

Title (en)
DRY VACUUM PUMP APPARATUS

Title (de)
TROCKENVAKUUMPUMPENVORRICHTUNG

Title (fr)
APPAREIL DE POMPE À VIDE SÈCHE

Publication
EP 3842642 B1 20220914 (EN)

Application
EP 21157362 A 20110418

Priority

- JP 2010096541 A 20100419
- JP 2010096542 A 20100419
- JP 2010096543 A 20100419
- JP 2010096544 A 20100419
- JP 2010096545 A 20100419
- EP 18198549 A 20110418
- EP 11003265 A 20110418

Abstract (en)
[origin: EP2378125A2] A dry vacuum pump apparatus includes a dry vacuum pump (10) having a final outlet port (18) and an intermediate release outlet port (19), an exhaust section check valve (51) connected to the final outlet port (18) and having an outlet port, an intermediate section check valve (52) connected to the intermediate release outlet port (19) and having an outlet port, and an exhaust passage (56) connected to the outlet port of the exhaust section check valve (51) and the outlet port of the intermediate section check valve (52), a silencer (53) connected to the exhaust passage (56) and having an outlet port connected to a final exhaust passage (56a) which is vented to the atmosphere.

IPC 8 full level
F04C 29/12 (2006.01)

CPC (source: EP KR)
F04C 2/02 (2013.01 - KR); **F04C 2/08** (2013.01 - KR); **F04C 2/165** (2013.01 - KR); **F04C 2/344** (2013.01 - KR); **F04C 11/00** (2013.01 - KR); **F04C 18/12** (2013.01 - KR); **F04C 25/02** (2013.01 - KR); **F04C 28/08** (2013.01 - KR); **F04C 29/06** (2013.01 - KR); **F04C 29/061** (2013.01 - EP KR); **F04C 29/12** (2013.01 - EP); **F04C 29/122** (2013.01 - KR); **F04C 18/12** (2013.01 - EP); **F04C 2210/22** (2013.01 - KR); **F04C 2220/12** (2013.01 - EP KR); **Y10S 415/00** (2013.01 - KR); **Y10S 417/00** (2013.01 - KR)

Citation (opposition)
Opponent : PFEIFFER VACUUM

- US 5779453 A 19980714 - NAGAYAMA MASAMI [JP], et al
- EP 2058521 B1 20110323 - ALCATEL LUCENT [FR]
- JP H11315794 A 19991116 - KASHIYAMA KOGYO KK
- ALCATEL: "A3H Series", ADIXEN - USER'S MANUAL ADENDUM, 1 November 2009 (2009-11-01), XP093127156, [retrieved on 20240205]

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 2378125 A2 20111019; **EP 2378125 A3 20141126**; **EP 2378125 B1 20181114**; CN 102220981 A 20111019; EP 3447297 A1 20190227; EP 3447297 B1 20210217; EP 3842642 A1 20210630; EP 3842642 B1 20220914; KR 101804422 B1 20171204; KR 20110116992 A 20111026; TW 201207241 A 20120216; TW I518245 B 20160121

DOCDB simple family (application)
EP 11003265 A 20110418; CN 201110132333 A 20110419; EP 18198549 A 20110418; EP 21157362 A 20110418; KR 20110035570 A 20110418; TW 100113114 A 20110415