

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

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