



waterflō **SMARTMANIFOLD**

OPTION

For

VISIONS 3000

Rev. 2.52

Setup & Maintenance Manual
with VISIONS 3000



Set-up and Maintenance of the VISIONS Smart Manifold with *Waterflo* technology

The manual describes particularly important information about the proper use & care of the ITC Smart Manifold.

WARNING

Trained Personnel

Working on electrical systems or equipment must be performed by an electrician or by properly trained persons. This must be done under the supervision and compliance of electrical regulations.

WARNING

Cleaning

For proper operation, the system must be kept clean and corrosion free. Before the system is cleaned with water or other non-corrosive cleaning agents, all openings, for safety and functional reasons must be properly covered to keep the internal compo-

WARNING

Risk of Metallic Corrosion

- Galvanic corrosion will occur when different metals are used in the same water installation. This will potentially reduce the life expediency of the product.
- Be aware that insufficient grounding of the Smart Flow Water Monitoring System & ITC Smart Manifold can increase the corrosion of metal items.
- Corrosion will occur very rapidly if the fluid in the system has PH values higher than 8 or lower than 5. This will potentially lower the life expediency of the system.
- It is well established that high temperatures increase the corrosion of Aluminum. High temperatures will potentially lower the life expediency of the system. Be aware that temperatures exceeding 160° F (90° C) can increase the potential of corrosion.

DANGER

Metal corrosion will occur and cause leakage. Please make frequent inspections of the ITC Smart Manifold and associated parts to prevent leakage.

WARNING

Failure to follow proper procedures as outlined herein as well as established safety procedures & regulations can result in serious injury, death or equipment damage.

WARNING

Water Quality:

The cooling water has to fulfill special requirements, depending on the type and or temperature of cooling.

By checking the quality of the cooling water for PH, Alkalinity, Dissolved & Un-dissolved compounds, you protect cooling system from corrosion and the accumulation of contaminates as well as protecting the environment.



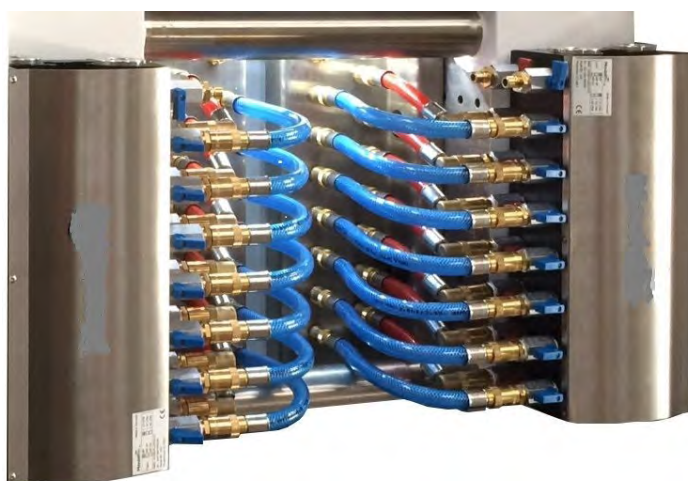
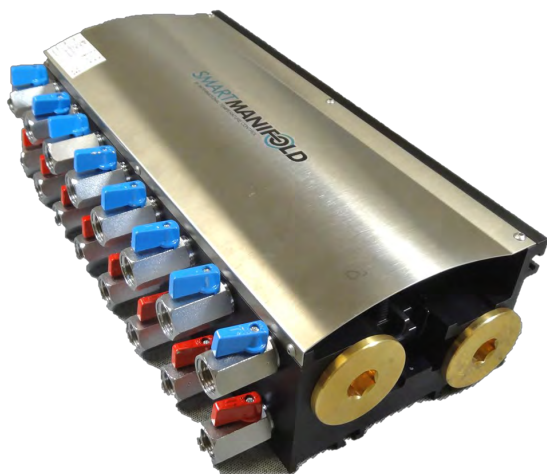
This manual is for field installation of the ITC *Smart Manifold & Interface Unit*

The VISIONS 3000 “*Waterflo*” Mold Water Monitoring System is comprised of the “ITC *Smart Manifold*” & “*Interface Unit*”. This creates an intelligent Mold Flow Water Monitoring System, with that ability to Monitor, Measure & Log Data from each manifold port. A warning signal can be generated which will activate an external warning device, or even deactivate connected equipment.

