Automatic Flat-type Peeler Centrifuge

1, Technical parameters:

No.	Item	Parameters
1	Machine name	Automatic flat-type peeler centrifuge
2	Model	PGZ800
3	Design temperature ℃	0-60
4	Design pressure(body case)	0.1Mpa
5	The form of centrifuge cover	Flip type
6	Feeding type	Inclined feeding
7	Discharge type	Hydraulic peeler discharge
8	Support mode	Four-point support
9	Damping system	Amortisseur
10	Explosion-proof requirements	Non-explosion-proof design
11	Rotation direction of drum	Clockwise
12	Noise level (1.0m away from the machine)	≤85dB
13	Residual filter cake thickness	Approximately 8-10mm
14	Feeding level detection	Mechanical material level detector
15	Drum detection	100% non-destructive testing
16	Drum diameter (mm)	800
17	Drum height (mm)	450
18	Net thickness of liquid blocking plate (mm)	8
19	Diameter of liquid blocking port (mm)	600
20	Drum volume (L)	100
21	Max. transfer limit (kg)	135
22	Max. speed (RPM)	1200
23	Cover thickness (mm)	16
24	Wall thickness of shell barrel (mm)	4
25	Flange thickness of flip cover (mm)	30
26	Shell flange thickness (mm)	30
27	Lining thickness (mm)	2
28	Dimensions (mm)	2000*1300*2150
29	Main motor power(Kw)	7.5Kw
30	Hydraulic station motor power(Kw)	1.5Kw

2, Main parts material:

1	Contact part material	**SUS316L**
2	Centrifuge plate	Carbon steel welding, 316L stainless
3	Cover and flange	steel lined on and around
4	Shell and its flange	Carbon steel package lined with 316L
5	Discharge hopper	stainless steel
6	Feeding pipe, washing pipe, etc.	SUS316L
7	Material level detection board, detection axis	SUS316L
8	Spindle	SUS316L
9	Drum	SUS316L
10	Scraper and scraper lifting cylinder	40Cr quenching and tempering treatment
11	Seals	The body of the drum is made of 316L stainless steel, and the bottom of the drum is made of ductile iron, lined with 316L stainless steel
12	Damping shock absorber	SUS316L
13	Decap cylinder	The main shaft seal adopts PTFE lip-shaped sealing ring, contacting the material seal silicone rubber or fluorine rubber or PTFE coated
14	Scraper cylinder	SUS316L

3, Surface treatment:

1	Stainless steel surface	/
2	Carbon steel surface	SUS316L
3	Connecting parts, welding parts	Smooth transition, rounded corner processing

4, Transmission system:

1	Main bearing	/
2	Main motor model and power	7.5kw
3	Phrase/Frequency/Voltage	3/50/380
4	Explosion-proof grade	/
5	Protection level	IP55
6	Start method	Frequency conversion start
7	Centrifuge speed control	Controlled by PLC frequency conversion
8	Lowest frequency	5Hz
9	Braking method	Dynamic braking
10	Braking time	About 5min
11	Transmission form	Anti-static belt

5, Main control cabinet:

1	Placement area	Control room
2	Cable channel	Bottom in and bottom out
3	Material	Carbon steel welded
4	Dimensions (H * W * L)	2200mm*800mm*600mm
5	Panel settings	Emergency stop button etc.
6	Inverter brand	Ingis
7	PLC brand	Xinjie

6, On-site operation box:

1	Placement area	on site
2	Protection level	IP65
3	Explosion-proof grade	EX.de IICT6
4	Material	Engineering plastics
5	Dimensions (length * width * depth)	360mm*360mm*120mm
6	Panel settings	Emergency stop button, tachometer, indicator light, operation button, etc.

7, Security protection settings:

1	Scraper mechanical limit	Yes
2	Level detection	Yes
3	Process interlocking	Yes
4	Emergency shutdown	Yes
5	Ground connection	Yes
6	Reserved nitrogen port	Yes

8, Interface pipe size

1	Inlet pipe	Φ38 whistle interface
2	Washing port	Φ25 whistle interface
3	Nitrogen filling interface	Φ25 whistle interface
4	Cyclone pipe	Φ76 flange interface
5	Outlet pipe	Φ108 flange interface

1. Description of centrifuge host structure:

1.1. Base components:

1.1.1. Flat panel structure, low center of gravity of the machine, stable operation; flat panel can be used as an operating platform, easy to operate and maintain;

