

Title (en)

FACILITY AND METHOD FOR DISTRIBUTING A GAS MIXTURE FOR DOPING SILICON WAFERS

Title (de)

ANLAGE UND VERFAHREN ZUR VERTEILUNG EINES GASGEMISCHES ZUR DOTIERUNG VON SILIZIUMWAFERN

Title (fr)

INSTALLATION ET PROCÉDÉ DE DISTRIBUTION D'UN MÉLANGE DE GAZ POUR LE DOPAGE DE PLAQUETTES DE SILICIUM

Publication

**EP 4162520 A1 20230412 (FR)**

Application

**EP 21728917 A 20210527**

Priority

- FR 2005923 A 20200605
- EP 2021064250 W 20210527

Abstract (en)

[origin: WO2021244946A1] Disclosed is a facility for distributing a gas mixture to a silicon wafer doping unit, comprising a doping gas source (1), a carrier gas source (2), a mixing device (3) connected to the doping gas container (1) and the carrier gas source (2), a first flow rate regulating member (41) and a second flow rate regulating member (42) for regulating the flow rates of the doping gas (1) and carrier gas (2) to the mixing device (3), a control unit (5) for controlling the first and second flow rate regulating members (41, 42) so as to adjust the first flow rate setpoint (D1) and the second flow rate setpoint (D2) in proportions determined according to at least one target content (C1, C2) of the mixture of the doping gas (1) and/or the carrier gas (2), a buffer tank (7), a distribution line (6) for distributing the mixture to a doping unit (10) with a consumption rate (DC), at least one measurement sensor (8) for measuring a physical quantity, the variation of which is representative of a variation in the consumption rate (DC), and for supplying a first measurement signal, the control unit (5) being connected to the sensor (8) and configured to produce a first control signal on the basis of the first measurement signal, the flow rate regulating members (41, 42) being configured to adjust the first and second flow rate setpoints (D1, D2) in response to the first control signal.

IPC 8 full level

**H01L 21/67** (2006.01)

CPC (source: EP KR US)

**B01F 23/191** (2022.01 - US); **B01F 35/2111** (2022.01 - US); **B01F 35/2132** (2022.01 - US); **B01F 35/2202** (2022.01 - US); **B01F 35/2211** (2022.01 - US); **B01F 35/83** (2022.01 - US); **H01L 21/67017** (2013.01 - EP KR); **H01L 21/67253** (2013.01 - KR); **B01F 2101/58** (2022.01 - US)

Citation (search report)

See references of WO 2021244946A1

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)

**FR 3111086 A1 20211210**; CN 115699285 A 20230203; EP 4162520 A1 20230412; JP 2023533432 A 20230803; KR 20230020436 A 20230210; TW 202202653 A 20220116; US 2023285911 A1 20230914; WO 2021244946 A1 20211209

DOCDB simple family (application)

**FR 2005923 A 20200605**; CN 202180037953 A 20210527; EP 2021064250 W 20210527; EP 21728917 A 20210527; JP 2022574649 A 20210527; KR 20227045310 A 20210527; TW 110120008 A 20210602; US 202118008375 A 20210527