

**Factory Authorized Water Supplies for the  
Water Injector System™**

		
<b>HydroCart Mini</b>	<b>HydroCart Max</b>	<b>10 Gallon Bladder Tank</b>
Part Number INJ-MINI	Part Number INJ-HCT	Part Number INJ-T10M

	
<b>DirectFill™</b> *Requires 25 PSI at 8-10 gpm to operate	<b>Changer Mounted Water Supply</b>
Part Number INJ-DF	Part Number INJ-PMWT-WOT



**Storage Battery Systems LLC**  
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**Water Injector System™  
Installation and Operation  
for Semi-Assembled Systems**



### HEALTH AND SAFETY PRECAUTIONS

Batteries contain sulphuric acid, always wear approved protective clothing (gloves, goggles and apron).



## Installation

1. Remove the vent caps. When this battery is eventually scrapped, it must be returned with these old vent caps; have your Water Injector System reconditioned for reuse.

2. Insert the Water Injector Valves into the vent openings, following the preferred layout for your battery as depicted in these instructions. To install the valves into each cell simply press down on the top of each valve. No separate adapter is required. Adjust the tubing to allow gentle bends of tubing between each Water Injector. Do not run tubing in a straight line with no slack.



3. After all of the Injector Valves are installed, use a black permanent marker to mark the tubing on each side of each Water Injector.



4. Slide the tubing out of the Injector to reveal the two black marks. Using the Water Injector Tubing Punch (INJ-311), punch holes centered between the two marks. Tolerance is  $\pm 3/8$ " from the center. Punch only once, which will make two holes in the tubing.

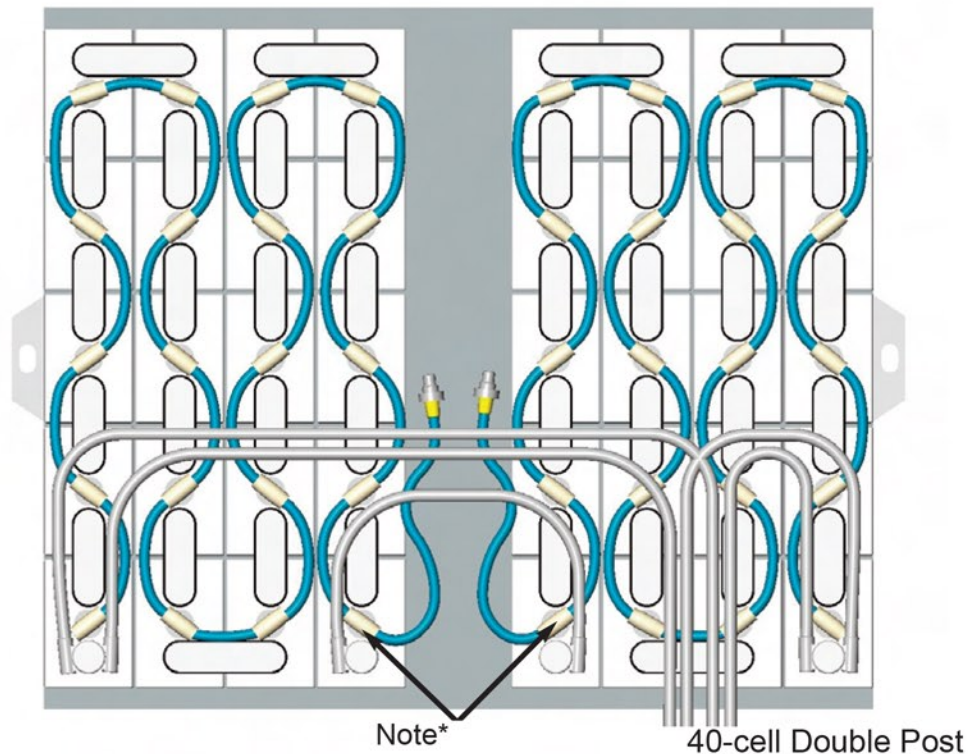


**Note:** This is a heavy duty punch.

5. Center the Water Injector over the newly punched holes, aligning it between the black marks. **Warning- Failure to punch or properly align holes with the Injectors will prevent the Water Injector from properly watering cells.**

6. Insert the Terminating Injector (packed separately) by pressing it into the last vent opening. Trim the tubing long enough to totally cover the barbed end of the Terminating Injector. Install the collar onto the tubing. Push the tubing completely over the barb and groove. Slide the collar over the barb using a Collar Installation Tool (INJ-601).

