

Product Catalog



207 Progress Drive
Montgomeryville, PA 18936

Phone: 215.616.0390
Fax: 215.616.0500

Web: www.phlsci.com
Email: sales@phlsci.com



General Information

Philadelphia Scientific™

207 Progress Drive,
Montgomeryville, PA 18936

Phone: 215-616-0393 | FAX: 215-616-0500 | E-Mail: sales@phlsci.com
Office Hours: 8:30 a.m. - 5:00 p.m. Eastern Time

Shipping Policy

Our aim is to provide the most prompt and courteous service possible.

1. All orders received before 12 P.M. Eastern Time will be shipped out the next day, stock permitting. Orders requesting shipping via truck require at least 48 hour turn around time. Orders for non-stock products, customized products, or unusually large quantities may require a slightly longer lead time. Faxed orders or emailed orders will ensure quick shipment.
2. We require a minimum order of Twenty-Five Dollars (\$25.00)
3. All orders are shipped FOB Montgomeryville. Due to occasional damage to and the high cost of replacements, all Water supplies are shipped insured. The cost for the added insurance will be automatically added to your order and the cost indicated on the order acknowledgement. If you do not want to insure the water supply, you must notify our customer service department immediately.
4. We can drop ship to locations other than the billing address on request.
5. We cannot offer drop ship service to you if you are on a C.O.D. payment basis.
6. We regret that we are unable to bill your customer and pay you a commission.
7. All claims for errors and shortages must be made within 10 days after receipt of goods.
8. Standard parts or products may be returned for up to 60 days from date of purchase for reasons other than warranty subject to a 15% restocking charge. Special orders cannot be returned.

Payment Policy

Our aim is to provide lowest prices and best value. In order to keep our prices low we run our business as efficiently as possible. We pay our bills on time and expect our customers to do likewise.

1. Our terms are net 30 days.
2. For accounts with outstanding balances over 45 days, shipments will be delayed until the account is settled.
3. For accounts over 60 days or with persistently delayed payments, shipments will not be processed until the account is settled.
4. For your convenience we accept credit card payments for authorized distributors.

Philadelphia Scientific Limited Warranty

Philadelphia Scientific warrants the Water Injector™ System (Injector valves, tubing, quarter turn adapters, quick connects and couplings used on the battery) and the Stealth Watering System™ (Stealth valves, tubing, quick connects and couplings used on the battery) against defects in manufacturing and materials for a period of five (5) years from the date of purchase. If defects in the manufacture or materials are found within the warranty period, the product will be repaired or replaced by Philadelphia Scientific at its choice and expense. Product to be covered by the warranty shall be shipped to Montgomeryville, PA at the customer's expense for evaluation and resolution. This limited warranty excludes any incidental or consequential damage to persons or property.

Philadelphia Scientific warrants Watering Guns against defects in manufacturing and materials for a period of three (3) years and warrants all other products, including Electrolyte Level Monitors and iBOS, against defects in manufacturing and materials for a period of one (1) year from the date of purchase. If defects in workmanship or materials are found within the warranty period, the product will be repaired or replaced by Philadelphia Scientific at its choice and expense. Product to be covered by this limited warranty shall be shipped to Montgomeryville, PA for evaluation and resolution. This limited warranty for the Watering Guns, Electrolyte Level Monitors, iBOS, Water Delivery Systems and all other products excludes any incidental or consequential damage to persons or property.

This limited warranty for all products is subject to the following terms and limitations:

- The products must be installed and operated according to the installation and operation instructions provided with the product.
- This warranty is void in situations where the product is subject to abuse, misuse, physical damage, operator error, inadequate water supply pressure, or where the Water Injector String tubing is found to be kinked or forced out of place.
- This limited warranty is void in situations where an Electrolyte Level Monitor has been incorrectly installed on the battery thus imparting the wrong operating voltage to the product.
- Warranty does not cover any costs associated with installation or removal of products subject to warranty claims.

Service Coast to Coast

Philadelphia Scientific has sales service from 3 regional managers to provide local and timely support. Additionally customer service is available from 8:30 AM to 5:00 PM Eastern Time Monday through Friday at (215) 616-0390 or 24 hours a day, 7-days a week at www.phlsci.com.

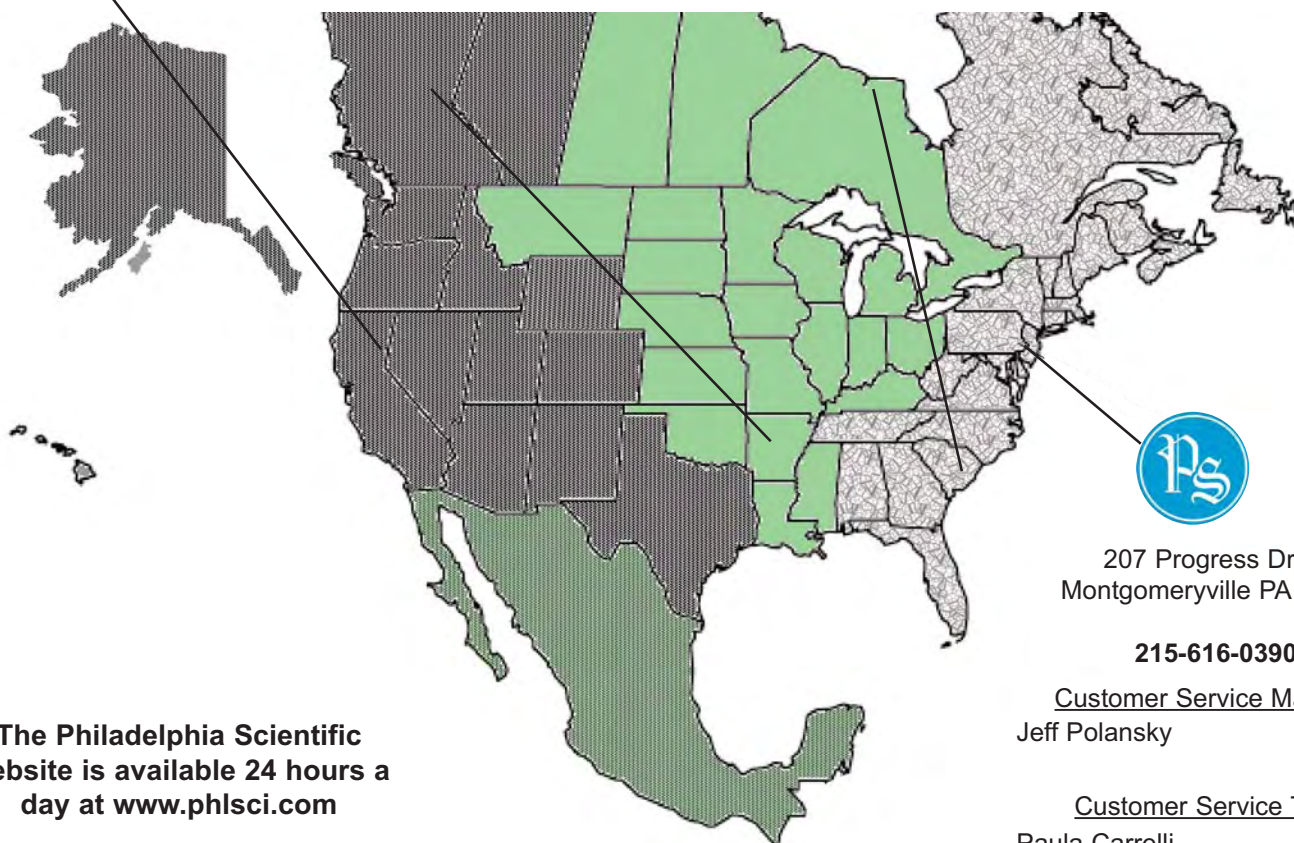
Please see the map below for names and contact information of your local regional sales manager and our customer support team.

The Philadelphia Scientific Regional Sales Managers:

Western Region
Byron MacKenzie
Regional Sales Manager
530-844-3418
Sacramento Office

Central Region
Steve Schubring
Regional Sales Manager
630-330-1154
Chicago Office

Eastern Region
Danny Hoban
Regional Sales Manager
267-240-7351
Philadelphia Office



The Philadelphia Scientific
website is available 24 hours a
day at www.phlsci.com

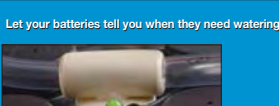
207 Progress Drive
Montgomeryville PA 18936

215-616-0390

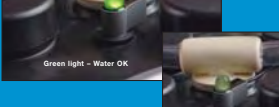
Customer Service Manager
Jeff Polansky ext 142

Customer Service Team
Paula Carrelli ext 120
Gwen Worthington ext 113
Mike Blankemeyer ext 111
Jennifer Yum ext 107

Let your batteries tell you when they need watering



Green light = Water OK



Light's out = Add water

Prolong battery life with the Battery Watering Monitor

Protect your people and your bottom line.

- Prevents water checking batteries that don't need it.
- Eliminates water loss in a vent well or bath.
- Prevents water loss in a battery dry-out.

Easy to use, easy to read

- Shining green light says water level is okay.
- Light of red means it's time to add water.
- Monitor directly only once a day.
- In a year of use, it may save you almost one dollar.

A Full Line of Battery Maintenance Products

Water Injectors

The battery, sealed, and most maintainers say it will never be by your battery. Since the battery is sealed, you can't inject anything, turn a tank valve, and in 15 seconds or so the battery is watered. Our Water Injectors fill each cell to the required level so there is no more overfilling, and no more electrolyte boiling over during charge. The capacitor no longer has to remove and replace vent plugs. The water venting alone will give you the electrolyte level you need. The Water Injectors watering your batteries will value the additional safety. Not only is the system fast and accurate, it's designed to be durable in the field. It will withstand many abuses that would cause other systems to fail, such as harsh industrial environments. If you want a system that can service for the full life of your battery, you want Water Injectors.

Battery Watering Monitors

Let your battery tell you when it needs water. Imagine having sales to work with and not having to be watered. Our Monitor is designed to be used in the field. It's easy to use and easy to read. It's designed to be used in the field. It's easy to use and easy to read. It's designed to be used in the field. It's easy to use and easy to read.

Carts

Our wide variety of carts and other water carrying systems. Make getting water to the right location a snap. There are low floor carts especially designed for the Watering Gun. Our high floor carts for the Water Injector System. These are also built to handle and are designed for the Watering Gun. They are also built to handle and are designed for the Watering Gun. They are also built to handle and are designed for the Watering Gun.

Flip-Tops

Flip open... fill up... snap shut. With our Patented Flip-Tops, you will never waste another minute of your time. The flip-top is designed to be used in the field. It's easy to use and easy to read. It's designed to be used in the field. It's easy to use and easy to read. It's designed to be used in the field. It's easy to use and easy to read.

Deionizer

Make your own pure water directly from the tap. Our Deionizer reduces the high price of buying bottled water and is more convenient to use. Each disposable cartridge contains about 100 gallons of water (depending on the quality of the water going in). The Deionizer is used up. Why let the impurities in your water ruin the life of your battery when this system is so easy and cost-effective? Our Deionizer is pre-engineered making the flow fast enough to meet directly with the Watering Gun.

Battery Watering Gun

The battery monitor should be without this essential maintenance tool. Just connect the gun to a standard hose, and the job is done. The gun is designed to be used in the field. It's easy to use and easy to read. It's designed to be used in the field. It's easy to use and easy to read. It's designed to be used in the field. It's easy to use and easy to read.

Flip open ... fill up ... snap shut

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Shipping Address

Company Name _____

Street _____ State _____ Zip _____

City _____

Phone _____

Account Number _____

City _____ State _____ Zip _____

Phone _____

Order Total _____

Shipping _____

Other _____

Total _____

Please Copy for Use


Philadelphia Scientific™
 industrial battery innovation

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www.phlsci.com

Watermaster™ is a trademark of Watermaster of America, Inc.

BFS™ is a trademark of Battery Filling Systems

Flowrite™ is a trademark of Flowrite-Controls LTD.

CPC™ is a trademark of Colder Products Company.

MTC™ is a trademark of Materials Transportation Company

Sackett™ is a trademark of Sackett Systems, Inc.

BHS™ is a trademark of Battery Handling Systems, Inc.

UL & Underwriters Laboratories Inc. are trademarks of Underwriters Laboratories Inc

Water Injector System™, Stealth Watering System™, Instant Install™, Blinky™, Smart Blinky™ and iBOS™ are trademarks of Philadelphia Scientific.



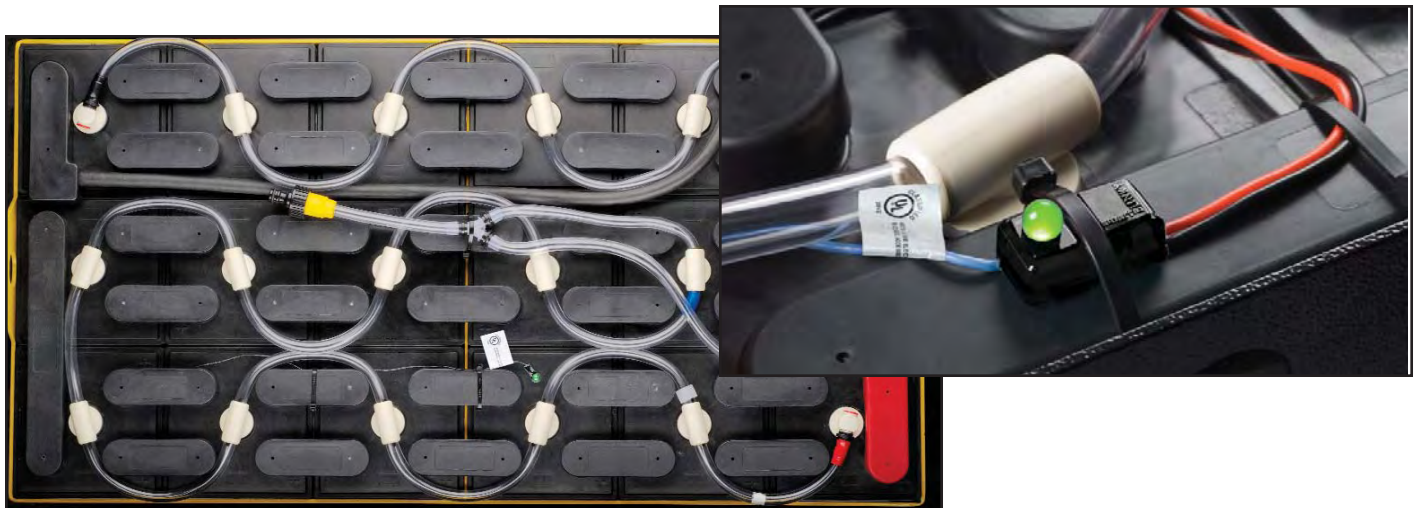
Single-Point Watering Systems

It's a fact of life that industrial batteries need to have water added on a regular basis. No matter the type of application Philadelphia Scientific has the right watering system for the job. From large to small facilities and from heavy to light duty applications, Philadelphia Scientific has the system that will work best for that application. Philadelphia Scientific is unique in its ability to offer two different watering system technologies along with a range of accessory products to complete the job.

