

## FlowMark Model Mark-IV-CT Installation Operation Manual

EPA Est. #: 92852-FL-1

### Record Information About Your System

Date Purchased: \_\_\_\_\_

Date Installed: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Local Representative: \_\_\_\_\_

For assistance please call your local representative or call (386)453-5091

## Check Contents:

Please inspect the package for the following contents and any damage that may have occurred during shipping.

1. FlowMark Controller x 1
2. Treatment Pads x 4 (2 prewired sets)
3. Coil Cable Extension x 2
4. Cable Tie Wraps x 12
5. PVC Pipe Cover x 1
6. Weather Stripping x 2
7. Installation Manual x 1
8. Warranty Card x 1



## Power Requirement

All FlowMark Systems are fitted with a auto-switching power supply that can accept 100 to 240 VAC power input. Systems are supplied with a molded 120 VAC Power Cord that can be plugged in to any 120 VAC wall outlet. If you choose to hard wire the controller simply cut the male plug off the power cord and wire the three wires accordingly:

White: Neutral

Black: Hot Leg

Green: Ground

## Choosing The Correct Treatment Location

**Re-Circulating Systems:** Install after the circulation pump. Minimum 4 times the pipe diameter after the pump. Example: (8" pipe = minimum 32" after the pump).

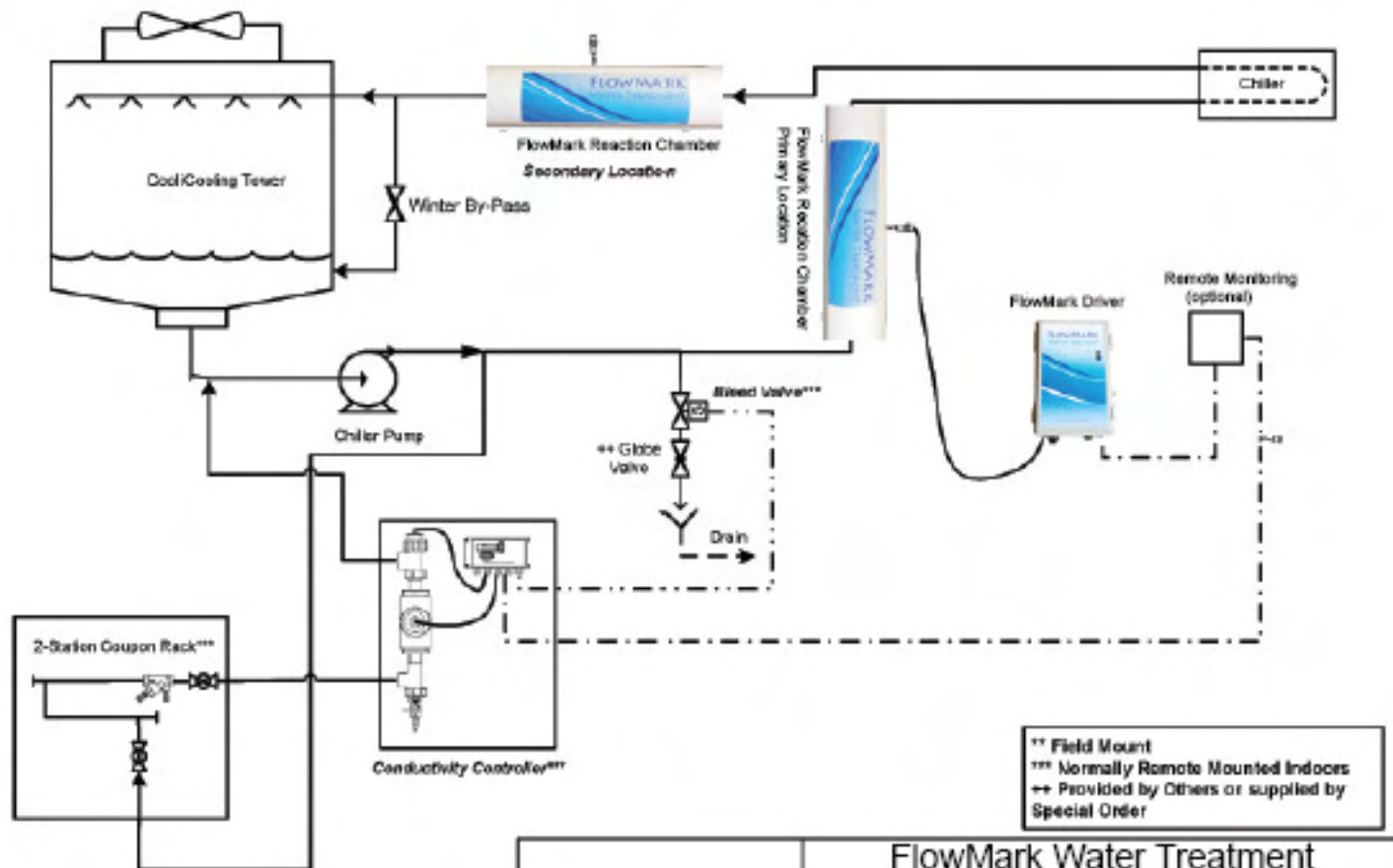
**\*\*\*Note:** It is always better to choose an area of laminar flow when selecting the treatment location. When possible avoid installing at elbows, T's, before pumps, etc.

