

Title (en)
ELECTROMAGNETIC ACTUATOR WITH SHUNT FLUX CIRCUIT

Title (de)
ELEKTROMAGNETISCHER FLUSS-NEBENSCHLUSS AKTUATOR

Title (fr)
ACTIONNEUR ÉLECTROMAGNÉTIQUE À DÉRIVATION DE FLUX

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Application
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Abstract (en)
[origin: WO2010103219A1] The invention relates to an electromagnetic actuator with flux bypass, comprising a permanent magnet (5), a ferromagnetic armature (1) forming a closed loop, a pallet (2) creating two air gaps (10, 11) with the armature (1) and movable between an open position and a closed position, a mechanical means for drawing back the pallet into the open position, and at least one electrical conductor (8, 8', 9) capable of generating a magnetic flux in the actuator. Said actuator is characterized in that the magnet (5), the armature (1), and the pallet (2) are arranged so that the magnet (5) generates fluxes in two parallel magnetic circuits comprising an armature portion (6, 7) that is saturated for at least one of the parallel circuits, a common arm including the magnet (5) and a fraction of the pallet that is separated by an air gap (10, 11) of said armature portion (6, 7), and in that the conductors (8, 8', 9) are capable of generating the air gaps (10, 11) and the pallet (2) in a magnetic loop comprising the unsaturated portion of the armature (1), a flux adding itself to the flux created by the magnet (5) in one of the air gaps (10, 11) and one of the fractions of the pallet (2) and subtracting itself in the other air gap (11, 10) and the other fraction of the pallet (2).

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