

Title (en)  
Centrifugal pump with backflow prevention valve

Title (de)  
Kreiselpumpe mit den Rückfluss verhinderndem Ventil

Title (fr)  
Pompe centrifuge avec clapet de non-retour

Publication  
**EP 0664398 B1 19980722 (DE)**

Application  
**EP 95100590 A 19950118**

Priority  
DE 4401658 A 19940121

Abstract (en)  
[origin: EP0664398A1] The pump has the delivery medium emerging from the last stage is pressed into a ring space (13) surrounding the stages, from which it flows to the outlet. The back flow valve (10-12) is arranged abutting the ring space. It is arranged in the flow direction behind the pump, partic. behind the last pump stage, and near the bearing and/or the shaft seal (5) which is turned away from the pump suction and pressure connections (6, 7). The back flow valve surrounds a chamber (9) with a ring membrane (12), into which the pump and partic. the last pump stage delivers. The support surface for the ring membrane is formed by an externally conically formed support part (10) with through flow apertures (11) located inside the ring membrane.

IPC 1-7  
**F04D 15/00**; **F04D 1/06**

IPC 8 full level  
**F04D 1/06** (2006.01); **F04D 15/00** (2006.01)

CPC (source: EP)  
**F04D 1/066** (2013.01); **F04D 15/0083** (2013.01)

Cited by  
EP2112380A1; CN106438377A; EP1431584A3; CN106321448A; CN106545496A; CN112253471A; FR2776342A1; EP2916008A1; CN117967579A; WO2023151114A1

Designated contracting state (EPC)  
BE DE ES FR GB IT

DOCDB simple family (publication)  
**EP 0664398 A1 19950726**; **EP 0664398 B1 19980722**; DE 4401658 A1 19950727; DE 59502855 D1 19980827; ES 2119237 T3 19981001

DOCDB simple family (application)  
**EP 95100590 A 19950118**; DE 4401658 A 19940121; DE 59502855 T 19950118; ES 95100590 T 19950118