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MFS

MARUTI FILTRATION SYSTEMS
PRIVATE LIMITED

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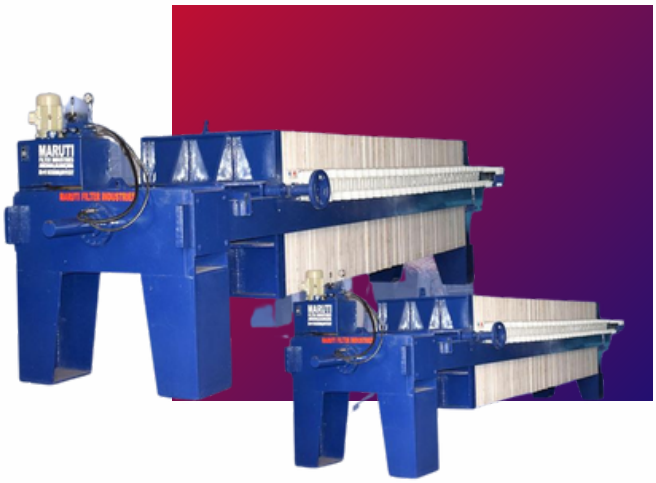
# FILTER PRESS

Filtration is aprocess most often used for the separation pf solids from liquids in which they are suspended. The aim of the operation is the recovery of filtered liquid solids in form of cake or sometimes both.

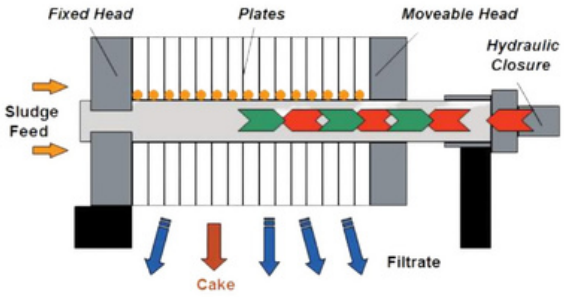


Filtration of a solid liquid suspension is carried out under pressure in a closed container system provided with chamber plates wrapped in the filter cloth into which the suspension is normally pumped.

The working pressure chosen according to the specific needs normally ranges between 2-20 bars. The entire assembly is kept leak tight by a suitable closing device which has force equivalent to that of the maximum feed pressure or membrane squeeze pressure.

## WORKING PRINCIPLE OF FILTER PRESSE

During discontinuous cake filtration with filter presses, the suspension to be filtered in pumped and concentrated via the turbidity inlet into the filter plate chambers. The driving force for the liquid transport is provided by a feed pump. The filter plates are lined with special filter cloths according to the respective application. These cloths retain the solids in layers during the flow. A layer of the solids to be separated accumulates over time.

