

PLUS MEMBRANE CHAMBER FILTER PRESS



 **Plus Point**
Engineering

INNOVATION STARTS HERE



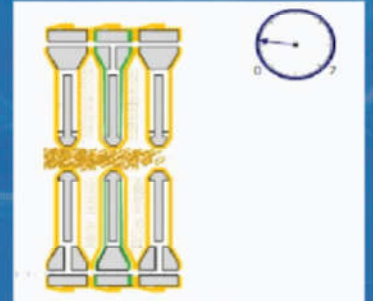
PLUS MEMBRANE CHAMBER FILTER PRESS

A membrane press is identical to a standard chamber filter press except that the chambers which is the area between the plates have membranes to squeeze out excess water from the slurry. Membrane filter press are usually used to achieve the followings:

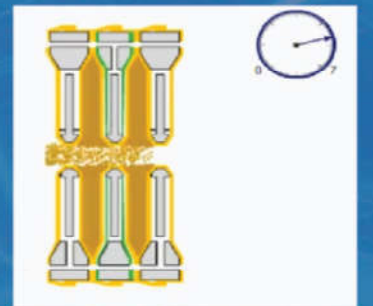
- Maximum dryness of the filter cakes with low residual moisture.
- The range of dry solid contents is at 30% to 60%.
- Maximized filtration volume.
- A reduce in filtration cycle time by 50 %.
- A more uniform cake discharge.

GENERAL PRINCIPLE OF OPERATION FOR PLUS MEMBRANE CHAMBER FILTER PRESS

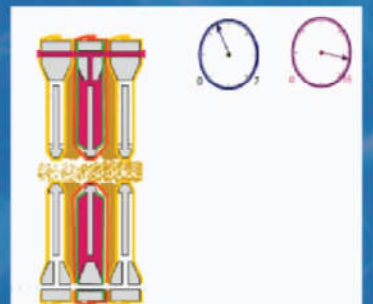
- The filter press consists of a series of membrane & chamber plates.
- Hydraulic force will hold these plates together .
- Slurry is pumped into the filter press under pressure after flushing process.
- All plates are covered with filter cloths.



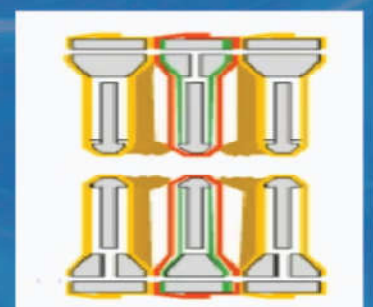
- Filtrate passes through the filter cloth leaving the solids.
- Over a period of time, solids will build up in the membrane chamber forming "filter cakes".
- Filtration will stop depending on the desired filling degree of the particular product.
- Filter cake will contain both liquid and solids.



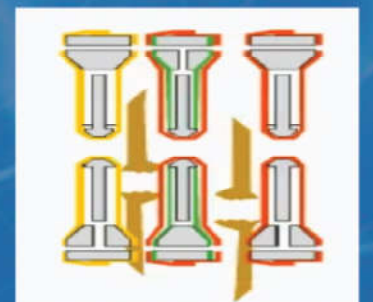
- After that, pre-squeezing & squeezing process will start & membrane plates will be inflated by water from squeezing tank to exert a mechanical force on the filter cakes retained inside the plates.
- The squeezing pressure vary from 6 Bar to 15 Bar.



- Then compressed air will be injected in the opposite end that the filter press is filled in to allow residual slurry to be purged out during core blow step.
- During cake drying step, compressed air is introduced to blow away the residual liquid left in the cake surface.



- After pressure release, drip pan and filter press fully opened, filter cakes are ready to be discharged by using motorized operated plate shifter.



UNIQUE DESIGN OF PLUS AUTOMATIC MEMBRANE CHAMBER FILTER PRESS



Inverter Control in Malaysia for T-Port Valve Membrane for Squeezing Process

For the membrane squeezing system, we have incorporated the frequency inverter control complete with T port valve compared to the conventional squeezing system using only pump without proper pressure regulation.

The advantages of this system include:

- Smooth starting and consistent pressure build up.
- Uniformed and even filter cake squeezing.
- Smooth acceleration & deceleration time.
- Able to manage torque in relation to the needs of applied loads.
- Generate outputs to synchronize speed in forms of 4-20mA.
- Uniformed cake discharge result for every cycle.

