

Title (en)

SEMI-CHEMICAL SEMI-MECHANICAL SEALED ULTRA-LOW OXYGEN CONTENT ATOMIZING DEVICE

Title (de)

HALBCHEMISCHE, HALBMECHANISCHE VERSIEGELTE ZERSTÄUBUNGSVORRICHTUNG MIT EXTREM NIEDRIGEM SAUERSTOFFGEHALT

Title (fr)

DISPOSITIF D'ATOMISATION À TRÈS FAIBLE TENEUR EN OXYGÈNE, SCELLÉ SEMI-CHIMIQUE ET SEMI-MÉCANIQUE

Publication

EP 3219419 A1 20170920 (EN)

Application

EP 15786038 A 20150402

Priority

- CN 201410188894 A 20140430
- CN 2015000230 W 20150402

Abstract (en)

The invention generally relates to a water atomization equipment, especially a water atomization or water-gas atomization equipment. This invention which is used for preparing metal or alloy powder is related to the field of powder metallurgy. Compared with other designs in China, the water atomization equipment in accordance with this invention is safer and the oxygen content of the powder produced by the invention is in the range of 50 to 500ppm. The invention provides a water atomization equipment that includes three characteristics: (1) This invention applies semi-chemical method (such as eject reducing gas like CO, inert gas or vacuumizing, where the last two method has relatively high oxygen content compared with the first method) and mechanical seal method (such as using movable separator) to reduce the oxygen content in the smelting chamber. (2) This invention applied mechanical seal method to separate the smelting chamber and the atomization chamber. The special mechanical seal method could allow metal drops to enter the atomization chamber meanwhile prevent water vapor from entering the smelting chamber to avoid explosion or reducing the vacuum degree. (3) By vacuumizing as well as ejecting reducing gas or inert gas, the smelting chamber is separated from external air.

IPC 8 full level

B22F 9/08 (2006.01)

CPC (source: EP)

B22F 9/08 (2013.01); **B22F 9/082** (2013.01); **B22F 2009/0828** (2013.01)

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)

EP 3219419 A1 20170920; **EP 3219419 A4 20190227**; AU 2015252653 A1 20170105; CN 105014086 A 20151104; WO 2015165278 A1 20151105

DOCDB simple family (application)

EP 15786038 A 20150402; AU 2015252653 A 20150402; CN 201410188894 A 20140430; CN 2015000230 W 20150402