

Title (en)  
METHOD AND DEVICE FOR PRODUCING AND RECYCLING NANOEMULSIONS AND FOR PROCESSING PART SURFACES BY MEANS THEREOF

Title (de)  
VERFAHREN UND VORRICHTUNG ZUM ERZEUGEN UND REZYKLIEREN VON NANOEMULSIONEN SOWIE ZUR OBERFL[CHENBEHANDLUNG VON TEILEN MITTELS DENSELBEN

Title (fr)  
PROCEDE ET DISPOSITIF POUR PRODUIRE ET REMETTRE EN CIRCULATION DES NANOEMULSIONS ET POUR TRAITER EN SURFACE DES PIECES AU MOYEN DE CELLES-CI

Publication  
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Application  
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Abstract (en)  
[origin: WO2006084414A1] The invention relates to a device comprising a tubular circuit provided with at least one pump (9), a vacuum chamber (1) for processing the surfaces of parts placed therein, an actuation device (10), high voltage electrodes and a high frequency coil comprising a separate generator provided with a frequency converter for producing an electric field in order to convert an microemulsion into a nanoemulsion. The inventive device also comprises a transversal resonator for producing an aerosol and injection nozzles for spraying said aerosol into the vacuum chamber (1). The emulsion crosses the actuation device (10) in which electric and electromagnetic fields of 1-10000 volts, whose superimposed frequencies ranging from 10Hz to 1GHz are produced by a high-voltage electrode and the high frequency electromagnetic coil with the aid of the generator. Said fields are superimposed and the resonances are produced by voltages and frequencies and resonance phase shifts are selectable in such a way that a potential Zeta variation generates the transformation of a microemulsion into a nanoemulsion. Said nanoemulsion makes it possible to process the part surfaces in the vacuum chamber (1) and, afterwards the nanoemulsion is introduced into a circulation system (5) and reused.

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