

Title (en)

Apparatus for maintaining a urea solution in a liquid state for treatment of diesel exhaust

Title (de)

Vorrichtung zur Aufrechterhaltung einer Harnstofflösung in einem flüssigen Zustand zur Behandlung von Dieselabgas

Title (fr)

Appareil pour conserver une solution d'urée dans un état liquide pour le traitement d'échappement pour diesel

Publication

**EP 2273082 A1 20110112 (EN)**

Application

**EP 10168398 A 20100705**

Priority

- US 49985009 A 20090709
- US 49986009 A 20090709

Abstract (en)

A system for keeping a reservoir solution of urea in a liquid state at normally sub-freezing temperatures comprising a reservoir tank module disposed in a solution storage tank (118). Solution in the storage tank (118) is heated partially by passage of heat through the walls of the reservoir tank module. Additional heat is derived from waste heat in engine exhaust gas and is added to the system either by passing a portion of the exhaust gas stream directly onto or through the solution or by passing air heated by the exhaust gas stream directly onto or through the solution. Alternatively, the hot gas may be impinged onto an outer surface of the storage tank (118).

IPC 8 full level

**F01N 3/20** (2006.01)

CPC (source: EP)

**F01N 3/206** (2013.01); **F01N 2240/02** (2013.01); **F01N 2240/20** (2013.01); **F01N 2410/00** (2013.01); **F01N 2610/02** (2013.01); **F01N 2610/10** (2013.01); **F01N 2610/1406** (2013.01); **F01N 2610/1466** (2013.01); **F01N 2610/1486** (2013.01)

Citation (applicant)

- US 6387336 B2 20020514 - MARKO ARMIN [DE], et al
- US 2008092531 A1 20080424 - SUZUKI KAZUNORI [JP], et al

Citation (search report)

- [X] KR 20070059641 A 20070612 - HYUNDAI MOTOR CO LTD [KR]
- [A] EP 0878608 A2 19981118 - DAIMLER BENZ AG [DE]
- [A] WO 2006087553 A1 20060824 - IMI VISION LTD [GB], et al

Cited by

CN112347618A; CN104395572A; EP2886815A4; US9732650B2; DE102019118528B4; US10245534B2; US11318401B2

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 SE SI SK SM TR

Designated extension state (EPC)

BA ME RS

DOCDB simple family (publication)

**EP 2273082 A1 20110112**; EP 2273083 A1 20110112

DOCDB simple family (application)

**EP 10168398 A 20100705**; EP 10168399 A 20100705