

Overview: The Molecular Sieve Foreline Trap will help remove hydrocarbons, water vapor, and other gases. This helps to decrease the amount of vapor back-streaming, while increasing the life of the oil and pump.

Handling: Review any applicable SDS's prior to handling the trap. When handling and opening the trap, it is recommended to wear, at a minimum, nitrile gloves and a respirator to minimize contact with the Zeolite. It is also recommended to provide an electrical ground connection during any handling to avoid static shock.

Storage: Store the container in a dry place.

Cleaning and Zeolite Replacement Steps:

1. Prior to removing the top of the trap and exposing the Zeolite, identify the uses of the trap and the potential hazardous material that could be retained within the Zeolite. Follow any safety precautions associated with the potential hazardous materials and review any relevant SDS's.
2. Ensure that the trap is upright. Loosen and remove the clamp and the top cover of the trap; this will fully expose the O-ring and mesh body that holds the Zeolite.
3. Remove the system that connects the end cap to the mesh body; this usually consists of a washer and wingnut.
4. If the Zeolite needs to be disposed of, ensure that it is exposed of in accordance with company, local, and national regulations. You may also refer to the SDS for disposal methods.
 - a. The Zeolite should be disposed of when there is a noticeable change in color due to the retained oil.
5. It is recommended to inspect and clean the mesh body in the following steps:
 - a. Ensure that the mesh body is properly secured to the bottom of the trap.
 - b. Ensure that the mesh is free of any embedded Zeolite particulates.
 - c. Inspect any caulked areas for any cracks or irregularities.
 - d. Scrub the mesh with an appropriate alkaline cleaner.
 - e. Thoroughly rinse with deionized water.
 - f. Wipe/rinse with methanol.
 - g. Allow to air dry.
6. After cleaning, pour the new Zeolite into the mesh body. It is recommended to use the following amounts:
 - a. For a 4" trap, refill with ¾ lbs. of new Zeolite.
 - b. For a 6" trap, refill with 1 ½ lbs. of new Zeolite.



7. Slightly shake the system to allow the Zeolite to settle and reconnect the end cap system.
8. Clean the O-ring with methanol while disassembled and inspect for any irregularities. Replace O-ring if needed.
 - a. Replacement O-Rings
 - i. Fluorocarbon Centering Ring for KF16 Flange - QF16-075-SRV
 - ii. Fluorocarbon Centering Ring for KF25 Flange - QF25-100-SRV
 - iii. Fluorocarbon Centering Ring for KF40 Flange - QF40-150-SRV
9. Lubricate the O-ring prior to reassembling with an appropriate lubricant, such as the one listed below. Ensure that any excess lubricant is removed.
 - a. Klüber GR Y VAC 2 - KLY02F
10. Reassemble the O-ring and top cover of the trap; secure the clamp to ensure a proper connection between the top and bottom cover of the trap.
11. Connect the trap to the inlet of the pump in the desired orientation.
 - a. It is recommended not to mount the trap directly to and above the pump. The vibrations from the pump could cause the Zeolite to break apart into tiny particulates and fall into the pump.
 - b. If the trap must be orientated directly to and above the pump, it is recommended to have one of the following mesh inlet screens:
 - i. KF16 - QF16-SRV-SM
 - ii. KF25 - QF25-SRV-SM
 - iii. KF40 - QF40-SRV-SM
12. Additional Zeolite is available in the following quantities:
 - a. 1 lb. container - MST-13X-1/8
 - b. 50 lb. container - MST-13X-50



Bakeout

Overview: The porous nature of the Zeolite allows for the capture of water and oil vapor. Performing a bakeout will remove the water vapor, allowing for further use of the Zeolite. Once the Zeolite is fully saturated with oil, the zeolite will need to be replaced (See Cleaning and Zeolite Replacement, above).

Bakeout Steps:

1. If the Zeolite does not need to be replaced, a bakeout may still be needed. To handle this process, every molecular sieve trap includes a molecular sieve charge and regeneration heater.
 - a. The molecular sieve traps are available in either 120V or 220V.
2. Reasons for a bakeout:
 - a. When you first use the trap
 - b. When you replace the Zeolite
 - c. Base pressure cannot be reached
 - d. Water saturation is observed within the Zeolite

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3. To initiate a bakeout, it is recommended to follow these steps:
 - a. Ensure that the trap is properly assembled and in the upright position.
 - b. Apply power to the heater while running the mechanical pump with the ballast valve open.
 - c. It is recommended to bakeout the Zeolite for the following times:
 - i. 120V: 1 – 2 hours
 - ii. 220V: 1.5 – 2 Hours
 - iii. This time may change due to the various molecules that pass through the trap. If the bakeout does not work, follow steps 1-10 per the Cleaning and Zeolite Replacement Section.
 - iv. The temperature is NOT controlled during this process. If you wish to control the temperature, you will need to install a temperature controller.
4. Once the bakeout is complete, allow the trap to cool to room temperature before touching.
5. It is recommended to only regenerate the Zeolite 4-6 times before replacing due to oil saturation.
6. If you are not using the heater with the Molecular Sieve trap, it is recommended to follow these steps to bakeout the Zeolite:
 - a. Heat the Zeolite slowly to 250°C in an appropriate system, possibly an oven, and hold for 1-2 hours.
 - i. The Zeolite can withstand temperatures upwards of 315°C if needed.
 - b. If possible, purge the desorbed water throughout the process.
 - c. After the bakeout, cool the Zeolite in a dry environment to avoid any re-hydration.



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