



(51) International Patent Classification:
B01D 27/00 (2006.01)

(21) International Application Number:
PCT/US2012/050143

(22) International Filing Date:
9 August 2012 (09.08.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/522,708 12 August 2011 (12.08.2011) US

(71) Applicant (for all designated States except US): **PALL CORPORATION** [US/US]; 25 Harbor Park Drive, Port Washington, New York 11050 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PEARL, Steven** [US/US]; 10 Jewett Lane, Hollis, New Hampshire 03049 (US). **SAYER, Cheryl** [US/US]; 23 Berkeley Avenue, Lowell, Massachusetts 01852 (US). **MESSIER, Sylvia** [US/US]; 49 Lakewood Road, Stow, Massachusetts 01775 (US).

(74) Agent: **BELZ, John M.**; Leydig, Voit & Mayer, Ltd., 700 Thirteenth Street, N.W., Suite 300, Washington, District of Columbia 20005-3960 (US).

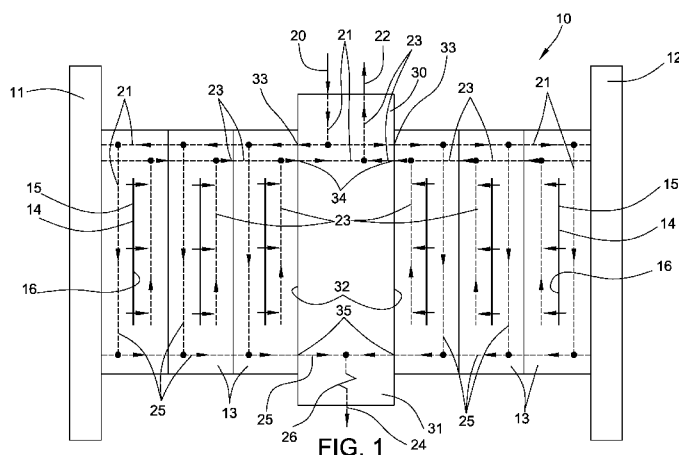
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, 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, 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: FLUID TREATMENT ASSEMBLIES, MANIFOLDS FOR FLUID TREATMENT ASSEMBLIES, AND METHODS FOR TREATING FLUIDS



(57) Abstract: A fluid treatment assembly comprises one or more cross flow fluid treatment units positioned between opposite end pieces. The fluid treatment unit includes a permeable fluid treatment medium having a feed side and a permeate side. The fluid treatment assembly further comprises a feed inlet and feed passage, a permeate outlet and a permeate passage, and a retentate outlet and a retentate passage. The feed passage directs feed fluid from the feed inlet to the permeable medium and tangentially along the feed side of the permeable medium. The permeate passage directs permeate from the permeate side of the permeable medium to the permeate outlet. The retentate passage directs retentate from the feed side of the permeable medium to the retentate outlet. A flow restrictor is positioned in the retentate passage.