

# Twin Screw Palm Fruit Oil Press Manual

**warning!** Before using the oil press, you must read the instruction manual carefully and be familiar with the performance characteristics and operation methods of the machine.

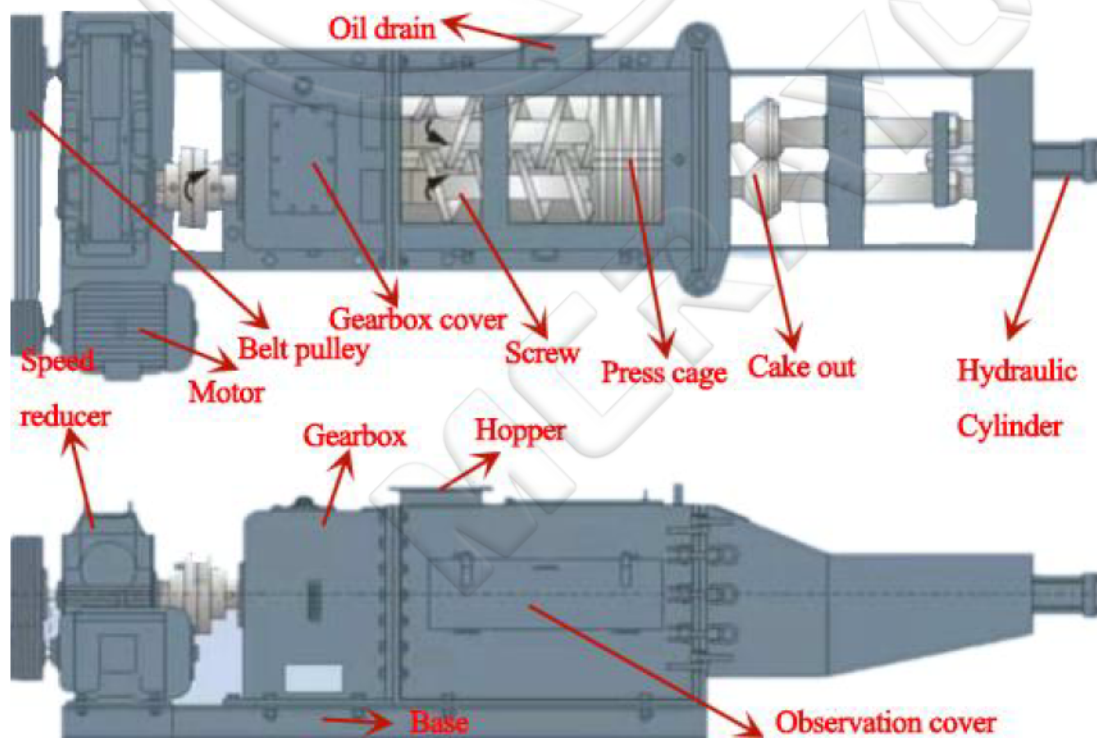
## General parameters

- (1) Squeeze shaft speed 35-45 rpm
- (2) The basic speed ratio of the reducer is 40:1

## Other parameters

Model	Capacity (t/h)	Power (kw)	Crude oil loss	Size (mm)
YS-1.0	1.0-1.2	4/5.5+1.1	< 0.3%	1800*850*650
YS-3.0	3.0-4.0	7.5+1.5	<0.2%	1950*870*680
YS-5.0	5.0-6.0	11+2.2	<0.2%	2150*950*870

## Structure diagram



## **Working principle**

This product utilizes the space volume change from large to small in the press chamber and the propulsion force of the screw shaft. Under the adjustment of the pressure regulating mechanism, the oil is separated from the material embryo and discharged from the gap of the press cage. A mixture of fibers and cores is extruded from one side.

## **Machine installation**

- (1) When there is a special channel steel base, it is only necessary to firmly connect the oil press, electric motor/diesel engine and the channel steel base with screws.
- (2) When there is no special channel steel base, the oil press, motor/diesel engine must be firmly installed on the cement foundation with anchor bolts, and the level needs to be corrected. The foundation is 400 mm deep, 100 mm above the ground, and the depth of the anchor bolt holes is not less than 200 mm. V-belt transmission is adopted, and the V-belts used are B-type (3 pieces)
- (3) After the oil press is installed, add lubricating oil according to the regulations to check whether the parts are fastened.
- (4) Move the large V-belt pulley by hand to make the machine rotate, check whether the moving parts are normal and whether there is any foreign matter jamming in the press chamber. If it is not normal, it should be ruled out.