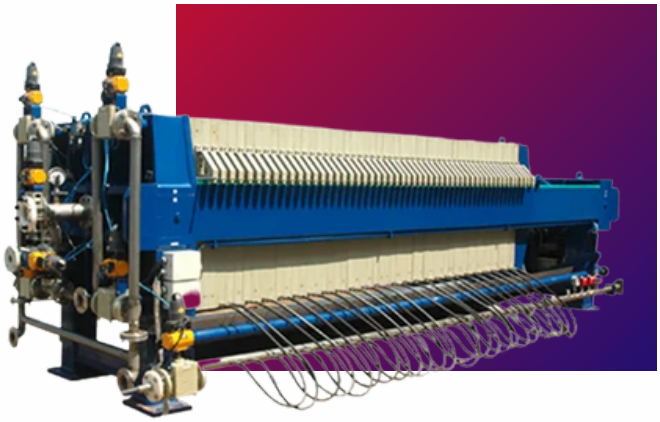


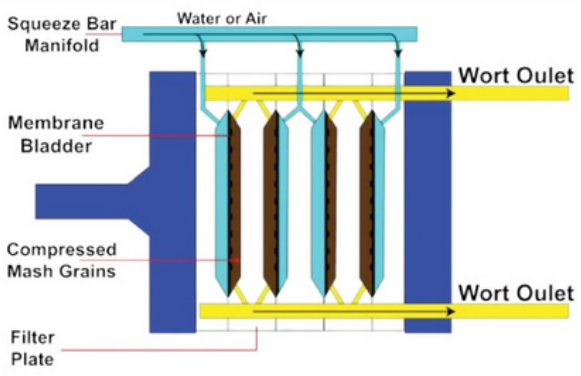

This layer is known as the filter cake, which remains in the plate chamber as solid mass and makes a significant contribution to the filtration of the liquid. The filtrate, which penetrates the filter cloths, is discharged along a channel system via the filtrate drain introduced into the filter plates. As the layer to be flowed through grows, the flow through resistance increases and with it the pressure loss, with a concomitant products. This leads to inefficient and uneconomically long filtration times. With periodic cake filtration, the filtration process is interrupted once a predetermined pressure has been reached. If necessary, the filter cake is squeeze - treated (membrane technology) and then removed by opening the filter press. After optional cleaning and closing of the unit, filtration starts again from the beginning. The filtration cycle is essentially divided into four phases:

The decisive parameters for assessing a filtration process with filter presses are the filtration pressure and the throughput. In an ideal filtration process, the filtrate the building up filter cake is what offers the filtrate the filtration pressure only chambers of the such as particle size distribution, particle shape and interaction between the cake resistance and the associated filtration process cannot approaches. Preliminary tests are therefore our laboratory, we create the laboratory filter The filtration cycle is essentially divided into four phases: can drain off freely. Only resistance to the filtrate flow. This means that increases significantly when the filter cake is compressed in the filter press. Since the resistance of a filter cake depends on numerous factors, particles, a filter simply be predicted by theoretical necessary to determine the filter cake resistance. In basics for the best possible filtration on your filter press using presses

# MEMBRANE FILTER PRESS

Membrane filter presses have a great influence on the dryness of the solid by using membrane technology in the filter plates. A flexible, impermeable membrane attached to the carrier body compresses the cake in the chamber after the feeding process is complete.






The membrane technology not only offers the advantage of an extremely high degree of dewatering. Furthermore, the filtration cycle time is additionally reduced, on average by more than 50 percent, depending on the suspension through the membrane filtration. This results in faster cycle and turnaround times, which lead to an increase in productivity

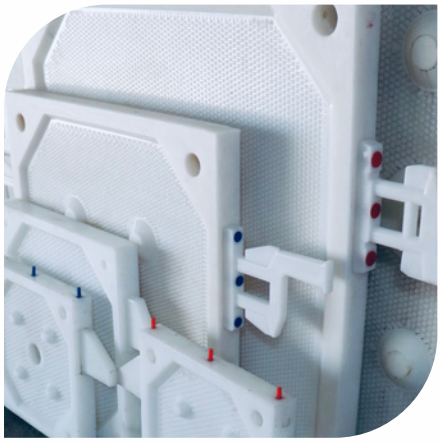
Even with partially filled filter chambers, excellent dry matter results can be achieved thanks to membrane technologies. Even with abrasive media, for example, pump wear is decreased by reduced feeding pressure (6-8 bar depending on the suspension) without affecting the final result. Depending on the degree of dewatering, different dry matter contents(dry matter content percentage by weight of dry material in the filter cake) can be achieved in the filter cake by squeezing with membrane plates. The range of achievable dry matter contents

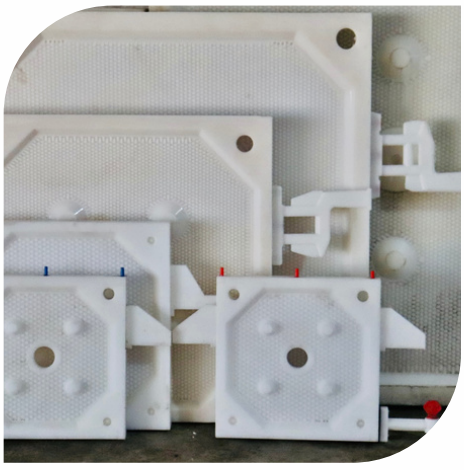
extends from 30 to over 80 percent. In the standard version, squeezing is also carried out on both sides. Depending on the medium to be filtered, there is also the option of only using membrane technology for every second filter plate. The combination of membrane filter plates and chamber filter plates (mixed package) reduces the initial costs and also guarantees excellent filtration results. This type of filter press is called the chamber membrane filter press

## INDIA'S LEADING MANUFACTURER AND SUPPLIER OF

# FILTER PRESS & PLATES

- Multi-well filter plates enable quick and high throughput sample processing.
- Many life science and analytical workflows and applications can make use of filter plates.
- There are several filter options, and specialized membranes and media can fit a variety of applications to ensure success.
- Improved outlet tips: Reduces sample leakage during incubation phases and the presence of hanging drips after filtration.

