

Title (en)

A METHOD AND A SYSTEM FOR CONTROLLING A MODULATING VALVE UNIT INCLUDING AN ELECTROMAGNET

Title (de)

VERFAHREN UND SYSTEM ZUR STEUERUNG EINER MODULATIONSVENTILEINHEIT MIT EINEM ELEKTROMAGNETEN

Title (fr)

PROCÉDÉ ET SYSTÈME POUR COMMANDER UNE UNITÉ DE SOUPAPE DE MODULATION COMPRENANT UN ÉLECTROAIMANT

Publication

**EP 2739906 A1 20140611 (EN)**

Application

**EP 12731422 A 20120628**

Priority

- IT PD20110261 A 20110803
- EP 2012062603 W 20120628

Abstract (en)

[origin: WO2013017346A1] Valve unit (1) for controlling the feed of a combustible gas to a burner apparatus, comprising: a device (6) for regulating the pressure of the gas at the outlet of the unit, including a valve seat (7) associated with a plug (8), and an operating means (14) for causing the plug to move relatively to the corresponding valve seat, to regulate the outlet feed pressure (Pu) by modulation, the operating means comprising at least one electromagnet of the proportional type; a control circuit of the pressure regulating device including a PWM signal generator generating a PWM voltage signal adapted to generate a current signal in the electromagnet in order to move the plug as a function of the magnitude of the current signal and thus determine the outlet pressure, the magnitude of the current being a function of the duty cycle of the PWM signal; the PWM signal having a frequency such that the operating means is subjected to a mechanical dither having a specified amplitude at least for a specified time interval; the PWM signal generator including means of controlling the duty cycle and means of controlling the frequency of the PWM signal, the duty cycle control means varying the duty cycle of the PWM signal with the variation of the desired outlet pressure, and the frequency control means being adapted to vary the frequency of the PWM signal as a function of the variation of the duty cycle so as to keep the amplitude of the dither substantially constant, independently from the variations of the duty cycle of the PWM signal.

IPC 8 full level

**F23N 1/00** (2006.01); **H01F 7/18** (2006.01)

CPC (source: EP)

**F23N 1/002** (2013.01); **H01F 7/18** (2013.01); **F23N 2223/04** (2020.01); **F23N 2223/08** (2020.01); **F23N 2223/22** (2020.01); **F23N 2235/14** (2020.01); **F23N 2235/16** (2020.01); **F23N 2235/20** (2020.01); **H01F 2007/1888** (2013.01)

Citation (search report)

See references of WO 2013017346A1

Cited by

WO2019122976A1

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 2013017346 A1 20130207**; EP 2739906 A1 20140611; EP 2739906 B1 20180110; IT PD20110261 A1 20130204

DOCDB simple family (application)

**EP 2012062603 W 20120628**; EP 12731422 A 20120628; IT PD20110261 A 20110803