

# Plate and Frame Type Filter Press (FP Series)



Plate And Frame Filter Press

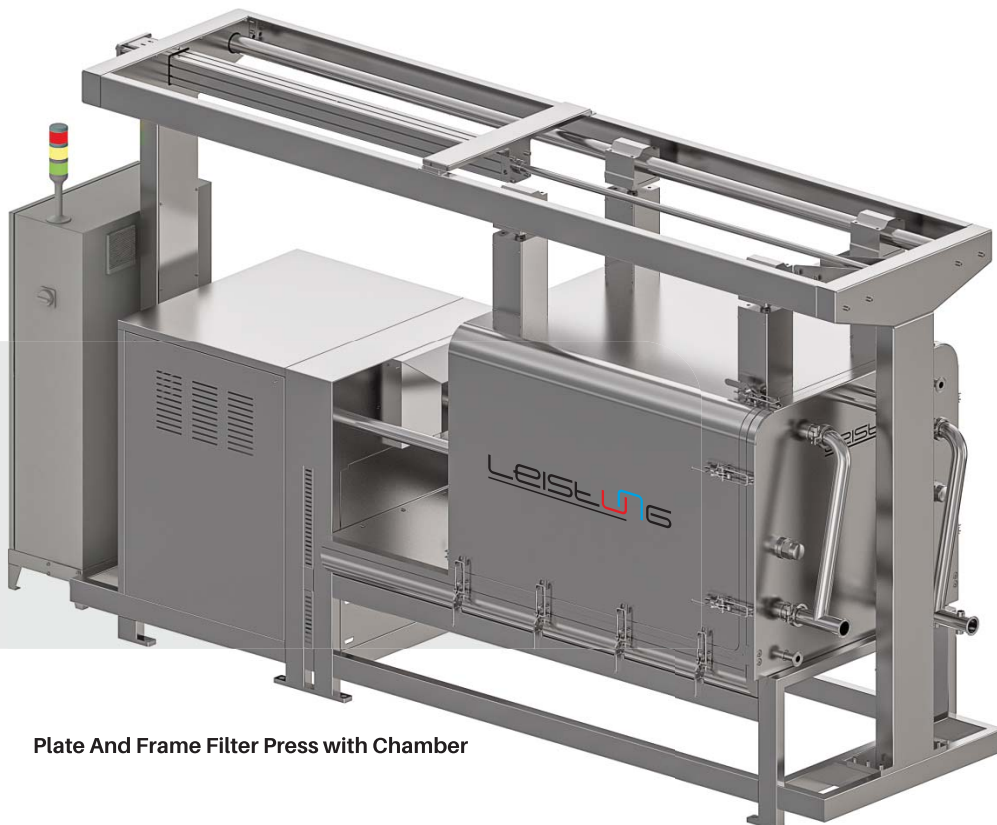


Plate And Frame Filter Press with Chamber

## Concept

Filter press is a pressure filter form by filter plates & filter frames or chamber plates. The enclosed depth filtration system can optionally be used for cake filtration, sheet filtration or stage filtration.

- **Sheet filtration**

A feed plate, filter sheet and a filtrate plate are used alternately.

- **Cake filtration**

The filter pack consists of a combination of cake frame, filtrate plate and an intermediate filter sheet. The cake frame is used for holding the solids.

- **Progressive Filtration**

A diverter plate enables to give more than two-stage sheet filtration (Condition fulfil to fine filtration).

Technical Data				
Size of Plate		200×200	400×400	600×600
Filtering area per plate via Cake/ Sheet Filtration (m2)		0.060	0.275	0.656
Cake Holding Capacity Per Frame (Liters)	13 mm	0.393	1.789	4.268
	16 mm	0.484	2.202	5.253
	25 mm	0.769	3.496	8.339
	38 mm	1.153	5.244	12.509
Closing Mechanism		Hand Hydraulic/ Manually	Automatic/ Hand Hydraulic/ Manually	Electric Hydraulic/ Automatic
Pressure Rating	1-15 Bar			
Temperature Rating	-20°C to 121°C			
MOC	SS-316L, SS-316, SS-304L, SS-304, Duplex Steel			
Sealing Material	EPDM, Silicon, FKM/FPM (Fluoroelastomer)			
Surface Finish	Matt Finish or Mirror Finish with EP (0.3 to 0.8 Ra on Request)			
Pump (Optional)	Centrifugal, lobe or Gear Pump for Pressure Filtration.			

## Close Chamber Filter Press

Close Chamber is complete cover the filter press to maintain inside temperature of filter press. Due to close chamber process temperature maintain till filtration and there is no loss of temperature during process for better product result. There are two type of Chamber design available with advance temperature sensors and instruments.