**\*\*\*Warning:** The FlowMark treatment pads may interfere with magnetic flow-meter operation. Maintain a minimum of 3 feet clearance from magnetic flow-meter pick-up.

## Cooling Tower & Chiller Installation Location

1. **Primary Location:** Install the FlowMark System on the condenser water pipe feeding the chiller, after the pump and before the chiller.
2. **Secondary Location:** If there is no convenient location for the Primary suggestion then install the FlowMark system on the condenser water pipe going to the top of the cooling tower.

**Note:** This FlowMark system is rated Nema-4X so it is water resistant and can be safely installed outdoors but whenever possible it is recommended to install the FlowMark system indoors to reduce the possibility of lightning damage which is not covered by the 3 year limited warranty. The Primary Location suggestion can usually be installed indoors.

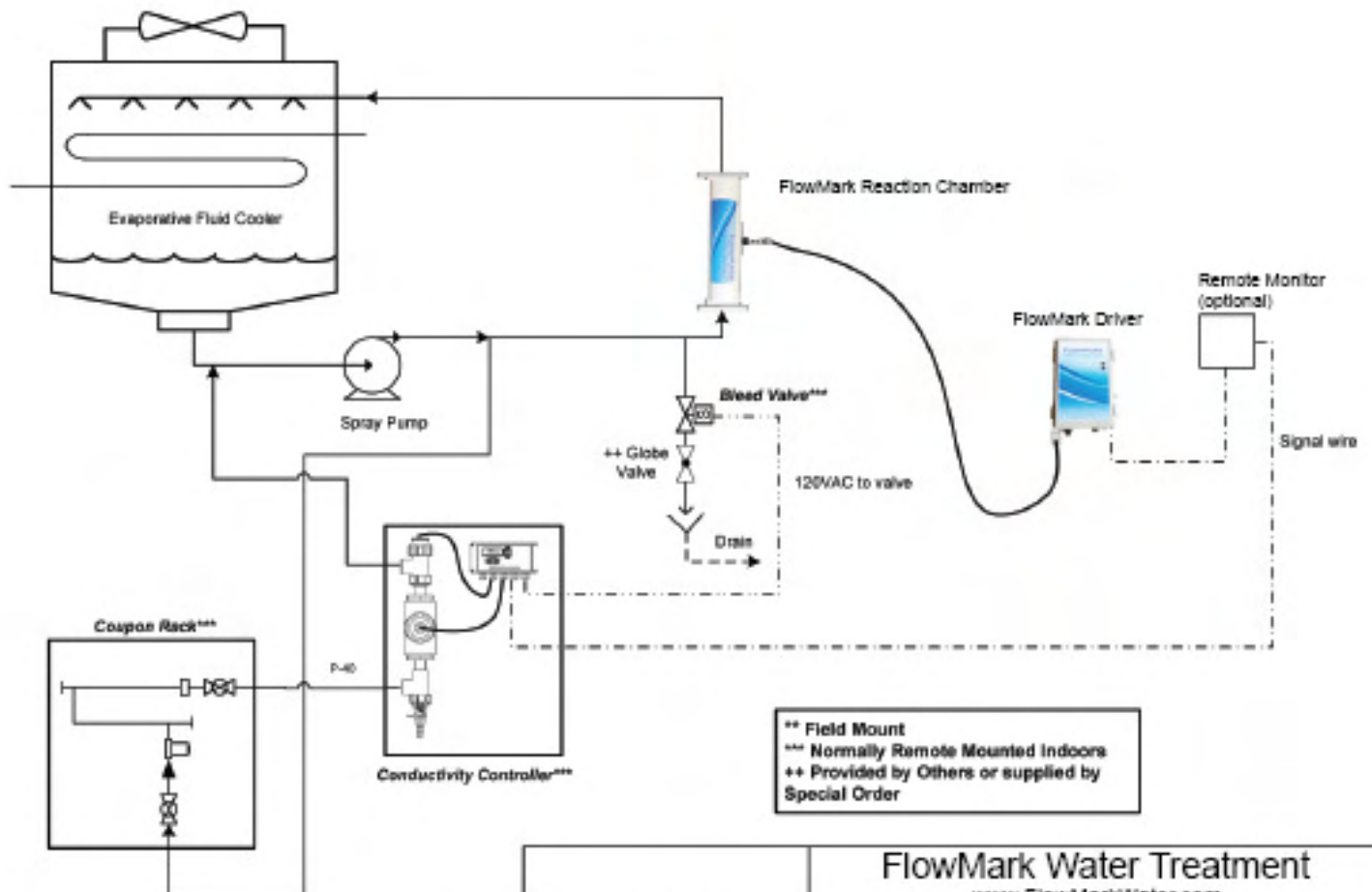


**Notes:**  
For outdoor installations, the Bleed Valve will require a weather shield.  
The Conductivity Controller needs to be protected from direct sunlight.

FlowMark Water Treatment www.flowmarkwater.com				
Typical FlowMark Installation				
Piping and Instrumentation	SIZE A	FLOOR NO	DWG NO	REV
12/18/13	SCALE NONE	SHEET 1 OF 1		

## Evaporative Condenser Location

Install the FlowMark system on the condenser water pipe feeding the top of the condenser. Allow 4 pipe diameters down stream of the circulation pump.



Notes:  