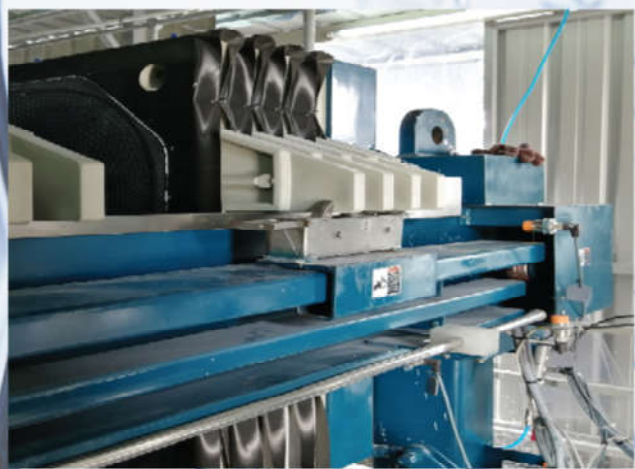




Motorized Plate Shifter for Cake Discharging in Malaysia

Conventional methods using hydraulically operated plate shifter are usually not so reliable as the plate shifter tends to jerk and break down as it operates using pressure differential which is also harmful to the filter plate handles. For the latest invention, we have designed the motorized operated plate shifter with the advantages as below:

- Speed control.
- Smooth and quiet forward and reverse operations.
- Ramp up and ramp down features for smooth stop and startup.
- Easy trouble shooting and maintenance
- Protects the filter plate handles from breaking due to over pressure.



Motorized Drip Tray

The motorized drip tray is an automated step forward from conventional drip tray. It consist two drip trays known as "Bomb Doors" which performs automated movement before and after the feeding process. The advantages are as follows:

- Automated process will save time and personnel costs.
- Any drippings of filtrate will be collected by the two trays and flow into filtrate tray at the side.
- Act as a chute during filter cake discharge when drip trays are in the open position.
- Consistent performance compared to the hydraulically or pneumatically operated type.



ADVANTAGES OF PLUS MEMBRANE CHAMBER FILTER PRESS

- Fast return in terms of investment cost.
- Produce drier filter cake with low moisture.
- Shorter filtration time.
- Using water as a medium during squeezing for more uniform cake and safer operation.

APPLICATIONS OF PLUS MEMBRANE CHAMBER FILTER PRESS

Process and Production

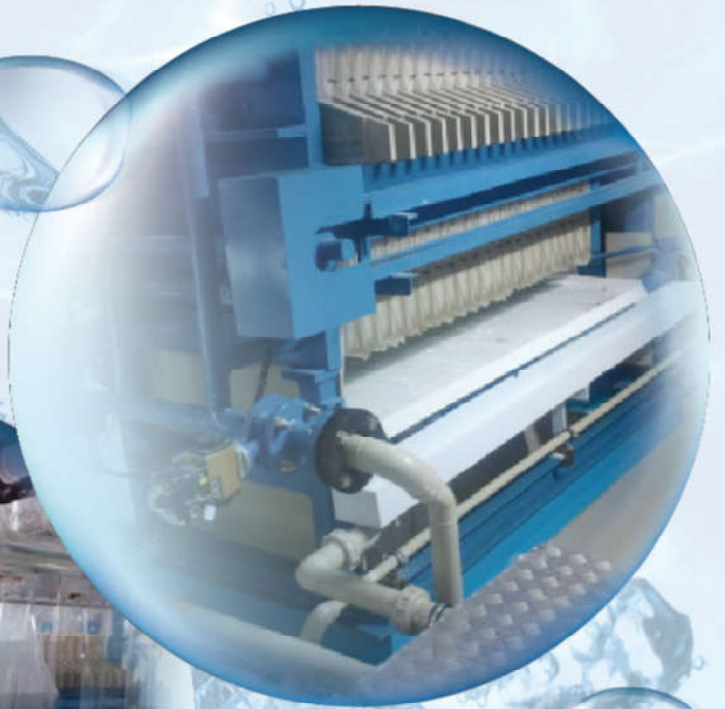


Industrial Waste Water Treatment Plant



TRACK RECORD OVERVIEW IN MALAYSIA

Semiconductor Waste Water Treatment Plant



Rubber Plant Waste Water Treatment



Palm Oil Mill Effluent



Electronic Waste Water Treatment Plant



The Process and Production of Clay



Heavy Metal Slurry WasteWater Treatment Plant



Chemical Waste Water Treatment Plant



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