

Title (en)

Apparatus for separating solids from a slurry

Title (de)

Anlage zum Abtrennen von Feststoffanteilen aus einer Trübe

Title (fr)

Procédé et appareil pour séparer des solides d'une suspension

Publication

EP 0951930 A1 19991027 (DE)

Application

EP 98107444 A 19980423

Priority

EP 98107444 A 19980423

Abstract (en)

Process for liquid filtration in a two-stage process comprises concentrating solids in a filtration section, passing the concentrated wet solids into a second vessel, in which they are dewatered in a press, and disintegrating, drying and removing. The installation has two vessels: a filter unit (1) and a press unit (2). The raw fluid is pumped into unit (1), which contains two sets of filter candles (7o,7u), one facing vertically downwards and the other facing vertically upwards. Each set is mounted in a circular pattern at different pitch circle diameters on separately driven supports so that they can rotate concentrically in contrary motion. This provides the principal circulation in the primary concentration stage. Blades (11o,11u) at the top and the bottom drive fluid downward and upward respectively around the candles. The concentrate passes through line (3a) into the press chamber (16) whose jaws are closed hydraulically. Additives (K1) may be used to aid dewatering during compression. When compression is complete the jaws are partially opened and the lower plate is rotated so that teeth on both plates disintegrate the filter cake. The particles fall into a drying chamber where they are fluidized by a number of rotating blades (18). Drying heat is supplied either by hot filtrate passing through the double walls of the drying chamber, or by direct radiation. The principal objective is therefore to allow the filter elements to operate at relatively low pressure so that only their surfaces retain the residues and the pores remain unclogged. Altogether 60 subsidiary claims, supported by drawings, describe aspects of the system.

Abstract (de)

Zum Abtrennen von Feststoffanteilen aus einer Trübe wird die Trübe in einer Filtervorrichtung unter intensiver Bewegung bis auf einen vorbestimmten Feststoffgehalt aufkonzentriert. In der Filtervorrichtung werden Staudruck- und Venturi-Effekte ausgenutzt, um den Filtrvorgang zu unterstützen. Während der Ableitung des Filtrats wird Trübe zugeführt, um die Filtervorrichtung im Füllzustand zu halten. Die aufkonzentrierte Trübe wird chargenweise in eine Preßkammer überführt, in der die entnommene Charge mechanisch ausgepreßt wird. Der so entstandene Preßkuchen wird mechanisch zerkleinert. <IMAGE>

IPC 1-7

B01D 36/02; B01D 33/31; B30B 9/06; F26B 7/00

IPC 8 full level

F26B 7/00 (2006.01)

CPC (source: EP US)

F26B 7/00 (2013.01 - EP US)

Citation (search report)

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Designated contracting state (EPC)

AT BE CH DE ES FR GB IE IT LI NL

DOCDB simple family (publication)

EP 0951930 A1 19991027; EP 0951930 B1 20040630; AT E270135 T1 20040715; AU 3822799 A 19991116; AU 745848 B2 20020411; DE 59811639 D1 20040805; US 6419842 B1 20020716; WO 9955441 A1 19991104

DOCDB simple family (application)

EP 98107444 A 19980423; AT 98107444 T 19980423; AU 3822799 A 19990423; DE 59811639 T 19980423; EP 9902787 W 19990423; US 44662199 A 19991223