

Title (en)

Compression-pumping system with alternate operation of the compression section and its related process

Title (de)

Kompressor und Pumpensystem mit alternierendem Betrieb des Kompressorteils und zugehörigem Verfahren

Title (fr)

Système de compression-pompage comportant une section de compression en fonctionnement alterné et son procédé

Publication

EP 0989306 A1 20000329 (FR)

Application

EP 99402084 A 19990819

Priority

FR 9811990 A 19980924

Abstract (en)

The system giving a set pressure to a mostly liquid or mostly gaseous fluid comprises a compression-pumping section (3) operating alternately, a pumping section (2) supplying energy to a mostly liquid fluid and a phase separator (5) with means (CL) of detecting the level of the liquid-gas interface. The compression is switched to liquid compression for a mostly liquid fluid and vice versa. At least one compression-pumping section (3) operates alternately, with a liquid inlet pipe (9), a gas inlet pipe (8), a gas outlet pipe (12) and a liquid outlet pipe (10). At least one pumping section (2) supplies energy to a mostly liquid fluid with an inlet pipe (7) and an outlet pipe (11). There is at least one device (5) for separating the phases, connected to an inlet pipe (6) for the multiphase fluid and to the liquid outlet pipe (10) from the compression-pumping section. The device has at least one gas outlet (8) and at least one liquid outlet (9) and has means (CL) allowing the level of the liquid-gas interface to be detected. The system also includes means (Vgi, Vli) of controlling the flow of liquid or gas phases through the different pipes, and means of control (15) to change the compression to a liquid compression mode for liquid and vice versa. The system includes at least one recycling line (12a) for returning a gaseous fraction from the compression-pumping section to the separator and/or a recycling line (11a) returning a liquid fraction from the pumping section to the separator. The separator is associated with a helical pipe (20) for separating liquid droplets from gas and a series of discs mounted on a rotating axle (4) which extends through the separator. Process using the above system.

Abstract (fr)

Système de compression- pompage alterné comportant: au moins une section (3) de compression-pompage à fonctionnement alterné, adaptée à communiquer une valeur de pression à un fluide essentiellement liquide ou à un fluide essentiellement gazeux, au moins une section de pompage adaptée à un fluide essentiellement liquide, au moins un dispositif de séparation des différentes phases du fluide, pourvu de de moyens (CL) permettant de détecter le niveau de l'interface gaz-liquide, des moyens (Vgi, Vli) permettant de contrôler le débit des phases liquides ou gaz, des moyens de contrôle-commande permettant de faire varier l'état desdits moyens de contrôle de débit de manière à faire passer la section de compression d'un mode de fonctionnement adapté au gaz à un mode de fonctionnement pour le liquide et réciproquement. Application au pompage d'un effluent pétrolier. <IMAGE>

IPC 1-7

F04D 31/00; **E21B 43/34**

IPC 8 full level

E21B 43/12 (2006.01); **E21B 43/34** (2006.01); **F04D 31/00** (2006.01); **E21B 41/00** (2006.01)

CPC (source: EP US)

E21B 43/121 (2013.01 - EP US); **E21B 43/34** (2013.01 - EP US); **F04D 31/00** (2013.01 - EP US); **E21B 2200/22** (2020.05 - EP US)

Citation (search report)

- [A] GB 2273958 A 19940706 - INST FRANCAIS DU PETROLE [FR]
- [A] EP 0549439 A1 19930630 - INST FRANCAIS DU PETROLE [FR]
- [A] GB 2014862 A 19790905 - INST FRANCAIS DU PETROLE
- [A] US 3366061 A 19680130 - ADAMS HAROLD E

Cited by

AU2009238753B2; EA024584B1; AU2015202855B2; AU2015202860B2; WO2009131462A3; US9032987B2; US9784076B2; US9784075B2

Designated contracting state (EPC)

CH DE GB IT LI

DOCDB simple family (publication)

EP 0989306 A1 20000329; **EP 0989306 B1 20051109**; DE 69928196 D1 20051215; FR 2783884 A1 20000331; FR 2783884 B1 20001027; NO 994618 D0 19990923; NO 994618 L 20000327; US 6296690 B1 20011002

DOCDB simple family (application)

EP 99402084 A 19990819; DE 69928196 T 19990819; FR 9811990 A 19980924; NO 994618 A 19990923; US 40465599 A 19990924