

Title (en)
Device for discharging water

Title (de)
Wasserabföhrinrichtung

Title (fr)
Dispositif pour d  charger l' eau

Publication
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Application
EP 00128157 A 20001221

Priority
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• DE 10014873 A 20000324

Abstract (en)

[origin: EP1116822A2] The water disposal system (10) at a papermaking machine, and especially at the roller press section (12) with a press blanket where water is extracted from the wet web, has a catch trough (14) with an inner pressure which is lower than the ambient pressure. The extracted water (16) is held in an initial chamber (18), which is linked to a second vacuum chamber (20) so that the caught water is drawn out by suction, and led off for disposal. At least one of the two chambers (18,20) extends across the machine width, and they are linked together by throttled openings (22) which are distributed across the machine width. The water is removed from the vacuum chamber at one of the two machine sides. The mean water flow into the first catch chamber, which is the effective main flow, is free of lateral flow components. The mean water flow from the first chamber into the second, which is the effective main flow, has a lateral flow component across the machine width. The two water catch chambers can be linked together by a tube, with one end at a connecting opening in a dividing wall (26), and the other end opening into the second chamber, with a number of connecting tubes across the machine width and pref. 0.5-5.0 tubes with a dia. of 10-100 mm. The vacuum in the second chamber is ≤ 0.2 bar and pref. ≤ 0.05 bar. The vacuum is generated by a volumetric pump. The second chamber is defined by a lateral vacuum tube, with openings in its mantle to link its interior with the first chamber. The catch trough (14) is divided into segments across the machine width. An Independent claim is included for the press section of a papermaking/cardboard prodn. machine, with a water trap in the triangular gap between the upper press roller and the press blanket, to form a suction channel across the line of the web. The suction channel is linked to a vacuum supply. Preferred Features: The suction channel has a gap width, at least into the holding zone, of 1-50 mm and pref. 2-7 mm, with an under pressure of 50-80000 N/m<2> and pref. 10000-30000 N/m<2>. The suction channel leads to a collection vessel to hold the extracted water for disposal. The outlet opening from the suction channel lies over the max. water level in the collection vessel. The collection vessel has a connection for an underpressure supply, over the max. water level. The suction channel has an upper and a lower channel wall which taper at an acute angle towards the water extraction blanket. The edge of the lower channel wall is as close as possible to the water extraction blanket, with gap between them of ≤ 20 mm, or the edge of the lower channel wall is in contact with the blanket or presses into it slightly. The edge of the lower channel wall is formed by a low-wear bar pref. of a ceramic material, which forms an angle of 10-45 degrees with the blanket. The upper channel wall is part of the water catch assembly, for the water spun from the upper press roller at the suction channel. The upper surface of the upper channel wall, outside the suction channel, is aligned at an angle to the roller press gap, and the edge of the wall extends slightly less into the press gap than the lower channel wall. Or the upper channel wall edge has the same length into the press gap as the lower wall, or is slightly longer. The water collection vessel is divided into a number of chambers across the machine width, each with a connection to an underpressure supply.

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D21F 3/02

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Citation (search report)
• [X] US 3355350 A 19671128 - REYNOLDS GEORGE E
• [X] US 1423400 A 19220718
• [X] US 2165549 A 19390711 - LLOYD HORNBOSTEL
• [A] EP 0371786 A2 19900606 - AHLSTROEM VALMET [FI]

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