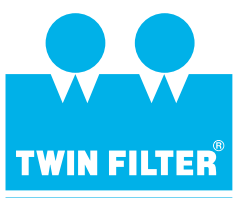


# SPARKLER HORIZONTAL PLATE FILTERS

Passion



for Filtration



# OVERVIEW

Twin Filter offers the range of Sparkler Horizontal Plate Filters. Sparkler Horizontal Plate Filters are high-quality systems, that can be used numerous batch and continuous filtration processes. The system comprises on a vertical tank, containing a number of horizontally positioned filter plates. The fluid to be filtered is passed over the filter medium that is positioned between the plates. The collected solids, in the form of a filter cake, remain on the filter medium and the polished liquid flows through the filter plates to the filtrate outlet.

## PROVEN TECHNOLOGY

The principle of Horizontal Plate Filters is a technology that has proven itself in a wide range of applications throughout the years. In addition to quality, reliability and financial benefits, Twin Filters's major added value is in the manufacture of custom-built products. We can develop a Horizontal Plate Filter for any filtration process, which will meet with all you specifications and requirements.

## SECURITY

Thanks to the horizontally positioned filter plates, the cake is evenly distributed over the filter medium. Therefore, the cake is unaffected in the event of interruption of the filtration process or pressure fluctuations.

On completion of the filtration process, the filter cake can be subjected to as many consecutive processes as required, such as washing, extraction or drying.

## EASY MAINTENANCE

Horizontal Plate Filters are easy to maintain. Neither of these systems contains any moving parts, and the filter cartridges can be quickly and easily removed and replaced with a spare cartridge.

## FLEXIBILITY IN APPLICATION AND OPERATION

Due to the various plate depths, we can supply several variations in terms of the filtration surface and cake volume. Furthermore, all horizontal plate filters can be fitted with a wide range of filter media, from paper and textiles to stainless steel meshes. This feature makes the plate filters suitable for an immense range of applications in the chemicals, food- and pharmaceutical industries.

## MATERIAL OF CONSTRUCTION

Standard material for vessel and all wetted parts is stainless steel 316 quality. Other materials and internal lining on request. Filter elements are primarily manufactured in stainless steel. Alternatively polypropylene hasteloy and other advanced materials can be requested for filter elements.

## BENEFITS

- Maximum product recovery
- Cake stability
- Totally enclosed construction
- Quick change cartridge
- Suitable for sanitary operations

## APPLICATIONS

- Pharmaceutical
- Food processing
- Varnish, lacquer and resin
- Fine chemicals
- Electro plating
- Beverages
- Cosmetics



# RANGE HORIZONTAL PLATE FILTERS

## HORIZONTAL PLATE FILTER SCAVENGER

The Horizontal Plate Filter Scavenger is designed for batch-wise filtration without leaving a heel. This is accomplished with a specially designed scavenger plate, that filters the heel remaining in the tank at the end of a batch. In addition, complete product recovery can be obtained by washing and drying the cake.

In the Scavenger model the contaminated fluid is entering the vessels and forced through the filter media and flows towards the central outlet pipe through which it is discharged. The scavenger plate in the bottom of the filter tank, filters the last part of the batch leaving practically no unfiltered liquid.



## HORIZONTAL PLATE FILTER REVERSE FLOW

The Reverse Flow Filter combines the advantages of horizontal plate orientation with clean filter tank operation. In this model the contaminated fluid is pumped into the filter through the centre column, then evenly distributed to the filter plates for filtration after which the clean fluid flows into the tank and out a drain. All filter cake or solids remain inside the cartridge bundle.

The horizontal position assures uniform precoat and an even cake distribution, without the danger of the cake dropping or cracking. Due to the horizontal position of the filterplates the filtercake can be subjected to as many consecutive processes as required, such as washing, extraction or drying.

## OPTIONAL DESIGN FEATURES

Hydraulic compressor

When filter sheets are used it is advised to use hydraulic compression in order to prevent by pass

# RANGE HORIZONTAL PLATE FILTERS

## HORIZONTAL PLATE FILTER "WASH OFF"

Wash-Off Horizontal Plate Filters are designed for applications allowing the use of synthetic cloth or wire mesh filter media. The advantage to this filter is that the cartridge can be cleaned without disassembling. Cartridges are cleaned by removing them from the tank, pivoting them on a frame leaving the plates in a vertical orientation, permitting cake removal by vibration, tapping or washing off.

Wash off filters can be fully automated and the filter cake can be removed in closed position. For a slurry cake discharge a sluice system will be implemented. For a dry cake discharge we make use of a vibration system in combination with a screw conveyer.

## HORIZONTAL PLATE FILTER DUAL DISC

The Dual Disc offers the double filtration area compared with standard horizontal plate filters. The large filtration area is suitable for high flow rates, with low concentration of contaminations and high efficiencies. The dual disc version is available in scavenger as well as reverse flow filter.

Dual Disc Filters are particularly well suited for liquid filtration with a low content of solids.

