



OUTOTEC LAROX PF-DS DOUBLE-SIDE PRESSURE FILTER

Outotec® Larox® PF-DS meets the challenging process requirements in chemical process industry and due to its flexible operation and superior process results the filter can be used in various applications. Our comprehensive support services help you select the correct filter model, assist with plant design, and ensure efficient and reliable operation with high quality maintenance.

BENEFITS

- Excellent handling of difficult and slow-filtering materials
- Guaranteed cake discharge even with challenging material
- Multiple cake washing options lead to superior washing result
- Options for efficient and automatic in-situ cleaning (CIP)
- Ability to handle corrosive process conditions
- Suitable for food-grade applications
- Fully automatic for consistent results under varying process conditions

PROVEN TECHNOLOGY FOR RELIABLE OPERATION

Outotec® Larox® PF-DS is a tower press filter where the plate pack is composed of polypropylene membrane filter plates stacked on top of each other. The cake forms on the top and bottom side of the filtration chamber, hence the term double-side filter.

Proven technology for reliable operation

Outotec has designed PF-DS using the best features from two different filter types. PF-DS replaces the conventional Outotec® Larox® DS filter using mainly proven PF filter technology in it.

The individual filter chamber has double-side filtration area of 4.7 m² and an operating pressure of up to 16 bar. The plates are stacked vertically to give a total filtration area of 38–94 m² depending on the unit size. One endless filter cloth runs through the whole filter and one side of

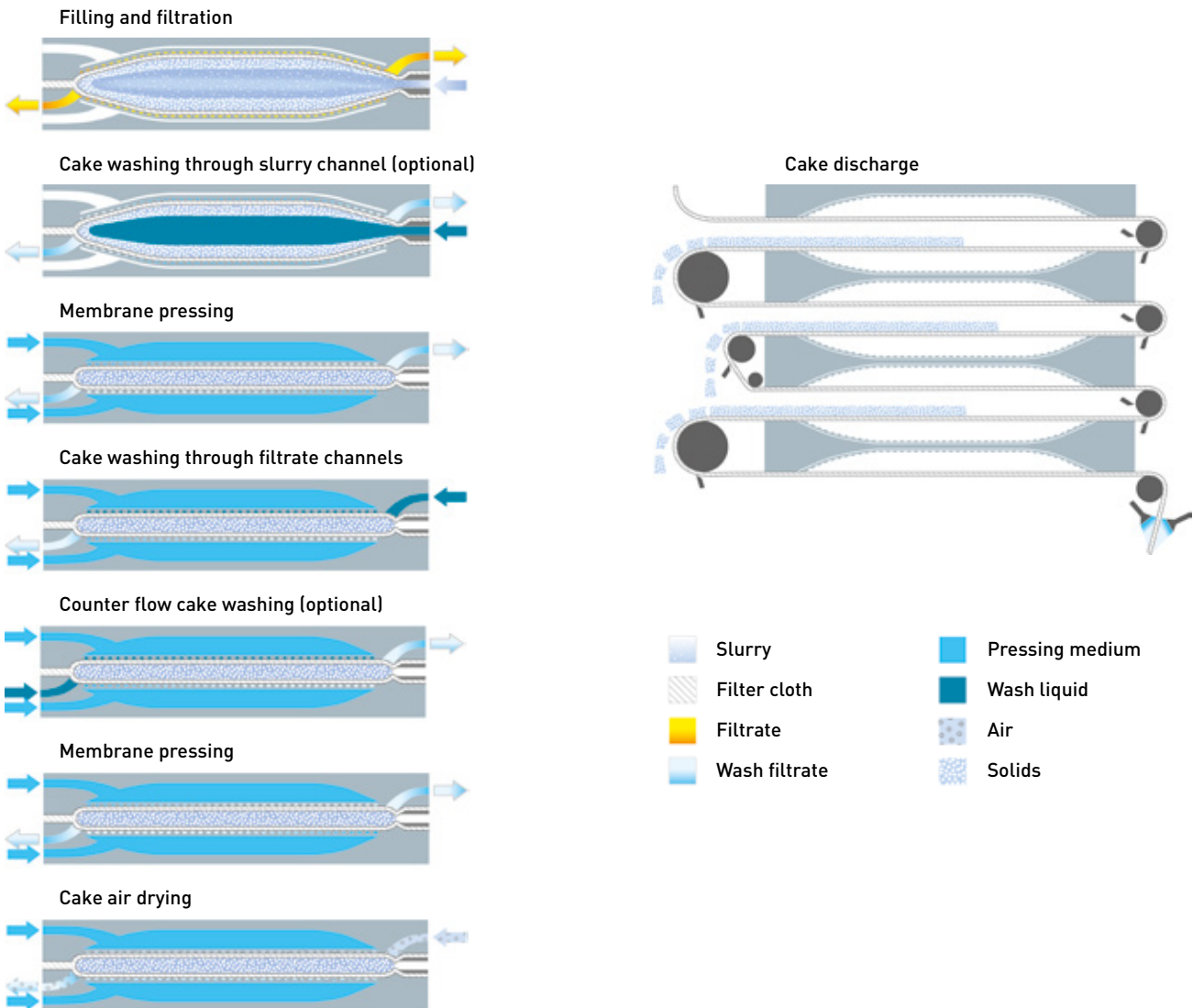
the filter cloth is utilized for filtration. A wide range of different cloth types is available to meet the application needs.