## **Machine debugging**

Requirements for oil pretreatment

1. The oil should be pretreated before entering the oil press. The quality of the pretreatment directly affects the life of the machine, the quality of the oil and the oil yield.
2. Fresh palm fruit contains about 20% water, which needs to be fermented, crushed and then pressed, or can be dehydrated and directly pre-pressed (consult the engineer of our company for the specific process).

## **Detection before starting up**

1. After installing the body and accessories, check all fastening screws or bolts;
2. For the hydraulic oil injected into the hydraulic tank and the No. 40 engine oil filled by the reducer, the oil level should be in the middle of the oil sight window, and should not be lower than the lowest level.
3. Start the motor, carry out the idling test machine of the oil press, and check whether the rotation direction of the V-belt pulley is correct. Generally run for about 10-20 minutes, pay attention to observe the sound of the oil press during operation, if any abnormal phenomenon is found, stop the machine for inspection and eliminate it.
4. Adjustment of the pressure mechanism: follow the principle of adjusting the pressure from small to large, and slowly pressurize and depressurize the test.
5. The machine is connected to a three-phase four-wire power supply. After the power is turned on, the main shaft should rotate clockwise. No matter what the situation is, the machine must have a good grounding device, otherwise it cannot be turned on.

## **Official commissioning**

### 1. Grinding of machine press chamber

1.1 After the installation of the new oil press, run in the new machine for 3-7 hours. The method is to slowly feed the cake material that has been squeezed out of the oil from the hopper, and press it back and forth repeatedly to polish the press chamber. The material is directly poured into the hopper, and it is advisable to feed it by hand to prevent the screw shaft from being stuck.

1.2 If the feeding is too strong, there is abnormal noise in the press chamber or the screw shaft of the press is stuck, stop the machine immediately to eliminate the obstruction, or restart the press after reassembly, and forced operation is strictly prohibited.

### 2. Feeding debugging

2.1 Start with the minimum pressure, make the slag cone exit, start the machine, pour in the processed palm fruit, see that the palm fruit is smoothly discharged from the slag cone, slowly turn the pressure wheel to make the slag cone advance, gradually increase The pressure of the slag discharge cone on the palm fruit in the sieve cage starts to produce oil. The distance between the slag discharge cone and the sieve cage is determined by the smooth discharge of slag and the satisfactory oil content of the oil residue.

2.2 Adjust and adjust at any time according to the residual oil of the discharged core and fiber mixture.

2.3 During normal oil extraction, it is necessary to keep the feed evenly, and do not have too much or too little rhythm or idling when the material is cut off. At this time, the load of the machine is normal, the operation is stable, and the noise is generally not loud. Suihua oil press produces cakes smoothly, basically no slag in the low-pressure section, and a small amount of oil residue in the high-pressure section, and the proportion of the slag output in the oil should not exceed 5%.

2.4 When the continuous working time is long and the machine temperature is too high, the heating can be temporarily turned off, and cooling measures such as fan blowing can also be taken.

2.5 Downtime. Before shutting down, stop feeding first, then put in a small amount of cake crumbs, wait until the remaining material in the press chamber is exhausted, and the cake can no longer be shut down from the cake outlet. After shutting down, unscrew the pressing shaft clockwise for 1-3 turns, and then disconnect the power supply.

## **Precautions**

1. Check the fastening bolts once a day;

2. Observe the oil level of the reducer once a day to ensure the oil level. After the new machine has been running for 10 days, drain all the engine oil and rinse it with diesel oil. After it dries up, add new engine oil; after that, replace the engine oil every six months;

3. Every time the machine is restarted, it must be carried out as described in "Four. Operation", and the pressure wheel is strictly prohibited to push the cone forward quickly;

4. When disassembling the pressing shaft, first reset the pressure to zero, and slowly pull out the pressing shaft. Be careful not to hit it hard with a hammer, so as not to damage the reducer.

5. In order to ensure that the palm fruit oil press is always in working condition and prolong the service life of the machine, the machine should be regularly maintained, maintained, lubricated and adjusted.

