

Title (en)

Process for quenching workpieces with gases and heat treating installation for carrying out said process

Title (de)

Verfahren zum Abschrecken von Werkstücken und Wärmebehandlungsanlage zur Durchführung des Verfahrens

Title (fr)

Procédé de trempe à gaz de pièces à usiner et installation de traitement thermique pour la mise en oeuvre de ce procédé

Publication

EP 0955384 A3 20000119 (DE)

Application

EP 99104318 A 19990304

Priority

DE 19820083 A 19980506

Abstract (en)

[origin: EP0955384A2] Before start of the quenching process, the heat exchanger (3) is at least partially filled with a liquid cooling agent, with the heat treatment chamber (1) kept under vacuum. Cooling of quenching gas is determined by the cooling capacity of the heat exchanger and the evaporation rate of its filling during circulation of the quenching gas in the course of quenching of a batch (5) of workpieces. An Independent claim is given for an apparatus used to implement the process. The heat exchanger is dimensioned so that evaporation of its filling ensures complete cooling of the batch of workpieces by the circulating quenching gas.

IPC 1-7

C21D 1/62; **C21D 1/767**; **C21D 1/613**; **C21D 1/773**

IPC 8 full level

C21D 1/613 (2006.01); **C21D 1/62** (2006.01); **C21D 1/767** (2006.01); **C21D 1/773** (2006.01)

CPC (source: EP)

C21D 1/613 (2013.01); **C21D 1/767** (2013.01); **C21D 1/773** (2013.01)

Citation (search report)

- [X] GB 1452062 A 19761006 - BOC INTERNATIONAL LTD
- [A] WO 9109976 A1 19910711 - CAMBRIDGE VACUUM ENG [GB]
- [A] DE 19628383 A1 19970206 - IPSEN IND INT GMBH [DE]
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Cited by

FR2835907A1; US8715566B2; US8820098B2; WO2007048664A1; WO03068998A1

Designated contracting state (EPC)

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