The following two sections present Philadelphia Scientific's single point watering systems:

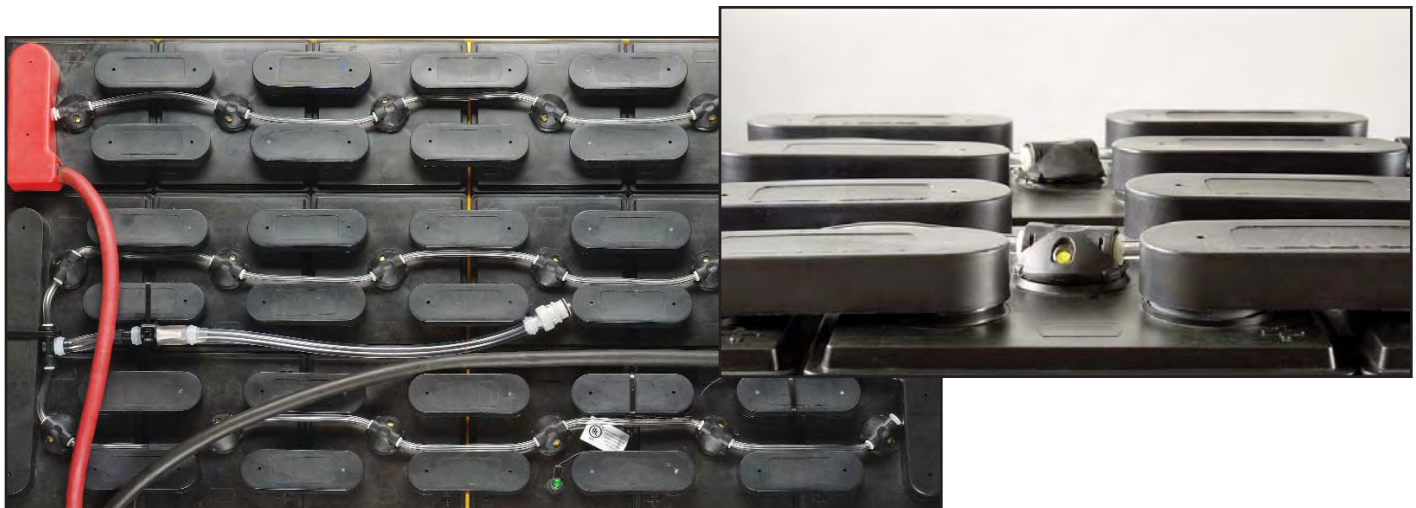
The Water Injector System™

- The fastest and most reliable watering system on the market.






The Stealth Watering System™

- The lowest profile and easiest to install float type system on the market.



Philadelphia Scientific has the right product for your application

Philadelphia Scientific is the only company with a complete line of battery watering products to cover all application types. The following table can be used to help determine the best system for the application at hand. Not all applications are alike; be sure to put the appropriate product into the correct application to ensure years of cost effective & reliable operation.

Product	 Water Injector System	Stealth Float System 	 Watering Gun
Facility Size	25 or more Batteries	5 - 25 Batteries	1 - 5 Batteries
Application	<ul style="list-style-type: none"> • Heavy-Duty • Abusive Conditions • Rapid Charge • Battery Changers 	<ul style="list-style-type: none"> • Light Duty • Low Water Pressure • Small Facility 	<ul style="list-style-type: none"> • Small Facility • Light-Duty • Infrequent Use • Golf Course
Time to Install	3 Minutes	12 Minutes	Not Applicable
Time to Fill an 18-cell battery	15 Seconds	2 - 10 Minutes	20 Minutes
Payback/ROI	\$\$\$	\$\$	\$



Water Injector Systems™

Fill a battery in just 15 seconds!

For over a decade, the Water Injector™ system has been the world's fastest and most reliable way to add water to industrial batteries. It is very simple to use: an operator clicks on a water-hose, opens a valve, and in 15 seconds or less the entire battery is watered - perfectly. Even experienced battery users are astonished at the speed of filling.

The system saves money in two ways:

- It cuts labor costs, often paying for itself within its first year of operation.
- It extends the life of each expensive battery it is installed on due to improved quality of watering.

The system also improves safety and environmental cleanliness. There is no need to peer into cells to inspect levels as with manual filling, and Water Injectors™ automatically fill each cell to the correct level, so there's no overfilling and no electrolyte overflow during charge.

The Injector system is outstandingly durable. Designed for harsh industrial environments, it will shrug off abuse that would destroy most other systems, and continue to work dependably for the life of the battery.

In the long run, they have the best financial Return on Investment (ROI) of all available filling systems.



High Performance Features of the Water Injector System™:

Exclusive no-clamp tubing

The tubing goes straight through the Injectors, sealing with a unique twin O-ring arrangement. The higher the pressure, the tighter the seal.

A safer way to fill

No more filling one cell at a time by hand. No more risking possible splashing of electrolyte. Water Injectors prevent direct contact with electrolyte during battery filling.

Fill an entire battery in seconds!

Fastest Single Point Watering System on the market. Typically fills an entire battery in about 15 seconds.

Easy Installation and Easy Inspection

Snap-lock installation into an adapter with four precision bumps and an integrated collar. Injectors snap out easily to inspect levels and take specific gravities.

Proven reliability

Patented pressure-activated technology makes the Injector Premier the world's most dependable single point valve.

Low profile

Compact size means the Water Injectors fit on almost any battery.

Rugged construction

There are no exposed parts to break off when the unit is snapped out of the cell. Each Injector is manufactured from tough engineered plastics that are spin-welded to become one piece of plastic. High quality engineered plastics provide maximum chemical resistance.

Protection from water-borne particles

In addition to the filter screen on the water supply, each Injector has its own individual filter. An integrated collar provides added protection from external contaminants, with no need for separate dust covers.

Heat resistant

Will survive high battery temperatures without failing.

No-freeze tubing

The tubing drains surplus water into cells after filling is complete, so the system can be used in cold storage and other freezing environments.

5 year warranty on Water Injectors

Advanced plastics technology and no exposed parts make these Water Injectors durable and long-lasting.

Product Specifications			
Input/Operating Pressure:	25 to 35 psi	Flow rate:	8-10 gpm per string
Acceptable Filling Temperature:	35 ° to 160°F (2° to 71°C)	System exposure Temperature:	-20 ° to 160°F (-29 ° to 71 °c)
Valve body Material:	Polypropylene	Tubing Material:	Proprietary Flexible PVC
Max Valve height above Vent Opening:	1.10 inches (2.79 cm)	Fitting:	US Quarter-Turn & European DIN openings (both require adapters)

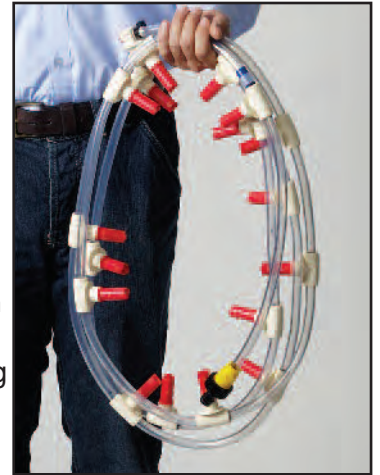


Water Injector Systems™ can be ordered in one of two ways:

1. Instant-Install™: Fully assembled, Custom Fit
2. Semi-assembled: Flexible Fit, Easy to Install

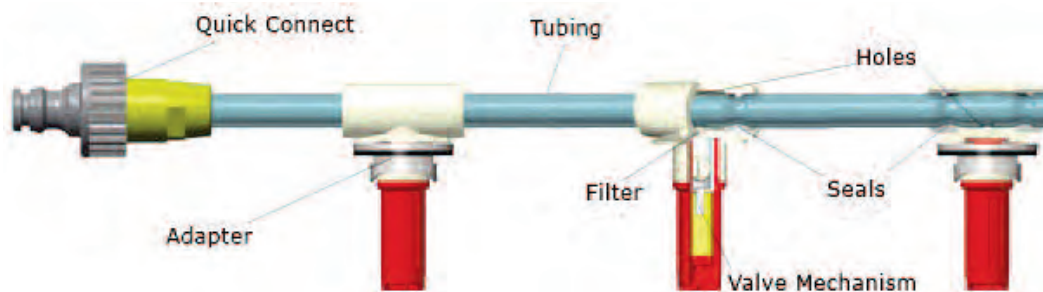
Instant Install option:

Instant-Install is a fully assembled system – revolutionary in the battery industry. The entire Injector string is assembled in our factory, complete in every detail, matched to and ready to click on to a specific battery type. It can be installed on a battery completely in about 3 minutes, by unskilled labor. Installation can occur either in a battery factory at production time or on site, simply by snapping the Injectors into the cells.



Instant-Install is most valuable where multiple, identical batteries are to be fitted with Injectors. Consider the time saved if several hundred batteries are to be fitted. This is the case in many large warehouses and distribution centers. Another benefit of Instant Install is that there is only one part number for the entire assembly, simplifying the customer's purchasing and inventory control procedures.

The tubing is continuous, with holes punched at the Injector locations. Twin seals prevent water leakage from the tubing even at high pressure; in fact, the higher the pressure, the better the seal. This exclusive construction has been proven in the toughest applications for over 15 years; it has simply eliminated tubing blowing off under pressure.



How to Order:

When ordering Philadelphia Scientific Instant- Install™ Water Injector Systems the product number will always begin with INJ-P followed by the number of cells and then the specific drawing number e.g. INJ-P12-619 or INJ-P18-809. Please refer to our website www.phlsci.com/layouts for a complete and up to date listing of our Instant Install layouts and part numbers.

Semi-assembled option:

The Semi-assembled option is similar to Instant Install, however holes in the tubing do not come already punched and ready to fit to a particular battery type. Instead the installer must punch holes in the tubing to fit each system (punch tool available).

This Semi-Assembled option is more flexible than Instant Install because it can be used on any battery with the correct, or fewer, number of cells. It is most useful where there are a variety of battery types to convert in the field or prior knowledge of the battery type is not known. We provide battery layout guides for installers to use.

The installer snaps the string of Injectors onto the battery, sliding each Injector along the tubing until the layout is perfect. He then marks the tubing with a pen, moves each Injector aside, punches a pair of holes and then returns the Injector to its marked location. He then trims any excess tubing, attaches the Terminating Injector and that's it. Installation typically takes about 20 minutes per battery.

How to Order:

When ordering Philadelphia Scientific Semi-Assembled Water Injector Systems, the product number will always begin with INJ-S and then followed by the number of cells, e.g. INJ-S12, INJ-S18, INJ-S24. 40 cell batteries require (2) 20-cell systems.

You have	Order Part Number
6 cell (12 Volt) battery	INJ-S6
9 cell (18 Volt) battery	INJ-S9
12 cell (24 Volt) battery	INJ-S12
18 cell (36 Volt) battery	INJ-S18
20 cell (40 Volt) battery	INJ-S20
24 cell (48 Volt) battery	INJ-S24
36 cell (72 Volt) battery	INJ-S18 (2 systems required)
40 cell (80 Volt) battery	INJ-S20 (2 systems required)

Ordering Examples:

If you know the number of cells, number of plates, and the tray size:

"I have a 12-85-13 battery and the tray size is approximately 30.76 inches long x 13.00 inches deep"

Then order an Instant Install Water Injector System: INJ-P12-619

An INJ-P12-619, is a Water Injector System layed out specifically to fit a 12-cell 13 plate battery with a tray size of 30.76"x13.00"

All Injector holes will be punched to match the dimension of that battery and the system comes with a diagram of the layout to make it simple to install. For a complete and up to date listing of Instant Install layouts go to www.phlsci.com/layouts. We have over 300 layouts waiting for you to use.



If you know the number of cells, but not the number of plates or the tray size:

"I have a 12-cell battery"

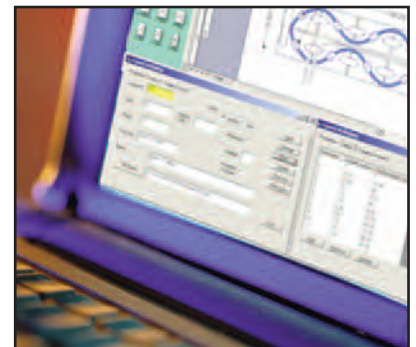
Then order a Semi-Assembled Water Injector System: INJ-S12

An INJ-S12, is a 12-cell semi-assembled Water Injector System. Semi-assembled means all but one of the Water Injectors are already on the tubing. While a semi-assembled system takes about 20 minutes longer to install, it is infinitely more flexible. A 12-cell semi-assembled system will fit nearly any battery you encounter. This makes semi-assembled systems great to keep as a stock item. It is also very convenient for service personnel on the road.

