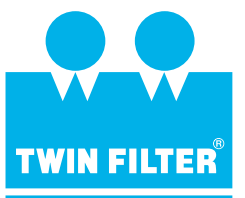


Passion



for Filtration



PRIMARY FILTERS

The primary purpose of the Twin Filter Sulphur Filter is to remove contaminants, such as ashes and bitumen that might plug the catalyst mass. The removal of solid contaminants reduces maintenance costs and improves the operation of the burners.

The Twin Filter Liquid Sulphur Filter is one of the most suited filter for sulphur filtration. It is a horizontal filter tank with vertically positioned filter plates. The tank is fully steam jacketed on the sides, dish heads cover closure and all nozzle connections. Filters are normally of Carbon Steel construction. Standard design pressure is 6 bar, with 3,5 bar differential pressure across the filter plates. Steam jacket design pressure is 5,5 bar. The filter should be insulated with a minimum of 50 mm insulation.

The filter is equipped with a bajonet closure, hydraulically operated. Our standard design includes a heated closure flange to prevent solidification of sulphur on the sealing surfaces. The three part quick-opening closure is provided with safety devices which have to be unlocked before opening the filter.

No Disconnection of Piping

Twin Filter offers 2 variations of Vertical Leaf Liquid Sulphur Filters, both systems with fixed piping which offers the best safety and operating conditions for the operators.



ADVANTAGES

- Filter plates stay stationary at all time, no premature cake dropping during retraction.
- No disconnection of piping during cleaning.
- No moving parts such as a chain or cylinder above the filter plates when the filter is opened. The vapors coming from the filter are aggressive and polluting and may cause problems on above moving parts.
- The filter will be supplied on a frame as a "Plug and play" construction. Difficult and time consuming alignment is not necessary.
- All steam connections are combined in a central steam inlet nozzle to enable easy/quick installation.
- In case of a power failure the tank can be manually retracted.
- Hydraulically operated with a bajonet closure.
- Retractable shell - By having a retractable shell, the filter bundle does not move.

FILTER LEAVES

The filter leaves are the heart of the filter system and therefore the most critical part of the Liquid Sulphur Filter. Good filtration performance begins with quality filter leaves. Twin Filter offers various designs of filter leaves for different Liquid Sulphur Filters.

Standard Stainless Steel filter leaves consist of several layers of mesh, the inner mesh coarser for a free flow of the filtrate and the support of the drainage and filter layer. Twin Filter offers two types, 5 layer and 3 layer filter leaves for liquid sulphur filtration:

3 layer filter leaf

Support 1 layer mesh 4 x 4
Filtration 2 layers media 24 x 110

5 layer filter leaf

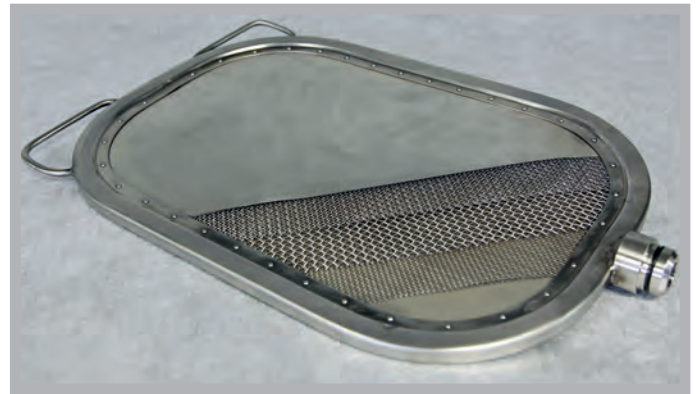
Support 1 layer mesh 4 x 4
Drainage 2 layer mesh 8 x 8
Filtration 2 layers media 24 x 110

A 5 layer filter leaf enables a more effective draining while in filtration mode. The meshes are fitted in a box-closure frame which can be welded, bolted or riveted.

All filter leaves have a filtrate discharge outlet nozzle. This can be equipped with a single or dual "O"-ring construction for a leakage-free sealing.

Alternatively Twin Filter offers a specially designed STURDY and durable filter leaf. The filter leaf is of a bolted type construction and can easily be re-meshed at site. The STURDY filter leaves are made of fully welded perforated sheets. The filter plates are designed for free drainage and low pressure drop. The life time of this filter leaf can be up to 20 years. Slightly higher investment costs will lead to a reduction in maintenance costs.

Wire mesh on roll for on site re-meshing is also available.



