Venturi Sampler Commissioning and Start-up

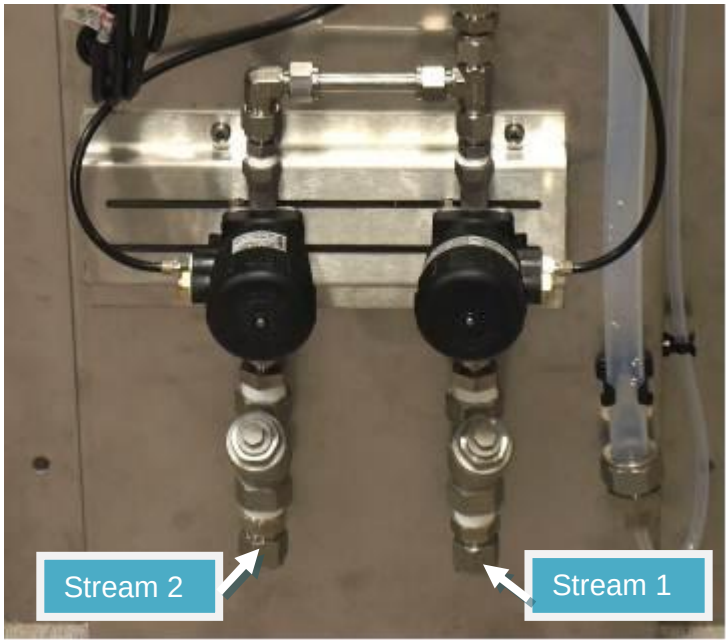
The check list below must be used to ensure that the installation has been properly carried out. Please proceed through the check list in the given order.

The check list refers to the standard Venturi sampler.

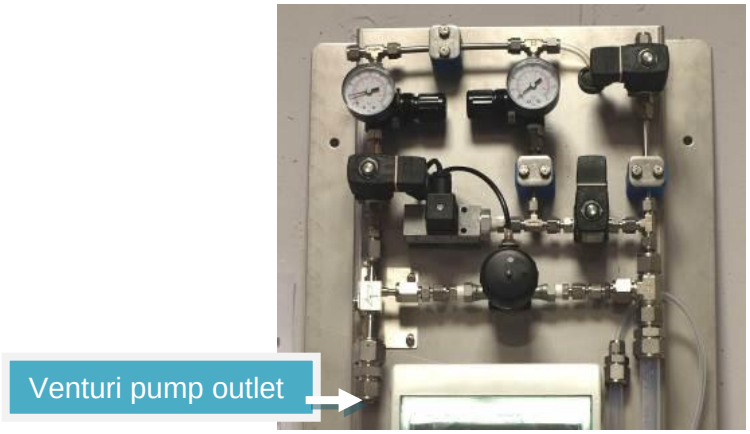
Bolt the Venturi Sampler to a wall ideally within 1 meter of the BioTectors sample in port. Venturi sampler cannot be exposed to the direct sunlight and needs to be protected from rain.

Connect the Venturi Sampler to earth (ground).

