

Title (en)

PIEZOELECTRIC OR ELECTROSTRICTIVE INERTIA DRIVE FOR DISPLACING OR POSITIONING IN PARTICULAR HEAVY OBJECTS

Title (de)

PIEZOELEKTRISCHER ODER ELEKTROSTRIKTIVER TRÄGHEITSANTRIEB ZUM VERSCHIEBEN ODER POSITIONIEREN VON
INSBESONDERE SCHWEREN OBJEKTEN

Title (fr)

MECANISME D'ENTRAINEMENT PAR INERTIE, PIEZO-ELECTRIQUE OU ELECTROSTRICTIF POUR DEPLACER ET POSITIONNER DES
OBJETS PARTICULIEREMENT LOURDS

Publication

EP 0947003 A2 19991006 (DE)

Application

EP 97945790 A 19971026

Priority

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Abstract (en)

[origin: WO9819347A2] The object of the invention is to improve displacement and positioning inertia drives using linearly extending piezoelectric or electrostrictive actuators such that heavy objects which are clamped without play and with high static friction approaching the blocking force of the actuators can be moved by displacements in the cm range at a relatively fast displacement speed, highly uniformly and without hysteresis, and positioned in the nm range. To that end, the object is rigidly connected in the direction of extension or contraction of the actuator to the latter or to the clamping device in which a needle-like force-transmission element is secured on the actuator. The mass inertia of the object does not counteract the displacement when the length of the actuator changes in jerks as a result of being suitably stimulated electrically, such that the above advantages are attained. The possibility of displacing heavy objects in the cm range with high positioning accuracy opens up new areas of application for piezoelectric or electrostrictive displacement devices.

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