

Title (en)

METHOD FOR FILLING A TANK WITH PRESSURISED GAS

Title (de)

VERFAHREN ZUM FÜLLEN EINES TANKS MIT UNTER DRUCK STEHENDEM GAS

Title (fr)

PROCÉDÉ DE REMPLISSAGE D'UN RÉSERVOIR AVEC DU GAZ SOUS PRESSION

Publication

**EP 2734773 A1 20140528 (FR)**

Application

**EP 12733791 A 20120613**

Priority

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Abstract (en)

[origin: WO2013014346A1] The invention relates to a method for filling a tank with pressurised gas, the method including: a step of measuring the initial pressure (P(t0)) in the tank; a step of determining the initial amount (m(t0)) of gas in the tank; a step of measuring the current pressure (P(ti)) in the tank; a step of determining the current amount (Q(ti)) of gas transferred to the tank; a step of calculating the current amount (m(ti)) of gas in the tank; a step of determining the current temperature (T(ti)) of the gas in the tank, the method being characterised in that, for the step of determining the current temperature (T(ti)) of the gas in the tank, said temperature (T(ti)) is expressed and calculated only in accordance with variables which are the current pressure (P(ti)) in the tank and the current amount (m(ti)) of gas in the tank; the expression of the current temperature (T(ti)) according to the current pressure (P(ti)) and the current amount (m(ti)) of gas in the tank being obtained from the equation of state of the actual gases in the tank  $P(t_i).V.10^5 = Z.n.R.T(t_i)$ , the compressibility factor Z being expressed as a function of the temperature T(ti) and the pressure P(ti) of the gas in the tank according to a first degree formula:  $Z(t_i) = (e.T(t_i) + f).P(t_i) + g$ .

IPC 8 full level

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