For outdoor installations, the Bleed Valve will require a weather shield.  
The Conductivity Controller needs to be protected from direct sunlight.

Evaporative Condenser or Fluid Cooler	FlowMark Water Treatment www.FlowMarkWater.com			
	Typical FlowMark Installation			
Piping and Instrumentation	SEE A	FSOM NO.	DWG NO.	REV A
12/18/2013	SCALE	NONE	SHEET	1 OF 1

## Installing Your FlowMark Treatment Pads:

The treatment pads can be installed on horizontal or vertical piping.

Four treatment pads are included with this model FlowMark system. One set of two pads will be powered by channel number 1 and the other set of treatment pads will be powered by channel number 2.

1. One side of each Treatment Pad is marked "To Pipe". This side should be placed toward the pipe to be treated.
2. The Treatment Pads should be installed opposing each other by connecting the grommets of one pad to the grommets of the other pad as seen in the photo below.
3. Make sure the connecting plug of one set is on the LHS and the connecting plug of the other set is on the RHS so they will protrude outside the pipe cover wrap.
4. Form the shape of the treatment pad to the pipe shape by squeezing the pad with both hands into the position you have selected
5. Insert cable ties through the grommets at each end of the pad.
6. Center the pads so they directly oppose each other before tightening the cable ties.
7. Gradually tighten the cable ties to hold the treatment pads firmly in place. Do not over tighten the cable ties as the grommets may tear the cover material.

