

2002056216

18 SEP 2002

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

162162

(43) International Publication Date
11 October 2001 (11.10.2001)

PCT

(10) International Publication Number
WO 01/75383 A1(51) International Patent Classification⁷: **F28D 7/08**,
F28F 9/02, 9/013

(21) International Application Number: PCT/GB01/01455

(22) International Filing Date: 30 March 2001 (30.03.2001)

(25) Filing Language: English

(26) Publication Language: English

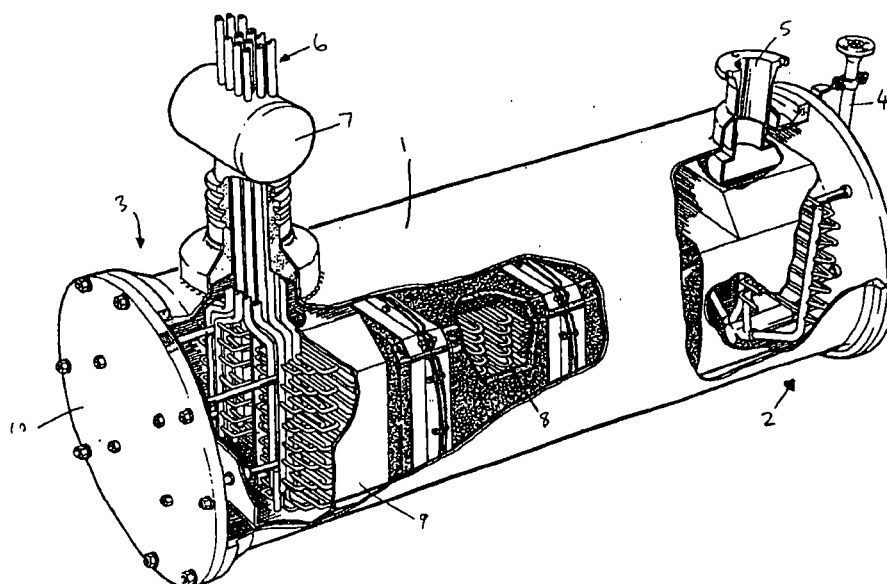
(30) Priority Data:
0007925.1 31 March 2000 (31.03.2000) GB(71) Applicant (for all designated States except US): **INNOGY PLC** [GB/GB]; Windmill Hill Business Park, Whitehill Way, Swindon, Wiltshire SN5 6PB (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WILSON, Alexander, Bruce** [GB/GB]; 8 Maxton Avenue, Barrhead, Glasgow G78 1DY (GB). **CONEY, Michael, Willoughby, Essex** [GB/GB]; The Pinnocks, Broad Town, Swindon, Wiltshire SN4 7RG (GB). **GOOCH, David, John** [GB/GB];96 Quarry Park Road, Cheam, Sutton, Surrey SM1 2DS (GB). **NATH, Birendra** [IN/GB]; 46 Swyncombe Avenue, London W5 4DS (GB). **POWELL, Andrew** [GB/GB]; 72 Merganser Drive, Bicester, Oxfordshire OX26 6UG (GB).(74) Agent: **BOULT WADE TENNAT**; Verulam Gardens, 70 Gray's Inn Road, London WC1X 8BT (GB).(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: A HEAT EXCHANGER



(57) Abstract: A heat exchanger comprising a pressure vessel (1). A plurality of serpentine (8) convey a fluid to be heated through the pressure vessel (1) in one direction. A duct (9) surrounding the serpentine (8) conveys a second fluid in the opposite direction to give up its heat to the first fluid. The duct (9) is spaced from the pressure vessel (1) and is surrounded with thermal insulation (23). An opening in the duct (9) equalises the pressure between the inside and the outside of the duct (9) which is also supported against expansion caused by the pressure inside the duct (9) exceeding the pressure outside the duct (9).

WO 01/75383 A1



ACTION