



Installation, Operation and Maintenance Instructions for Inlet Filters

Description

The inlet filter and inlet filter silencer design include a cartridge filter element. They provide effective filtration and, for the filter silencer versions, moderate noise reduction for a wide range of operating conditions. The standard unit of these is designed for applications where the temperature does not exceed 225°F, the pressure does not exceed 10 psig and/or vacuum does not exceed 10”Hg.

Receiving Inspection

- Upon receipt of the unit, check the nameplate against the packing list to verify the correct part numbers are received.
- Keep the shipping container to protect the unit until installation.
- Prior to unpacking check for shipping damage.
- Advise C. Emery Nelson, Inc of shipping damage within three days.

Storage

- Leave any cardboard boxing, plywood covering, crating, and/or plastic covering intact until ready to install.
- Be sure that all openings are closed so that no debris, vermin, rain, snow and/or ice can get into unit.
- Store unit on blocks, a minimum of 4” high so that air can freely circulate around unit.
- Do not store in contact with the ground or in a wet or flooded area.
- Indoor ambient temperature storage is essential as these units contain filtration media. If this is not possible, keep the unit covered and protected from the weather.
- Clean unit prior to installation. Remove any minor corrosion and refinish per paint manufacturer’s recommendations. If major corrosion has occurred such that the integrity of the unit is in question, contact C. Emery Nelson, Inc.

Mounting and Alignment

- Insure that the necessary equipment to install the unit, including anchor and/or support bolts, flange bolts, and expansion joints, are available before beginning installation.
- Anchor and/or support bolting and grouting is not included with the unit.
- Place the unit on a level, structurally adequate support. These units are often supported by their outlet flange. Insure that the supporting duct or piping is properly designed and does not induce vibrations into the unit.
- The unit is not designed to serve as a support for any piping.
- Use thread lubricant on all bolted joints.
- Use all gaskets provided with the unit.
- If you replace or add bolts or gaskets, use the same size and material as the originals.
- Ensure that the unit is firmly mounted immediately prior to startup of the equipment, and again 24 hours after startup to verify that supports and/or flange bolts have not vibrated loose from the supporting surface.

Inspection and Maintenance

- Components are either complete weldments or permanently assembled having no replaceable parts except for filter elements.
- Cartridge filter elements are the only replaceable part.
- Periodically inspect paint finish for damage or deterioration. **NOTE:** Minor localized damage may be touched up using touch-up paint. Areas with extensive damage or deterioration may require spot blasting and recoating. Consult paint manufacturer's recommendations.
- Examine connecting flanges and support/anchor bolting at least annually. Retighten loose nuts as required.

Safety Issues

- If performing any work internal to the filter silencer or adjacent components, ensure that all confined space requirements are met and that all tools and other materials are removed once work is completed.

Care and Cleaning of Filter Elements

- Felt and paper filter elements should be cleaned or replaced when the pressure drop increases 4" w.g. above the clean condition. Wire mesh elements should be cleaned on an annual or semi-annual basis depending on the air quality. While the filter element can withstand greater pressure drops, failure to replace or clean the element at this time may result in dirt carry-over into the system being protected.
- Filter elements are accessed by removing the wingnut on top of the cover or weatherhood and removing it.
- Do not remove any other hardware, nuts or bolts.
- Remove the element by lifting it away from the base plate.
- Periodically inspect paint finish for damage or deterioration. Minor localized damage may be touched up using touch-up paint. Areas with extensive damage or deterioration may require spot blasting and recoating. Consult paint manufacturer's recommendations.
- Examine connecting flange and support/anchor bolting yearly. Retighten loose nuts as required.

Paper and Felt Filter Elements

- These elements are dry type elements. Do not use oil or adhesive on these elements. Although both paper and felt elements can be cleaned and re-used, paper elements are inexpensive and are generally considered to be replaceable.
- Water Cleaning (Felt only): Rap gently to dislodge accumulated dirt. Soak thoroughly approximately 15 minutes in warm water and mild detergent. Rinse thoroughly under low pressure water. Air dry (do not dry with compressed air).
- Compressed Air Cleaning (Paper only): carefully direct compressed air (100 PSI maximum) through element, opposite normal direction of flow.
- After cleaning, inspect element carefully for holes or cracks. Replace element if it is damaged.

Wire Mesh Filter Elements

- For best efficiency, wire mesh elements must be treated when new and after each cleaning.
- For oil free adhesive, spray the element on both sides with Oil-Free Adhesive, P/N 81-0323, following directions on container.
- For oil treatment, dip the element in SAE 30-50 motor oil and drain thoroughly before replacing.
- To clean wire mesh elements, wash in solvent or warm water and detergent in a container large enough for complete immersion of element. Rinse completely, drain and either air dry or use compressed air.
- After cleaning, inspect element carefully for holes or cracks. Replace element if it is damaged. Re-treat element with oil-free adhesive or oil as described above.