



# CHI-SHUN



## **FILTER PRESSES**

## **OPERATION and MAINTENANCE MANUAL**

**CHI SHUN Machinery Plant Co., Ltd.**

Tel : +886-6-2392501      Fax : +886-6-2391759

No.306, Dashun St., Gueiren District, Tainan City 711, Taiwan

E-mail : [chishun.com@msa.hinet.net](mailto:chishun.com@msa.hinet.net)    <http://www.chishun.com.tw>

**Please read this manual carefully before operation**

***Contents of This INSTRUCTION***

● **Chapter 1 : Introduction**

Introduces the features, procedures for treatment and construction of the Filter Presses

● **Chapter 2 : Preparation**

Describes how to prepare before operate.

● **Chapter 3 : Operation Procedure**

Describes how to using the Filter Presses.

● **Chapter 4 : Maintaining**

Describes routine maintenance.

● **Chapter 5 : Troubleshooting**

Explains in detail what to do when problems occur with the Filter Presses. Refer to this section if you encounter a problem.

● **Chapter 6 : Lubrication**

Lubrication Suggestion

● **Chapter 7 : Contact Us**

Please feel free to contact us if you need any help.

<b><i>INDEX</i></b>	<b>PAGE</b>
<hr/>	
<b>1. Introduction</b>	
1.1 Introduction.....	5
1.2 Flow Sheet.....	7
1.3 Specification of Filter Presses.....	9
 <b>2. Preparation</b>	
2.1 Preparation Check.....	10
 <b>3. Operation Procedure</b>	
3.1 Operation Procedure.....	11
3.2 Stop Procedure.....	13
3.3 Emergency Stop.....	14
 <b>4. Maintenance</b>	
4.1 Periodic Inspection.....	15
4.2 Maintenance and Adjust.....	16

**5. Abnormal Remove**

- 5.1 Filter Cloths are Obstructed.....17
- 5.2 Poor coming off of sludge cake.....17
- 5.3 Flowing out of sludge from two side.....17
- 5.4 Air control unit.....18

**6. Lubrication.....19****7. Contact Us.....20**

## **1.1 Introduction**

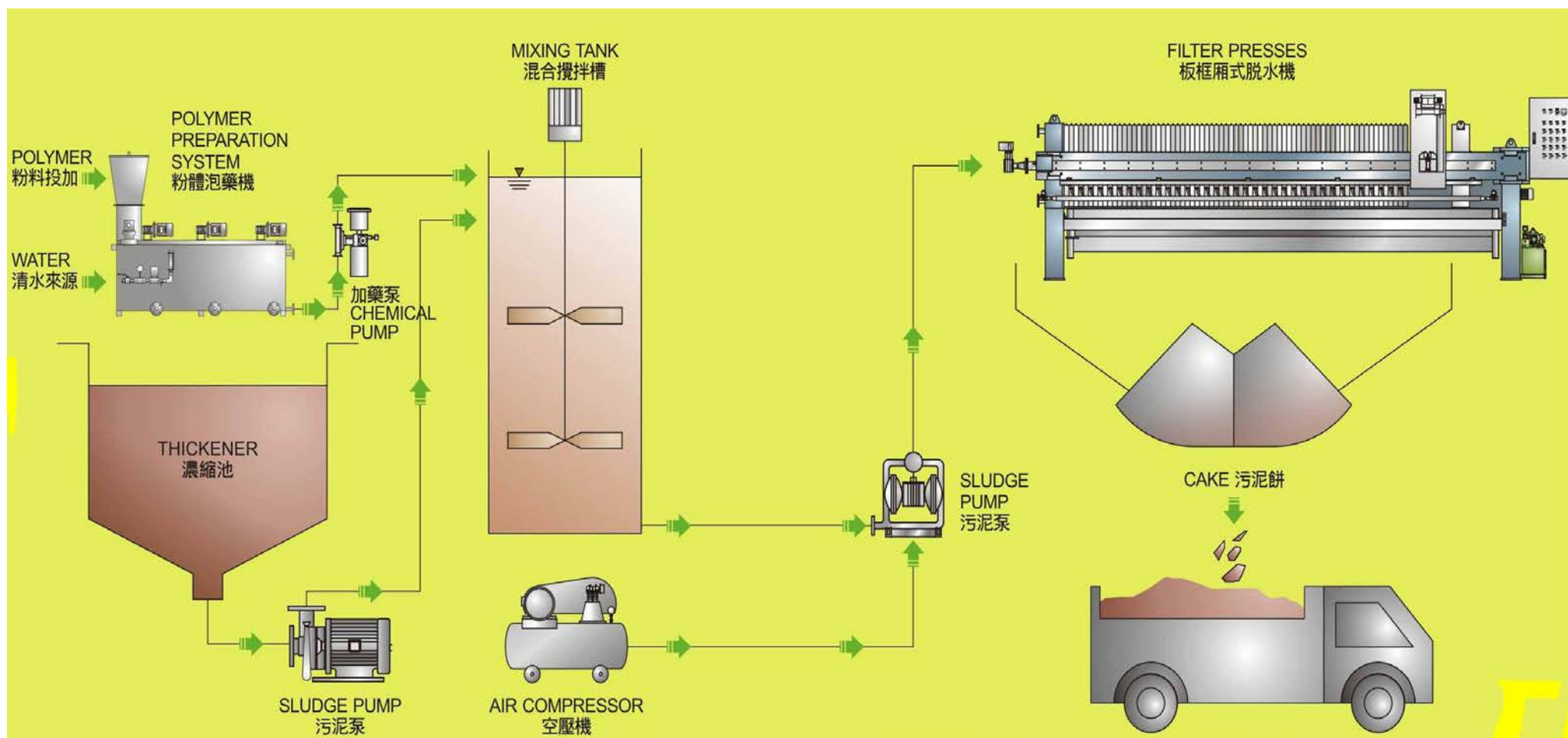
The all new high pressure and high performance Filter Press of CHI SHUN Machinery Plant Co., Ltd. is suitable for dewatering of wide range of sludge in various municipal and industrial waste water: food processing, leather, metals, electroplating, paper mill, dyeing and so on. The CHI SHUN Filter Presses is a continuously operating unit; we offer a wide assortment of CHI SHUN Filter Presses, plate size from 470\*470 to 2000\*2000 mm. We adopt all of the latest technologies capable of improving the reliability and quality, with special attention to operator safety.

