LG QuantumFlux™ Pressurized UF Membrane

Technical Service Bulletin 607

UF System Troubleshooting

The UF system troubleshooting are covered in this TSB under two sections:

General Membrane Troubleshooting

Common UF System Troubleshooting Basics

If the operating problems are not addressed herein, contact LG Chem for support.

General Membrane Module Troubleshooting

The following are critical to maintain stable operation and produce high quality water over the long term:

1. Properly pre-treated feed water.
   1) Pretreatment equipment should remain in proper working condition.
   2) Feedwater should be within the ranges provided in Table 1. The purpose of controlling these parameters is to minimize the risk of membrane damage and/or fouling. These ranges apply to all systems using LG Chem UF pressurized modules. Selection of operating parameters depends on the specific project.
2. Appropriate filtrate flux.
3. Suitable filtration cycle time.
4. Sufficient air scour flow rate.
5. Targeted chemical cleaning regime.

Feed water quality should be monitored closely. Changes in feed water quality may require adjustment of operational settings. Careful attention to how the membrane performance is affected by changing feed water quality is required to make necessary system adjustments.

Parameter	Allowed Range	Comments
pH	1 – 10 (NIPS) 1-14 (TIPS)	1—14 allowed during cleaning (TIPS).
Particle Size	≤0.5 mm, ≤0.12 mm for seawater feeds, no sharp particles allowed	To prevent mechanical damage.
Oil	≤0.5 mg/L (NIPS) ≤2 mg/L (TIPS)	To prevent membrane fouling.
Turbidity	<300 NTU	Contact the sales team if your operating parameters exceed the allowed.

CAUTION

This is not an extensive list and does not constitute the only conditions for a valid warranty claim.
Refer to your project specific warranty document for all conditions that apply to your warranty.

LG QuantumFlux™ Pressurized Membrane

Technical Service Bulletin 607

UF System Troubleshooting

Common UF System Troubleshooting Basics

Symptom	Possible Causes	Solutions
High TMP[1]	Fouling of the membrane	Undergo suitable cleaning; Adjust filtration flux; Adjust filtration cycle time; Verify automated cleanings are occurring correctly.
Low air scouring flow rate	Blower fault	Check the blower.
	Valve closed	Check the piping and valve.
High feed water pressure	Control system failure	Check PID[2] and flow meter.
	Pressure meter fault	Calibrate the pressure meter.
Low feed water pressure	Feed pump failure	Check feed pump and piping.
	Valve failure	Check feed valve.
Motor break down	No electricity	Check power supply.
	VFD[3] failure	Check the VFD unit.
	Amperage Overload	Check the setting of overload for the motor. If the value is exceeded, contact the supplier.
IT[4] failure	Membrane leakage	Check the transparent tube on the top of each module, locate the damaged module and repair it.
Valve failure	No open or close action	Check the compressed air & the solenoid valve.
	Switch fault	Check the switch and the 24V power supply.
High turbidity of product water	Air in the meter	Check the water pipe and eliminate the air.
	Membrane module integrity issue	Repair the damaged seal or fiber(s).

[1] TMP : Transmembrane Pressure

[2] PID : Proportional-Integral-Derivative control

[3] VFD : Variable Frequency Drive

[4] IT : Inner Tube