

BATCH COOKER MANUAL



CONNECT RENDERING EQUIPMENT MANUFACTURE PLANT

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Batch Cooker Instructions

LYD type high temperature batch cooker, is innovated and developed as a new poultry and animal waste harmless processing equipment, according to more than 20 years experience of our company.

一、Characteristic

- 1、 This equipment have advantages of compact system, Smooth transmission, low noise, Easy installation, Easy maintenance, Reliable operation, Energy savings, etc.
- 2、 This equipment is using the most advanced modular sealing structure, with a high wear resistance and sealing, meanwhile, has the characteristic of High temperature, can resist the erosion of various types of chemicals.
- 3、 The machine uses a chain drive coupling power transmission structure, has the characteristic of Smooth transmission, vibration, wear, etc.
- 4、 The machine uses inflatable rotor shaft to accelerate the heat transfer between the body and the material greatly improves the work efficiency.

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二、 Principle of Operation

After raw materials hydrolysis in the tank for 30 minutes, Stamp the seal to make temperature reach 130 degrees in order to kill the E., and break the keratin molecules, keep the working pressure for 15 minutes when it reaches 0.3mpa, discharge vapor in the tank. Heating was continued for 20 minutes, then the discharge spout into the dryer for drying, Cooled and crushed into powder. so it becomes, protein content > 80%, moisture < 10%, tawny hydrolyzed feather meal.

三、 Scope

All kinds of poultry feathers, animal fur, animal bones, offal, meat, sausage, and the remaining material can be made into autoclaved feather meal, bone meal and so on.

Note : must not only filled with bones

四、 Process

Raw materials - dewatering - hydrolysis tank hydrolysis - drying - crushing - Packaging

五、 Technical Parameters

Model	Size of Tank		Consumption (kg/h)	capacity (t/batch)	Motor power (kw)	Reducer
	Inner (mm)	Dia. Length (mm)				

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CZS1200	1200	3200	200	1.0	22	JZQ650
CZS1300	1300	4000	300	1.5	30	JZQ 650
CZS1400	1400	4500	350	2.0	37	ZSY 280
CZS1600	1600	4500	500	2.5	45	ZSY 380

六、 Installation and practice

1、 Installation:

(1) The equipment must be secured to the concrete foundation

(2) Intake , discharge , pressure gauge , safety valve must be installed according to drawing (safety valve must be installed vertically , rotating spring cap must be upwards)

(3) To clean carefully all the channels of the body before installation ,to avoid clogging impurities .

(4) After tightening the nut foot,fill the gaps with the cement mortar ,only when the cement mortar is reached solidification stage, so you are ready to test.

2、 Check before practice

(1) Electrical Equipment

—Check the power supply voltage and frequency;

—Check the fuse;

—Check motor wiring;

—Check the motor rotation; (Remove the V-belt before check)

(2) Machinery

—Check all the pipe connections;

—Check the working situation of valves ;

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—Check safety valve;
—Check whether the pressure gauge pointer is at 0;
—Check whether there are other substances inside and outside the body;

—Check the V-belt;

— lubricating bearings with high temperature grease;

— add gear oil into reducer as required。

—Check the entrance and exist of tank。

—Check the steam pressure, (steam boiler) pressure $>0.4\text{mpa}$, open the valve of host gradually while observing the pressure gauge.

—When the body pressure reaches 0.4mpa , Turn on the power to made the machines idling work, check whether the device has exceptions,regulate the valve to working pressure limit, and check whether it can be open safely.

After these checks , make sure everything is normal, you can start feeding trial run

七、 Processing Introduction and safety rules

Processing Introduction:

1、 Filler: Open the gas supply valve to reach working pressure ; close the exist and tighten it; Start twist axis and filling mix.After filling, clean the inlet tight inlet gate with seal.

2、 Sterilization and hydrolysis:the pressure and temperature in

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the tank raises slowly, Reach 80 - 100 C. The time required depends on the type of raw material. And must keep the pressure and temperature in the tank reaches the temperature for sterilization and hydrolysis. If the pressure exceeds the pressure for sterilization and hydrolysis, please slightly open the bypass valve, until the pressure is normal, meanwhile adjust the intake valve. In the process for hydrolysis and sterilization, maintain the desired pressure.

