

Title (en)

METHOD OF STARTING AN INTEGRATED AIR-SEPARATION AND METAL-PRODUCTION APPARATUS

Title (de)

VERFAHREN ZUM STARTEN EINER INTEGRIERTEN LUFTTRENNUNGS- UND METALLERZEUGUNGSVORRICHTUNG

Title (fr)

PROCEDE DE DEMARRAGE D'UN APPAREIL INTEGRE DE SEPARATION D'AIR ET DE PRODUCTION D'UN METAL

Publication

EP 1709378 A1 20061011 (FR)

Application

EP 04816555 A 20041216

Priority

- FR 2004050702 W 20041216
- FR 0351157 A 20031222

Abstract (en)

[origin: FR2864214A1] Air separation apparatus comprises an air purifier (E) and a blower (C2) for supplying compressed air via a cooler (LE) to a system of columns (MP, BP, CM) from which a product gas (O) is withdrawn. A variable speed motor (M) with at least two nominal speeds to drive the blower. Independent claims are also included for; (1) integrated air separation and metal production apparatus comprising air separation apparatus as above, metal production apparatus (FM) and a compressor (S) for compressing the air supply to the air separation apparatus and metal production apparatus; and (2) starting up air separation and metal production apparatus as above by operating the motor at higher speed during startup of the metal production apparatus than during steady-state operation of the apparatus.

IPC 8 full level

F25J 3/04 (2006.01); **H02P 5/00** (2006.01); **H02P 25/00** (2006.01)

CPC (source: EP US)

F25J 3/04018 (2013.01 - EP US); **F25J 3/04024** (2013.01 - EP US); **F25J 3/04054** (2013.01 - EP US); **F25J 3/04133** (2013.01 - EP US);
F25J 3/04139 (2013.01 - EP US); **F25J 3/04303** (2013.01 - EP US); **F25J 3/04381** (2013.01 - EP US); **F25J 3/04466** (2013.01 - EP US);
F25J 3/04551 (2013.01 - EP US); **F25J 3/046** (2013.01 - EP US); **F25J 3/04818** (2013.01 - EP US); **F25J 2200/06** (2013.01 - EP US);
F25J 2230/42 (2013.01 - EP US); **F25J 2235/50** (2013.01 - EP US)

Citation (search report)

See references of WO 2005064251A1

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)

FR 2864214 A1 20050624; FR 2864214 B1 20170421; BR PI0417962 A 20070327; CN 100473929 C 20090401; CN 1898515 A 20070117;
EP 1709378 A1 20061011; JP 2007515617 A 20070614; JP 4809243 B2 20111109; RU 2006126668 A 20080127; US 2007186582 A1 20070816;
WO 2005064251 A1 20050714

DOCDB simple family (application)

FR 0351157 A 20031222; BR PI0417962 A 20041216; CN 200480038389 A 20041216; EP 04816555 A 20041216; FR 2004050702 W 20041216;
JP 2006546274 A 20041216; RU 2006126668 A 20041216; US 58359904 A 20041216