1.1.2. The case and the base are rigidly connected (welded), and the case is fully loaded;
1.1.3. Adopt four-point support vibration damping system, equipped with liquid damping shock absorber, with good vibration damping performance;

1.2. Flip parts:

1.2.1. The small flip cover structure is adopted, which is convenient for maintenance and cleaning;
1.2.2. Machining a dovetail groove on the flange of the machine base, with O-ring seal, good sealing performance;
1.2.3. The large flange is fully processed to ensure reliable sealing with the flange of the machine base;
1.2.4. Equipped with explosion-proof lighting lamp and observation mirror to facilitate the observation of the working condition of the inner cavity of the centrifuge;
1.2.5. Configure the material layer controller, which can control the feeding amount to ensure that the centrifuge does not work under overload conditions, and at the same time avoid the waste caused by the material escaping from the liquid blocking plate;

1.3. Drum parts:

1.3.1. The centrifuge drum body is welded, and the dynamic balance is corrected after heat treatment;

1.4. Transmission parts:

1.4.1. Independent bearing seat structure, convenient for disassembly, assembly and maintenance;
1.4.2. The shaft seat and bearing cover are all made of steel castings, with good strength;
1.4.3. The bearing has a large supporting length and good load-carrying performance;
1.4.4. The main shaft seal adopts a double-layer O-ring structure, which has a good sealing effect;
1.4.5. The joint between the spindle and the drum adopts multiple combination seals such as static O-rings, skeleton oil seals, labyrinths and nitrogen micro-positive pressure air seals, which avoids direct corrosion of the spindle by misty liquids and gases, and greatly improves the resistance of the spindle Corrosion ability
1.4.6. The main bearing is lubricated by grease, and the main bearing is lubricated by an external lead, which is convenient and hygienic!

1.5. Scraper parts:

1.5.1. The hydraulic scraper is adopted, and the work is stable and reliable;
1.5.2. The scraper is sealed with a dust ring and an oil seal, which effectively protects the oil seal from being damaged by the material bonded to the scraper cylinder while ensuring the seal;
1.5.3. Equipped with mechanical scraper in-situ protection device to ensure that the scraper remains in place when the hydraulic station is not working;

1.6. Motor parts:

1.6.1. Equipped with non-explosion-proof motors, on-site buttons, and anti-static V-belts;
1.6.2. Equipped with belt protection cover and motor protection cover to ensure safe operation.

2. Control requirements:

2.1. The main motor adopts frequency conversion speed regulation to start, and the starting is stable;
2.2. The central control adopts a programmable controller (with communication interface), and is equipped with a man-machine interface (touch screen);
2.3. Use energy-consumption braking to realize electric braking;
2.4. Equipped with on-site explosion-proof button, connected with the electric control box, can realize remote control;
2.5. The control mode of the action components: the scraper, the feed valve, the washing valve and the material level detection are all hydraulically controlled;
2.6. Equipped with a material layer controller, when the material is full, it will automatically stop feeding;
2.7. Speed monitoring, the centrifuge speed does not reach the working speed can not carry out feeding and unloading operations, etc.;

3. Hydraulic system:

3.1. It is mainly composed of a hydraulic oil tank and a solenoid valve, which controls the lifting, rotating and flipping actions of the scraper; the speed of the scraper can be controlled by adjusting the speed control valve or the throttle valve;
3.2. Rated working pressure of hydraulic station: scraper 1.5Mpa;
3.3. Motor power: 1.5KW;

4. Centrifuge safety protection

4.1. Material level detection: The centrifuge is equipped with a mechanical material level detector, and the feed valve is closed in time when the material touches to prevent the material from running out.
4.2. Scraper device protection: Equipped with mechanical scraper in-situ protection device to ensure that the scraper remains in the working position when the hydraulic station is not working.
4.3. Process interlocking: do not start the scraper when feeding, cleaning and high-speed separation, and do not start the feeding and washing valve when the scraper is moving.
4.4. Emergency stop button: When this button is pressed, the frequency conversion stops output and brakes to stop, and the feeding and cleaning valves are automatically closed.

5. Testing means and methods:

5.1. "X-ray" flaw detection of the drum barrel;
5.2. The overall dynamic balance correction of the drum;
5.3. The quenching and tempering treatment of the spindle and the treatment of magnetic particle inspection;
5.4. Vibration stress relief treatment of machine seat and bearing seat;