BATTERY WATERING TECHNOLOGIES

THE LEADER IN BATTERY WATERING TECHNOLOGY™

FASTER.

Reduce fill time by 90%.

SAFER.

Keep battery area safe and clean.

BETTER.

Improve battery life and performance.

MOTIVE POWER

Edition 24

TABLE OF CONTENTS

HOW TO ORDER INDUSTRIAL KITS

BASIC KIT

Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.

To place an order for a Basic Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model to use the valve guide. After determining the valve type, go to pages 7-11 to determine the industrial basic kit part number.

PARTIALLY ASSEMBLED KIT

Everything is provided for the kit, however the tubing is attached to strings of multiple valves. Extra tubing is provided to complete assembly of the kit.

To place an order for a Partially Assembled Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model before using the valve guide. After determining the valve type, go to pages 7-11 to determine the industrial basic kit part number needed. The drawing number is also required to place an order for a partially assembled kit. See pages 19-21 for partially assembled battery drawings. For a complete list of drawings, visit our website at www.batterywatering.com and choose the Industrial Kit Selector.

FULLY ASSEMBLED KIT

Everything is provided for the kit. It is fully assembled and ready for installation.

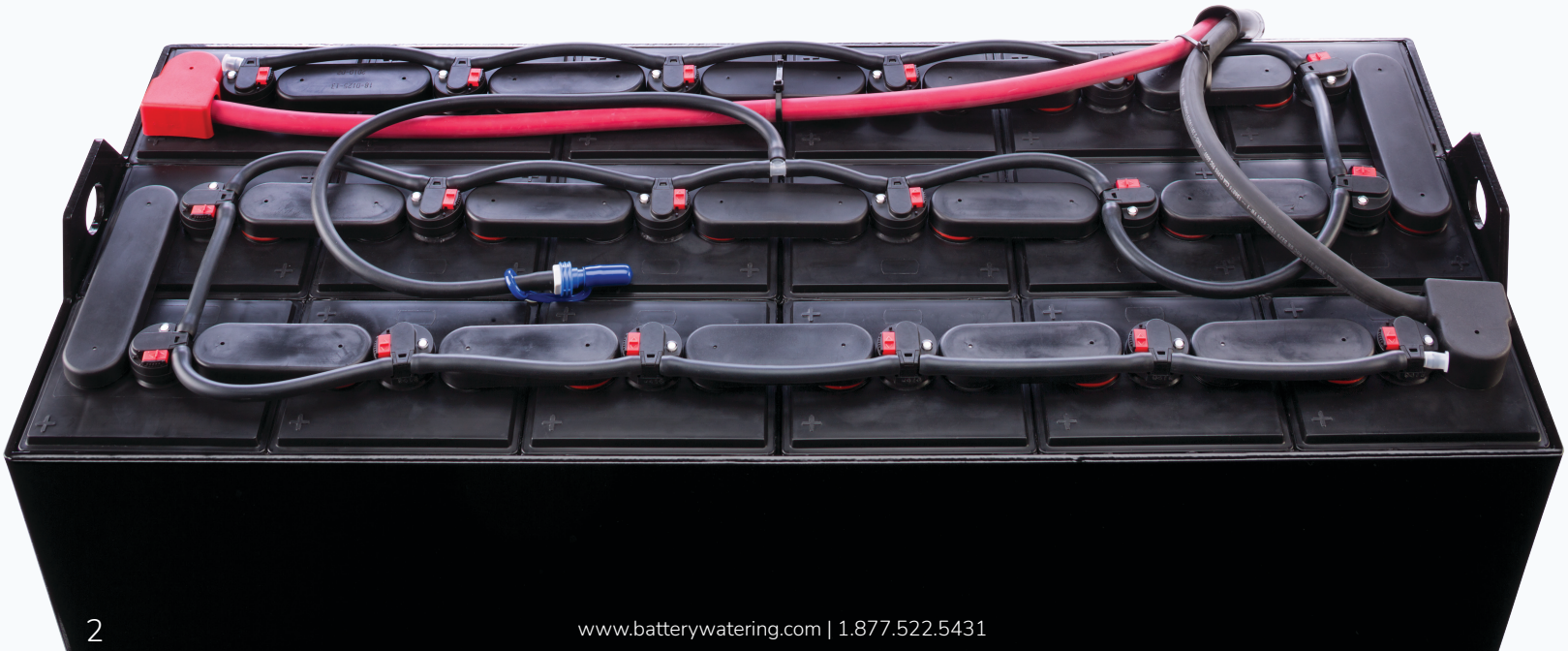
To place an order for a Fully Assembled Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model before using the valve guide. After determining the valve type, go to pages 7-11 to determine the industrial basic kit part number needed. The drawing number is also required to place an order for a fully assembled kit. See pages 13-17 for some of our most popular fully assembled battery drawings. For a complete list of drawings, visit our website at www.batterywatering.com and choose the Industrial Kit Selector.

- All kits ship with our blue connector (09MBLU1) unless specified in writing on the order.
- To order a competitor connector on the end of the kit, add suffix **F**-09FUV6, **P**-09PHISCI-6, **G**-09GRM6, or **W**-09CUV6

PROUDLY MADE IN THE USA.

Manufactured with the highest quality materials, our valves are designed to handle demanding applications by keeping all the working parts above the battery cell.

Battery Watering Technologies offers multiple valve lengths to fit different size batteries, providing the capability to water at different states of charge and keeping electrolyte levels at the optimum level in the battery for maximum battery life.



INNOVATIVE VALVE DESIGN

The internal working components of the valve are above the cells, keeping them out of the electrolyte. The level indicator eye verifies proper valve operation. Valves should only be removed during routine maintenance, eliminating the risk of battery acid exposure or damaging floors and equipment.

INDICATOR EYE
Visible from the top and side -Confirms proper operation of valves.

ULTRASONIC WELDED LID
The welding fuses the lid to the valve body improving the structural strength of the valve.

CLIP-IN BASE
Installation is fast and easy - No twisting to lock in place.

LOW PROFILE DESIGN
Drastically reduces the risk of damage from battery cables.

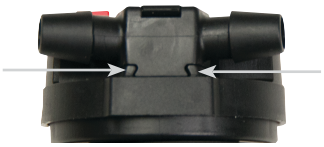
ENCAPSULATED FLOAT
Reinforced encapsulation protects the float and eliminates interference with the moss shield.

SOLID ONE-PIECE FLOAT
Acid, temperature, and impact resistant - Solid construction cannot absorb water.

TUBING BARBS
Eliminates the need for clamps and angled to make installation easy in tight configurations.

HYDROMETER PORT
Hydrometer readings can be taken without removing the valve from the battery. The hydrometer opening has a slider with a stop so the covering won't break or get lost.

Z-LOCK
The z-Lock feature integrates the tee piece with the valve for added durability.



WIDEST PRESSURE RANGE
The valves operate with pressure from 3-35 PSI using our filling devices. House static pressure should never be more than 90 PSI. If needed, a variety of pressure regulators are available to lower pressure.

FULLY ASSEMBLED KITS
Installs in seconds.

INDUSTRIAL VALVES

VB-TB3.5
Valve 35

VB-TB4
Valve 40

VB-TB4WA
Valve 4A

VB-TB4.5
Valve 45

VB-TB5
Valve 50

VB-TB5.5
Valve 55

VB-GLP
Use for GNB flat plate batteries manufactured before April 2012

VB-TB4WO
Use for all GNB batteries manufactured after April 2012

VA-TB4.5
Valve 45
for 35 mm openings

09PUAD
Adapter for push-in included
ships unassembled

VA-TB4
Valve 40
for 35 mm openings

MANUFACTURER	BATTERY TYPE	VALVE NEEDED
Battery Builders	FPLM	VB-TB4
	Speak with your Account Manager for details	VB-TB4WA
Bulldog		VB-TB4
C & D	C-Line, V-Line, EM-Line	VB-TB4
Crown Battery		VB-TB4
Deka	D35, D45	VB-TB3.5
	Other D Series	VB-TB4.5
	MaintenanceSaver, MaxPowr	VB-TB4.5
	HydraSaver, FastCharge	VB-TB4.5
Douglas	45DL, 45DLO	VA-TB4.5
	60DL	VA-TB4
	85DL, 85DM, 85DA	VA-TB4.5
	90DL	VA-TB4.5
	100DL, 100DM	VA-TB4.5
	125DL, 125DM, 125DA	VA-TB4.5
	170DL	VA-TB4.5
EnerSys	Workhog® / Loadhog® / Superhog® E55-L, E75-L, E75, E90, E90D, E100, E100D, E100X, E110	VB-TB4
	E125, E125D, E140, E140X, E155	VB-TB5
	The General® / HUP® 55GL, 75G, 75GL, 85G, 85P, 100G, 100P	VB-TB4
	85P (FC), 125G, 125P, 125P (FC)	VB-TB5
Eternity		VB-TB4.5
GNB / Stryten	Classic / F100, Marahton FPX / F110	VB-TB4WO
	Tubular CMX / T300, Tubular MPX / T330	VB-TB4WO
	Tubular LMX / T310	VB-TB4.5
Hawker	Water Less®/Powerline®/Top Power® *mfg before 08/22	VB-TB3.5
	Energy Plus™ (L,E,C,X Series) *mfg before 08/22	VB-TB3.5
	Energy Plus™ (K Series)	VB-TBY
	Energy Plus™ (E Series) *mfg after 09/22	VB-TB3.5
	Speak with your Account Manager for details	VB-TB4WA
	Powerline® / Water Less® / Energy-Plus™ *mfg after 09/22 85F, 100F, 85W, 100W, 125F, 125W, X	VB-TB4
Powerflow		VB-TB4
Reaco		VB-TB4.5
Sunlight		VB-TB4.5
Surrette Battery	5000 Series	VB-TB5SX
	All others	VB-TB5S
Triathlon	AQUAsave 90	VB-TB4.5
	AQUAsave 125	VB-TB4.5
	Enhanced Capacity 100	VA-TB4
	Enhanced Capacity 140	VA-TB4.5

Contact your Account Manager for other battery manufacturers.

**VB-TB4WA can only be used with a Direct Fill Link.*

INDUSTRIAL BASIC KITS

Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.

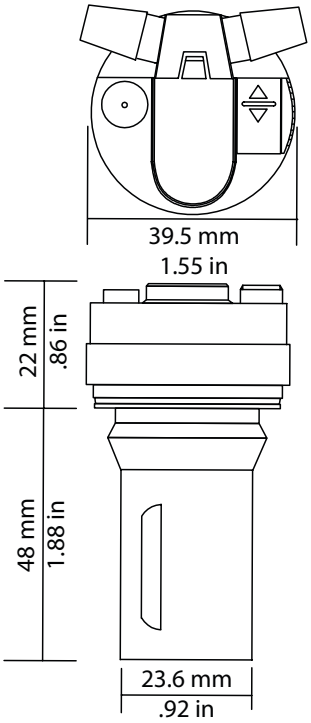
To place an order for a Basic Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model to use the valve guide. After determining the valve type, go to pages 7-11 to determine the industrial basic kit part number.

- All kits ship with our blue connector (09MBLU1) unless specified in writing on the order.
- To order a competitor connector on the end of the kit, add suffix **F**-09FUV6, **P**-09PHISCI-6, **G**-09GRM6, or **W**-09CUV6
  (Example: **K1200TB3.5F** for a 12 cell kit with Flow-Rite® 09FUV6 connector).
- Fully assembled kit orders placed without drawing numbers may delay your order.
- All kits ship with BLACK TUBING (08TUB6BLK) unless specified in writing on the order.
- Delivery items are not automatically added to orders. Only items specified on the purchase order will ship.

VB-TB3.5 Basic Kits

Valve 35
Bayonet Style Openings

PART NUMBER	CELLS
K600TB3.5	6
K900TB3.5	9
K1200TB3.5	12
K1800TB3.5	18
K2400TB3.5	24
K3600TB3.5	36
K4000TB3.5	40
K6400TB3.5	64

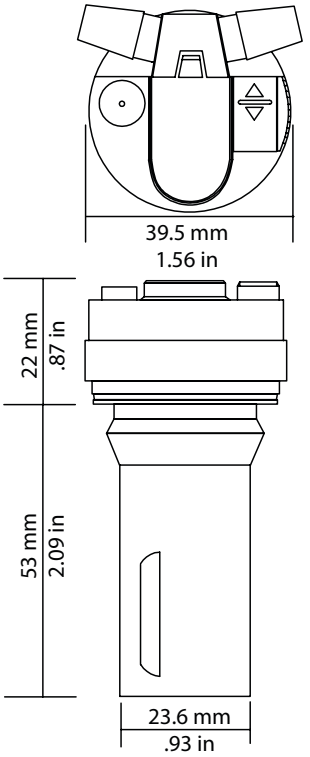


Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.
To place an order for a Basic Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model to use the valve guide.

VB-TB4 Basic Kits

Valve 40
Bayonet Style Openings

PART NUMBER	CELLS
K600TB4	6
K900TB4	9
K1200TB4	12
K1800TB4	18
K2400TB4	24
K3600TB4	36
K4000TB4	40
K6400TB4	64

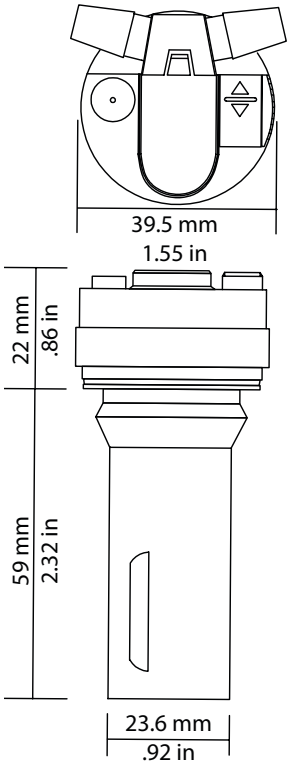


INDUSTRIAL BASIC KITS

VB-TB4.5 Basic Kits

Valve 45
Bayonet Style Openings

PART NUMBER	CELLS
K600TB4.5	6
K900TB4.5	9
K1200TB4.5	12
K1800TB4.5	18
K2400TB4.5	24
K3600TB4.5	36
K4000TB4.5	40
K6400TB4.5	64

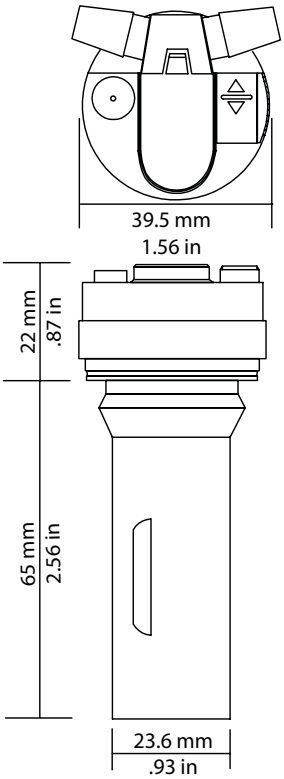


Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.
To place an order for a Basic Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model to use the valve guide.

VB-TB5 Basic Kits

Valve 50
Bayonet Style Openings

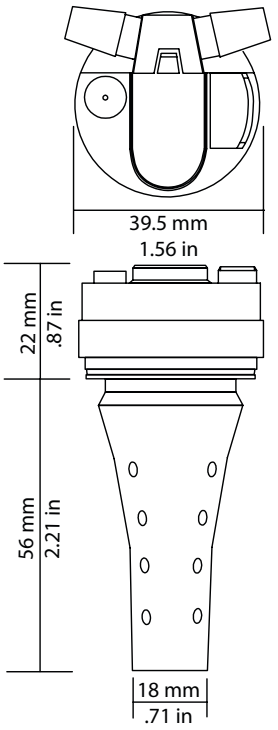
PART NUMBER	CELLS
K600TB5	6
K900TB5	9
K1200TB5	12
K1800TB5	18
K2400TB5	24
K3600TB5	36
K4000TB5	40
K6400TB5	64



VB-GLP Basic Kits

GNB Valve with encapsulation
Before April 2012

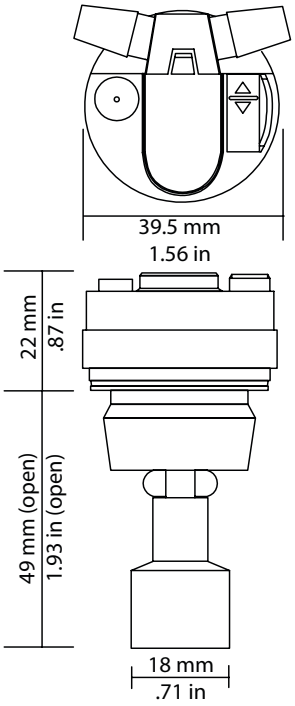
PART NUMBER	CELLS
NK600GLP	6
NK900GLP	9
NK1200GLP	12
NK1800GLP	18
NK2400GLP	24
NK3600GLP	36
NK4000GLP	40
NK6400GLP	64



VB-TB4WO Basic Kits

GNB Valve without encapsulation
After April 2012

PART NUMBER	CELLS
K600TB4WO	6
K900TB4WO	9
K1200TB4WO	12
K1800TB4WO	18
K2400TB4WO	24
K3600TB4WO	36
K4000TB4WO	40
K6400TB4WO	64



For a complete listing of fully assembled kit drawings, please visit www.batterywatering.com

- All kits ship with our blue connector (09MBLU1) unless specified in writing on the order.
- To order a competitor connector on the end of the kit, add suffix **F**-09FUV6, **P**-09PHISCI-6, **G**-09GRM6, or **W**-09CUV6 (Example: **K1200TB5F** for a 12 cell kit with Flow-Rite® 09FUV6 connector).
- Fully assembled kit orders placed without drawing numbers may delay your order.
- All kits ship with BLACK TUBING (08TUB6BLK) unless specified in writing on the order.
- Delivery items are not automatically added to orders. Only items specified on the purchase order will ship.
- No extra charge for pre-strung kits.

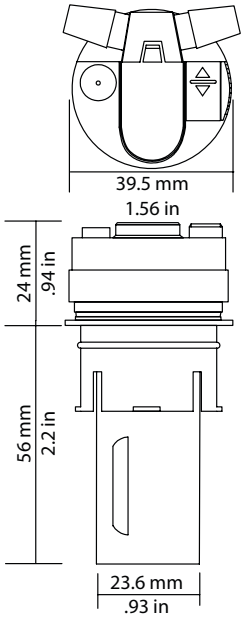
INDUSTRIAL BASIC KITS

Adapters should be inserted into the battery cell before inserting the valve.

VA-TB4.5 Basic Kits

Valve 45
Push-in 35 mm Openings

PART NUMBER	CELLS
K600TB4.5D	6
K900TB4.5D	9
K1200TB4.5D	12
K1800TB4.5D	18
K2400TB4.5D	24
K3600TB4.5D	36
K4000TB4.5D	40
K6400TB4.5D	64

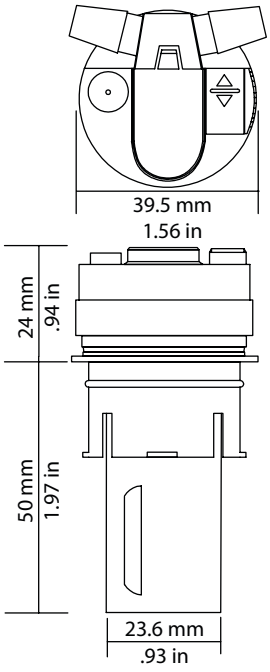


Everything is provided for the kit, however the tubing is not cut or attached to any of the valves. To place an order for a Basic Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model to use the valve guide.

VA-TB4 Basic Kits

Valve 40
Push-in 35 mm Openings

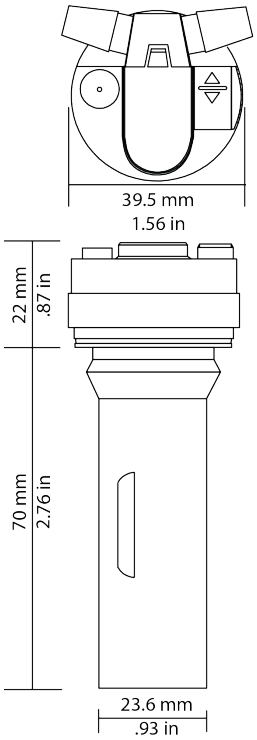
PART NUMBER	CELLS
K600TB4D	6
K900TB4D	9
K1200TB4D	12
K1800TB4D	18
K2400TB4D	24
K3600TB4D	36
K4000TB4D	40
K6400TB4D	64



VB-TB5.5 Basic Kits

Valve 55

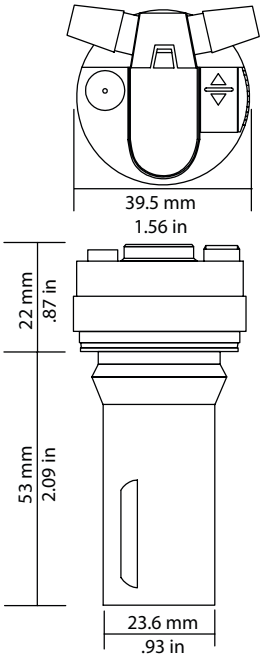
PART NUMBER	CELLS
K600TB5.5	6
K900TB5.5	9
K1200TB5.5	12
K1800TB5.5	18
K2400TB5.5	24
K3600TB5.5	36
K4000TB5.5	40
K6400TB5.5	64



VB-TB4WA Basic Kits

Valve 4A
Bayonet Style Openings

PART NUMBER	CELLS
K600TB4WA	6
K900TB4WA	9
K1200TB4WA	12
K1800TB4WA	18
K2400TB4WA	24
K3600TB4WA	36
K4000TB4WA	40
K6400TB4WA	64



For a complete listing of fully assembled kit drawings, please visit www.batterywatering.com

- All kits ship with our blue connector (09MBLU1) unless specified in writing on the order.
- To order a competitor connector on the end of the kit, add suffix **F**-09FUV6, **P**-09PHISCI-6, **G**-09GRM6, or **W**-09CUV6 (Example: **K1200TB5F** for a 12 cell kit with Flow-Rite® 09FUV6 connector).
- Fully assembled kit orders placed without drawing numbers may delay your order.
- All kits ship with BLACK TUBING (08TUB6BLK) unless specified in writing on the order.
- Delivery items are not automatically added to orders. Only items specified on the purchase order will ship.
- No extra charge for pre-strung kits.

INDUSTRIAL FULLY ASSEMBLED KITS

Everything is provided for the kit. It is fully assembled and ready for installation.

To place an order for a Fully Assembled Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model before using the valve guide. After determining the valve type, go to pages 7-11 to determine the industrial basic kit part number needed. The drawing number is also required to place an order for a fully assembled kit. See pages 13-17 for some of our most popular fully assembled battery drawings.

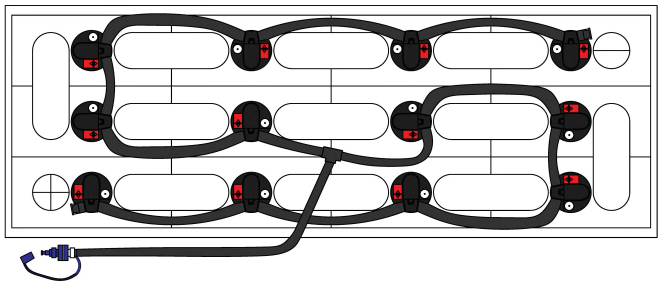
For a complete list of drawings, visit our website at www.batterywatering.com and choose the Industrial Kit Selector.