The CHI SHUN filter presses are designed to be as user friendly as possible, where maintenance requirements are diminished to minimum level by using high quality components and long term know-how on filter presses operations. The CHI SHUN filter presses are manufactured with high quality corrosion resistant materials.

The frame construction are made of heavy duty steel and also other parts which are in touch with liquid are made of non corrosive materials such as PP, PES and SUS 304 material. The components which are supplied by sub suppliers are high standard and manufactured by well known manufactures.

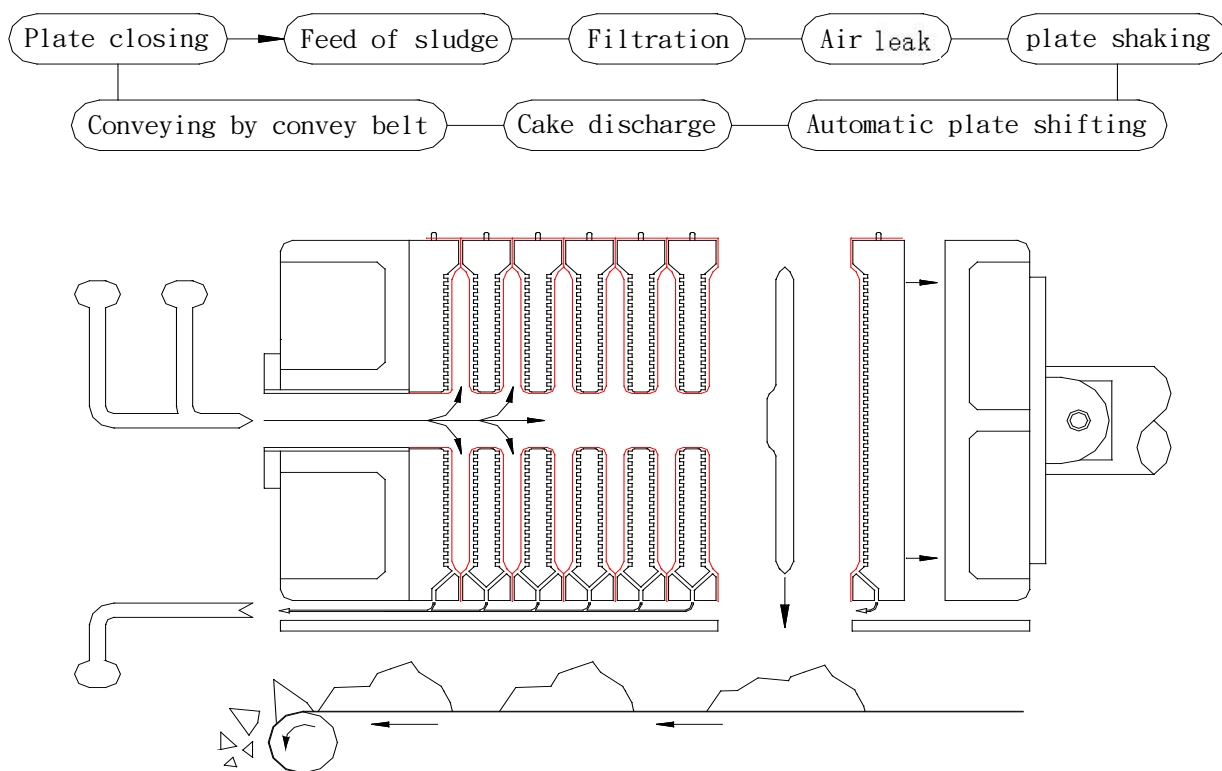
In order to achieve the optimal performance of the high-performance Filter Presses, the instructions should be read carefully before operation, and the equipment should be operated and maintained according to the mechanical principles, operational procedure, maintenance requirements, and troubleshooting described in the manual of operation and maintenance.