OPTIONS

- Overhead frame
The principal advantage of an Over Head Support Frame is that the filter is fully accessible for cleaning (filter cake can drop down into a funnel or container without building up on the filter components).
- "Plug and Play"
The filter will be supplied on a frame as a "Plug and Play" construction. You only have to put in the filter plates and connect the piping. No difficult and time consuming alignment is necessary.
- Heated bajonet ring
The bajonet ring is a very thick and solid part. When this flange isn't heated it will result in cold spots. When the filter is opened, aggressive vapors will condense on these "cold" spots. Corrosion will be the result.
- Energized cover seal
We supply a gasket design which seals with external pressure. This secures a perfect seal under all circumstances. The construction results in lower maintenance costs of the bajonet ring.

- Inlet distributor
The inlet of the filter is located at the bottom of the filter in order to get an equal flow through the filter to minimize sedimentation of the solids. This can be increased by having a center pipe in the vessel with multiple feed nozzles into the tank.
- Vibrators
Can be installed for support of cake discharge.

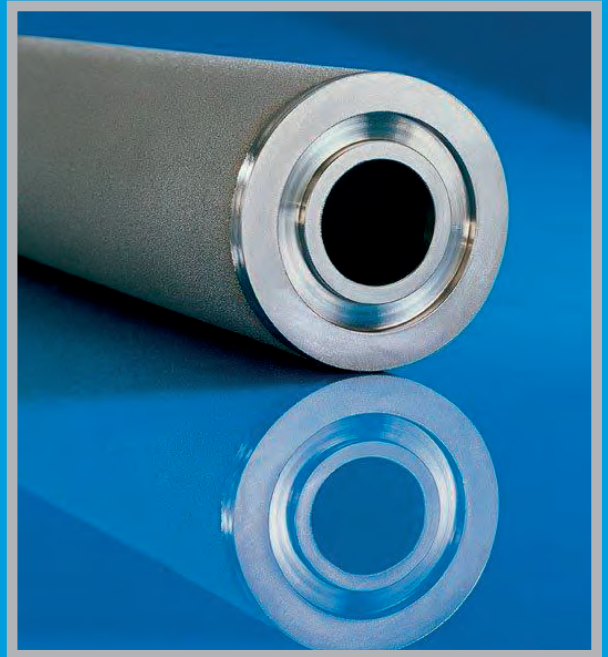


SULPHUR POLISHING FILTERS

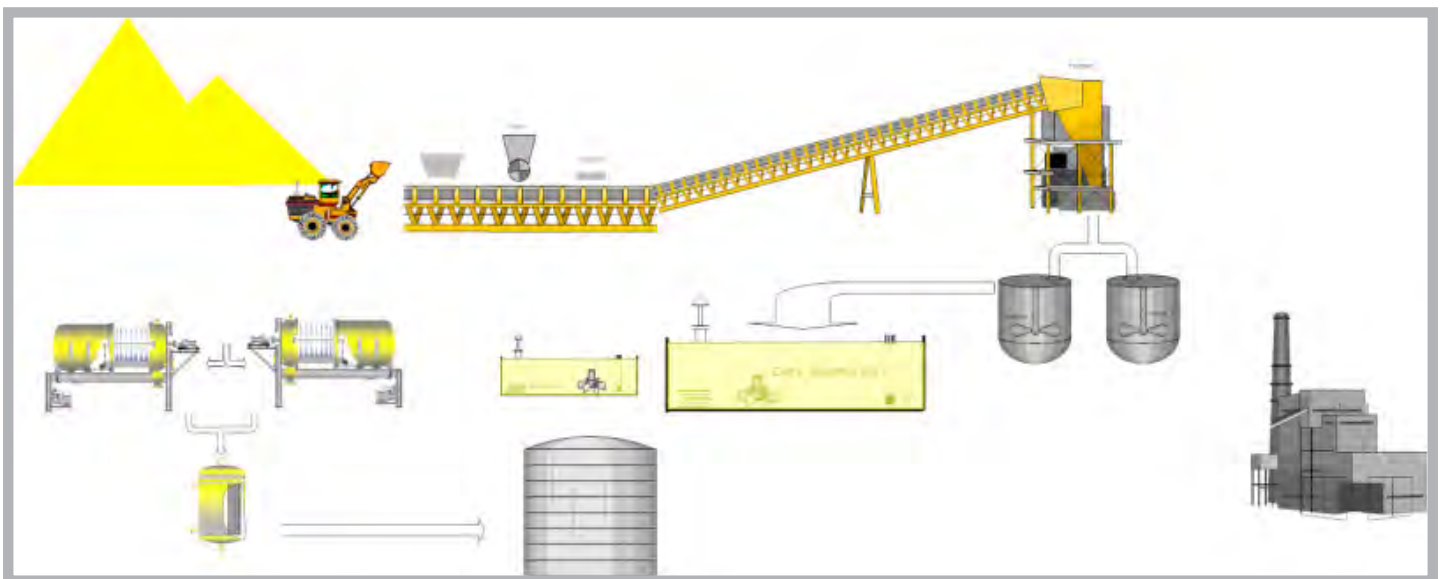
Optimal filtration results can be achieved by the implementation of a Liquid Sulphur Polishing Filter. The primary purpose of the Liquid Sulphur Polishing Filter is the removal of the last contaminants such as filter aids, ashes, etc., that might plug the catalyst mass. The removal of solid contaminants results in a lower differential pressure in the converter downstream, reduces maintenance costs and reduces the downtime of the sulphuric acid plant.

