

Title (en)

METHOD AND DEVICE FOR FILLING A CONTAINER WITH LIQUID GAS FROM A STORAGE TANK

Title (de)

VERFAHREN UND VORRICHTUNG ZUM BEFÜLLEN EINES BEHÄLTERS MIT FLÜSSIGGAS AUS EINEM VORRATSTANK

Title (fr)

PROCEDE ET DISPOSITIF PERMETTANT DE REMPLIR UN CONTENANT DE GAZ LIQUIDE ISSU D'UN RESERVOIR DE STOCKAGE

Publication

EP 1776541 B1 20080116 (DE)

Application

EP 05776200 A 20050719

Priority

- EP 2005053485 W 20050719
- DE 102004038460 A 20040807

Abstract (en)

[origin: WO2006015927A1] According to a previously known method for filling a container with liquid gas from a storage tank, liquid gas is pumped from a storage tank via a liquid feed line into the container to be filled, while at the same time gas is removed from the container in the gaseous state, is cooled in a heat exchanger disposed inside the storage tank, thereby liquefying it, and is fed to the liquid feed line via a venturi nozzle. When a venturi nozzle is used, it is possible that the gas fed to the liquid is not completely liquefied but is partially present in the gaseous state (cavitation), thereby complicating delivery of the liquid gas into the container to be filled. According to the invention, the delivery device used for filling the container is used to increase the pressure inside the container to be filled and thus also in the gas line through which the gaseous gas is fed from the container to a heat exchanger. The gas that is cooled and at least partially liquefied in the heat exchanger is fed to the liquid feed line on the suction end of the delivery device. In an embodiment, the differential pressure between the pressure in the container to be filled and the pressure in the storage container is measured and is used to control a stop valve which allows the at least partially liquefied gas to be fed to the container only once a certain minimum gas pressure is reached. The inventive method allows to reduce cavitations to such a degree that delivery of the liquid gas is no longer impaired and removes the need for a venturi nozzle.

IPC 8 full level

F17C 5/02 (2006.01)

CPC (source: EP US)

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Cited by

FR3074254A1; CN112432053A; WO2019102155A1

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