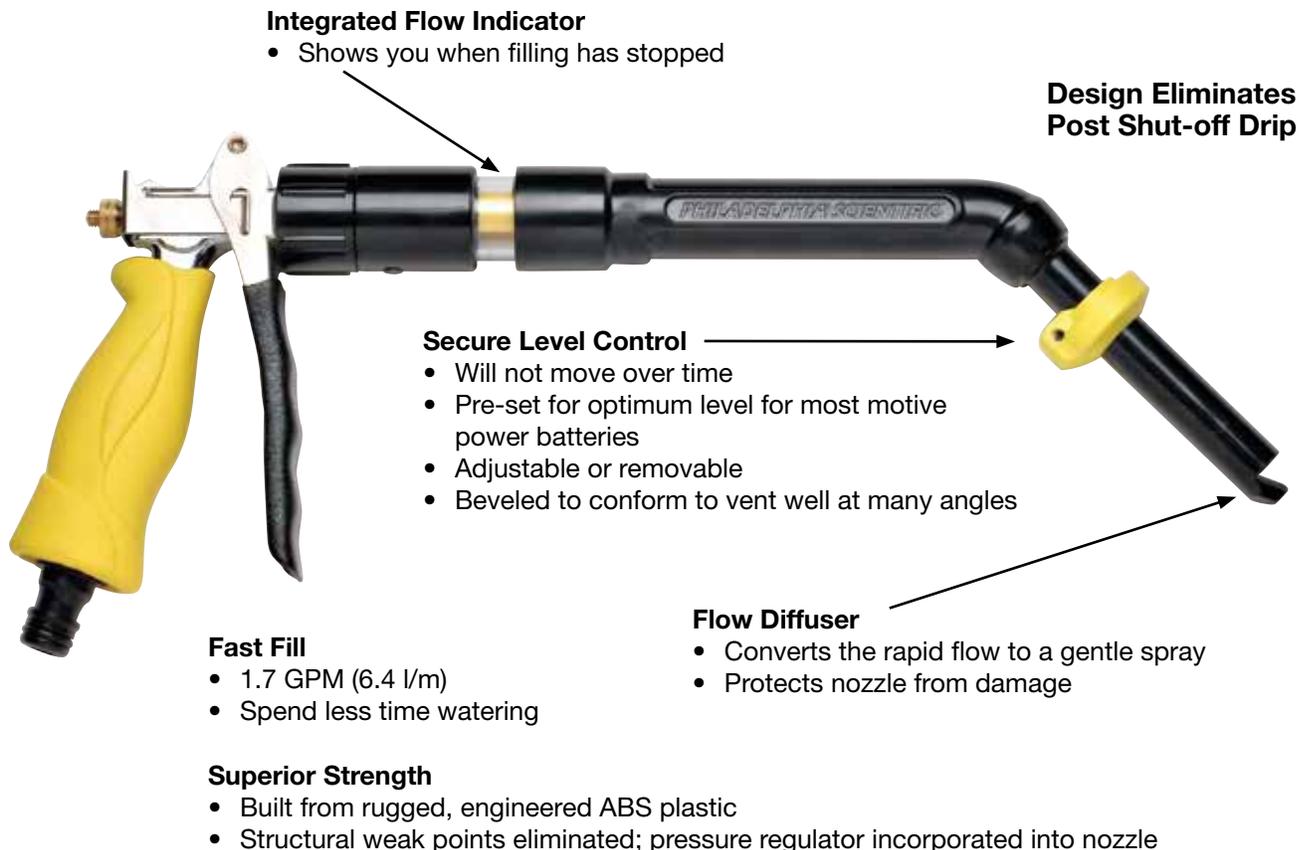


# Battery Watering Gun

## GUN-X — The Next Generation in Watering Gun Technology

The world's fastest, most durable and best-selling watering gun

*The GUN-X Battery Watering Gun is one of a family of Lean Battery Room products from Philadelphia Scientific. It saves money in your warehouse or DC by eliminating waste and increasing productivity.*



In 1983, Philadelphia Scientific introduced the first affordable and reliable battery watering gun. Developed as an inexpensive and safe alternative to manual battery watering, the watering gun delivers a precise flow rate. No battery room should be without this essential maintenance tool.