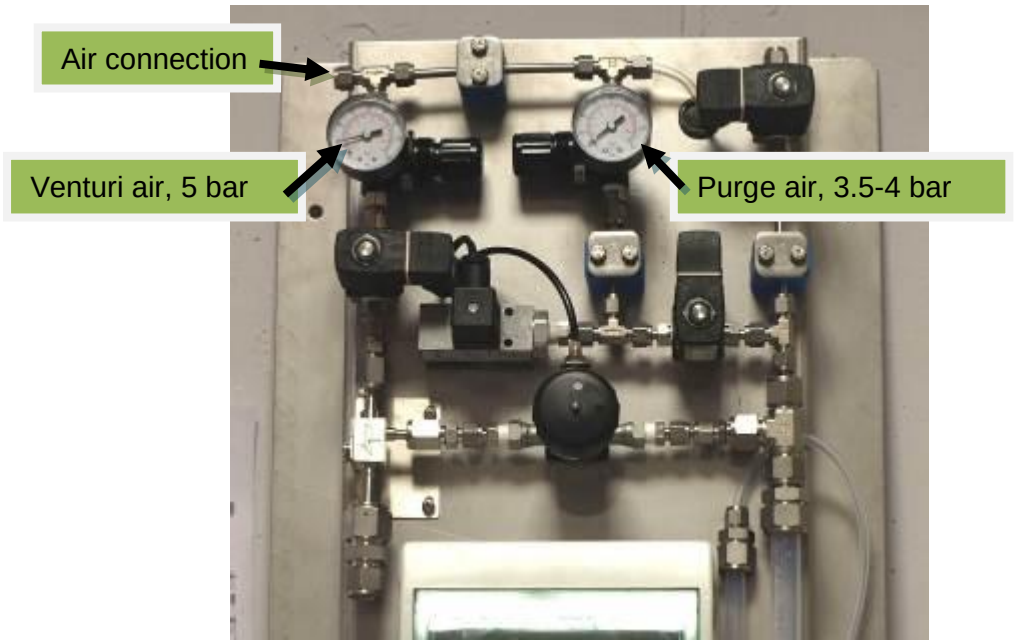
Connect the sample tube from the sample point to the Venturi Sampler using the supplied ½" OD tube. It is important that this tube is installed so that it falls gradually to the sample point. The tube should have no sharp bends, and should not rise above the level of the bottom of the Venturi Sampler at any point.
The sample point should be installed using the typical sample point installation drawing (as attached to the last page of this document) for guidance, or if supplied a site specific installation drawing.
The photograph below shows the sample inlet connections on a typical 2-stream venturi sampler.



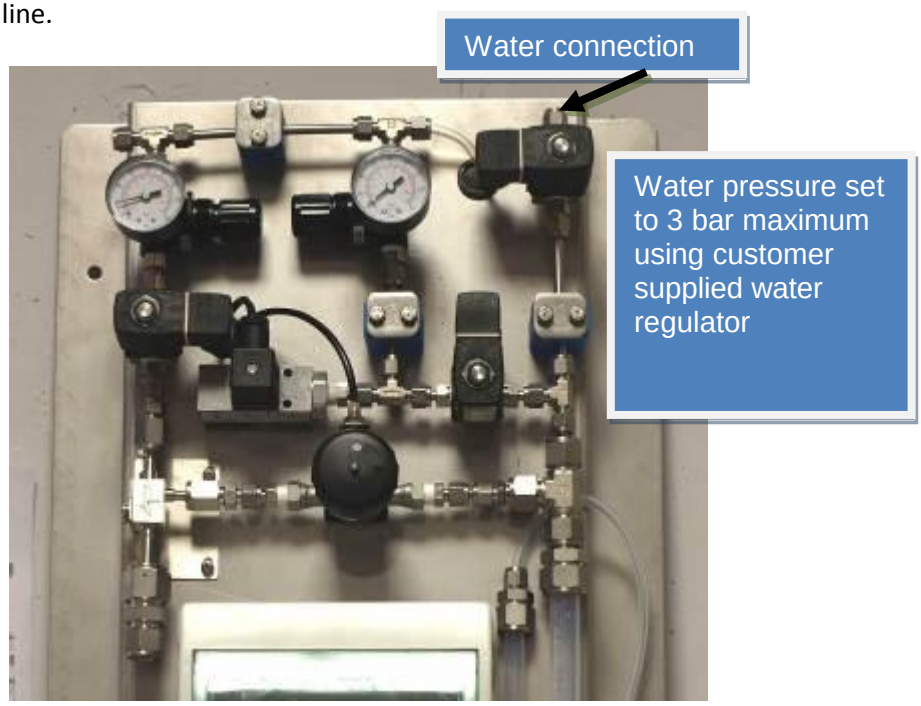
Connect the outlet from the Venturi pump to a pressure free drain using ½" OD PFA tube or similar. CAUTION: This should be outside any enclosure or house, as the liquid discharged to this drain in abnormal conditions can result in the discharge of the customers sample to this drain which could potentially be hot and corrosive.