- All kits ship with our blue connector (09MBLU1) unless specified in writing on the order.
- To order a competitor connector on the end of the kit, add suffix **F**-09FUV6, **P**-09PHISCI-6, **G**-09GRM6, or **W**-09CUV6
  (Example: **K1200TB3.5F** for a 12 cell kit with Flow-Rite® 09FUV6 connector).
- Fully assembled kit orders placed without drawing numbers may delay your order.
- All kits ship with BLACK TUBING (08TUB6BLK) unless specified in writing on the order.
- Delivery items are not automatically added to orders. Only items specified on the purchase order will ship.
- No extra charge for pre-strung kits.

Please put the drawing number and the kit part number on your order.

Drawing # B-12-7-LP-40

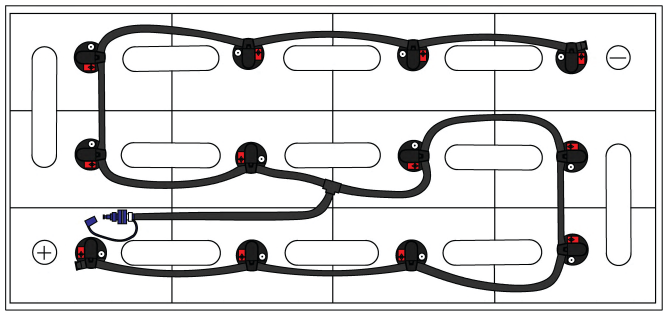
12 Cell - 7 Plate (with or without cover)
Approximate Tray Size: 25" x 9"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	12
08TUB6BLK	1/4" (6 mm) Tubing	11' (3.53 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-12-9-LP-05

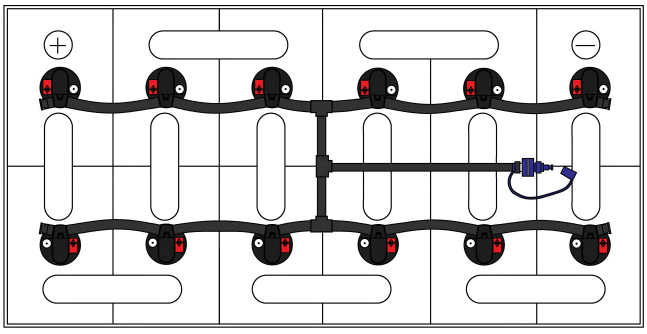
12 Cell - 9 Plate (with or without cover)
Approximate Tray Size: 25.50" x 11.50"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	12
08TUB6BLK	1/4" (6 mm) Tubing	10.5' (3.2 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-12-13-LP-22

12 Cell - 13 Plate (with or without cover)
Approximate Tray Size: 31" x 13"

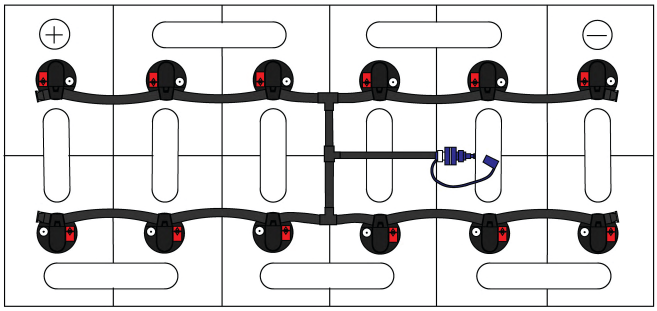


PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	12
08TUB6BLK	1/4" (6 mm) Tubing	8' (2.44 m)
08T666N	6-6-6 Tee	3
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	4

INDUSTRIAL FULLY ASSEMBLED KITS

Drawing # B-12-15-LP-23

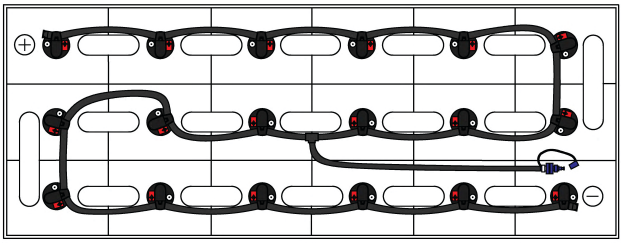
12 Cell - 15 Plate (with or without cover)
Approximate Tray Size: 36" x 13"



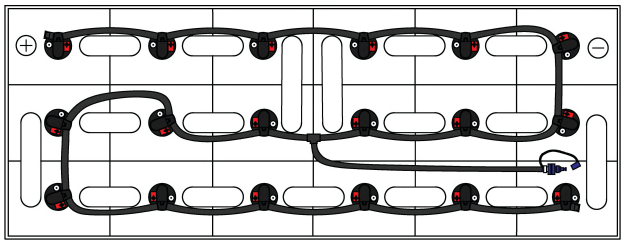
PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	12
08TUB6BLK	1/4" (6 mm) Tubing	11' (3.53 m)
08T666N	6-6-6 Tee	3
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	4

Drawing # B-18-13-LP-03

18 Cell - 13 Plate (with or without cover)
Approximate Tray Size: 38" x 15.75"



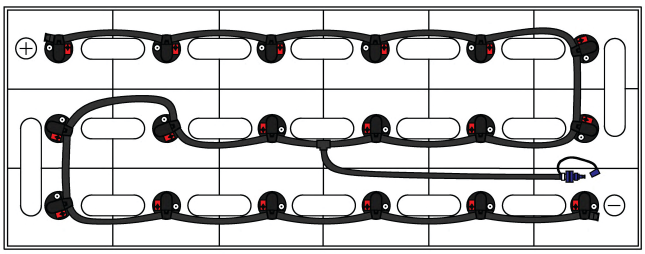
or



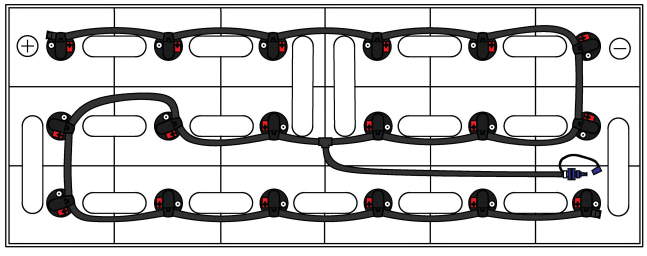
PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	10.5' (3.2 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-18-15-LP-02

18 Cell - 15 Plate (with or without cover)
Approximate Tray Size: 38" x 17.75"



or

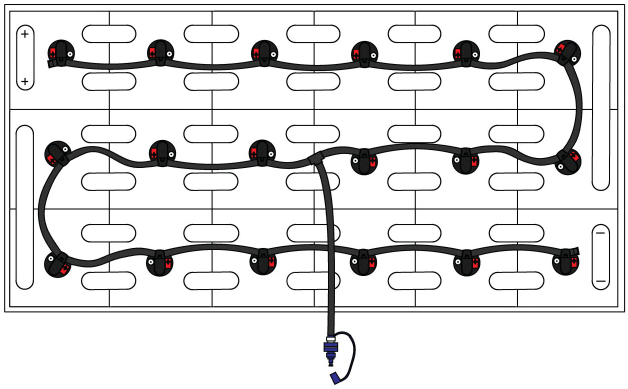


PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	10.5' (3.2 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Please put the drawing number and the kit part number on your order.

Drawing # B-18-17-LP-04

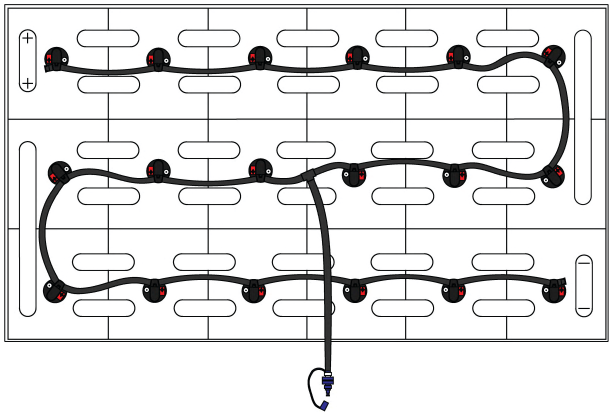
18 Cell - 17 Plate (with or without cover)
Approximate Tray Size: 38.50" x 20.20" (3 x 6 layout)



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	10.5' (3.2 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-18-21-LP-10

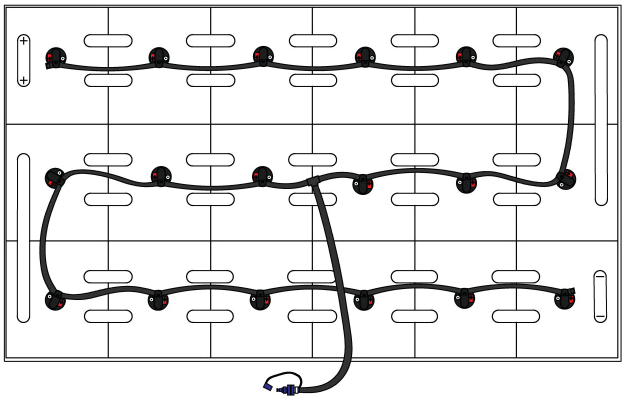
18 Cell - 21 Plate (with or without cover)
Approximate Tray Size: 38.25" x 24.65"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	11' (3.35 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-18-23-LP-11

18 Cell - 23 Plate (with or without cover)
Approximate Tray Size: 38.25" x 27"



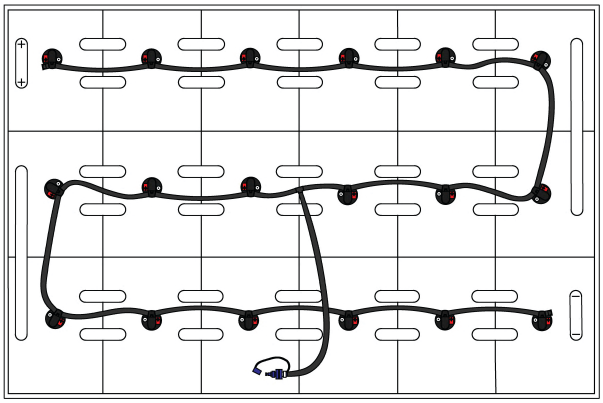
PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	11.5' (3.35 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

INDUSTRIAL FULLY ASSEMBLED KITS

Please put the drawing number and the kit part number on your order.

Drawing # B-18-25-LP-12

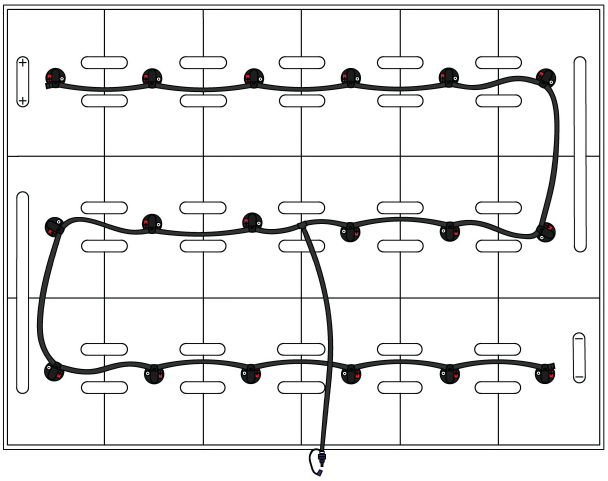
18 Cell - 25 Plate (with or without cover)
Approximate Tray Size: 38.25" x 29.20"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	13' (3.96 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-18-27-LP-13

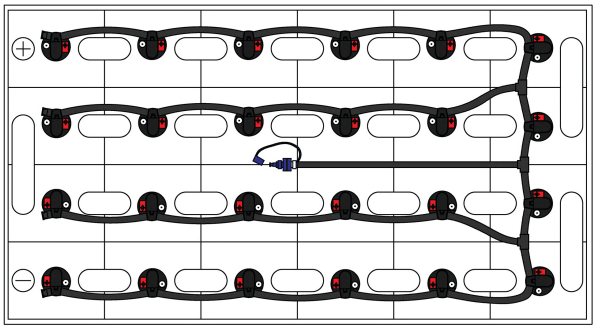
18 Cell - 27 Plate (with or without cover)
Approximate Tray Size: 38.25" x 31.75"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	14' (4.27 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-24-13-LP-47

24 Cell - 13 Plate (with or without cover)
Approximate Tray Size: 38.12" x 20.5"

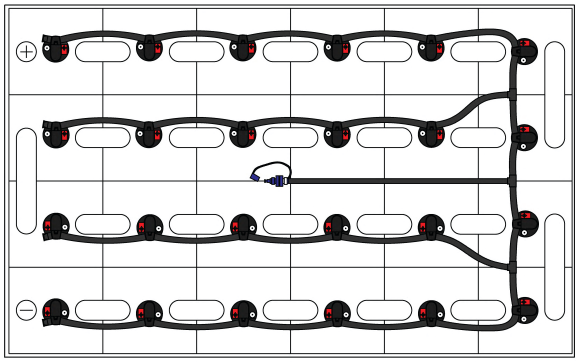


PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	24
08TUB6BLK	1/4" (6 mm) Tubing	12' (3.65 m)
08T666N	6-6-6 Tee	3
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	4

Please put the drawing number and the kit part number on your order.

Drawing # B-24-15-LP-07

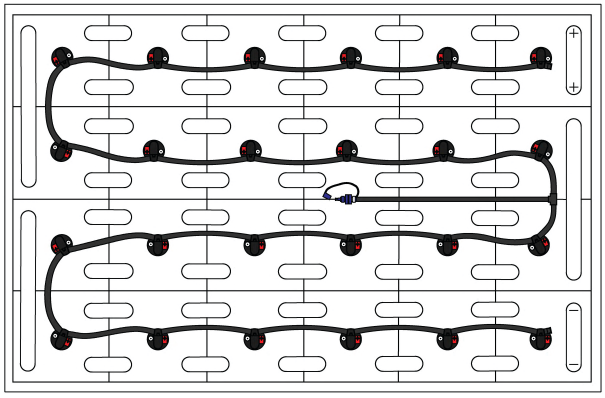
24 Cell - 15 Plate (with or without cover)
Approximate Tray Size: 38.0" x 23.56"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	24
08TUB6BLK	1/4" (6 mm) Tubing	12.5' (3.81 m)
08T666N	6-6-6 Tee	3
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	4

Drawing # B-24-19-LP-18

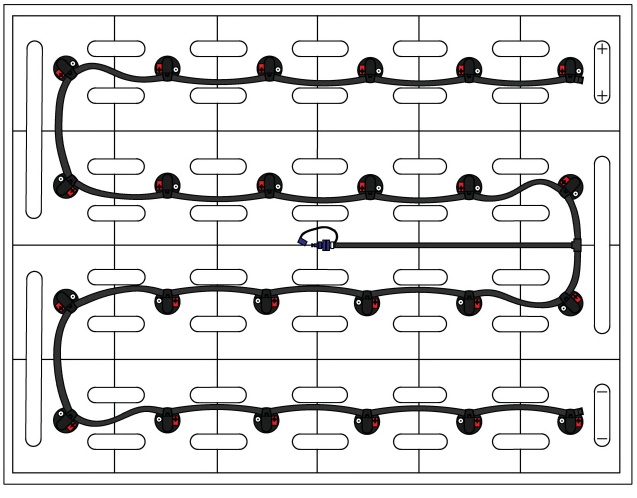
24 Cell - 19 Plate (with or without cover)
Approximate Tray Size: 38" x 29.75"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	24
08TUB6BLK	1/4" (6 mm) Tubing	16' (4.88 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-24-21-LP-19

24 Cell - 21 Plate (with or without cover)
Approximate Tray Size: 38" x 32.69"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	24
08TUB6BLK	1/4" (6 mm) Tubing	17' (5.18 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

INDUSTRIAL PARTIALLY ASSEMBLED KITS

Everything is provided for the kit, however the tubing is attached to strings of multiple valves. Extra tubing is provided to complete the assembly of the kit.

To place an order for a Partially Assembled Kit, determine the valve type needed by using the industrial valve guide on page 5. You must know the battery make and model before using the valve guide. After determining the valve type, go to pages 7-11 to determine the industrial basic kit part number needed. The drawing number is also required to place an order for a partially assembled kit. See pages 19-21 for partially assembled battery drawings.

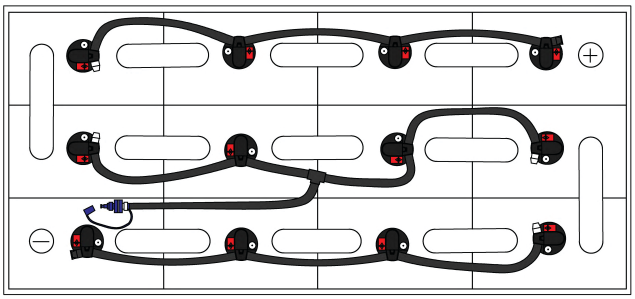
For a complete list of drawings, visit our website at www.batterywatering.com and choose the Industrial Kit Selector.

- All kits ship with our blue connector (09MBLU1) unless specified in writing on the order.
- To order a competitor connector on the end of the kit, add suffix **F**-09FUV6, **P**-09PHISC-6, **G**-09GRM6, or **W**-09CUV6
  (Example: **K1200TB3.5F** for a 12 cell kit with Flow-Rite® 09FUV6 connector).
- Fully assembled kit orders placed without drawing numbers may delay your order.
- All kits ship with BLACK TUBING (08TUB6BLK) unless specified in writing on the order.
- Delivery items are not automatically added to orders. Only items specified on the purchase order will ship.
- No extra charge for pre-strung kits.

Please put the drawing number and the kit part number on your order.

Drawing # B-12-LP-PA

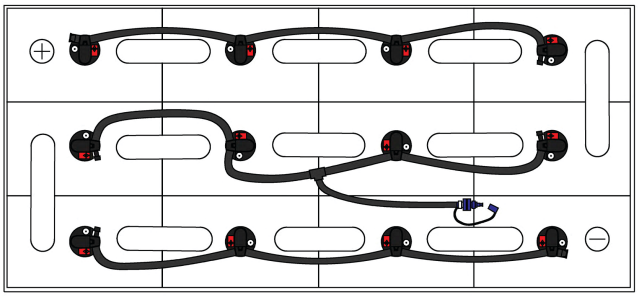
12 Cell - 3x4 (with or without cover)



PART NUMBER	DESCRIPTION	QUANTITY
Various	String of 4 valves	2
Various	String of 4 valves with fill tube	1
08TUB6BLK	1/4" (6 mm) Tubing	3' (.91m)
08CAP6	End Cap	2

Drawing # B-12-LP-PA2

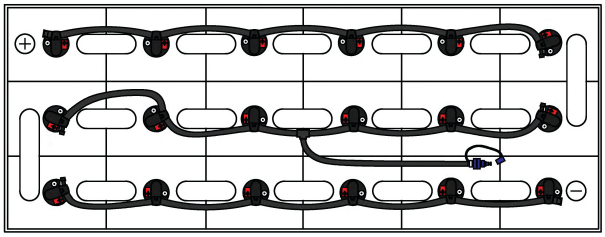
12 Cell - 3x4 (with or without cover)



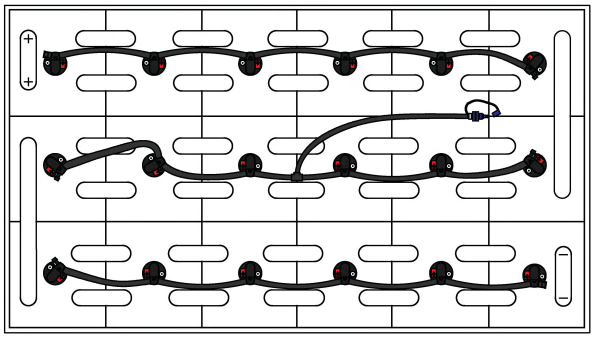
PART NUMBER	DESCRIPTION	QUANTITY
Various	String of 4 valves	2
Various	String of 4 valves with fill tube	1
08TUB6BLK	1/4" (6 mm) Tubing	3' (.91m)
08CAP6	End Cap	2

Drawing # B-18-LP-PA

18 Cell - 3x6, B/C Cable (with or without cover)



15 plate and lower



17 plate and up

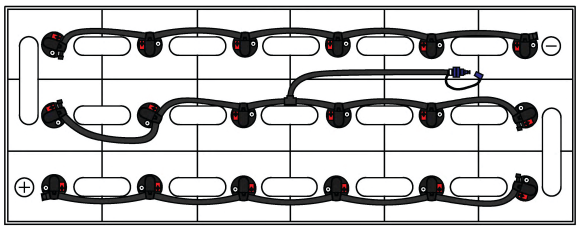
PART NUMBER	DESCRIPTION	QUANTITY
Various	String of 6 valves	2
Various	String of 6 valves with fill tube	1
08TUB6BLK	1/4" (6 mm) Tubing	3' (.91m)
08CAP6	End Cap	2

INDUSTRIAL PARTIALLY ASSEMBLED KITS

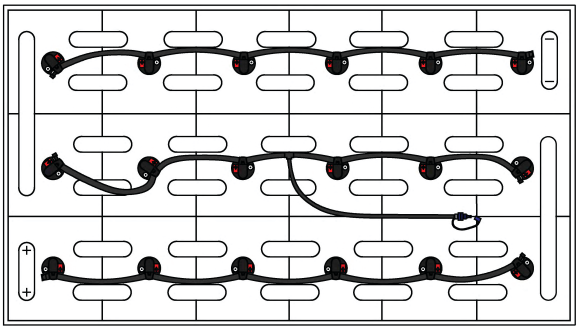
Please put the drawing number and the kit part number on your order.

Drawing # B-18-LP-PA2

18 Cell - 3x6, A/D Cable (with or without cover)



15 plate and lower

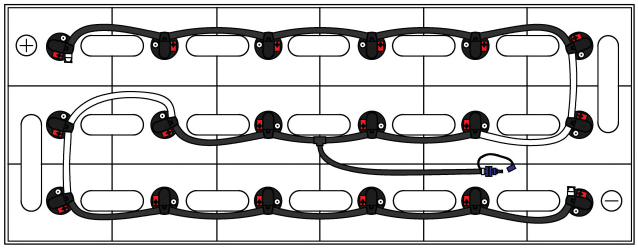


17 plate and up

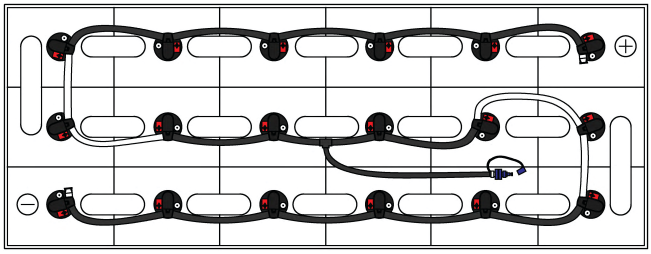
PART NUMBER	DESCRIPTION	QUANTITY
Various	String of 6 valves	2
Various	String of 6 valves with fill tube	1
08TUB6BLK	1/4" (6 mm) Tubing	3' (.91m)
08CAP6	End Cap	2

Drawing # B-18-LP-PA3

18 Cell - 3x6 (with or without cover)
Works with either terminal position



or

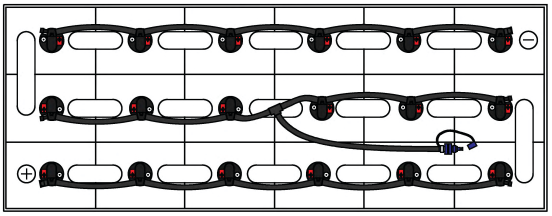


PART NUMBER	DESCRIPTION	QUANTITY
Various	String of 6 valves	2
Various	String of 2 valves with fill tube	1
08TUB6BLK	1/4" (6 mm) Tubing	5' (1.5m)
08CAP6	End Cap	2
Various	Low Profile Valve	4

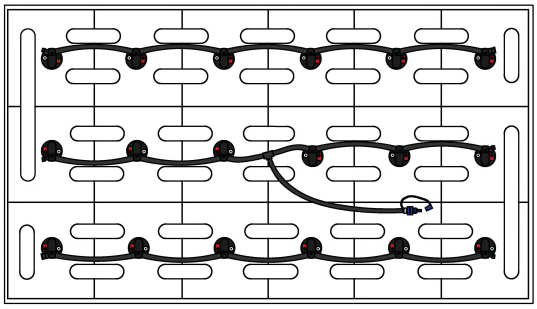
Please put the drawing number and the kit part number on your order.

