

Title (en)
PARTIALLY-PREMIXED GAS BURNER APPLIANCE

Title (de)
GASBRENNERVORRICHTUNG MIT TEILWEISE VORGEMISCHTEM GAS

Title (fr)
APPAREIL DE TYPE BRÛLEUR À GAZ PARTIELLEMENT PRÉMÉLANGÉ

Publication
EP 4302015 A1 20240110 (EN)

Application
EP 21707602 A 20210304

Priority
CN 2021079048 W 20210304

Abstract (en)
[origin: WO2022183429A1] Partially-premixed gas burner appliance (10), comprising a combustion chamber (11), a fan (17) and a gas modulator (20). The fan (17) is configured to provide an air flow to the combustion chamber (11) and is assigned to an air inlet port (11A) of the combustion chamber or to an air duct (18) configured to provide the air to the air inlet port. An air flow restriction element (19) is assigned to the air inlet port (11A) or to the air duct (18). The air flow restriction element (19) is configured to provide a pressure drop so that the pressure downstream of the air flow restriction element (19) is lower than the pressure upstream of the same. The gas modulator (20) is configured to provide a gas flow to the combustion chamber (11), wherein a first portion of the air provided by the fan (17) is premixed with the gas flow before the gas is combusted, and wherein a second portion of the air provided by the fan (17) is mixed with the gas while the gas is combusted. The gas modulator (20) is a pneumatic gas control valve, wherein the pneumatic gas control valve has a main gas valve (22), a safety gas valve (23), a servo gas valve (24) and gas outlet pressure regulator (25). The gas outlet pressure regulator (25), namely a first chamber (33) of the same in which a pressure is present that influences the nominal-value of the gas outlet pressure of the pneumatic gas control valve, is connected to the air inlet port (11A) or to the air duct (18) upstream of the air flow restriction element (19) such that the gas outlet pressure provided by the pneumatic gas control valve depends on the air pressure upstream of the air flow restriction element (19).

IPC 8 full level
F23N 1/02 (2006.01)

CPC (source: EP US)
F23N 1/027 (2013.01 - EP US); **F23N 2225/06** (2020.01 - EP); **F23N 2235/18** (2020.01 - EP US); **F23N 2235/20** (2020.01 - EP); **F23N 2235/24** (2020.01 - US)

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

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
WO 2022183429 A1 20220909; CN 116981884 A 20231031; EP 4302015 A1 20240110; US 2024142103 A1 20240502

DOCDB simple family (application)
CN 2021079048 W 20210304; CN 202180095188 A 20210304; EP 21707602 A 20210304; US 202118548666 A 20210304