

Technical Service Bulletin

October 2018 TSB336.04

HYDRAcap® MAX Module Assembly Procedure

This Technical Service Bulletin is related to installing and removing end caps on HYDRAcap® MAX modules.

Introduction

When HYDRAcap® MAX module integrity loss is detected, the isolated module needs to undergo bubble testing to isolate damaged fiber(s). To perform this test, the module is removed from the skid and module end caps must be detached. This same procedure should be followed when implementing o-ring or end cap replacements. Diligence is required to prevent part damage and ensure module shell integrity.

A lifting device is recommended to move the modules. The estimated time for removal and installation of end cap and related components is approximately 15 minutes per module.

Tools Needed:

1. Rubber Mallet
2. Crescent Wrench or Similar Tool
3. 17 mm and 5/8" Wrench

To Dismantle Module:

1. Stop HYDRAcap® MAX system.
2. Release system pressure.
3. Drain feed and filtrate sides of rack
4. Disconnect Victaulic clamps from all module ports then drain residual liquid in the module.



Figure 1: Example of port connection Victaulic clamps.

5. Release module from frame brackets and remove module from skid.
6. Lay the module on a flat, smooth surface horizontally.
7. Remove bolts, washers, and nuts from stainless steel clamps at both top and bottom of module.



Figure 2: Loosening of the end cap clamps.

8. Disconnect clamps from module on both top and bottom.



Figure 3: Removing the end cap clamps.

9. Using the rubber mallet, tap on the filtrate ports to loosen the end caps from the module shell, while pulling the cap from the opposite side.



Figure 4: End cap being separated from the module after tapped with a rubber mallet.

NOTE: Do not use any metallic tools to loosen shell. Shell and end cap are made from plastic and irreversible damage on sealing surfaces may occur.

10. Pull, **DO NOT ROTATE**, the feed end adapter to remove.
11. Pull the concentrate end adapter to remove.
12. Module is now completely disassembled.

To Assemble Module:

1. Gather all parts needed for assembly.
2. Thoroughly clean all surfaces that contact the O-rings.
3. Visually check all o-rings for damage. If required, replace damaged o-rings.
4. Apply a silicon based lubricant over all o-ring surfaces.

NOTE: DO NOT USE PETROLEUM OR OIL BASED LUBRICANTS.

5. Engage feed end adapter into the air inlet of the diffuser.

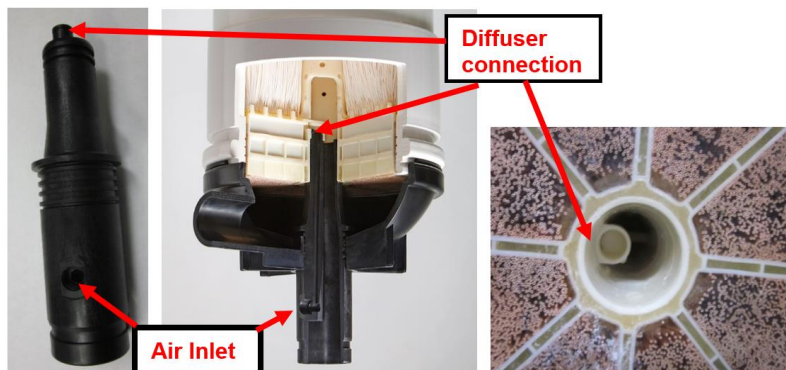


Figure 5: Cut away view of adapter properly installed into the diffuser.

6. Insert concentrate adapter into the concentrate end of the module.

Note: To avoid damaging the o-rings, slowly rotate the adaptors applying a slight driving force through the ends of the module.

7. Slide the end caps onto both ends of the module by pushing down until seated to shell. Since o-ring seals tightly, use a rubber mallet to strike end cap on the raised fin-like supporting sections to assist in engagement.



Figure 6: Picture of the end cap fins to stike with rubber mallet when installing on the element.

8. **DO NOT USE EXCESSIVE FORCE.** Frequently check alignment of the two side ports and o-ring to ensure that it is not being pinched or rolled as end cap is installed. If filtrate ports are not lined up, rotate **TOP** endcap until they are aligned. **DO NOT ROTATE BOTTOM ENDCAP.**



Figure 7: Align the filtrate ports so they are facing the same direction.



Figure 8: Example of module sitting on o-ring, pinched o-ring, and module sitting properly in header.

9. Attach stainless steel clamp half sections. If end cap is correctly oriented, then clamp half sections should fit easily over end cap and shell. Attach bolts, washers, and nuts. Use wrenches to **completely** tighten **upper** and **lower** clamps.
10. Module is completely and securely assembled.
11. Once the module is reassembled, follow the installation procedure in TSB 332.

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