Drawing # B-18-LP-PA4

18 Cell - 3x6 (with or without cover)



15 plate and lower

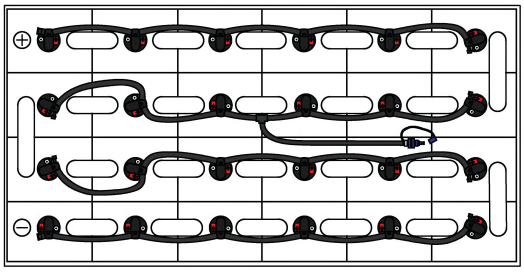


17 plate and up

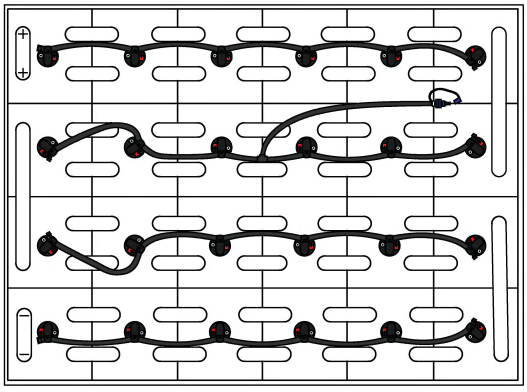
PART NUMBER	DESCRIPTION	QUANTITY
Various	String of 6 valves	2
Various	String of 6 valves with fill tube	1
08TUB6BLK	1/4" (6 mm) Tubing	3' (.91m)
08CAP6	End Cap	2

Drawing # B-24-LP-PA

24 Cell - 4x6 (with or without cover)



15 plate and lower



17 plate and up

PART NUMBER	DESCRIPTION	QUANTITY
Various	String of 6 valves	3
Various	String of 6 valves with fill tube	1
08TUB6BLK	1/4" (6 mm) Tubing	4' (1.2 m)
08CAP6	End Cap	2

EURO VALVE

Safety and labor savings are of the utmost importance to Battery Watering Technologies. Our valves are manufactured with the highest quality materials that keep all working parts above the battery cell.

INDICATOR EYE
Visible from the top and side -Confirms proper operation of valves.

ULTRASONIC WELDED LID
The welding fuses the lid to the valve body improving the structural strength of the valve.

CLIP-IN BASE
Installation is fast and easy - No twisting to lock in place.

LOW PROFILE DESIGN
Drastically reduces the risk of damage from battery cables.

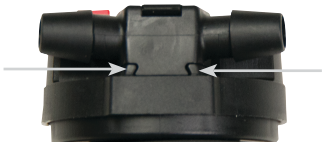
SOLID ONE-PIECE FLOAT
Acid, temperature, and impact resistant - Solid construction cannot absorb water.

Refer to page 23 to determine the correct float size.

TUBING BARBS
Eliminates the need for clamps and angled to make installation easy in tight configurations.

HYDROMETER PORT
Hydrometer readings can be taken without removing the valve from the battery. The hydrometer opening has a slider with a stop so the covering won't break or get lost.

Z-LOCK
The z-Lock feature integrates the tee piece with the valve for added durability.



WIDEST PRESSURE RANGE
The valves operate with pressure from 3-35 PSI using our filling devices. House static pressure should never be more than 90 PSI. If needed, a variety of pressure regulators are available to lower pressure.

FULLY ASSEMBLED KITS
Installs in seconds.

Choosing the correct float is crucial in achieving the proper electrolyte level in the battery cell. The solid one piece float is acid, temperature and impact resistant. The solid construction will not absorb water.

BFS

PART #	T1	T2
072214	42	29
072220	47	34
072224	51	39
072229	56	42
072234	61	46
072239	66	50
072244	71	53
072249	76	59
072259	86	68

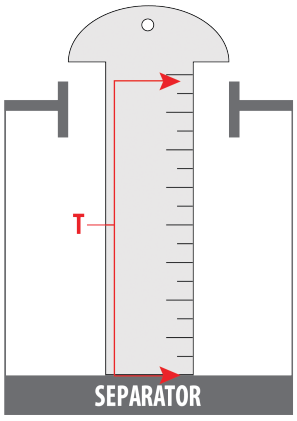
BWT

PART #	T1	T2
FLT14	40	29
FLT20	46	34
FLT24	52	40
FLT29	57	44
FLT34	61	47
FLT39	67	52
FLT44	71	54
FLT49	75	57
FLT59*	86	67

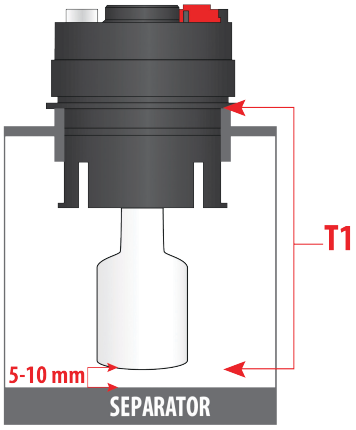
** Requires Float Extension*

BWT Block

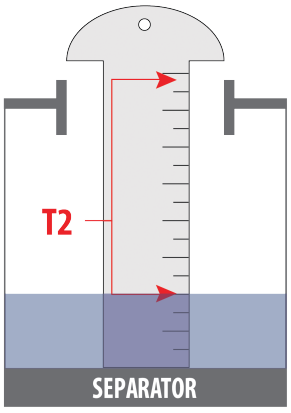
PART #	T1	T2
VB-TBU	47	35
VB-TBY	37	29
VC-TB4	40	25
VC-TB5	52	34
VB-TB5S	58	46



T MEASUREMENT
Top of cell to top of separator



T1 MEASUREMENT
Top of cell to bottom of float



T2 MEASUREMENT
Top of cell to top of electrolyte level

FLT14 FLT20 FLT24 FLT29 FLT34 FLT39 FLT44 FLT49

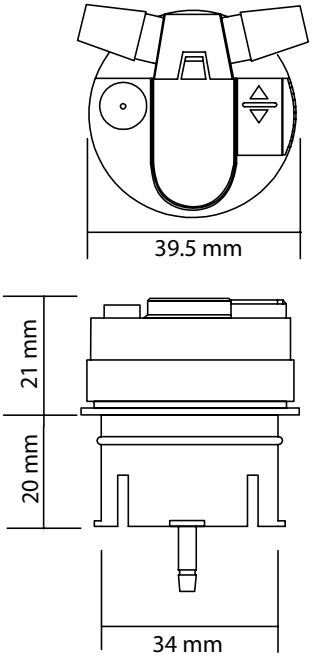
EURO BASIC KITS

* Specify required float size in the kit part number. See page 23 for float measurements. These example part numbers use FLT34.

VA-TBE Basic Kits

35 mm Push-In Valve

PART NUMBER	CELLS
K600VAE34	6
K900VAE34	9
K1200VAE34	12
K1800VAE34	18
K2400VAE34	24
K3600VAE34	36
K4000VAE34	40
K6400VAE34	64



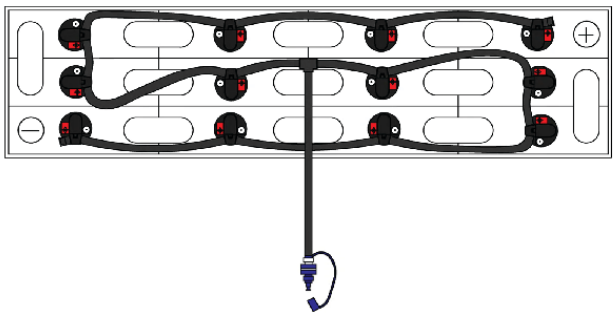
Pictured: K1200VAE34 Basic Kit
VA-TBE valves shown with 34 mm floats.
Floats are not included. Please specify float size when ordering.

- Kits will ship with the blue connector (09MBLU1) unless specified otherwise. See optional connectors on pages 32 and 33.
- To order a competitor connector on the end of the kit, add suffix **F**-09FUV6, **P**-09PHISCI-6, **G**-09GRM6, or **W**-09CUV6 (Example: **K1200VAE34G** for a 12 cell kit with grey 09GRM6 connector).
- Fully assembled kit orders placed without drawing numbers may delay your order.
- Delivery items are not automatically added to orders. Only items specified on the purchase order will ship.
- Please refer to Float Guide on page 23 to determine proper float needed.

Please put the drawing number and the kit part number on your order.

Drawing # B-12-5-EU-226

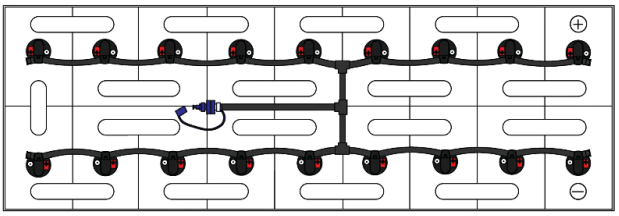
12 Cell - 5 Plate (with or without cover)
Approximate Tray Size: 25.50" x 6.50"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	12
08TUB6BLK	1/4" (6 mm) Tubing	7' (2.13 m)
08T666N	6-6-6 Tee	1
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	2

Drawing # B-18-11-EU-367

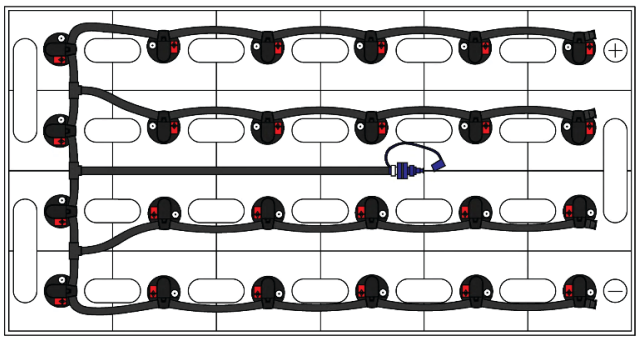
18 Cell - 11 Plate (with or without cover)
Approximate Tray Size: 36.3" x 16.1"



PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	18
08TUB6BLK	1/4" (6 mm) Tubing	8' (2.43 m)
08T666N	6-6-6 Tee	3
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	4

Drawing # B-24-13-EU-317

24 Cell - 13 Plate (with or without cover)
Approximate Tray Size: 47.72" x 19.33"



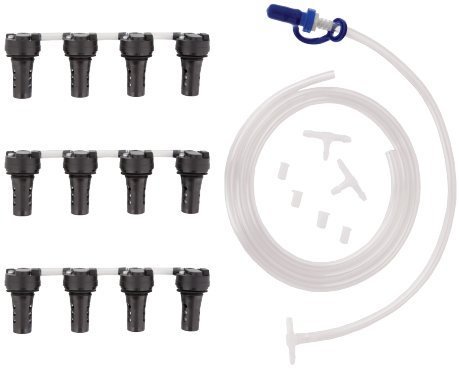
PART NUMBER	DESCRIPTION	QUANTITY
Various	Low Profile Valve	24
08TUB6BLK	1/4" (6 mm) Tubing	17' (5.18 m)
08T666N	6-6-6 Tee	3
09DBCAP	Dust Cap	1
09MBLU1	1/4" (6 mm) Male Conn	1
08CAP6	End Cap	4

HOW TO ORDER COMMERCIAL KITS

BASIC KIT

Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.

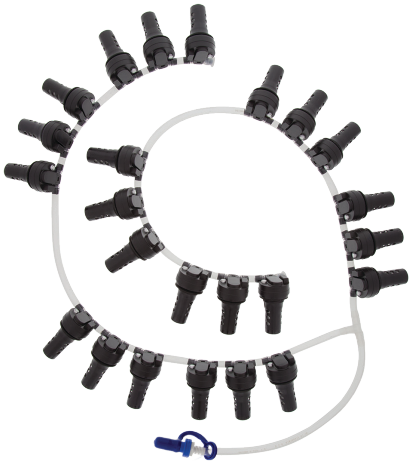
To place an order for a Basic Kit, determine the valve type needed by using the commercial valve guide on page 27. You must know the battery make and model to use the valve guide. After determining the valve type, go to pages 28-30 to determine the commercial basic kit part number.



PARTIALLY ASSEMBLED KIT

Everything is provided for the kit, however the tubing is attached to strings of multiple valves. Extra tubing is provided to complete assembly of the kit.

To place an order for a Partially Assembled Kit, determine the valve type needed by using the commercial valve guide on page 27. You must know the battery make and model before using the valve guide. After determining the valve type, go to pages 30 or 31 to determine the partially assembled kit part number needed.



FULLY ASSEMBLED KIT

Everything is provided for the kit. It is fully assembled and ready for installation.

To place an order for a Fully Assembled Kit, determine the valve type needed by using the commercial valve guide on page 27. You must know the battery make and model before using the valve guide. The drawing number is the part number for fully assembled kits.
For a complete list of drawings, visit www.batterywatering.com and select the Commercial Kit Selector; enter the manufacturer, vehicle type, model, number of cells and battery voltage.

- All kits ship with our blue connector (09MBLU1) unless specified in writing on the order.
- All commercial kits ship with clear tubing unless specified in writing on the order.
- To order a competitor connector on the end of the kit, add suffix **F**-Flow-Rite® or **G**-Grey.
- Delivery items are not automatically added to orders. Only items specified on the purchase order will ship.
- Please refer to the Commercial Valve Guide on page 27 to determine proper valve type.

MANUFACTURER	BATTERY VOLTAGE	BATTERY	VALVE	CELL TO CELL DIMENSIONS (IN/MM)
Centennial Battery	6 volt	GC-2	VB-TBU	2.7/69
	8 volt	GC-8	VB-TBU	2.3/58
Crown Battery	6 volt	CR-205	VB-TBU	2.7/69
	6 volt	CR-220	VB-TBU	2.7/69
	6 volt	CR-235	VB-TBU	2.7/69
	6 volt	CR-240	VB-TBU	2.7/69
	6 volt	CR-260	VB-TBU	2.7/69
	6 volt	CR-370 (Scrubber)	VB-TBU	2.7/69
	6 volt	L16	VB-TB5S	2.7/69
	8 volt	CR-150	VB-TBU	2.5/64
	8 volt	CR-165	VB-TBU	2.5/64
	8 volt	CR-190	VB-TBU	2.5/64
	12 volt	CR-GC150	VB-TBY	2.7/69
	12 volt	CR-GC155	VB-TBY	2.7/69
Duracell	6 volt	GC2	VB-TBU	2.7/69
	8 volt		VB-TBU	2.3/58
	12 volt		VB-TBU	2.7/69
East Penn (Deka)	6 volt	GC10 / GC15	VB-TBU	2.7/69
	6 volt	GC25 / GC25G	VB-TBU	2.7/69
	6 volt	GC45	VB-TBU	2.7/69
	6 volt	L16	VB-TBU	2.7/69
	8 volt	GC8V	VB-TBU	2.5/64
Exide Battery	6 volt	GC135	VB-TBU	2.7/69
	6 volt	GC145	VB-TBU	2.7/69
	6 volt	L16	VB-TBU	2.7/69
	8 volt	GC8V-110	VB-TBU	2.5/64
Group 24/27/31	12 volt		VC-TB4	
Interstate Battery	6 volt	2018 and older	VB-TBU	2.7/69
	8 volt	2018 and older	VB-TBU	2.5/64
	12 volt	2018 and older	VB-TBU	2.7/69
	6 volt	2019 +	VB-TBU	2.7/69
	8 volt	2019 +	VB-TBU	2.3/58
	12 volt	2019 +	VB-TBY	2.7/69
Johnson Controls	6 volt		VB-TBU	2.7/69
	8 volt		VB-TBU	2.5/64
Napa	6 volt		VB-TBU	2.7/69
	8 volt		VB-TBU	2.5/64
PD+	6 volt		VB-TBU	2.7/69
	8 volt		VB-TBU	2.3/58
	12 volt		VB-TBY	2.7/69
Powertron	6 volt		VB-TBU	2.7/69
	8 volt		VB-TBU	2.3/58
	12 volt		VB-TBY	2.7/69
Surrette Battery		5000 Series	VB-TB5SX	N/A
		All Others	VB-TB5S	N/A

MANUFACTURER	BATTERY VOLTAGE	BATTERY	VALVE	CELL TO CELL DIMENSIONS (IN/MM)
Trojan	6 volt	T-105	VB-TBU	2.7/69
	6 volt	T-105 Plus	VB-TBU	2.7/69
	6 volt	T-605	VB-TBU	2.7/69
	6 volt	T-125	VB-TBU	2.7/69
	6 volt	T-125 Plus	VB-TBU	2.7/69
	6 volt	T-145	VB-TBU	2.7/69
	6 volt	T-145 Plus	VB-TBU	2.7/69
	6 volt	L16	VB-TB5S	2.7/69
	6 volt	T-105RE	VB-TB5S	2.7/69
	8 volt	T-875	VB-TBU	2.3/58
	8 volt	T-890	VB-TBU	2.3/58
	8 volt	Ranger™ 160	VB-TBU	2.3/58
	8 volt	Traveler™ 8 V	VB-TBU	2.3/58
	12 volt	T-1260 Plus	VB-TBU	1.8/46
	12 volt	T-1275 Plus	VB-TBU	1.8/46
	12 volt	T-1275	VB-TBY	2.7/69
US Battery	6 volt	US 1800 XC / XC2	VB-TBU	2.7/69
	6 volt	US 2000 XC / XC2	VB-TBU	2.7/69
	6 volt	US 2200 XC / XC2	VB-TBU	2.7/69
	6 volt	US 125 XC / XC2	VB-TBU	2.7/69
	6 volt	US 145 XC / XC2	VB-TBU	2.7/69
	6 volt	US 100 DIN XC2	VB-TBU	2.7/69
	6 volt	US 250 XC2	VB-TBU	2.7/69
	6 volt	US 305 XC2	VB-TBU	2.7/69
	6 volt	L16	VB-TBU	2.7/69
	6 volt	US RE GC2H XC2	VB-TBU	2.7/69
	8 volt	US 8VGCE XC / XC2	VB-TBU	2.5/64
	8 volt	US 8VGC XC / XC2	VB-TBU	2.5/64
	8 volt	US 8VGCi XC2	VB-TBU	2.5/64
	8 volt	US 8VH ATB XC2	VB-TBU	2.5/64
	8 volt	11-4-1 XC2	VB-TBU	4.5/114
	8 volt	13-4-1 XC2	VB-TBU	5/127
	8 volt	15-4-1 XC2	VB-TBU	5.8/146
	8 volt	17-4-1 XC2	VB-TBU	6.5/165
	8 volt	19-4-1 XC2	VB-TBU	6.4/162
	12 volt	US 12V XC / XC2	VB-TBU	2.7/69
	12 volt	US 12VE XC2	VB-TBU	2.7/69
	12 volt	US 12VRX XC2	VB-TBU	2.0/51
	12 volt	US 185 XC2	VB-TBU	2.7/69
	12 volt	US 24DC XC2	VC-TB4	2.7/69
	12 volt	US 27DC XC2	VC-TB4	2.7/69
	12 volt	US 31DC XC2	VC-TB4	2.7/69
	12 volt	8D-HC XC2	VC-TB5	2.7/69

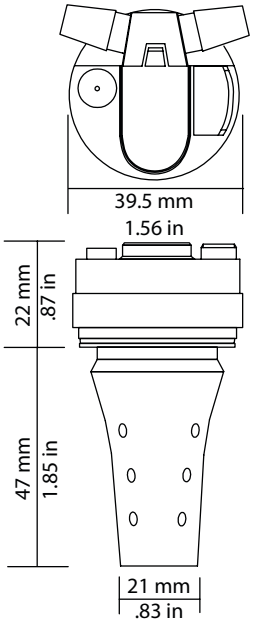
Contact your Account Manager for other battery manufacturers.

COMMERCIAL BASIC KITS

VB-TBU Basic Kits

Encapsulated Valve

PART NUMBER	CELLS
K600B-GLFBCTB	6
K900B-GLFBCTB	9
K1200B-GLFBCTB	12
K1800B-GLFBCTB	18
K2400B-GLFBCTB	24
K3600B-GLFBCTB	36
K4000B-GLFBCTB	40
K6400B-GLFBCTB	64



Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.

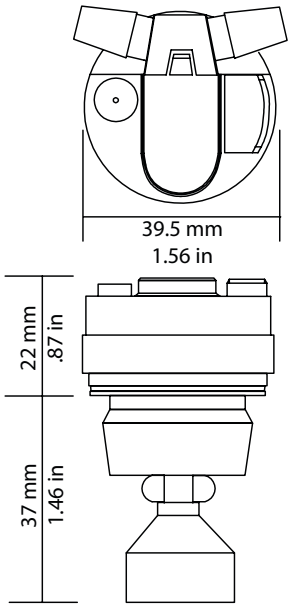
To place an order for a Basic Kit, determine the valve type needed by using the Commercial Valve Guide on page 27. You must know the battery make and model to use the valve guide.

To view a list of materials included with each kit, please visit our website *batterywatering.com* or *batterywatering.com/collections/basic-commercial-kits*

VB-TBY Basic Kits

Valve for Crown 12 volt
and Trojan T-1275

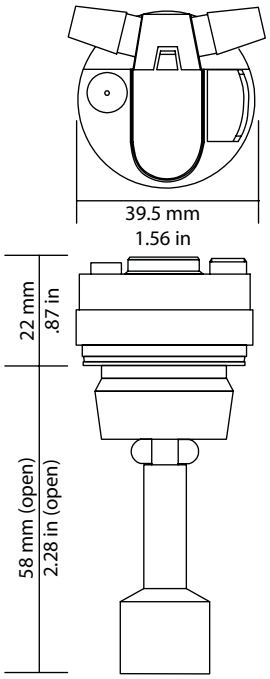
PART NUMBER	CELLS
K600B-GLFBCTBY	6
K900B-GLFBCTBY	9
K1200B-GLFBCTBY	12
K1800B-GLFBCTBY	18
K2400B-GLFBCTBY	24
K3600B-GLFBCTBY	36
K4000B-GLFBCTBY	40
K6400B-GLFBCTBY	64



VB-TB5S Basic Kits

Valve for most Rolls Surrette Batteries and Trojan L16, Trojan T-105RE and Crown L16

PART NUMBER	CELLS
K600B-GLFBCTB5S	6
K900B-GLFBCTB5S	9
K1200B-GLFBCTB5S	12
K1800B-GLFBCTB5S	18
K2400B-GLFBCTB5S	24
K3600B-GLFBCTB5S	36
K4000B-GLFBCTB5S	40
K6400B-GLFBCTB5S	64



Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.

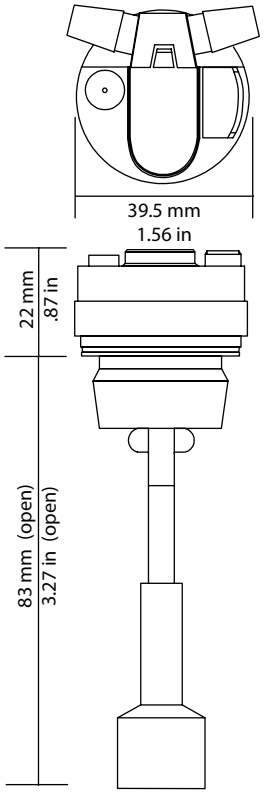
To place an order for a Basic Kit, determine the valve type needed by using the Commercial Valve Guide on page 27. You must know the battery make and model to use the valve guide.

