

CPC COOPERATIVE PATENT CLASSIFICATION

H ELECTRICITY

(NOTE omitted)

H02 GENERATION; CONVERSION OR DISTRIBUTION OF ELECTRIC POWER

H02N ELECTRIC MACHINES NOT OTHERWISE PROVIDED FOR

NOTES

1. This subclass covers:
 - electrostatic generators, motors, clutches, or holding devices;
 - other non-dynamo-electric generators or motors;
 - holding or levitation devices using magnetic attraction or repulsion;
 - arrangements for starting, regulating, braking, or otherwise controlling such machines unless in conjoint operation with a second machine.
2. Specific provision for generators, motors, or other means for converting between electric and other forms of energy also exists in other subclasses, e.g. in subclasses [H01L](#), [H01M](#), [H02K](#), [H04R](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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|-------------|--|--------|---|
| 1/00 | Electrostatic generators or motors using a solid moving electrostatic charge carrier | 2/0055 | . . . {Supports for driving or driven bodies; Means for pressing driving body against driven body} |
| 1/002 | . {Electrostatic motors} | 2/006 | {Elastic elements, e.g. springs (in general F16F 1/00)} |
| 1/004 | . . {in which a body is moved along a path due to interaction with an electric field travelling along the path} | 2/0065 | . . . {Friction interface (friction linings F16D 69/00)} |
| 1/006 | . . {of the gap-closing type (H02N 1/004 takes precedence)} | 2/007 | {Materials} |
| 1/008 | . . . {Laterally driven motors, e.g. of the comb-drive type} | 2/0075 | . . {Electrical details, e.g. drive or control circuits or methods} |
| 1/04 | . Friction generators | 2/008 | . . . {Means for controlling vibration frequency or phase, e.g. for resonance tracking} |
| 1/06 | . Influence generators | 2/0085 | . . . {Leads; Wiring arrangements} |
| 1/08 | . . with conductive charge carrier, i.e. capacitor machines | 2/009 | . . {Thermal details, e.g. cooling means} |
| 1/10 | . . with non-conductive charge carrier | 2/0095 | . {producing combined linear and rotary motion, e.g. multi-direction positioners} |
| 1/12 | . . . in the form of a conveyor belt, e.g. van de Graaff machine | 2/02 | . producing linear motion, e.g. actuators; Linear positioners {; Linear motors} |
| 2/00 | Electric machines in general using piezo-electric effect, electrostriction or magnetostriction (generating mechanical vibrations in general B06B; piezo-electric, electrostrictive or magnetostrictive devices in general H01L 41/00) | 2/021 | . . {using intermittent driving, e.g. step motors, piezoelectric motors} |
| 2/0005 | . {producing non-specific motion; Details common to machines covered by H02N 2/02 - H02N 2/16 } | 2/023 | . . . {Inchworm motors} |
| 2/001 | . . {Driving devices, e.g. vibrators} | 2/025 | . . . {Inertial sliding motors} |
| 2/0015 | . . . {using only bending modes} | 2/026 | . . {by pressing one or more vibrators against the driven body} |
| 2/002 | . . . {using only longitudinal or radial modes} | 2/028 | . . {along multiple or arbitrary translation directions, e.g. XYZ stages} |
| 2/0025 | {using combined longitudinal modes} | 2/04 | . . Constructional details |
| 2/003 | . . . {using longitudinal or radial modes combined with bending modes} | 2/043 | . . . {Mechanical transmission means, e.g. for stroke amplification} |
| 2/0035 | {Cylindrical vibrators} | 2/046 | {for conversion into rotary motion} |
| 2/004 | {Rectangular vibrators} | 2/06 | . . Drive circuits; Control arrangements {or methods} |
| 2/0045 | . . . {using longitudinal or radial modes combined with torsion or shear modes} | 2/062 | . . . {Small signal circuits; Means for controlling position or derived quantities, e.g. for removing hysteresis} |
| 2/005 | . . {Mechanical details, e.g. housings (casings for dynamo-electric machines H02K 5/00)} | 2/065 | . . . {Large signal circuits, e.g. final stages} |
| | | 2/067 | {generating drive pulses} |

