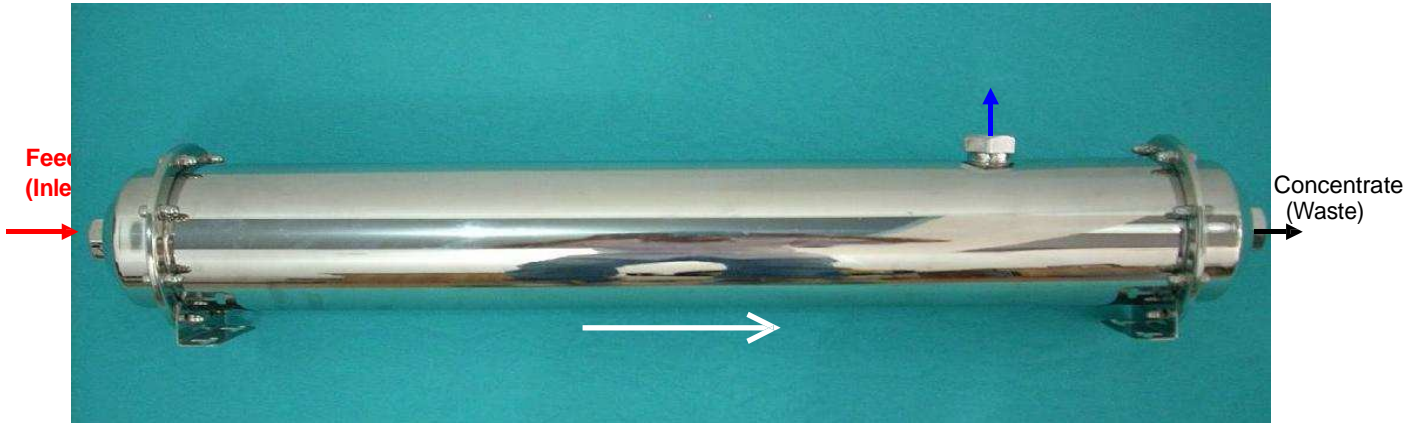


# Operation & Maintenance Guide

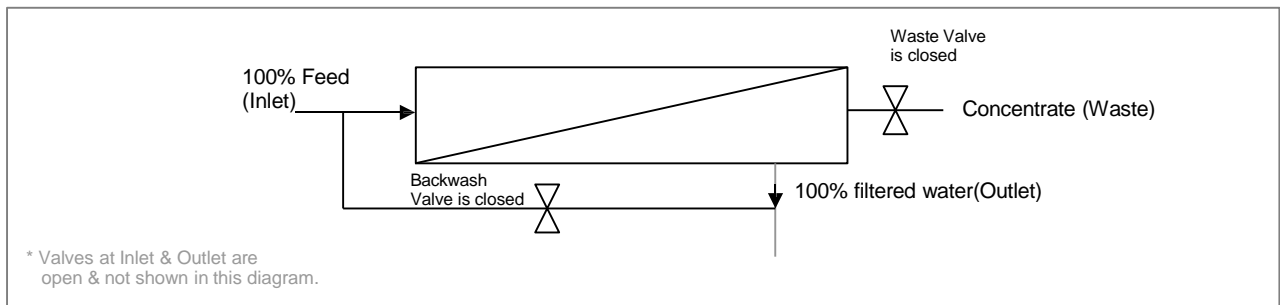
## PWT 3000 Series UF Membrane Filter (SS304 Casing, Inside-Out Flow)



**Piping Connection of PWT Series UF Filter**

### \*Installation

- All pipe lines connected to the ports of membrane (Inlet, Outlet & Waste Ports) should be installed with valves for isolation purposes.
- Discharge Valve connected at Waste Port can be Manual Ball Valve or Timer Controlled Valve, i.e. Electrical Solenoid Valve, Air Diaphragm Valve, etc.
- This UF Membrane can be connected in Dead-End Filtering configuration as normal operation mode.



