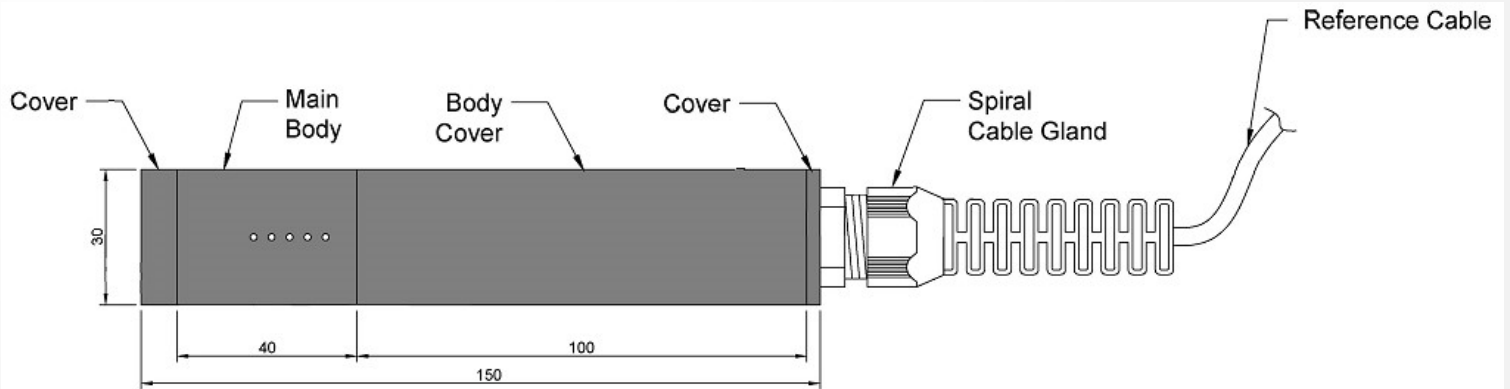
Can be purchased with either standard cable tails, your choice of cable or a self assembly version for your convenience.

Materials Specification :

Electrode Element: 99.9 % pure silver
Electrode Media: Specifically formulated
Ag/AgCl
Body: Polyethylene

Performance Details :

Operating Life: 25 years minimum, with correct handling
prior to installation
Shelf Life: Indefinite, under correct storage conditions
Temperature Range: 0 - 75 °C (32 – 167 °F)





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All copper sulfate electrodes are shipped dry but include a charge of high-purity copper sulfate crystals. A protective cap for the CPT porous plug is also supplied. Special lengths of RE-5 and RE-5C are available on special order. Use and maintenance instructions are furnished with each electrode.



Model RE-5

Standard Model. Flat CPT Porous Plug, for general use in soil.
Approximate overall Size: 1 3/8" dia. x 6" long. Dry weight: 4oz.



Model RE-5C

Similar to Model RE-5 except supplied with a cone-shaped CPT porous plug. For use in soft soils. Provides lower contact resistance. When pushed into soft soils, the shape of the plug helps the electrode to "stand up." Approximate overall size: 1 3/8" dia. X 6 3/4" long. Dry weight: 5 oz.