To view a list of materials included with each kit, please visit our website *batterywatering.com* or *batterywatering.com/collections/basic-commercial-kits*

VB-TB5SX Basic Kits

Valve for Rolls Surrette 5000 Series

PART NUMBER	CELLS
K600B-GLFBCTB5SX	6
K900B-GLFBCTB5SX	9
K1200B-GLFBCTB5SX	12
K1800B-GLFBCTB5SX	18
K2400B-GLFBCTB5SX	24
K3600B-GLFBCTB5SX	36
K4000B-GLFBCTB5SX	40
K6400B-GLFBCTB5SX	64

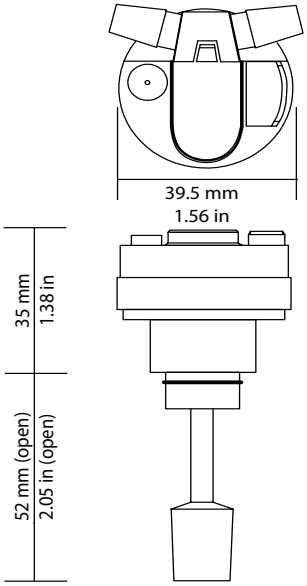


COMMERCIAL BASIC KITS

VC-TB5 Basic Kits

Valve for 8D and 4D Batteries
Push-in Style with
¾" vent opening

PART NUMBER	CELLS
CK600TB5	6
CK1200TB5	12
CK1800TB5	18
CK2400TB5	24
CK3600TB5	36



Everything is provided for the kit, however the tubing is not cut or attached to any of the valves.

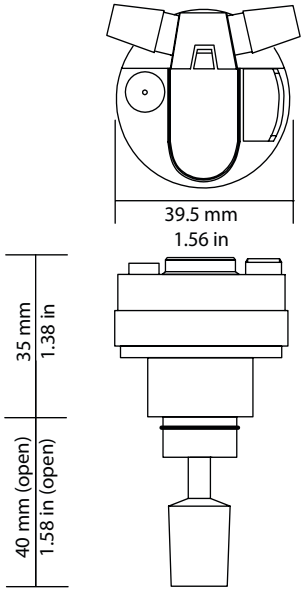
To place an order for a Basic Kit, determine the valve type needed by using the Commercial Valve Guide on page 27. You must know the battery make and model to use the valve guide.

To view a list of materials included with each kit, please visit our website *batterywatering.com* or *batterywatering.com/collections/basic-commercial-kits*

VC-TB4 Partially Assembled Kits

Valve for Group 24, 27, 31
Push-in Style with
¾" vent opening

PART NUMBER	CELLS
CK600TB4	6
CK1200TB4	12
CK1800TB4	18
CK2400TB4	24
CK3600TB4	36

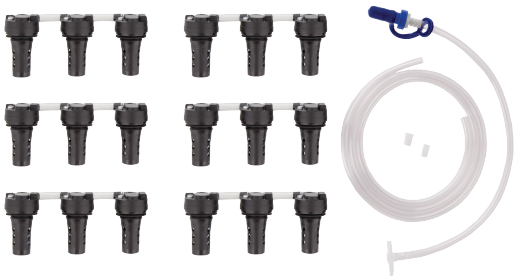


VC-TB4 Basic Kits are *not* available due to the compact cell to cell dimensions.

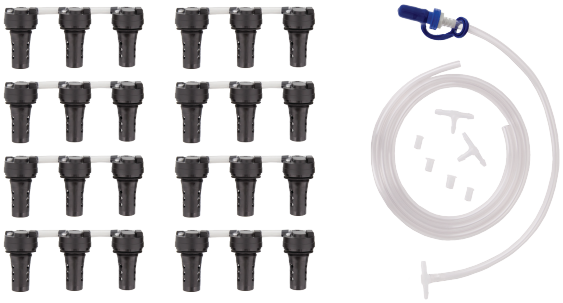
We do not offer a valve for tapered cells.

COMMERCIAL PARTIALLY ASSEMBLED KITS

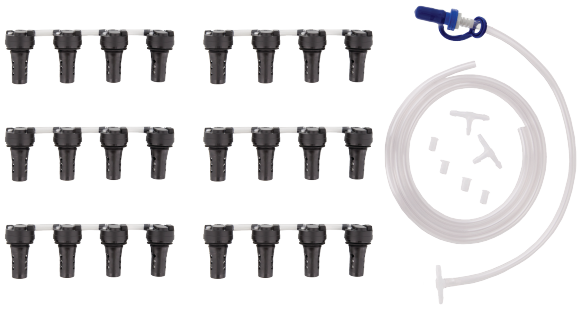
K1200B-GLFBCTBUS
12 cell for 6 volt battery uses VB-TBU valve
Can be used for Crown, Deka, Trojan and U.S. Battery's



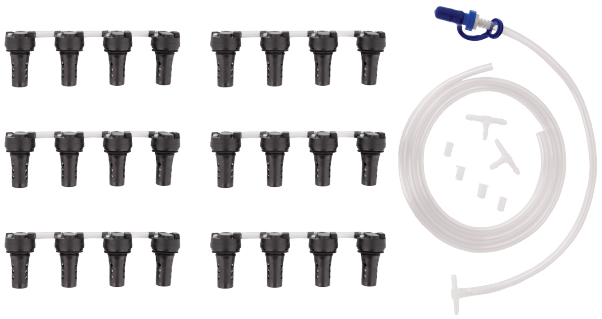
K1800B-GLFBCTBUS
18 cell kit for 6 volt battery uses VB-TBU valve
Can be used for Crown, Deka, Trojan and U.S. Battery's



K2400B-GLFBCTBUS
24 cell kit for 6 volt battery uses VB-TBU valve
Can be used for Crown, Deka, Trojan and U.S. Battery's



K2400B-GLFBCTBUS8
24 cell kit for 8 volt battery uses VB-TBU valve
Can be used for Crown, Exide, Interstate and U.S. Battery's
(2.5” cell spacing)



K2400B-GLFBCTBTJ8
24 cell kit for 8 volt battery uses VB-TBU valve
Can be used for Trojan Batteries
(2.3” cell spacing)

K2400B-GLFBCTBTRCR
24 cell kit for 12 volt battery uses VB-TBY valve
Can be used for Crown and Trojan 12 volt Batteries

CONNECTORS

Battery Watering Technologies' products can be used with most competitor high and low pressure products. We offer a large array of connectors for kit and delivery items to meet our customer's needs.

BATTERY WATERING TECHNOLOGIES

09FBLU1
⅜" (10 mm)
Female Connector

09FBLU6
¼" (6 mm)
Female Connector

09FBLUT3
¼" (6 mm) (NPT Threaded)
Female Connector

Use only with Direct Fill Link (# DF72)

09MB-ORING
Replacement o-ring for 09MBLU1 and 09MBLU2

Inner: .3" (7 mm)
Outer: .45" (11 mm)
Thickness: .07" (1 mm)

09MBLU1
¼" (6 mm)
Male Connector

09MBLU2
⅜" (10 mm)
Male Connector

09GRF1
⅜" (10 mm)
Female Connector

09GRF6
¼" (6 mm)
Female Connector

09GRM1
⅜" (10 mm)
Male Connector

09GRM6
¼" (6 mm)
Male Connector

PHILADELPHIA SCIENTIFIC®

L70654
Female Connector

09PHISCI-1
⅜" (10 mm)
Male Connector

09PHISCI-6
¼" (6 mm)
Male Connector

Battery Watering Technologies' products can be used with most competitor high and low pressure products. We offer a large array of connectors for kit and delivery items to meet our customer's needs.

WATERMASTER®

09CUM1
⅜" (10 mm)
Female Connector

09CUM6
¼" (6 mm)
Female Connector

09CUV1
⅜" (10 mm)
Male Connector

Requires HCC500 clamp

09CUV6
¼" (6 mm)
Male Connector

FLOW-RITE®

09FR-ORING
Replacement o-ring for 09FUV1 and 09FUV6

Inner: .65" (16 mm)
Outer: .8" (20 mm)
Thickness: .07" (1 mm)

09FUM1
⅜" (10 mm)
Female Connector

Use with Flow-Rite® Millennium
Requires HCC500 clamp

09FUV1
⅜" (10 mm)
Male Connector

Use with Flow-Rite® Millennium and Philadelphia Scientific® Stealth™
Requires HCC500 clamp

09FUV6
¼" (6 mm)
Male Connector

Use with Flow-Rite® Millennium and Philadelphia Scientific® Stealth™

FREEZER APPLICATIONS

09MBLU1FA
¼" (6 mm)
Freezer Male Connector

09GRM6FA
¼" (6 mm)
Freezer Male Connector

09FUV6FA
¼" (6 mm)
Freezer Male Connector

For use in deep-freeze environments. Reach out to your Account Manager for additional information.

CONNECTOR GUIDE

There are a variety of connectors on the market. The following recommendations help determine which connectors are compatible.

If you try to mate a connector with one that is not a match, it will not work.
Female connectors go on the water delivery item. Male connectors go on the battery kit.

	FEMALE			MALE	
BATTERY WATERING TECHNOLOGIES	 09FBLU1	 09FBLUT3	 09FBLU6	 09MBLU1	 09MBLU2
FLOW-RITE®	 09FUM1			 09FUV1	 09FUV6
PHILADELPHIA SCIENTIFIC® INJECTOR	 L70654			 09PHISCI-1	 09PHISCI-6
PHILADELPHIA SCIENTIFIC® STEALTH™	 09FUM1			 09FUV1	 09FUV6
BFS/COMPATIBLE GREY	 09GRF1	 09GRF6		 09GRM1	 09GRM6
WATERMASTER®	 09CUM1	 09CUM6		 09CUV1	 09CUV6

Jumpers can be made to/from any connector by special order.

09FJUMP

Connector Jumper
with 09GRM1 & 09FBLU1 Connectors

This jumper is needed if you have a water delivery item with the grey connector (**09GRF1**) and need to connect to a kit with the blue connector (**09MBLU1**).

09MJUMP

Connector Jumper
with 09MBLU2 & 09GRF1 Connectors

This jumper is needed if you have a water delivery item with the blue connector (**09FBLUT3** or **09FBLU1**) and need to connect to a kit with the grey connector (**09GRM6**).

09FJUMPF

Connector Jumper
with 09FUV1 & 09FBLU1 Connectors

This jumper is needed if you have a water delivery item with the black connector (**09FUM1**) and need to connect to a kit with the blue connector (**09MBLU1**).

09MJUMPF

Connector Jumper
with 09MBLU2 & 09FUM1 Connectors

This jumper is needed if you have a water delivery item with the blue connector (**09FBLU1** or **09FBLUT3**) and need to connect to a kit with the black connector (**09FUV6**).

09FCJUMP

Connector Jumper
with 09FUV1 & 09GRF1 Connectors

This jumper is needed if you have a water delivery item with the black connector (**09FUM1**) and need to connect to a kit with the grey connector (**09GRM6**).

09MCJUMP

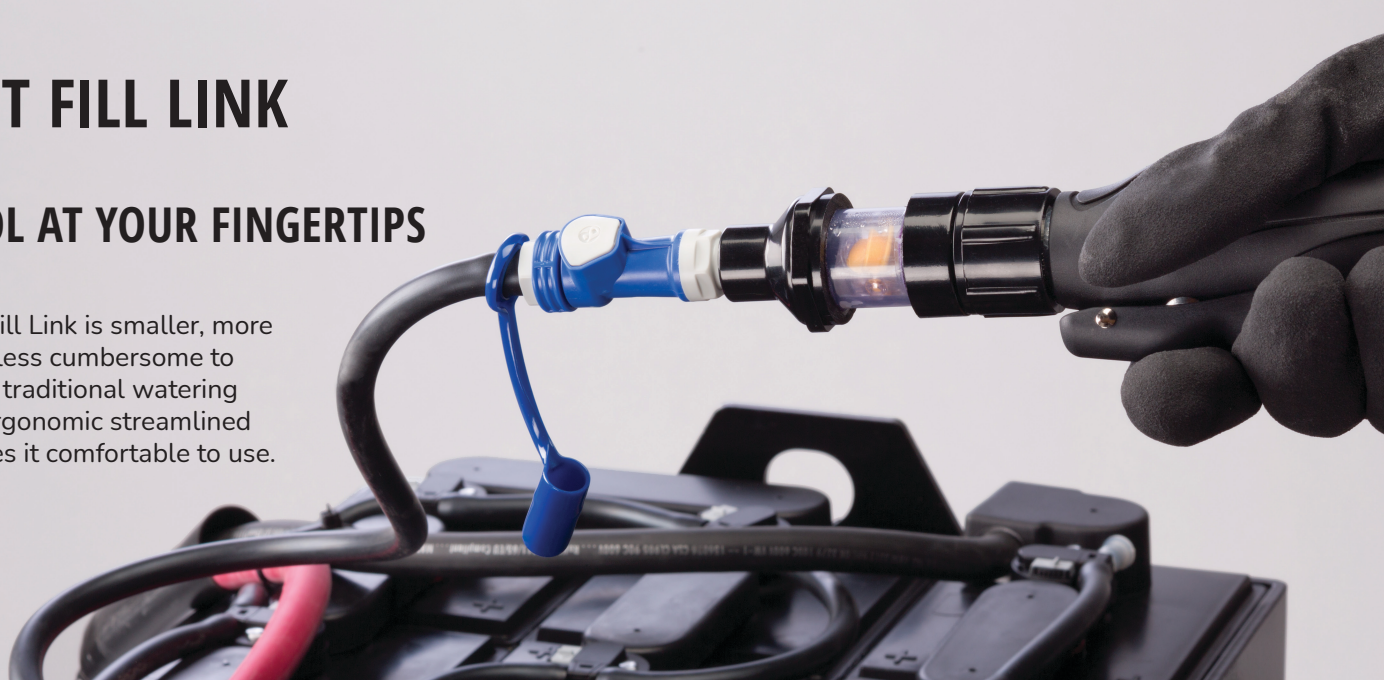
Connector Jumper
with 09GRM1 & 09FUM1 Connectors

This jumper is needed if you have a water delivery item with the grey connector (**09GRF1**) and need to connect to a kit with the black connector (**09FUV6**).

DIRECT FILL LINK

CONTROL AT YOUR FINGERTIPS

The Direct Fill Link is smaller, more robust, and less cumbersome to handle than traditional watering guns. The ergonomic streamlined design makes it comfortable to use.



This is our standard Direct Fill Link that works with BWT low profile watering systems that have the 09MBLU1 or 09MBLU2 quick connects.

DF72

Standard Direct Fill Link
with 09FBLUT3 Connector

Depending on water quality, the Direct Fill Link can be connected to a standard garden hose, a deionizer or an Aqua Sub™ cart to put water directly into the batteries. The Direct Fill Link has a built-in flow indicator and pressure regulator, reducing pressure down to 10 PSI. It can handle up to 90 PSI from the water source.

Use the connector guide on page 34 to determine which male connector is the mate to the Direct Fill Link below.

The Direct Fill Link is not recommended for use with Philadelphia Scientific® injector systems or Watermaster® systems.

DF72G

Direct Fill Link
with 09GRF1 Connector

DF72F

Direct Fill Link
with 09FUM1 Connector

DFHOSE-ST

Direct Fill Link with
20' (6 m) hose and strainer
with 09FBLUT3 Connector

DFHOSE-STG

Direct Fill Link with
20' (6 m) hose and strainer
with 09GRF1 Connector

DFHOSE-STF

Direct Fill Link with
20' (6 m) hose and strainer
with 09FUM1 Connector

DFHOSCN

Direct Fill Link with
09FBLUT3 Connector and
12' (3.7 m) hose

DFHOSC

Direct Fill Link with
09GRF1 Connector and
12' (3.7 m) hose

DFHOSCNF

Direct Fill Link with
09FUM1 Connector and
12' (3.7 m) hose

REPLACEMENT PARTS:

IMAGE	PART NUMBER	DESCRIPTION	DF72	DF72F & DF72G
	09FIL2	Filter Screen	X	X
	63136	3/4" GHT to 3/8" Barb (19 mm to GHT to 10 mm Barb)		X
	09FRTL72	Front End Replacement for DF72	X	
	09FRTL72F	Front End Replacement for DF72F		X
	09FRTL72G	Front End Replacement for DF72G		X
	09FWM72A	Flow Indicator	X	
	09FWM72B	Flow Indicator		X
	GHAN2	Handle	X	X
	HCC500	Crimp Hose Clamp 3/8" (10 mm)		X
	L70654	Female Quick Connect	X	X
	L70655	Quick Connect Male Adapter	X	X
	PRG915	10 PSI Pressure Regulator	X	X
	W-406	Gasket	X	X

CALCULATE WATER FLOW

The Direct Fill Link Plus equips the original Direct Fill Link with our patent pending flow meter. This advanced technology provides real-time data on the quantity of water being added to your battery each watering cycle.

Flow Meter

Bluetooth enabled allowing it to operate freely with or without internet access.

FRED Compatible

This device can be used on its own and record the data manually or pair it with our custom designed software FRED.

Flow Rate

0.25-3.0 gallons/minute or 1-11 liters/minute.

DIRECT FILL LINK

This is our standard Direct Fill Link Plus that works with BWT low profile watering systems that have the 09MBLU1 or 09MBLU2 quick connects. Depending on water quality, the Direct Fill Link Plus can be connected to a standard garden hose, a Deionizer or an Aqua Sub™ cart to put water directly into the batteries. The Direct Fill Link Plus has a built-in flow indicator and pressure regulator, reducing pressure down to 10 PSI. It can handle up to 90 PSI from the water source.

Use the connector guide on page 34 to determine which male connector is the mate to the Direct Fill Link Plus.

The Direct Fill Link Plus is not recommended for use with Philadelphia Scientific® injector systems or Watermaster® systems.

DF72PLUS

Standard Direct Fill Link Plus
with 09FBLUT3 Connector

DF72FPLUS

Direct Fill Link Plus
with 09FUM1 Connector

DF72GPLUS

Direct Fill Link Plus
with 09GRF1 Connector

DFMETER

Flow Meter

AQUA SUB™ WATERING CART | 25 GALLON

INDUSTRIAL & HEAVY DUTY

The four-wheeled configuration rolls easily and its steel frame makes it extremely durable. With its large opening, the Aqua Sub™ is easy to fill and there are no power cords to trip over.

NC5250PN

Aqua Sub™ Cart
25 Gallon (95 L)
with 09FBLUT3 Connector

- Automatic shut off demand style pump
- Charger included (installed in battery box)
- Charger is intended for 120 V/60 Hz AC
  Contact us if voltage requirements are different
- Direct Fill Link and pressure regulator are included
- Manual watering gun option available
- Rugged steel construction ensures a trouble-free system
- Tough powder coat finish
- Heavy duty industrial wheels
- Battery not included - Requires group 24 DCM Battery
- 2.2 GPM pump included

Box and pallet size for shipping: *48" x 40" x 40" (1219 mm x 1016 mm x 1016 mm)*
Approximate Shipping Weight: *125 lbs (56 kg) palletized for shipping (LTL)*

The Aqua Sub™ Carts can be used with most competitor's systems. They cannot be used with injector systems or gravity only systems.

NC5250PG

Aqua Sub™ Cart
25 Gallon (95 L)
with 09GRF1 Connector

NC5250PF

Aqua Sub™ Cart
25 Gallon (95 L)
with 09FUM1 Connector

NC5250PN-MAN

Aqua Sub™ Cart
25 Gallon (95 L)
with Manual Watering Gun

LIGHTWEIGHT & DURABLE

The Aqua Sub Jr.™ is great for small and medium jobs. The two-wheeled configuration rolls easily and its flexibility makes it easy to maneuver. The Aqua Sub Jr.™ is easy to transport and there are no power cords to trip over.

- Lightweight, durable, and great for small and medium jobs
- Two-wheeled configuration handles like a piece of luggage
- 12 volt battery included
- Charger included (intended for 100-240 VAC 50/60 Hz)
  Contact us if voltage requirements are different
- Direct Fill Link and pressure regulator are included
- Manual watering gun option available
- 1.1 GPM pump included

Box size for shipping: *27" x 20" x 23"*
(686 mm x 508 mm x 584 mm)
Approximate Shipping Weight: *39 lbs. (18 kg)*

NC5090PN
Aqua Sub Jr.™ Cart
9 Gallon (34 L)
with 09FBLUT3 Connector

NC5090PG
Aqua Sub Jr.™ Cart
9 Gallon (34 L)
with 09GRF1 Connector

NC5090PF
Aqua Sub Jr.™ Cart
9 Gallon (34 L)
with 09FUM1 Connector

NC5090PN-MAN
Aqua Sub Jr.™ Cart
9 Gallon (34 L)
with Manual Watering Gun

AQUA SUB™ WATERING CART

Please view the diagram to locate the corresponding replacement part number on page 43.

AQUA SUB Jr™ WATERING CART

Please view the diagram to locate the corresponding replacement part number on page 43.

PICTURE	PART NUMBER	DESCRIPTION	25 GALLON CART	9 GALLON CART
Picture Not Available	Call for Part Number	Charger 12V *Call for Aqua Sub Jr.™ Charger Options*		X
	33-103194	Battery 12V *For 9 gallon carts ordered before 07/1/2021*		X
	33-100512	Battery 12V *For 9 gallon carts ordered after 07/1/2021*		X
	63163	3/4” GHT to 3/8” Barb *(19 mm GHT to 10 mm Barb)*	X	X
	BB5000	Battery Box	X	
	3N34	Drain Cap with Gasket		X
	DC.25C	Drain Cap with Gasket	X	
	LID-09	Tank Lid		X
	LID-25	Tank Lid	X	
	Call for Part Number	Pump 1.1 GPM		X
	Call for Part Number	Pump 2.2 GPM	X	
	AQXK1156	Braided Tubing *(Sold by the foot)* *3/8” x .575” (10 mm x 14 mm)*		X
	SW5000	Front Wheel *(Straight)*	X	
	SV5000	Back Wheel *(Swivel)*	X	
Picture Not Available	TK5250A	25 Gallon (95 L) Replacement Tank *(Tank Only)*	X	

AQUA SUB XTREME

AC/DC POWERED

The Aqua Sub XTREME™ is an AC/DC powered watering cart. The cart is powered by a 12-volt battery (included) with its own on-board charger. The battery's state of charge is indicated by LED lights and the pump will automatically shut off if the battery is low. AC power can be used to either power the cart or charge the battery. The new cart features a space-saving upright design that is easy to maneuver. The translucent tank allows monitoring of the water level while in use.

25 GALLON (95L) CAPACITY - Thick-walled polypropylene tank is corrosion resistant with a large flip top lid for easy filling. The translucent tank with gallon and liter graduations allow for quick visual checks of the water level. For best results, fill tank with deionized water from our Deionizer (Part # PW-1800).

ASSEMBLY - No assembly required. The XTREME cart is ready to use right out of the box, just add water and go!

BATTERY INCLUDED - 12-volt sealed battery included. If the battery becomes low the pump will shut off and a red LED light will flash.

CHARGER - The built-in charger charges the battery when the cart is plugged into AC power and the cart is turned off. LED lights indicate whether the battery is charging or if the charge has been completed. The charger shuts off when charging has been completed and applies a maintenance charge as needed. The included AC cord is for US/Canadian style outlets and is 12' (3.7 m) in length. Contact us for other AC cord configurations.

