

Title (en)  
In-line centrifugal pump.

Title (de)  
In-line-Kreiselpumpe.

Title (fr)  
Pompe centrifuge in-line.

Publication  
**EP 0070438 A1 19830126 (DE)**

Application  
**EP 82105908 A 19820702**

Priority  
DE 3128305 A 19810717

Abstract (en)  
[origin: US4462752A] Shaftless centrifugal pumps have particularly advantageous running characteristics when installed vertically. But in order to make it possible for the delivery stream also to run vertically, the pipe connectors form bends, the ends of which can be integrated into a vertical pipeline.

Abstract (de)  
Wellenlose Kreiselpumpen weisen besonders günstige Laufeigenschaften bei vertikalem Einbau auf. Damit aber auch der Förderstrom vertikal verlaufen kann, bilden die Anschlußstutzen (2, 3) Krümmer, deren Enden (6, 6') in eine vertikale Rohrleitung eingebunden werden können.

IPC 1-7  
**F04D 29/42**; **F04D 13/02**

IPC 8 full level  
**F04D 13/02** (2006.01); **F04D 29/42** (2006.01)

CPC (source: EP US)  
**F04D 13/0633** (2013.01 - EP US); **F04D 29/0467** (2013.01 - EP US); **F04D 29/4293** (2013.01 - EP US)

Citation (search report)  
• [A] GB 522743 A 19400626 - JOHN SOUTHERN, et al  
• [A] FR 2203446 A5 19740510 - VORTEX PUMPEN AG [CH]  
• [A] US 3649137 A 19720314 - LAING NIKOLAUS  
• [A] FR 2162869 A5 19730720 - PETTERSSON CARL

Designated contracting state (EPC)  
FR GB IT

DOCDB simple family (publication)  
**EP 0070438 A1 19830126**; DE 3128305 A1 19830203; US 4462752 A 19840731

DOCDB simple family (application)  
**EP 82105908 A 19820702**; DE 3128305 A 19810717; US 39710082 A 19820712