

Title (en)

METHOD FOR HEATING OR COOLING A FLUID MEDIUM

Title (de)

VERFAHREN ZUM ERHITZEN ODER KÜHLEN EINES FLUIDMEDIUMS

Title (fr)

PROCEDE DE RECHAUFFEMENT OU DE REFROIDISSEMENT D'UN MILIEU FLUIDE

Publication

EP 1630509 A2 20060301 (DE)

Application

EP 04736021 A 20040603

Priority

- RU 2004000222 W 20040603
- RU 2003116180 A 20030603

Abstract (en)

[origin: US7201000B2] The invention relates to heating engineering. The inventive method for heating or cooling fluid medium consists in supplying a cooled or heated fluid medium in a through channel and in subsequently heating or cooling said fluid medium therein at least in two stages. Said through channel is divided into heating and cooling stages having the same length. The temperature of each stage increases in the case of heating and reduces in the case of cooling stepwisely and directly proportionally in a direction away from the first stage to the next stage. The heated or cooled water is supplied to the through channel tangentially at an angle of 45-90° to the generatrix of the internal surface thereof at a point where the fluid medium is introduced. Said invention increases the efficiency of the process of heating or cooling said fluid medium.

IPC 1-7

F28D 1/04; F25B 29/00

IPC 8 full level

F25B 29/00 (2006.01); **F28D 1/04** (2006.01); **F28D 7/00** (2006.01); **F28F 27/02** (2006.01)

CPC (source: EP US)

F28D 7/0066 (2013.01 - EP US); **F28F 9/0263** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1630509 A2 20060301; EP 1630509 A4 20080730; EP 1630509 B1 20091223; AT E453094 T1 20100115; CN 100390485 C 20080528; CN 1802546 A 20060712; DE 502004010551 D1 20100204; DK 1630509 T3 20100419; EA 008050 B1 20070227; EA 200501795 A1 20060428; ES 2338424 T3 20100507; JP 2006526756 A 20061124; NO 20055583 D0 20051125; NO 20055583 L 20051212; NO 331897 B1 20120430; RU 2232952 C1 20040720; US 2006113067 A1 20060601; US 7201000 B2 20070410; WO 2004105909 A2 20041209; WO 2004105909 A3 20050217

DOCDB simple family (application)

EP 04736021 A 20040603; AT 04736021 T 20040603; CN 200480015671 A 20040603; DE 502004010551 T 20040603; DK 04736021 T 20040603; EA 200501795 A 20040603; ES 04736021 T 20040603; JP 2006508563 A 20040603; NO 20055583 A 20051125; RU 2003116180 A 20030603; RU 2004000222 W 20040603; US 55940205 A 20051205