

Title (en)

DEVICE AND METHOD FOR FILLING TANKS

Title (de)

VORRICHTUNG UND VERFAHREN ZUR FÜLLUNG VON TANKS

Title (fr)

DISPOSITIF ET UN PROCÉDÉ DE REMPLISSAGE DE RÉSERVOIRS

Publication

EP 4078013 A1 20221026 (FR)

Application

EP 20803573 A 20201112

Priority

- FR 1914629 A 20191217
- EP 2020081904 W 20201112

Abstract (en)

[origin: CA3161481A1] Device and method for filling pressurised gas tanks, comprising a pressurised gas source (2), a transfer pipe (3) connected to a tank (4) to be filled, the transfer pipe (3) comprising a set of valve(s) (5) and a compressor (6), the device (1) comprising a sensor (11) for detecting the presence of oil in the gas flowing in the transfer pipe (3) downstream of the compressor (6), the device comprising a bypass pipe (7) connected to the transfer pipe (3) downstream of the compressor (6) and comprising a set of at least two valve(s) (8, 9, 10) in series which are configured to enable, in a first configuration, the gas flowing in the transfer pipe (3) to be extracted in the bypass pipe (7) and, in a second configuration, fluid isolation between the bypass pipe (7) and the transfer pipe (3), wherein the valve assembly (8, 9, 10) of the transfer pipe (3) defines in the second configuration a closed storage space for the gas extracted and enclosed in the bypass pipe (3), the closed storage space comprising a pressure relief system for the gas extracted and enclosed in the bypass pipe (3) for lowering the pressure of the enclosed gas to a pressure lower than the pressure of the gas flowing in the transfer pipe (3), the oil presence detection sensor (11) detecting oil in the closed storage space.

IPC 8 full level

F17C 5/06 (2006.01)

CPC (source: EP KR US)

F17C 5/06 (2013.01 - EP KR US); **F17C 2201/054** (2013.01 - EP); **F17C 2201/056** (2013.01 - EP KR); **F17C 2201/058** (2013.01 - EP);
F17C 2205/0329 (2013.01 - EP KR US); **F17C 2221/012** (2013.01 - EP KR US); **F17C 2223/0123** (2013.01 - EP KR);
F17C 2223/036 (2013.01 - EP KR US); **F17C 2225/0123** (2013.01 - EP KR US); **F17C 2225/036** (2013.01 - EP KR US);
F17C 2227/0157 (2013.01 - EP KR US); **F17C 2227/0337** (2013.01 - EP KR); **F17C 2250/032** (2013.01 - EP KR US);
F17C 2250/043 (2013.01 - EP KR US); **F17C 2250/0439** (2013.01 - EP KR); **F17C 2250/0452** (2013.01 - EP KR);
F17C 2265/012 (2013.01 - EP KR US); **F17C 2265/065** (2013.01 - EP KR); **Y02E 60/32** (2013.01 - EP KR)

Citation (search report)

See references of WO 2021121802A1

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

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

FR 3104670 A1 20210618; FR 3104670 B1 20211105; CA 3161481 A1 20210624; EP 4078013 A1 20221026; JP 2023506723 A 20230220;
KR 20220112267 A 20220810; US 2023012928 A1 20230119; WO 2021121802 A1 20210624

DOCDB simple family (application)

FR 1914629 A 20191217; CA 3161481 A 20201112; EP 2020081904 W 20201112; EP 20803573 A 20201112; JP 2022532817 A 20201112;
KR 20227022021 A 20201112; US 202017786729 A 20201112