If you know the number of cells, number of plates, and the tray size, but there is no corresponding layout for your battery:

Request a layout: 10 of these must be ordered to create a new layout.

Give our customer service department the number of cells, plates and tray size and a drawing of the battery and our engineering department will create a layout for this battery. Again, there is a ten string minimum order for a new layout.

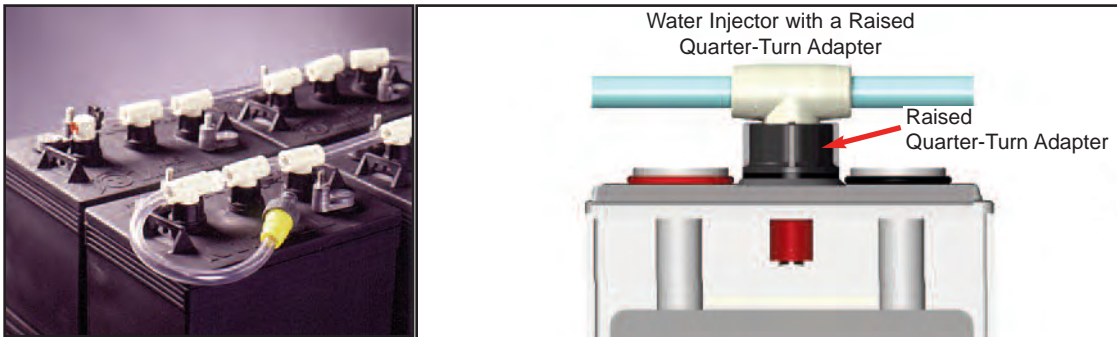


Additional Installation Options:

Raised Adapters:

Used to fit the Water Injector System™ to golf cart type batteries

The speed and reliability that have made the Philadelphia Scientific Water Injector System the favored choice for lift truck batteries is available for smaller electric vehicle batteries. Walkie, utility vehicle, scrubber, sweeper, golf cart, and other batteries with standard quarter-turn openings can all be fitted with the Water Injector System™ using our Raised Adapters. These adapters are 5/8" high and fit all bayonet style vent openings. When used with standard length Injectors, you can install an Injector System on any battery with a quarter turn vent opening that does not have much head space in the cell, e.g. golf cart batteries. Raised adapters are available on Semi-Assembled systems to allow you to customize your system. Raised adapter systems can be ordered by using the suffix R at the end of the part number, i.e. INJ-S12R.

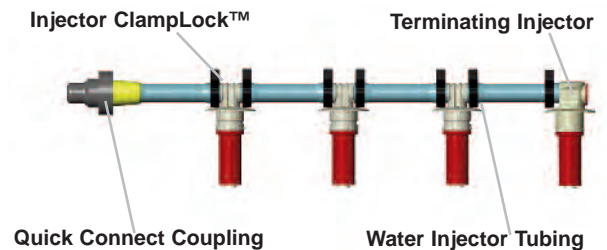


Injector ClampLock:

The cost-saving, self-assembly version of the Water Injector System

If you're a do-it-yourselfer looking to reduce up-front costs, or if you're not sure about the exact battery size or type you will be fitting, choose the Injector ClampLock:

- Same patented, reliable internal mechanism as our standard Water Injector System
- Barbed fittings with locking collars secure the tubing onto the Injector
- All system parts bulk packaged in convenient quantities for typical installations
- Can be retrofitted to all existing quarter-turn adapters
- Self-assembly allows for custom field installations
- Bulk packaging and do-it-yourself assembly lowers up-front costs



Part	Qty	Part ID
Injector ClampLock	1	INJ-CL1
	120	INJ-CL120
Terminating Injector	1	INJ-447
	10	INJ-TL10
Water Injector Tubing	25 ft	INJ-198
	500 ft.	INJ-495
Quick Connect Coupling	1	INJ-CP
	10	INJ-CP10
	25	INJ-CP25

The ClampLock Injector System is shipped with 120 ClampLock Injectors, 10 Terminating Injectors, 10 Quick Connects and a 500 foot roll of tubing. Be sure to order each part in the system. As a convenience for repairs, we also sell single items.

Water Injector System™ Services:

Philadelphia Scientific Injectors have proven to be so reliable and durable that they frequently out-last the battery they are on. When it's time to replace the battery, the Injectors can be reconditioned.

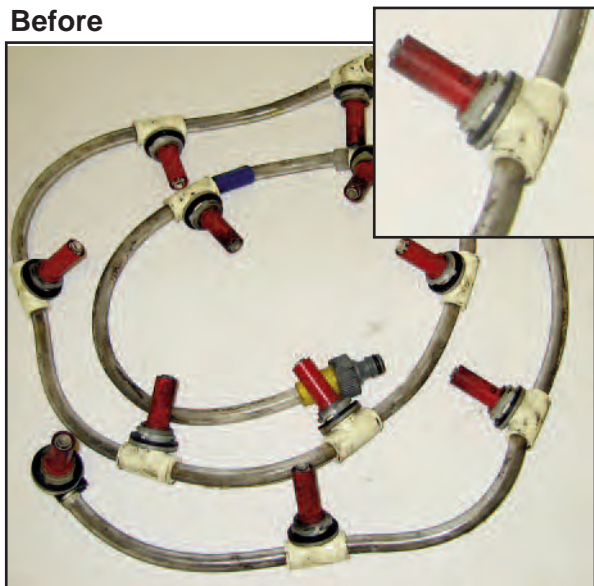
Reconditioning of Injectors

Philadelphia Scientific offers reconditioning service on all Injector products:

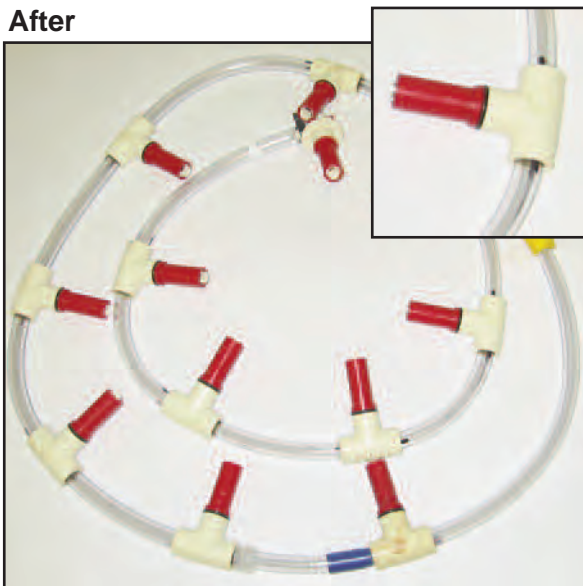
- No time limit. The system does not have to be within the five-year warranty period.
- Injector Strings with or without serial numbers.
- Philadelphia Scientific will even recondition loose Water Injectors and return them to you as complete Water Injector Systems-as many as possible from the number of Injectors sent in.
- There is no limit to the number of times an Injector can be reconditioned.

Reconditioning was developed because Water Injectors frequently out-last the batteries they are on. When it is time to replace the battery, it is not necessary to purchase a new string of Injectors. For a small service fee, you can get a product that looks and performs like new; including an additional 1-year warranty to the current five year warranty period on any Water Injector reconditioned with a serial number. Any loose Water Injectors or Injector Systems received without a serial number will receive a one-year warranty from the date of reconditioning.

Before



After



Reconditioning includes the following:

- Injectors cut from tubing and tubing discarded.
- Washing of Injectors and 1/4 turn adapters.
- Each Injector will pass the same extensive quality control process used for a new product
- Re-string Injectors on new tubing.
- Replace any parts necessary, including broken Injectors.

Re-stringing of Injectors

If you find that holes have been punched incorrectly or tubing cut too short on a new Injector installation, you can request to have the Injectors put on new tubing. This service is intended for strings that have not been put into service and were purchased within the last 90 days. Due to the difficulty of stringing Injectors on new tubing, it is not recommended that you attempt to do this by hand.

Re-Stringing includes the following:

- New tubing.
- Labor to re-string the Injectors.

**Contact Philadelphia Scientific
Customer Service for more
information or to obtain either of
these services.**

215.616.0390



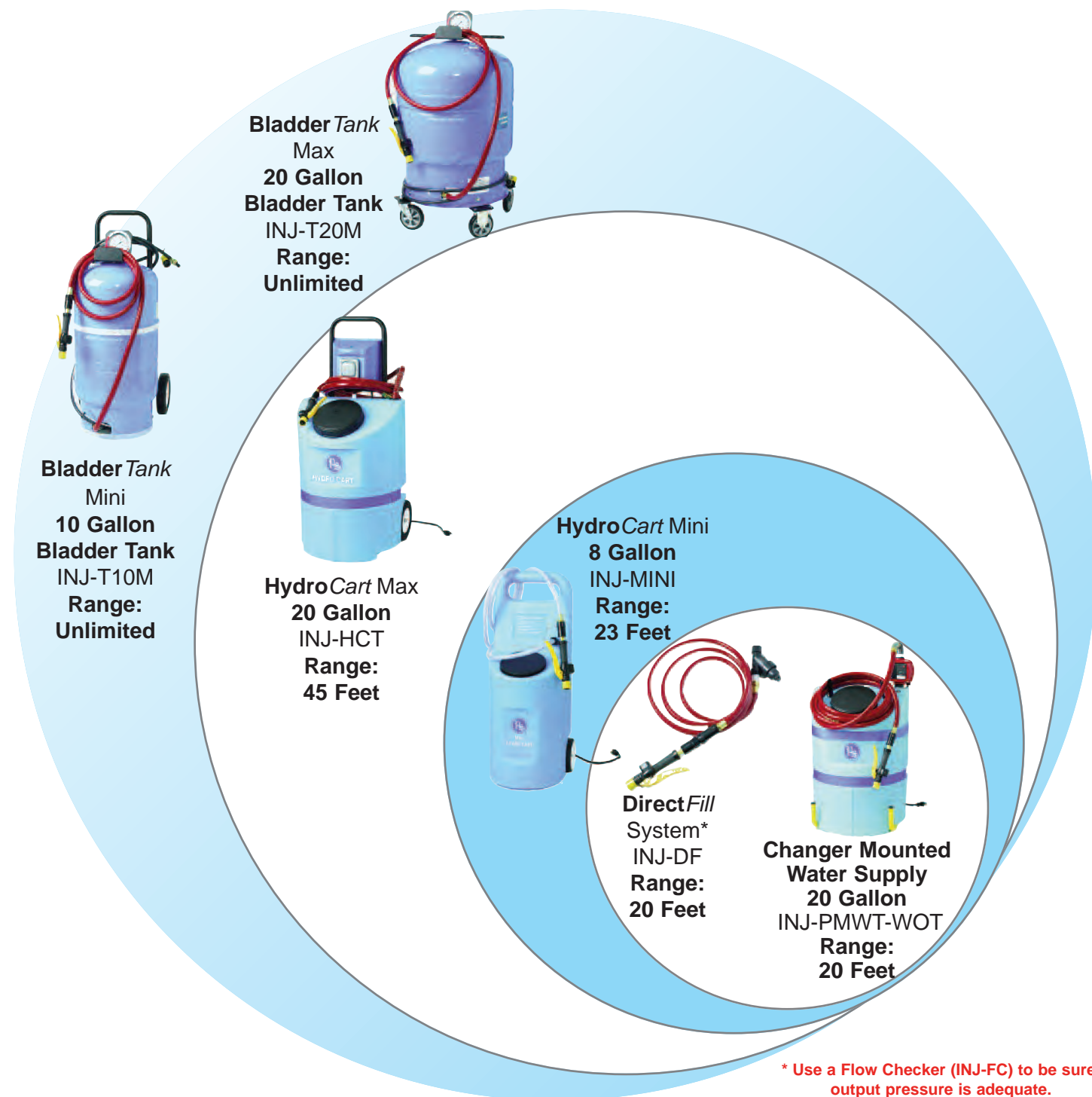
Injector Water Supplies

To achieve their superior speed and reliability, the Water Injector System™ must be supplied with adequate water pressure. However, this is not a difficult requirement to meet. Water Injectors require a minimum 25 psi of flowing water at a rate of 8 gallons per minute. We offer many compatible water supplies to make sure you can supply the correct water pressure wherever you water batteries.



Water Injector Systems™ fill quickly so they need a lot of water at the correct pressure. The Water Injector System requires 25-35 psi and 8-10 gallons of water per minute. If the flow is inadequate, the Injectors will not shut off. A simple gravity-fill tank or a standard garden hose from a faucet will not work. You must use one of our many matching Water Supply Systems.

We have developed a wide variety of world class water supplies to provide the ideal fit for every application:





Part No.
INJ-HCT

HydroCart Max

Heavy Duty Features:

- Handles like a hand truck
- Sturdy 20 gallon polypropylene tank
- On/off switch and power indicator located on front of unit
- 45 feet of total reach — 25 foot power cord plus 20 foot 5/8" high output industrial hose
- Robust submersible pump provides the volume and pressure required by Water Injectors

Easy to Use:

- Fill the tank with deionized water
- Plug into any 110 VAC outlet
- Switch activates pump
- Connect to the Injector System and open the Instant Valve Pro
- Flow indicator tells you when the Injectors have shut off and it is time to disconnect

Product Specifications

Part No.	INJ-HCT	Output hose:	20 ft
Capacity:	20 gallons	Power cord length:	25 ft.
Range:	45 feet	Wheel size:	8 in. ball bearing
Height:	45 in.		
Width:	20 in.		
Empty weight:	64 lb.	Electrical Requirements:	8.5 amps 110 VAC

HydroCart Mini

Features:

- Value model of the larger **HydroCart**
- Designed for small to mid-range operations
- Easy to transport to remote locations

Features:

- Handles like a hand truck
- 23 feet of total reach — 13 foot power cord and 10 foot kink resistant hose
- On/off switch on rear of unit
- Sturdy 8 gallon polypropylene tank
- Instructions printed right on the unit
- Robust submersible pump provides the volume and pressure required

Easy to Use:

Just fill the tank with deionized water

Product Specifications

Part No.	INJ-MINI	Output hose:	10 ft hose
Capacity:	8 gallons	Power cord length:	13 ft.
Range:	23 feet	Wheel size:	8 in.
Height:	35 in.		
Width:	15 in.	Electrical Requirements:	8.5 amps 110 VAC
Empty weight:	32 lb.		



