



*Leader in side-bar filter press*

**Fully Automatic High Performance Filter Press**

**Vacuum Drying Filter Press**

**Double-Membrane Filter Press**

## **PASSAL side-bar filter press**

- Vacuum drying filter press.
- Double membrane filter press.

PASSAL Group was established in 1979, We focus on the liquid-Solid Separation, Washing, dehydrating and drying for the chemical process, environmental engineering, water treatment, grinding fluid recycled, and food process...etc.

PASSAL had supplied near 400 set filter presses for semiconductor, solar industry, display industry, chemical industry and municipal at recent years.

PASSAL owener a support services team for laboratory and pilot test services, preventative maintenance services and aftermarket services.

We do our best services for suit your need.

## **QMS**

ISO-9001-2000 certified



## INNOVATION & EFFICIENCY & SAFETY & SERVICE

Our technical Department develop the best solution to improve the operation problem. The innovation system include auto Cake discharge, double membrane plate, auto drip trays, auto backwashing system, Vacuum drying system, Cake washing system...etc. According to the customer requirement performance, operation cost and maintenance, Our technical designer will suggest a effective process, and equipment selection for customer application.

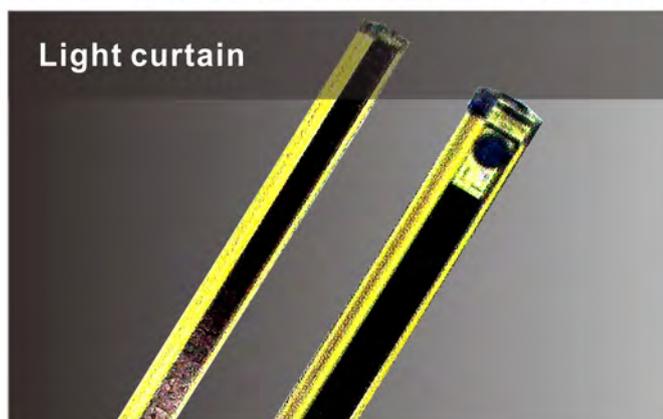
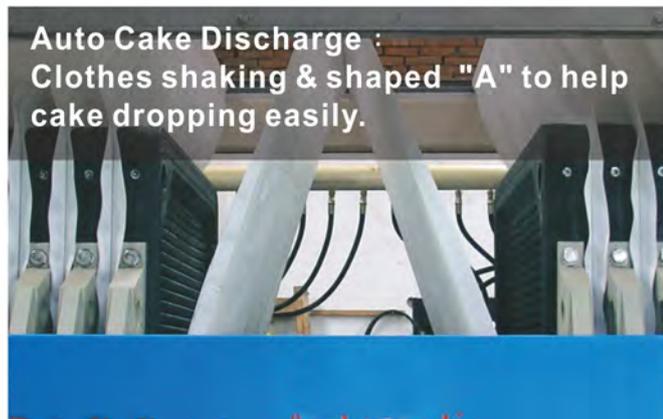
The Safety System include light curtain, splash curtain and emergency stop wire and button..etc. It's provide by customer requirement.

### PASSAL provide the service as bellow:

- |                                       |                        |
|---------------------------------------|------------------------|
| (1) Laboratory and pilot test.        | (4) Training           |
| (2) Preventative maintenance service. | (5) Emergency support  |
| (3) After marketing service.          | (6) Spare parts supply |

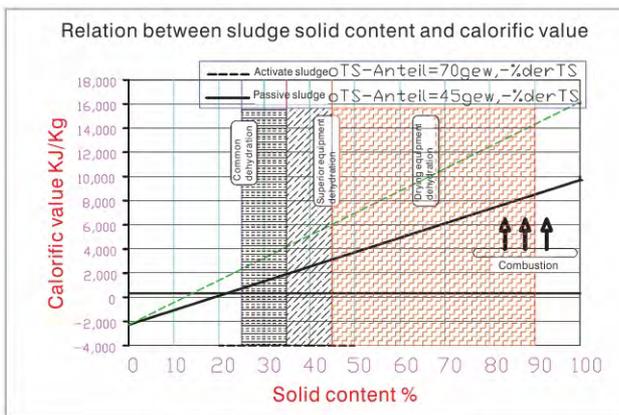
**Service call:** +886 3 3132846 , **email:** server@passal.com ; laida@passal.com