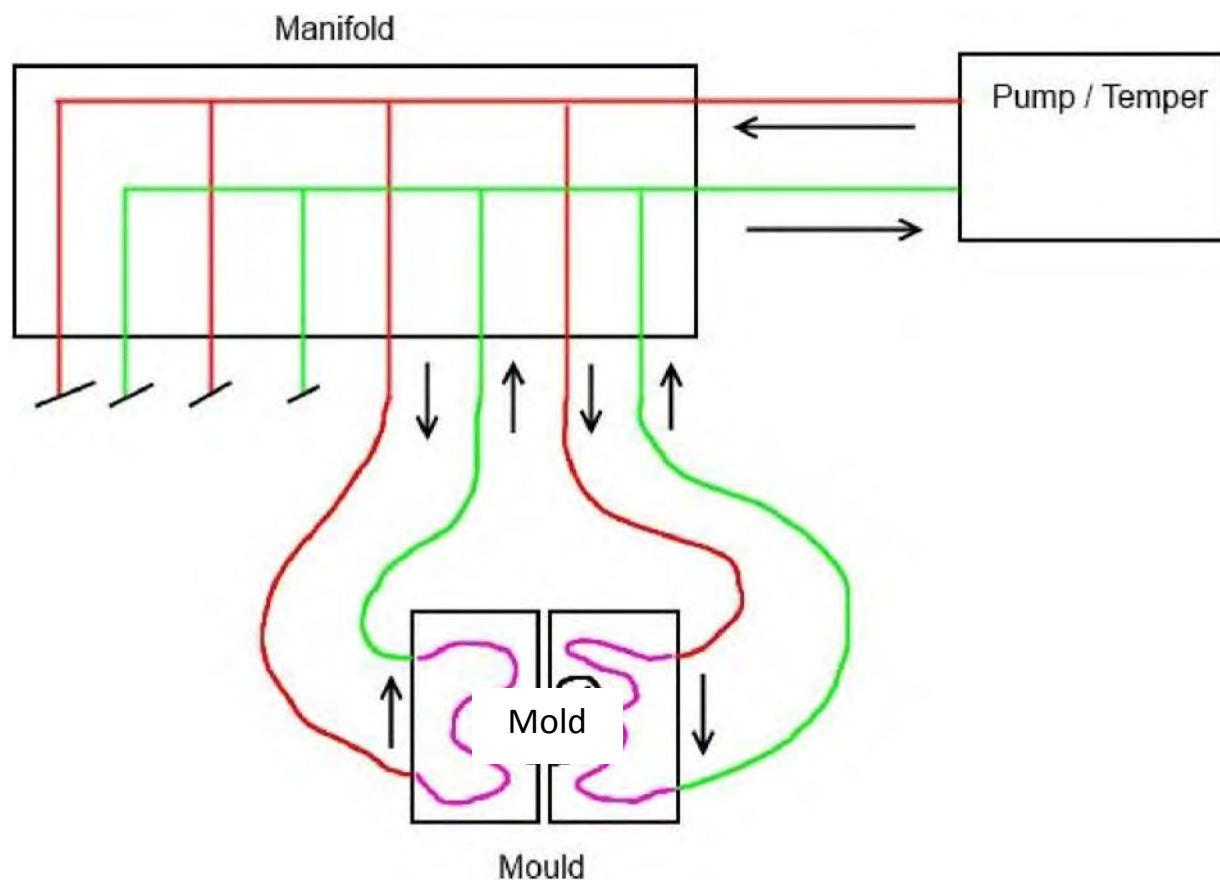
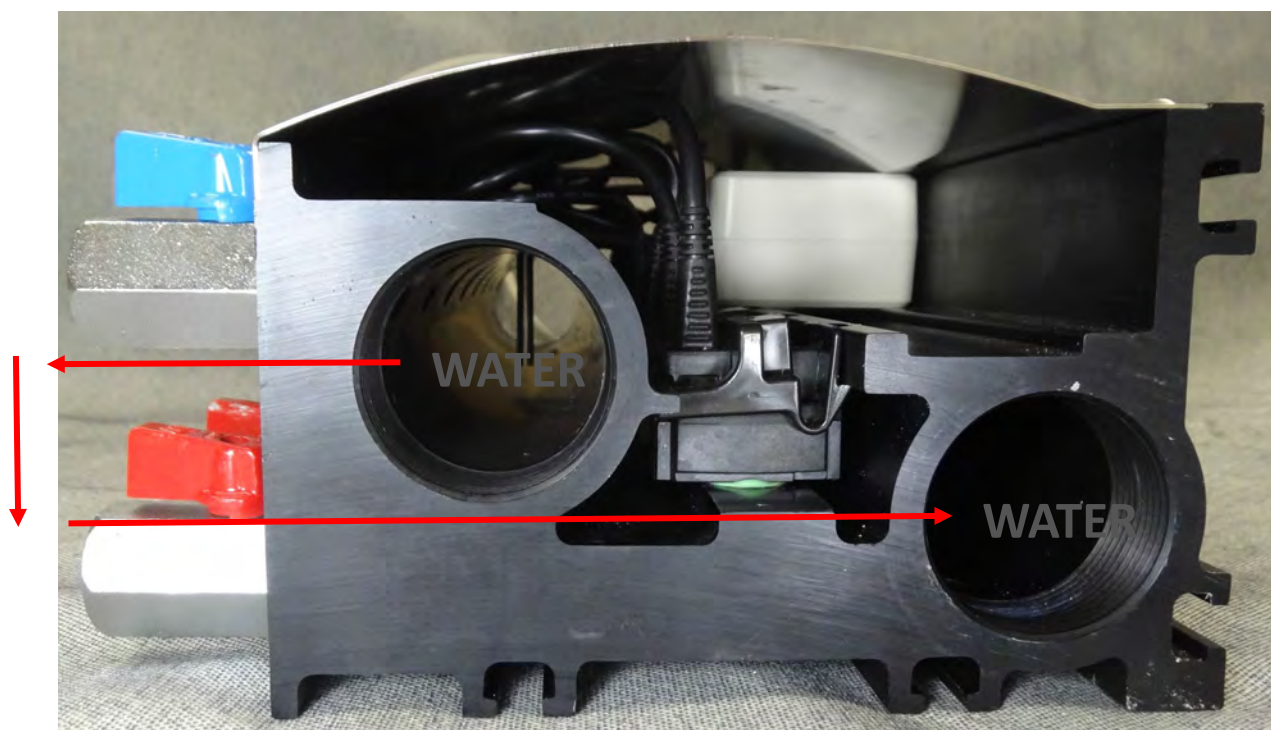
There can be one or more ITC Smart Manifolds and a Interface Box.