Our watering guns are popular for their reliable automatic shutoff and their ability to water batteries quickly while improving filling accuracy and operator safety. Their non-electric automatic shut off allows for low-cost watering with a quick return on investment.

Philadelphia Scientific's GUN-X takes the battery watering gun to a new level of performance. Compared to hand watering, our next-generation battery watering gun reduces labor costs up to \$150 a year for each 18-cell battery.

# Battery Watering Gun



The Battery Watering Gun (Model: GUN-X) is ergonomically designed, with a rugged, easy-squeeze handle and a 45 degree-bend nozzle, which allows for less bending over to fill the battery.

In addition, GUN-X incorporates a host of features that deliver the following benefits:

- Strong and durable
- Easy to use
- Compact
- Fast fill speed
- Reliable performance
- Lightweight
- Visual indication of shut off
- Easy to operate



With a diameter of 0.67 in. (1.7 cm), our nozzle easily fits our Flip-Top vent caps, as well as all U.S. standard quarter-turn vent openings.

**When used with our Flip-Top vent caps, GUN-X is an easy and economical way to water batteries.**

Bring the water to your battery with Philadelphia Scientific's Battery Watering Carts. Used with the world's #1 Battery Watering Gun, these cordless watering carts make filling batteries even more convenient.



#### **HYDROFILL Watering Cart**

- Sturdy 10-gallon (38.9 liter) polypropylene tank
- Compact size
- Easy to transport and easy to use
- Rechargeable battery included, no need for an electric supply
- 9 ft. (2.7 m) of industrial hose
- Part No. CRT-12V



#### **Pressure Tank Watering Cart**

- Sturdy 10-gallon (38.9 liter) steel tank
- Capacity gauge indicates how full the tank is
- No battery or electricity required — uses your building's water pressure to deliver water wherever you need it
- 9 ft. (2.7 m) of industrial input hose, 10 ft. (3 m) of industrial output hose
- Part No. CRT-10G



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# Water Deionizer System™

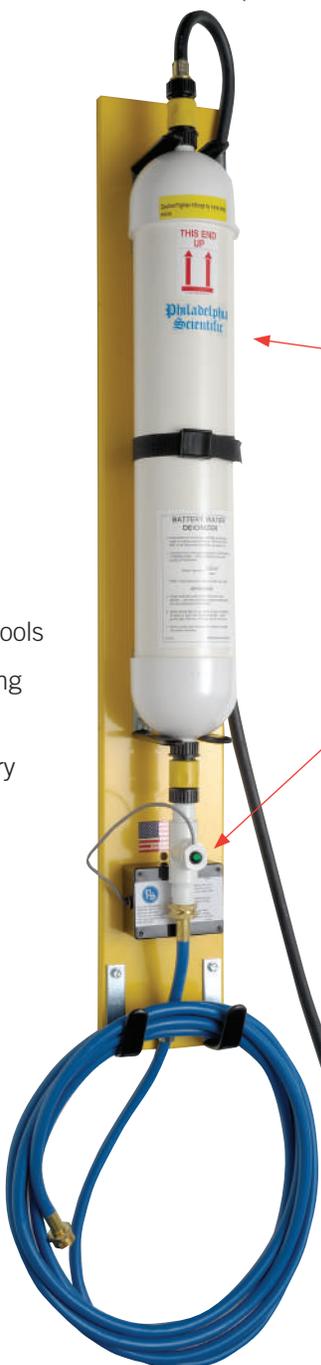
## Maximize battery performance with pure water from the tap

*The Water Deionizer System™ is one of a family of Lean Battery Room products from Philadelphia Scientific. It saves money in your warehouse or DC by eliminating waste and increasing productivity.*

Hard water in your water supply may be causing poor battery performance. Metallic impurities in water can poison the battery, affect cell voltages and increase self-discharge, all of which can result in shortened battery run time and reduced battery life. Not only does this waste money in your operation, but time as well. The traditional method to avoid water impurities is to use distilled water, an expensive and inconvenient proposition. Using deionized water is a simple and effective way to maximize battery life.