7. To prevent the tubing from moving during use, wrap six turns of installation tape (INJ-202) around the tubing, directly behind the first Water Injector. **Note:** Do not use electrical tape as it unwraps and will deteriorate over time. Tuck the Quick-Connect Input Coupling on top of the battery.

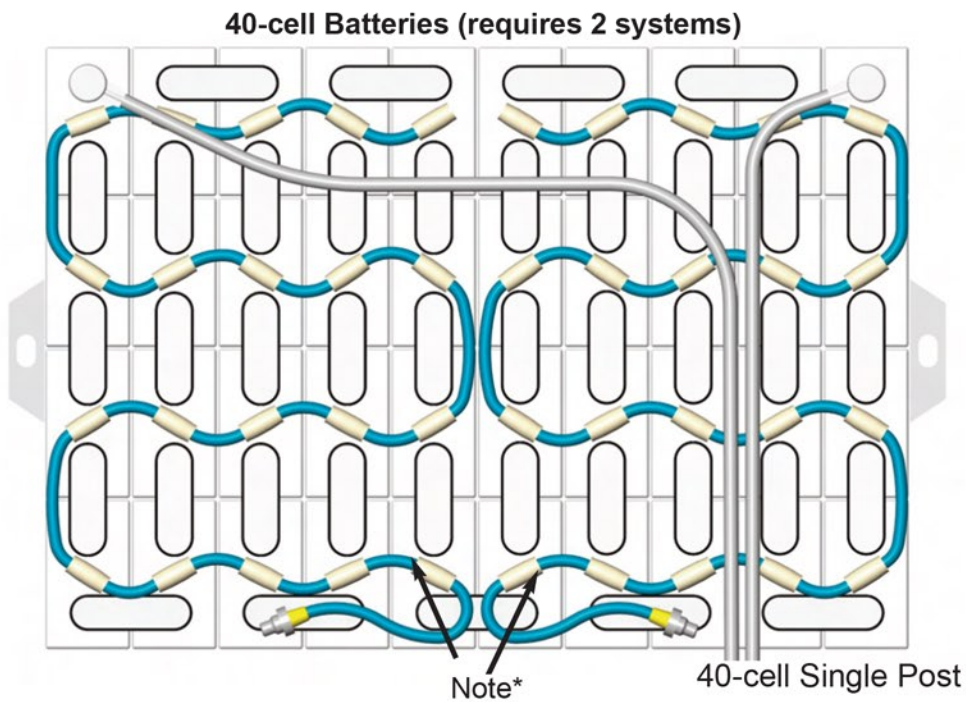
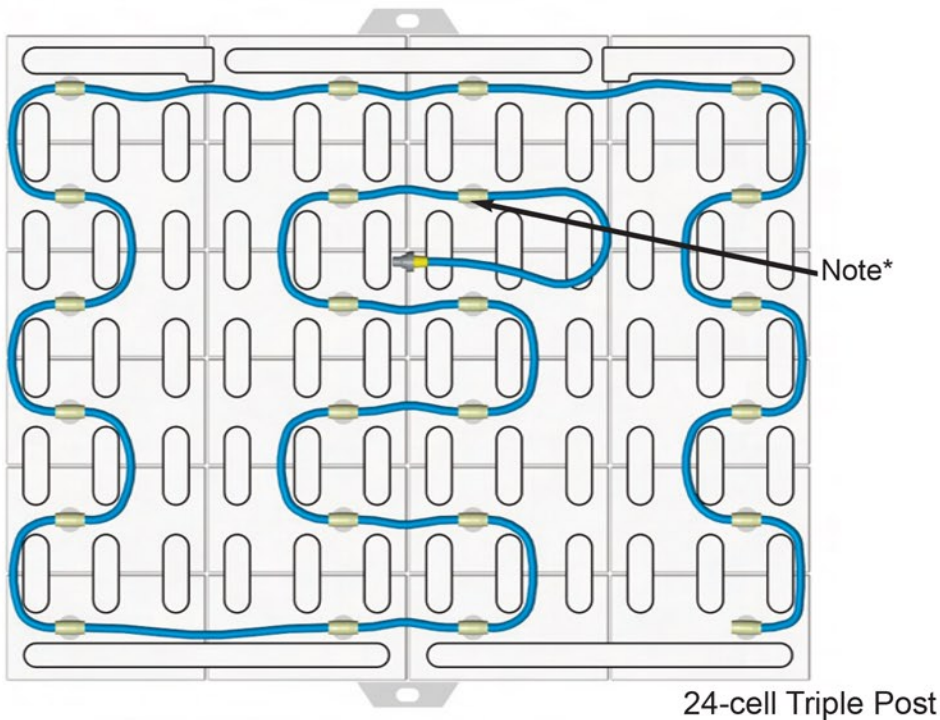


