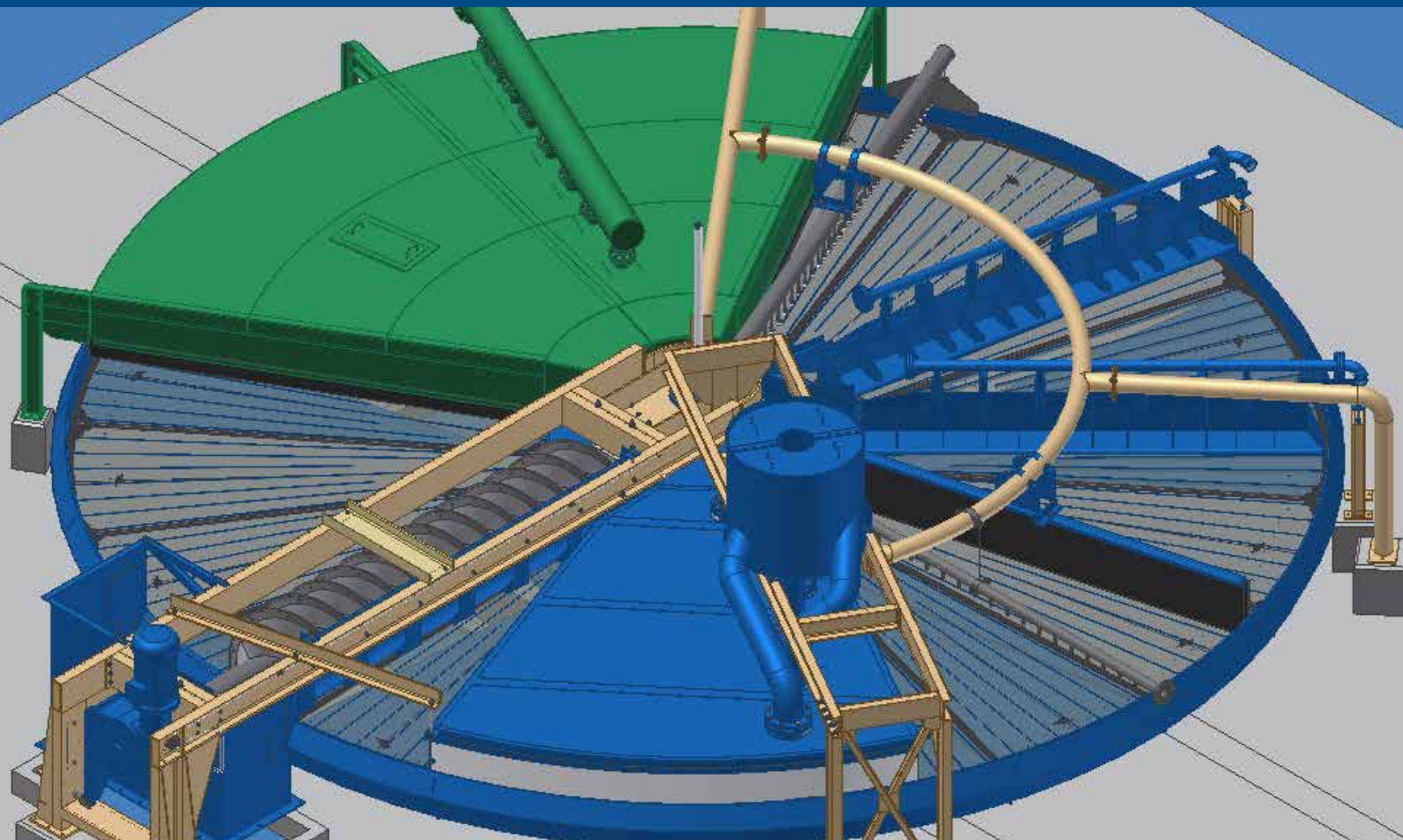


One Source

DORR-OLIVER Horizontal Pan Filter



Time-tested technology - innovative developments

Features

- **Continuous horizontal pan filter divided into sectors, equipped with individual fixed filter media, rotating around a vertical axis**
- **Highest capacities**
- **Cake drying by vacuum and steam or hot air**
- **Material of construction:**
 - **mild steel**
 - **alloys**
 - **rubber-lined mild steel**
- **Gas-tight design**

Features

- **Sand Beneficiation**
- **Alumina Industry**
- **Chemical Industry**
- **Fertilizers**
- **Iron Ore Beneficiation**
- **Coal Beneficiation**

General

The DORR-OLIVER® Horizontal Pan Filter is a continuous vacuum filter having its filtering surface rotating in a horizontal plane. It is actually a continuous filter, one of the simplest means for separating solids from liquids by vacuum, combined with the gravitational force, engineered to fully satisfy the requirements of the industrial application for highest filtration capacities at lowest cost.

The DORR-OLIVER Horizontal Pan Filter is a simple rugged unit designed for economic deliquoring, washing, if requested, and drying of granular, fibrous and coarse fast settling solids.

The results of 60 years experience, its superior performance has been proven in literally almost thousands of installations and various applications. Implicity of design, operation visibility and great reliability are the remarkable features of this lowest capital cost/ton of product horizontal filter.



High performance washing, dewatering and drying of solids



Deliquoring, cake washing and cake drying are performed during one pan revolution. Counter-current cake washing in up to three washing steps with exact separation of the filtrates is done with excellent results at minimum water consumption. For additional reduction of cake moisture, the filter can be equipped with a steam hood located in the drying area.