### Easy to use

- Comes with everything you need to make pure water from the tap
- Operates at full-line pressure to dispense pure water directly from the deionizer
- Quick cartridge replacement requires no tools
- 20-ft output hose allows maximum watering flexibility and convenience
- Optional Watering Gun lets you fill a battery directly from the deionizer



### High capacity

- Cartridge is rated for 600 gallons of pure water\*

\*Capacity varies with purity of incoming water. See table on reverse side

### Exclusive battery-operated purity light

- Dual color light indication signals when it's time to change the cartridge
  - Green light means water quality is OK
  - Red light means it is time to change cartridge
  - No light means batteries need to be changed
- Includes 2 D-cell batteries that will last for 2 years
- No need to mount near AC power source
  - Keeps electricity and water separate and your employees safe

Convenient and cost effective, the Water Deionizer System™ enables you to maintain battery capacity and long life.

### Easy installation

A mounting plate with hose hanger is provided for easy installation. The cartridge has standard hose fittings and connects in seconds to the input and output hoses with quick-connect couplings. No plumber or maintenance department is required. Cartridge replacement takes just seconds — and disposal is easy because cartridge contents are non-toxic.

### Pressurized system

Unlike some lab-type systems, the PS-300 cartridge takes full-line pressure up to 80 psi. So the water flow is fast enough to use directly with the Battery Watering Gun.

### Low cost

Cartridges are available for a fraction of the cost of distilled water, enabling battery users to produce their own pure water for less money than it would cost to buy it.

### Exclusive battery-operated purity light

A conductivity meter continuously monitors the output water and signals when it is time to change the cartridge. Battery operation eliminates the need for AC power, making system mounting flexible, convenient and safe. Two standard D-cell batteries are included and will last for 2 years.

### High capacity

A single cartridge will produce an average of 600 gallons of purified water. The amount will vary with the quality of the incoming tap water — from as much as 1,500 gallons to as little as 250. Most battery manufacturers recommend that water should have no more than 50 parts per million total dissolved solids in order to get full battery life.

### Watering gun available

An optional battery watering gun is available, enabling a battery to be filled directly from the deionizer.



Deionizer system being used to fill Hydrofill watering cart.

	Purity of Incoming Tap Water		Output of a Single Deionizer Cartridge	
	TDS (PPM)	Conductivity (µS/cm)	Gallons	Liters
Good	20	30.0	3,600	13,627
	50	75.0	1,440	5,451
	75	112.5	960	3,634
Average	100	150.0	720	2,725
	125	187.5	576	2,180
	150	225.0	480	1,817
Poor	200	300.0	360	1,363
	250	375.0	288	1,090
	300	450.0	240	908

### SPECIFICATIONS

#### Flow Rate

0.5 gpm (1.9 lpm) (with provided restrictor)

#### Purity Light Power Source

2 D-Cell Batteries (included)

Life Estimate: 2 Years

#### Purity Light Setting

50 ppm total dissolved solids

#### Dimensions

Mounting plate 44" x 6" (111.8 cm x 15.2 cm)

Disposable Cartridge 27" x 4.5" (68.6 cm x 11.4 cm)

#### Hose Dimensions

3/8" x 10' (0.95 cm x 3.1 m) (input), 3/8" x 20' (0.95 cm x 6.1 m) (output), garden hose thread fittings

# Water Injector System™

## The fastest, most reliable battery watering system

### Exclusive continuous tubing

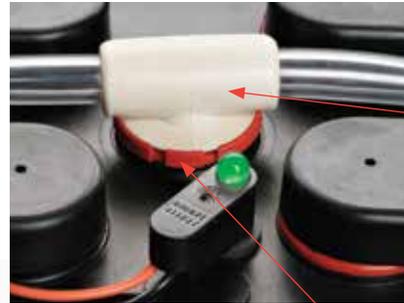
allows for a more reliable installation by minimizing connection points