Part No.
INJ-MINI



Part No.
INJ-T10M

Bladder Tank Mini

Features:

- Unlimited range
- Requires no power
- Sturdy 10 gallon heavy duty steel tank
- Handles like a hand truck
- Fill by attaching the input hose of your building's water supply with the Quick-Connect provided
- When the gauge indicates the tank is full, disconnect the input hose
- We recommend using deionized water

Tank capacity based on your pressure	
Input Pressure	Tank Capacity
80 PSI	10 US Gal
70 PSI	9.5 US Gal
60 PSI	8 US Gal
50 PSI	6 US Gal

Product Specifications			
Part No.	INJ-T10M	Output hose:	10 ft
Capacity:	10 gallons	Wheel size:	8 in. ball bearing
Range:	Unlimited		
Height:	41 in.		
Width:	17 in.	Note:	
Empty weight:	59.9 lb.	Water pressure below 50 PSI	will require a booster pump.
Input hose:	9 ft.		

Bladder Tank Max

Features:

- Unlimited range
- Requires no power
- Sturdy 20 gallon heavy duty steel tank
- Handles like a hand truck
- Fill by attaching the input hose of your building's water supply with the Quick-Connect provided
- When the gauge indicates the tank is full, disconnect the input hose
- We recommend using deionized water

Tank capacity based on your pressure	
Input Pressure	Tank Capacity
80 PSI	20 US Gal
70 PSI	19 US Gal
60 PSI	16 US Gal
50 PSI	12 US Gal

Product Specifications			
Part No.	INJ-T20M	Output hose:	10 ft
Capacity:	20 gallons	Wheel size:	8 in. ball bearing
Range:	Unlimited		
Height:	34 in.	Note:	
Width:	24 in.	Water pressure below 50 PSI	will require a booster pump.
Empty weight:	84 lbs.		
Input hose:	9 ft.		



Part No.
INJ-T20M

– Use a Flow Checker (INJ-FC) to be sure output pressure is adequate, in order to use a Direct Fill System with the Water Injector System™.



Part No.
INJ-DF

DirectFill System

Features:

- 20 foot rugged industrial hose
- Sediment filter
- Pressure regulator
- Instant Valve Pro shutoff mechanism with built-in flow indicator

Easy to Use:

- Connect to the Injector System and open the Instant Valve Pro
- Flow indicator tells you when the Injectors have shut off and it is time to disconnect

Product Specifications

Part No.	INJ-DF	Note:
Range:	20 ft.	Isolation valve at source recommended
Empty weight:	6.5 lbs.	
Output hose:	20 ft	Use a Flow Checker (INJ-FC) to qualify water source.

Changer Mounted Water Supply

Features:

- Sturdy 20 gallon polypropylene tank cradled in a powder-coated industrial steel frame
- On/off switch and power indicator located on controller on top of unit
- 20 foot of 5/8" high-output industrial hose
- Fits most brands of Battery Changers
- Robust submersible pump provides the volume and pressure required by Water Injectors
- Flow control prevents run dry situations and shuts off the pump after 10 seconds of non-use

Easy to Use:

- Fill the tank with deionized water
- Connect to the Injector System and open the Instant Valve Pro
- Flow indicator tells you when the Injectors have shut off and it is time to disconnect

Product Specifications

Part No.	INJ-PMWT-WOT	Output hose:	20 ft
Capacity:	20 gallons	Power cord length:	5 ft.
Range:	20 feet		
Height:	41 in.		
Width:	29 in.	Electrical Requirements:	
Depth:	27 in.	8.5 amps 110 VAC	
Empty weight:	68 lb.		

Part No.
INJ-PMWT-WOT



Part No.
INJ-BP



Booster Pump

For use with the Philadelphia Scientific Mobile Bladder Tanks INJ-T10M, INJ-T20M & CRT-T10G

The Booster pump is used when the in-plant water pressure is not high enough to completely fill a bladder tank. It can also be used to pump water from a non-pressurized water source such as bottles of distilled water into a bladder tank. It **cannot** be used to fill the Injector System directly since it does not have a high enough flow rate.

A water resistant electrical box encloses a diaphragm demand-pump. The pump delivers 1.5 gallons per minute and automatically turns off when the output pressure reaches 80 psi. The unit is wall mountable and requires a 110V A/C outlet. The unit features a 15 foot input hose.

Product Specifications

Part No.	INJ-BP	Output hose:	9 ft.
Height:	12 in.	Input hose:	15 ft
Width:	12 in.	Power cord length:	6 ft.
Depth:	7 in.	Flow Rate:	1.5gpm
Empty weight:	13.0 lb.		



Visit www.phlsci.com/support for product anatomy diagrams that feature replacement part numbers and descriptions along with product instructions.

Replacement Parts for Philadelphia Scientific Water Injector Systems™



ACC-031 Single
Hydrometer, 1100-1300 Specific Gravity
Glass



INJ-095 3 Pack
Simulator Caps for Water Injector™ Flow
Checker, INJ-FC



INJ-127 24 Pack
Replacement Washer for Quarter-Turn
Adapter



INJ-198 25 foot roll
Tubing for Water Injector™ Systems



INJ-202 1-36 Yd Roll
Water Injector™ Installation Tape



INJ-212 25 Pack
Tubing Clamp, Ratchet Type



INJ-214 Single
Water Injector™ Repair Coupling
includes 2 collars



INJ-250 6 Pack
Water Injector™ Quarter-Turn
Vent Adapters



INJ-253 6 Pack
Water Injector DIN or Push-Fit Vent
Adapters



INJ-311 Single
Water Injector™ Tubing Punch



INJ-447 Single
Terminating Injector
includes 1 collar



INJ-465 12 Pack
Repair Coupling includes 2 collars for
each repair coupling

Replacement Parts for Philadelphia Scientific® Water Injector Systems™



INJ-472 Single
Water Injector™ Input Male Quick-Connect
x Female Hose Thread with Check Valve



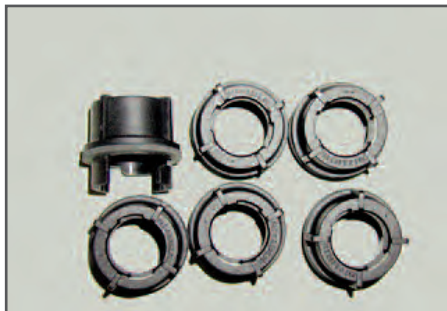
INJ-495 500 foot Roll
Water Injector™ Tubing (1/2" OD)



INJ-532 Single
Water Injector™ with Extended Diffuser



INJ-534 Single
Dual Barb Input Water Injector™ with 2-
Clamps



INJ-536 6 Pack
Raised Water Injector™ Quarter-Turn
Vent Adapters



INJ-585 Single
Input Coupling with Seal Cap and Tether



INJ-601 Single
Collar Installation Tool



INJ-608 25 Pack
Water Injector™ & Stealth™ Float Collar



INJ-613 3 Pack
Wye Fitting Water Injector System™ with
3 collars for each Wye Fitting



INJ-615 10 Pack
Wye Fitting Water Injector System™ with
3 collars for each Wye Fitting



INJ-CL1 Single
Water Injector™ ClampLock™ with 2-
Collars and Quarter-Turn Adapter



INJ-CL120 120 Pack
Water Injector™ ClampLock™ with
Collars and Quarter-Turn Adapters

Replacement Parts for Philadelphia Scientific® Water Injector Systems™



INJ-630 25 Pack
Water Injector™ Input Male Quick-Connect
x Female Hose Thread with Check Valve



INJ-CP Single
Quick-Connect Male, Female Fitting &
Ferrule, Input for Water Injector Systems™



INJ-CP10 10 Pack
Quick-Connect Male, Female Fitting &
Ferrule, Input for Water Injector Systems™



INJ-CP25 25 Pack
Quick-Connect Male, Female Fitting &
Ferrule, Input for Water Injector Systems™



INJ-FC Single
Water Injector Flow Checker, used for
qualifying water sources.



INJ-L1 Single
Water Injector



INJ-RTK Single
Installation Tool kit for Raised Adapters



INJ-RWR Single
Installation Wrench for Raised Adapters



INJ-TK Single
Installation Tool kit for Water Injector
Systems™



INJ-TL10 10 Pack
Terminating Injector, Bulk Package, with
10-collars



INJ-WR Single
Installation Wrench for Quarter-Turn
Adapters

Replacement Parts for Water Supplies for Water Injector Systems™



ACC-034 6 Pack
Quick Connect Coupling, Female x
Female Hose Thread with Check Valve



ACC-036 Single
Gauge Assembly Kit for Bladder Tanks



ACC-037 6 Pack
Quick Connect Coupling, Male x Female
Hose Thread



ACC-038 Single
Check Valve for Input Hose



ACC-040 Single
Wheel Kit For 10-Gallon Bladder Tanks



INJ-048 Single
Pump, 115 Volts, AC For Booster Pump
Part ID. INJ-BP



INJ-065 Single
Caster, Swivel, 5"



INJ-066 Single
Caster, Rigid, 5"



INJ-070 Single
Heavy Duty Red Output Hose,
10' Length



INJ-079 Single
Input Hose, with ACC-038 (Check Valve
And Male Quick Disconnect)



INJ-122 Single
Sediment Filter, for INJ-DF & FLT-DL,
connects to Pipe thread (3/4: NPT)



INJ-123 6 Pack
Hose Clamp, 3/8"

Replacement Parts for Water Supplies for Water Injector Systems™



INJ-432 Single
1" Tee, PVC for INJ-T10M w/ Hose And
Regulator, Ser. number 2006944 & lower



INJ-434 Single
Tee, PVC, for INJ-T20M With Clear
Hose And Regulator



INJ-435 Single
Pressure Regulator, 35 P.S.I., Serial #
95195 and lower



INJ-524 Single
Elbow, Pump, Male, 3/8" (Serial # 00215
and higher)



INJ-527 6 Pack
Quick Disconnect, Female X Female
Hose Thread w/o check valve



INJ-540 Single
Replacement Submersible Pump for All
A/C Powered Injector Water Supplies



INJ-541 Single
Hydrotonic Control Unit For Changer
Mounted Water Supplies



INJ-542 2 Pack
1" Barbed Fitting With Clamp For
Changer Mounted Water Supplies



INJ-543 Single
1" FPT Coupling For Changer Mounted
Water Supplies



INJ-544 Single
Kink Protector Hose For Changer
Mounted Water Supplies



INJ-545 Single
1" ID Tubing Reinforced For Changer
Mounted Water Supplies

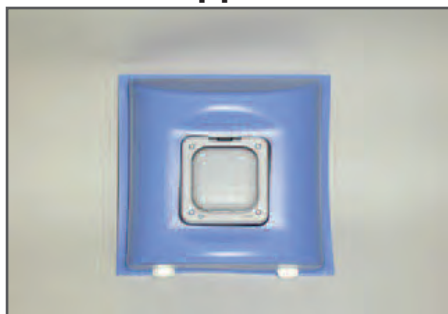


INJ-546 Single
3/4" Brass Fitting With 1 X 3/4" Bushing

Replacement Parts for Water Supplies for Water Injector Systems™



INJ-555
Hose Assembly For **HydroCart** Max
(INJ-HCT)



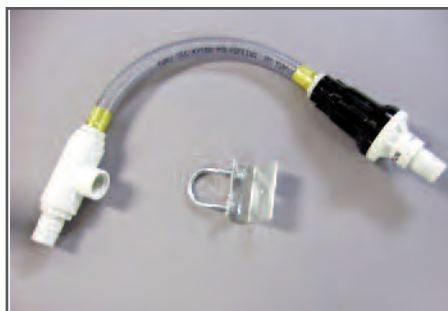
INJ-559 Single
Switch Cover Assembly For **HydroCart**
Max (INJ-HCT)



INJ-562 Single
Tank Cap For **HydroCart** Max (INJ-HCT)



INJ-607 Single
Instant Valve Pro with built-in flow
indicator (includes INJ-527)



INJ-618 Single
Tee, 3/4", w/Regulator, INJ-T10M Serial
Number 2006945 and higher



INJ-623 Single
Replacement Hose Assembly For
HydroCart Mini (INJ-MINI)



INJ-624 Single
Barbed Fitting to **HydroCart** Max and
Mini (INJ-HCT) (INJ-MINI)



INJ-640 Single
Wheel Kit for **Bladder Tank** Max
(INJ-T20M)



INJ-645 Single
Regulator with Hose Assembly for **Hydro**
Cart Max and Mini. Includes INJ-624



INJ-FC Single
Water Injector Flow Checker, used for
qualifying water sources

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Stealth Watering System™

The lowest profile watering system on the market.



The Stealth Watering System™ is a float-based, single-point watering system that precisely fills all battery cells to the same level simultaneously. It makes battery watering safe, easy and affordable and is perfect for installations of 5 to 25 batteries.

The Stealth Watering System™ incorporates many unique features that make it the best in its class and the most convenient to install:

Fastest tubing installation: Push-fit tubing ports - a unique design feature - make tubing installation fast, easy and secure. Secure tubing by simply pushing tubing into ports. Tubing is released by pushing on white collar.

Widest operating pressure range: Operating pressure range is from 3 to 45 psi.

Abuse-resistant tubing: The system tubing is kink and crush-resistant. With a small bend radius, it fits the smallest cells easily, including 5-and 7-plate batteries.