## Operation Instructions: Filling the Battery

Any factory-authorized Injector Water Supply (shown on back page) can be used to fill the Water Injector System™. This will provide the 25 PSI at 8 gallons per minute required to operate the Water Injector System.

1. Connect the Instant Valve Pro™ to the quick connect on the tubing of the Water Injector System installed on the battery.
2. Squeeze the lever completely to fill the battery. Do Not Partially Squeeze the Lever.
3. Watch the spinner mounted on the Instant Valve Pro. When it stops spinning, the filling is completed (about 15 seconds usually).
4. Release the lever and then disconnect the Instant Valve Pro from the Water Injector System.

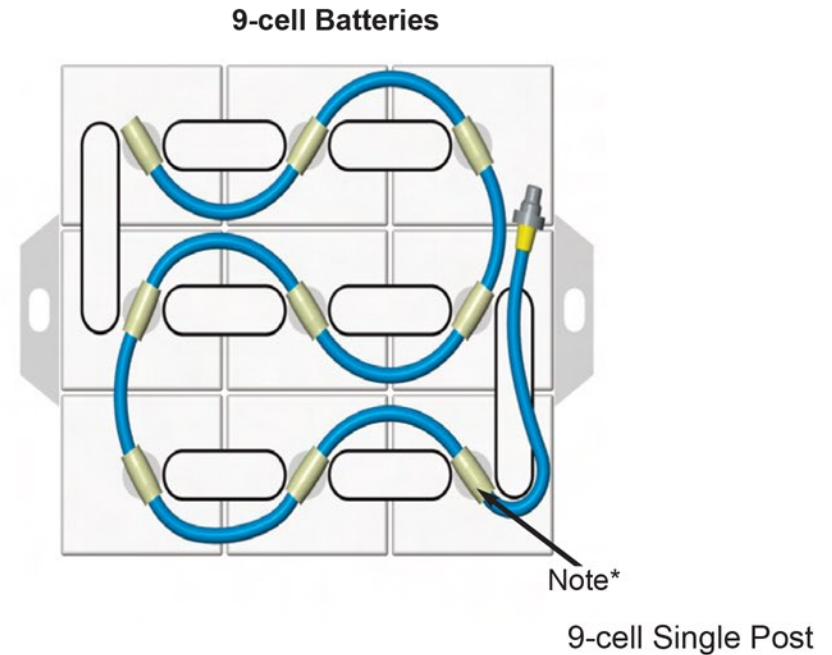
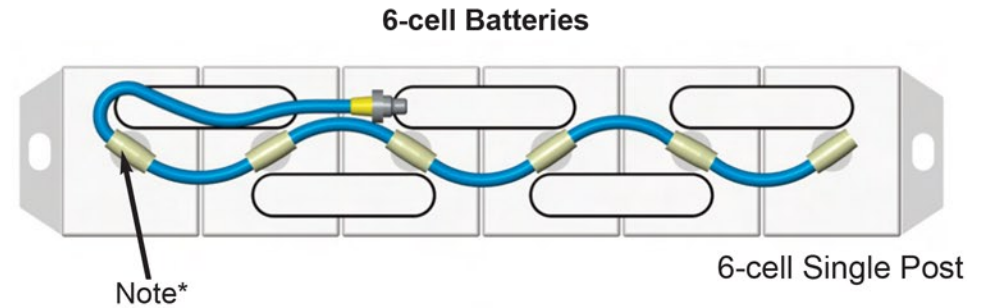




**\*Note:** The tubing between the 1st Water Injector in the layout and the Input Assembly should only be long enough to allow the operator to water the battery. It should not be so long that the Input Assembly would hang over the side of the battery or exceed 24 inches. Philadelphia Scientific recommends at minimum 6 wraps of installation tape behind the 1st Water Injector for strain relief.

