Title (en)

Apparatus for maintening 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 2273083 A1 20110112 (EN)

Application

EP 10168399 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 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 by passing a portion of the exhaust gas stream through a gas/liquid heat exchanger (152) disposed within the solution in the storage tank (118). The cooled gas is returned to the exhaust system or is sent to the engine intake manifold for EGR.

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)

• [XI] WO 0138704 A1 20010531 - CATERPILLAR INC [US]
• [XPI] DE 102008001020 A1 20091008 - BOSCH GMBH ROBERT [DE]
• [A] EP 2065578 A1 20090603 - INT ENGINE INTELLECTUAL PROP [US]

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