Unlike other similar systems, the Stealth Watering System™ makes multiple float sizes unnecessary. The system's unique design incorporates a one-size-fits-all philosophy to ensure that all battery cells are filled to the same level simultaneously. This means less inventory to buy or stock.

Convenience. Efficiency. Economy. Safety. Just what you expect from Philadelphia Scientific, the leader in industrial battery innovation!

What does a Stealth Watering System™ include?

- 1-Stealth Watering System™ valve per cell (2 of these will have factory installed End Plugs; use these to terminate the system.)
- 1-Water Input & Filter Assembly.
- 1-Coil of Clear PVC Tubing-one foot of tubing per cell.
- Black Polypropylene Cable Ties.
- Instruction Booklet



24-Cell Stealth Watering System™ Kit for 48-Volt Batteries
Use PS Part ID: FLT-K24

The Stealth Watering System™ is designed to sit lower than the intercell connectors when installed on a battery. This means reduced damage from the battery's cables as they move across the top of the battery.


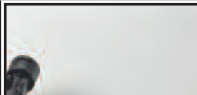
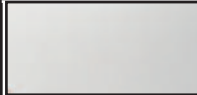



Product Specifications			
Input/Operating Pressure:	3 to 45 psi	Flow rate:	0.20 gpm per valve
Acceptable Filling Temperature:	35 ° to 160°F (2° to 71°C)	System exposure Temperature:	-20 ° to 160°F (-29 ° to 71 °c)
Valve body Material:	Polypropylene	Tubing Material:	Proprietary Flexible PVC
Max Valve height above Vent Opening:	0.60 inches (1.52 cm)	Fitting:	US Quarter-Turn & European DIN openings (DIN requires adapter)

The Stealth Watering System™ is the best watering system on the market for small, light duty applications and the Water Injector System™ remains the best system for heavy duty applications where speed of fill is important. Be sure to choose the most appropriate single point watering system type for the application at hand. Let Philadelphia Scientific help you do this by contacting your local regional sales manager or our customer service department. We are always ready to help you.

How to Order:

Use the table below to select the part number you need to order the Stealth Watering System:

Battery Voltage	Number of Cells	Description	Part Number			
			 Standard Input & Flow-Rite™ Compatible	 BFS™ Compatible	 Hansen™ Compatible	 Watermaster® Compatible
12	6	Stealth Float Kit for 6 cell (12 Volt) battery.	FLT-K6	FLT-K6A	FLT-K6B	FLT-K6C
18	9	Stealth Float Kit for 9 cell (18 Volt) battery	FLT-K9	FLT-K9A	FLT-K9B	FLT-K9C
24	12	Stealth Float Kit for 12 cell (24 Volt) battery.	FLT-K12	FLT-K12A	FLT-K12B	FLT-K12C
36	18	Stealth Float Kit for 18 cell (36 Volt) battery.	FLT-K18	FLT-K18A	FLT-K18B	FLT-K18C
48	24	Stealth Float Kit for 24 cell (48 Volt) battery.	FLT-K24	FLT-K24A	FLT-K24B	FLT-K24C
72	36	Stealth Float Kit for 36 cell (72 Volt) battery.	FLT-K36	FLT-K36A	FLT-K36B	FLT-K36C
80	40	Stealth Float Kit for 40 cell (80 Volt) battery.	FLT-K40	FLT-K40A	FLT-K40B	FLT-K40C

To order any Stealth Float Kit with adapters for Douglas Batteries or European style push-fit vent openings (DIN Vents), insert a "D" in between the K and the number of cells, e.g. FLT-K~~D~~24. You can order DIN vent adapters with any input coupling. To order an 18-cell kit for a Douglas battery for use with a BFS water supply use FLT-K~~D~~18~~A~~. The D is for the DIN vent adapters and the A indicates a BFS input assembly.



Supplies for Stealth Watering System™

Part No.
FLT-DC12



Mobile Watering Cart

Features:

- Easy to use: Instructions printed on the Sturdy 10 gallon polypropylene tank
- Handles like a hand truck
- Easy to Fill and easy to transport to remote locations
- Charge the battery operated unit from any 120 VAC outlet with the provided charger
- Unlimited range
- 9 foot hose attaches with a rugged CPC™ connector

Product Specifications

Part No.	FLT-DC12	Empty weight	27 lb.
Capacity	10 gallons	Output hose	9 ft hose
Range	Unlimited	Wheel size	8 in.
Height	35 in.		
Width	15 in.	Charger	120 VAC

5 Gallon Gravity Tank

Features:

- Easy to Fill
- Easy to mount using optional 100 lb capacity shelf sold separately: Use PS Part ID: FLT-018
- Flow Indicator
- 25 foot hose attaches with a rugged CPC™ connector
- Sturdy 5 gallon polypropylene tank

Product Specifications

Part No.	FLT-GT	Empty weight	7 lb.
Capacity	5 gallons	Output hose	25 ft. hose
Height	22 in.	Note:	
Width	18 in.	Unit must be at least 5 feet	
Depth	15 in.	above the top of the battery.	



Shelf sold separately:
Use PS Part ID: FLT-018

Part No.
FLT-GT

Part No.
FLT-DL



Use Stealth System
Adapter (FLT-015)
to adapt an existing
Injector Water
Supply for the
Stealth Watering
System

Direct Link Sytem for Stealth Float Systems™

Features:

- 20 foot rugged industrial hose with CPC™ connector
- Sediment filter
- Pressure regulator
- Flow indicator

Product Specifications

Part No.	FLT-DL	Isolation valve at source recommended.
Capacity	Unlimited	
Range	20 Ft	
Empty weight	6.5 lb.	
Output hose	20 ft hose	

Replacement Parts for Philadelphia Scientific Stealth™ Watering Systems



FLT-004 Single
Float Input Assembly with Filter, CPC™,
Standard (also Flowrite™ compatible)



FLT-004A Single
Float Input Assembly with Filter, BFS™
compatible



FLT-004B Single
Float Input Assembly with Filter,
Hansen™ compatible



FLT-004C Single
Float Input Assembly with Filter,
Watermaster® compatible



FLT-009 6 Pack
Eng Plug for Stealth™ Watering
Systems



FLT-010 6 Pack
Tee for Stealth™ Watering Systems
includes 6 collars



FLT-012 Single
Tubing Cutter



FLT-020 Single
Replacement Filter for Stealth™
Watering Systems with collars & cable tie



FLT-024 6 Pack
Replacement Std Male CPC™ Input
Coupling, Flowrite™ compatible w/collars



FLT-024A 6 Pack
Replacement Male BFS™ Input
Coupling, includes 6 collars



FLT-024B 6 Pack
Replacement Male Hansen™ Input
Coupling, includes 6 collars



FLT-024C 6 Pack
Replacement Male Watermaster® Input
Coupling, includes 6 collars

Replacement Parts for Philadelphia Scientific Stealth™ Watering Systems



Bulk Pack of 600
FLT-026 600 Pack
Stealth™ Watering System Valve,
Bulk Pack



Bulk Pack of 10
FLT-027 10 Pack
Standard Input Assembly with Filter,
Flowrite™ compatible, Bulk Pack



Bulk Pack of 10
FLT-027A 10 Pack
Float Input Assembly with Filter, BFS™
compatible, Bulk Pack



Bulk Pack of 10
FLT-027B 10 Pack
Float Input Assembly with Filter,
Hansen™ compatible, Bulk Pack



Bulk Pack of 10
FLT-027C 10 Pack
Float Input Assembly with Filter,
Watermaster® compatible, Bulk Pack



FLT-028 100 ft roll
Stealth System Tubing



FLT-030 6 Pack
DIN Vent Adapter for Stealth™ Watering
System



FLT-037 Single
Replacement Std Male CPC™ Input
Coupling, Flowrite™ Compatible w/collar



FLT-037A Single
Replacement Male BFS™ Input
Coupling, includes 1 collar



FLT-037B Single
Replacement Male Hansen™ Input
Coupling, includes 1 collar



FLT-037C Single
Replacement Male Watermaster® Input
Coupling, includes 1 collar



FLT-L1 Single
Stealth™ Float Valve

Replacement Parts for Philadelphia Scientific Stealth™ Watering Systems



FLT-LD1 Single
Stealth Float Valve with DIN Vent
Adapter



INJ-601 Single
Collar Installation Tool



INJ-608 25 Pack
Water Injector™ & Stealth™ Float Collar

To place an order:

Call

215.616.0390

FAX

215.616.0500

EMAIL

Sales@phlsci.com



Visit www.phlsci.com/support
for product anatomy diagrams that
feature replacement part numbers and
descriptions along with product instructions.

Replacement Parts for Water Supplies for Stealth™ Watering Systems



ACC-054 Single
On/Off Switch for CRT-12V & FLT-DC12



CRT-035 Single
Charger, 120VAC to 12 VDC for CRT-12V & FLT-DC12



CRT-036 Single
Charger, Jack for CRT-12V & FLT-DC12, Barrel Type



CRT-040 Single
Pump, 12 VDC for CRT-12V & FLT-DC12



CRT-041 Single
Pump Elbow, 3/8" barb, for CRT-040



CRT-095 Single
Sealed Battery, 12 VDC 7 Ah for CRT-12V & FLT-DC12



FLT-014 Single
5 Gallon Tank only



FLT-015 Single
Converts Injector or Watering Gun Water Supply to a Std Stealth Water Supply



FLT-018 Single
Shelf for Gravity Feed Tank, 100 lb capacity, mount 5' higher than battery top



FLT-032 Single
Flow Indicator (Spinner) for Stealth Water Supplies (includes 2 collars)



FLT-035 Single
Replacement Std Female CPC™ Output Coupling, Flowrite™ Compatible w/collar



FLT-035A Single
Replacement Female BFS™ Compatible Output Coupling with collar

Replacement Parts for Water Supplies for Stealth™ Watering Systems



FLT-035B Single
Replacement Female Hansen™
Compatible Output Coupling with collar



FLT-035C Single
Replacement Female Watermaster®
Output Coupling with collar



FLT-036 6 Pack
Repl. Std Female CPC™ Output Coup-
ling, Flowrite™ Compatible w/6 collars



FLT-036A 6 Pack
Replacement Female BFS™ Compatible
Output Coupling w/ 6 collars



FLT-036B 6 Pack
Replacement Female Hansen™
Compatible Output Coupling w/ 6 collars



FLT-036C 6 Pack
Replacement Female Watermaster®
Output Coupling w/ 6 collars



FLT-039 Single
Reinforced Hose for FLT-DL



GUN-AT Single
Regulator, Gun, 25psi, Black Plastic



INJ-122 Single
Sediment Filter, for INJ-DF & FLT-DL,
connects to Pipe thread (3/4: NPT)



INJ-198 25 foot roll
Tubing for Water Injector™ Systems



INJ-601 Single
Collar Installation Tool



INJ-608 25 Pack
Water Injector™ & Stealth™ Collar

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Battery Watering Guns

No battery room should be without this essential maintenance tool.



Simply connect the Watering Gun to a standard water hose or a Deionizer, put the tip of the gun into the cell and squeeze the ergonomic trigger. The mechanism will automatically shut off at exactly the right electrolyte level. The reliable PS Watering Gun speeds up battery watering, improves filling accuracy, and improves operator safety.

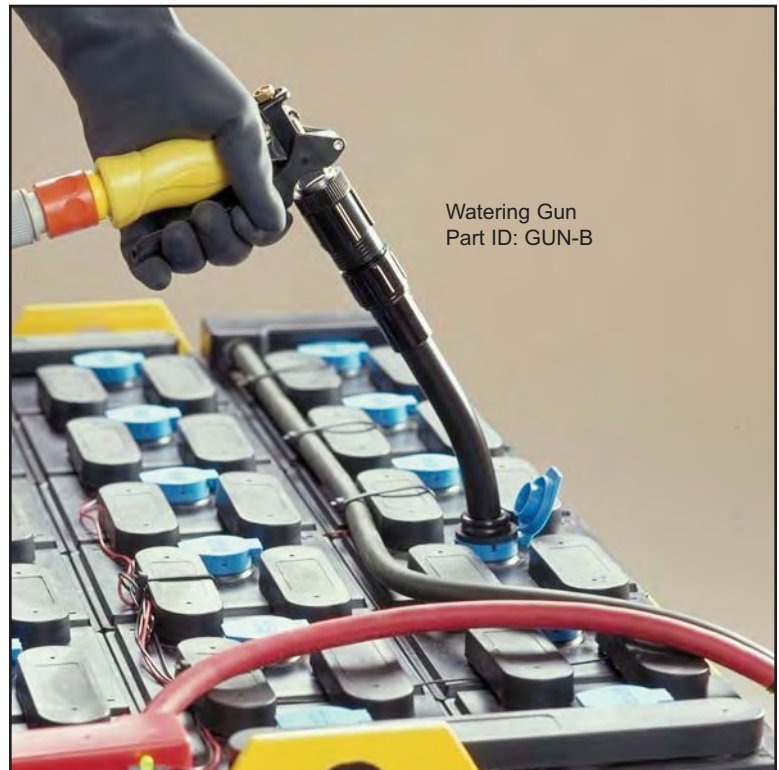
It's no wonder that it has been America's most popular battery maintenance tool for over two decades. Philadelphia Scientific Watering Guns are great for applications where there are five or fewer batteries. For larger applications, the Stealth™ Watering System or the Water Injector System™ should be considered.

All automatic shutoff models have the following features:

Automatic shutoff – The Watering Gun fills cells to precisely the correct level. The shutoff is so positive you can actually feel it.

Safe – It keeps eyes and face away from battery hazards, and reduces backache from bending over batteries. It is insulated to prevent sparking on connectors.

Reliable – The patented shutoff mechanism has been tested to 1 million cycles and proven in hundreds of thousands of tough applications worldwide. Powered by the water itself, it has no solenoids, no electronics and no wiring.