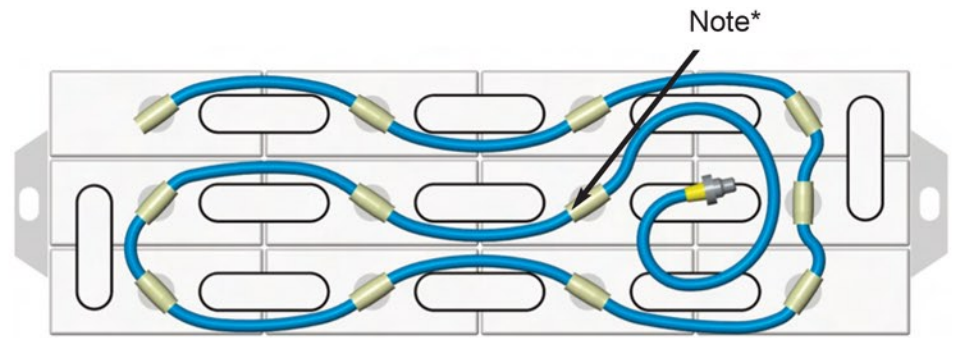
## Recommended Layouts

Tubing can run either over or under cables depending on clearances. If battery has raised vent wells, tubing can be routed over the intercell connectors, maintaining some slack between Injectors. Be sure all cables are tied down with cable ties to prevent system damage.

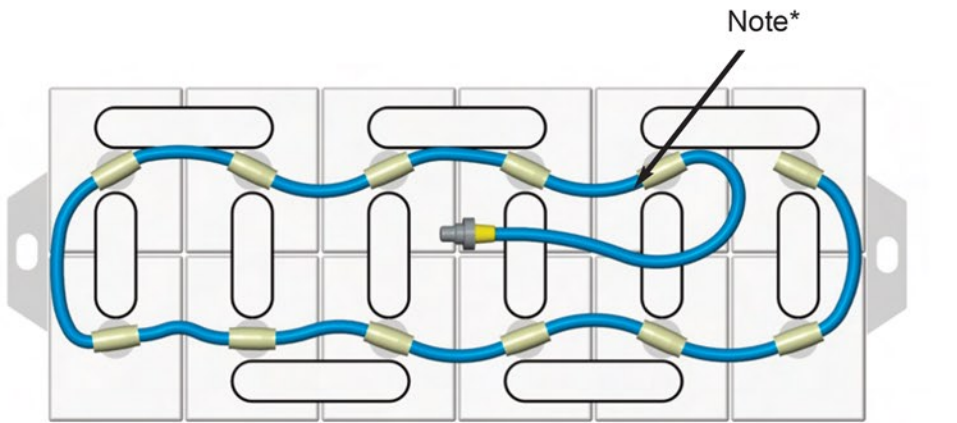


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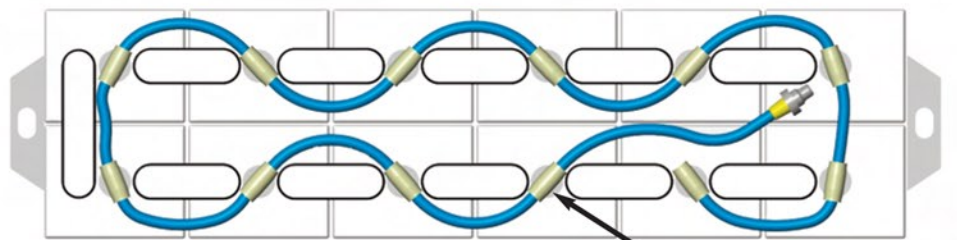
### 12-cell Batteries



