

Technical description

Design

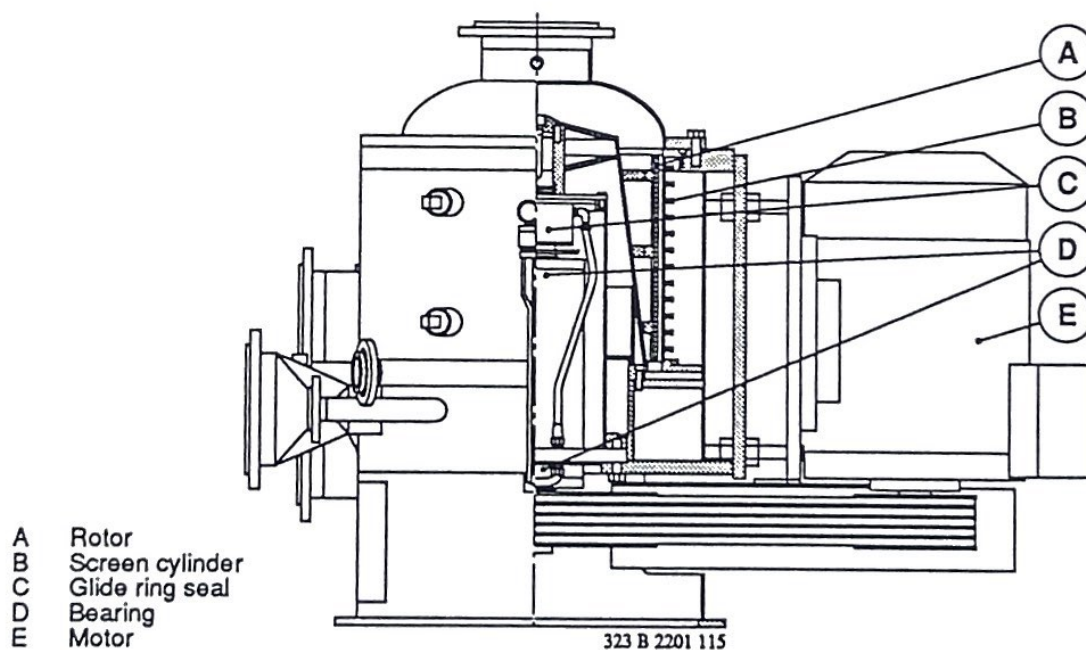
General All parts in contact with the pulp are made of acid-proof steel.

Screen cylinder The screen cylinder is usually manufactured in two parts. The cylinder can consist of 1, 2, 4 or 6 parts. The hole and slot dimension may vary. The cylinder parts are put together with screws. The cylinder parts are made of acid-proof steel and are electrolytically polished to improve the surface quality.

Rotor The rotor consists of a tapered casing that is attached to the rotating shaft inside the screen cylinder and rotor vanes. The number of wings can be varied (2-12 pcs.) depending on the operating conditions and range of application.

Bearing arrangement The bearings are grease lubricated spherical roller bearings. The grease nipples are located on the screen casing.

Shaft seal The standard version includes a double-acting spring loaded glide ring seal.



Instrumentation

The instrument board on the screen casing contains:

Flow meters in the sealing water line with alarm for low flow (optional pressure transmitter for sealing water).

On the inject, accept and reject connections there are fittings for pressure measuring.

Sealing water filter: ca. 20 μm , quantity: ca 0.03 l/s (2 l/min), pressure: 150-200 kPa above the pressure of the ingoing pulp but max. 1200 kPa. Max. temperature + 30°C.