The Smart Manifolds can be mounted on the machine, mold or platen on at a location near the point of use.

The Interface Box is to be mounted on the right hand side of the VISIONS 3000 lower cabinet.



Water Circulation in ITC Smart Manifold



Installation of Valves on ITC Smart Manifold:



Start by installing the first valve at one end of the top row.

Be sure to use Teflon tape or thread sealer on the threads of all valves and ensure that no debris enters the flow channel.

Tighten the valve so that the valve handles are placed in their intended location and do not interfere with any of the other valves or apparatus and are easily accessible.



Once all the valves have been installed on the top row, proceed to install the valves on the bottom row.

Be sure to locate the valve handles so they are easily accessible and do not interfere with other valves or associated apparatus.



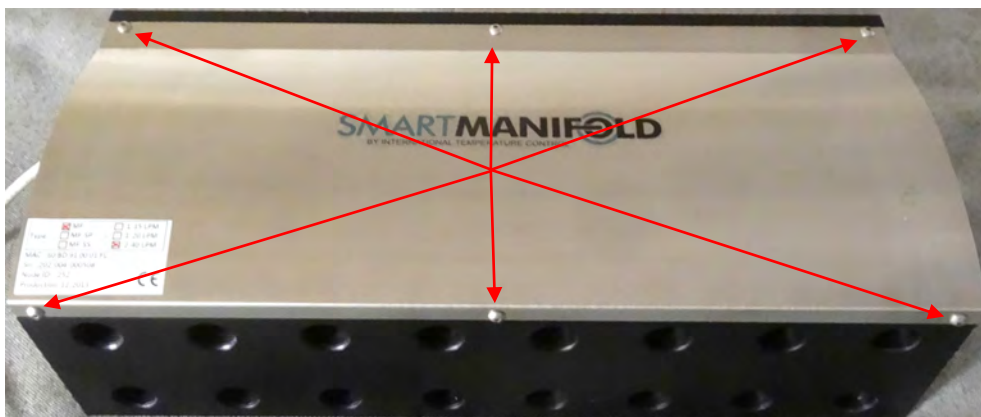
Service & Maintenance

Warning!! Before working on or disassembling any part of the *Waterflo* System:

- First - Physically disconnect & lockout electrical power supply
- Second - Physically disconnect water supply
- Third - Empty the system of all water
- Forth - Thoroughly clean the ITC Smart Manifold with clean soapy water or non-corrosive cleaning agent

First remove the (6) cover screws, then lift off the cover.