HOSE - 15' (4.6 m) of ⅜" (10 mm) industrial hose is included.

PUMP - 2.2 GPM. (8.3 L.P.M.) diaphragm pump with in-line 15 amp fuse.

STRAINER - Built-in, easy-to-clean strainer prevents debris from entering the pump or your batteries.

WARRANTY - 1 year parts and labor.

NC25XB

25 Gallon XTREME Cart with Direct Fill Link with 09FBLUT3 connector (DF72)

Additional Part Numbers on page 46.

For installation and operation instructions see page 85.

NC25X

25 Gallon XTREME Cart with hose only

(Not shown)

SHIPPING INFORMATION

Box Dimensions	26" x 21" x 36" (660 mm x 533 mm x 914 mm)
Shipping Weight	80 lbs. (36 kg)

LTL is not required for shipping.
Larger orders can be shipped LTL with up to 8 carts per pallet.

AQUA SUB XTREME™

NC25XG

25 Gallon XTREME Cart with Direct Fill Link with 09GRF1 connector (DF72G)

NC25X-MAN

25 Gallon XTREME Cart with Manual Watering Gun (GMAN1)

NC25XF

25 Gallon XTREME Cart with Direct Fill Link with 09FUM1 connector (DF72F)

50 Gallon Aqua Sub XTREME™ Cart

The 50 gallon Aqua Sub XTREME™ has all of the features of the 25 gallon cart but with more capacity! Refill less often for larger jobs and get more watering done! The cart features locking wheels for added control while operating.

PART NUMBER	DESCRIPTION
NC50X	50 Gallon XTREME Cart with hose only
NC50XB (Shown)	50 Gallon XTREME Cart with Direct Fill Link with 09FBLUT3 connector (DF72)
NC50XG	50 Gallon XTREME Cart with Direct Fill Link with 09GRF1 connector (DF72G)
NC50XF	50 Gallon XTREME Cart with Direct Fill Link with 09FUM1 connector (DF72F)
NC50X-MAN	50 Gallon XTREME Cart with Manual Watering Gun (GMAN1)

REPLACEMENT PARTS:

AQXW15
Back Wheel

AQXCST3
Front Wheel
(25 gal. only)

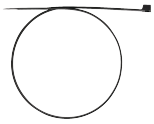
AQXDFP7
Tank Lid

63163
3/4" GHT to 3/8" Barb
(19mm GHT to 10 mm Barb)

AQXS12B
In-line Strainer

AQXMU1SLDM33
Sealed VRLA, AGM, 12v
33AH Battery

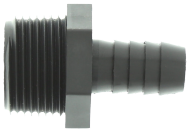
AQXBSTRAP
32.3" Tie



AQXDPA
Drain Plug

AQXK1156
Blue Hosing
(sold by the foot)

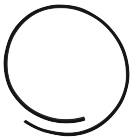
AQX3A3412
1/2" Tank Outlet Fitting



PM5002.2
Pump 2.2 GPM

AQX101
12' - 18G Power Cord

AQX2RRE4
Weather Stripping



EXPERIENCE THE POWER OF THE

POWER PRO

THE ORIGINAL AQUA SUB XTREME™

NOW WITH AN INTERCHANGEABLE LITHIUM BATTERY

AQUA SUB XTREME™ POWER PRO

- Included 56-Volt 5.0Ah battery uses industry-leading technology that keeps the battery from overheating so equipment runs longer at full power
- Shock-resistant design protects batteries and electronics from drops and the elements
- Battery life indicator lights display remaining runtime in 20% increments

LITHIUM POWERED - Power the cart using the on-board lithium battery. The removable battery allows the user to replace or purchase additional battery packs for continuous run times.

25 GALLON (95 L) CAPACITY - Thick-walled polypropylene tank is corrosion resistant with a large flip-top lid for easy filling. The translucent tank with gallon and liter graduations allows for quick visual checks of the water level. For best results, fill tank with deionized water from our Deionizer (Part # PW-1800).

ASSEMBLY - No assembly required. The XTREME cart is ready to use out of the box, just add water and go!

HOSE - 15' (4.6 m) of ⅜" (10 mm) industrial hose is included.

CHARGER - Intelligent battery control system monitors each cell's charge and temperature to deliver the quickest, most efficient charge. Charges in 80 minutes.

PUMP - 2.2 G.P.M. (8.3 L.P.M.) diaphragm pump with in-line 15 amp fuse.

STRAINER - Built-in, easy-to-clean strainer prevents debris from entering the pump or your batteries.

WARRANTY - 1 year parts and labor.

NC25LPXB

25 Gallon XTREME Power Pro Cart with Direct Fill Link with 09FBLUT3 connector (DF72)

Additional Part Numbers on page 50.

For installation and operation instructions see page 84.

AQUA SUB XTREME™ POWER PRO

NC25LPXG

25 gal. XTREME Power Pro Cart with Direct Fill Link with 09GRF1 connector
(DF72G)

NC25LPX-MAN

25 gal. XTREME Power Pro Cart with Manual Watering Gun (GMAN1)

NC25LPXF

25 gal. XTREME Power Pro Cart with Direct Fill Link with 09FUM1 connector
(DF72F)

50 Gallon Aqua Sub XTREME™ Power Pro Cart

The 50 gallon Aqua Sub XTREME™ Power Pro has all of the features of the 25 gallon cart but with more capacity! Refill less often for larger jobs and get more watering done! The cart features locking wheels for added control while operating.

PART NUMBER	DESCRIPTION
NC50LPX	50 gal. XTREME Power Pro Cart with hose only
NC50LPXB (Shown)	50 gal. XTREME Cart Power Pro with Direct Fill Link with 09FBLUT3 connector (DF72)
NC50LPXG	50 gal. XTREME Power Pro Cart with Direct Fill Link with 09GRF1 connector (DF72G)
NC50LPXF	50 gal. XTREME Power Pro Cart with Direct Fill Link with 09FUM1 connector (DF72F)
NC50LPX-MAN	50 gal. XTREME Power Pro Cart with Manual Watering Gun (GMAN1)

REPLACEMENT PARTS:

AQXDPA
Drain Plug

AQXDFP7
Tank Lid

AQXW15
Back Wheel

AQXCST3
Front Wheel
(25 gal. only)

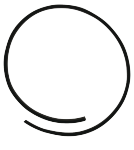
AQXK1156
Blue Hosing
(sold by the foot)

AQXS12B
In-line Strainer

PM5002.2
Pump 2.2 GPM

63163
3/4" GHT to 3/8" Barb
(19mm GHT to 10 mm Barb)

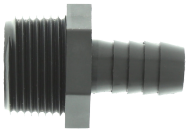
AQX2RRE4
Weather Stripping



Call for Part
56v 5.0Ah Battery

Call for Part
56v Charger

AQX3A3412
1/2" Tank Outlet Fitting



FLOW METER MOUNT

AQUA SUB XTREME™ +

This watering cart combines the Aqua Sub XTREME™ and the Flow Meter for an exceptional watering experience.

FLOW METER - Provides real-time data on the amount of water you are putting into each battery at each watering cycle.

FLOW MOUNT - With the Flow Meter resting inside the Flow Mount, it is protected from the rough handling that can occur in industrial watering.

RETROFIT - A Flow Mount can be retrofitted onto a previously purchased Aqua Sub XTREME™ cart.

DFMPLUS

Mount for Flow Meter. Hardware and instructions for retrofitting are included.

DFMETER

Flow Meter

NC25XBPLUS

25 Gallon XTREME Cart with Direct Fill Link with 09FBLUT3 connector (DF72) and Flow Meter Mount

Additional Part Numbers on page 53.

The Flow Meter is mounted upright toward the user for easy-to-read visibility.

NC25XPLUS

25 Gallon XTREME Cart with Flow Meter Mount only

(Not shown)

AQUA SUB XTREME™

The chart below contains part numbers for the *Aqua Sub XTREME™* cart with a Flow Meter Mount and the corresponding watering device.

PART NUMBER	DESCRIPTION	IMAGE
NC25XPLUS	25 Gallon XTREME™ Cart with hose only	Direct Fill Link not included
NC25XBPLUS	25 Gallon XTREME™ Cart with Direct Fill Link 09FBLUT3 connector (DF72)	
NC25XGPLUS	25 Gallon XTREME™ Cart with Direct Fill Link 09GRF1 connector (DF72G)	
NC25XFPLUS	25 Gallon XTREME™ Cart with Direct Fill Link 09FUM1 connector (DF72F)	
NC25X-MANPLUS	25 Gallon XTREME™ Cart with manual watering gun (GMAN1)	

AQUA SUB XTREME™ POWER PRO

The chart below contains part numbers for the *Aqua Sub XTREME™ Power Pro* cart with a Flow Meter Mount and the corresponding watering device.

PART NUMBER	DESCRIPTION	IMAGE
NC25LPXPLUS	25 Gallon XTREME™ Power Pro Cart with hose only	Direct Fill Link not included
NC25LPXBPLUS	25 Gallon XTREME™ Power Pro Cart with Direct Fill Link 09FBLUT3 connector (DF72)	
NC25LPXGPLUS	25 Gallon XTREME™ Power Pro Cart with Direct Fill Link 09GRF1 connector (DF72G)	
NC25LPXFPLUS	25 Gallon XTREME™ Power Pro Cart with Direct Fill Link 09FUM1 connector (DF72F)	
NC25LPX-MANPLUS	25 Gallon XTREME™ Power Pro Cart with manual watering gun (GMAN1)	

MEGA AQUA SUB

Designed with a large capacity of either 150 or 200 gallons, this high-performance solution is perfect for watering batteries in substantial volumes. The Mega Aqua Sub impresses with its heavy-duty construction. Attach the tank to a utility vehicle or elevate it with a forklift for convenient transport.

150 & 200 GAL CAPACITY - Thick-walled polypropylene tank is corrosion resistant with a large vented screw-top lid for easy filling. The translucent tank with gallon and liter graduations allow for quick visual checks of the water level. For best results, fill tank with deionized water from our Deionizer (Part # PW-1800).

STEEL FRAME - The durable steel frame has fork pocket openings for easy transport.

PUMP - Includes a 12-volt / 4 GPM automatic demand pump for reliable water flow.

3 WAY BALL VALVE - Allows for easy draining of the tank.

BATTERY HARNESS - Harness includes in-line ON & OFF switch

HOSE REEL - This premium manual hose reel comes with 100 feet of hose. The hose reel features a clutch and lock system for easy transportation.

PRESSURE RELIEF BYPASS VALVE - Decreases the frequency of pump oscillation, which involves redirecting a portion of the water flow back into the tank.

STRAINER - Built-in, easy-to-clean strainer prevents debris from entering the pump or your batteries.

ACCESSORIES - Includes battery box, wire harness, labels and battery charger. Battery not included.

WARRANTY - 1 year parts and labor.

The part numbers below include the battery box and charger. To order the Mega Aqua Sub *without* the battery box and charger, remove suffix "**-BC**". *(Example: NC5150PN for a 150 gallon Mega Aqua Sub Cart with a blue connector, without a battery box and charger)*

PART NUMBER	DESCRIPTION	IMAGE
NC5150PN-BC	150 Gallon Mega Aqua Sub Cart with Direct Fill Link 09FBLUT3 connector (DF72)	
NC5150PG-BC	150 Gallon Mega Aqua Sub Cart with Direct Fill Link 09GRF1 connector (DF72G)	
NC5150PF-BC	150 Gallon Mega Aqua Sub Cart with Direct Fill Link 09FUM1 connector (DF72F)	
NC5150PMAN-BC	150 Gallon Mega Aqua Sub Cart with manual watering gun (GMAN1)	

PART NUMBER	DESCRIPTION	IMAGE
NC5200PN-BC	200 Gallon Mega Aqua Sub Cart with Direct Fill Link 09FBLUT3 connector (DF72)	
NC5200PG-BC	200 Gallon Mega Aqua Sub Cart with Direct Fill Link 09GRF1 connector (DF72G)	
NC5200PF-BC	200 Gallon Mega Aqua Sub Cart with Direct Fill Link 09FUM1 connector (DF72F)	
NC5200PMAN-BC	200 Gallon Mega Aqua Sub Cart with manual watering gun (GMAN1)	

LET GRAVITY DO THE WORK.

2.5 GALLON GRAVITY FEED TANK

The Gravity Tank was designed with golf cart users in mind. The 2.5 & 5 gallon tank allows for a steady flow of water from a single connection.

NT2212GF

2.5 Gallon (9.5 L)
Gravity Feed Tank
with 09FBLU1 Connector

Tank Dimensions:
10"L x 10"W x 10"H
(.25 m x .25 m x .25 m)

Tubing Length: 5' (1.5 m)

The tank should be positioned at least 3' (.91 m) above the batteries to ensure proper water delivery.

Note: Always disconnect tank after watering. Never leave tank attached to the watering system. Only water fully charged batteries.

S2000TP

Pole Mount
Tank Shelf

S2000T

Wall Mount
Tank Shelf

NT2212GFGREY

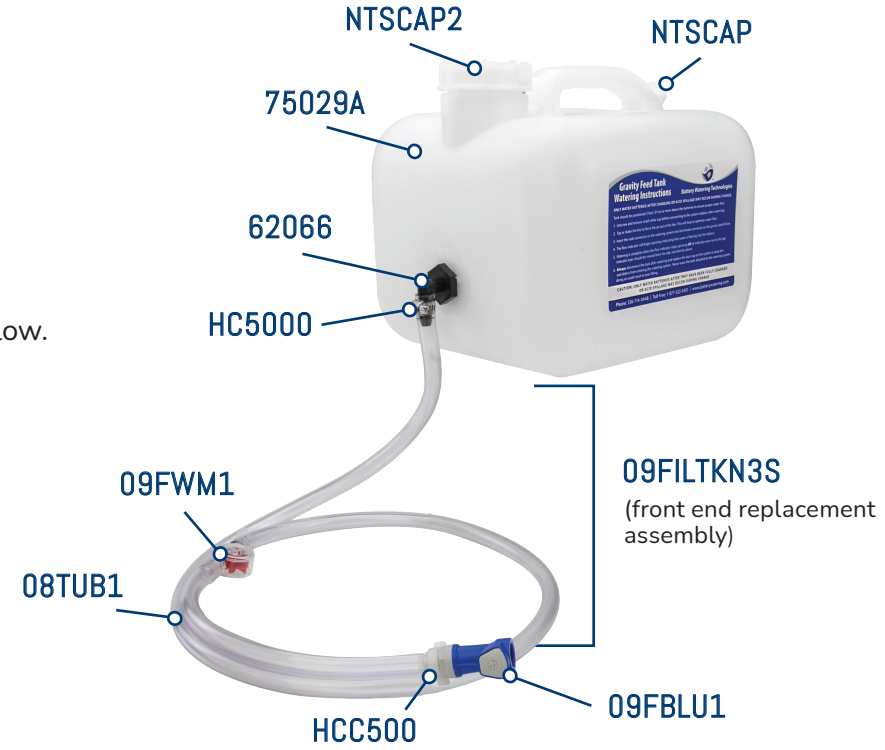
2.5 Gallon (9.5 L)
Gravity Feed Tank
with 09GRF1 Connector

NT2212GFR

2.5 Gallon (9.5 L)
Gravity Feed Tank
with 09FUM1 Connector

REPLACEMENT PARTS

View the diagram to locate the corresponding replacement part below.



62066
⅜" (10 mm) Barb x ¾" (19 mm) NPT

09FWM1
Flow Indicator ⅜"

08TUB1
⅜"(10 mm) Clear Tubing *(sold by the foot)*

HC5000
Metal Hose Clamp

NTSCAP
Small Replacement Cap

NTSCAP2
Large Replacement Cap

TA10126
¾" NPT x ⅜" Barb

HCC500
3/8" (10 mm) Crimp Hose Clamp

09FILTKN3S
Front End Replacement for 2.5 gal. with 09FBLU1 Connector

09FILTK2S
Front End Replacement for 2.5 gal. with 09GRF1 Connector

09FILTKNFS
Front End Replacement for 2.5 gal. with 09FUM1 Connector

75029A
2.5 Gallon (9.5L) Replacement Tank *(tank only - fittings not included)*

GRAVITY FEED TANK | 5 GALLON

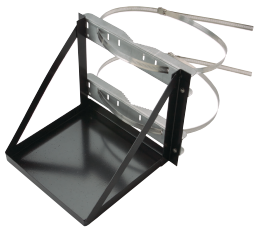
The tank should be positioned at least 3' (.91 m) above the batteries to ensure proper water delivery. Tank shelves are sold separately unless ordering tank/shelf combo.

Note: Always disconnect tank after watering. Never leave tank attached to the watering system. Only water fully charged batteries.

Tank Dimensions:
10"L x 10"W x 16"H
(.25 m x .25 m x .41 m)

Tubing Length: 10' (3m)

S2000TP
Pole Mount
Tank Shelf



S2000T
Wall Mount
Tank Shelf

NT2000GN
5 Gallon (18.9 L)
Gravity Feed Tank with
09FBLU1 Connector
Weight: 2.93 lbs

NT2000G
5 Gallon (18.9 L)
Gravity Feed Tank with
09GRF1 Connector
Weight: 2.93 lbs

NT2000GFR
5 Gallon (18.9 L)
Gravity Feed Tank with
09FUM1 Connector
Weight: 2.93 lbs

TSC2000N
5 Gallon (18.9 L)
Combo Tank and Shelf
with 09FBLU1 Connector

TSC2000
5 Gallon (18.9 L)
Combo Tank and Shelf
with 09GRF1 Connector

Tank Dimensions:
10"L x 10"W x 16"H
(.25 m x .25 m x .41 m)

NT2000AFB

5 Gallon (18.9 L)
Auto-Fill Tank
with 09FBLU1 Connector

The Auto-Fill tank is used in applications where the water supply would be plumbed directly into the tank. There is no need to fill the tank manually. This would be ideal when using the FC1000 Automatic Water Control (see page 67). The tank should be positioned at least 3' (.91 m) above the batteries to ensure proper water delivery. Tank shelves are sold separately unless ordering tank/shelf combo.

Note: Always disconnect tank after watering. Never leave tank attached to the watering system. Only water fully charged batteries.

NT2000AFG

5 Gallon (18.9 L)
Auto-Fill Tank
with 09GRF1 Connector

(Not Shown)

NT2000AFR

5 Gallon (18.9 L)
Auto-Fill Tank
with 09FUM1 Connector

(Not Shown)

REPLACEMENT PARTS:

62066

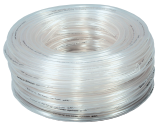
⅜" (10 mm) Barb
x ¾" (19 mm) NPT

09FWM1

Flow Indicator
⅜"

08TUB1

⅜"(10 mm) Clear Tubing
(sold by the foot)



HC5000

Metal Hose Clamp

NTSCAP

Small Replacement Cap

NTSCAP2

Large Replacement Cap

TA10126

¾" NPT x ⅜" Barb

62067

⅜" barb x ¾" Male GHT

09FILTKN

Front End Replacement
for 5 gal. with
09FBLU1 Connector

09FILTK

Front End Replacement
for 5 gal. with
09GRF1 Connector

09FILTKF

Front End Replacement
for 5 gal. with
09FUM1 Connector

75023A

5 Gallon (9.5L)
Replacement Tank
(tank only - fittings not included)

MANUAL PUMP

Distilled water not included

Simply place the end of the tubing into a jug of distilled water and attach the connector to the battery watering system. It is ready to water!

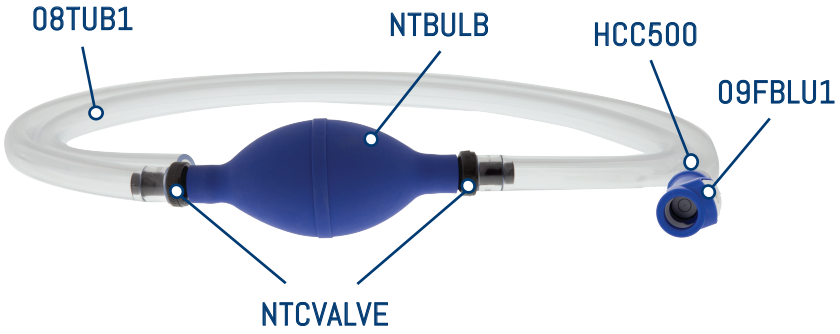
NTHANDP
Manual Pump
with 09FBLU1 Connector

NTHANDPF
Manual Pump
with 09FUM1 Connector

NTHANDPG
Manual Pump
with 09GRF1 Connector

REPLACEMENT PARTS

Please view the diagram to locate the corresponding replacement part.

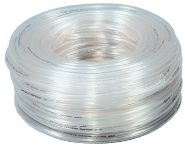


09FBLU1
Female Connector
⅜" (10 mm)

NTBULB
3 oz Blue
In-Line Pump

NTCVALVE
Check Valve
⅜" x ⅜"
(10 mm x 10 mm)

08TUB1
⅜"(10 mm)
Clear Tubing
(sold by the foot)



HCC500
⅜" (10 mm)
Crimp Hose
Clamp

MANUAL WATERING GUN

MANUALLY FILL EACH CELL ONE AT A TIME

The Manual Watering Gun cannot be used with automatic watering systems. It is used to manually fill each cell one at a time. In addition, it must have pressure to operate properly.

- Fills batteries quickly at approximately 1.7 GPM (6.4 l/m).
- Flow diffuser slows the rapid water flow to a gentle spray.
- Minimum incoming water pressure is 15 PSI.
- Nozzle diameter is 0.67" (17 mm). It fits into the flip-top vent caps as well as all standard quarter-turn, bayonet and DIN openings.
- Reliable automatic shutoff fills to the correct level. Shutoff is powered by the water. No solenoids, electronics, or wiring. Unique design eliminates post shut-off drip.
- Rugged ABS plastic industrial design with a comfortable, easy to squeeze handle.
- Lock-in-place level control keeps fill depth from changing.

GMAN1
Manual Watering Gun

- Instant ROI. Compared to hand watering, the gun reduces labor costs.
- 45˚ nozzle is angled to make the gun comfortable to use - no awkward bending over the batteries to add water.

For installation and operation instructions see page 91.

MANUAL VENT CAPS

The manual vent caps allow for fast and easy battery watering when used with the Manual Watering Gun. Just flip open the manual vent caps, insert the Manual Watering Gun to fill each cell and then close the manual vent caps.

MC001
Manual Bayonet Vent Cap

MAA00
Manual Push-in Vent Cap

(Adapters are shipped separately and must be assembled.)

WATER DEIONIZER KIT

The Deionizer can easily and inexpensively remove harmful impurities from the water.

EASY INSTALLATION - Simply attach the bracket to a wall with four bolts. Connect the input and output hose. Insert the probe into the fitting on top of the housing and mount the display on the back of the unit.

PURITY LIGHT - Monitors the water output and tells you when the cartridge needs to be replaced. Push the button to see if it is time to replace the cartridge.

CARTRIDGE REPLACEMENT - No tools are needed. To replace the cartridge, unscrew the canister and put in the new one.

If water has particulates or sediment, a pre-filter is recommended. At three grains per gallon of total dissolved solids you can expect 1,000 gallons (3785.4 Liters) of capacity.