**Please visit our website to get more information:** <http://www.passal.com>

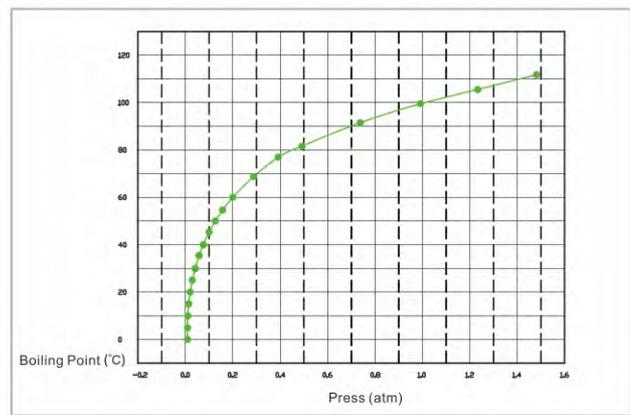


## VACUUM DRYING

Steam or hot water is used in plate to make the water (that is left in the sludge cake) vaporized by indirectly heating, and the vacuum pump is used to let out the water vaporized and free water in filtered cake completely. Through heat exchanger, it condenses into water to let off. Naturally, the filter chamber must be kept in a minus pressure 500mmHg (at this moment, corresponding water boiling point is about 70°C). Wait until water in the sludge cake is vaporized and let off completely. Then filter plates are automatically open, dried cake falls on the conveyer belt to be packed in P.P. bag or cake hopper. Fully automatically operates.



Calorific value introduction



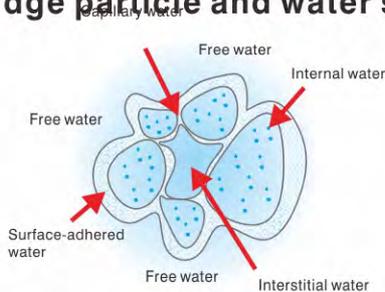
Relation between boiling point and pressure

## VACUUM DRYING FILTER PRESS

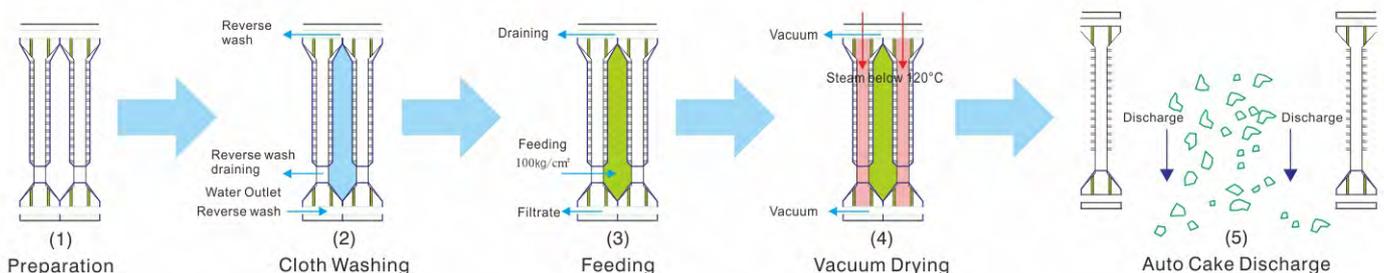
- Three in One: Dehydrating + Vacuum + Drying
- Water Content from 99% to 15%
- Recycled steam with 2~3kg / cm<sup>2</sup> is available.
- Lowest operation cost
- No secondary pollutants



### Sludge particle and water structure

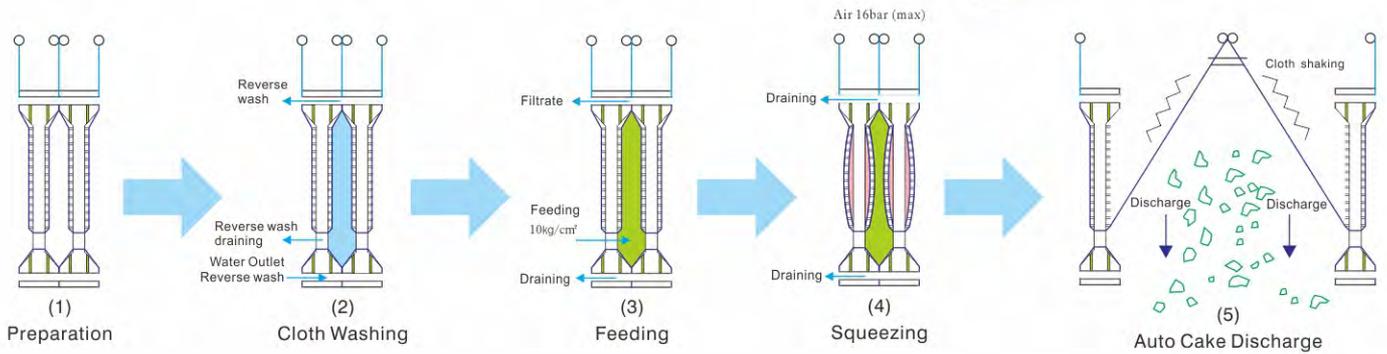


- Free water: may be removed by settling and gravity drainage
- Capillary water and interstitial water: must be removed by centrifugation or pressurization
- Internal water: has solid structures and must be removed by blow-drying or heating.