### Clear tubing

enables view of water flow

### No-freeze tubing:

surplus water drains into cells after filling is complete



**Low profile** reduces risk of damage caused by battery cables (1.10 in. or 2.79 cm)

### Snap-fit, rotatable base

allows for easy installation; easy to snap into place

### Single-point watering system

fills battery from one point of fill

The Water Injector System™ single-point watering system from Philadelphia Scientific is the world's fastest, most reliable way to add water to industrial batteries. And the system is simple to use: an operator makes a hose connection, opens a valve and in 15 seconds or less the entire battery is watered — perfectly. This is eight times faster than filling a battery with a float-based system. For most warehouses and DCs, that adds up to hours of maintenance time saved each week.

Each Injector has its own precision level-sensing valve enclosed in a protective housing. When the electrolyte level rises to the tip of the Injector, the valve shuts off instantly. There are no floats or delicate exposed parts to stick or break, so the Injectors are unaffected by oil and tar in the cells and can function in extreme cold or hot, dry and abusive conditions.

The Water Injector System saves money in two ways:

- **It cuts labor costs**, often paying for itself within the first year of operation.
- **It extends battery life** by filling batteries to the proper level — every time.

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 is no overfilling and no electrolyte spillage during charging.

The Water Injector System is exceptionally durable. Designed for harsh industrial environments, it is unaffected by abuse that would destroy most other systems, and continues to work dependably for the life of the battery.

In the long run, the Philadelphia Scientific Water Injector System has the best financial ROI of any available filling system.

Filling batteries in 15 seconds or less, the Water Injector System is the world's fastest battery watering system

### Water Injector System Features and Benefits

- **Fast operation:** An average 18-cell industrial truck battery can be filled in 15 seconds or less.
- **Easy installation:** Flexible tubing and the snap-fit base make installation fast and easy.
- **Precise filling:** A precision level-sensing valve shuts off instantly when electrolyte levels rise to the Injector tip.
- **Safe:** Prevents direct contact with electrolyte during battery filling and prevents overfilling.
- **Compact:** Low profile allows Injectors to fit on any industrial battery and minimizes damage from battery cables. Injectors can snap in and out to allow inspection of electrolyte levels and specific gravities.
- **Heat resistant:** System will survive high battery temperatures without failing.
- **No-freeze tubing:** Tubing drains surplus water into cells after filling is complete, so the system can be used in cold storage environments.
- **2-stage filtration:** In addition to the filter screen in the input coupling, each Injector has its own individual filter.
- **Proven reliability:** Patented pressure-activated technology makes the Water Injector System the world's most dependable single-point watering system.
- **Exclusive no-clamp tubing:** The tubing goes straight through the Injectors and is sealed with unique twin O-rings.
- **5-year warranty:** Injectors are made of high-quality engineered plastic that provides maximum chemical resistance and long-lasting durability. There are no exposed parts to break off even when an Injector is removed from a cell.
- **Exclusive reconditioning service:** Injectors are so tough that used ones can be reconditioned and used again on another battery. Philadelphia Scientific will discard the old tubing, clean the Injectors, and after a 100% inspection, provide new tubing and fittings. That means even more savings.



### Product Specifications

<b>Input/Operating Pressure:</b>	25 to 35 psi	<b>Flow Rate:</b>	8-10 gpm per string
<b>Acceptable Filling Temperature:</b>	35° to 160°F (2° to 71°C)	<b>System Exposure Temperature:</b>	-20° to 160°F (-29° to 71°C)
<b>Valve Body Material:</b>	Polypropylene	<b>Tubing Material:</b>	Proprietary flexible PVC
<b>Max. Valve Height above Vent Opening:</b>	1.10 in. (2.79 cm)	<b>Fitting:</b>	US Quarter-Turn & European DIN Openings



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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. Watering batteries with the Stealth Watering System is safe, easy and affordable – and takes one tenth the time of hand watering. It is perfect for installations of 5 to 25 batteries and is best used with conventional charging applications.

