

Title (en)  
Headbox

Title (de)  
Stoffauflauf

Title (fr)  
Caisse de tête

Publication  
**EP 1022378 B1 20031217 (DE)**

Application  
**EP 99118677 A 19990922**

Priority  
DE 19902623 A 19990123

Abstract (en)  
[origin: EP1022378A2] The stock inlet for a papermaking machine, with a pulp feed and a turbulence generator, has a path section (I) where the free cross section steadily decreases towards the outlet which is directly followed by a second path section (II) with a steady and continuous expansion to the outlet. The second path section (II) with a flow expansion can be followed by a third path section with a steady and decreasing free flow cross section. The third path section length L3 is shorter than the second (II) length L2, which is shorter than the length L1 of the first path section (I). The structure of the path lengths is expressed as  $L2 < 0.3 > L3$ ,  $L2 < 0.7 >$  and  $L1 < 0.1 > L2$ ,  $L1 < 0.3 >$ . The first path section (I) starts directly after the turbulence generator. The total crosssection of the stock inlet jet is formed by a single suspension flow channel (4) at least over part of the length of the stock inlet jet. Or a number of suspension flow channels are over at least part of the stock inlet jet length of the total cross section of the stock inlet jet, formed by at least one divider between the two limit walls. Without exception, all the suspension flow channels have the same cross section pattern, in a shape which covers each other. The rate of divergence at the second path section (II) is identical for all the suspension flow channels. The dividers form a point towards each other at the second path section (II), each with the same degree of convergence at the ends of their surfaces. The alignment of the upper (1) and/or lower (2) wall of the stock inlet, at least in the second path section (II), is in a mirror image to the line of the adjacent divider in relation to the surfaces in contact with the suspension flow. The turbulence generator has a number of diffusion tubes, arranged in rows across the machine width. The dividers start between the rows of diffusion tubes. The upper and lower walls of the stock inlet have the same length. The ratio of the change in the reducing cross section height in the flow direction to the flow path length in the first path section (I) is 0.3-40.0 % and preferably 10-30%. The ratio of the increasing cross section height in the flow direction to the flow path length in the second path section (II) is 0.1-20.0% and preferably 2-12%. The ratio of the change in the reducing crosssection height in the flow direction to the flow path length in the third path section is 1-400% and preferably 10-200%. The first path section (I) has a length of 250-1000 mm and preferably 400-800 mm. The second path section (II) has a length of 20-150 mm. The length of the third path section is 0.5-300.0 mm and preferably 1-100 mm. The smallest cross section height of the first path section (I) is 10-500 mm, and preferably 15-150 mm, and 30-200 mm at the second path section (II), and 5-80 mm in the third path section.

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**D21F 1/02**

IPC 8 full level  
**D21F 1/02** (2006.01)

CPC (source: EP US)  
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Cited by  
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