

Title (en)

Operation control device and method of vacuum pumps

Title (de)

Betriebssteuerungsvorrichtung und -verfahren für Vakuumpumpen

Title (fr)

Dispositif de commande de fonctionnement et procédé de pompes à vide

Publication

EP 1906024 A2 20080402 (EN)

Application

EP 07017322 A 20070904

Priority

JP 2006247398 A 20060912

Abstract (en)

An operation control devices and operation methods thereof so as to eliminate the difficulties in such a case of introduction of vacuum sensors and/or inverter control is disclosed. The disclosure relates to a control of plural sets of vacuum pumps. In order to comply with the subjects to overcome the difficulties, the disclosure proposes to utilize current detection approach instead of direct pressure detection approach, while showing how to estimate a vacuum degree achieved under the operation of the pumps as well as presenting a method on the control of the number of pumps. It is also described how organically a current detecting device, a vacuum degree estimating device, a working pump control device and related methods to satisfy the subjects are linked.

IPC 8 full level

F04C 28/02 (2006.01)

CPC (source: EP US)

F04C 28/02 (2013.01 - EP US); **F04C 28/06** (2013.01 - EP US); **F04C 2240/403** (2013.01 - EP US); **F04C 2270/07** (2013.01 - EP US); **F04C 2270/56** (2013.01 - EP US)

Cited by

EP3916231A1; EP3199813A1; US11162492B2; US10451052B2; WO2010072808A3; US9399990B2; US8381679B2; EP2131648A1

Designated contracting state (EPC)

DE FR GB

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 1906024 A2 20080402; **EP 1906024 A3 20120613**; **EP 1906024 B1 20170628**; CN 101144470 A 20080319; CN 101144470 B 20120222; JP 2008069674 A 20080327; JP 4737770 B2 20110803; US 2008063534 A1 20080313

DOCDB simple family (application)

EP 07017322 A 20070904; CN 200710182128 A 20070912; JP 2006247398 A 20060912; US 85394207 A 20070912