Title (en)

Headbox

Title (de)

Stoffauflauf

Title (fr)

Caisse de tête

Publication

EP 1083259 A3 20010509 (DE)

Application

EP 00116670 A 20000802

Priority

DE 19937302 A 19990810

Abstract (en)

[origin: DE19937302A1] The stock inlet for a papermaking machine has a turbulence insert with a number of channels (5) to carry the fiber suspension. They have hydraulic diameters which expand from the penultimate diameter (D2) to the final diameter (D1). The start point of the final expansion is at a gap (L1) from the end of the turbulence insert. The turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 where; a = 10.252; and b = 0.457. The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably from ?+20% to ?-20%. The suspension flow speed at the cross section of the final hydraulic diameter (D1) of the turbulence channel (5) is set at a rate (VL) of 0.5-5.0 m/sec., and preferably 0.8-3.0 m/sec., and especially preferably 1.0-2.5 m/sec. The suspension concentration (k), for the stock inlet operation, is 5-25 g/l and preferably 7-20 g/l and especially preferably 7-15 g/l. The suspension flow speed at the start of the final expansion (7) and the end of the turbulence insert has a mean speed level (VL) where the turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 asterisk (VL(m/s)/c)<3/4> where; a = 10.252; b = 0.457; and c = 2.2 (m/s). The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably ?+20% to ?-40% and especially from ?+10% to ?-20%. The suspension flow through the turbulence insert has a mean concentration k (g/l) where the turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 asterisk (d/k(g/l))<1/2> where; a = 10.252; b = 0.457; and d = 5 (g/l). The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably ?+20% to ?-40% and especially preferably ?+10% to ?-20%. With a mean suspension concentration k (g/l) and an average flow speed VL between the start of the final expansion (7) and the end of the turbulence insert, the turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 asterisk (VL(m/s)/c)<3/4> asterisk (d/k(g/l))<1/2> where; a = 10.252; b = 0.457; c = 2.2 (m/s); and d = 5(g/l). The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably ?+20% to ?-40% and especially preferably ?+10% to ?-20%. The free cross section of the turbulence channels (5) at least at the end section is quadratic, rectangular, circular, hexagonal, or lozenge-shaped. The free cross section at the entry into the turbulence channels (5) is circular. The turbulence channels (5) have a double expansion. At least one expansion (6,7) in at least one channel (5) has an abrupt step structure, or is conical. At least one expansion (6,7) in at least one turbulence channel (5) has a transit between two cross section shapes of the turbulence channel (5).

IPC 1-7

D21F 1/02

IPC 8 full level

D21F 1/02 (2006.01)

CPC (source: EP)

D21F 1/02 (2013.01); **D21F 1/026** (2013.01)

Citation (search report)

[DA] DE 4310223 A1 19941006 - ESCHER WYSS GMBH [DE]

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

DE 19937302 A1 20010215; DE 50008486 D1 20041209; EP 1083259 A2 20010314; EP 1083259 A3 20010509; EP 1083259 B1 20041103

DOCDB simple family (application)

DE 19937302 A 19990810; DE 50008486 T 20000802; EP 00116670 A 20000802