Fast but gentle – The flow rate is about 2 gallons/minute (8 l/m) which is fast enough for the largest cells. Yet the flow is gentle enough to fill a coffee mug.

No installation cost – Attach the Gun to any standard hose (or our Deionizer System) and you have a fully operating battery filling system. A built-in regulator automatically reduces high water pressure so no adjustments are ever needed. The minimum water pressure required is 15 psi (1.0 bar).

Automatic shutoff & pressure regulator

High flow rate – 2 gallon/minute (8 liters/min)

Immediate installation – Attaches to any standard hose with

included quick connect fittings.



Watering Gun
Part ID: GUN-B

Watering Gun Model B

Features:

- Original, best selling Watering Gun
- 7/8 inch (22mm) nozzle diameter fits most industrial, stationary and golf cart batteries
- 30 ° bend
- Compatible with Philadelphia Scientific Flip-Top vent cap
- Compatible with both 9" (GUN-E9) and 24" (GUN-E24) extensions; sold separately
- Attach to a hose, Deionizer or either of our Gun Water Supplies (CRT-12V or CRT-T10G).
- Part Number GUN-B

Watering Gun Model G

Features:

- Narrow 5/8 inch (16mm) nozzle diameter made specially for small vent openings such as truck, bus and diesel starter batteries
- 30° bend
- Compatible with Philadelphia Scientific Flip-Top vent cap
- Compatible with both 9" (GUN-E9) and 24" (GUN-E24) extensions; sold separately
- Attach to a hose, Deionizer or either of our Gun Water Supplies (CRT-12V or CRT-T10G)
- Part Number GUN-G



Watering Gun
Part ID: GUN-G

Watering Gun Model C

Features:

- Same narrow 5/8 inch (16mm) nozzle as Model G Gun, but has a steeper bend in the nozzle for applications where access space is limited
- 60° bend
- Compatible with Philadelphia Scientific Flip-Top vent cap.
- Compatible with both 9" (GUN-E9) and 24" (GUN-E24) extensions; sold separately
- Attach to a hose, Deionizer or either of our Gun Water Supplies (CRT-12V or CRT-T10G).
- Part Number GUN-C



Watering Gun
Part ID: GUN-C



Watering Gun
Part ID: GUN-N

Watering Gun Model N

Features:

- 1/2 inch (13mm) nozzle diameter, fits 'Precision Automation' vent caps
- Compatible with Philadelphia Scientific Flip-Top vent cap
- Compatible with both 9" (GUN-E9) and 24" (GUN-E24) extensions sold separately
- Attach to a hose, Deionizer or either of our Gun Water Supplies (CRT-12V or CRT-T10G)
- Part Number GUN-N

Watering Gun Model R & GUN-R24

Same as the Model C Gun, but equipped with a removable extension. This Gun was developed primarily for railroads to water diesel starter batteries without removing the cells from their compartments.

Features:

- Narrow 5/8 inch (16mm) nozzle diameter made specially for small vent openings such as truck, bus and diesel starter batteries
- 60° bend
- Compatible with Philadelphia Scientific Flip-Top vent cap.
- Attach to a hose, Deionizer or either of our Gun Water Supplies (CRT-12V or CRT-T10G)
- Part Number GUN-R (9" Extension) or GUN-R24 (24" Extension)



Watering Gun
Part ID: GUN-R



Watering Gun
Part ID: GUN-R24

Watering Gun Model S

Features:

- Special Gun developed for watering transparent type stationary batteries only. Gun operates outside the cell and **does not** have automatic shutoff
- Cone shaped nozzle injects water through funnels of the flame arrestor vents, allowing service without removal of vent caps
- Manually adjustable flow throttle
- Includes quick-connect fittings
- Attach to a hose, Deionizer or either of our Gun Water Supplies (CRT-12V or CRT-T10G).
- Part Number GUN-S



Watering Gun
Part ID: GUN-S



Water Sources for Watering Guns

Attach the Philadelphia Scientific Watering Gun to any standard hose and you have a fully operating battery filling system. In situations where the water quality is poor, use a Deionizer. The Philadelphia Scientific Watering Gun is designed to operate directly off of our Deionizer System. We offer two watering carts that work exclusively with the Watering Gun that make them even more flexible and effective. The carts are the perfect solution for:

- When the charging area doesn't have a suitable water supply
- When available pure water is in unpressurized containers like bottles or storage tanks
- When you don't want to drape long hoses across the floor
- Scattered battery locations
- In cold storage operations where a static water supply would freeze



Quick-connect
Part No. ACC-034



Tanker Watering Cart
Part No. CRT-T10G

Hydrofill Watering Cart
Part No. CRT-12V



Deionizer System
Part No. PS-300



Hydrofill Watering Cart

Features:

- Easy to use: Instructions right on the unit
- Easy to Fill: Large Opening
- Easy to transport to remote locations
- Charge the Battery Operated unit from any 120 VAC outlet with the provided Charger
- Handles like a hand truck
- Unlimited range
- 9 foot hose attaches to all Philadelphia Scientific Watering Guns
- On/off switch on rear of unit
- Robust pump delivers water to your Watering Gun

Product Specifications			
Part No.	CRT-12V	Output hose:	9 ft hose
Capacity:	10 gallons	Wheel size:	8 in.
Range:	Unlimited	Charger:	120 VAC
Height:	35 in.		
Width:	15 in.		
Empty weight:	27 lb.		

Tanker Watering Cart

Features:

- Unlimited range
- Requires no power
- Sturdy 10 gallon heavy duty steel tank
- Handles like a hand truck
- Fill by attaching the input hose of your building's water supply with the Quick-Connect provided
- When the gauge indicates the tank is full, disconnect the input hose

Product Specifications			
Part No.	CRT-T10G	Output hose:	10 ft
Capacity:	10 gallons	Wheel size:	8 in. ball bearing
Range:	Unlimited		
Height:	41 in.		
Width:	17 in.		
Empty weight:	59.9 lb.	Very low water pressure may	require a booster pump.
Input hose:	9 ft.		





Flip-Top Vent Caps™

The Philadelphia Scientific Flip-Top vent cap has a patented bayonet design that fits quarter-turn vents but permits a large opening for easier inspection and filling. When a Flip-Top is installed on a cell, it locks in place with a positive detent action that you can feel. This prevents it from vibrating loose during operation of the truck. Great for golf carts too!

Rugged construction

The acid-resistant polypropylene construction is designed to stand up to years of service in the tough world of motive power batteries. Designed to last for the life of your battery.

Built-in acid splash baffle

The inner ring of the Flip-Top combines with the walls of the base to form a baffle that prevents acid splashing from the cell. This will reduce the need to add water and keep the battery surface cleaner.

Wide-mouth opening

Each Flip-Top has an extra wide opening that allows use of a standard Philadelphia Watering Gun. An additional benefit of the large vent opening is that acid level checks are much easier to do.

Self-draining

Any liquid in the lid of the Flip-Top stays in the lid and drains back when the lid is snapped shut.

The Short Flip-Top is approximately 1/2 inch in height and fits all U.S. quarter turn vent openings with a raised boss. It can also be used on all U.S. quarter turn openings in batteries of 17 or more plates.

The Tall Flip-Top is approximately 1 inch in height and fits all U.S. quarter-turn battery vent openings. It can also be used on all U.S. quarter turn openings in batteries of any number of plates. It is more useful on batteries of 15 or fewer plates.



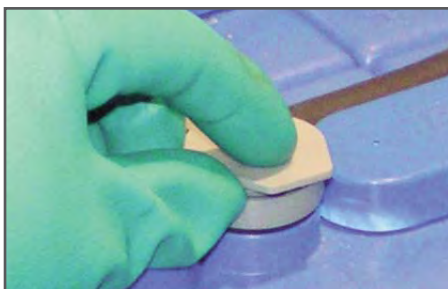
**Philadelphia Scientific
Flip-Top
ACC-FTB**



**Philadelphia Scientific
Tall Flip-Top
ACC-GFTB**

Patent No. 5.993.991

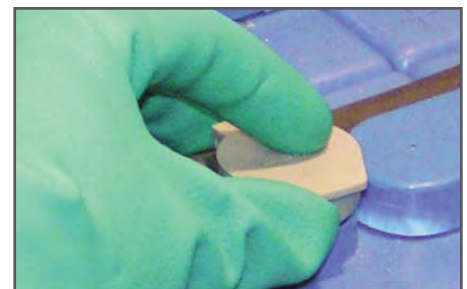
**Philadelphia Scientific Watering Guns and Flip-Top Vent Caps are great solutions for battery maintenance in facilities with 5 or fewer batteries.
Large Facilities should consider a Single-Point Watering Solution.**



Flip Open...



Fill Up...



Snap Shut.

Replacement Parts for Philadelphia Scientific Watering Guns



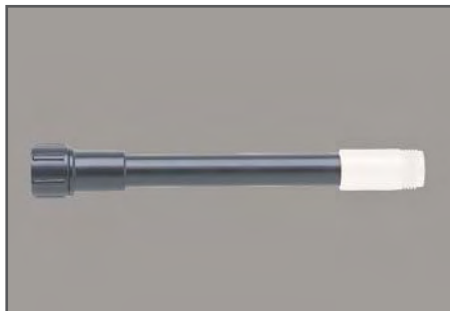
ACC-034 6 Pack
Quick-Connect Female x Female Hose
Thread, with Check Valve



GUN-AT Single
Pressure Regulator for Philadelphia
Scientific Watering Guns w/Auto shutoff



GUN-E24 Single
24" Extension for All Watering Guns



GUN-E9 Single
9" Extension for All Watering Guns



GUN-FB Single
Front End, 7/8" Nozzle, Shallow 30°
Bend



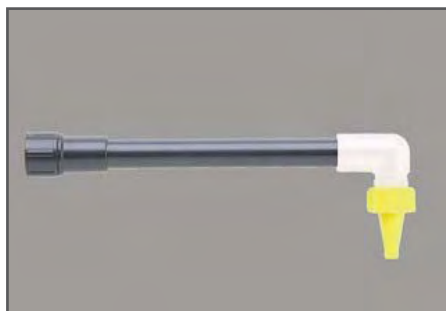
GUN-FC Single
Front End, 5/8" Nozzle, Sharp 60° Bend



GUN-FG Single
Front End, 5/8" Nozzle, Shallow 30°
Bend



GUN-FN Single
Front end, 1/2" Nozzle, No Bend, For
Use with Straw Type Vent Caps



GUN-FS Single
Front End, 90° Bend, Non-Automatic
Shutoff, for Filling Stationary Batteries



GUN-FT Single
Flow Throttle, Manual For GUN-S

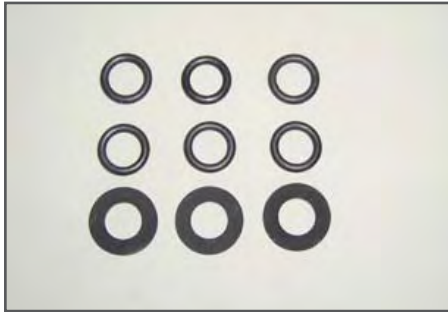


GUN-GF 6 Pack
Quick-Connect Male x Male Hose
Thread

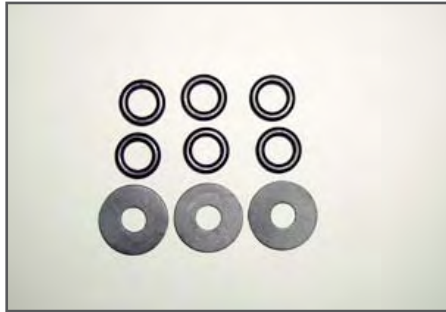


GUN-HC Single
Gun Handle, Yellow, includes male quick
disconnect

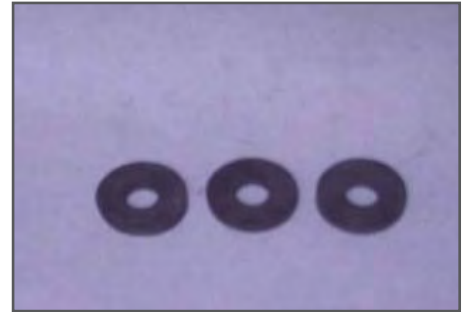
Replacement Parts for Philadelphia Scientific Watering Guns



GUN-OR Set of 3
Level control rings for Gun-B and Gun-G



GUN-ORC Set of 3
Level control rings for Gun-C



GUN-ORN 3 Pack
Level control rings for Gun-N



GUN-QD Quick Disconnect set,
includes 1 of each ACC-034 & GUN-GF

To place an order:

Call

215.616.0390

FAX

215.616.0500

EMAIL

Sales@phlsci.com



Visit www.phlsci.com/support
for product anatomy diagrams that
feature replacement part numbers and
descriptions along with product instructions.

Replacement Parts for Philadelphia Scientific Gun Water Supplies



ACC-034 6 Pack
Quick Connect Coupling, Female x Female Thread with Check Valve,



ACC-036 Single
Gauge Assembly Kit Complete



ACC-038 Single
Check Valve Input Hose for Bladder Tanks



ACC-039 6 Pack
Quick Connect Coupling, Male x Male Thread,



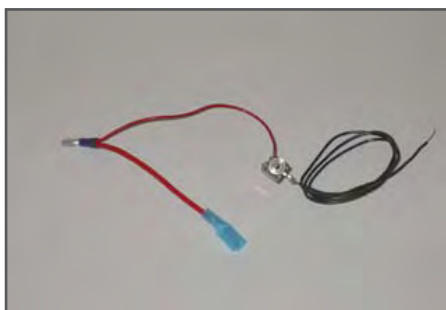
ACC-040 Single
Wheel Kit For 10 Gal Bladder Tank Carts



ACC-054 Single
On/Off Switch for CRT-12V & FLT-DC12



CRT-035 Single
Charger, 120VAC to 12 VDC for CRT-12V & FLT-DC12 Serial# above 20062416



CRT-036 Single
Charger, Jack for CRT-12V & FLT-DC12, Barrel Type



CRT-040 Single
Pump, 12 VDC for CRT-12V & FLT-DC12



CRT-041 Single
Pump Elbow, 3/8"barb, CRT-040



CRT-070 Single
Hose, Output, with Quick Disconnect fitting, 12'



CRT-075 Single
Quick Disconnect, female, hose repair

Replacement Parts for Philadelphia Scientific for Gun Watering Carts



CRT-095 Single
Sealed Battery, 12 VDC 7 Ah for CRT-12V & FLT-DC12



CRT-116 Single
Hose, input, with check valve and male Quick Disconnect



CRT-120 Single
Output Hose with Quick-Connect



CRT-122 Single
Output/ Input Tee with fittings for CRT-T10G produced prior to 07/2006.



