

Title (en)

DEVICE FOR AUTOMATICALLY REPLACING CATALYSTS IN A REACTOR COMPRISING A BUNDLE OF CONTACT TUBES

Title (de)

VORRICHTUNG ZUM AUTOMATISCHEN KATALYSATORWECHSEL IN EINEM REAKTOR MIT EINEM BÜNDEL VON KONTAKTROHREN

Title (fr)

DISPOSITIF DE REMPLACEMENT AUTOMATIQUE DU CATALYSEUR DANS UN RÉACTEUR COMPORTANT UN FAISCEAU DE TUBES DE CONTACT

Publication

EP 2323756 A1 20110525 (DE)

Application

EP 09782764 A 20090908

Priority

- EP 2009061630 W 20090908
- EP 08163957 A 20080909
- EP 09782764 A 20090908

Abstract (en)

[origin: US2010063304A1] What is proposed is an apparatus for automatic catalyst exchange in a plurality of process steps in the catalyst tubes of a reactor with a bundle of catalyst tubes, which are welded in or rolled in between an upper tube plate and a lower tube plate in longitudinal direction of the reactor, and welded tight, comprising a tool carrier device, which is arranged so as to be mobile in a plane above and parallel to the upper tube plate, and which can be equipped with an exchangeable tool for each process step, the exchangeable tool being mobile together with the tool carrier device in the plane above and parallel to the upper tube plate and also vertically, in the direction of the longitudinal axis of the reactor, and being able to access each individual catalyst tube with control by means of a control unit, the position of the longitudinal axis of each individual catalyst tube being measured or calculated and recorded in the control unit in a position database.

IPC 8 full level

B01J 8/00 (2006.01); **B01J 8/06** (2006.01)

CPC (source: EP KR US)

B01J 8/00 (2013.01 - KR); **B01J 8/002** (2013.01 - EP US); **B01J 8/003** (2013.01 - EP US); **B01J 8/0035** (2013.01 - EP US); **B01J 8/06** (2013.01 - EP KR US); **B01J 2208/00752** (2013.01 - EP US); **B01J 2208/00761** (2013.01 - EP US); **B01J 2208/00769** (2013.01 - EP US); **Y10T 29/49345** (2015.01 - EP US)

Citation (search report)

See references of WO 2010029072A1

Designated contracting state (EPC)

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Designated extension state (EPC)

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DOCDB simple family (publication)

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US 54381609 A 20090819; BR PI0918850 A 20090908; CN 200980135128 A 20090908; EP 09782764 A 20090908; EP 2009061630 W 20090908; JP 2011526477 A 20090908; KR 20117005454 A 20090908; RU 2011113397 A 20090908; TW 98129280 A 20090831; ZA 201102538 A 20110406