12-cell Wide Plate

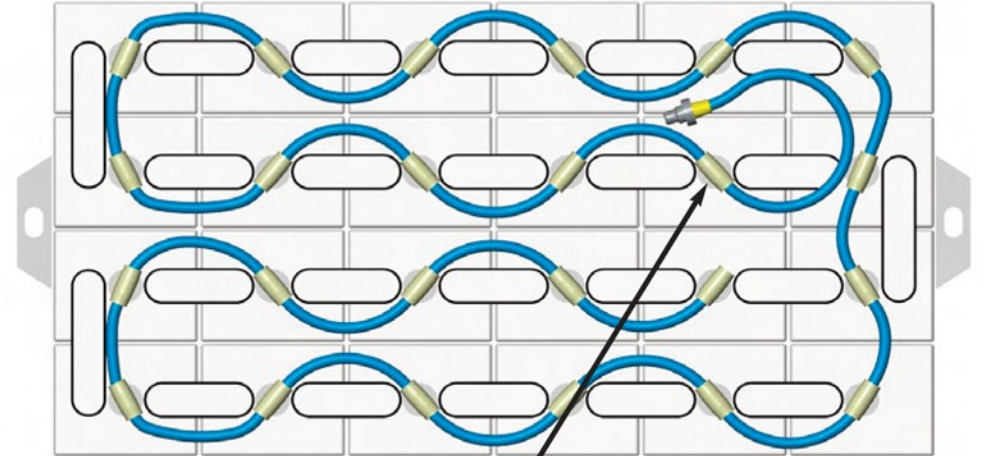


12-cell Single Post

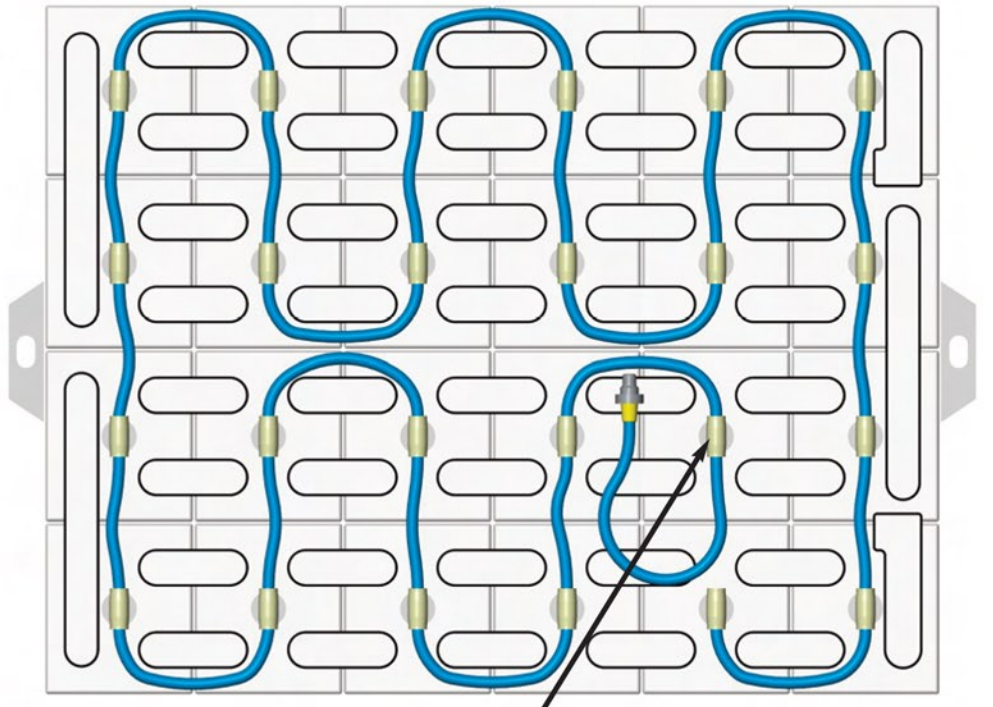


12-cell Single Post