### Troubleshooting

Malfunction	Reason	Solution
Squeeze shaft stops turning suddenly (i.e. stuck, shut down)	① A large amount of material is fed without grinding to let the press chamber warm up	① When oil cake came out, then feeding
	② The oil cake is too dry when grinding in	② Increase the moisture content of dry oil cake
	③ The thickness of the oil cake is too thin, and the pressure of the pressing chamber increases	③ Adjust the pressure to increase the thickness of the cake
	④ Hard matter mixed with oil into the press chamber	④ Turn off the power, pull out the press shaft, and clean the press chamber
Oil came out unusual	① The working surface of the newly replaced screw shaft is not smooth	① Add water (about 10%) with dried oil cake then slowly add to the press chamber to press, run it until it is smooth
	② Oil is accumulated in the press chamber, and the oil is mixed with the material	② Add a small amount of dry cake and press together, and when refeeding, it should be from less to more, should not be too much
	③ The place where the oil comes out of the press ring is blocked, and the oil discharge is not smooth	③ Take off the press ring, soak it in hot water for tens of minutes, and clean it with a wire brush
	④ The oil content of the raw material is too high, and the original oil drainage channels are too few	④ Replace the corresponding squeeze ring
	⑤ When using hot pressing, the water content of raw materials is too low	⑤ Ensure that the material has a suitable moisture content
	⑥ The material has high hardness without crushing	⑥ sterilized and mashed
Oil cake came out unusual	① Moisture is too low when entering the press	① Increase moisture (add water)
	② Moisture is too high when entering the press	② Reduce moisture (drying)
	③ The material has high hardness without crushing	③ Mash after fermenting
Oil flows out at the bottom of the feed (return oil)	① Squeeze ring reverse	① Correctly install the squeeze ring
	② The oil groove of the pressing ring is shallow, and the oil is not smoothly	② Place the squeeze ring with deep oil groove in front of 4# squeeze ring
	③ The oil cake is adjusted too thin	③ Enlarge the gap between the cake and increase the thickness of the cake
	④ The raw material contains too much oil, and the oil cannot be discharged in time	④ Replace the parts, choose the press ring and press bar for pressing high oil content oil

		materials
	⑤ oil groove clogged	⑤ poke through oil groove
	Squeeze shaft reverse	Adjust the direction of rotation
Dried cake with oil stains	① Too much moisture in the raw material	① Grinding with dry cake mixed a little water, polishing the worm and squeezed rings
	② Press chamber temperature is too low	② grinding-in heating up
	③ The worm and pressing ring are not smooth, and the feeding is not smooth	③ Increase the thickness of the cake
	④ worm has been worn	④ change new worm
	⑤ pressing so many times	⑤ use hot press
Low capacity	① The worm and pressing ring are not smooth	① Grinding with dry cake mixed a little water, polishing the worm and squeezed rings
	② Too much moisture in the raw material	② lower the moisture
	③ oil cake too thin	③ Increase the thickness of the cake
	④ worm has been worn	④ change new worm
	⑤ pressing so many times	⑤ use hot press
More nuclear fragmentation	too much stress	Adjust stress
	Material is too dry	Add some water
	Low temperature	Increase temperature
	Material too hard	Sterilized and mashed
Serious slag	① Press ring oil groove is too deep	① Adjust the hole position of the press ring
	② Excessive chamber pressure	② turn down the pressure
	③ Squeeze ring is not compressed	③ compress pressing ring
	④ pressing so many times	④ Reduce the number of presses
	⑤ Parts wear	⑤ replace with new parts
	⑥ material is too dry	⑥ Increase the water content of materials
Squeeze ring rupture	① Sudden overfeeding when starting up	① The material should be lowered slowly, and the feeding amount should be increased after the material is conveyed smoothly and the cake is out.
	② Metal objects enter the press chamber	② Carefully select raw materials
	③ The oil cake is too dry when running in	③ Add some water in oil cake
	④ The gap between the cake adjusting head and the cake output ring is too small, and the material is forced to feed	④ Increase the gap between cakes
	⑤ There are too many times of pressing, and no water is added to the embryo	⑤ Increase the moisture content of the raw material and reduce the pressure of the press chamber

	⑥ Residual cakes in the press chamber have not been cleaned and start to be fed in large quantities.榨	⑥ It should be cleaned before restarting
Rack damage	① When the squeezing shaft is stuck, forcefully reverse	① It is strictly forbidden for non-professionals to reverse the shaft without being in front of them
	② When the pressing shaft is stuck, manpower forcibly reverses the large V-belt pulley	② It is forbidden for multiple people to forcefully reverse the large V-belt pulley
Shaft broken	① Too much feed when starting up	① Slowly feed the material, and increase the feeding amount after the material is conveyed smoothly and the cake is out
	② turned too tightly	② Pressure system reduces pressure

### Hydraulic system wiring method

## 380V接线方法