CRT-132 Single
Tee 3/4" with Fittings for CRT-T10G produced after 07/2006



CRT-133 Single
Charger, 120VAC - 12 VDC for CRT-12V with Pin Type. Serial# lower than 20062416



CRT-134 Single
Hose Extension for CRT-12V 25 ft



INJ-PG Pressure tester, 100 P.S.I., for testing static pressure



Visit www.phlsci.com/support for product anatomy diagrams that feature replacement part numbers and descriptions along with product instructions.

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Electrolyte Level Indicators

Let your batteries tell you when they need water.

Philadelphia Scientific manufactures the only Patented and UL Classified Electrolyte Level Indicators available: The Original Blinky™ and Smart Blinky™. The use of Blinky and Smart Blinky allows watering on a labor saving "as-needed" basis instead of hit or miss scheduled basis. Moreover, since new batteries require less frequent water addition, Blinkies save even more labor by utilizing the as-needed approach. When used with extended watering battery types, Blinkies are even more indispensable. Both the Blinky and the Smart Blinky are designed to use existing power from the battery itself; the monitors use just a small amount of energy. Both Blinky products are available in multiple probe lengths and can be easily trimmed to a custom length. Like all Philadelphia Scientific products, they are built to withstand the harshest environments. Both Blinkies are manufactured with a low profile, a large & bright LED and made from materials resistant to corrosion from sulfuric acid and are classified by Underwriters Laboratory (UL).

We offer two patented UL Classified Electrolyte Level Monitors: the Blinky™ & the SmartBlinky™. Both of our monitors feature:

Flexible Design

- Monitors are available in multiple probe lengths and can be easily trimmed to a custom length.

Utilize Existing Power

- Powered by the battery itself, the monitors use just a small amount of energy.

Quality Engineering and Manufacture

- Built to withstand the harshest environments.
- Materials are thoroughly resistant to corrosion from sulfuric acid.
- Low profile protects against potential damage from battery cables or other obstacles.
- Large & bright LED is highly visible.
- Corrosion resistant probe.

Satisfaction Guaranteed

- One-year limited warranty.
- Monitors designed to last for the life of your battery.

Inexpensive and Cost Effective

- Savings in time and labor deliver a rapid return on your investment.
- Monitor cost is a minimal addition to the cost of an industrial battery.

Through-the-Cover Installation

- Monitors are installed through the cell cover, not in the vent well.
- Monitors do not interfere with the use of our single-point watering systems or Watering Guns.
- Probe is small enough to fit even the smallest 5 & 7-plate batteries.



Battery Protection

- The Blinky and the Smart Blinky also feature a one-time safety fuse, which offers a failsafe protection against accidental high voltage hook up.

Protect your battery investment & personnel

- Prolong battery life — never let a battery dry out.
- No need to handle anything to check the electrolyte level, so you avoid the dangers of acid wetted parts or looking into a vent well.

Blinky™

Flashing Green = Water Level OK



No Light = Add Water



Product Highlights:

The Blinky™ is a UL classified, probe-mounted LED that is permanently mounted into one cell of a battery. It has a flashing green LED that informs battery maintenance personnel when the battery needs water, and when it does not.

US Patent #5,936,382

Product Specifications	
Part No. ACC-BWM	Power Requirements: 4VDC 60 mA
Weight:	1.5 oz.

Smart Blinky™

Flashing Green = Water Level OK



Flashing Red = Add Water



Product Highlights:

“Smart-Sensing” Technology

The SmartBlinky™ monitors the electrolyte level over a period of time before it “decides” to change indication. This ensures a truer and more reliable signal than older technologies, which have no intelligence and can flicker.

Patent Pending

Remote Mountable Level Probe

The indicator body can be mounted separately from the probe using the provided “P” clip or cable-tie for best visibility.

Product Specifications	
Part No. ACC-SREM	Power Requirements: 4VDC 2.67mA
Weight:	3.2 oz.

Probe Lengths

Using the Right Probe Length

Order the right probe length for the battery that it is being installed onto. The probe should never touch the splash-guard (moss shield) and probe tip should come no closer than 1/8" (3 mm) above the splash-guard. If the probe touches the splash-guard (moss shield) it is too long and must be trimmed. To avoid doing this during installation, order the correct probe length.

Blinky™

ACC-BWMC2 1.73"

ACC-BWMC1 2.00"

ACC-BWM 2.35"

ACC-BWMC4 3.00"

ACC-BWMC3 4.00"

ACC-BWMC5 4.50"

ACC-BWMC6 5.00"

Standard Length

Smart Blinky™

ACC-SREMC2 1.73"

ACC-SREMC1 2.00"

ACC-SREM 2.35"

ACC-SREMC4 3.00"

ACC-SREMC3 4.00"

ACC-SREMC5 4.50"

ACC-SREMC6 5.00"



What does UL Classified mean?

UL does not "approve" products. Rather it evaluates products, components, materials and systems for compliance to specific requirements, and permits acceptable products to carry a UL certification Mark®, as long as they remain compliant with the standards.

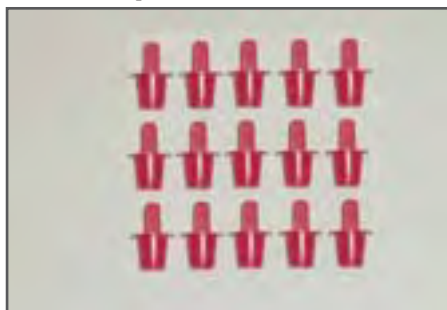


Classified by Underwriters Laboratories Inc. to Electrical Accessory for use in Industrial trucks.

Replacement Parts for Philadelphia Scientific Electrolyte Level Indicators



ACC-022 25 Pack
Grommet, Blinky & Smart Blinky



ACC-023 25 Pack
Electrolyte Monitor Plug



ACC-031 Single
Glass Hydrometer 1100-1300 Specific Gravity



ACC-041 Single
12 mm Drill Bit for Electrolyte Monitor Installation



ACC-044 50 ml
Epoxy Potting Compound for Electrolyte Monitor Installation



ACC-055 10 Pack
"P" Clip, Mounting Bracket for Smart Blinky ACC-SREM



Visit www.phlsci.com/support for product anatomy diagrams that feature replacement part numbers and descriptions along with product instructions.

The most cost effective way to produce water for your industrial batteries.

The use of impure water to water industrial batteries reduces battery capacity and shortens life. Impurities such as platinum, manganese, nickel, copper, iron and chloride salts also increase self discharge. And calcium and manganese compounds commonly found in hard water cause mossing and dendrite growth through battery separators. All of these water impurities are dissolved solids that cannot be removed by conventional filters. With the Philadelphia Scientific Water deionizer, tap water passes through a cartridge containing beds of cationic and anionic resins, which electrostatically remove the impurities. The result is very pure water, comparable to distilled water, that is ideal for watering industrial batteries.




Pressurized System:

Unlike some lab-type systems, the Philadelphia Scientific Deionizer operates at full line pressure. This makes it possible to dispense pressurized, pure water directly from the deionizer.

Purity Light with Dual Color Light Indication:

This purity light monitors the conductivity of the output water continuously and signals when it is time to change the cartridge. There is no better purity control available at any price. The purity light is powered by 2 Standard D-cell batteries that will last for 2 years! Batteries are included.



-  Flashing Green Light- Deionizer is ready to dispense battery water
-  Flashing Red Light- Replace Cartridge
-  No Light- Power Problem. Change Batteries

No need to mount near an A/C power source.



High Capacity:

The cartridge is over 2 feet long and rated for 600 gallons of pure water. Actual output varies with tap water quality.

Ready to Use:

The system comes complete with a mounting plate, one cartridge, Purity Light, hose hanger, quick connects, input and output hoses and 2 D-cell batteries. With an optional Watering Gun you can fill a battery directly from the Deionizer.

Product Specifications	
Part No.	PS-300
Input Hose:	10 Ft
Output Hose:	20 Ft
Empty weight:	27 lb.
Height:	45.5 in
Width:	5.75 in
Depth:	7.50 in
Flow Rate:	0.5gpm (with restrictor installed)
Purity Light Power:	3 VDC (2 D-cell batteries included. Expected life approx 2 years)
Setting:	50ppm Total Dissolved Solids
Replacement Cartridge:	PS-600

**Industrial batteries need water. Battery performance depends on water purity.
Use Deionized Water.**

Well maintained industrial batteries are watered several times a month. During battery charge, the water breaks down to H₂ and O₂. After the water electrolyzes most of the water contaminants remain and will accumulate in the battery. The detrimental effects of contaminants include: increased self-discharge, decreased charge acceptance and excessive gassing, which may lead to water loss. This results in shorter battery run time and shorter battery life.

The Philadelphia Scientific Deionizer removes Ammonia (NH₄), Calcium & Magnesium Oxides (CaO & MgO), Chlorine (Cl), Chromium (Cr), Manganese (Mn), Iron (Fe), Nickel (Ni), Nitrates (NO₃), Nitrites (NO₂), Organic & Volatile Matter. The Deionizer produces water that has less than 50 ppm of total dissolved solids (TDS) which conforms to ASTM Spec D-1888-67 Method A and is perfect for watering an industrial battery.



Filling a Hydro-fill cart with a Philadelphia Scientific Deionizer System.

Using a Philadelphia Scientific Deionizer is the lowest cost method of producing battery water.		
Expected Output and Cost* based on Tap Water Quality		
Purity of Tap Water TDS** (Parts per Million)	Cartridge Output Capacity in Gallons	Cost per Gallon*
50	1440	8¢
75	960	13¢
100	720	17¢
120	600	20¢
150	480	25¢
200	360	33¢
250	288	41¢
*Based on 2008 Suggested List Price for a PS-600 Replacement Cartridge		
**TDS: Total Dissolved Solids		

Replacement Parts for Philadelphia Scientific Deionizer



ACC-034 6 Pack
Quick-Connect Female x Female Hose
Thread, with Check Valve



ACC-035 2 Pack
Hose Bracket, Angled



ACC-037 6 Pack
Quick-Connect Male x Female Hose
Thread



FLT-033 Single
Adapter for Deionizer to water directly to
Stealth Watering System



PS-121 6 Pack
Quick-Connect, Female x Male Thread



PS-122 1 Set
Quick-Connect Set, 1 each of ACC-037
& ACC-034



PS-140 Single
Deionizer Hose, Input, 10 Foot



PS-150 Single
Deionizer Hose, Output, 20 Foot



PS-170 Single
Deionizer Strap



PS-181 2 Pack
Deionizer Bracket, Straight



PS-190 Single
Flow Restrictor, 0.5 GPM for Deionizer
when not using a watering gun.



PS-191 Single
D/C Purity Light with Tee, complete

Replacement Parts for Philadelphia Scientific Deionizer



PS-192 Single
Optional A/C power adapter for DC
purity light



PS-600 Single
Replacement Cartridge, Philadelphia
Scientific Deionizer



PS-PR Single
Pressure Regulator 40 PSI for use with
Deionizer & Stealth Direct Link



Visit www.phlsci.com/support
for product anatomy diagrams that
feature replacement part numbers and
descriptions along with product instructions.

To place an order:

Call

215.616.0390

FAX

215.616.0500

EMAIL

Sales@phlsci.com



Battery room management that extends battery life and effectiveness.

Which battery would you choose?



With iBOS™ you don't have to guess!