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

**Lowest profile:** When installed on a battery, the system sits lower than the intercell connectors, reducing the possibility of damage from the battery's cables as they move over the battery.

**No need for multiple float sizes:** Ensures that all battery cells are filled to the same level simultaneously.

**Fastest tubing installation:** Push-fit tubing ports and speed stripes make tubing installation fast, easy and secure.

**Widest operating pressure range:** 3 to 45 psi.

**Abuse-resistant tubing:** Tubing is kink- and crush-resistant. The tubing's small bend radius enables the Stealth Watering System to fit even the smallest batteries easily, including 5- and 7-plate batteries.

The Stealth Watering System™ is the best watering system on the market for small- to medium-duty applications.

The Stealth Watering System uses single-point watering technology to fill batteries in one tenth the time of hand watering. It is fast, precise and easy to use – and it is safer than hand watering because it prevents direct contact with electrolyte during battery filling.



*Detailed view  
(note float valve's  
low profile)*

TECHNICAL INFORMATION	
Input/Operating Pressure	3 to 45 psi
Flow Rate	0.20 gpm per valve (.76 lpm per valve)
Acceptable Battery Filling Temperature	35°F to 160°F (2°C to 71°C)
Acceptable Exposure/ Application Temperature	-20°F to 160°F (-29°C to 71°C)
Max. Valve Height Above Vent Opening	0.60 in. (1.52 cm)
Valve Body Material	Polypropylene
Tubing Material	Proprietary Flexible PVC
Fitting	US Quarter Turn Opening & European DIN Opening
Shutoff	Automatic

The following water supplies can be used with the Stealth Watering System:



#### Mobile Watering Cart

- Battery operated
- Sturdy 10-gallon (37.8-liter) polypropylene tank
- 9 ft. (2.7 m) of industrial hose
- Part No. FLT-DC12



#### 5-Gallon Gravity Tank

- Flow indicator
- Sturdy 5-gallon (18.9-liter) polypropylene tank
- 25 ft. (7.6 m) of industrial hose
- Part No. FLT-GT



#### Direct Link System for Stealth Watering System

- Sediment filter allows for use with facility water
- Pressure regulator
- Flow indicator
- 20 ft. (6.1 m) of industrial hose
- Part No. FLT-DL



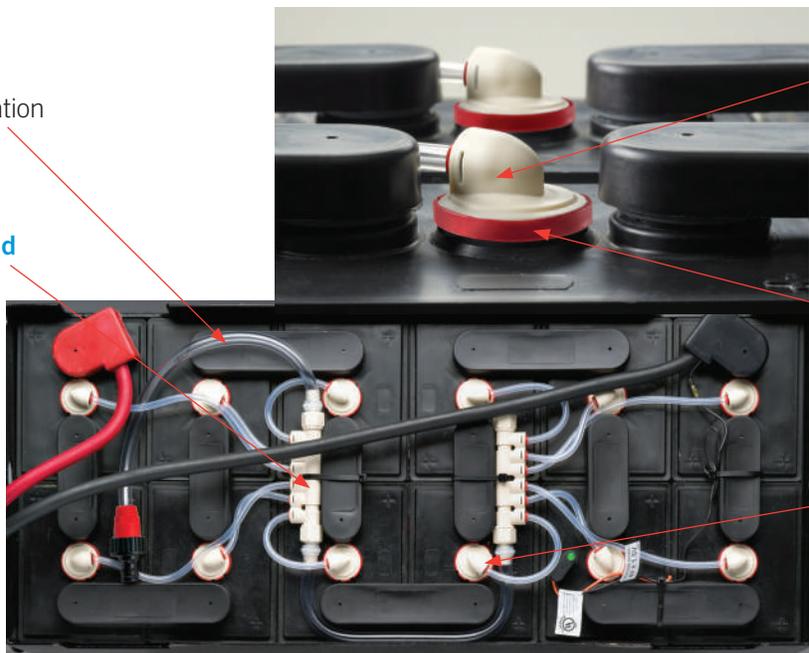
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# Water Injector *Spider System*™

The world's fastest, most reliable battery watering system

**No-kink and no-crush tubing** enables installation in tight spaces.

**Central-filling manifold** allows for flexibility during installation.



**Very low profile** reduces risk of damage caused by battery cables (0.83 in. or 2.1 cm).

**Snap-fit, rotatable base** allows for easy installation. Easy to snap into place.

**Push-fit tubing ports** mean tubing is secured by simply pushing tubing into ports; there are no barbed fittings to break.

