

Title (en)  
Secondary pumping group

Title (de)  
Sekundär-Pumpenaggregat

Title (fr)  
Groupe de pompage secondaire

Publication  
**EP 0767307 B1 20021218 (FR)**

Application  
**EP 96402094 A 19961001**

Priority  
FR 9511660 A 19951004

Abstract (en)  
[origin: EP0767307A1] The assembly, associated with a secondary mechanical pump (1), has a cryogenic trap (2) in the form of a ring surrounding the suction side of the pump. The trap is enclosed in a housing (4) forming the pump's suction port. It has a U-shaped cross-section with its open side towards the pump's suction side. The trap is cooled by a pulsed-tube cryogenerator (9) which surrounds the pump beneath the trap and is fed by a compressor (11) through an impedance (12) and an exchanger-regenerator (14). The impedance is in the form of a rotary valve (12) driven by a motor (13), with the exchanger-regenerator, the valve and the motor aligned parallel with the axis of the pump and beneath the cold end of the pulsed tube. The assembly is connected to a chamber in which an industrial process takes place, and a neutral gas is injected into the pump and its flow is regulated according to the pressure in the chamber.

IPC 1-7  
**F04B 37/06**; **F04B 41/06**; **F04D 19/04**

IPC 8 full level  
**F04B 37/06** (2006.01); **F04B 37/08** (2006.01); **F04B 41/06** (2006.01); **F04D 19/04** (2006.01); **F16T 1/36** (2006.01)

CPC (source: EP US)  
**F04B 37/06** (2013.01 - EP US); **F04B 41/06** (2013.01 - EP US); **F04D 19/046** (2013.01 - EP US); **Y10S 417/901** (2013.01 - EP)

Cited by  
EP1447567A3; EP1014014A4

Designated contracting state (EPC)  
CH DE GB IT LI

DOCDB simple family (publication)  
**EP 0767307 A1 19970409**; **EP 0767307 B1 20021218**; DE 69625436 D1 20030130; DE 69625436 T2 20031009; FR 2739574 A1 19970411; FR 2739574 B1 19971114; JP 2763524 B2 19980611; JP H09126126 A 19970513; US 5720174 A 19980224

DOCDB simple family (application)  
**EP 96402094 A 19961001**; DE 69625436 T 19961001; FR 9511660 A 19951004; JP 26471296 A 19961004; US 72486596 A 19961003