

Title (en)

Method and apparatus to isolate the cold in cryogenic equipment

Title (de)

Verfahren und Vorrichtung zum Isolieren der Kälte in einer Kryoausrüstung

Title (fr)

Procédé et appareil pour isoler le froid dans un équipement cryogénique

Publication

EP 2881186 A1 20150610 (EN)

Application

EP 13005710 A 20131209

Priority

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Abstract (en)

The invention relates to an apparatus and a method for spraying a cryogenic fluid to a work piece (1) comprising a cryogen feed line (3), at least one delivery nozzle (4) for delivering the cryogenic fluid (2), a shroud which surrounds at least part of said delivery nozzle (4) and which has a front face with an opening which is directed to the workpiece. The shroud and the work piece (1) are movable relative to each other between a working configuration and a maintenance configuration. In the maintenance configuration the shroud comprises a barrier which prevents or minimizes ambient air from entering the shroud.

IPC 8 full level

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Citation (applicant)

WO 2012110241 A1 20120823 - LINDE AG [DE], et al

Citation (search report)

- [XA] WO 2009032688 A1 20090312 - AIR PROD & CHEM [US], et al
- [XDA] WO 2012110241 A1 20120823 - LINDE AG [DE], et al
- [XA] WO 02087803 A1 20021107 - AIR PROD & CHEM [US], et al
- [A] GB 2466458 A 20100623 - SIEMENS VAI METALS TECH LTD [GB]

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GB2537162A; GB2537162B; US10005114B2; WO2017186433A1

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EP 3079841 A1 20161019; EP 3079841 B1 20180718; ES 2687785 T3 20181029; JP 2017501882 A 20170119; JP 6516745 B2 20190522;
KR 20160096165 A 20160812; US 2016303626 A1 20161020; WO 2015086119 A1 20150618

DOCDB simple family (application)

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US 201415101484 A 20141127