

Title (en)

PIPETTE WITH ELECTRIC MOTOR-DRIVEN PISTON AND MAGNETIC FIELD SHIELD

Title (de)

PIPETTE MIT ELEKTROMOTORISCH ANGETRIEBENEM KOLBEN UND MAGNETFELD-ABSCHIRMUNG

Title (fr)

PIPETTE À PISTON ENTRAÎNÉ PAR MOTEUR ÉLECTRIQUE AVEC BLINDAGE MAGNÉTIQUE

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Application

EP 13750565 A 20130816

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Abstract (en)

[origin: WO2014027100A1] The invention relates to a pipetting device (10) with a piston-cylinder system (16) comprising a cylinder (18) extending along a cylinder axis (Z), a piston (20) and a working chamber (42) delimited by the cylinder (18) and the piston (20) and filled with a working fluid, for changing, by means of relative movement of the piston (20) relative to the cylinder (18) along a relative movement path (B), a pressure of the working fluid at a coupling point (at 34) that is designed for coupling to a pipetting tip (38) and is connected (at 44) to the working chamber (42) so as to transmit pressure. The piston (20) is drivable by a linear motor for relative movement relative to the cylinder (18) and has at least one piston magnet arrangement (24) for this purpose and at least one cylinder magnet arrangement (30) is further provided on the cylinder (18). At least one magnet arrangement (24, 30) consisting of the piston magnet arrangement (24) and the cylinder magnet arrangement (30) comprises a series of electromagnets (26) which can be energized by means of a control device (28) of the pipetting device (10) to produce a magnetic field moving along the relative movement path (B) in order thereby to provide the mechanical driving force necessary for effecting the relative movement. Radially outside the piston magnet arrangement (24) and the cylinder magnet arrangement (30), the pipetting device (10) has a magnetic shield (32) which attenuates, in comparison to a situation without a shield (32), the magnetic field present radially outside the location of the shield, the magnetic field originating from at least one magnet arrangement (24, 30) consisting of the piston magnet arrangement (24) and the cylinder magnet arrangement (30).

IPC 8 full level

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