Thoroughly & gently clean the manifold with clean water or a non-corrosive cleaning agent

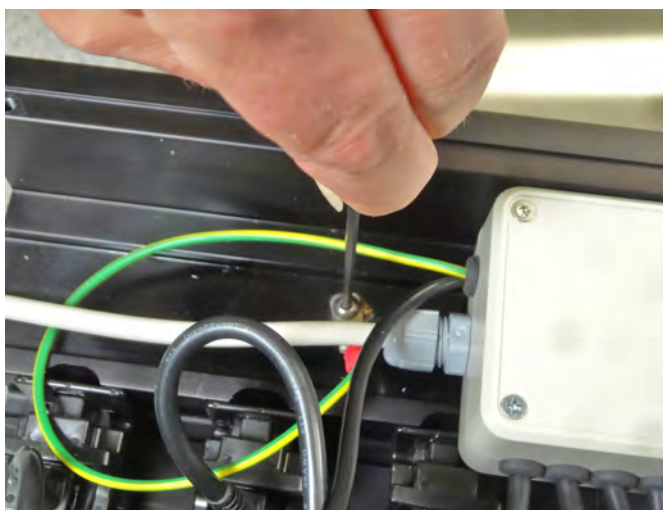


If you have to remove the Sensor Box, from the ITC Smart Manifold use the following protocol:

Once the cover is removed from the *ITC Smart Manifold*, you will see a white plastic unit which is the sensor box.



First - Remove Ground Wire by removing the screw which attaches the ground wire to the manifold.



Second - Remove the (2) hex countersunk (M3 x 45) screws from the sensor box



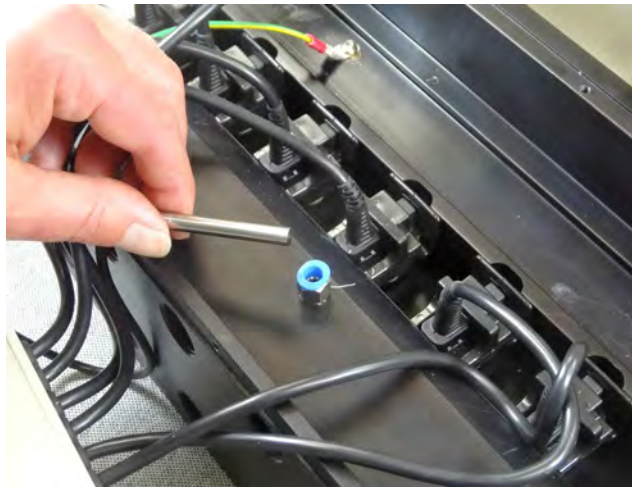
Third - Carefully lift the Sensor Box from the manifold, being careful not to damage or put a strain on wires or apparatus.





Disconnect the Temperature Sensors from the Manifold:

To remove the inlet temperature thermocouple, push down on the blue ring while pulling up on the temperature sensor.
Caution - do not pull on wire.



Removing the Flow Sensors from the Smart Manifold:

Locate the Flow Sensor which needs replacing.
Release the retaining clip by hand or with small pliers.

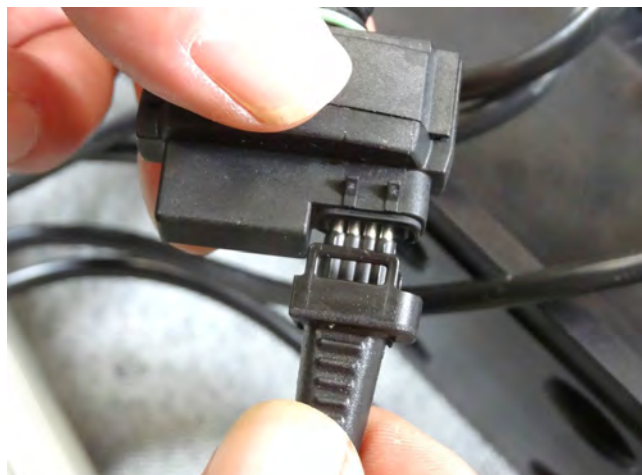


Remove the retaining clip.