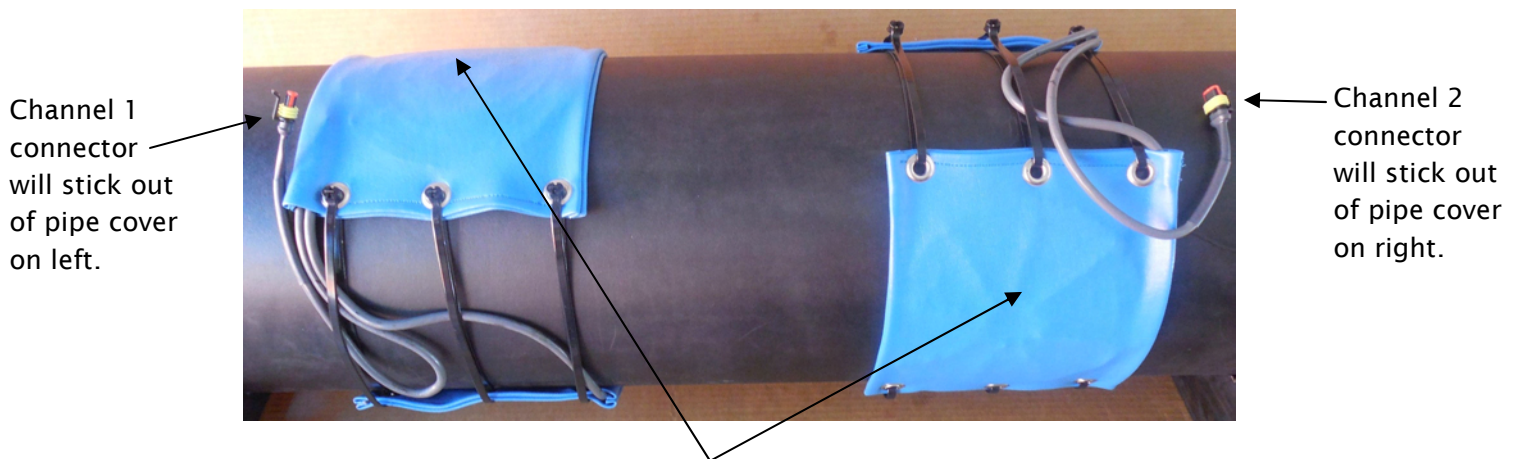


Note: Short cable ties are provided if you choose to secure the treatment pads to the pipe using grommet holes as seen below.



You may find it easier to use the long cable ties around the outside of the treatment pads and not use the grommet holes.

Channel 1 & 2 Treatment Pads



Install with pads opposing each other. Channel 1 and 2 are at 90 degrees for full signal coverage.



## Installing the Pipe Cover:

The white PVC pipe cover with the FlowMark label is included to provide a finished look to the installation and to protect the pads from ultraviolet light exposure.

1. Hold the pipe cover up to the area where the treatment pads have been installed and mark the pipe where the ends will be.
2. Install one piece of weather stripping around the pipe inside the lines at each end previously marked on the pipe.
3. Open the pipe cover and install it over your treatment pad installation with the label facing you. Make sure you have routed the connectors outside the area so they are exposed for connections.
4. Remove adhesive strip from the pipe cover to seal the installation.

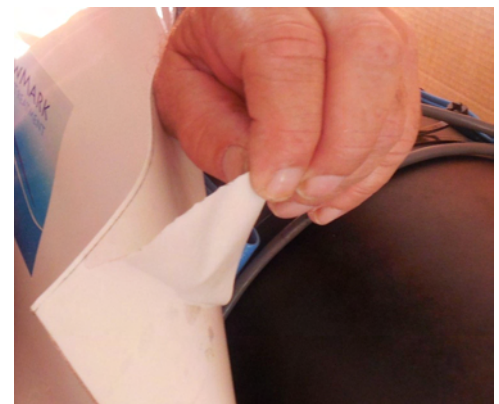
Note: You may experience difficulty installing the pipe cover. A second person holding the cover tightly in place helps as the other person removes the adhesive strip and seals the installation.



Mark pipe where cover will be installed and install one piece of weather stripping just inside the line at each end. Route connector wire through the space where ends meet.



Install the pipe cover with the adhesive tape at the top. Use two people to tighten the cover as much as possible before you seal the cover.



Remove the adhesive strip and seal the cover in place.

### Mounting the Control Panel:

Choose a solid wall for mounting the control panel within 20 feet of the treatment pad location.

Use lag bolts or tap cons and secure four mounting brackets to the wall.



### Connecting and Powering the Unit:

Connect the two signal cables to the treatment pad installation by inserting the male connectors into the female connectors. Push together until a click is heard to lock the connectors.

Be sure to neatly route the signal cables between the Controller and the Treatment Pads to avoid damage.

Plug the FlowMark Controller into a 120 VAC outlet and observe the yellow and blue lights.

YELLOW LIGHT ON = Power to the Controller.

BLUE LIGHTS ON = Treatment Active Channels 1 and 2.

### Trouble Shooting:

Yellow and Blue Lights OFF... Check GFI or Circuit Breaker and reset.

One Channel Blue Light ON and Yellow Light OFF... Check signal cable connection for the channel that is not working or repair damage to signal cable.

## Relay Connections for Remote Monitoring

The circuit boards for channels 1 and 2 are fitted with a relay that can accept wiring to a remote alarm or indicator light. This relay can be wired normally open or normally closed. The signal will coincide with the Blue Treatment Lights. An additional seal-tight must be installed at the bottom of the enclosure to accept remote monitoring wiring. Wire as per the illustration below.

Switching Voltage - 250VAC, 30VDC - Max

Contact Rating (Current) - 5A