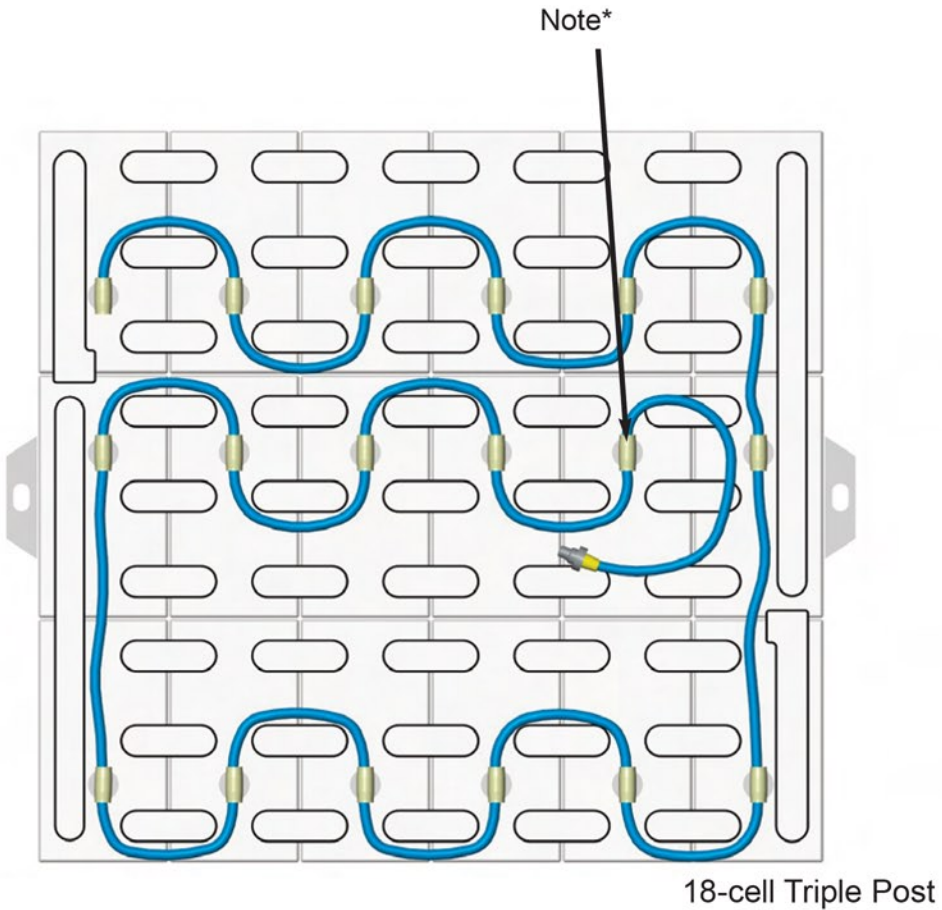
### 24-cell Batteries



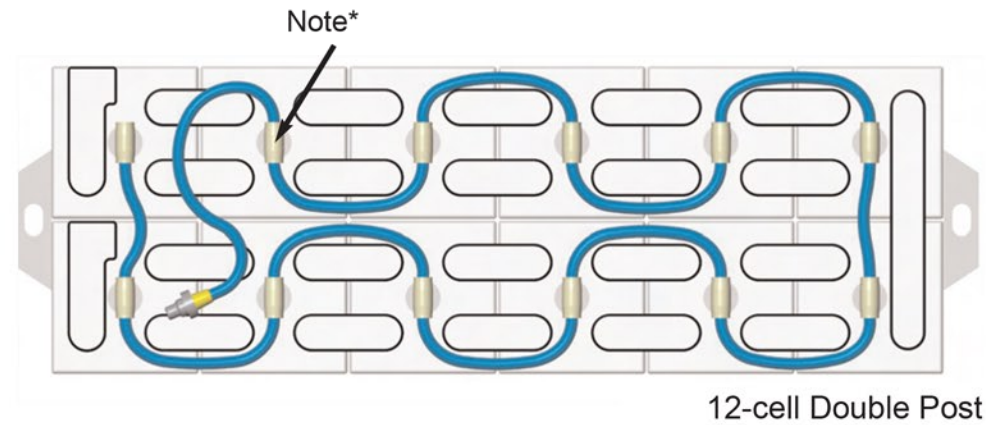
24-cell Single Post