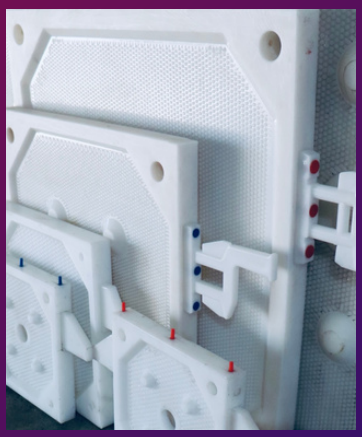




- Consistent filtration times are provided by a well with a smooth design, and sample and bead recovery are both effective.
- Improved well-to-well, plate-to-plate, and lot-to-lot consistency is achieved by optimized well shape, which produces quick, uniform filtration rates across filter plates.
- Compatible with automation - Produced in compliance with SBS standards, enabling plates to be used in manual, semi-automatic, and automated processes.

# CHAMBER AND CGR FILTER PLATE DATA

| SIZE | CAKE THICKNESS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | FILTRATION AREA MTR.2 | | | | CHAMBER VOLUME LITERS | | | |
| | 25 MM | 35 MM | 40 MM | 50 MM | 25 MM | 35 MM | 40 MM | 50 MM |
| 470 MM | 0.32 | 0.34 | 0.36 | - | 3.6 | 4.7 | 5.9 | - |
| 610 MM | 0.57 | 0.6 | 0.63 | - | 6.4 | 9.1 | 10.2 | - |
| 800 MM | 0.96 | 1 | 1.04 | - | 11.3 | 14.8 | 18.6 | - |
| 915 MM | 1.32 | 1.33 | 1.35 | 1.37 | 16.9 | 21.8 | 27 | 33.2 |
| 1000 MM | 1.56 | 1.6 | 1.64 | 1.7 | 18.5 | 24.4 | 30.8 | 39.1 |
| 1200 MM | 2.23 | 2.3 | 2.38 | 2.48 | 24.6 | 34.2 | 41.8 | 54.4 |
| 1500 MM | 3.57 | 3.65 | 3.74 | 3.85 | 41.3 | 55.1 | 68.7 | 87.3 |

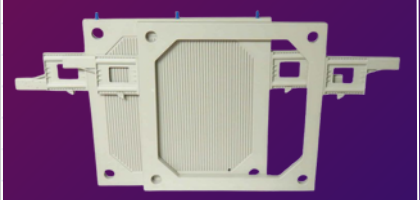


# MEMBRANE FILTER PLATE DATA

| SIZE | CAKE THICKNESS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | FILTRATION AREA MTR.2 | | | | CHAMBER VOLUME LITERS | | | |
| | 25 MM | 35 MM | 40 MM | 50 MM | 25 MM | 35 MM | 40 MM | 50 MM |
| 470 MM | 0.28 | 0.28 | 0.28 | 0.28 | 2.4 | 3.32 | 3.88 | 4.61 |
| 630 MM | 0.54 | 0.54 | 0.54 | 0.54 | 6.1 | 7.4 | 9 | 10.9 |
| 800 MM | 0.98 | 0.98 | 0.98 | 0.98 | 10.4 | 12.4 | 14.9 | 17.8 |
| 1000 MM | 1.56 | 1.56 | 1.56 | 1.56 | 17.5 | 21.6 | 26.4 | 32.2 |
| 1200 MM | 2.29 | 2.29 | 2.29 | 2.29 | 26.3 | 32.6 | 40.1 | 49.1 |
| 1300 MM | 2.74 | 2.74 | 2.74 | 2.74 | 31.6 | 39.4 | 48.6 | 59.7 |
| 1500 MM | 3.65 | 3.65 | 3.65 | 3.65 | 42.9 | 53.8 | 66.5 | 62 |
| 1.5*2.0 MTR | 4.78 | 4.78 | 4.78 | 4.78 | 53.6 | 67 | 82.7 | 101.8 |