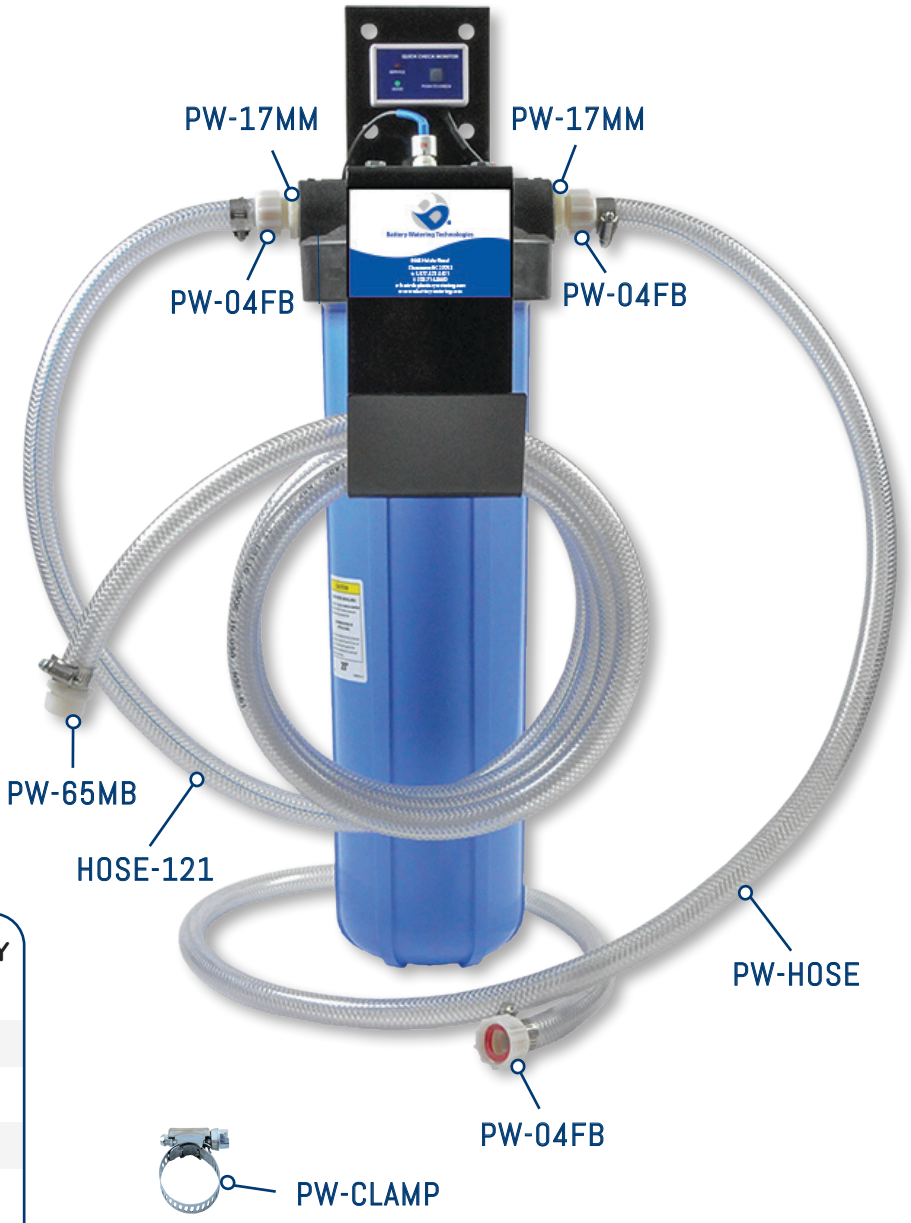
Our deionizer comes with an input and output hose. It connects to your choice of Direct Fill Link, Manual Watering Gun or an approved competitor filling device.

For installation and operation instructions see page 90.

INPUT	CARTRIDGE CAPACITY	
TDS (PPM)	Gallons	Liters
100	604	2,286
150	402	1,522
200	302	1,143
250	241	912
300	201	761

PW-1800

DC Powered Water Deionizer Kit
(Hoses and Fittings Included)



Max Inlet Pressure: 100 PSI
Shipping Weight: 28 lbs (12.7 kg)
Hose to Delivery System: 12' (3.7 m)
Hose to Water Supply: 6' (1.8 m)

PW-1800AC

AC Powered Water Deionizer Kit
(Hoses and Fittings Included)

(Not Shown)

PWRC-1800

Deionizer Replacement Cartridge

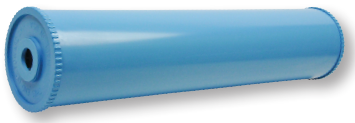


IMAGE	PART NUMBER	DESCRIPTION	NOTES
	HOSE-121	Delivery Hose 12' (3.66 m)	*Fittings included for outlet of deionizer (Hose to delivery system)*
	PWRC-1800	PW-1800 Deionizer Replacement Cartridge	*Deionizer replacement cartridge is not compatible with other brands*
	PW-04FB	5/8" Hose Barb x Female GHT	
Image Not Available	PW-17MM	1" Male NPT x Male GHT	
Image Not Available	PW-65MB	5/8" Hose Barb x Male GHT	
	PW-151122	O-ring gasket for PW-1800 Housing	
	PW-BR	Bracket	
	PW-CASE	Deionizer Case Housing	*Please indicate plug-in or battery operated Purity Light*
	PW-CLAMP	Hose Clamp 3/8" to 7/8" (10 mm to 22.22 mm)	
	PW-HOSE	Braided Hose 5/8" (15.88 mm) Sold by the Foot	*Fittings sold separately*
	PW-LIT	Purity Light Replacement for Plug-in (AC) Unit	
	PW-LIT2	Purity Light Replacement for Battery Operated (DC) Unit	
	PW-SW3	Housing Tool used to tighten lid on housing	
	WQT	Water Quality Tester	
	DW-CAR	Replacement Cartridge for Philadelphia Scientific Deionizer	*DW-CAR is not compatible with PW-1800 Deionizer*

BATTERY SENSORS

Battery Watering Technologies offers two sensors that have different levels of technologies, however they both include the following features:

SUPERIOR DESIGN & MANUFACTURING

- Bright LED indications
- Low current draw will not drain the battery
- Low profile eliminates damage from battery cables as they move across the top of the battery
- No calibration necessary
- Sealed polycarbonate lens protects the LED from damage and acid corrosion
- Overmolded wiring harness for enhanced durability

SAFEST SENSOR AVAILABLE

- Electronic housing is separate from the sensor probe
- Protected against transient voltages and incorrect polarity
- Multiple fuses eliminate the possibility of unrestricted current flow in any direction
- Eliminates the need for battery room attendants to look into vent wells to check electrolyte levels
- Probe made from lead
- UL classified for use on industrial batteries

CUSTOMIZED TO FIT YOUR BATTERY

- Multiple precut probe lengths available
- Easy to trim probe

GUARANTEED PERFORMANCE

- Guaranteed for one year
- Protects your battery investment
- Designed to last the life of your battery

BSVADR
Drill Bit
½" (13 mm)

Don't forget the drill bit for easy installation. The depth stop ensures that the battery isn't damaged by drilling too deep.

i-LITE™ SENSOR

The smartest, safest and most accurate way to know when your batteries need water. The simplistic design of the i-Lite™ sensor improves battery maintenance by indicating to operators the battery electrolyte level with an easy-to-understand blinking LED. When paired with a single-point watering system from Battery Watering Technologies, it helps extend the life of the battery by alerting users when the battery needs water.

For installation and operation instructions see page 88.

EMS1000
i-Lite™ Sensor

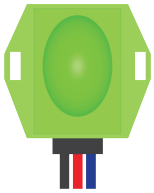
CLASSIFIED C UL US
AU6411

FEATURES

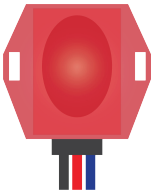
- Monitors electrolyte level
- Simple, easy-to-understand light codes
- One year warranty

TECHNICAL SPECIFICATIONS

- Operating Voltage: 8 - 12 V Nominal
- Current Consumption: 7 mA
- Acceptable Exposure Range: -20˚F to 160˚F (-29˚C to 71˚C)



BLINKING GREEN
Water level is OK



BLINKING RED
Water level is low
Only water after charging

VISUAL MONITORING SYSTEM™

The Visual Monitoring System™ (VMS) is an all-in-one battery sensor that offers a cost effective, intuitive solution to manage your battery fleet and confirm that the batteries have been charged, cooled and watered. The bright LED can be positioned in a convenient location for easy monitoring, even from far away. The durable, reliable design protects your battery investment by taking the guesswork away. The VMS alerts the user that the battery needs water only after it has been fully charged, preventing watering at the wrong time, while tracking the number of charge cycles. When used with a watering system from Battery Watering Technologies, the VMS offers the most effective battery maintenance program available.

For installation and operation instructions see page 89.

AU6411

VMS1000

Visual Monitoring System™

FEATURES

- Monitors electrolyte level but only alerts the user water is needed after the battery is charged, preventing watering at the wrong time
- Tracks the number of charge cycles
- Notifies the user when the battery is charged
- Notifies the user when the battery has cooled for 4 hours*
- One year warranty

TECHNICAL SPECIFICATIONS

- Operating Voltage: 8 - 12 V Nominal
- Current Consumption: 57 mA
- Acceptable Exposure Range: -20˚F to 160˚F (-29˚C to 71˚C)

Always follow the battery OEM's operational guidelines.

YELLOW
In use or being charged

The VMS light is yellow while the battery is in use or being charged. After the battery receives a full charge, the light will transition to blinking red or blinking green depending on the electrolyte level. A blinking light indicates the battery has not cooled.

RED
Battery is charged
Needs water
Blinking indicates the battery has not cooled

If the light is red, the battery needs to be watered. If the light is green, the electrolyte level is OK.
After the battery has cooled for 4 hours* it will turn solid red or solid green depending on the electrolyte level.

GREEN
Battery is charged
Water level is OK
Blinking indicates the battery has not cooled

Solid green indicates the battery is ready to use.
The light will transition back to yellow when the battery is in use.

TECHNICAL SERVICE KIT

The Technical Service Kit is a great tool to have on every service truck in the field. It saves time and money by enabling service technicians to make repairs on the spot. Dual compartments make it great for storing both small parts as well as the larger tubing and valves.

TK1000LP

Technical Service Kit
(See chart below for included parts)

Different valve variations of the Technical Service Kit are available.

Contact your Account Manager to learn more.

55328

Empty Technical Service Kit
Assemble the parts you need

PART NUMBER	DESCRIPTION	QUANTITY
08CAP6	¼" (6 mm) End Cap	18
08KR66N	¼" (6 mm) Cross	10
08T666N	¼" (6 mm) Tee	10
08TUB6BLK	¼" (6 mm) Black Tubing	20 ft or 6.1 m
09BDCAP	Dust Cap	6
09FBLU1	⅜" (10 mm) Female Connector	2
09MBLU1	¼" (6 mm) Male Connector	6
HCC500	⅜" (10 mm) Crimp Hose Clamp	2
VB-TB4	Valve 40	10
VB-TB5	Valve 50	2

The Automatic Watering Control will monitor the battery voltage to determine when the battery charge is complete. After the charge has been completed, the control will allow water to flow to the battery for a fixed period of time depending on the battery voltage.

FC1000-24
(24 Volt)

FC1000-36
(36 Volt)

FC1000-48
(48 Volt)

FC1000-80
(80 Volt)

The control can be mounted to the side or top of the charger, on the front panel or door of the charger.

The control is designed to operate with a gravity feed or pressure regulated supply system up to 15 PSI. The plumbing supply lines should be copper, PVC or plastic tubing.

The water supply line to the battery should only be connected once a week—not every time the battery is charged.

Please allow additional time for custom assembly of FC1000's.

08TUB6
Clear Tubing
¼" (6 mm)
(Sold separately by the foot)

09FBLU6
Female Connector
¼" (6 mm)
(Sold separately)

09GRF6
Female Connector
¼" (6 mm)
(Sold separately)

09FWM6
Flow Indicator
¼" (6 mm)
(Sold separately)

HYDROMETER

The Hydrometer is used to check specific gravity. It can be used on batteries with and without automated systems by removing the vent caps.

09HYCT
Hydrometer
1.10 - 1.30 Range

09HYDE
Hydrometer
Replacement Tube

REFRACTOMETER

The Refractometer is used to measure fluid concentrations of liquids. It can be used to measure specific gravity as well as determine the identity of unknown substances based on their refractive index.

09REFR
Refractometer

ADAPTERS & VENT CAPS

09PUAD
Bayonet Conversion Adapter

MC001
Manual Bayonet Vent Cap

MAA00
Manual Push-in Vent Cap

ANGLES & TEE PIECES

6 = 6 mm (¼") tubing connection
10 = 10 mm (⅜") tubing connection

08T616N
Tee
6 - 10 - 6

08T666N
Tee
6 - 6 - 6

08T111N
Tee
10 - 10 - 10

08RED6N
Reducer
10 - 6

08Y666N
Y Fitting
6 - 6 - 6

08KR66N
Cross
6 - 6 - 6 - 6

08KR11N
Cross
10 - 10 - 10 - 10

CAPS

09BDCAP
Standard Dust Cap

09BDCAPF
Dust Cap for use with 09FUV6 Connector

08CAP6
End Cap

CLAMPS

HCC400
Crimp Hose Clamp
¼" (6 mm)

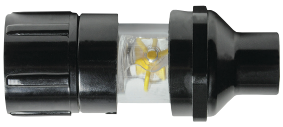
HCC500
Crimp Hose Clamp
⅜" (10 mm)

HC5000
Metal Hose Clamp
¼" (6 mm)

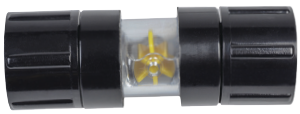
PW-CLAMP
Hose Clamp for Water Deionizer
⅜" to ⅞" (10 to 22.22 mm)

FLOW INDICATORS

09FWM72A
Flow Indicator for Standard Direct Fill Link



09FWM72B
Flow Indicator for Optional Direct Fill Links



09FWM1
Standard Flow Indicator
⅜" (10 mm)

09FWM6
Flow Indicator for Automatic Watering Control
¼" (6 mm)

TUBING

08TUB6BLK
Black Tubing
¼" (6 mm)
(Sold by the foot)

08TUB1
Clear Tubing
⅜" (10 mm)
(Sold by the foot)

08TUB6
Industrial Clear Tubing
¼" (6 mm)
(Sold by the foot)

TUBECUT
Tubing Cutter

GASKETS & FILTERS

09D15
Gasket for *'VB-'* Valves
1.5 mm

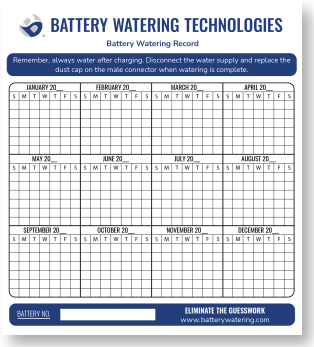
09FTR1
Filter
⅜" (10 mm)

09FTR6
Filter
¼" (6 mm)

LABELS & SLIDE GAUGE

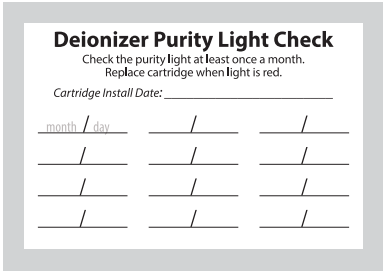
BWR-LBL

Keep track of when your battery is watered with the Battery Watering Record.



DEI-LBL

Keep track of when the purity light has been checked with the Deionizer Purity Light Check label.



FRED-LBL

FRED barcode label

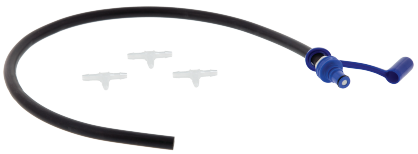
Z-GAUGE

Slide Gauge for battery depth measurement

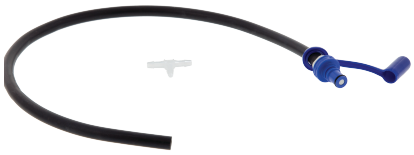
FILLING TUBES

FILLING TUBES WITH 09MBLU1 CONNECTORS

09FIL12N
Filling Tube for 12 Cell Kit
with 09MBLU1 Connector
24" (61 cm)



09FIL18N
Filling Tube for 18 Cell Kit
with 09MBLU1 Connector
24" (61 cm)



09FIL24N
Filling Tube for 24 Cell Kit
with 09MBLU1 Connector
36" (91 cm)

FILLING TUBES WITH 09GRM6 CONNECTORS

09FIL12
Filling Tube for 12 Cell Kit
with 09GRM6 Connector
24" (61 cm)

09FIL18
Filling Tube for 18 Cell Kit
with 09GRM6 Connector
24" (61 cm)

09FIL24
Filling Tube for 24 Cell Kit
with 09GRM6 Connector
36" (91 cm)

FILLING TUBES WITH 09FUV6 CONNECTORS

09FIL12F
Filling Tube for 12 Cell Kit
with 09FUV6 Connector
24" (61 cm)

09FIL18F
Filling Tube for 18 Cell Kit
with 09FUV6 Connector
24" (61 cm)

09FIL24F
Filling Tube for 24 Cell Kit
with 09FUV6 Connector
36" (91 cm)

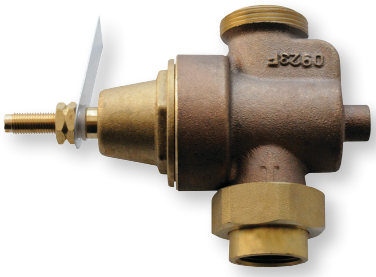
Excessive pressure can cause valves to snap shut prematurely. Insufficient pressure will cause the cells to fill more slowly and will delay closing. A variety of pressure regulators are available to assist in controlling house pressure.

PRG915

Pressure Regulator*
10 PSI

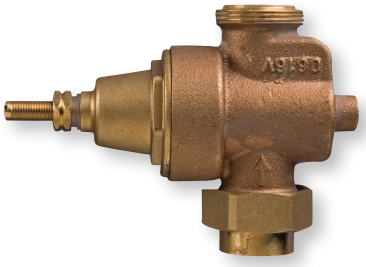
PBR102LP

Brass Low Pressure Regulator
10-35 PSI



PBR101

Brass Pressure Regulator
25-75 PSI



Since municipal water supplies vary in static pressure from very low to very high, we recommend filling through our delivery system that has a built in regulator to drop the static pressure at the connector down to 10 PSI.

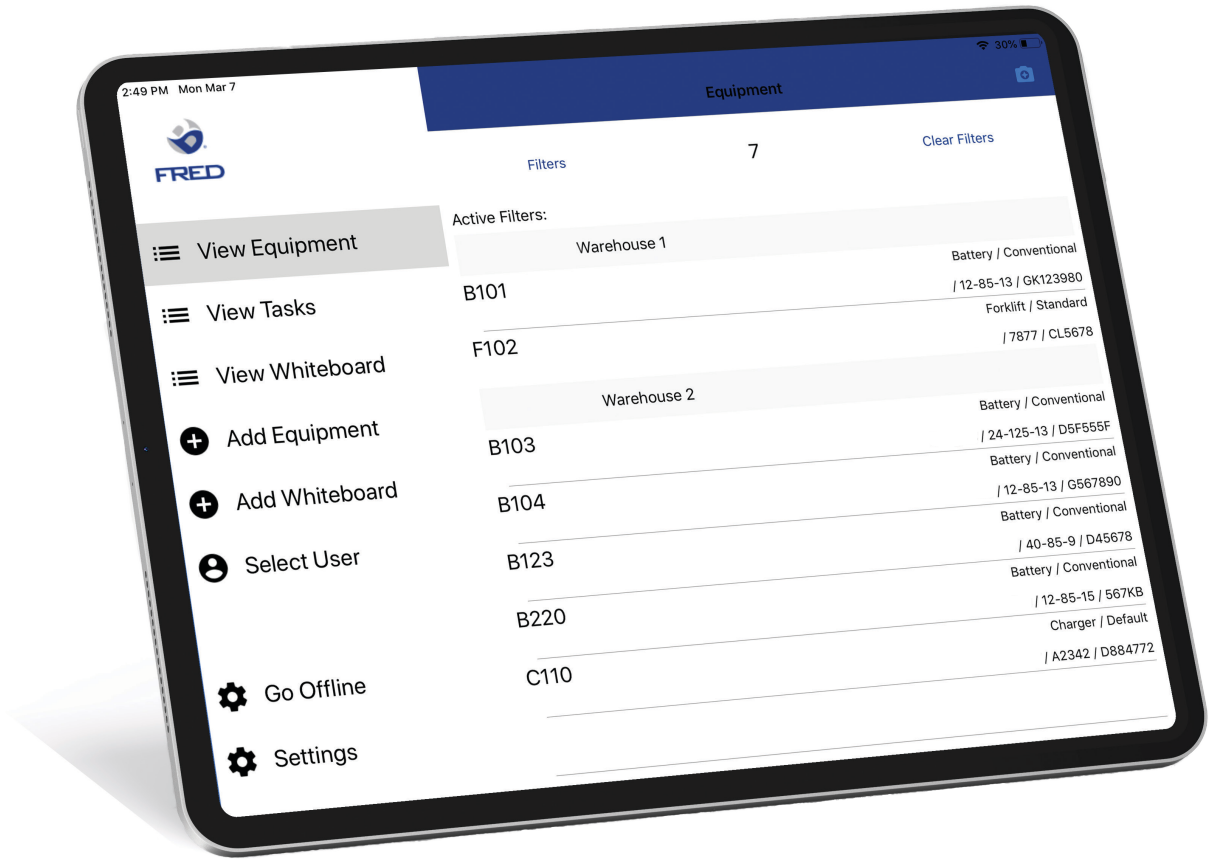
The Pressure Regulator (PRG915) is a 10 lb pressure regulator. It works between 10 and up to a max of 90 PSI (it brings pressure down to 10 PSI).
**** This is the regulator that ships standard with the delivery items.***

If the municipal supply static pressure is above 90 PSI, we recommend a brass regulator upstream to knock the incoming pressure down. If a municipal supply has a very low pressure (<20 PSI), call to discuss appropriate delivery items.

The Brass Pressure Regulator (PBR101) should be used in applications where house pressure is over 90 PSI. It can handle up to 400 PSI and is adjustable from 25-75 PSI. The direct fill link would then be connected downstream to bring the pressure down to the required range.

The Brass Low Pressure Regulator (PBR102LP) is adjustable from 10-35 PSI. It can be used with the automatic water control to regulate the pressure.

INFUSED WITH TECHNOLOGY



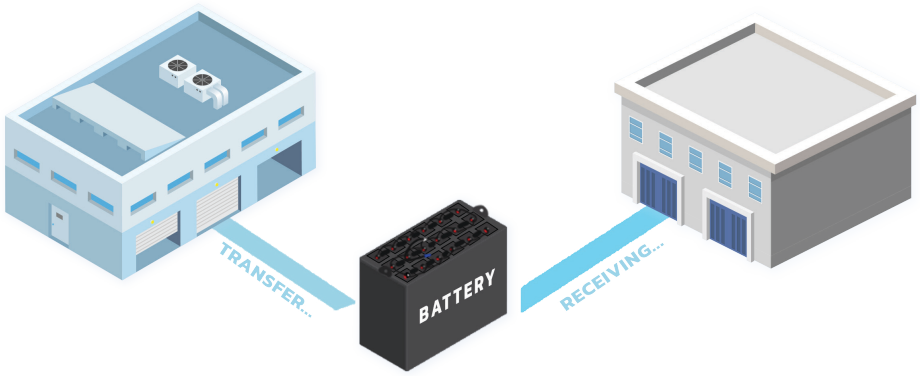
FRED Pro is an application designed to keep track of required maintenance of industrial equipment. It is a custom app developed by Battery Watering Technologies that is used to intelligently automate, track and monitor the maintenance on batteries, chargers and forklifts.

