

Title (en)  
ROTOR PAIR FOR A COMPRESSOR BLOCK OF A SCREW MACHINE

Title (de)  
ROTORPAAR FÜR EINEN VERDICHTERBLOCK EINER SCHRAUBENMASCHINE

Title (fr)  
PAIRE DE ROTORS POUR BLOC DE COMPRESSEUR D'UNE VISSEUSE

Publication  
**EP 3597920 A3 20210324 (DE)**

Application  
**EP 19190907 A 20150427**

Priority  
• DE 102014105882 A 20140425  
• EP 18163593 A 20150427  
• EP 15736405 A 20150427  
• EP 2015059070 W 20150427

Abstract (en)  
[origin: WO2015162296A2] The invention relates to a rotor pair for a compressor block of a screw machine, wherein the rotor pair comprises a secondary rotor (NR) that rotates about a first axis (C1) and a main rotor (HR) that rotates about a second axis (C2), wherein the number of teeth (z2) of the main rotor (HR) is 3 and the number of teeth (z1) of the secondary rotor (NR) is 4. The relative profile depth of the secondary rotor (formula (I)) is at least 0.5, preferably at least 0.515, and at most 0.65, preferably at most 0.595. rk1 is an addendum circle radius drawn around the outer circumference of the secondary rotor (NR) and rf1 is a dedendum circle radius starting at the profile base of the secondary rotor, wherein the ratio of the axis distance (a) of the first axis (C1) from the second axis (C2) and the addendum circle radius rk1 (formula (II)) is at least 1.636, and at most 1.8, preferably at most 1.733.

IPC 8 full level  
**F04C 18/16** (2006.01); **F01C 1/08** (2006.01); **F01C 1/16** (2006.01); **F04C 18/08** (2006.01)

CPC (source: CN EP US)  
**F01C 1/084** (2013.01 - EP); **F01C 1/16** (2013.01 - EP); **F04C 18/084** (2013.01 - CN EP US); **F04C 18/16** (2013.01 - CN EP US); **F04C 18/20** (2013.01 - US); **F04C 2240/20** (2013.01 - US); **F04C 2240/30** (2013.01 - US); **F04C 2240/60** (2013.01 - US)

Citation (search report)  
• [Y] US 2622787 A 19521223 - ROBERT NILSSON HANS  
• [Y] JP 2009243325 A 20091022 - HITACHI IND EQUIPMENT SYS  
• [YA] DE 2911415 A1 19810115 - BAMMERT KARL  
• [A] DE 19539002 A1 19970424 - KUMWON CO [KR]  
• [A] GB 2501302 A 20131023 - UNIV CITY [GB]  
• [A] EP 0398675 A2 19901122 - ISHIKAWAJIMA HARIMA HEAVY IND [JP]  
• [A] DE 3230720 C2 19940505 - INGERSOLL RAND CO [US]  
• [A] WO 9721926 A1 19970619 - BUSCH SA ATEL [CH], et al  
• [A] DE 1428265 A1 19690116 - SVENSKA ROTOR MASKINER AB  
• [A] JP 2007146659 A 20070614 - HITACHI IND EQUIPMENT SYS  
• [A] JP S60216089 A 19851029 - HITACHI LTD  
• [A] SINGH P J ET AL: "Effect of Design Parameters on Oil-Flooded Screw Compressor Performance", INTERNATIONAL COMPRESSOR ENGINEERING CONFERENCE. PAPER 517, 1 January 1986 (1986-01-01), Purdue University, pages 71 - 88, XP055775194, Retrieved from the Internet <URL:http://docs.lib.purdue.edu/icec> [retrieved on 20210211]

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)  
**WO 2015162296 A2 20151029; WO 2015162296 A3 20151223**; CN 106536933 A 20170322; CN 106536933 B 20190712; DE 102014105882 A1 20151112; DE 202015009525 U1 20180215; EP 3134649 A2 20170301; EP 3134649 B1 20180404; EP 3134649 B2 20221214; EP 3134649 B9 20190227; EP 3358189 A1 20180808; EP 3358189 B1 20231011; EP 3358189 B9 20240103; EP 3597920 A2 20200122; EP 3597920 A3 20210324; EP 3597920 B1 20230906; EP 4273403 A2 20231108; EP 4273403 A3 20240403; ES 2668317 T3 20180517; ES 2668317 T5 20230410; ES 2963314 T3 20240326; ES 2967470 T3 20240430; JP 2017514069 A 20170601; JP 6545787 B2 20190717; US 10400769 B2 20190903; US 11248606 B2 20220215; US 2017045050 A1 20170216; US 2018112663 A2 20180426; US 2020040894 A1 20200206; US 2022136504 A1 20220505; US 2024175436 A1 20240530

DOCDB simple family (application)  
**EP 2015059070 W 20150427**; CN 201580022693 A 20150427; DE 102014105882 A 20140425; DE 202015009525 U 20150427; EP 15736405 A 20150427; EP 18163593 A 20150427; EP 19190907 A 20150427; EP 23198449 A 20150427; ES 15736405 T 20150427; ES 18163593 T 20150427; ES 19190907 T 20150427; JP 2017507082 A 20150427; US 201515306592 A 20150427; US 201916530002 A 20190802; US 202217577212 A 20220117; US 202318501260 A 20231103