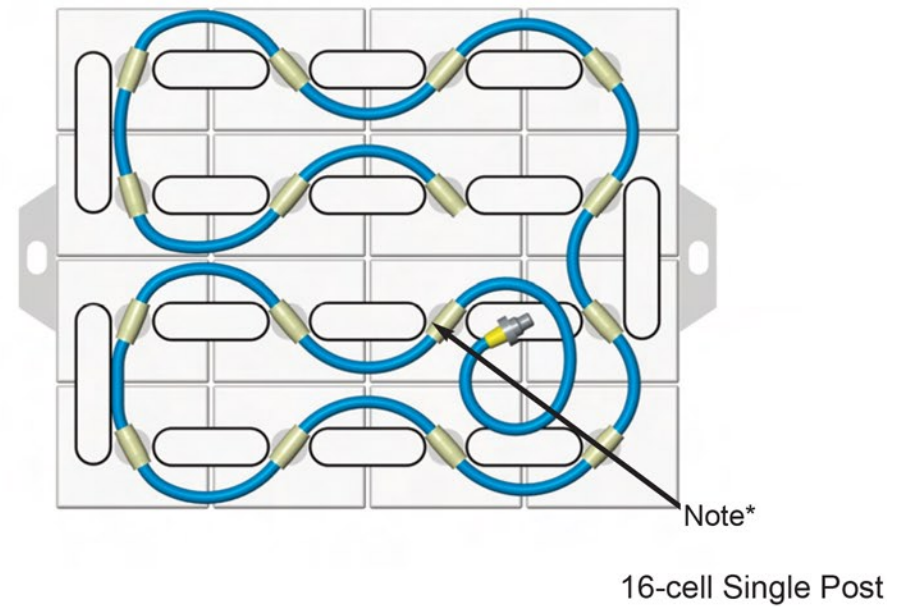
24-cell Double Post



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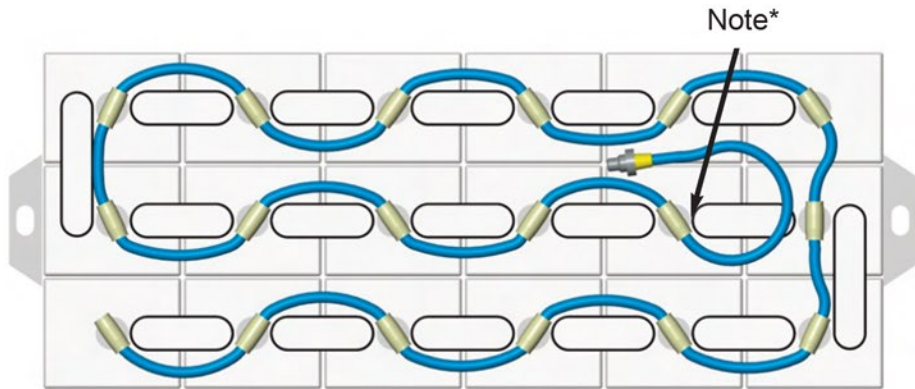


