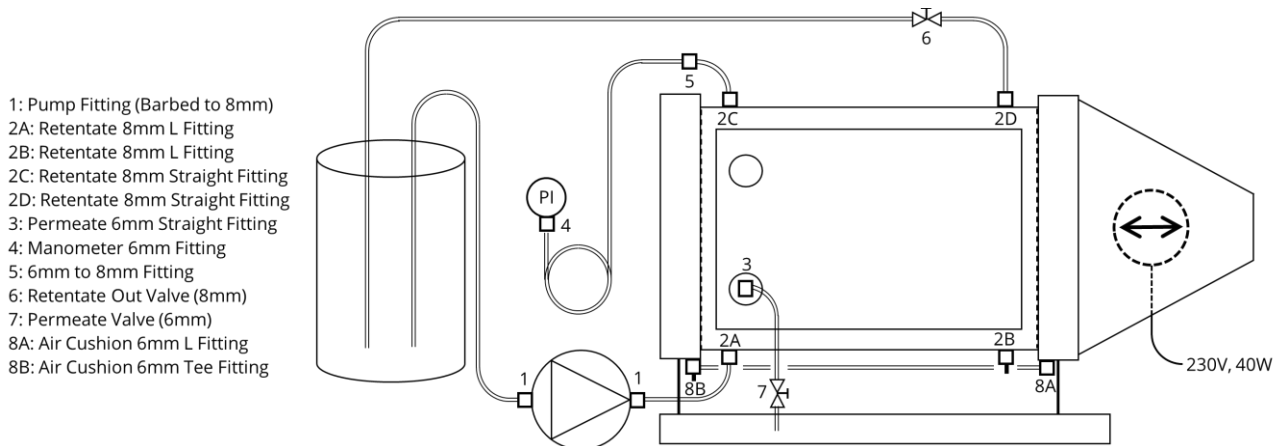


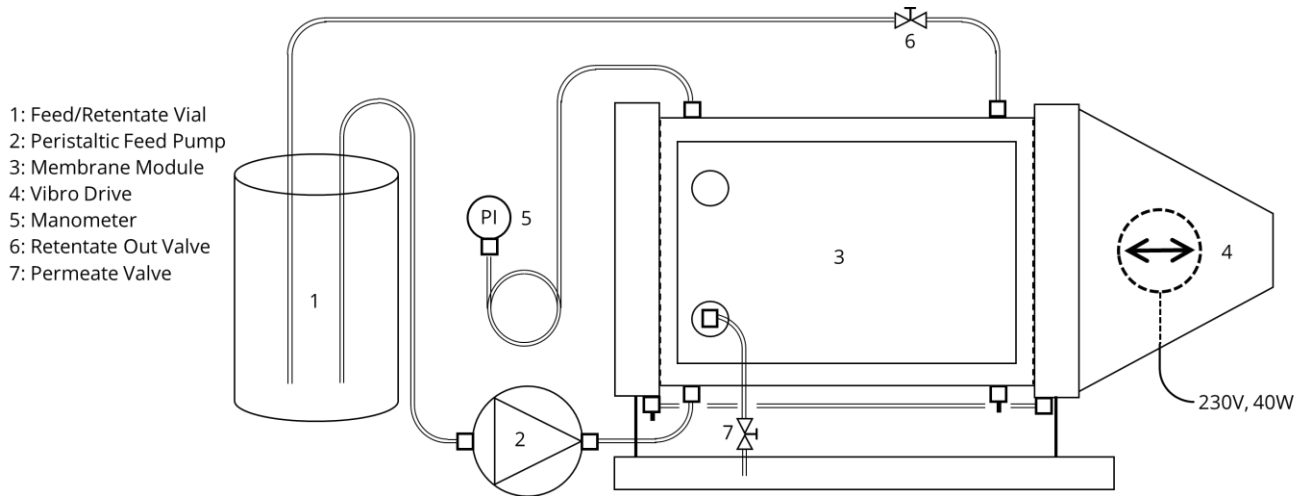
Assembly of the Vibro-Lab3500 system with the SANI Membranes Feed Pump System for 0-2 bar MF/UF