Various cartridges can be applied to achieve this result:

- Ceramic cartridges;
- Sintered metal cartridges;
- Glass fibre cartridges.



SULPHUR PROCESS DESCRIPTION



STRAINERS

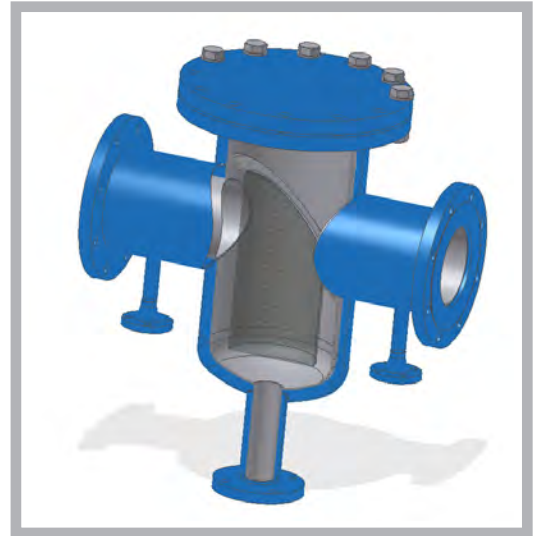
STEAM JACKETED STRAINERS

Strainers are often used for the removal of coarse particles in order to protect prilling and granulation equipment. With the use of strainers plugging can be avoided which results in less downtime of this equipment, and a reduction of maintenance costs. Strainers can be skid-mounted (including valves) to enable parallel operation or cleaning of one strainer while the other one is in operation. The strainers are steam jacketed and can handle pressures up to 35 bar.

Filter baskets:

Materials of construction that we use for the strainer baskets:

- (Laser) Perforated steel;
- Wedgewire supported by steel frame;
- Supported mesh.



SPECIFICATIONS OF EQUIPMENT

MATERIAL OF CONSTRUCTION

Vessel and all wettable parts are available in carbon steel and several grades of stainless steel. Gaskets can be supplied in rubber, PFA, PVDF or other linings. Filter leaves are primarily manufactured in stainless steel. Other materials upon request.

OPERATION CONDITIONS

Standard tank construction accommodates 6 bar working pressure at 165°C. Higher pressures and temperatures are available on request. Allowable differential pressure across the filter elements is 3.5 bar.

FITTINGS

Standard flanged connections according DIN or ANSI. Other desired specifications upon request.

PRESSURE VESSEL CODE AND INSPECTIONS

Design codes according PED97/23/EC with CE marking or ASME VIII. Available certifications: JIL, GOST, SQLO, inspection by Lloyds, TÜV, SVDB, "U"-stamp and others.

OPTIONS

Optional equipment includes: heating or cooling jackets, thermplate, segment clamp bolted or hydraulic operated quick opening covers, skid or caster mountings, pumps, pre-coat tanks, interconnecting piping etc.

ABOUT THE PROCESS DIVISON

The Process Division is a part of Twin Filter BV. Twin Filter BV is an originally Dutch company founded in 1985. The Process Division is providing solid/liquid separations and gas filtration solutions and services for a variety of industries worldwide.

The Process Division brings together the knowledge of filter media, filtration technology and outstanding skills in mechanical engineering, making hardware and software successfully work together.

Customers can count on professional advice and support from all-rounders in filtration technology, offering effective, efficient and durable solutions that will prove themselves in the long term.

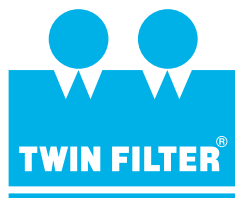
APPLICATIONS

- Liquid Sulphur
- Sulphuric Acid
- Mining
- Titan Oxide
- Caustic / Brine
- Catalyst Recovery
- Gas Sweetening
- Activated Carbon
- Food and Beverage
- Vegetable Oils
- Waste Water Treatment
- Pharmaceutical industry
- Petrochemical industry

WHY FILTRATION?

Continuity demands a forward-looking approach, anticipating technological developments, new demands and new possibilities. New environmental regulations, improving productivity and recovering valuable resources are challenges for the Research and Development department.

In all sectors, the requirements are becoming increasingly stringent. Our quality system keeps up with these developments. We have one common goal: to find solutions that will improve the quality of your product and improve your production process; thereby increasing the profits of your company.



Partner with



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