The Water Injector *Spider System*™ is the world's fastest and most reliable way to add water to industrial batteries. It is simple to use: an operator makes a hose connection, opens a valve and in 15 seconds or less the entire battery is watered — perfectly. This is eight times faster than filling a battery with a float-based system. For most warehouses and DCs, that adds up to hours of maintenance time saved each week.

Each water Injector has its own precision level-sensing valve enclosed in a protective housing. When the electrolyte level rises to reach the tip of the Injector, the valve shuts off instantly. There are no floats or delicate exposed parts to stick or break, so the Injectors are unaffected by oil and tar in the cells and can function in extreme cold or hot, dry and abusive conditions.

The system saves money in two ways:

- **It cuts labor costs**, often paying for itself within its first year of operation.
- **It extends battery life** by filling batteries to the proper level — every time.

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 is no overfilling and no electrolyte spillage during charging.

The Injector system is exceptionally durable. Designed for harsh industrial environments, it is unaffected by abuse that would destroy most other systems, and continues to work dependably for the life of the battery.

In the long run, the Philadelphia Scientific Water Injector *Spider System* has the best financial ROI of any available filling system.

The world's fastest battery watering system

### Water Injector Spider System Features & Benefits

- **Easy installation:** Features such as flexible tubing, push-fit tubing ports and the snap-fit base make installation fast and easy.
- **Fast operation:** An average forklift truck battery can be filled in 15 seconds or less.
- **Precise filling:** A precision level-sensing valve shuts off instantly when electrolyte levels rise to the Injector tip.
- **Safe:** Prevents direct contact with electrolyte during battery filling and prevents overfilling.
- **Compact:** Low profile allows Injectors to fit on any industrial battery and minimizes damage due to battery cables.
- **Proven reliability:** Patented pressure-activated technology makes the Water Injector System the world's most dependable single-point watering system.
- **5-year warranty:** Advanced plastics technology and no exposed parts provide maximum chemical resistance, making these Water Injectors durable and long-lasting.
- **Heat resistant:** System will survive high battery temperatures without failing.
- **No freeze tubing:** Tubing drains surplus water into cells after filling is complete, so the system can be used in cold storage environments.
- **Exclusive reconditioning service:** Injectors are so tough that used ones can be reconditioned and used again on another battery. Philadelphia Scientific will discard the old tubing, clean the Injectors, and after a 100% inspection, provide new tubing and fittings. That means even more savings.

<b>Input/Operating Pressure:</b>	25 to 35 psi	<b>Flow Rate:</b>	8 to 10 gpm per string
<b>Acceptable Filling Temperature:</b>	35° to 160°F (2° to 71°C)	<b>System Exposure Temperature:</b>	-20° to 160°F (-29° to 71°C)
<b>Valve Body Material:</b>	Polypropylene	<b>Tubing Material:</b>	Proprietary Flexible PVC
<b>Max Valve Height above Vent Opening:</b>	0.83 inches (2.1 cm)	<b>Fitting:</b>	DIN standard push fit & BCI standard quarter turn

### Convenient Water Supplies for Filling the Water Injector Spider System



#### HydroCart™ Mini

- Capacity: 10 gallons (37.8 liters)
- AC Powered
- 110 VAC / 60 Hz
- 10 feet (3.0 meters) of Industrial Hose
- 13 feet (3.9 meters) of Power Cord



#### HydroCart™ Max

- Capacity: 20 gallons (75.7 liters)
- AC Powered
- 110 VAC / 60 Hz
- 20 feet (6.1 meters) of Industrial Hose
- 25 feet (7.6 meters) of Power Cord



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

Lean **Battery Room**  
TOOL

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