

Title (en)  
Reciprocating piston compressor with transport volume control

Title (de)  
Hubkolbenverdichter mit Fördermengenregelung

Title (fr)  
Compresseur à piston éleveur avec réglage du débit de refoulement

Publication  
**EP 2511526 B1 20190821 (DE)**

Application  
**EP 12163073 A 20120404**

Priority  
AT 5312011 A 20110414

Abstract (en)  
[origin: EP2511526A1] The reciprocating compressor has a lifting gripper (2) for periodically controlled open holding of a suction valve (1) over a specific crank angle area, where the lifting gripper is arranged at the automatic suction valve. An electromagnetic actuating unit (3) has a separated actuator (10) that serves for displacing the working stroke area of the used magnetic actuator (5) relative to its attack at the suction valve in the working area optimum for the used electromagnets.

IPC 8 full level  
**F04B 7/00** (2006.01); **F04B 39/08** (2006.01); **F04B 39/10** (2006.01); **F16K 31/10** (2006.01)

CPC (source: EP US)  
**F04B 7/0076** (2013.01 - EP US); **F04B 39/08** (2013.01 - EP US); **F04B 39/1053** (2013.01 - EP US)

Citation (examination)  
US 2007065302 A1 20070322 - SCHMITZ MICHAEL B [DE]

Citation (opposition)  
Opponent : Mario Cozzani S.r.l.  
• US 2007272890 A1 20071129 - KOPECEK HERBERT [DE], et al  
• DE 19641244 A1 19980409 - FEV MOTORENTECH GMBH & CO KG [DE]  
• DE 19631909 A1 19970213 - FEV MOTORENTECH GMBH & CO KG [DE]  
• DE 19949930 A1 20010426 - DAIMLER CHRYSLER AG [DE]  
• WO 2011009880 A1 20110127 - BURCKHARDT COMPRESSION AG [CH], et al  
• US 4515343 A 19850507 - PISCHINGER FRANZ [DE], et al  
• EP 2032854 B1 20131120 - DOTT ING MARIO COZZANI SRL [IT]  
• EP 0694693 A1 19960131 - HOERBIGER VENTILWERKE AG [AT]  
• US 2007065302 A1 20070322 - SCHMITZ MICHAEL B [DE]  
• WO 2006112236 A1 20061026 - CKD CORP [JP], et al  
• EP 0801227 A2 19971015 - HOERBIGER VENTILWERKE AG [AT]  
• US 2010086415 A1 20100408 - SPIEGL BERNHARD [AT], et al  
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• US 8641008 B2 20140204 - SCHIAVONE MASSIMO [IT], et al

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US2022356874A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 2511526 A1 20121017; EP 2511526 B1 20190821**; AT 511238 A1 20121015; AT 511238 B1 20130315; CN 102734134 A 20121017; CN 102734134 B 20151216; JP 2012225345 A 20121115; JP 6112772 B2 20170412; US 2012260796 A1 20121018; US 9027459 B2 20150512

DOCDB simple family (application)  
**EP 12163073 A 20120404**; AT 5312011 A 20110414; CN 201210107892 A 20120413; JP 2012092962 A 20120416; US 201213443575 A 20120410