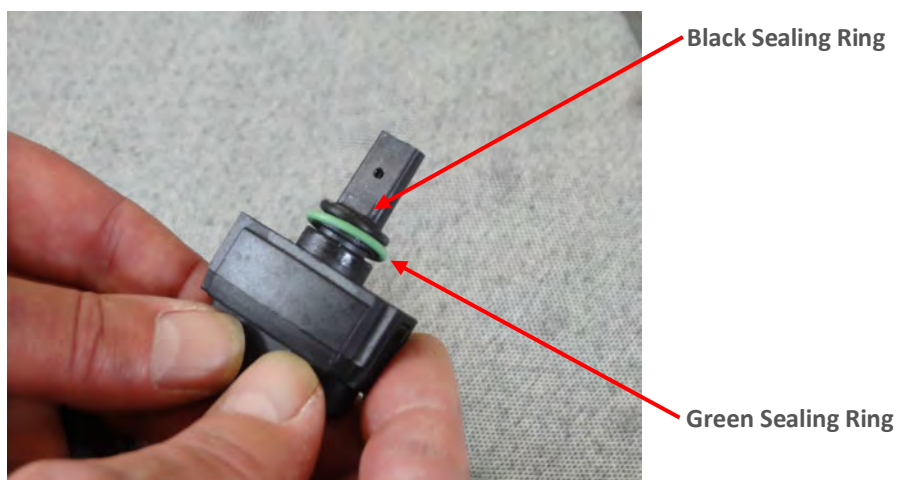
Remove the Flow Sensor, making sure the (2) sealing rings are removed as well.



Gently un-snap the wire plug with a small straight screwdriver on each side and gently remove the plug from the sensor.



Check to ensure the sealing rings have not been left in the sensor hole on the manifold.

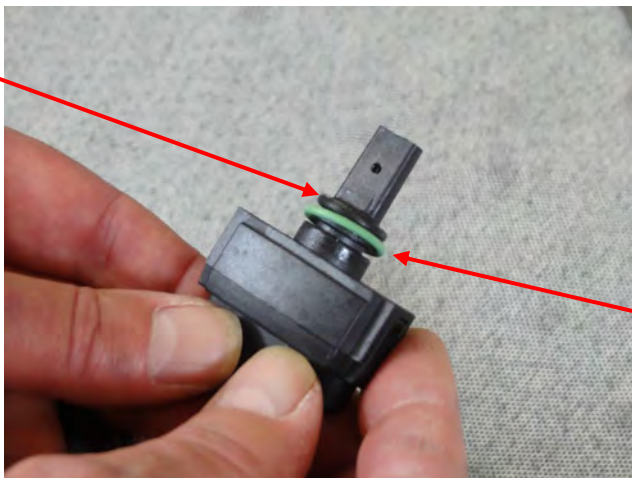




Re-installing the Sensor in the ITC Smart Manifold

Check to ensure the (2) sealing rings are installed on the new sensor.

Black Sealing Ring



Green Sealing Ring

Gently reinstall the sensor in the manifold sensor hole, making sure sealing rings are not pinched.
Push down on the sensor, so the sealing rings are tightly seated.
Place retaining clip over sensor.



Push down on the retaining clip so it snaps & locks on both sides.



Gently connect the plug, being careful not to bend any of the sensor pins on the socket.





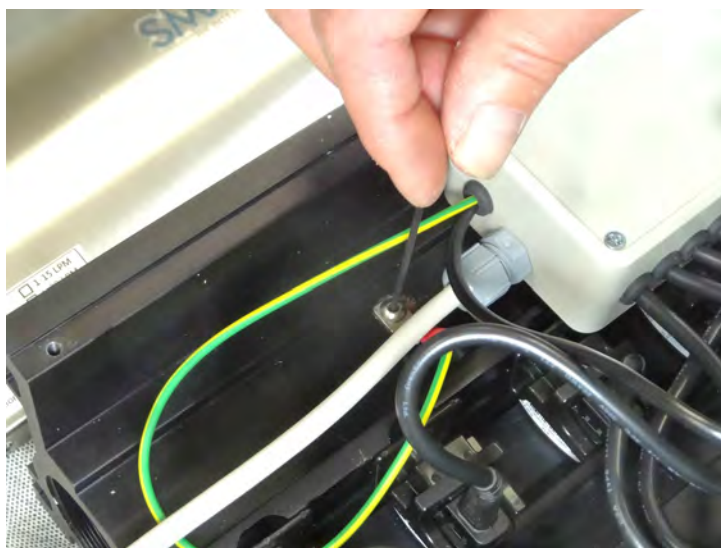
Re-install the Sensor Box

Place the Sensor Box over the mounting holes on the Manifold.

