

Title (en)

Process and equipment for thermal treatment with gas quenching.

Title (de)

Verfahren und Einrichtung zur Wärmebehandlung mit Gasabschreckung.

Title (fr)

Procédé et installation de traitement thermique d'objets avec trempe en milieu gazeux.

Publication

EP 0451050 B1 19950301 (FR)

Application

EP 91400900 A 19910403

Priority

FR 9004309 A 19900404

Abstract (en)

[origin: EP0451050A1] Heat treatment of objects with quenching in a gaseous medium with recirculation (8) on contact of the said treated objects with cooling of the quenching gas by means of a heat exchanger, of the kind in which helium is employed as quenching gas, which is stored under pressure while waiting in a buffer vessel (2) into which, at the end of a quenching operation, the helium charge is extracted (27-28) out of the treatment enclosure, as a final stage using a pump (5) until a primary vacuum is obtained, the said extracted helium is raised to a purification pressure by a compressor (14) used in combination with a mechanical filter (15), and the said helium is taken to purification pressure in a purifier for removing impurities (20-35) in order to transfer it, if appropriate, after recompression, into the buffer vessel (2). <IMAGE>

IPC 1-7

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

IPC 8 full level

C21D 1/18 (2006.01); **C21D 1/613** (2006.01); **C21D 1/767** (2006.01); **C21D 1/773** (2006.01); **F27D 17/00** (2006.01)

CPC (source: EP US)

C21D 1/613 (2013.01 - EP US); **C21D 1/767** (2013.01 - EP US); **C21D 1/773** (2013.01 - EP US)

Cited by

FR2858983A1; DE102005015450B3; CN111850256A; FR2835907A1; US5938866A; EP0727557A1; FR2730790A1; US5676736A; US7632453B2; WO2006058709A1; WO2005021805A1; WO03068998A1; WO9700974A1

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EP 91400900 A 19910403; CA 2039515 A 19910402; DE 69107651 T 19910403; ES 91400900 T 19910403; FR 9004309 A 19900404; JP 6576391 A 19910329; US 68042391 A 19910404