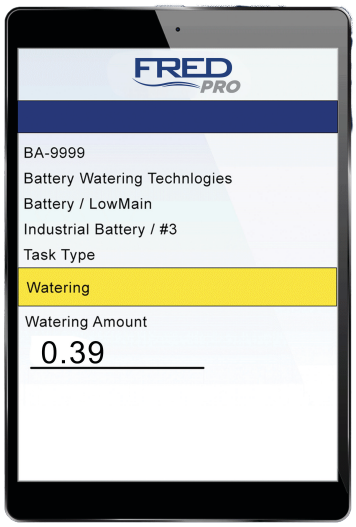
Your maintenance operation is elevated to a whole new level, giving you the management, automation and data visibility capabilities you require. There are multiple ways to customize the app to meet your company's individual needs.

- The app is available through battery distributors
- Equipment can be subdivided into classes
- Visibility by technician for maintenance assignments
- Flexible scheduling options (daily, weekly, monthly)
- Task scheduling based on "occur by" and "occur on"
- Equipment can be taken out of service and put back into service
- Work flow with escalations for services that are upcoming, due or over due.

Rental Fleet Management

Manage your rental fleet, track performance and equipment longevity all with FRED's new rental fleet features.





Pair the Direct Fill Link Plus with FRED Pro

Pairing the Direct Fill Link Plus with FRED will allow you to automatically populate the watering information into our software program without any extra effort. This will allow you to track when a battery is suddenly accepting more or less water than it typically does and flag it for a potential problem.

Multi-Tier User Level

The battery distributor creates an end user account and identifies the Administrator (Admin) at the end user level. Admin users have full access to the website as well as all facets of the tablet app. They can assign multiple users to the system and designate the access for each user. The tiered usage levels allow the Admin to restrict the capabilities of who can add, modify and retire equipment as well as limit their access to the facilities or sections.

Add Equipment

Each piece of equipment will be entered into FRED and assigned to a facility/ section and equipment type (battery, charger or forklift). Each piece of equipment (battery, charger and forklift) receives a unique barcode label that will be applied to it. Once the equipment is entered into FRED, the barcode is scanned and paired to that particular piece of equipment for tracking purposes. FRED is compatible with pre-existing barcode labels as long as the bar code number is not duplicated.

Scheduling Tasks

Determine what tasks need to be done and how often they must be completed to keep the equipment maintained properly. Tasks can be scheduled on a global basis or specific to a particular facility or type of equipment. If tasks are set up globally, the task action will be applied to every facility and section. However, maintenance can be uniquely assigned across individual classes of equipment, facilities or sections. Tasks can be set to “occur on” or “occur by” and can be assigned daily, weekly or monthly.

Set up Multiple Facilities

The end user can set up multiple facilities depending on how many locations they have. Within each location, multiple sections can be set up to further identify where equipment is located (e.g. cold storage, receiving dock).

Whiteboard

When on-site, technicians can complete scheduled tasks or unscheduled tasks. Additionally, if a technician does not have the ability to do something right that moment (like repair a damaged cable) they can submit a whiteboard submission that sends a report of the occurrence to their supervisor's email instantly.

Technician On-site Tasks

The **watering+ task** is an all-encompassing task that allows you to select details on what was performed. It is customizable, you are able to setup on-site tasks that incorporate multiple individual tasks.

Equipment History

This function allows technicians in the field to breakdown the history of a piece of equipment and see all the details from their mobile app.

End Reporting

On site ability to email a copy of the completed tasks form that visit so it can be inputted after the signature like a receipt of proof of completion.

Mass Reporting

Now have the ability to pull reports for multiple accounts at a single time instead of going into each account and running individual reports.

Dashboard

The Dashboard will provide a global look at your entire organization's performance upon login. Widgets that you can customize will provide you instant access to important information.

Offline Mode

Offline mode allows you to complete tasks in a facility or space where access to internet is limited. Data collected offline is stored until connected to the internet and then uploaded to the cloud where it is available for data reports.

PM Metrics and Analytics

Similar to analytics for the DF72+, this function will be able to track the data of PMs over the course of time. It will allow the software to flag a piece of equipment if there is a troubling or drastic change, like a dramatic fall in cell voltage over time.

Contact your Account Manager to discuss all of FRED Pro's capabilities and how it can streamline your companies fleet management process.

Battery Watering Technologies Return Policy

All returns require a Return Authorization Number. There is a restocking fee of 20% for fully assembled kits. If you wish to return parts that are older than 60 days, they will be accepted at the discretion of Battery Watering Technologies management.

Please call 1.877.522.5431 to receive authorization for returns.

Battery Watering Technologies Standard Warranty

ACCEPTANCE

Battery Watering Technologies is a division of FourShare, LLC herein referred to as the Company, located in Clemmons, North Carolina. The following terms and conditions of sale apply to all orders accepted by us regardless of any stipulations or conditions contained in orders submitted to us. Any such stipulations or conditions which attempt to create any warranties or other terms or conditions of sale not expressly stated herein are considered void and will not be honored by the Company.

PRICE

The price herein is F.O.B. the Company, Clemmons, North Carolina. All prices and charges set forth herein are subject to change without notice by the Company in good faith, and all items purchased pursuant to this order shall be invoiced at our prices and charges in effect at the time of shipment. The Company reserves the right to correct any price or charge which is erroneously quoted.

TAXES

Any tax imposed by federal, state or other governmental authority on the sale or purchase of the items pursuant to this order shall be paid by the buyer unless such taxes are specifically included in the price.

PAYMENT

Payment in United States currency is due in full on the shipment date. If payment is not received by the Company in full within thirty (30) days from shipment date, all unpaid balances shall bear interest at the highest rate permitted by law. All payments are due and shall be made at the general offices of the Company in North Carolina. The acceptance of a late payment, with or without objection or reservation, shall not waive the right to claim interest for such breach nor constitute a waiver of the requirement of timely payment in the future.

SHIPMENT

The buyer is responsible for all freight, transportation, insurance, shipping, storage, handling, or similar charges unless specifically agreed to the contrary by the Company in writing.

DELIVERY

The Company will use all reasonable means to make shipment by the date specified in the order, if any. However, the Company shall not be liable for any delay in delivery or any failure due to causes beyond the control of the Company. This includes, but is not limited to, acts of God, war, riots, embargoes, domestic or foreign governmental regulations, fires, floods, labor difficulties, or inability to obtain shipping space or transportation.

WARRANTY

The Company liability for or arising out of any defective or nonconforming equipment, service, or accessories is limited to repair or replacement or return of purchase price, FOB the Company sales office in Clemmons, North Carolina, which is agreed to be buyer's sole and exclusive remedy. All Company valves, floats, and gaskets are warranted to be free of defects in workmanship and materials for a period of five (5) years from date of shipment. Warranty date will be determined by invoice date. Warranty coverage outside North America shall be one (1) year; all other Company items are warranted to be free of defects in workmanship and materials for a period of one (1) year from date of shipment.

The above warranties are subject to the following terms and conditions: 1) Copy of original sales invoice to user is required; 2) Defective part to be returned to the Company to determine the true warranty cause; 3) Proper operating pressure and installation and maintenance instructions must be followed; 4) The Company products must be installed by an authorized Representative of the Company who has been trained in the proper installation and filling techniques; 5) Company products must be used with compatible Company filling device(s). ***6) This warranty does not apply to products used in fast charge applications (request fast charge warranty if needed).***

Please call the Company for fast charge warranty information. Equipment and accessories not manufactured by the Company are warranted only to the extent of the original manufacturer's warranty, if any. Buyer acknowledges that the limitations and disclaimers herein described are conditions of sale and that they constitute the entire agreement between the parties regarding warranty or any other liability.

INSPECTION

The buyer shall inspect the items sold pursuant to this order upon arrival at destination and shall notify the Company in writing of any nonconformity within fifteen (15) days from the date of arrival at destination, including such date of arrival. In the event of notification of a product defect, the product complained about must be returned to the Company for inspection.

ACCELERATION

The Company may, whenever it deems itself insecure, demand immediate performance by buyer of all obligations imposed upon buyer by this contract, and may discontinue service immediately.

ATTORNEYS FEES

If the indebtedness of buyer to the Company, represented by this order is collected by or through an attorney at law, the buyer agrees to pay reasonable attorney's fees as permitted by law.

WAIVER

No provision of this order and no breach of any such provision shall be deemed waived by reason of any previous waiver, course of conduct or delay. The provisions of this order or any breach of any such provision may not be waived or modified except by a written instrument signed by the Company and the buyer. This order may not be canceled, revised or in any way modified or amended except to the extent expressly stated in the written instrument containing such waiver, modification or amendment.

DEFAULT

Upon default by buyer, the Company shall have all rights and remedies available under the North Carolina Uniform Commercial Code.

GOVERNING LAW

It is acknowledged that this order shall be construed as an agreement between merchants. This agreement shall be governed by the internal laws of the State of North Carolina. The buyer agrees that the jurisdiction for the litigation of any controversy arising out of or in any way in relation to this order shall be the General Courts of Justice of the State of North Carolina.

SEVERABILITY

If any provision herein shall be held invalid, all remaining provisions shall, nevertheless, be valid and effective. It is the intention of the parties that each provision hereof is stipulated separately in the event one or more of such provisions should be held invalid.

TABLE OF CONTENTS

OPERATION & INSTRUCTION GUIDES

Our products must be installed and operated in a manner conducive to our warranty. Using the proper water pressure, installing the products properly and using approved filling devices is imperative for safety and efficiency.

SAFETY GUIDELINES

Safety is the most important thing to keep in mind when installing and using your watering system.

Please follow these guidelines:

1. Wear protective clothing, gloves and eye gear when working around batteries.
2. Remove all metal objects (watches and rings). Keep sparks, flames and metal objects away from batteries.
3. Use insulated tools when cutting tubing.
4. Do not smoke near batteries.
5. Charge batteries in a well-ventilated area.
6. Never use the watering system to add acid to a battery.
7. When removing vent caps to install the watering system, avoid eye and skin contact with electrolyte from the battery. Electrolyte is a solution of acid and water and should be washed immediately with water if contact is made with your eyes or skin.
8. Neutralize any spilled electrolyte with special solutions contained in a “spill kit” or with a solution of 1 lb. bicarbonate of soda to 1 gallon of water.
9. Always water batteries after charging.
10. If static electricity is present, ground the fork truck before watering the battery.

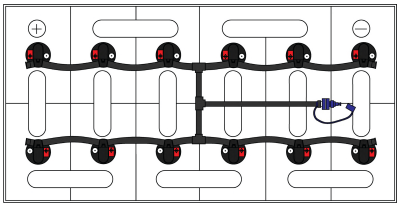
FULLY ASSEMBLED KIT INSTALLATION

Fully assembled systems have been assembled for the specific battery type at your facility.

To install a fully assembled kit, follow these guidelines:

1. Remove the vent caps that are on the battery. Be sure the electrolyte levels are above the plates. If the levels are below the plates, manually add just enough water to cover the plates in each cell.
2. Lay the watering system on top of the battery as shown in the drawing enclosed with your kit. Looking at the drawing, is the tubing facing inward or outward?
3. Be sure the electrolyte levels are above the plates. If the levels are below the plates, manually add just enough water to cover the plates in each cell.
4. Make sure to route the system around and under any battery cables, ensuring cables will not crush or pinch the tubing. Review the drawing to be sure the layout is correct.
5. Insert the valve into the cell opening and push down firmly to snap it into place.
6. It is always good practice to tie down heavy gauge battery cables.

Example of 12 cell
Fully Assembled Kit



Sample 12 Cell 13 Plate Layout
Tray Size: 31" x 13"

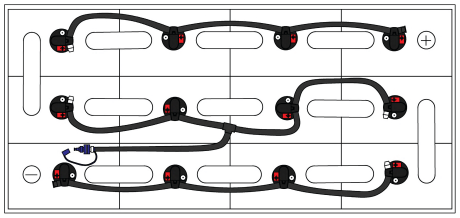
PARTIALLY ASSEMBLED KIT INSTALLATION

Partially assembled systems have valves in strings of three or four attached with tubing. Extra tubing is provided to complete assembly of the kit.

To install a partially assembled kit, follow these guidelines:

1. Remove the vent caps that are on the battery. Be sure the electrolyte levels are above the plates. If the levels are below the plates, manually add just enough water to cover the plates in each cell.
2. Lay the watering system strings on top of the battery as shown in the drawing enclosed with your kit. Looking at the drawing, is the tubing facing inward or outward?
3. Make sure to route the system around and under any battery cables, ensuring cables will not crush or pinch the tubing.
4. Additional tubing is used to connect the ends of the tubing to the valves. Leave a loop in the tubing, measuring the tubing to the middle of the valve you will attach it to, and cut the tubing squarely and evenly. Be sure the tubing does not hang over the lifting ear.
5. Once everything is attached, firmly press the vales into the vent wells.
6. Using the drawing, insert the fill tube.
7. It is always good practice to tie down heavy gauge battery cables.

Example of 12 cell
Partially Assembled kit



Sample 12 Cell 3x4 Layout
Partially Assembled Kit

BASIC KIT INSTALLATION

If your watering system is not fully assembled, you will need to assemble it as you install it on the battery.

To install a basic kit, follow these guidelines:

1. Remove the vent caps that are on the battery. Be sure the electrolyte levels are above the plates. If the levels are below the plates, manually add just enough water to cover the plates in each cell.
2. Use the examples on the enclosed drawing to determine how to route your tubing.
3. Connect the tubing to the first valve and measure the distance to the center of the next valve.
4. Using an insulated tubing cutter, cut the tubing 1/8” short of the valve’s center. Connect the tubing to the valve’s center. Connect the tubing to the valve, pushing the tubing on securely. Repeat the process to connect all of the valves. When making the turns at the end of the battery, leave a loop to allow the water to flow freely. Finally, firmly press the valves into the cell openings.
5. Once all of the valves are connected, install the tee piece, filling tube and end caps using the drawing enclosed with your kit as your guide.
6. It is always good practice to tie down heavy gauge battery cables.

HOW & WHEN TO WATER YOUR BATTERIES

1. Frequency of battery watering depends on battery usage and operating temperatures. Older batteries tend to need more watering as they age. A typical watering cycle would be weekly or twice monthly after the equalization charge.
2. Fully charge the battery before watering. Remember, always water after charging.
3. Before connecting to the water supply, examine all valves to ensure that the indicator eye is down in each valve. If you see a valve in which the indicator eye is up, remove the valve to ensure the cell's water level is full. If the eye is up and the water level is down, examine the valve to make sure the float freely moves up and down. If it does not, replace the valve immediately.
4. Connect the water supply to the filling tube. Always use an approved delivery item.
5. When filling the battery, watch the indicator eyes of each of the valves to ensure they are rising and shutting off properly. If all of the valves indicator eyes appear to be up and the flow indicator wheel continues to spin slowly, disconnect the water supply and examine the battery top. If any of the valves indicator eyes are still recessed, remove the valves to check the water level to ensure that the float is functioning properly.
6. The system shuts off automatically and the flow indicator stops turning when the proper electrolyte level is reached.
7. The white indicator eye on each valve will pop up when the valve shuts off during filling. This is a visual indication that the valve is working properly. It is not unusual for the indicator eye to drop after filling is complete or when the battery is not fully charged. Water the battery based on a schedule.
8. Disconnect the water supply and replace the dust cap on the male connector.

TROUBLESHOOTING

If water does not flow or stops...

1. Confirm that the pressure regulator is installed on the direct fill link.
2. Ensure that the house static water pressure is less than 80 psi.
3. Make sure that air has been purged from the water line.
4. Confirm that the water supply is turned on.

One indicator eye is up, but all of the other indicator eyes are down on the valves...

1. Remove the valve that has the indicator eye up. Check the electrolyte level. If the level is okay, re-install the valve.
2. If the electrolyte level is low, check the movement of the float. If the float does not move freely, replace the valve.
3. Confirm that the depth to the separator plates/ moss shield Is sufficient so that it does not interfere with the float. (This is only applicable to open floats with no encapsulation).

If the indicator eye does not rise on the valve...

1. Confirm the electrolyte level after filling on any questionable cells by removing the valve.
2. Confirm that the tubing is not kinked, blocking water flow.

Special Note: The indicator eye will rise and be clearly visible in the well.

Flow does not stop / Flow indicator keeps turning...

1. Look for leaks due to cut tubing or missing end caps.
2. Confirm that all of the indicator eyes have risen.
3. If water comes from the valve vent, remove the valve and check for physical damage. If there is damage, replace the valve.

AQUA SUB XTREME™ POWER PRO INSTRUCTIONS

Instructions for Part # NC25LPX, NC25LPXB, NC25LPXF, & NC25LPX-MAN

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Only water after charging.
- Do not use pump in an explosive environment.
- Do not use tank to pump flammable liquids (gasoline, fuel, oil, etc.)
- Read instructions in entirety before beginning the installation.

GETTING STARTED:

1. Charge the battery before using the tank for the first time or if it has been stored for more than 6 months to ensure the unit is fully charged. Replace the battery on the back of the plate.
2. Fill the tank with clean, preferably deionized, water through the flip top lid.
3. Clear any air in the hose, by dispensing water back into tank until there is uninterrupted water flow. See below for operating instructions using a Direct Fill Link or Manual Watering Gun.

   Note: The pump on the cart is equipped with an power switch (on backplate) and a built in pressure switch that is factory set. The pump is a demand pump and will shut off once pressure has built up in the line.

CHARGING INSTRUCTIONS:

1. Turn the power switch to the OFF (O) position.
2. Remove the battery by pulling up on it.
3. Plug the charger into 120 VAC 60Hz volt power supply. (You may need a different charger if charging outside of the U.S.)
4. Push battery onto charger and charge cycle will start.
5. Replace battery onto cart when charging is complete.

The LED's will indicate the battery's state of charge.

OPERATION WITH DIRECT FILL LINK:

1. See Getting Started. Make sure unit is charged or plugged in and filled with water.
2. Turn the power switch to the ON (I) position.
3. Remove dust cap on watering system and couple the male connector on the watering system with the female connector on the Direct Fill Link.
4. Squeeze the handle on the Direct Fill Link to begin watering. You will see the flow indicator start spinning.
5. When the flow indicator stops spinning and all indicator eyes on top of the valves rise to the top, release the handle.
6. Uncouple the connectors and disconnect the tank after watering. Replace the dust cap on watering system. ***Never leave the tank connected after watering.***
7. When watering is complete, turn off the unit.

OPERATION WITH MANUAL GUN:

1. See Getting Started. Make sure unit is charged or plugged in and filled with water.
2. Turn the power switch to the ON (I) position.
3. Remove battery caps.
4. Insert the nozzle into the battery cell to be filled. Squeeze the handle until the shut-off takes place, then release the handle. Gently tap the nozzle to prevent any drips.
5. Remove the gun from the battery cell and move to next cell. Repeat steps 4 & 5 until all cells are filled.
6. When watering is complete, turn off the unit and replace battery caps.

TROUBLESHOOTING:

Pump will NOT run when water is called for:

1. Make sure the power switch is in the ON (I) position.
2. Make sure the battery is fully charged.
3. Remove screws to remove the backplate. Ensure a tight connection at the battery clips.
4. Check the in-line fuse on the wires on the pump. If blown, replace with new 15 Amp mini-blade fuse.

Pump runs, but does not prime:

1. Check line strainer screen at the inlet location (at the base of the backplate). The tank should be empty while performing this, otherwise you may have to tilt the tank so water will be away from the inlet location. You will need to unscrew the clear housing to access the screen. See Maintenance for screen cleaning instructions.

MAINTENANCE:

The line strainer screen should be removed and cleaned periodically to ensure proper operation. Before cleaning the screen, empty the water from the tank. Unscrew the clear housing on the strainer to access the screen. Gently rinse the screen with water and if needed you may gently scrub with a toothbrush to get out any stuck debris. Failure to do so may decrease water pressure and flow rates that are required for proper operation of the watering system.

WARRANTY:

This product is warranted against defects in workmanship and materials for a period of one year from date of shipment.

CAUTION: If storing this product in freezing conditions, drain all of the water to prevent damage.

AQUA SUB XTREME™ INSTRUCTIONS

Instructions for Part # NC25X, NC25XB, NC25XF, & NC25X-MAN

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Only water after charging.
- Do not use pump in an explosive environment.
- Do not use tank to pump flammable liquids (gasoline, fuel, oil, etc.)
- Read instructions in entirety before beginning the installation.

GETTING STARTED:

1. Charge the battery before using the tank for the first time or if it has been stored for more than 6 months to ensure the unit is fully charged.
2. Fill the tank with clean, preferably deionized, water through the flip top lid.
3. Clear any air in the hose, by dispensing water back into tank until there is uninterrupted water flow. See below for operating instructions using a Direct Fill Link or Manual Watering Gun.

   Note: The pump on the cart is equipped with an power switch (on backplate) and a built in pressure switch that is factory set. The pump is a demand pump and will shut off once pressure has built up in the line.

CHARGING INSTRUCTIONS:

1. Turn the power switch to the OFF (O) position.
2. Insert the cord into the jack on the backplate.
3. Plug the cord into 100-240 VAC 50/60Hz volt power supply. (You may need a different cord if charging outside of the U.S.)

The LED's will indicate the battery's state of charge, see the back of the cart for light codes.

AC POWER

To use AC power, follow charging instructions and then turn the power switch to ON (I).
The pump will only use AC power when plugged in and turned on.

OPERATION WITH DIRECT FILL LINK:

1. See Getting Started. Make sure unit is charged or plugged in and filled with water.
2. Turn the power switch to the ON (I) position.
3. Remove dust cap on watering system and couple the male connector on the watering system with the female connector on the Direct Fill Link.
4. Squeeze the handle on the Direct Fill Link to begin watering. You will see the flow indicator start spinning.
5. When the flow indicator stops spinning and all indicator eyes on top of the valves rise to the top, release the handle.
6. Uncouple the connectors and disconnect the tank after watering. Replace the dust cap on watering system.
   Never leave the tank connected after watering.
7. When watering is complete, turn off the unit.

OPERATION WITH MANUAL GUN:

1. See Getting Started. Make sure unit is charged or plugged in and filled with water.
2. Turn the power switch to the ON (I) position.
3. Remove battery caps.
4. Insert the nozzle into the battery cell to be filled. Squeeze the handle until the shut-off takes place, then release the handle. Gently tap the nozzle to prevent any drips.
5. Remove the gun from the battery cell and move to next cell. Repeat steps 4 & 5 until all cells are filled.
6. When watering is complete, turn off the unit and replace battery caps.

TROUBLESHOOTING:

Pump will NOT run when water is called for:

1. Make sure the power switch is in the ON (I) position.
2. Make sure the battery is fully charged.
3. Remove screws to remove the backplate. Ensure a tight connection at the battery clips.
4. Check the in-line fuse on the wires on the pump. If blown, replace with new 15 Amp mini-blade fuse.

Pump runs, but does not prime:

1. Check line strainer screen at the inlet location (at the base of the backplate). The tank should be empty while performing this, otherwise you may have to tilt the tank so water will be away from the inlet location. You will need to unscrew the clear housing to access the screen. See Maintenance for screen cleaning instructions.

MAINTENANCE:

The line strainer screen should be removed and cleaned periodically to ensure proper operation. Before cleaning the screen, empty the water from the tank. Unscrew the clear housing on the strainer to access the screen. Gently rinse the screen with water and if needed you may gently scrub with a toothbrush to get out any stuck debris. Failure to do so may decrease water pressure and flow rates that are required for proper operation of the watering system.

WARRANTY:

This product is warranted against defects in workmanship and materials for a period of one year from date of shipment.

CAUTION: If storing this product in freezing conditions, drain all of the water to prevent damage.