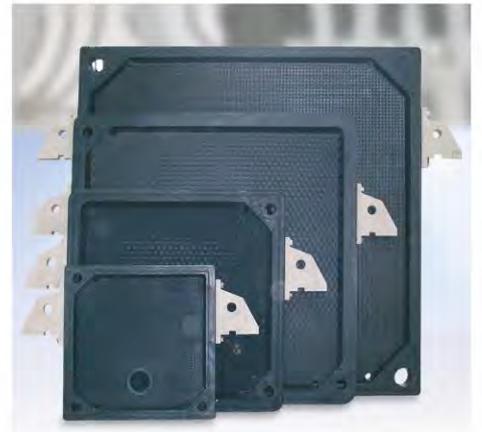
# FULLY-AUTO DOUBLE-MEMBRANE FILTER PRESS

- Fully-Auto: PLC + Human Machine Interface
- Auto cake discharge system + cloth-back-wash system
- Water Content in product: 30% ~ 60%
- High-Pressure feeding: 8-12kg / cm<sup>2</sup>
- Membrane secondary compression: 12-16kg / cm<sup>2</sup>



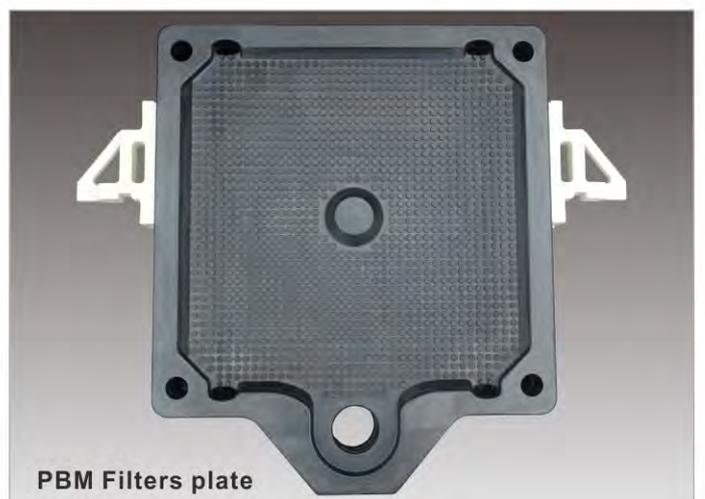
## DOUBLE-MEMBRANE PLATE SPECIFICATION

1. Material : Rubber Lining
2. Type : Double - membrane Type
3. Pressure of design base : 16bar (MAX)
4. Plate could be made from different rubbers according to various usages.



### Filters Plate Specification :

1. 630mmx 630mm
2. 930mmx 930mm
3. 1250mmx1250mm
4. 1550mmx1550mm



# CUSTOMER DESIGN



Auto Cloth Back - Washing System : Close, Backward washing cloth as well as feeding pipe in one time.



Auto Cake Discharge : Clothes shaking & shaped "A" to help cake dropping easily.



Cylinder motion type plate: Sludge falls directly, facilitates cleans up and takes away, the working environment is clean and neat.



Drying & Cooling System



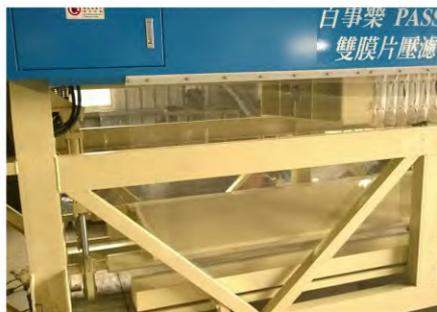
PLC Auto Control System



Touch Screen Human Machine Interface : Easy to understand & operate.



Feeding Pressure : below 12bar



Double-cylinder flipped plate



Removable protection-lens design



Feeding piping



Frame fabrication



Transport



## APPLICATIONS

### (1) Wastewater Treatment Sludge dewatering & drying:

Municipal domestic wastewater, city water treatment plants, industrial zone wastewater plants, semiconductor, solar industry, LED LCD, chemical, steel, leather, paper, mining, port and lakes and reservoirs silt.

### (2) Agricultural food processing and pharmaceutical industry:

Wine, distillers grains, yeast, soy, protein, malt extract, amino acids, pectin fruit juice, edible oil, palm oil, palm kernel kernel oil, blood products, margarine, antibiotics, beet sugar, sugar, refined sugar syrup, sugar, glycerin, enzymes, pharmaceutical intermediates, medicine, pharmaceutical raw materials, intermediates, pesticides, agar gelatin, various types of starch, concentrated soup and so on.

### (3) The metal and chemical industries:

Titanium dioxide, sodium hydroxide, magnesium hydroxide, chromium hydroxide, chloride, cyanide, aluminum phosphide, iron hydroxide, sodium sulfate, manganese sulfate, nickel sulfate, electrolytic zinc, copper silicate, zinc oxide, manganese, arsenic, potassium chloride, calcium hypochlorite, manganese, sodium, barium, nickel, zinc, manganese, mercury, cobalt, uranium, iron sands, industrial sand, gold mine tailings.

### (4) Auxiliary chemicals and other chemical substances:

Cutting and grinding fluid recovery, recycling waste acid, pigment, dye, white carbon, calcium fluoride, calcium carbonate, gypsum, acid clay, bentonite, ceramics, white clay, green clay, amine salts, salts of mud, the tail coal, coal, chemical fillers, additives, catalysts, soap, carbide slag, stearin, rayon viscose.

*A clean Earth  
for future generations*



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Dealer