## 1.2 Flow Sheet



## 1.3 Specification of Filter Presses

### ACS - TYPE



MODEL	□ 800							□ 1000					□ 1200			□ 1500			□ 2000		
Pieces	20	25	30	35	40	50	60	40	50	60	70	80	60	70	80	60	70	80	60	70	80
Volume (L/cycle)	304	384	464	544	624	784	944	1053	1323	1593	1863	2133	2360	2760	3160	3835	4485	5135	7021	8211	9401
Filter Area (m2/cycle)	20.9	26.4	31.9	37.4	42.9	53.9	64.9	66.3	83.3	100.3	117.3	134.3	147.5	172.5	197.5	224.2	262.2	300.2	407.1	476.1	545.1



## **2.1 Preparation Check**

Please read carefully this manual for operation and maintenance and understand operation procedure, mechanical maintenance and individual parts.

**Follow these steps before operate CHI -SHUN Filter Presses :**

- (a) Check if the Filter Press Machine and its parts are in perfect condition.
- (b) Remove foreign objects from filter cloths , plates , and the Filter Press Machine.
- (c) Check if chemical liquid and the supply of liquid are in normal condition.
- (d) Check decompression valve is in OFF position.
- (e) Check the level of motor oil on oil tank.
- (f) Check the air compressor and air control unit.
- (g) Check if the supply of washing water , polymer, sludge , and air are normal.

### **3.1 Operation Procedure**

1. Open control panel and turn on all NFB switch in the control box, then close control panel. Turn the power switch to "on" position, the white indicator will light. At this time, the machine table is ready to operate.
2. Turn "Air Compressor" to "ON" position.  
For operation of the machine, the compressor must be turned on first, At this time, the compressor begins to send wind and increase pressure.  
Start the subsequent steps after a specific pressure is reached. For safety of the machine itself, the machine is designed to lock all subsequent operation if the compressor is not turned on or do not reach require pressure.
3. Setting sludge pump running time. According sludge character to set sludge pump running time.
4. After completing the above procedures, you may start to operate the filter presses. Turn "FILTER PLATE" to "PRESS" position.  
( Please check pressure gauge have reach 170~180 kg/cm<sup>2</sup> )

5. Turn "SLUDGE PUMP" to on position.  
The sludge pump will stop running after reach sludge pump setting time.
6. Turn decompression valve to "OPEN" position and wait about 5~10 seconds then turn decompression valve to "OFF" position.
7. Turn "FILTER PLATE" to "LOOSEN" position.
8. Open Filter plate by manual.
9. Remove sludge cake.
10. Washing filter cloths by manual.
11. If the operator must leave the spot or it is time to leave office, and it is not necessary to dispose the sludge, please make sure to turn off the power switch for safety purpose.
12. If the control box must be opened for inspection, be sure to turn off the NFB in the main switch first and then turned it left to open the door of the control box in order to ensure the safety of all personnel. In case it is necessary to open the control box for inspection without turning off the power switch. It is possible to open the door of the control box under a non-interruption status. However, it is suggested to conduct the inspection by a trained electrician for safety purpose.