### 16-cell Batteries

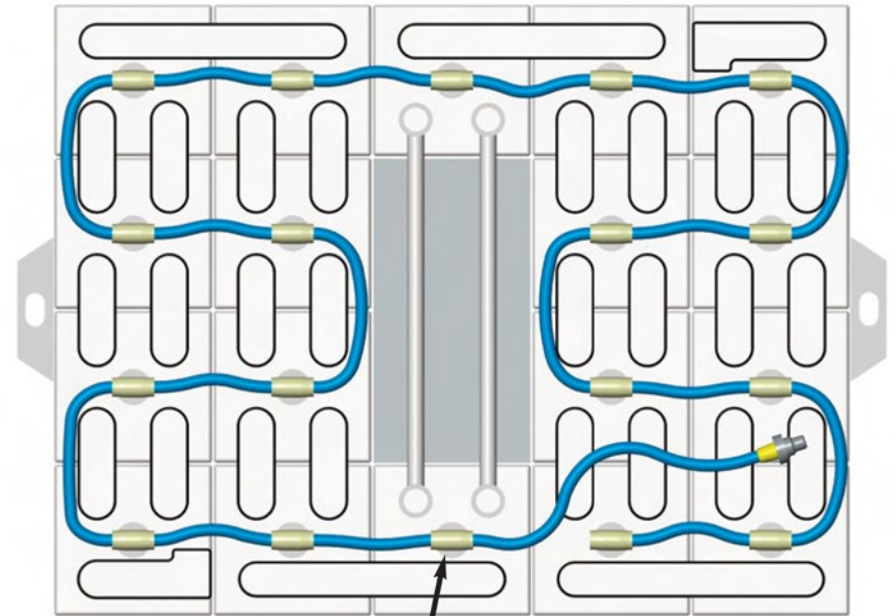


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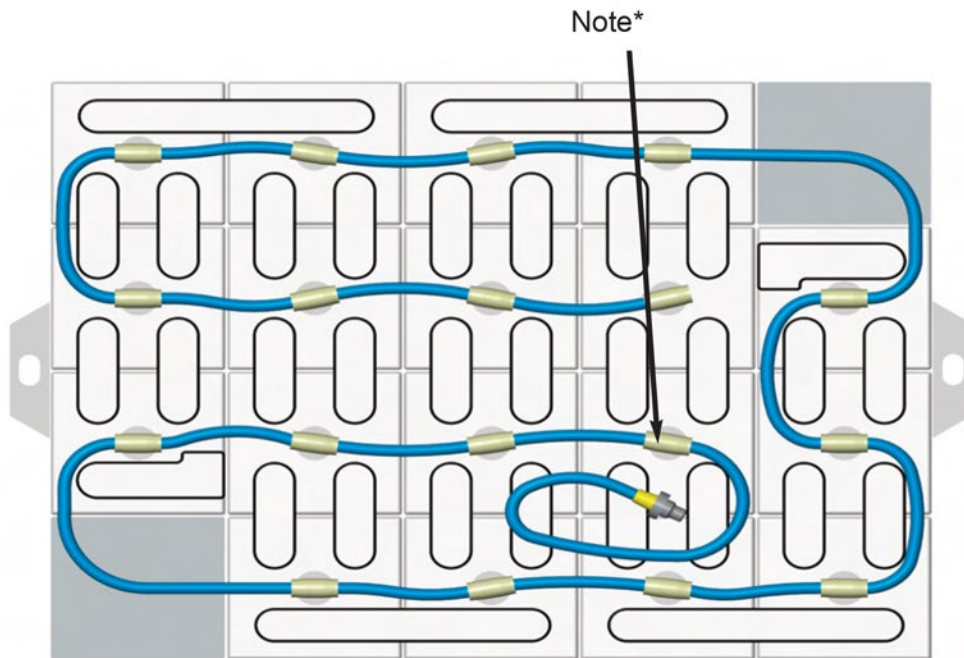
## 18-cell Batteries



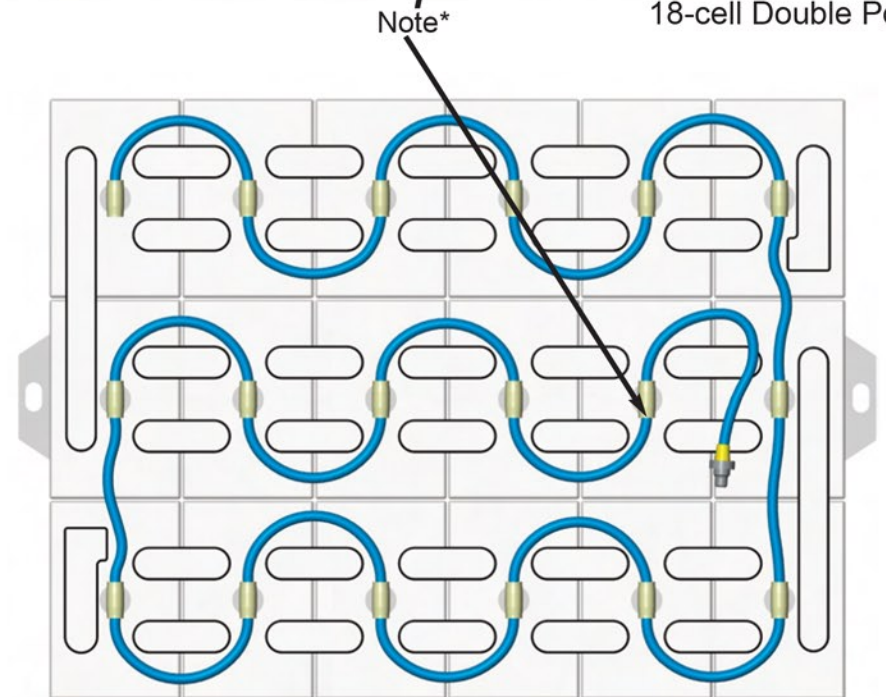
18-cell Single Post



18-cell Double Post



18-cell Double Post



18-cell Double Post

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