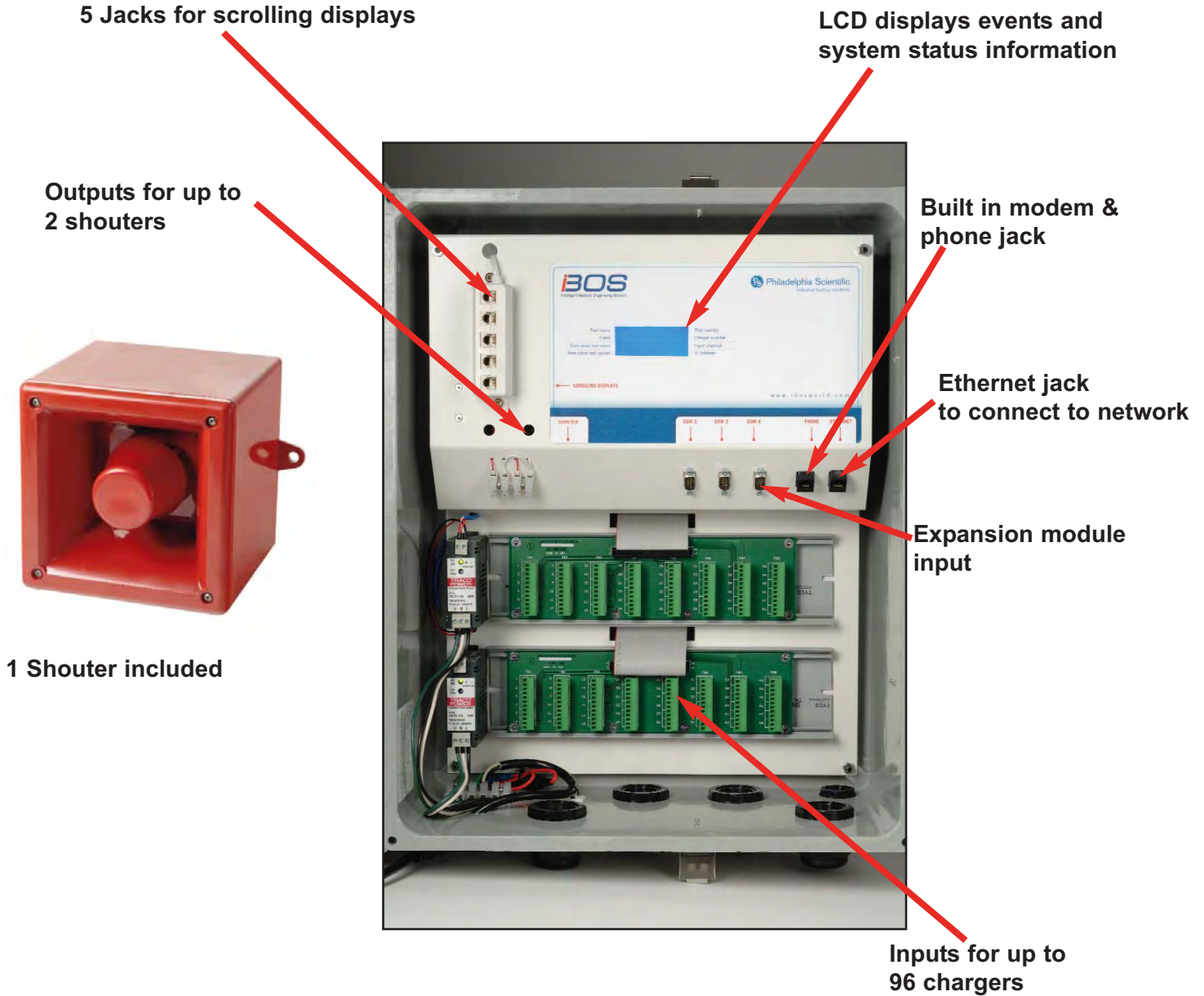
Site tests have shown that if battery selection is left to an operator, 30% of the batteries will be underutilized and 20% will be overused. The result: premature battery failure, shortened run times and lost productivity.

The iBOS™ Intelligent Battery Organizing System monitors all batteries in a pool and eliminates operator judgment in battery selection by determining which battery has had the longest cooling time since charging. Once charged, each battery is placed in queue so the batteries that finish charging first are taken first.

With iBOS the operator only has to read and react by taking the correct battery. Facility Management can view easy to understand reports to help optimize their battery room performance. It is asset management made easy.

System Capabilities

The brain of the iBOS™ is the state-of-the-art controller. This device is connected to the sentinels, the shouter and scrolling displays and collects and organizes all of the data. The controller maintains the queue of charged batteries to let the operator know the correct battery to take . . . and shouts at them when they have selected the wrong battery.

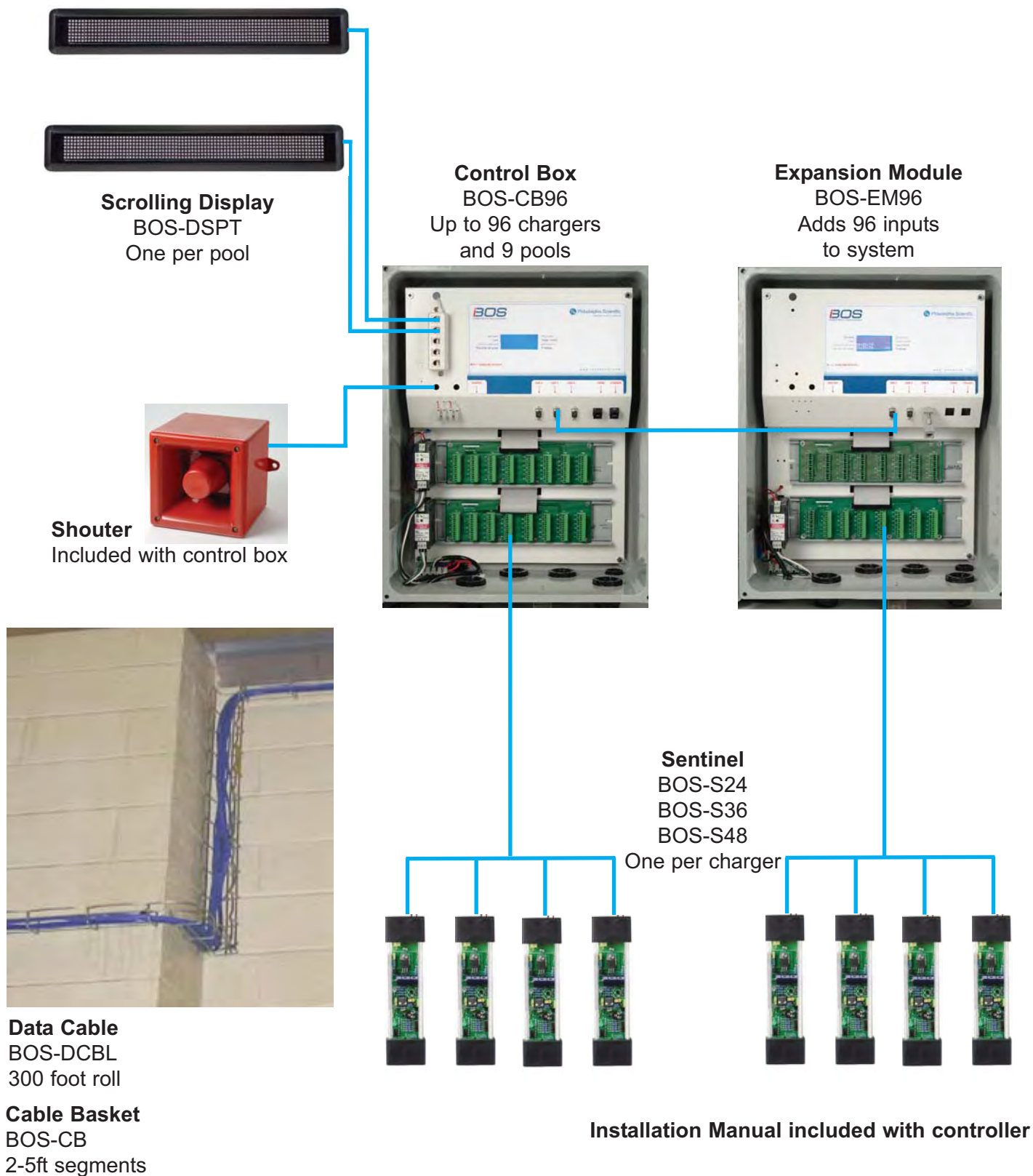


Controller Highlights:

- Accommodates up to 9 pools and 96 chargers
- No pre-configuration required
- Installation Wizard guides the set up of pool names and assignment of chargers. It also checks all Sentinel connections
- Inputs individually configured which means that wiring can be done in any order
- Doesn't lose history if power goes out
- Data uploaded to iBOSworld.com via built-in modem or ethernet connection

System Components

iBOS™ installation is straightforward, but does require pre-planning. The following system diagram shows how the components are related and what is needed for the job.



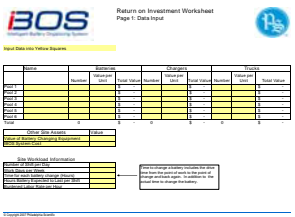
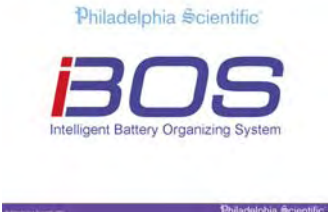
How to Order:


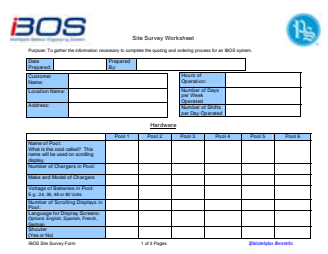


Complete a site survey before ordering iBOS™. This will ensure that you have all of the materials needed for the project. Since all installations are unique to the site, planning the job before the project begins is necessary.

Part	Part Number	Notes
Sentinel	BOS-S24 BOS-S36 BOS-S48	One needed per charger
Control box	BOS-CB96	Up to 96 chargers
Expansion module	BOS-EM96	Adds 96 chargers
Scrolling display	BOS-DSPT	One per pool
Data cable	BOS-DCBL	Estimate 150 ft per charger
Cable basket	BOS-DB	As needed
Installation per Charger	BOS-ISC	Installation per Charger -- 1.5 Hours per Charger Recommended
Commissioning	BOS-CSVC	System Commissioning Service -- Estimated 1 Day per Facility

Sales Tools:

The following materials will help you sell, quote, order and install the iBOS™. Please consult with your Philadelphia Scientific Regional Manager, as they are an excellent source of iBOS information and advice.

 <p>Return on Investment Worksheet Page 1: Data Input</p>	 <p>Philadelphia Scientific iBOS Intelligent Battery Organizing System</p>
iBOS Return on Investment (ROI) Worksheet	iBOS Presentation for System Sellers

 <p>Philadelphia Scientific iBOS Intelligent Battery Organizing System</p>	 <p>BOS Site Survey Worksheet</p>	 <p>iBOS Intelligent Battery Organizing System Contents: -iBOS Presentation (End User) -iBOS Presentation (System Seller) -ROI Worksheet -iBOS Site Survey -Quotation Worksheet</p>	 <p>iBOS Intelligent Battery Organizing System Contents: -iBOS Presentation (End User) -ROI Worksheet -iBOS Site Survey</p>
iBOS Presentation for End Users	iBOS Site Survey	BOS-006 iBOS System Seller CD-Rom	BOS-006C iBOS End User CD-Rom

iBOSworld.com

iBOS continuously monitors battery selection activities and produces three kinds of management reports: Availability, Mispick and Utilization. All three reports are available on the Internet at the www.iBOSworld.com website.

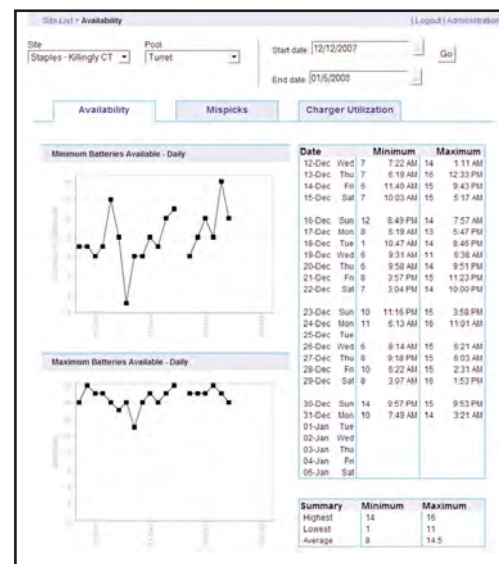
Availability Report:

- Shows daily maximum and minimum battery utilization.
- Used to determine if there are too many or too few batteries in the pool.
- Acts as a budget aid and justification.



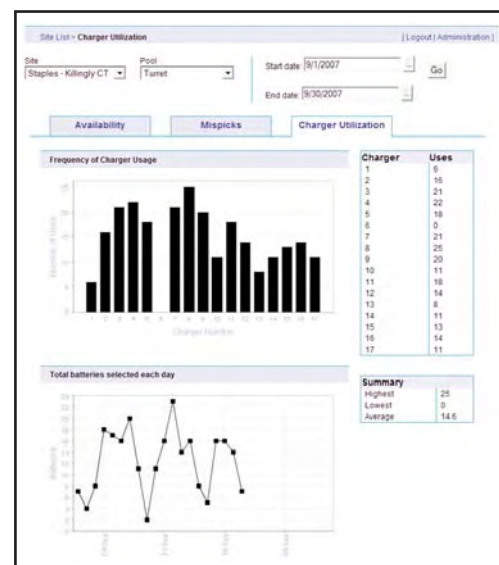
Mispick Report:

- Displays day, date & time of each mispick.
- Differentiates types of mispick.
- Allows for focused supervisory attention.



Utilization Report:

- Details utilization by charger.
- Identifies uneven charger usage.
- Identifies equipment problems:
 - Chargers
 - Roller beds
 - Cables



Access to the iBOSworld website requires a subscription and is available in 1, 3 and 5 year plans. Data is automatically uploaded from the controller to the Internet on a daily basis through a modem or Ethernet connection.

Replacement Parts for Philadelphia Scientific iBOS™



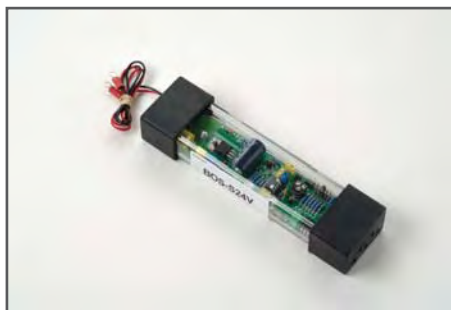
BOS-DB 2-5 foot lengths
Cable Basket 2" Wide x 2" Deep



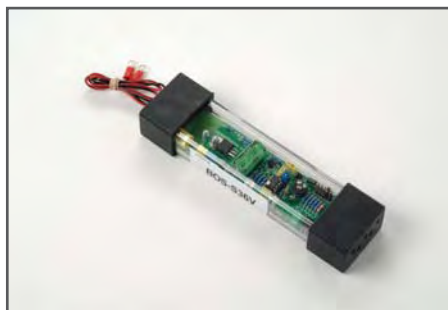
BOS-DCBL-300 Single
iBOS Data Cable, 300 foot roll



BOS-DSPT Single
2" Tri Color Display with power supply



BOS-S24 Single
Sentinel for 24 volt battery charger



BOS-S36 Single
Sentinel for 36 volt battery charger



BOS-S48 Single
Sentinel for 48 volt battery charger



BOS-SH Single
Shouter Alarm