



PERRY EQUIPMENT CORPORATION
AN ISO 9001 COMPANY

SERIES 87 GAS FILTER / SEPARATOR / COALESCER

GENERAL DATA

The PECO Series 87 Gas Filter / Separator / Coalescer is a two-stage two-operation unit. (See Fig. A to familiarize with internal configuration).

The first stage contains cyclonic separators which remove the solids and heavy liquids from the natural gas stream.

The second stage contains replaceable throw-away type elements which coalesce the fine liquids into larger droplets and then eliminates the larger droplets from the gas stream.

Both the first and second stages have a liquid sump collection area.

The Gas Filter / Separator / Coalescer may be equipped with auto-operated controls which will permit the vessel to be a totally self-contained unit which will automatically dump the liquids as the liquid rises above the normal liquid levels.

INSTALLATION INSTRUCTIONS

1. Review the vessel fabrication drawing that was furnished with this order, and familiarize yourself with the vessel body, vessel connections, and the closure. All of the vessel connections which require to be connected to the "COMPANY" piping, should follow the "COMPANY" P&ID's.
2. Connect the "inlet" to the "upstream" pipeline.
3. Connect the "outlet" to the "downstream" pipeline.
4. Connect the manual drains to the "COMPANY" drain lines.
5. If equipment for the automatic draining of the liquids is furnished by PECO, follow the piping drawings as furnished with the equipment. The first and second stages of the vessel operate independently and the controls are not to be interconnected.
6. Install a pressure gauge in the first stage of the vessel to monitor the internal pressure. Other types of monitors may be used as required by the "COMPANY".
7. Install a differential pressure gauge on the connections provided for this purpose. This is the only visible signal that will show when the elements have reached the differential pressure at which the elements must be changed.
8. If the vessel is the highest point of the piping between block valves, the ASME Section Division One code requires that a relief valve be installed on the vessel.
NOTE: The relief valve should not be located on the top head, as this is the access to the replaceable second stage elements.
9. Venting, purging and pressurizing of the vessel is to be per the "COMPANY" standard start-up procedures. PECO does recommend a low pressure leak test prior to fully pressurizing the vessel and that the pressure to be slowly brought up to operating pressure.
10. Check the differential pressure across the element(s). Initially, this will be less than one psid, then once wetted will be normally two psid. The differential pressure across the element should never exceed ten (10) psid.
11. For operating the element access closure, please refer to the closure manufacturer's instructions.

DO NOT BACKFLOW THE VESSEL. THIS COULD CRUSH THE ELEMENTS.

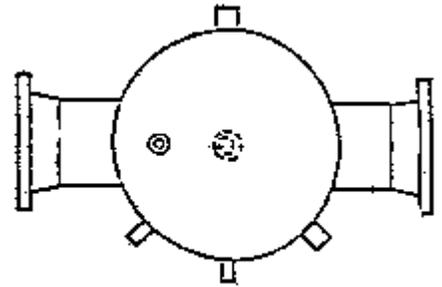
ENGINEERED FILTRATION TECHNOLOGIES

CHANGING THE ELEMENTS

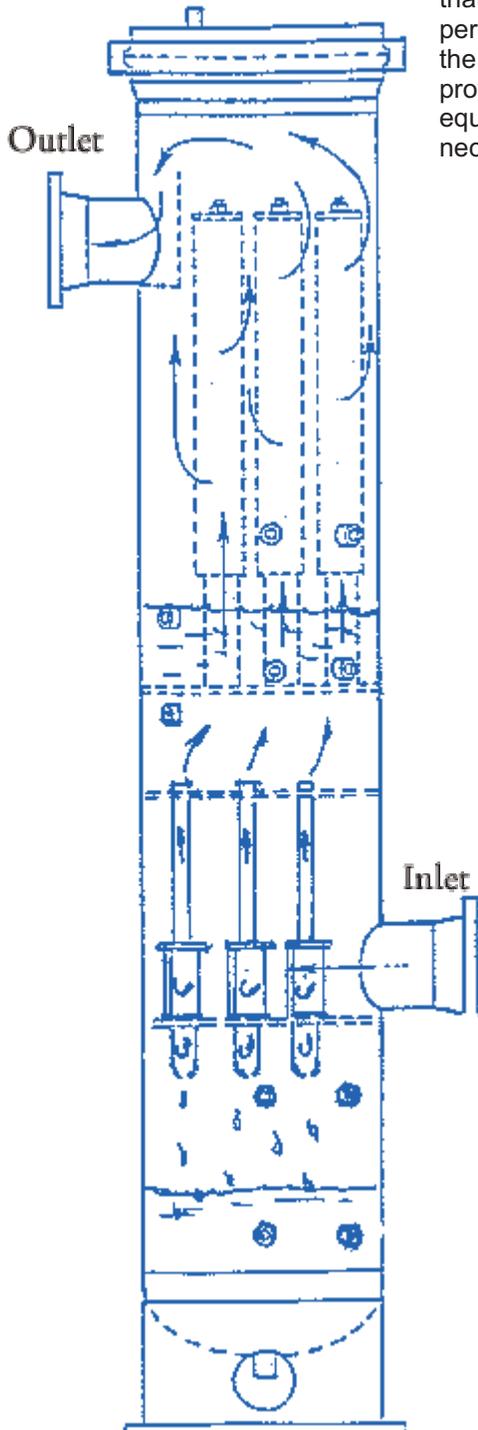
1. Depressurize the vessel as per the "COMPANY" standard procedures.
2. Open a vent to the vessel and leave open to insure of no internal pressure buildup prior to opening the element access closure.
3. Operate the element access closure pressure warning device as per the closure manufacturers operating instructions.

CAUTION !!!

If dangerous gases or liquids are present that would effect the health of the operating personnel, the "COMPANY" should notify the operating personnel of same and provide instructions and protective equipment to safely perform the necessary work.



STANDARD ORIENTATION



4. If the pressure gauges and the closure pressure warning device indicate that there is no internal pressure present, the element access closure may be opened. Please refer to the closure manufacturers operating instructions.
5. Remove the element retainer nuts and washers and place them in a container for washing and to be reused after elements have been replaced.
6. Remove the elements. Check the bottom end of each element to insure that the end gasket has not stuck to the element carrier. If so, please remove the gasket from the carrier.
7. Install the replacement PECO elements, reinstalling the end seal washers and nuts. The nuts are to be tightened to approximately 12 foot pounds torque. Care should be taken to insure elements are firmly seated at the bottom for proper filtration/separation.
8. Replace the closure seal as recommended by the closure manufacturer.
9. After checking each element to insure proper installation, the closure may then be closed. Please refer to the closure manufacturer's operating instructions.

PRESSURIZING THE VESSEL

1. Prior to pressurizing the vessel, please insure that all safety items attached to the vessel have been activated and in place according to the manufacturer's instructions.
2. Following the COMPANY operating procedures, purge the vessel of all air.
3. When it is deemed safe to pressurize the vessel, slowly bring the vessel up on operating pressure. PECO recommends a low pressure leak test prior to bringing the vessel up on full operating pressure.
4. Once the vessel has been brought up on full operating pressure, again double check for leaks. If everything is okay, the vessel is ready for service.

IF ANY DIFFICULTIES ARE EXPERIENCED IN INSTALLING OR OPERATING PECO FILTER, CONSULT THE FACTORY OR YOUR LOCAL REPRESENTATIVE