

Department	HydroLogic		Doc #	SOP - Membrane Replacement	
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Standard Operating Procedure (SOP); Membrane End Cap Inspection

1. Purpose

The purpose of this SOP is to aid users in the general inspection, maintenance, and/or replacement of the HyperLogic membrane vessel end cap and related O-Ring seals. Periodic maintenance and/or replacement of the O-Rings may be required to prevent membrane vessel leakage.

2. Applicable To

This SOP is applicable to all HyperLogic Commercial Series RO systems [1-12 membranes] which feature the stainless-steel membrane housings, utilizing the 4x38" membrane element; Hawthorne HGC741671

3. Prerequisites

Ensure you follow all state & federal guidelines for personal workplace safety prior to disassembly and/or maintenance of your HyperLogic equipment & related consumables. Be sure to dispose of unwanted goods appropriately.

4. Materials/Reference

Suggested tools/materials required for this operation include, but may not be limited to, the following:

- Replacement O-Ring – Interior
- Replacement O-Ring - Exterior
- Pliers/Wrench
- Towels
- Ref. HyperLogic 'Owner's Manual'
- Membrane Vessel End Cap
- DOW Molykote 111 Lubricant
- Membrane Endcap Extractor Tool
- HyperLogic Maintenance Log sheet
- Teflon Tape

5. Procedure

The general steps for HyperLogic RO membrane vessel end cap inspection and/or maintenance are as follows:

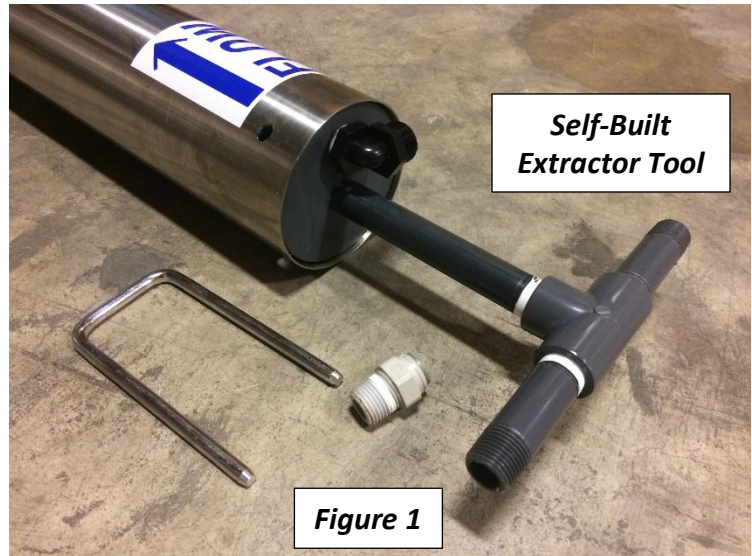
- a. Inspect membrane vessel end caps for signs of leakage. If leakage is occurring, proceed with visual inspection of end cap for cracks near the brass/plastic fittings.
 - i. If the end cap is cracked, replace with part number PV-EP40PD1212. This item will include new Interior/Exterior O-Rings.
- b. Place RO in 'Standby' or disconnect from power. Shut off feed water source to RO.
 - i. Ensure that all Pressure and Flow Gauges on the RO read '0'.

- c. Remove U-Pin and slide end cap from stainless-steel membrane housing.
 - i. Removal of the Permeate tube/manifold and/or center Permeate fitting may be required. If required, thread in membrane end cap extractor tool to aide in end cap removal. Refer to 'Figure 1'.
- d. Gently clean the inside of the stainless-steel membrane vessel where the end cap makes internal contact. Refer to SOP – Membrane Replacement if required.
- e. If the end cap is being replaced, install new/existing fittings. Use of Teflon tape may be required.

DO NOT OVERTIGHTEN.

 - i. If no end cap replacement is necessary, inspect Interior/Exterior O-Rings for cracks or signs of wear. Replacement of the Interior (PV-OR40-210) and Exterior (PV-OR40-342) O-Rings is strongly suggested.
 - ii. If the existing membrane end cap is being reused, clean the O-Ring grooves prior to the new O-Ring installation. Refer to 'Figure 2' below.
 - iii. Apply DOW Molykote 111 lubricant as required to the O-Rings prior to installation.
- f. Install membrane end cap in stainless-steel membrane housing and reinsert U-pin fully.
- g. Reassemble Permeate fitting and/or tubing if removed in Step 5c.
 - i. Teflon tape may be used on threaded fittings during reassembly.
- h. Restore Power and Water to RO. Adjust System/Concentrate Pressures and Flows to proper operating conditions and inspect for leaks. Record maintenance performed along with date on the 'HyperLogic Maintenance Log' sheet.

Note: As the RO begins to pressurize following the above maintenance steps, its not uncommon for the vessel to briefly leak while the end caps pressurize into place. If this leak persists, further inspection, cleaning and lubrication of the end cap O-Rings/Vessels may be required.



Interior O-Ring
[Membrane Side]

Exterior O-Ring

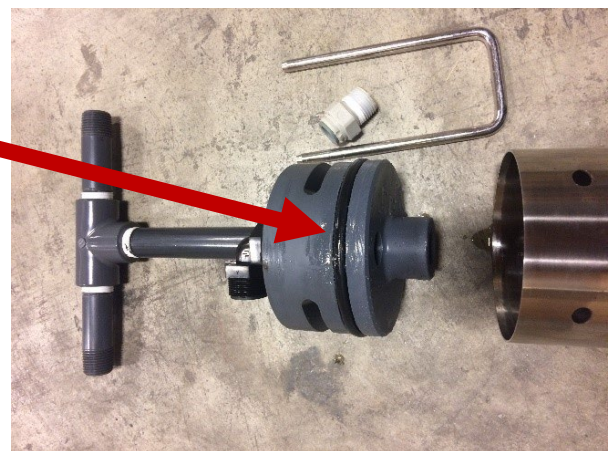


Figure 2

END OF SOP DOCUMENT

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