



- (51) **International Patent Classification:**
B01D 61/14 (2006.01) *B01D 61/18* (2006.01)
- (21) **International Application Number:**
PCT/EP2013/056296
- (22) **International Filing Date:**
25 March 2013 (25.03.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
12162009.0 29 March 2012 (29.03.2012) EP
- (71) **Applicant (for DE only):** **ROCHE DIAGNOSTICS GMBH** [DE/DE]; Sandhofer Straße 116, 68305 Mannheim (DE).
- (71) **Applicant (for all designated States except DE, US):** **F. HOFFMANN-LA ROCHE AG** [CH/CH]; Grenzacherstraße 124, CH-4070 Basel (CH).
- (72) **Inventors; and**
- (71) **Applicants (for US only):** **ORANTH, Norbert** [DE/DE]; Oeleweg 8, 79279 Voerstetten (DE). **LOSLEBEN, Nadine** [DE/DE]; Max-Joseph-Str. 9a, 68167 Mannheim (DE). **LUTZ, Sascha** [DE/DE]; Lüderitzstr. 28, 67434 Neustadt (DE). **GROSSMANN, Adelbert** [DE/DE]; Heimgartenstr. 1, 82436 Egfling (DE).
- (74) **Agent:** **DURM & PARTNER**; Moltkestr. 45, 76133 Karlsruhe (DE).
- (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, BN, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, RS, 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))

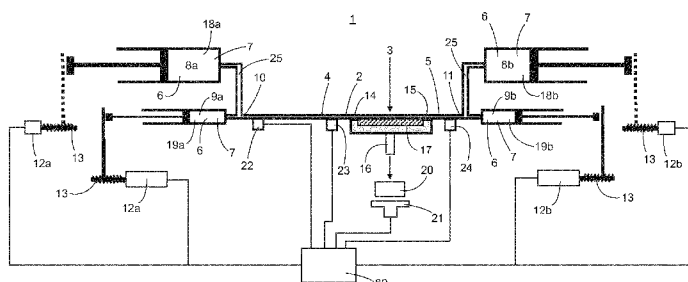
(54) **Title:** MICRO FLOW FILTRATION SYSTEM AND FLOW FILTRATION METHOD FOR A FLUID SAMPLE

Fig. 1

(57) **Abstract:** A flow filtration system (1) for concentration of components contained in a fluid sample comprises a fluid channel (2) being formed by two conduits (4, 5) allowing a bidirectional flow of the fluid sample through the fluid channel (2), a tangential flow filtration module (3) and at least two pairs (8, 9) of piston pumps (6) each having two piston pumps (6), wherein the piston pumps (6) having a piston swept volume forming a reservoir being able to contain the fluid for volumes of up to 100 ml. The tangential flow filtration module (3) is located in the fluid channel (2) so that a fluid flowing through the channel (2) passes through the filtration module (3). At each end (10, 11) of the channel (2) one piston pump (6) of each pair (8, 9) of piston pumps (6) is located in such a manner that the piston pumps are fluidically connected in parallel. The system (1) is arranged and adapted such that during the concentration process at least for a predetermined period of time only one of the pairs (8, 9) of piston pumps (6) is used to drive the fluid through the tangential flow filtration module (3).