AQUA SUB INSTRUCTIONS

Instructions for Part # NC5250PN, NC5250P, & NC5250PMAN

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Only water after charging.
- Do not use pump in an explosive environment.
- Do not use tank to pump flammable liquids (gasoline, fuel, oil, etc.)
- Read instructions in entirety before beginning the installation.

ASSEMBLY INSTRUCTIONS:

1. The cart is partially assembled from the factory. Attach the handle bar and hook up the wiring to the 24 DCM battery (not included).
2. Connect the charger.
   A. The red wire of the two-wire set coming from the pump and the red wire from the charger must be connected to the positive post on the battery.
   B. The black wire of the two-wire set coming from the pump and the black wire from the charger must be connected to the negative post of the battery.
3. The handle bar fits into the brackets between the battery box and the tank. With the handle pointing to the rear of the cart, fasten it in place with the supplied bolts.

OPERATION WITH DIRECT FILL LINK:

The pump on the cart is equipped with an "on-off" switch and a built in pressure switch that is factory set.

1. Fill the tank with clean or deionized water through the lid on top of the tank. Turn the pump switch on.
2. Remove dust cap on watering system and couple the male connector on the watering system with the female connector on the Direct Fill Link.
3. Squeeze the handle on the Direct Fill Link to begin watering. You will see the flow indicator start spinning.
4. When the flow indicator stops spinning and all indicator eyes on top of the valves rise to the top, release the handle and uncouple the connectors.
5. Disconnect the tank after watering and replace dust cap on watering system.
   Never leave the tank connected after watering.
6. Turn off when all batteries have been watered.

OPERATION WITH MANUAL GUN:

1. Fill the tank with clean or deionized water through the lid on top of the tank.
2. Remove battery caps.
3. Turn the pump switch on.
4. Squeeze the handle on the manual gun to clear any air in the hose, dispensing water back into tank until there is uninterrupted flow.
5. Insert the nozzle into the battery cell to be filled. Squeeze the trigger until the shut-off takes place. Gently tap the nozzle to prevent any drips.
6. Remove the gun from the battery. Repeat until all cells are filled.
7. When watering is complete, turn off the tank and replace battery caps.

CHARGING INSTRUCTIONS:

To charge the battery plug into a 120V power supply when the cart is not in use.

TROUBLESHOOTING:

Pump will NOT run:

1. Check in-line fuse on the wires on the pump. If blown, replace with new fuse (15 Amp mini-blade fuse).
2. Make sure the on/off switch is in the "ON" position (the power switch is located on the wiring harness).
3. Make sure the battery is fully charged.
4. Ensure a tight connection at the battery clips.

Pump runs, but does not prime:

1. Check line strainer (screen) at the inlet location (at the tank). You will need to unscrew the knurled nut to access this screen. The tank should be empty while performing this, otherwise you may have to tilt the tank backward so water will be away from the inlet location.
2. Remove the screen and clean it.

MAINTENANCE:

The line strainer (screen) should be removed and cleaned periodically to ensure proper operation. Before cleaning the screen, empty the water from the tank. Gently clean the screen with soap and water. Failure to do so may decrease water pressure and flow rates that are required for proper operation of the watering system.

WARRANTY:

This product is warranted against defects in workmanship and materials for a period of one year from date of shipment.

CAUTION: If storing this product in freezing conditions, drain all of the water to prevent damage.

Instructions for Part # NC5090PN, NC5090P, & NC5090PNMAN

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Only water after charging.
- Do not use pump in an explosive environment.
- Do not use tank to pump flammable liquids (gasoline, fuel, oil, etc.)
- Read instructions in entirety before beginning the installation.

ASSEMBLY INSTRUCTIONS:

1. Remove handle from box and assemble. Use lock pins to secure handle.
2. Connect the two black connectors (located at the bottom of the back panel) to attach the pump to the battery.
3. Charge battery – See charging instructions.

OPERATION WITH DIRECT FILL LINK:

1. Fill the tank with clean or deionized water through the lid on top of the tank. Turn the power switch on the handle to "ON".
2. Remove dust cap on watering system and insert the male connector on the watering system into the female connector on the Direct Fill Link.
3. Squeeze the handle on the Direct Fill Link to begin watering. You will see the flow indicator start spinning.
4. When the flow indicator stops spinning and all indicator eyes on top of the valves rise to the top, release the handle and uncouple the connectors.
5. Replace the dust cap on watering system.
   Never leave the tank connected after watering.
6. Turn off when all batteries have been watered.

OPERATION WITH MANUAL GUN:

1. Fill the tank with clean or deionized water through the lid on top of the tank.
2. Remove battery caps.
3. Turn the power switch on the back of the cart under the handle to "ON". Squeeze the handle on the manual gun to clear any air in the hose, dispensing water back into tank until there is uninterrupted flow.
4. Insert the nozzle into the battery cell to be filled. Squeeze the trigger until the shut-off takes place. Release the trigger and gently tap the nozzle to prevent any drips.
5. Remove the gun from the battery. Repeat until all cells are filled.
6. When watering is complete, turn off the tank and replace battery caps.

CHARGING INSTRUCTIONS:

Charge the battery before using the tank for the first time or if it has been stored more than 6 months to ensure the unit is fully charged.

1. Turn the power switch on the handle to the "OFF" position.
2. Insert the plug (which is molded onto the end of the charger wire) into the jack, which is located on the top left of handle.
3. Plug the charger into 100-240 VAC 50/60 Hz volt power supply. (You may need plug adapter if outside the U.S)
4. While charging, the light will appear red. Light will change to green when fully charged. Disconnect the plug from the jack and the charger from the electrical outlet.

TROUBLESHOOTING:

Pump will NOT run:

1. Make sure the on/off switch is in the "ON" position (power switch is located on the handle of the unit).
2. Make sure your 12 volt battery is fully charged.
3. Check in-line fuse on the wires on the pump (located behind back cover). If blown, replace with new fuse (5 Amp mini-blade fuse).
4. Ensure a tight connection at the battery clips (located behind back cover).

Pump runs, but does not prime:

1. Inspect to make sure water is above inlet hole.
2. Inspect hose to be sure there are no kinks or blockages.

MAINTENANCE:

Please utilize strainer to prevent debris from getting into the pump.

WARRANTY:

This product is warranted against defects in workmanship and materials for a period of one year from date of shipment.

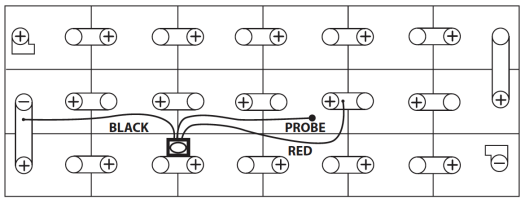
CAUTION: If storing this product in freezing conditions, drain all of the water to prevent damage.

i-LITE™ SENSOR INSTRUCTIONS

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Be sure the battery is disconnected from the charger to ensure the cells are not gassing before proceeding.
- Not recommended for use with battery additives.
- Read instructions in entirety before beginning the installation.

STEP 1: PLAN

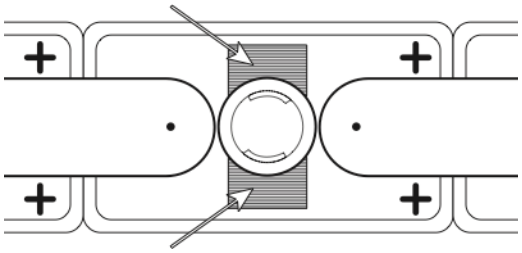
The electrolyte probe must be at least 4 cells to the positive side of the negative (black) wire connection. Take this into consideration when planning your installation. The sensor needs 8-12 volts to function properly.



Example of 18 Cell Installation

STEP 2: DRILL

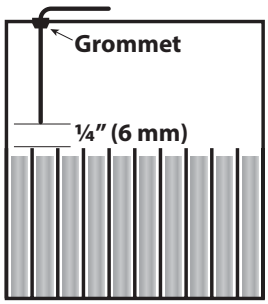
Choose a cell where the level probe will be inserted. ***(Reminder: you must have at least 4 cells to the positive from the black (negative) wire.)*** Drill a 1/2" hole in the cover of the level probe cell. The hole should be drilled between the vent opening and the edge of the cell to avoid cell internals. Do not drill into the battery plates. Make sure the probe does not touch the internal straps.



Example of Drill Zone

STEP 3: TRIM PROBE

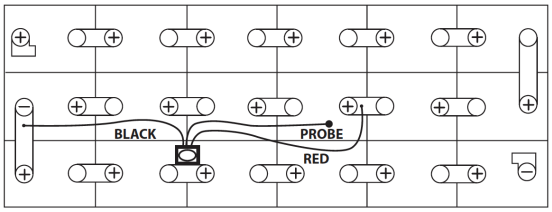
Cut the probe to length. When fully inserted, the tip of the probe should be approximately 1/4" above the plates or moss shield. Insert the grommet into the hole and then insert the probe through the hole in the grommet.



Trim end of probe 1/4" above plates or moss shield

STEP 4: CONNECT

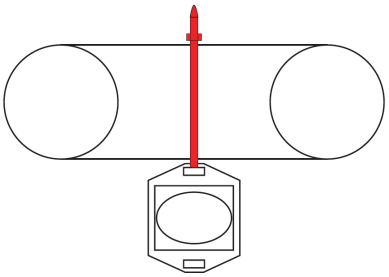
Connect the RED wire to the POSITIVE side of the cell where the probe is installed. Count four (4) cells in the direction of the main negative post, including the cell the probe is installed in and connect the BLACK wire to the NEGATIVE side of the fourth cell..



This is an example of where to connect the wires on an 18 cell battery

STEP 5: SECURE HOUSING

Secure the sensor light housing using cable ties supplied. The example shows a method of attaching the housing to an intercell connector using the supplied cable tie. Make sure wires are secured so they cannot be snagged or pulled.



Tie down example for electronic housing

LED COLOR CODES:

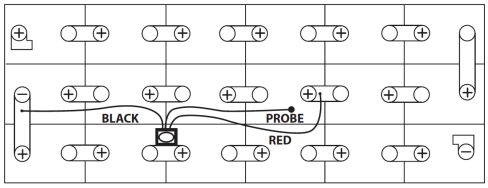
Blinking Green - Battery is OK
Blinking Red - Add water only after the next full charge

VISUAL MONITORING SYSTEM™ INSTRUCTIONS

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Be sure the battery is disconnected from the charger to ensure the cells are not gassing before proceeding.
- Not recommended for use with battery additives.
- Read instructions in entirety before beginning the installation.

STEP 1: PLAN

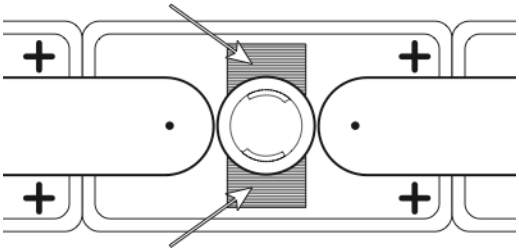
The electrolyte probe must be at least 4 cells to the positive side of the negative (black) wire connection. Take this into consideration when planning your installation. The sensor needs 8-12 volts to function properly.



Example of 18 Cell Installation

STEP 2: DRILL

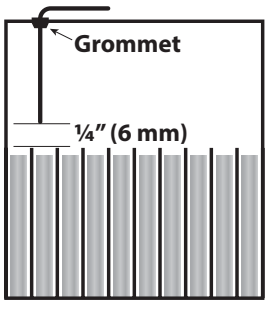
Choose a cell where the level probe will be inserted. ***(Reminder: you must have at least 4 cells to the positive from the black (negative) wire.)*** Drill a 1/2" hole in the cover of the level probe cell. The hole should be drilled between the vent opening and the edge of the cell to avoid cell internals. Do not drill into the battery plates. Make sure the probe does not touch the internal straps.



Example of Drill Zone

STEP 3: TRIM PROBE

Cut the probe to length. When fully inserted, the tip of the probe should be approximately 1/4" above the plates or moss shield. Insert the grommet into the hole and then insert the probe through the hole in the grommet.



Trim end of probe 1/4" above plates or moss shield

STEP 4: CONNECT RED AND BLACK WIRES

There are two options for connecting the red and black wires.

Using Threaded Inserts (Recommended):

Assemble the insert and the screw onto the ring terminals.

Count 4 cells from the probe in the current flow direction of the main negative post, including the cell the probe is installed in. On the NEGATIVE side of the fourth cell post, drill a 7/32" hole 3/8" deep. Insert and hammer the screw assembly with the BLACK wire into the drilled hole and tighten the screw. On the POSITIVE side of the probe so that the VMS is seeing 8 volts nominal, drill a 7/32" hole 3/8" deep in the post. Insert and hammer the screw assembly with the RED wire into the drilled hole and tighten the screw. After the screws are installed, apply the dielectric grease to the connections to prevent corrosion.

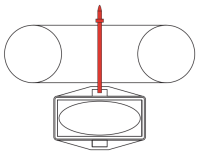
Using Self-Tapping Screws:

Count 4 cells from the probe in the current flow direction of the main negative post, including the cell the probe is installed in. On the NEGATIVE side of the fourth cell post connect the BLACK wire with a self-tapping screw. On the POSITIVE side of the probe so that the VMS is seeing 8 volts nominal, connect the RED wire to the post with a self-tapping screw. After the screws are inserted, apply the dielectric grease to the connections to prevent corrosion.

Note: If the light is blinking purple, the VMS is not wired to the correct number of cells. Review installation.

STEP 5: SECURE HOUSING

Secure the sensor light housing using cable ties supplied. Make sure wires are secured so they cannot be snagged or pulled.



Tie down example for electronic housing

LED COLOR CODES:

Solid Yellow LED - Battery is in use or being charged
Blinking Green LED - Battery is charged but not cooled / Electrolyte level is OK
Blinking Red LED - Battery is charged but not cooled / Electrolyte level is LOW
Solid Green LED - Battery is charged and cooled for at least four (4) hours / Electrolyte level is OK
Solid Red LED - Battery is charged and cooled for at least four (4) hours / Electrolyte level is LOW
Blinking Purple LED - Not wired to the correct number of cells / Review installation

CYCLE COUNTER:

To find out the number of charge cycles, simply disconnect the (RED-POWER) wire for five (5) SECONDS and then reconnect. The LED will start blinking showing various colors indicating the number of charge cycles as follows:
Green: 1000s
Red: 100s
Yellow: 10s
Blue: 1's
Then OFF for three seconds

WATER DEIONIZER INSTRUCTIONS

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Only water after charging.
- Read instructions in entirety before beginning the installation.

INSTALLATION INSTRUCTIONS:

1. Use the four screws to attach the mounting bracket to the wall. The deionizer should be mounted near the water supply. The hose should supply no more than 80 PSI. There is no minimum flow rate requirement.
2. Attach the twelve foot delivery hose to the “out” connection on the deionizer head. Attach choice of filling device to the delivery hose. Deionizer is compatible with direct fill links, manual gun, or standard hose nozzle.
3. Attach the six foot supply hose to the “in” connection on the deionizer head. Connect to the water supply.
4. Install the purity light. Insert the probe completely into the fitting on top of the housing. Mount the display using the tape on the back of the unit. *Note: If water has particulates or sediment, a pre-filter is recommended.
5. Turn on water supply and press red pressure relief button to bleed out air.

PURITY LIGHT INDICATIONS:

Push the button on the purity light to test. The light should turn green. Record the date each time the purity light is tested on the label located on the front of the bracket.

Green: indicates cartridge does not need to be serviced
Red: indicates cartridge needs to be serviced (replaced)

FILTER CARTRIDGE REPLACEMENT:

1. Turn off water supply. Press red pressure-relief button.
2. Unscrew housing. Remove large o-ring, wipe clean, and set aside.
3. Discard used filter cartridge. Wash housing with dish soap and warm water using a non-abrasive sponge or cloth. Rinse thoroughly. Wash again with 1/3 water and 1 tablespoon of bleach to disinfect. Rinse thoroughly.
4. Lubricate o-ring with clean silicone grease. This is important to ensure a proper housing seal.
5. Insert o-ring in groove and confirm it is properly seated.
6. Insert new filter cartridge making sure the top is facing up.
7. Screw housing onto the cap and hand-tighten. Do not over-tighten. Make sure cap standpipe slips into cartridge.
8. Turn on water supply. Press pressure-relief button to vent excess air. Check for leaks before finalizing installation.
9. Replace the purity light record on the front of the bracket and note the replacement date.

CHANGING THE PURITY LIGHT BATTERIES:

1. Open the back panel with a small Phillips head screwdriver.
2. Remove the batteries.
3. Replace with 4 new batteries (size 389-A). Ensure the polarity is correct.
4. Close the back panel and replace the screws.

WARRANTY:

This product is warranted against defects in workmanship and materials for a period of one year from date of shipment.

CAUTION: If storing this product in freezing conditions, drain all of the water to prevent damage.

MANUAL GUN WATERING INSTRUCTIONS

- Always wear personal protective equipment (goggles, gloves, etc.) to protect yourself from sulfuric acid.
- Only water after charging.
- Read instructions in entirety before beginning the installation.

INSTALLATION INSTRUCTIONS:

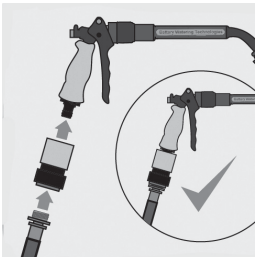
1. Attach the quick-connect fitting and the gun to your 1/2" (12.5 mm) water hose.
2. Turn on the water supply. If using a watering cart with the manual gun, turn it on.
3. Squeeze the trigger to clear the hose of any air, dispensing water back in to a tank or sink. Continue until all air in the hose has been cleared and the water flow is uniform.

NOTE: The manual gun has been pre-set to work with most battery vent caps. Standard vent caps must be removed before watering. If using flip top vent caps, they do not need to be removed. Flip open the cap lid to fill cells.

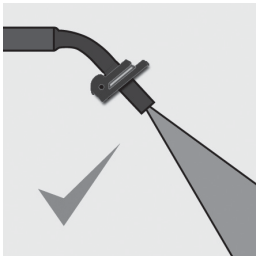
OPERATION:

1. If needed, adjust the level control collar. This sets the shut off level (a) of the gun within the cell. The control collar is adjustable using a 7/64" (2.78 mm) Allen wrench.
2. Turn on the water supply.
3. If batteries aren't watered on a regular schedule or if a dedicated filling hose is not being used, step 3 in the installation instructions will need to be repeated.
4. Insert the nozzle into the battery cell to be filled.
5. Squeeze the trigger until the cell is filled and shut-off takes place.
6. Gently tap the nozzle to prevent any drips.*
7. Remove the gun from the battery.
8. When watering is complete, turn off the water supply.

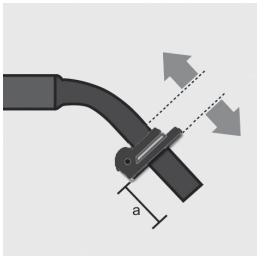
* After use, the gun may drip a little water. This is expected and necessary for the automatic resetting feature.



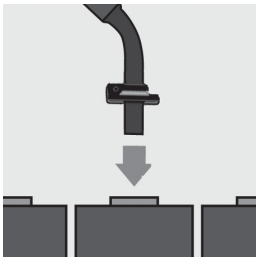
1. Connect



2. Clear hose of air

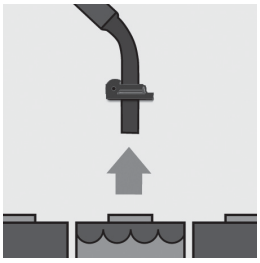


3. Adjust collar

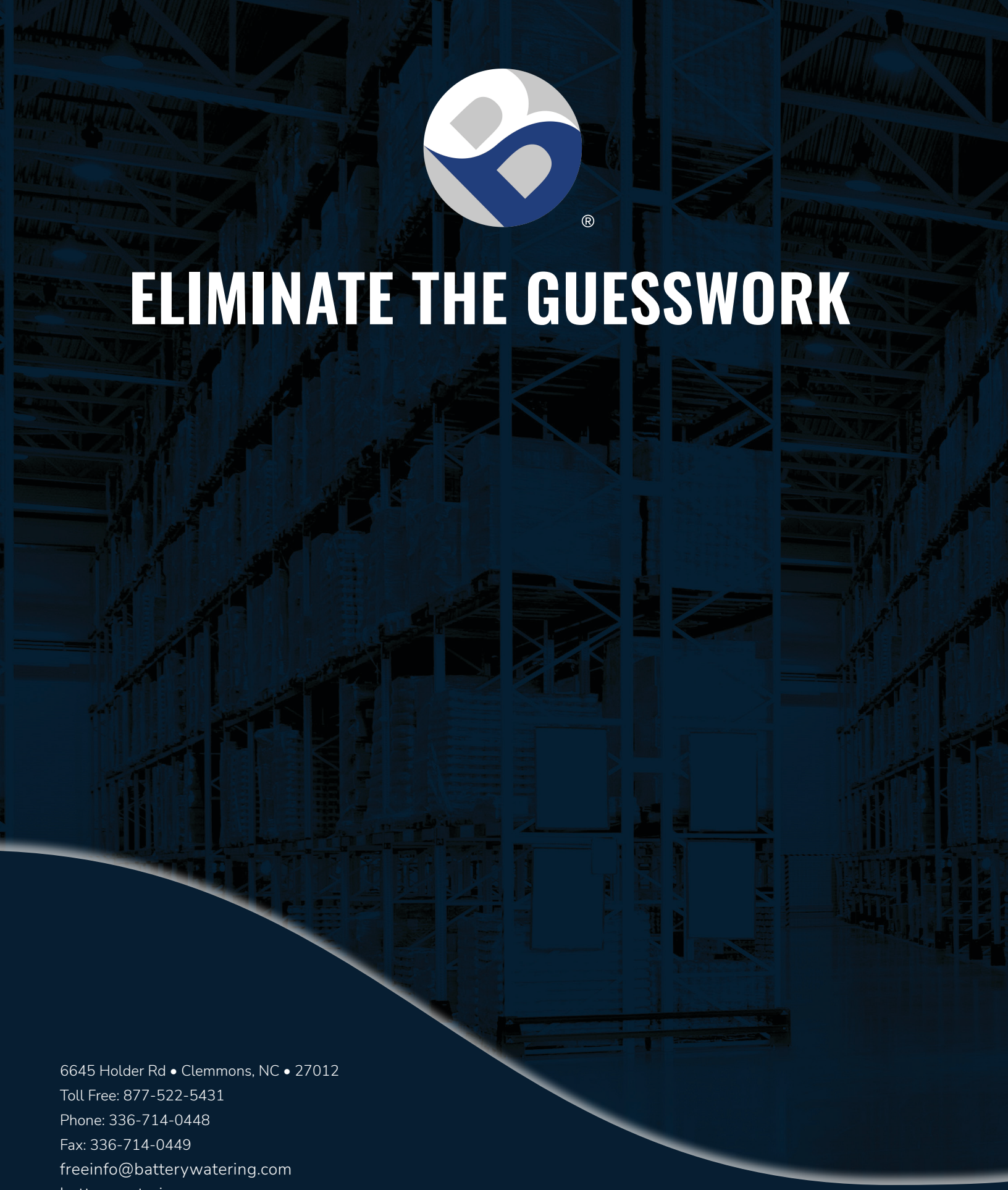


4. Insert nozzle

5. Tap nozzle



6. Remove nozzle



ELIMINATE THE GUESSWORK

6645 Holder Rd • Clemmons, NC • 27012
Toll Free: 877-522-5431
Phone: 336-714-0448
Fax: 336-714-0449
freeinfo@batterywatering.com
batterywatering.com

Battery Watering Technologies is a Division of FourShare, LLC