

Title (en)
Heated electric polishing device

Title (de)
Beheiztes Elektropoliergerät

Title (fr)
Appareil d'électropolissage chauffé

Publication
EP 1930482 A2 20080611 (DE)

Application
EP 07120055 A 20071106

Priority
DE 202006017090 U 20061107

Abstract (en)

The device for electro polishing of objects made of electrically conductive material, comprises a bath container (10) for reception of electrical conductive bath liquid (20) into which objects (30) to be polished are dipped, a pulsed direct current source (40) with a first electrical electrode connection (11) for electrical connection with objects and an electrode electrically connected with the bath liquid, and a heating device, which has an alternating power source and supplies a heat circulation via two heating electrodes electrically connected with the bath liquid. The device for electro polishing of objects made of an electrically conductive material, comprises a bath container (10) for reception of electrical conductive bath liquid (20) into which objects (30) to be polished are dipped, a pulsed direct current source (40) with a first electrical electrode connection (11) for electrical connection with objects and an electrode electrically connected with the bath liquid, and a heating device, which has an alternating power source and supplies a heat circulation via two heating electrodes electrically connected with the bath liquid. The heating electrodes are arranged so that a part of the heat circulation is formed by a partial part of the bath liquid, when the bath liquid is in the wheel container. The alternating power source has a frequency of 20 kHz. The two heating electrodes are arranged adjacent to a wall section of the bath container and oppositely in relation to the center of the bath volume. The two heating electrodes are formed so that the maximum distance between the wall section of the bath container and the heating electrode is minimal. One of the two heating electrodes is formed in laminar manner. An electricity collection device is attached to the pulsed direct current source and has an ammeter, which is coupled with time-pulse generator for the cumulative measurement of the electrical energy. The electricity collection device comprises a storage for the cumulative electrical quantity, a manual resetting switch for the zero position of the quantity of electricity stored in the electricity storage, a comparison device for comparing the quantity of electricity stored in the storage with a pre-determined maximum quantity of electricity and a signaling device coupled with the comparison device. The alternating power source is coupled with a control-/regulation device, which is coupled with a heat sensor for the detection of the temperature of the polishing bath and is formed over the heat flow to control or adjust a pre-determined bath temperature. The heating electrode and a polishing electrode are formed by an individual electrode. The polishing device has an agitating device for rolling the polishing bath. An independent claim is included for a heating device for an electrical conductive bath.

Abstract (de)

Die Erfindung betrifft ein Elektropoliergerät, umfassend einen Badbehälter zur Aufnahme einer elektrisch leitfähigen Badflüssigkeit, in welche zu polierende Objekte eingetaucht werden, eine Polierstromquelle mit einem ersten elektrischen Elektrodenanschluss zum elektrischen Verbinden mit einem oder mehreren zu polierenden Objekten und einer mit der Badflüssigkeit elektrisch verbundenen Elektrode, und eine Heizung zum Aufheizen des Bades. Erfindungsgemäß umfasst die Heizung eine Heizstromquelle, die über zwei mit der Badflüssigkeit elektrisch verbundenen Heizelektroden einen Heizstromkreis mit Strom versorgt, wobei die Heizelektroden so angeordnet sind, dass ein Teil des Heizstromkreises durch zumindest ein Teilvolumen der Badflüssigkeit gebildet wird, wenn sich die Badflüssigkeit im Badbehälter befindet und die Heizstromquelle eine Wechselstromquelle mit einer Frequenz von mehr als 500Hz ist.

IPC 8 full level
C25F 7/00 (2006.01)

CPC (source: EP)
C25F 7/00 (2013.01); **C25D 21/02** (2013.01)

Citation (applicant)

- DE 3210315 C2 19900426
- DE 3300650 C2 19860130
- DE 4401896 A1 19950727 - SURMANN HARTMUT DIPL INFORM [DE]
- EP 1384448 A1 20040128 - HERAEUS KULZER GMBH & CO KG [DE]

Designated contracting state (EPC)
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AL BA HR MK RS

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