

(43) International Publication Date
16 February 2012 (16.02.2012)

PCT

(10) International Publication Number
WO 2012/019624 A1

(51) International Patent Classification:

B01D 45/16 (2006.01) **B04C 5/107** (2006.01)
B04C 3/06 (2006.01) **B04C 5/181** (2006.01)

(21) International Application Number:

PCT/EP2010/004909

(22) International Filing Date:

11 August 2010 (11.08.2010)

(25) Filing Language:

English

(26) Publication Language:

English

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: HIGH EFFICIENCY PHASE SPLITTER

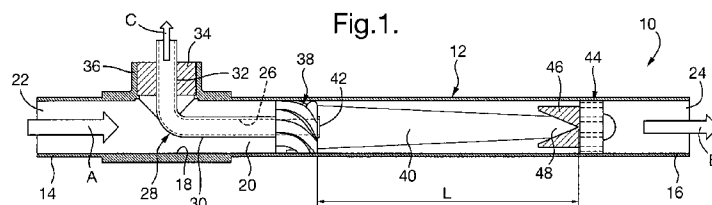
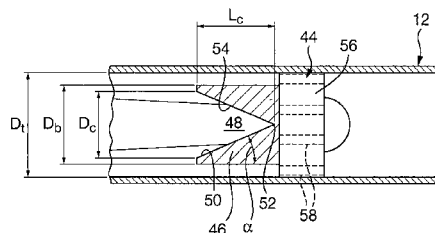


Fig. 1A.



(57) Abstract: A phase splitter for separating a multiphase fluid into a relatively light phase and a relatively heavy phase includes a separator tube which comprises a fluid inlet through which the multiphase fluid enters the apparatus, a heavy phase outlet through which the heavy phase exits the apparatus and an inner diameter surface which defines a flow bore that extends between the fluid inlet and the heavy phase outlet. A swirl element positioned in the flow bore downstream of the fluid inlet causes the multiphase fluid to rotate and separate the heavy phase from the light phase. The light phase forms an elongated core which extends axially through the flow bore radially inwardly of the heavy phase from proximate the swirl element toward the heavy phase outlet. A core stabilizer is positioned in the flow bore between the swirl element and the heavy phase outlet and engages the distal end of the light phase core to thereby inhibit the light phase from exiting the apparatus through the heavy phase outlet.