### **3.2 Stop Procedure**

1. Turn off the sludge pump.
2. Turn decompression valve to "OPEN" position and wait about 5~10 seconds then turn decompression valve to "OFF" position.
3. Turn " FILTER PLATE" to "LOOSEN" position
4. Open filter plate by manual.
5. Remove sludge cake
6. Washing filter cloths. (suggest use high pressure washing)

### **3.3 Emergency Stop**

The Filter Presses are equipped with emergency stop button. During operation of the machine, if abnormal condition happened, press the EMERGENCY STOP button on control panel to stop the machine forcedly. If you would like to re-start the machine, please rotate the switch by following the arrow direction to raise up the button, then the machine can start running again.

## 4.1 Periodic Inspection

**Your Filter Press requires routine maintenance to keep your machine in good operating. Be careful when cleaning the Filter Press.**

Inspection Item	Important Tasks	Period
Oil tank and motor	Smooth Running	Daily
Filter plates	Cleaning	Daily
Filter cloths	Whether there is an obstruction. If yes, remove of obstruction.	Daily
Air compressor	Output pressure	Daily
Air Control Unit	Oil Injection	Daily
Limiting Switch	Cleaning and Test.	Daily
Washing Pump	Output of pressure	Daily
Diaphragm Pump	Good running conditions	Daily
Chemical Pump	Whether there is obstruction	Daily
Machine Mainframe	Cleaning	Daily

## 4.2 Maintenance and Adjust

Item	Maintenance and Adjust
Hydraulic tank and motor	<ul style="list-style-type: none"><li>* Ensure that the motor is sufficiently cooled with good ventilation from the fan side.</li><li>* Check the oil level through the sight glass. Refill new oil if oil is low.</li><li>* The unit should be put into service gradually; do not apply the maximum load immediately.</li></ul>
Filter plates	<ul style="list-style-type: none"><li>* Remove sludge that on the scraper after stop filter press. Please replace new plate when it is broken.</li></ul>
Air Control Unit	<ul style="list-style-type: none"><li>* Keep the lubricator in safe level to protect air cylinders, mechanical valve and limit switch.</li></ul>
Filter clothes are obstructed	<ul style="list-style-type: none"><li>* Please use high pressure spray to wash filter cloth when the washing system can not clean cloths.</li><li>* Replace new filter cloth when high pressure spray can not clean the filter cloth.</li></ul>

## **5.1 Filter cloths are obstructed**

- (a) Check whether the pump for washing water is normal.
- (b) Check whether the washing device is normal, whether there is obstruction.
- (c) Check the condition of mixing tank.  
(Sludge and chemical liquid)
- (d) Check using life of filter cloths.

## **5.2 Poor coming off of sludge cakes**

- (a) Check if the filter cloths were obstructed.
- (b) Poor chemical feeding conditions, correct sludge and chemical liquid.
- (c) Check diaphragm pump running condition.
- (d) Check there is no obstructed of water discharge pipe

## **5.3 Flowing out of sludge from two side**

- (a) Check if the filter cloths were obstructed.
- (b) Check filter plates are normal no broken or deform.
- (c) Oil pressure gauge maintain at 170~180 kg/cm<sup>2</sup> when cylinder is pressing.



## **5.4 Air control unit**

1. Units as standard are self-relieving.
2. Spring-loaded piston-type units feature a balanced valve for superior regulation characteristics.
3. Turning adjusting knob clockwise to increase pressure and turn counter-clockwise to decrease pressure.
4. Contaminants collected in the bowl can then be easily drained through the standard semi-automatic drain.
5. Oil is injected into the mist generator by allowing some of the incoming air to pass through the bowl pressure control valve and down into the bowl where it forces oil up into the siphon tube. The oil then passes by the adjustment screw, which meters the amount of oil that can flow to the drip tube and down onto the mist generator.

## **6. Lubrication**

- (a) Oil tank → Shell tellus 68 ( Circulation oil )
- (b) Air control unit → Shell tellus 32

**Please feel free to contact us if you need any help.**

**CHI-SHUN MACHINERY PLANT CO., LTD.**

TEL : 886-6-2392501

FAX : 886-6-2391759

Address : No. 306, Dashun Street, Gueiren District,  
Tainan City 71148, Taiwan

E-mail : [chishun.com@msa.hinet.net](mailto:chishun.com@msa.hinet.net)

[http : //www.chishun.com.tw](http://www.chishun.com.tw)