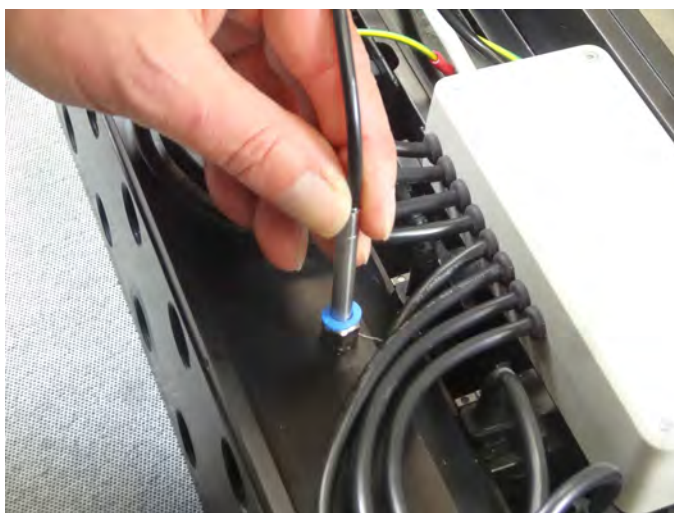
Install the (2) hex countersunk (M3 x 45) screws.



Re-connect the ground wire to the manifold and tighten screw to secure a good ground connection.



Push the temperature sensor into the blue fitting.
After inserting pull up gently to make sure it is securely locked in the fitting.



Re-Install the cover back on the manifold



(6) Pan Head Screws



To connect the ITC Smart Manifold to the VISIONS 3000

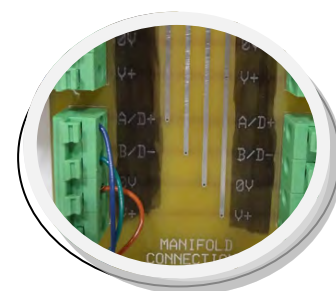
First - mount the Interface Box to the right side of the VISIONS 3000 lower unit. There should be (4) holes for this purpose.



Second - Securely mount the ITC Smart Manifold at a convenient location which provides access as well as room for hoses without kinking. The manifold may be mounted on the machine, mold or at a location close to the point of use. The manner in which you mount the manifold is up to you, but we do provide (4) t-nuts with each manifold if you so wish to use them.



Third - Connect the wire from the Smart Manifold to the green terminals within the Interface box.



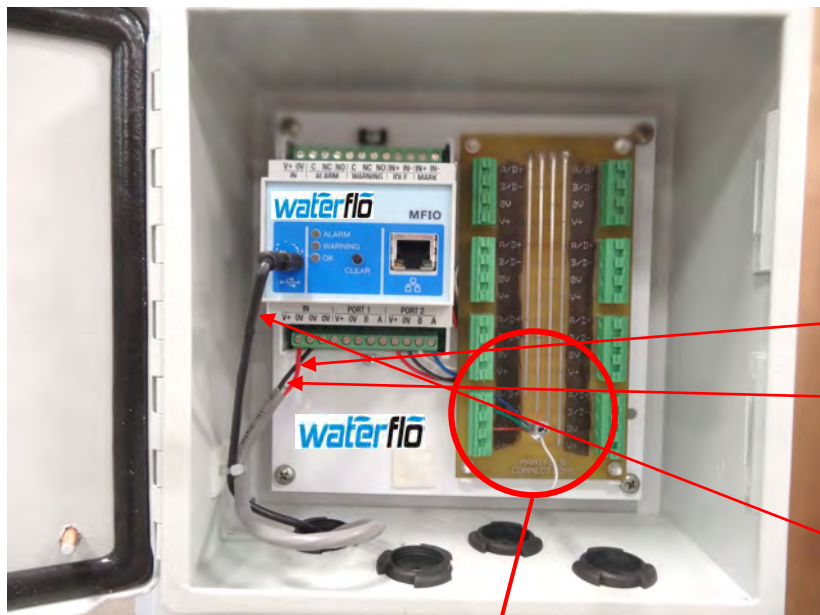
Fourth - Plug the Black USB cable into the USB port on the bottom right side of the auxiliary unit on the back of the Top Box.

