

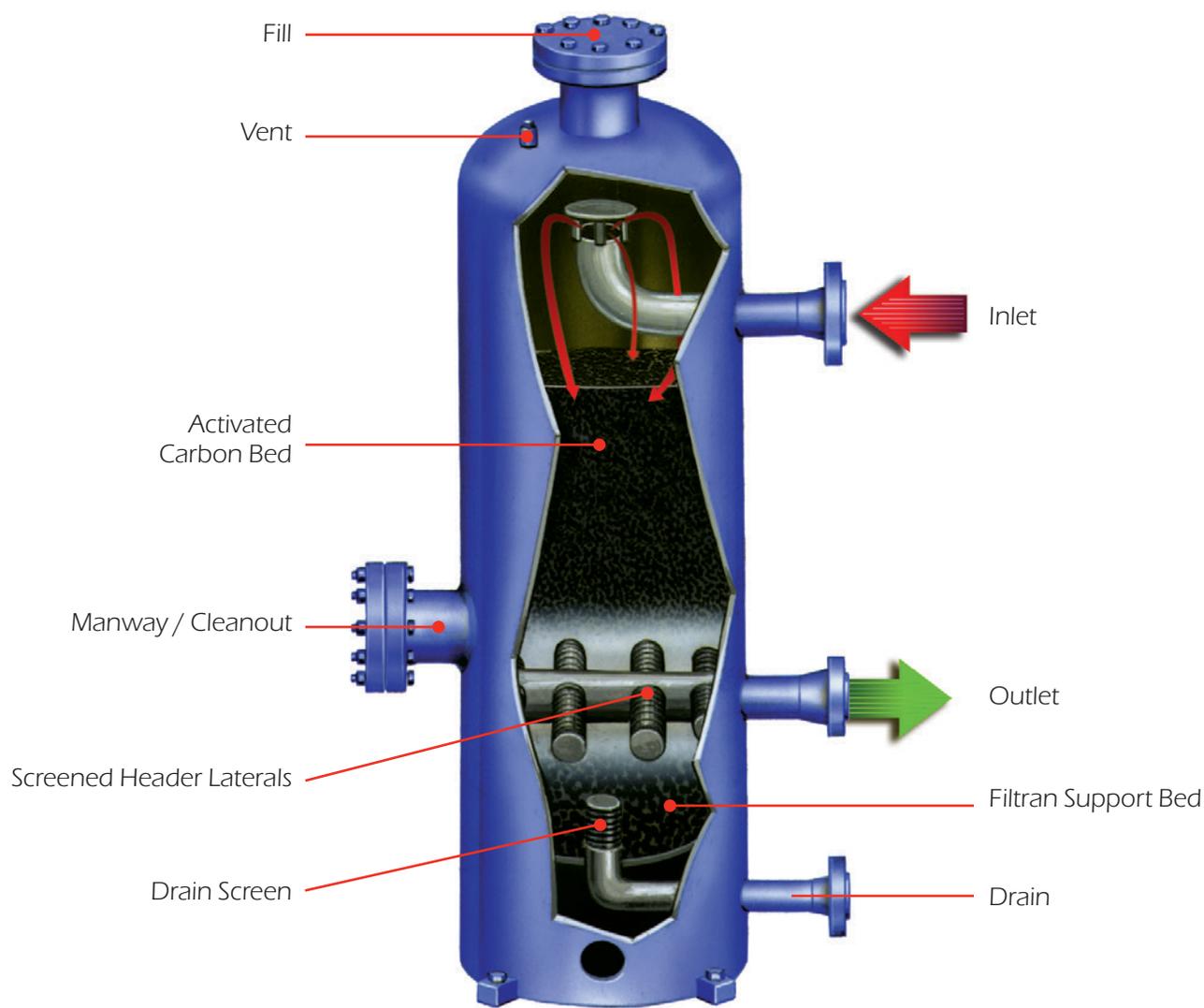
Model 10FB USING PETRODARCO® MS Installation and Operating Instructions

GENERAL DATA

The PECOFacet Model 10FB housing, using Petrodarco MS activated carbon, is designed for liquid and vapor applications (purification, decolorization, separation, catalyst and deodorization) including condensate purification. The initial charge of bulk carbon and filtran support material are shipped separately outside the housing and will need to be installed prior to startup.

Installation and operation should be undertaken in accordance with all plant safety procedures and standard operating procedures of the end user by authorized personnel only. If any difficulties are experienced during installation or in operation, consult PECOFacet direct at (940) 325-2575 or your authorized, local PECOFacet representative/distributor for assistance.