Connect the air supply to the Venturi Sampler. The typical connection is ¼" Swagelok.
The air for the venturi pump is typically set to 5 bar. It has been found that 5 bar is the optimum pressure for generating the best vacuum in the venturi sampler. Using a higher pressure will not generate a higher vacuum.
The air for the purge is typically set to 3.5 – 4 bar. This pressure must always be greater than the water pressure. If it is lower than the water pressure, then water can feed into the air line.

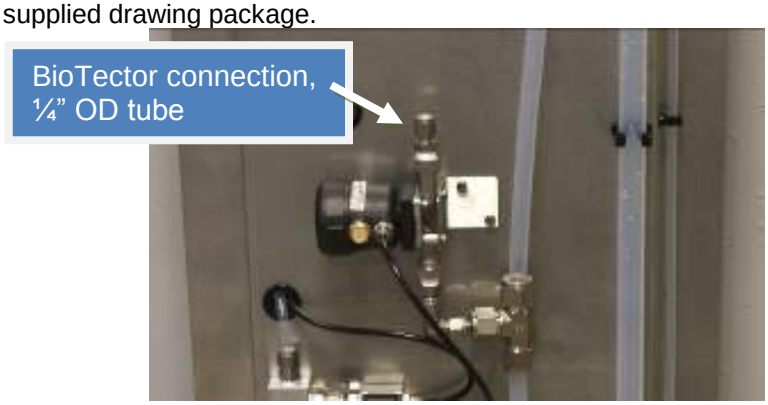


Connect the water supply to the Venturi Sampler. The connection is ¼" Swagelok.
The water pressure is typically set to a maximum of 3 bar. The pressure must always be lower than the purge air pressure. If it is higher than the purge air pressure, then water can feed into the air line.



In cases where there is sticky or fatty material in the sample, it may be necessary to use hot water to backwash the venturi sampler.

Connect the sample tube (or tubes) from the Venturi Sampler to the BioTector in accordance with the supplied drawing package.



If a particulate separation chamber "External Chamber" option is supplied, install the chamber at the sampling point.

Electrically connect the Venturi Sampler to the BioTector with the supplied cable, in accordance with the supplied drawing package.

Check the electrical connections and confirm there are no loose connections within the Venturi Sampler.