# FILTER PLATE AND FRAME DATA

| SIZE | CAKE THICKNESS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | FILTRATION AREA MTR.2 | | | | CHAMBER VOLUME LITERS | | | |
| | 25 MM | 35 MM | 40 MM | 50 MM | 25 MM | 35 MM | 40 MM | 50 MM |
| 470 MM | 0.25 | 0.25 | 0.25 | 0.25 | 6.3 | 8 | 10 | 12.5 |
| 610 MM | 0.48 | 0.48 | 0.48 | 0.48 | 12.1 | 15.5 | 19.4 | 24.2 |
| 915 MM | 1.19 | 1.19 | 1.19 | 1.19 | 14.9 | 19.1 | 23.8 | 29.8 |
| 1000 MM | 1.91 | 1.91 | 1.91 | 1.91 | 24.6 | 31.5 | 39.4 | 49.3 |
| 1200 MM | 2.28 | 2.28 | 2.28 | 2.28 | 28.5 | 36.5 | 45.6 | 57 |
| 1500 MM | 2.62 | 2.62 | 2.62 | 2.62 | 32.9 | 42.1 | 52.6 | 65.7 |



# PLATE SHIFTER

Manual Cake discharge (usually in small Filter press) - After the cake formation is confirmed plate-closing device is opened out and sliding plate is shifted towards free end. Now each plate is shifted towards the sliding plate thus creating sufficient gap between the plates to manually push the cake out.

Reciprocating Shuttle type Shifter - perfectly designed shifting mechanism filter plate manual labor completely. Device automatically shifts one plate at a time towards the sliding filter plate creating enough gap to enable filter cake to fall down by its down weight. Hydraulic or electric motor can be supplied for shifting with total speed control.

Shaking device - Automatic shaking device designed and made to perfection shifts all the filter plate at one time maintaining constant predetermined gap between two adjacent plates. Hydraulic or electric motor group of plates at a time at adjustable frequency and number of revolutions which induces complete and total discharge of filter cake without any person attention.

Plate Shifting Device for Filter Press

## CERAMICS

Clay, Porcelain, Fine earth, Marble and granite

## FOOD AND BEVERAGES INDUSTRIES

Bakers yeast, Beer mash, Beet yeast, Beer and cane sugar,Edible oil & fats, Fruit juices, Gelatine, Margarine, Palm kernel oil,Palm oil Pectin, Rice starch sea weed, Soup mixes, soy sauce, Spices, Apoca, Vegetables proteins, Water preparation, Whiskeys, Wine veast.

## METALLURGICAL INDUSTRY

Alumina, Arsenic, Cobalt, Copper, Ferric hydroxides, Ferrous hydroxides, Gold, iron ore, Manganese, Mercury, Nickel, Platinum. Zinc.

## ENVIRONMENTAL PROCESSES

Coal failings, industrial water, Municipal waste water, Plating industry, Fluegas purification, Battery recycling, Heavy metal precipitation, Hazardous waste sludges.

## INORGANIC COMPOUND

Aluminum hydroxide, aluminum oxide, Barium chloride, Barium hydroxide Calcium carbonate, Calcium hypochlorite, Detergent zeolites, Dyes, industrial Fillers, Lead phosphide, Manganese chloride, Manganese sulfate, Metal chloride, Metal hydroxide, Nickel sulfate, Potassium chloride, Precipitated silica, Silica gels, Sodium Chloride, Sodium hydro sulfite, Sodium sulfate, Sulfuric acid, Titanium dioxide, Zinc chloride

## ORGANIC COMPOUND

Glycerin, Soaps, Steorates (Ca,Al,Zn, Mg), Detergents

## PHARMACEUTICALS

Antibiotics

## MINERAL MINING-INDUSTRIES BENTONITES

Bleaching earth.

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