GENERAL ARRANGEMENT / FLOW



Model 10FB USING PETRODARCO® MS

Installation and Operating Instructions

A. INSTALLATION INSTRUCTIONS

1. Position the housing on a flat surface and allow room to load and remove carbon and support bed material through the manway/cleanout.
2. Connect inlet, outlet and drain connections of filter housing to piping of equal diameter. Check the filter housing drawing to identify the location of each. It is recommended that the filter housing be installed with by-pass and block valves to permit continued operation during cartridge changes.
3. Close inlet, outlet and drain connection valves.
4. Hook up any auxiliary equipment as required such as differential pressure gauge.
5. Open the filter housing top fill port and manway/cleanout port.
6. Verify housing condition and inspect quality of screened header laterals prior to loading with activated carbon and support material.
7. Load filtran support through the manway/cleanout opening. Load to a level even with the bottom of the manway/cleanout nozzle opening.
8. Close the manway/cleanout using appropriate gasket.
9. Dry load Petrodarco MS activated carbon from top fill opening – **AVOID WATER AND EXCESS MOISTURE.** **GENTLY** pour new, dry carbon through the fill opening on the top of the housing. A funnel and sock are recommended to use to keep carbon from being damaged as it is fragile.
10. Load the carbon to a level 3-4 inches below the inlet nozzle.
11. Close and secure fill opening using appropriate gasket.
12. Purge filter housing with warm nitrogen (140°F / 60°C) to remove oxygen and moisture from the system.
13. Prior to filling the filter housing with the fluid, verify that the operating pressure and temperature are within the design limits of the filter housing. The design conditions can be found on the filter housing nameplate.
14. Review all operating company safety procedures for filter operation.
16. Follow all operating company safety and lockout/tag-out procedures.
17. **Slowly** open the inlet connection valve and introduce fluid stream into the filter housing. Fill the housing with fluid and bleed off nitrogen using the vent valve at the top of the housing.
15. The filter housing is full once the fluid comes out of the vent valve. Close the vent valve and carefully check the filter housing for leaks. Should a leak occur, shut off flow to housing immediately and determine cause of the leak.
18. Allow fluid to sit and soak in the carbon housing for a minimum of 2 hours to remove any nitrogen prior to putting the housing into service. Continue to use the vent valve to purge nitrogen as needed.

Recommended Upstream Filtration: PECOFacet recommends a 10 micron solids removal filter upstream of the Model 10FB to remove any solid particles in the fluid stream prior to entering the carbon housing. This will keep the carbon pores from being plugged with contaminants and will allow the pores to remain open and maximize the adsorption efficiency through the activated carbon molecules.

Recommended Downstream Filtration: PECOFacet recommends a 2 to 5 micron solids removal filter downstream of the Model 10FB to remove any carbon fines in the fluid stream after existing the carbon housing.

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B. OPERATING INSTRUCTIONS

1. Once filter housing is purged of nitrogen and fluid has soaked in carbon for minimum of 2-4 hours, open the inlet valve all the way. **Slowly** open the outlet connection valve and begin flow through housing. Flow should be set based on recommended flow rate provided during sizing.
2. Continue to monitor venting of air or off gases as needed to prevent vapor lock in housing.
3. Monitor fluid color as needed. If fluid color begins to degrade and/or Saybolt Color is not being met, then carbon is spent and needs to be replaced.
4. Monitor differential pressure across the inlet/outlet. If differential pressure reaches 8-10 psid the carbon will need to be replaced.

Pressure gauges are an optional feature supplied by the manufacturer. If the differential pressure builds up quickly, check the vent valve for additional trapped air or off gas and vent as needed. If air or off gas continues to build up in the top of the filter housing, an automatic vent valve should be installed.

C. MAINTENANCE INSTRUCTIONS – CHANGING BULK CARBON

1. Review all operating company safety procedures prior to cartridge change-out operations.
2. Follow all operating company safety and lockout/tag-out procedures.
3. To replace the Petrodarco MS activated carbon, first isolate the housing by closing the outlet and inlet connection valves.
4. Open the vent valve to relieve any pressure on the housing.
 **CAUTION: ENSURE THAT THE FILTER HOUSING PRESSURE IS AT ATMOSPHERIC PRESSURE PRIOR TO PROCEEDING.**
5. Open the drain connection valve and drain the fluid from the housing. Dispose of fluid based on plant procedures.
6. Open the manway/cleanout and either shovel or vacuum pump the spent activated carbon out of the filter housing. Be sure to leave the filtran support bed material in the housing. It can be reused.
7. Close the manway/cleanout using appropriate new gasket.
8. Open the filter housing top fill.
9. Verify housing condition and inspect quality of screened header laterals prior to loading with new activated carbon. Notify PECOFacet immediately if any damage has occurred. Do not operate housing until damage is fixed.
10. Dry load Petrodarco MS activated carbon from top fill opening – **AVOID WATER AND EXCESS MOISTURE.** **GENTLY** pour new, dry carbon through the fill opening on the top of the housing. A funnel and sock are recommended to use to keep carbon from being damaged as it is fragile.
11. Load the carbon to a level 3-4 inches below the inlet nozzle.
12. Close and secure fill opening using appropriate new gasket.
13. Close inlet, outlet and drain connection valves.
14. Purge filter housing with warm nitrogen (140°F / 60°C) to remove oxygen and moisture from the system.
15. Slowly open the inlet connection valve and introduce fluid stream into the filter housing. Fill the housing with fluid and bleed off nitrogen using the vent valve at the top of the housing.
16. Allow fluid to sit and soak in the carbon housing for a minimum of 2 hours to remove any nitrogen prior to putting the housing into service. Continue to use the vent valve to purge nitrogen as needed.
17. Repeat operating instructions in section B.

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Disposal of spent (used) Petrodarco MS: Dispose of spent (used) activated carbon in accordance with applicable laws and regulations for disposal in your area.



CAUTION: Wet, activated carbon depletes oxygen from air. Whenever workers enter a housing containing carbon, precautions should be taken since dangerously low levels of oxygen may be encountered. Atmosphere sampling and work procedures for potentially low oxygen should be followed.

Be sure to register your PECOFacet housing/vessel at <http://www.pecofacet.com/Resources/Housing-Registration> to receive important product notifications. You will need the Vessel Serial Number located on the nameplate on the outside of the housing.

Petrodarco is a registered trademark owned by one or more Cabot Corporation subsidiaries.

This specific installation & operating instruction was written with the intention of using ONLY Petrodarco MS Activated Carbon in the Model 10FB housing.

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