

Let's introduce Sulphurnet. We at Sulphurnet, provide custom solutions for various chemical processes. We're especially good at process engineering and filtration solutions, the entire design package; everything under one roof. Everything from Basic Process Design up to full scale production units including after services. If thinking outside the box is what you need, we are happy to help you. With bright thinking Sulphurnet imagines things others don't, design things others can't and delivers bright results!

DESIGN DATA GAS SWEETENING

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

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

SULPHURNET SERVICES

- ◆ Consultancy and Support
- ◆ Upgrading of existing filter systems
- ◆ Trouble shooting
- ◆ Optimization of existing filter

10-2018



Brenkmanweg 8
NL-4105 DH Culemborg

I www.sulphurnet.com
E info@sulphurnet.com
T +31 345 476627

AMINE FILTRATION

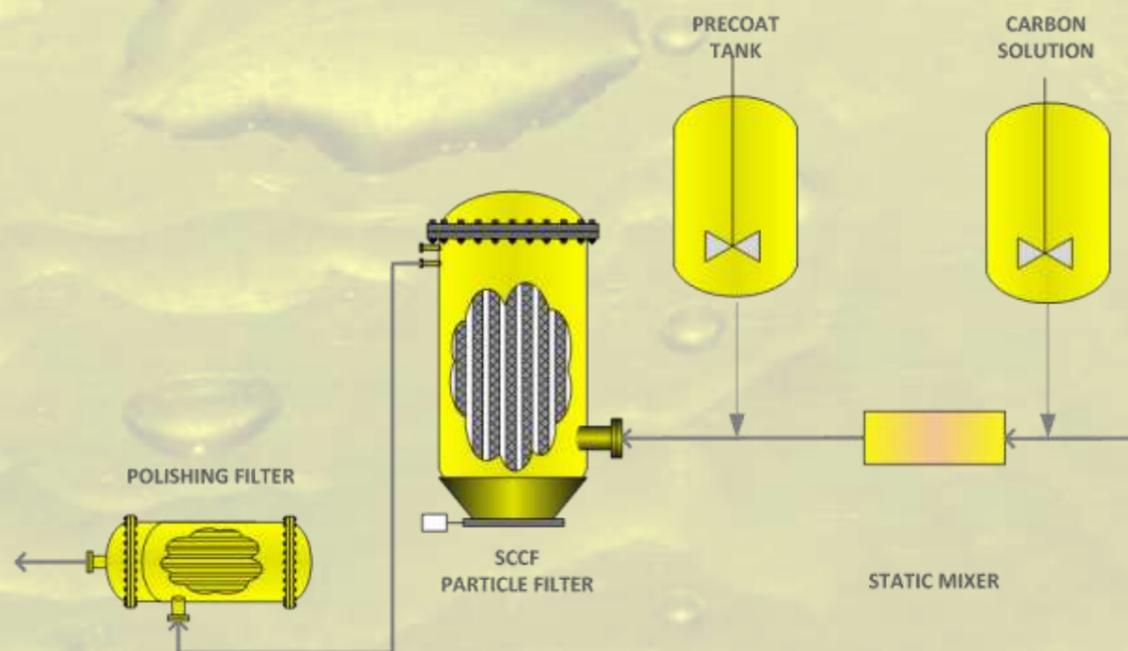


ABOUT AMINE FILTRATION

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

Particle filters in combination with Activated Carbon Bed Filters are used in the amine treatment. Due the high investment cost, complex and difficult replacement of the activated carbon Sulphurnet offers a different solution. In Sulphurnet design 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 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



PROCESS 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

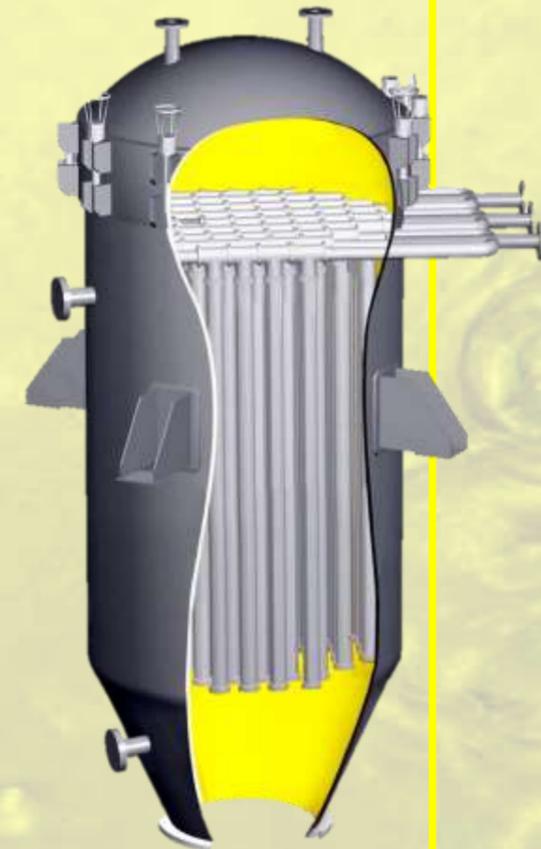
OPERATION

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. A slurry of activated carbon is injected in the feed pipeline with a positive displacement pump. The activated carbon is mixed thoroughly in the static mixer together with the amine solution, 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.



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 filters, only to be opened annually, or as smaller units. Absolute filtration efficiency due to excellent design and high quality materials. Excellent sealing performance and super high dirt holding capacity. Maximizes the economic benefits by reducing the usage/maintenance costs significantly.

