

(43) International Publication Date
29 December 2011 (29.12.2011)(10) International Publication Number
WO 2011/161515 A1

(51) International Patent Classification:

E21B 43/01 (2006.01) *F04B 53/16* (2006.01)
B63C 11/00 (2006.01) *F04D 29/10* (2006.01)
E21B 43/12 (2006.01) *F16J 15/40* (2006.01)

(21) International Application Number:

PCT/IB2011/001386

(22) International Filing Date:

20 June 2011 (20.06.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20100902 22 June 2010 (22.06.2010) NO

(71) Applicant (for all designated States except US): **VETCO GRAY SCANDINAVIA AS** [NO/NO]; P.O. Box 423, N-1302 Sandvika (NO).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **TOMTER, Ole, Petter** [NO/NO]; Myrveien 34B, N-1397 Nesøya (NO).

(74) Common Representative: **VETCO GRAY SCANDINAVIA AS**; c/o Henrik Fransson AB, Forskargränd 8, B194, S-72226 Västerås (SE).

(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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: A COMPENSATED BARRIER AND LUBRICATION FLUIDS PRESSURE REGULATION SYSTEM FOR A SUBSEA MOTOR AND PUMP MODULE

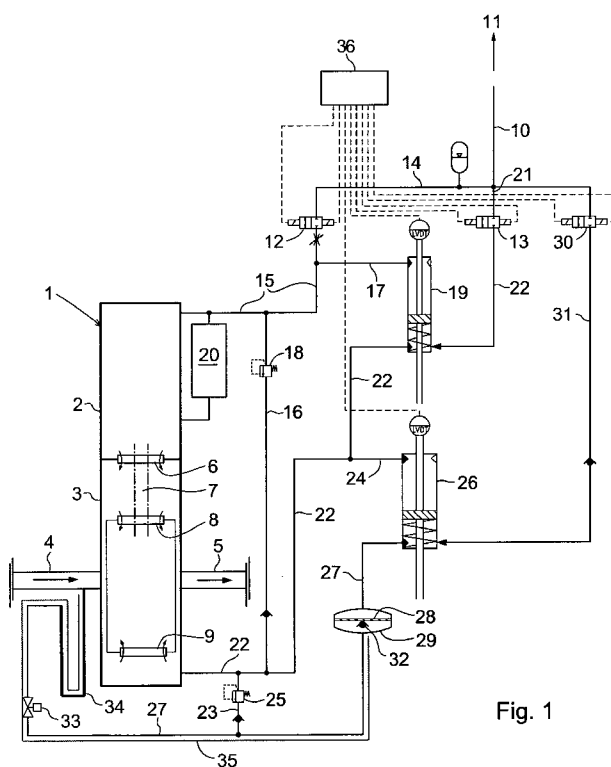


Fig. 1

(57) Abstract: A compensated motor barrier and pump lubrication fluids pressure regulation system for a subsea motor and pump module is disclosed, comprising a hydraulic fluid supply providing barrier fluid and lubrication fluid to the motor and pump module, a barrier fluid circuit (14, 15, 17) in which the hydraulic fluid is pre-tensioned towards the motor by a pressure applied from a first separating pressure compensator (19), a lubrication fluid circuit (21, 22, 24) in which the hydraulic fluid is pre-tensioned towards the pump by a pressure applied from a second separating pressure compensator (26). The second pressure compensator (26) is responsive to the pumped medium pressure at a suction or at a discharge side of the pump and applies the sum of that pressure and its inherent pre-tensioning pressure to the lubrication fluid circuit, and the first pressure compensator (19) is responsive to the pressure in the lubrication fluid circuit and applies the sum of that pressure and its inherent pre-tensioning pressure to the barrier fluid circuit.

WO 2011/161515 A1



Published:

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