1. Unpack the parts for the Vibro-Lab3500 and the SANI Membranes Feed Pump System
2. Connect the Vibro-Lab3500 to the Baseplate
 - a) Slide the Baseplate onto the leaf spring feet and secure the Baseplate to the Membrane Assembly with the 4 M5 allen bolts
 - b) Place the Vibro-Lab3500 on a stable non-slippery horizontal surface
3. Connect all Air Cushion connections to make them a closed system:
 - a) A 6mm flexible tube is mounted between the Air Cushion Fittings 8A and 8B (done by SANI Membranes)
 - b) A 6mm plug is mounted in the Air Cushion Fitting 8B (done by SANI Membranes)
4. Connect all fluid connections with flexible tubing:
 - a) Cut a 25cm piece of the #18 pump tubing
 - b) Mount the Pump Fitting (1) to the #18 pump tubing through the barbed fitting
 - c) Secure the #18 pump tubing with a strip to prevent it from leaking
 - d) Connect the Pump Fitting (1) to the Feed/Retentate Vial with 8mm flexible tubing
 - e) Connect the other Pump Fitting (1) to the Retentate 8mm L Fitting (2A) in the bottom of the Membrane Module (3) with 8mm flexible tubing
 - f) Connect the Retentate 8mm Straight Fitting (2D) to the Retentate Out Valve (7) with a 20cm of 8mm flexible tubing
 - g) Connect the Retentate Out Valve (7) back into the Feed/Retentate Tank with 8mm flexible tubing
 - h) Connect the Retentate Out Fitting (2C) to the 8mm to 6mm Fitting (5) with a 10cm piece of 8mm flexible tubing.
 - i) Connect the Manometer 6mm Fitting (4) to the 6mm to 8mm Fitting (5) with the 6mm flexible tubing mounted on the manometer.
 - j) Mount a 8mm plug in the Retentate 8mm L Fitting (2B) (done by SANI Membranes)
 - k) Connect the Permeate 6mm Fitting (3) with your permeate collection vial with 6mm flexible tubing, include the on/off Permeate Valve (7) which should only be closed when storing the system
5. Connect the power cable to a 230V plug

The system is ready for filtration.

Operation of the Vibro-Lab3500 system with the SANI Membranes Feed Pump System for 0-2 bar MF/UF



New membranes should always be washed thoroughly with clean hot water before the first use as they are covered in a water-soluble glycerin protection layer. A 30min wash where both retentate and permeate is discarded continuously is necessary before use.

Always use the best quality water you have access to. Water is many things and species like carbonates, phosphates, particles etc. present in normal tap water can harm the effectiveness of the membrane and the CIP cleaning

1. Start with a fully assembled and drained Vibro-Lab3500 system as shown above with all valves closed
2. Fill the Feed/Retentate Vial (1) with your feed solution
3. Open the Retentate Out Valve (6) and the Permeate Outlet Valve (7)
4. Fill the Membrane Module (3) by slowly starting your Peristaltic Feed Pump (2). Follow the filling of the Membrane Module visually and start the Vibro Drive (4) as soon as it is full
5. Adjust the speed of the Peristaltic Feed Pump (2) to give a retentate flow of 10-75 l/h back to the Feed/Retentate Vial.
6. Adjust the Retentate Out Valve (6) so the desired pressure is reached
7. Re-adjust the speed of the Peristaltic Feed Pump (2) and the Retentate Out Valve (6) throughout the experiment to run at the desired pressure and retentate flow
8. When the Feed/Retentate Vial (1) plus the dead volume of the system (approx. 500ml) has reached the desired volume for the concentration the experiment should be stopped
9. Stop the Peristaltic Feed Pump (2) and the Vibro Drive (4). Empty out the retentate by opening the Retentate Outlet Valve (6) completely and taking the 8mm flexible tubing running back to the Feed/Retentate Vial (1) from the Retentate Out Valve (6) up off the Feed Retentate Vial (1) while running the Peristaltic Feed Pump (2) slowly in reverse until the unit is drained
10. Clean the system with an appropriate CIP protocol for your membrane and application (Remember to CIP any plugged dead ends and the manometer tubing as well). Finish the CIP by filling the system with an appropriate storing solution for your membrane and application (e.g. 20% Isopropanol)
11. Close all valves to the Membrane Module (3). The Vibro-Lab3500 is now ready for storage. The Membrane Modules (3) can also be stored separately in an appropriate storing solution by disassembling the system.