3、decompression: After completion of the sterilization, pressure is reduced to atmospheric pressure.

Slowly open the bypass valve, then slowly open the exhaust valve, until the pressure was reduced 0mpa, open the exhaust valve fully. This process can not be less than 15-20 minutes, or even longer is better.

NOTE : At this stage, due to material itself has the characteristics and pressure difference, materials in the tank can easily pass exhaust pipe through the valve, causing exhaust system blockage. So opening the exhaust valve must be careful and slow operation.

4. evaporation: Pressure in the tank is reduced to 0mpa, exhaust valve is fully open, then the drying process begins. (Equipped with a vacuum drying system equipment, Open the vacuum pump, according to the product required to master the time for drying. Discharge the Sewage in the condenser tower per shift.) Drying time is depending on the number of raw materials in the tank and the back pressure of the exhaust pipe.

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5、 Discharge: Firstly, close the intake valve , slowly open the discharge door.

Note: You must open feeding port and discharge port,when the relief valve is open.

Safety rules:

The machine is in state of high temperature and pressure at work , you must check the gauge , safety valve regularly, during the operation you must be strictly in accordance with the rules for operation.

1、 The machine must be running within the specified pressure range, cannot be super- pressure operation.

2、 Staff must read the instruction manual carefully before induction.

3、 When devices are running,staff can not enter the plant.

4、 Equipment was pressed into operation within a time out, no one is prohibited to stand before the discharge port.

八、 Maintenance of equipment

1、 Regularly check the safety valve and sensitivity of pressure gauge according to the standard.

2、 Periodically clear the dust on the distribution boxes and equipment.

3、 Add bearing lubricating oil regularly.

4、 replace sealing root regularly.

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5、 Batch cooker routine maintenance schedule:

Location code	Part name	Maintenance Content	Interval time	Grease Model
A	Spout	Clean the base and connection surface	After each production	Bearing Grease
B	Packing boxes all parts	Tighten it in order to reduce leakage, Replace root if necessary	Everyday	
		Cleaning and lubrication	Any time	Bearing Grease
	Asbestos gasket	If Leaks, replace it	Any time	
C	Discharge door screw and all the moving parts	Cleaning and lubrication	Any time	Bearing Grease
D	belt	Check the tightness	Any time	
E	Gearbox	If Leaks, fill it	Everyday	Check the oil viscosity
		If Leaks, fill it	Every month	Referring to the gearbox nameplate Or Manual
G	Bearing	lubrication	Any time	Bearing Grease
H	Trap	Cleaning and inspect work situation	Every month	
J	Safety valve	Open it, clean if necessary	Every month	
K	Tanks and mezzanine	inspect work situation and wear	3 month	
M	Motor	Check and Lubricate bearings	10000 hours	Bearing Grease
P	Rotary joint	If Leaks, replace it		
T	Screw on the flange disc	Tighten if necessary	Any time	

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九、Cause and Remedy

Common error	Cause	Remedy
internal noise	<ol style="list-style-type: none">1、 Check for other objects2、 Reamer deformation caused by other bodies	<ol style="list-style-type: none">1、 Remove other objects2、 redress reamer
Motor is with high temperature	<ol style="list-style-type: none">1、 Insufficient power supply voltage2、 overload	<ol style="list-style-type: none">1、 Adjust the voltage2、 According to the standard amount of feed
Leak of sealing system	<ol style="list-style-type: none">1、 Screws not tightened2、 Root damage	<ol style="list-style-type: none">1、 Tighten the screws2、 Replace the root
Leak of Rotary joint	<ol style="list-style-type: none">1、 Wear a other body within the rotary joint2、 Rotary internal aging joints graphite blocks	<ol style="list-style-type: none">1、 Clear foreign body inside rotary joint2、 Replace graphite blocks

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十、Structure