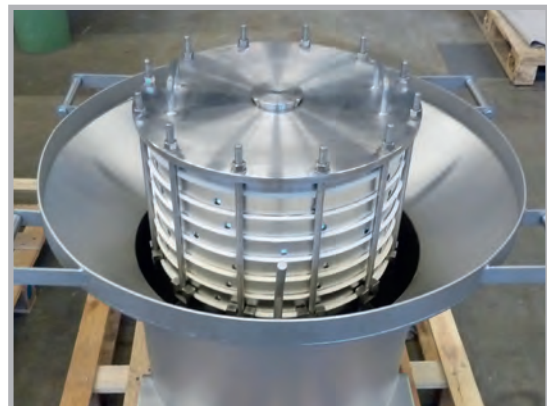


## STANDARD DESIGN FEATURES

Filter cartridge diameter	33", 18", 14"
Standard filter plate materials	Stainless steel 316, optional: carbon steel, exotic metals and polypropylene
Standard filter housing material	Stainless steel 316, optional: carbon steel, and many exotic metals
Types of filter media available	All types of filter papers, woven wire, membranes, and cloth
Fittings	Standard flanged connections according EN1092 or ASME.
Design code	According EN13445, alternative ASME VIII div 1
Approval	According PED97/23/EC. Alternative is "U" stamp and optional certification for: JIL, GOST, SQLO, inspection by Lloyds, TÜV, SVDB and others.
Standard design pressure	6 bar
Standard working temperature	120 °C
Differential pressure elements	max. 3.5 bar

## OPTIONAL DESIGN FEATURES

Heating possibilities	Conventional heating jackets, half pipe or the Therm-Plate system
Coatings and linings	Hastelloy, nickel, rubber linings, HALAR or PFA coating, PVDF or PTFE linings
Quick closures	Hydraulic operated lifted bajonet cover closure and lifting device
Skid build	We offer complete prefabricated skids, with pumps, piping, valves, pre-coat tanks, instrumentation, automation and other required options
Drip Bowl	For stable positioning of cartridge and clean working area during cleaning other cartridge



# FILTER MEDIA

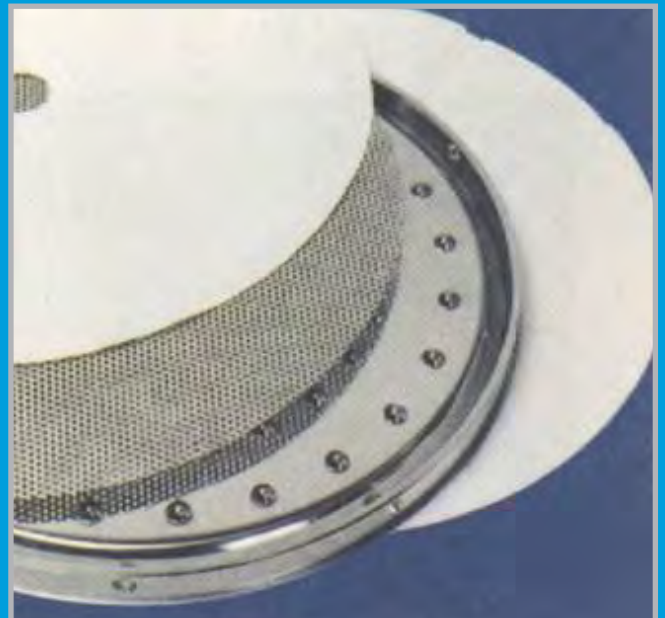
## FILTER SHEET

Twin Filter offers a range of Filtersheets. The Filtersheets are made of chemically pure polyethylene fibres, cellulose and filteraids like perlite. Filtersheets combine a depth and surface filtration characteristic because of the difference in potential, defined as the "Zeta potential" there is an extra filtration effect. These electrostatic forces make sure that loaded particles are captured in the filtermedia. Filtersheets are available in the micronratings from 50  $\mu\text{m}$  down to 0.15  $\mu\text{m}$ . They are in accordance with rules of the European Community about materials in contact with food and registered by the FDA. The Filtersheets are available in squares and circles with different dimensions.



## FILTER PAPER

A wide range of paper qualities, suitable for various purposes: from coarse filtration to very fine polishing filtration. The paper grades can be cut to any required shape and are therefore suitable for all type of plate filters.



## 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 process 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.

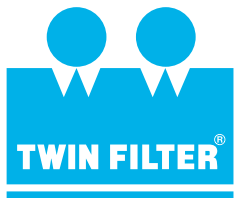
## APPLICATIONS

- Liquid Sulphur
- Sulphuric Acid
- Mining
- Titan Oxide
- Caustic / Brine
- Catalyst Recovery
- 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 pace 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



### Head Office

**Twin Filter B.V.**  
Zuiddijk 398  
1505 HE Zaandam  
The Netherlands  
Tel: +31 (0)75 6555000  
Fax: +31 (0)75 6555015  
Email: [info@twinfilter.com](mailto:info@twinfilter.com)  
Internet: [www.twinfilter.com](http://www.twinfilter.com)  
Chamber of Commerce:  
Reg. 35026329  
VAT reg.no.:  
NL803795191B01

### Regional Offices

**Twin Filter North America**  
10646 West Little York, Suite 310  
Houston, TX 77041, USA  
Tel: +1 713 691 2800  
Fax: +1 713 691 8444  
Email: [info.usa@twinfilter.com](mailto:info.usa@twinfilter.com)  
Internet: [www.twinfilter.com](http://www.twinfilter.com)

**Twin Filter South America Ltda**  
Av. Bernardino de Campos 98, 14th floor  
Paraíso 04004-040 São Paulo, Brazil  
Tel: +55 11 3052-1826  
Cel: +55 11 6583-5699  
Email: [info.br@twinfilter.com](mailto:info.br@twinfilter.com)  
Internet: [www.twinfilter.com.br](http://www.twinfilter.com.br)

**Twin Filter Australia**  
267 St Georges Terrace  
Perth WA 6000, Australia  
Tel: +61 8 9261 7760  
Fax: +61 8 9261 7700  
Email: [info.au@twinfilter.com](mailto:info.au@twinfilter.com)  
Internet: [www.twinfilter.com.au](http://www.twinfilter.com.au)