

SULPHURNET is a dynamic company providing solid/liquid separation solutions and services for the Chemical Process Industry. Sulphurnet brings together the knowledge of filter media, filtration technology and outstanding skills in mechanical engineering, making hardware and software successfully work together. Customers around the world can benefit from our Solid/Liquid Separation knowledge and process know-how.

DESIGN DATA GAS SWEETENING

Gasses and liquids containing hydrogen sulphide can be the cause of costly corrosion problems in process equipment. Even at low concentrations hydrogen attacks can lead to cracks and various types of corrosion which leads to unexpected premature failures, endangering operators and environment. To avoid such problems, material selection and material treatment is of utmost Importance. Steel materials can be applied provided that they meet the requirements and quality defined in the NACE MR 0175 guidelines. Post Weld Heat Treatment (PWHT) is included and this will reduce the hardness (Vickers) and cracking failure.

DESIGN	All equipment is designed according ASME VIII and will be supplied with or without "U"-Stamp. PWHT is included..
CONNECTIONS	Standard ANSI RFWN
MATERIALS	Materials of construction applied in gas sweetening plants is mainly carbon steel. Alternative materials are available; a selection of stainless steel or special alloys on request.
OPTIONALS	Optional equipment as High Pressure Quick Closures, skid mounting, inter-connecting piping can be offered.

OTHER TYPICAL SULPHURNET APPLICATIONS

- Liquid Sulphur
- Sulphuric Acid
- Chloro-Alkali
- Mining
- Titan Oxide
- Caustic / Brine
- Catalyst Recovery
- Activated Carbon
- Sugar & Starch

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AMINE FILTRATION

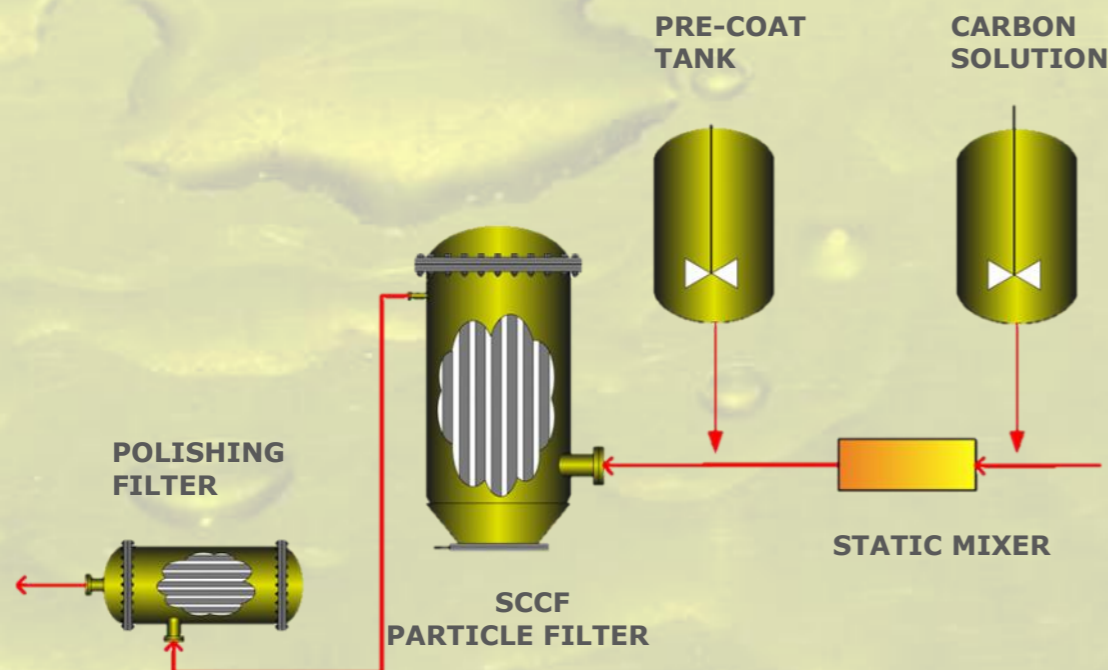


ABOUT AMINE FILTRATION

Amine systems become contaminated with organic and inorganic contaminants due to various reasons. These solids can cause severe problems; like foaming resulting in poor system performance, corrosion reduces the equipment life time.

In the amine treatment particle filters in combination with Activated Carbon Bed Filters are used. Due the high investment cost, complex and difficult replacement of the activated carbon of these filters Sulphurnet offers a solution in which the activated carbon is added to the amine and will be removed in the particle filter down stream. This set up guarantees a good contact time between the activated carbon, sufficient contact time and efficient removal of the carbon. This solution offers the following advantages:

- ◆ Prevention of amine foaming
- ◆ Reduced corrosion problems
- ◆ Reduced fouling problems in the process
- ◆ Maintaining of amine efficiency and plant capacity



ADVANTAGES

- ◆ Lower investment cost filtration unit
- ◆ Less labour for cleaning involved
- ◆ Completely closed system (HSE)
- ◆ More efficient use of activated carbon
- ◆ Continuous fresh carbon addition, no loss of absorption capacity
- ◆ More efficient operation due to better performance of filtration unit

OPERATION

The system consists of the following components:

- ◆ Pre-coat filter
- ◆ Pre-coat tank with impellor and pre coat pump
- ◆ Activated carbon feed tank and injection pump
- ◆ Static mixer
- ◆ Polishing filter

PRE-COAT FILTERS

A side stream of 10-20% is separated from the main stream. With a positive displacement pump a slurry of activated carbon is injected in the feed pipeline. In the static mixer the activated carbon is mixed thoroughly with the amine solution, bind the hydrocarbons and other impurities. The mixture flows to the pre-coat filter where all particles are retained. A polishing filter is installed to retain the fines passing the primary filter. The quantity of carbon can be adjusted based in the level of hydrocarbons in the amine solution.

POLISHING FILTER

A cartridge polishing filter is installed at the outlet of the SCCF filter to prevent fines to enter the amine circuit. Filters must be designed as oversized filter, only to be opened annually, or as smaller units designed on pressure differential.

- ◆ Absolute filtration efficiency due to excellent design and high quality materials
- ◆ Excellent sealing performance and super high dirt holding capacity
- ◆ Maximize the economic benefits by reducing the usage/maintenance costs significantly

