

Title (en)
PUMPING OF HIGH VISCOSITY MATERIALS

Publication
EP 0238380 B1 19891025 (FR)

Application
EP 87400359 A 19870219

Priority
• FR 8602343 A 19860220
• FR 8700709 A 19870122
• FR 8700710 A 19870122

Abstract (en)
[origin: EP0238380A1] 1. Reciprocating vein pump able to pump thick materials having a viscosity higher than 3500 Pa.s (35000 poises), having a piston (10) sliding within the pump body (2), connected to a rod (14) extending along the length of said pump body and which is terminated on the pump intake side by a vein (15) having orifices for the passage of the pumped material from the pump inlet to its outlet, through partitions (5, 6) subdividing the pump into several stages (7, 8, 9) and through the piston, whilst also having check valves associated with at least some of these orifices and which are of the ball (24) type and/or in the form of a ring (18) surrounding the rod (14) connected to the piston (10), characterized in that each orifice for the passage of the pumped material has a diameter of at least 10 mm and in that each ring-like check valve (18) surrounds the rod with a clearance between 1 and 2.5 mm, particularly approximately 2 mm, said clearance being measured on the diameter.

IPC 1-7
F04B 15/02; F04B 21/04

IPC 8 full level
F04B 15/02 (2006.01); **F04B 53/10** (2006.01); **F04B 53/12** (2006.01); **F04B 53/14** (2006.01)

CPC (source: EP US)
F04B 15/02 (2013.01 - EP US); **F04B 53/103** (2013.01 - EP US); **F04B 53/126** (2013.01 - EP US); **F04B 53/128** (2013.01 - EP US);
F04B 2015/026 (2013.01 - EP US)

Cited by
EP0462386A1; EP0709574A1; AU684033B3; EP0347269A1; FR2632891A1; EP0343773A1; EP0390298A3; EP0393800A3; WO9103645A1

Designated contracting state (EPC)
AT BE CH DE ES FR GB IT LI LU NL SE

DOCDB simple family (publication)
EP 0238380 A1 19870923; EP 0238380 B1 19891025; CA 1299442 C 19920428; DE 3760884 D1 19891130; ES 2011806 B3 19900216;
JP H0819900 B2 19960304; JP S62228678 A 19871007; US 4875833 A 19891024

DOCDB simple family (application)
EP 87400359 A 19870219; CA 530146 A 19870219; DE 3760884 T 19870219; ES 87400359 T 19870219; JP 3683887 A 19870219;
US 1937887 A 19870220