Finally, the cake is discharged by a rotating scroll which fluidizes the solids, promotes condensate evaporation reducing the restmoisture. At this point the remaining filter cycle is restarted with an air blow under the feed zone, which keeps the filter media open and mixes fresh slurry with the re-pulped heel cake layer. The filters can be constructed in carbon steel, various types of stainless steel and rubberlined carbon steel. The scroll can be equipped with various corrosion and wear resistant surfaces. The pan filters can be supplied in a hooded vapour-tight version in case operation involves toxic, volatile or explosive materials. The filters can be furnished in sizes starting from 1 m² up to 125 m² to meet the specific application needs.

DORR-OLIVER Horizontal Pan Filter construction features

- Sloped pan towards the centre of the filter with big outlets to reach higher hydraulic and pneumatic capacity. Filtration area divided into wedge shaped sections with individual filter media cover.
- High pan rim to allow the formation of thicker cakes.
- Big diameters automatic vacuum valves with large outlets to obtain maximum dewatering, washing and drying efficiency also at lowest 900 mbar vacuum.
- The rotating filter pan is mounted on a high precision commercial bearing with spur gear at the external circumference isolated from process materials. Variable speed of the drives allow adjusting the filtration cycle to the product characteristics and the required process conditions.

Check these advantages

- Highest capacities per square meter due to maximum discharge areas through drainage deck and stream lined filter valve
- Lower cake moisture due to high hydraulic and pneumatic capacities
- Vacuum up to 150 mbar abs.

- Higher wash rates and efficiencies with sharp separations on simple displacement or counter current systems.
- Air blow under feed point cleans filter media
- More efficient steam drying.
- Cake discharge scroll fluidises product promoting vaporisation and reducing rest moisture.

Mechanical

Minimum maintenance afforded by

- Simple, rugged design with metal filter pan.
- Fixed filter media supported on permanent drainage deck.
- Large diameter long life commercial pan supporting bearing.
- Minimum sealing area for minimum friction wear.
- Hard-faced scroll discharges cake solids in fully continuous fluidised stream.
- Optionally hooded for totally vapour tight operation.

Operating

- Longer filter media life, easy replacement
- Completely automatic unattended operation
- Very few moving parts and simple design

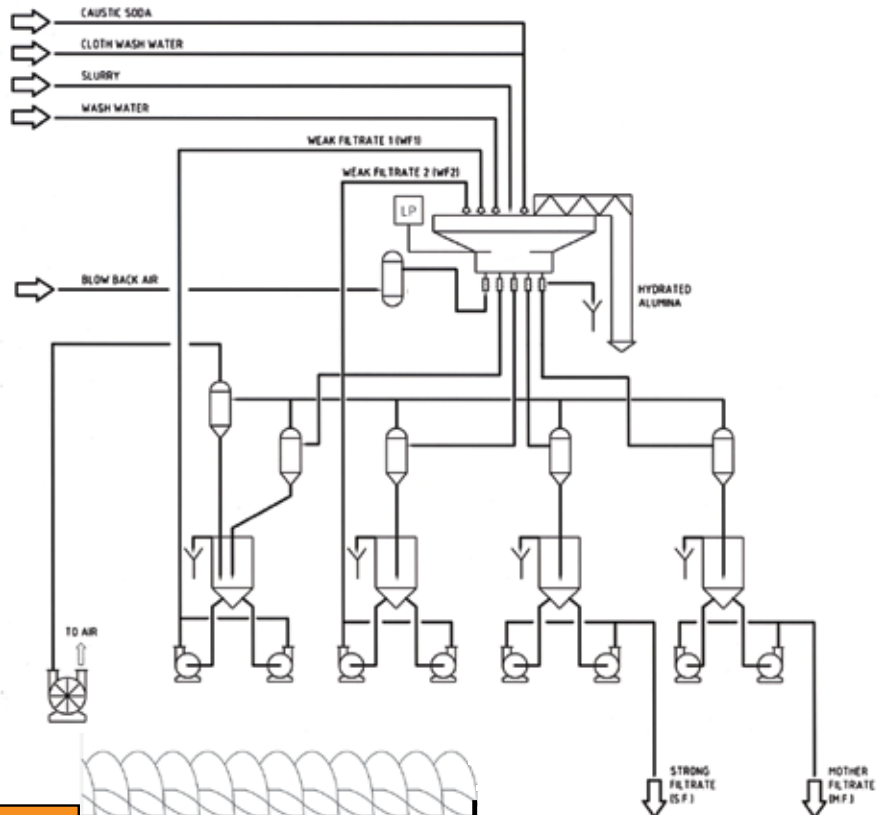
DORR-OLIVER Horizontal Pan Filter

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Operating

Feed is introduced into the revolving filter surface by means of a feed distributor. Air blow, which is located under the feed point, re-slurries the cake heel with incoming feed to produce clean filter media and homogenous feed. Vacuum is applied immediately after the air blow and is maintained to discharge at the scroll. The filtrate is drawn through the filter media, down the sloped section and through the large outlet valve. Separation of filtrate liquor is maintained by movable bridges in the filter valve. Filter cake is washed as desired, steam dried and removed at the end of the cycle at the minimum moisture content by means of the scroll discharge.



Nominal Filter area m ²										
45	50	55	60	65	70	80	90	110	115	125
		18	20	24	28	32	36	40		
			8	10	12	14	16			
				2	4	6				
					1					

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