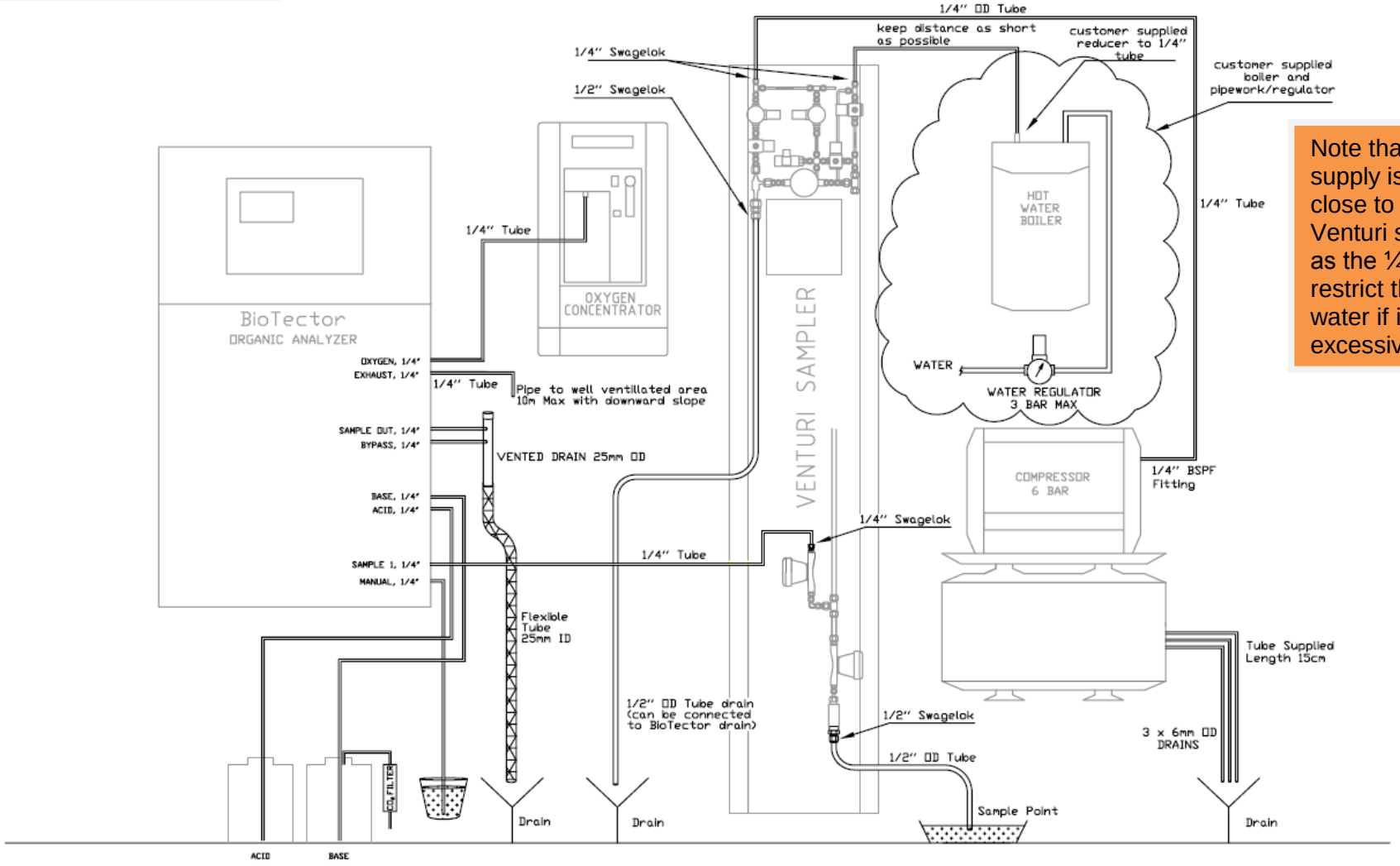
Check the Swagelok / PFA tube connections and confirm there are no loose connections

within the Venturi Sampler.

Power up the Venturi Sampler from the BioTector.	_____
Confirm that the BioTector is programmed for the Venturi Sample, the SAMPLER setting should be YES in the Maintenance / Commissioning / Stream Program menu.	_____
Confirm that the Venturi Sampler **Fill Timer Blocks** are suitable for your application. See section 10 in Venturi Sampler user manual for details. The Venturi Sampler fill sequence can be simulated by using the [A] key on the PLC.	_____
Confirm that the Venturi Sampler **Empty Timer Blocks** are suitable for your application. See section 12 in the Venturi Sampler manual for details. The Venturi Sampler empty sequence can be simulated by using the [B] key on the PLC.	_____
Confirm that the SAMPLER fill time in the BioTector is set. The FILL SEQUENCE TIME of the Venturi Sampler in seconds can be found by pressing the [+] key on the PLC while in Standby Mode. This is the minimum time that can be programmed as the SAMPLER fill time in the BioTector, typically 50% excess of this time is programmed as the SAMPLER fill time in the BioTector.	_____
When the BioTector is running on-line, carefully observe the first two or three reactions and confirm that the Venturi Sampler fills and there is typically 50% excess time programmed for the fill sequence.	_____

Signed, Engineer		Date	
Signed, Customer		Date	

Typical installation drawing.



Note that the water supply is installed close to the Venturi sampler, as the ¼" line may restrict the flow of water if it is excessively long.

Typical sample point installation drawing.