Fifth - Plug the Gray Power Cable into the power connector on the bottom left side of the auxiliary unit located on the back of the Top Box.



Use This Section if the ITC Smart Manifold Was Not Factory Installed

The ITC Smart Manifold can be easily installed in the field. It is as simple as mounting the Interface Box on the VISIONS 3000 cabinet and connecting several labeled wires to the corresponding junction points.



INSIDE THE INTERFACE JUNCTION BOX

Gray—2 Wire Power Cable from VISIONS 3000 Top Box:

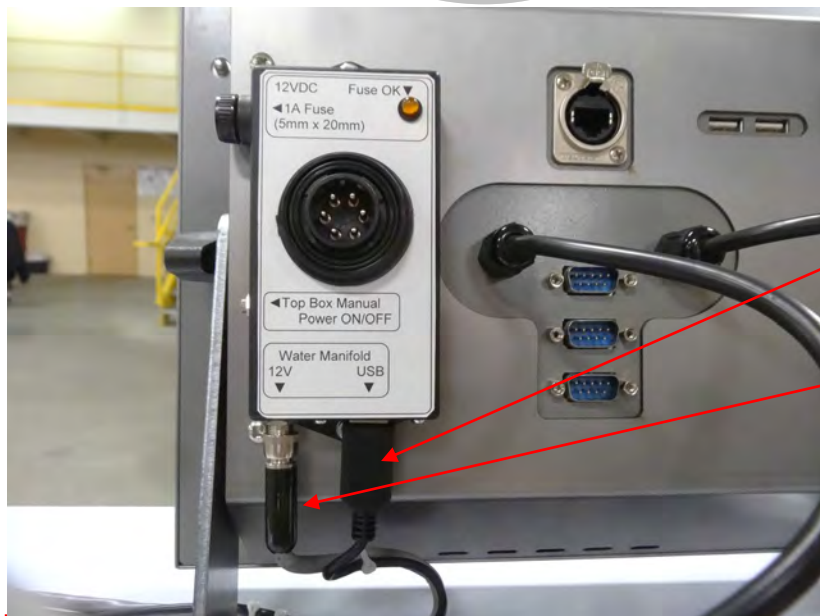
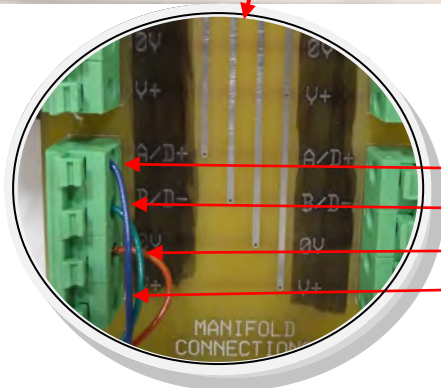
- Connect "RED" wire to 1st "IN -OV" on left bottom of Interface.
- Connect "BLUE" wire to 2nd "IN -OV" on left bottom of Interface.

Black—USB Cable from VISIONS 3000 Top Box:

- Plug in to USB port on left side of Interface.

Manifold Cable—4 Wire; (there are eight sets of wire connectors, which will handle up to eight ITC Smart Manifolds. It makes no difference with connectors are used.

- Attach "A/D+" wire to "A/D+" wire port
- Attach "A/D-" wire to "A/D-" wire port
- Attach "OV" wire to "OV" wire port
- Attach "V+" wire to "V+" wire port



VISIONS 3000 Top Box Interconnection Element

- Plug the Black "USB" Cable into the "USB" port located on the bottom right of the Interconnection Element
- Plug the Gray "Power Cable" into the 12v power plug on the bottom left of the Interconnection Element



TECHNICAL SPECIFICATIONS of “ITC SMART MANIFOLD”

Size (W x D x L)	4 Port 8 Port 12 Port
Weight (Approximate)	
Power	12 - 24 VDC 1amp
Flow Rate	
Measuring Range #1	15 l/min
Measuring Range #2	40 l/min
Accuracy	+/- 1.5%
Response Time	1 Sec.
Resolution	0.2 l/min
System Burst Pressure	> 5 Bar
Temperature	
Measuring Range	0 to 100° C
Accuracy	=/- 1° C
Response Time	1 Sec.
Resolution	0.5° C



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