Drive

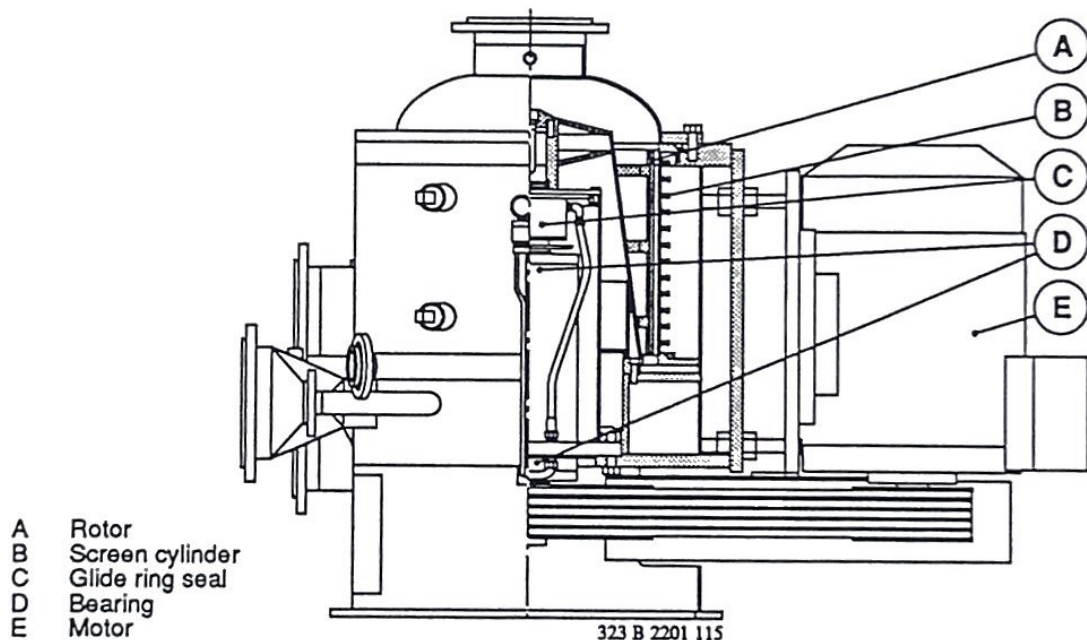
Three-phase cage induction motor, mounting IM V5 (IM 1011). V-belt drive.

Surface treatment

The steel surfaces are painted with epoxy paint; max. thickness of the dry layer is min. 240 μm .

Standards

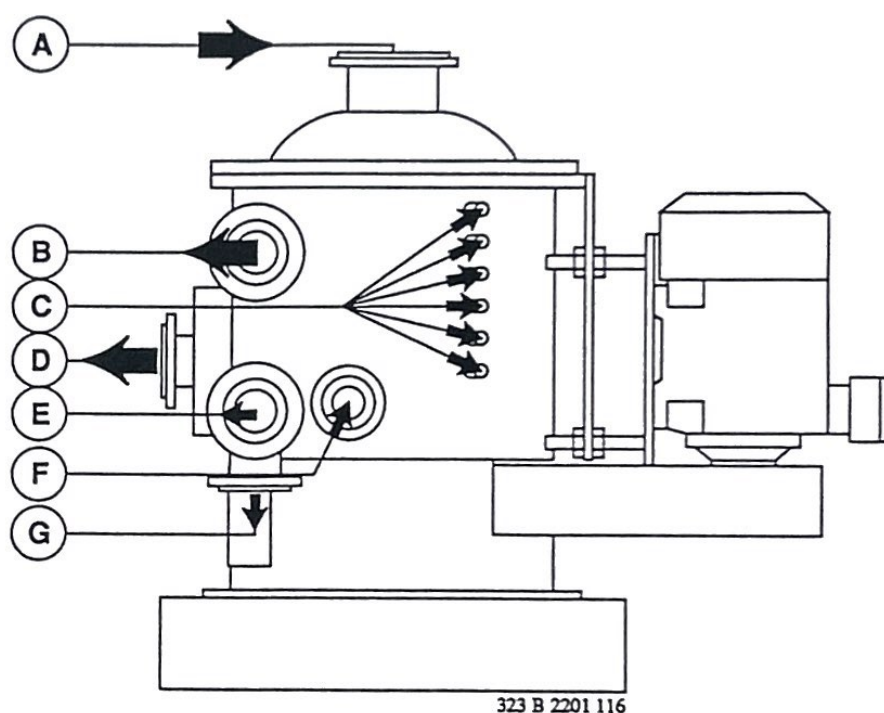
The material specifications are based on DIN, AISI and SIS standards. Parts, such as screws, keys etc. as well as the pipe connections are manufactured according to the DIN standards.