The filter cloth ensures efficient discharge of all cake from each individual chamber at every cycle, eliminating the need for manual intervention.

Consistent performance and simple maintenance

PF-DS Filters are fully automatic, operating either with a stand-alone panel or through a distributed control system. Automation extends beyond basic filter sequencing to full process control, ensuring consistent results under varying process conditions.

The PF-DS filtration process is a batch operation which includes filtration, membrane pressing and air drying



stages. Several options for cake washing can be added to the process depending on the needs. When the process cycle is ended, filter cakes will be discharged from the one side of the filter. Due to the cloth on both sides of the chamber together with the cloth scrapers, cake discharge is fully automatic without operator presence.

After each cycle, the moving filter cloth passes through water sprays to remove any embedded solids. This maintains cloth permeability, consistent filter performance and extends cloth life.

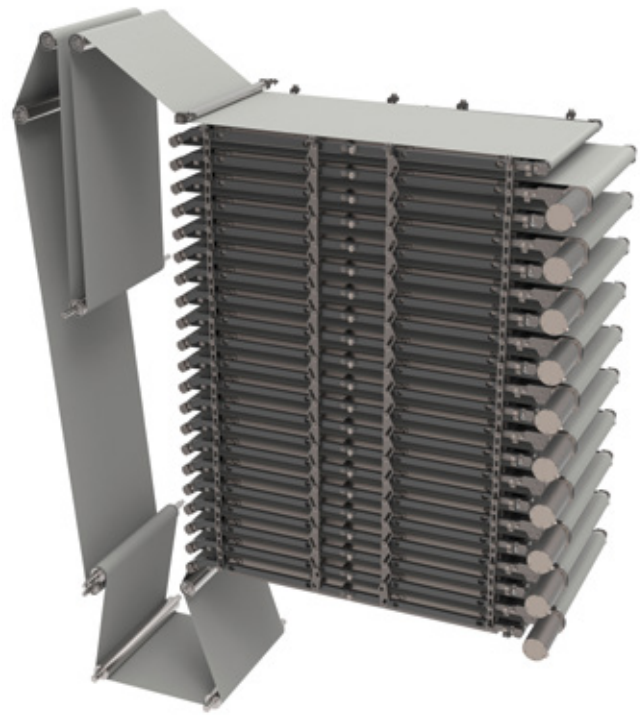
The single cloth system makes cloth change simple and quick, typically taking as little as 30 minutes. Furthermore, cloth inspection can be carried out without the need for equipment shutdown.

Technical Specifications

Please note that the figures below may vary depending on the delivery scope. Contact Outotec for exact figures.

Outotec® Larox® PF-DS series

PP filter plate and PP membrane, 4.7 m²/chamber



FRAME SIZE		2			3		4	
Chambers		8	10	12	14	16	18	20
Filtration area	m ²	37.6	47.0	56.4	65.8	75.2	84.6	94.0
Chamber volume, 25 mm	m ³	0.406	0.507	0.608	0.710	0.811	0.913	1.014
Chamber volume, 40 mm	m ³	0.672	0.840	1.008	1.176	1.344	1.521	1.680
Chamber volume, 50 mm	m ³	0.852	1.065	1.278	1.491	1.704	1.917	2.130
Filter plates	pcs	9	11	13	15	17	19	21
Filter plate Size	mm	1 200 x 2 350						
Maximum operating pressure	bar	16						
Height	mm	5 450			6 410		7 050	
Width	mm	4 760						
Length	mm	5 320						
Weight without auxiliary equipment	kg	32 000	33 000	35 000	37 000	39 000	40 000	42 000
Required floor area	m ²	84						
Electric motors								
Cloth drives (400 V, 50 Hz)	pcs	5	6	7	8	9	10	11
Total drive Power/1500 rpm	kW	4.7	5.6	6.58	7.5	8.46	9.4	10.34
Hydraulic unit	IEC	30 kW, 1500 rpm, 50 Hz						
	NEMA	40 hp, 1800 rpm, 60 Hz						
Pressing water pump	IEC	11 kW, 3000 rpm, 50 Hz				18.5 kW, 3000 rpm, 50 Hz		
	NEMA	15 hp, 3600 rpm, 60 Hz				25 hp, 3600 rpm, 60 Hz		
Hydraulics - oil tank volume	liter	300						
Pressing water tank	m ³	1.5				3.0		

Outotec

Outotec develops leading technologies and services for the sustainable use of Earth's natural resources. Our 4,000 top experts are driven by each customer's unique challenges across the world. Outotec's comprehensive offering creates the best value for our customers in the mining, metal, energy, and chemical industries. Outotec shares are listed on NASDAQ Helsinki.

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