1. Close Chamber For Cooling
2. Close Chamber For Heating

### Application

Leistung's PF SERIES plate & frame type filter press is suitable for coarse, polishing and sterilizing filtration duties. It is the depth filtration system for critical filtration tasks in the Pharmaceuticals, Chemical, Biotech, Cosmetics, Food & Beverages Industry.

#### ➤ Pharmaceutical & Biotech

Typical applications are:

- Yeast
- Bio solids
- Seaweed
- Blood plasma
- Enzymes

#### ➤ Chemical

Typical applications are:

- Calcium carbonate (CaCO<sub>3</sub>)
- Catalyst Recovery
- Barium sulphate (Completion fluid)
- Silicates (product and waste)
- Polymers (Fibers)
- Brine solutions (Coolants recovery)

#### ➤ Food & Beverages

Typical applications are:

- Wine and Juices
- Beer
- Edible oils
- Sugar and sweetener processes

#### ➤ Cosmetics

Typical application are:

- Esters
- Shampoo
- Hydro alcoholic Fragrances and Colognes
- Polymers
- Other Specialty Ingredients

### Automated Advance Filter-Press

LEISTUNG manufacture fully automated advanced Filter Press with Plate Shifting & Plate Shaker for auto cake discharge along with PLC based Electrical Control Panel.

In this Filter Press initial filtration process takes place with the push of button.

Slurry is pumped into all chambers and cakes are formed as filtrate begins to flow.

The end of filtration phase is automated by flow meter which is located on filtrate discharge pipe.

The flow meter indicates the minimum flow rate of filtrate which is strictly related to the end of a cycle.

Fully automatic filter presses can work continuously without any operator intervention.

### Add-On features: -

- The PLC Interface.
- Automatic Plate Shifter & Cake Discharge.
- Safety Curtains.
- Automated valves.
- Safety cord.
- Zero-drip design.

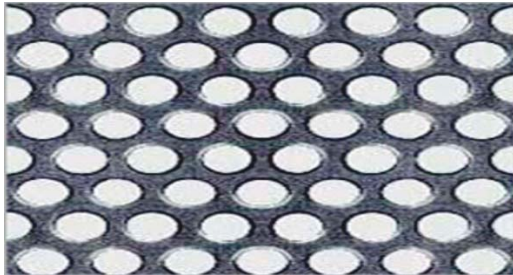
### Notes:

- 1) Leistung filter press is manufactured with computer aided machining process in order to provide geometrical accuracy.
- 2) Special stress relieving process is performed to eliminate any residual stresses in order to avoid geometrical distortion after manufacturing.

# Key Features Of Filter Press



## Regular Filter Press



- Filter plates are made with perforated sheet.
- As filter plates are made with perforated sheets, it becomes one of the limiting factor for opening area.
- Perforated sheets also limit the flow of liquid.
- Cake formation is uneven as it depends on shape of perforation.
- Regular filter presses have high pressure drop in clean condition.
- Thin perforated sheets are used that cannot sustain higher stresses. Also over all life of plate is average.
- Regular filter plates are supported by spacer or bushing to withstand pressure. This arrangement reduces opening area within frame.
- Filter pads are sealed only at outer periphery on face, leaving all sides open to the atmosphere. Due to this, dripping occur at bottom & sides.
- Filter press are not CIP/SIP capable.
- In & out ports are constructed in the form of bracket and then welded to side of plates and frames and as such have crevices at joints.
- Filter Press not provided with Diverter Plate.
- Regular filter plates have not safety like leistung.

## Leistung Filter Press



- Filter plates are specially designed in order to provide optimum performance.
- Filter plates have specially designed openings that provide ~40% more area than perforated sheets.
- Due to higher opening area flow rate is more as compared to regular filter press.
- The gap between openings does not restrict flow of media resulting in even cake formation.
- Leistung filter press have very low pressure drop as compared to regular filter press as gap between openings does not restrict flow of media.
- Leistung filter plates are thicker than regular filter plates providing more strength and overall life.
- Leistung filter plates have more strength and as such do not require any support. Due to this, there is no reduction in opening area within frame.
- Filter pads are sealed at outer periphery on face. Additionally, filter plates are designed in such a way that they are sealed at all sides. Due to this plates and frames are sealed in a closed loop system and provide zero dripping.
- As Leistung filter press is a closed loop system, it is CIP/SIP capable.
- In & out ports in Leistung filter press are cut from solid along with sides and as such are seamlessly constructed and crevice free.
- Leistung Filter press available with diverter plate which helps in progressive Filtration.
- Leistung Filter press having Laser beam technology for safety purpose.