- 2/08 . . using travelling waves {, i.e. Rayleigh surface waves}
- 2/10 . producing rotary motion, e.g. rotary motors
- 2/101 . . {using intermittent driving, e.g. step motors}
- 2/103 . . {by pressing one or more vibrators against the rotor}
- 2/105 . . {Cycloid or wobble motors; Harmonic traction motors}
- 2/106 . . {Langevin motors}
- 2/108 . . {around multiple axes of rotation, e.g. spherical rotor motors}
- 2/12 . . Constructional details
- 2/123 . . . {Mechanical transmission means, e.g. for gearing}
- 2/126 {for conversion into linear motion}
- 2/14 . . Drive circuits; Control arrangements {or methods}
- 2/142 . . . {Small signal circuits; Means for controlling position or derived quantities, e.g. speed, torque, starting, stopping, reversing}
- 2/145 . . . {Large signal circuits, e.g. final stages}
- 2/147 {Multi-phase circuits}
- 2/16 . . using travelling waves {, i.e. Rayleigh surface waves}
- 2/163 . . . {Motors with ring stator}
- 2/166 . . . {Motors with disc stator}
- 2/18 . producing electrical output from mechanical input, e.g. generators (for measurement devices [G01](#))
- 2/181 . . {Circuits; Control arrangements or methods}
- 2/183 . . {using impacting bodies (high voltage generators in spark lighters [F23Q](#))}
- 2/185 . . {using fluid streams}
- 2/186 . . {Vibration harvesters}
- 2/188 . . . {adapted for resonant operation}
- 2/22 . {Methods relating to manufacturing, e.g. assembling, calibration}

3/00 Generators in which thermal or kinetic energy is converted into electrical energy by ionisation of a fluid and removal of the charge therefrom (discharge tubes functioning as thermionic generators [H01J 45/00](#))

10/00 Electric motors using thermal effects {(motors using expansion or contraction of bodies due to heating or cooling [F03G 7/06](#))}

11/00 Generators or motors not provided for elsewhere; Alleged perpetua mobilia obtained by electric or magnetic means (by hydrostatic pressure [F03B 17/04](#); {by mechanical means [F03G 7/10](#);} by dynamo-electric means, {including arrangements of permanent magnets interacting with other permanent magnets,} [H02K 53/00](#))

- 11/002 . {Generators}
- 11/004 . . {adapted for producing a desired non-sinusoidal waveform}
- 11/006 . {Motors}
- 11/008 . {Alleged electric or magnetic perpetua mobilia}

13/00 Clutches or holding devices using electrostatic attraction, e.g. using Johnson-Rahbek effect

15/00

Holding or levitation devices using magnetic attraction or repulsion, not otherwise provided for (electric or magnetic devices for holding work on machine tools [B23Q 3/15](#) {; monorail vehicle propulsion or suspension [B60L 13/00](#)}; sliding or levitation devices for railway systems [B61B 13/08](#); material handling devices associated with conveyors incorporating devices with electrostatic or magnetic grippers [B65G 47/92](#); separating thin or filamentary articles from piles using magnetic force [B65H 3/16](#); delivering thin or filamentary articles from magnetic holders by air blast or suction [B65H 29/24](#); bearings using magnetic or electric supporting means [F16C 32/04](#); relieving bearing loads using magnetic means [F16C 39/06](#); magnets [H01F 7/00](#); dynamo-electric clutches or brakes [H02K 49/00](#) {; electric furnaces with simultaneous levitation and heating [H05B 6/32](#)})

15/02

- . by Foucault currents

15/04

- . Repulsion by the Meissner effect (superconductors or hyperconductors in general [H01L 39/00](#))

99/00

Subject matter not provided for in other groups of this subclass