

Title (en)  
HIGH-PRESSURE PUMP PISTON/CYLINDER UNIT

Title (de)  
HOCHDRUCK-PUMPENKOLBEN-ZYLINDEREINHEIT

Title (fr)  
UNITE DE CYLINDRE A PISTON PLONGEUR HAUTE PRESSION

Publication  
**EP 1733145 A1 20061220 (DE)**

Application  
**EP 05716010 A 20050312**

Priority

- EP 2005002660 W 20050312
- DE 102004012950 A 20040317

Abstract (en)  
[origin: US2008247891A1] A high-pressure pump piston/cylinder unit includes a pump cylinder having a piston which oscillates therein provided in a housing. The piston is connected to a controlled drive to vary a suction and compression stroke volume of the pump cylinder. The pressure of the fluid drawn into the pump cylinder is increased by the stroke of the piston to make it available to a further supply element through a conveying valve. A centering cone in the form of a straight truncated cone having a circular base area and top area is formed integrally on the pump piston a maximum half diameter reduction of the centering cone with respect to the diameter of the piston skirt being in a ratio of approximately 1:200, and an axial length of the centering cone being designed in relation to the axial length of the entire piston skirt in a ratio of approximately 1:6.6.

IPC 8 full level  
**F04B 1/04** (2006.01); **F02M 59/34** (2006.01); **F02M 59/44** (2006.01); **F02M 63/00** (2006.01); **F02M 63/02** (2006.01); **F04B 53/14** (2006.01)

CPC (source: EP KR US)  
**F02M 59/20** (2013.01 - KR); **F02M 59/44** (2013.01 - EP US); **F02M 63/0001** (2013.01 - EP US); **F02M 63/02** (2013.01 - KR); **F02M 63/0225** (2013.01 - EP US); **F02M 63/0265** (2013.01 - EP US); **F04B 1/04** (2013.01 - KR); **F04B 1/0408** (2013.01 - EP US); **F04B 53/14** (2013.01 - EP US)

Citation (search report)  
See references of WO 2005093249A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**US 2008247891 A1 20081009**; **US 7789635 B2 20100907**; AT E484674 T1 20101015; CN 100554679 C 20091028; CN 1946935 A 20070411; DE 102004012950 A1 20051013; DE 502005010385 D1 20101125; EP 1733145 A1 20061220; EP 1733145 B1 20101013; JP 2007529672 A 20071025; JP 4696106 B2 20110608; KR 101120709 B1 20120323; KR 20060129463 A 20061215; WO 2005093249 A1 20051006

DOCDB simple family (application)  
**US 59317705 A 20050312**; AT 05716010 T 20050312; CN 200580008520 A 20050312; DE 102004012950 A 20040317; DE 502005010385 T 20050312; EP 05716010 A 20050312; EP 2005002660 W 20050312; JP 2007503259 A 20050312; KR 20067018777 A 20050312