ZNS-type Pressure Screen

ZNS mid consistency screen applied to coarse screening or fine screening of CTMP、chemical pulp and waste paper pulp,strong adaptability, lower power and water consumption, high production efficiency

Advantages

- Multi-foil design, no winding, gentle pulse, good screening effect, high pulse frequency and bigger capacity.
- Mid consistency screen (Max. 4%), less water consumption in production, less energy cost, smaller screen basket size and lower investment and maintenance cost for same capacity.
- Lower densification in screening section and higher screening efficiency, longer service life of screen basket.
- Equipped with automatic oiling device and mechanical sealing water flow detection device, DCS interface reserved (detection of temperature rise and vibration of bearing), high degree of automation.

Structure And Principle

Pressure screen is made of machine body, cap, screen basket, rotary drum, base and transmission part, etc. All parts exposing to stock are made of stainless steel.
Pressure screen has vertical structure and cylindrical shell, on top equipped with a detachable cap, on shell body installed all necessary

connection pipe flanges, screen body and motor rack are fixed on base with bolts, cylindrical screen basket installed in shell, rotor and bearing installed in the basket; main shaft adopts mechanical sealing. Pipe-end bracket is arranged closest to the rack, connect sealing water and bearing lubrication with sealing component and bearing separately.

1. **Shell**

As machine main body, made of welding stainless steel plates, annular seat set inside used for installing screen basket, drive bearing is installed at the base plate of the shell, tangential direction inlet pipe arranged on the upper part, accepted pulp outlet pipe on lower part, reject pipe and dilution pipe at bottom, the whole shell is fixed on the base plate by bolts.

2. **Top cap**

Top cap is a spherical head made of stainless steel plate, connected with shell by bolts, equipped with valve connection in central part for discharging the residual gas in machine and light impurities.

Screen basket

Basket has two types: plate-type waveform and bar-type waveform.

Plate-type is made of stainless steel, holed and slotted. Waveform grooves on surface contacting with pulp make fiber pass screen holes (slots) easily and separate accepted fiber from impurities and fiber floc, thus to improve the screening efficiency and obtain high quality stock. After drilling holes or cutting slots, the screen plate is polished. Thus the surface of plate is bright and clean. Reinforcing rings are welded on outside surface of basket to bring sufficient strength and stiffness; flange is fixed to basket top end by bolts while the bottom end set in basket, being firmly combined and running stably.

The bar-type waveform basket has hundreds of specially designed wedge-shaped bars, evenly inlaid in grooves cut on annular plates along the circle direction; the upper end is flange surface, connecting cylinder body; the lower end is a cone; the surface of basket is waveform, screen slots can be narrower than slots of plate-type, with higher precision, thus increase the open area apparently; bar strength is greatly improved than cut slots of plate-type screen; especially the surface hardening treatment extends the service life of basket; so, it is an advanced structures in the world in modern time.

- **Rotary drum**

  Rotary drum is cylindrical, on outside surface reasonably welding some lugs. High rotating velocity of drum produces high-frequency impulse to screen pulp and clean screen holes.

  The rotor shaft adopts mechanical sealing; in order to avoid stock leakage or entering into driving chamber, the machine is equipped with mechanical seal and sealing water connection, requiring hydraulic pressure about 0.1Mpa higher than inlet pulp pressure.

- **Driving device**

  The rotor shaft is supported in a bearing seat, driven by motor through a set of narrow V type belts; lubrication device is installed in the rack base to lubricate the bearing regularly.

Case

Technical Data

Model	ZNS80	ZNS81	ZNS82	ZNS83	ZNS84	ZNS85
Nominal Area (㎡)	0.25	0.38	0.76	1.06	1.42	1.88
Inlet Consistency (%)	1—4					
Capacity-Hole (T/D)	30-40	50-80	90-160	135-250	180-320	220-420
Capacity-Slot (T/D)	20-30	30-50	60-100	90-150	120-190	150-210
Inlet Pressure (MPa)	0.15-0.4					
Motor Power (kW)	15-22	11-37	22-75	30-90	37-110	25-132

Model	ZNS86	ZNS875	ZNS87	ZNS88
Nominal Area (㎡)	2.27	2.95	3.54	4.83
Inlet Consistency (%)	1—4			
Capacity-Hole (T/D)	260-500	300-600	400-700	500-1000
Capacity-Slot (T/D)	200-300	250-400	300-450	320-730
Inlet Pressure (MPa)	0.15-0.4			
Motor Power (kW)	55-160	75-200	75-220	132-280

Maintenance

1. Main shaft bearing adopt lubricating grease to lubricate, equipped with oil feeder at the front end of the engine base, oiling twice every week.

- 2. The bearing of lid bont oil once a year.
- 3. The tensioning of triangle adhesive tape must be checked frequently
- 4. Checking the supply of sealing water used for mechanical sealing is normal or not frequently.

  In order to avoid the difficulty in restarting, shut down in a short time, basket must be cleaned carefully, sieve must be filled with water