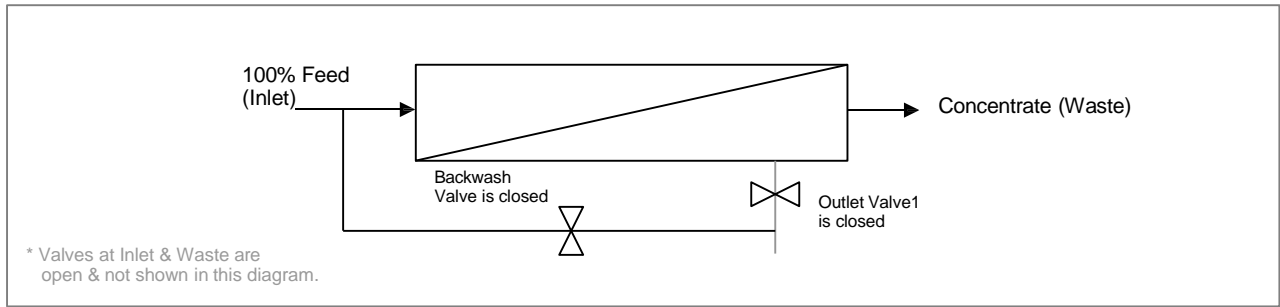
### **Filtering**

- **Dead-End Filtering Configuration:**
  - Waste Valve is normally closed and permeation of filtered water is at maximum.
  - Waste Valve is opened on time base basis for discharge of concentrate during flushing.
  - Normally recommended for low turbidity water, i.e. municipal water, rain water, under-ground water, etc.

### \*Operation

- **First time use:**
  - Flush the membrane module (by performing Forward Flush cleaning) with clean water to discharge the disinfectant inside the unit until the discharge water is clear and odourless.
  - Disinfect the membrane module if need be for bacteria free condition after long storage. (refer to Chemical Flushing)
- **Normal operation:**
  - Kindly refer to the Piping Connection diagram & the Data Sheet of membrane for recommended operation parameters.
  - It is suggested to close all the valves when the filter unit is installed but not commissioned for operation yet, in order to prevent secondary pollution.

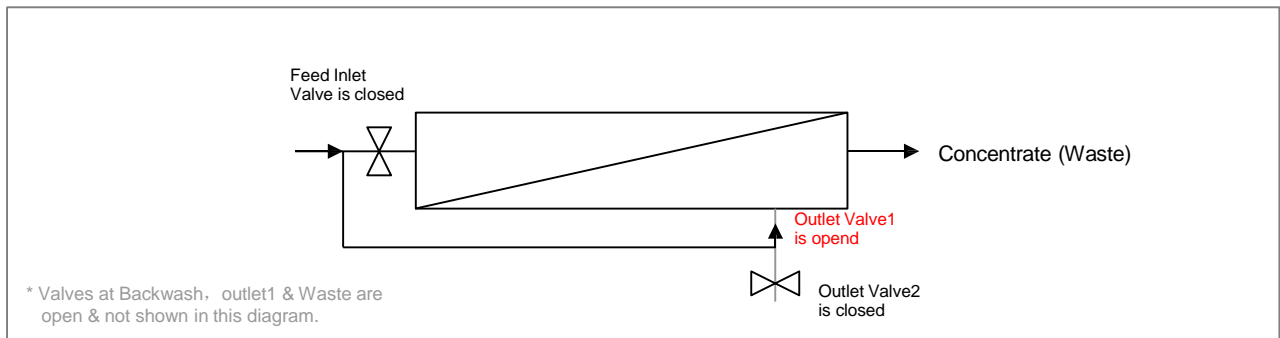
• **Physical Cleaning (Forward & Backward Flushing) :**



**Forward Flushing**

i) **Forward-flushing cleaning**

- Process that flushes the inner surface of the membrane capillaries by opening the waste/concentrate valve
- Waste Valve is fully opened for discharge/ re-circulate the concentrate to raw water tank.
- Kindly Data Sheet for recommended parameters for Forward Flushing.



**Backward Flushing**

ii) **Backward-flush cleaning:**

- Process that is flushing the membrane surface by reversing the water flow from outside-to-inside. This is to flush out impurities that are clogged deeper within the membrane capillaries pores.
- It is recommended to feed with filtered water and Waste is closed for optimum result of backward flushing.
- Filtered water is fed at Outlet and discharged at Inlet and the concentrate can be recirculated to raw water tank.
- Kindly Data Sheet for recommended parameters for Forward Flushing.

**\*Caution**

- When the filtration system is paused for 5 days or above, please blend the 2~3% formaldehyde into the module for disinfection and protection purposes.
- Do not expose the unit to direct sunlight, as that could impact the life span of the membrane.
- Limit prolonged exposure of oxidising chemicals . If an ozone generator is installed, the injector has to be located downstream of the UF module and a non-return valve should be installed.