Function

The pulp to be screened is pumped vertically from the convex end of the vessel to the center of the rotor. From there the pulp is fed out through the distribution discs in the upper part of the tapered casing to the inside of the screen cylinder in a constant flow. From the inside the accept is forwarded through the holes/slots of the screen cylinder to the accept area, which is divided into two separate areas. The accept is taken out of the screen through a tangential connection.

Depending on production and other range of application the size of the distribution discs can be varied and only one of the accept be used by closing the other accept valve. The accept area can also be divided into two parts of different size depending on the number of the screen cylinder parts. This division is carried out with a separate parting ring.

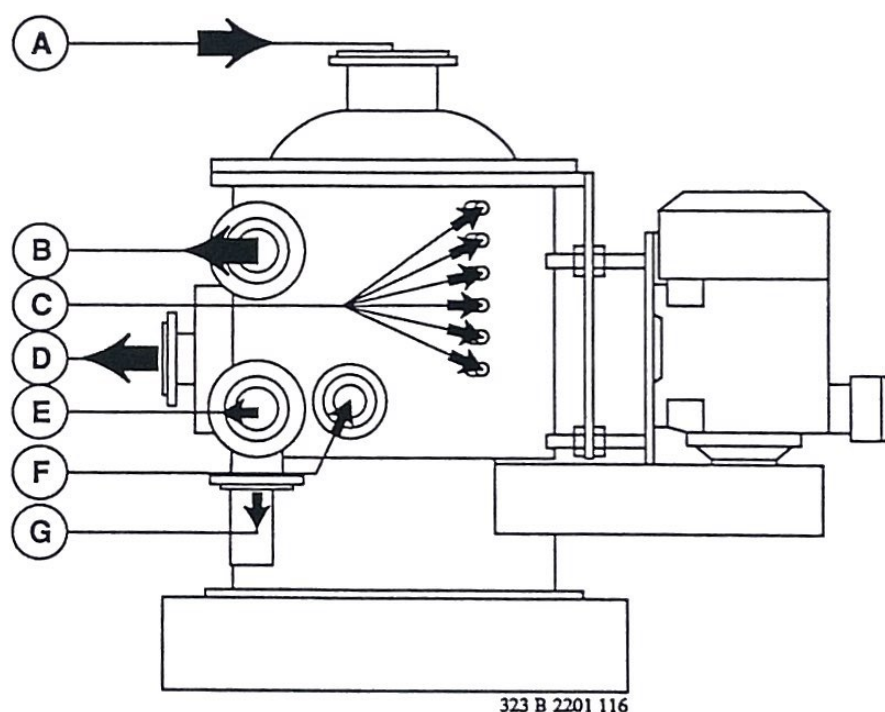


- A Inject
- B Accept
- C Flushing
- D Accept
- E Reject
- F Dilution
- G Draining

The pulp collected on the inside of the cylinder is affected by the rotor vanes. Depending on the shape/position of the vanes they forward the pulp downwards towards the screen cylinder. The rotation movement generates a suction pulse in the rear edge of the vanes that keeps the holes or slots in the screen cylinder clean. The reject is taken out through a tangential connection.

Diluting water to the tapered rotor casing is taken through the orifices (8 pcs.) in the casing to the inside of the screen cylinder. The orifices can be completely or partly closed depending on the use/quantity of the diluting water. The diluting water is used to improve screening of the thick pulp that is collected in the upper and lower part of the screen cylinder and to prevent the cylinder/reject pipe from clogging.

The pulp flow and reject quantity are controlled by accept and reject valves, while the pressure difference between the inject and accept connections of the screen is being observed.



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