

# 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.

<b>1/00</b>	<b>Electrostatic generators or motors using a solid moving electrostatic charge carrier</b>	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 ( <a href="#">in general F16F 1/00</a> )}
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 ( <a href="#">friction linings F16D 69/00</a> )}
1/006	. . {of the gap-closing type ( <a href="#">H02N 1/004 takes precedence</a> )}	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}
<b>2/00</b>	<b>Electric machines in general using piezo-electric effect, electrostriction or magnetostriction (generating mechanical vibrations in general <a href="#">B06B</a>; piezo-electric, electrostrictive or magnetostrictive devices in general <a href="#">H01L 41/00</a>)</b>	2/021	. . {using intermittent driving, e.g. step motors, piezoelectric motors}
2/0005	. {producing non-specific motion; Details common to machines covered by <a href="#">H02N 2/02</a> - <a href="#">H02N 2/16</a> }	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 ( <a href="#">casings for dynamo-electric machines H02K 5/00</a> )}	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