

### SPEED CLASSIFICATIONS OF ELECTRIC MOTORS

The electric motor may assume practically an infinite number of different forms and may be applied to an almost unlimited number of uses. Each motor, however, possesses certain inherent speed characteristics by means of which it can be classified in one of several groups. The following classification is practically that adopted by the American Institute of Electrical Engineers, June 27, 1907, the wording being slightly modified, for the sake of a more definite interpretation as applied to the standard motors of Canadian Westinghouse Company, Limited.

(a) **CONSTANT SPEED MOTORS** in which the speed is either constant or does not materially vary, such as synchronous motors, induction motors with small slip, ordinary direct current shunt motors and direct current compound wound motors, the no load speed of which is not more than 20 per cent higher than the full load speed.

(b) **MULTISPEED MOTORS** (two-speed, three-speed, etc.) which can be operated at any one of several distinct speeds, these speeds being practically independent of the load, such as direct current motors with two armature windings and induction motors with primary windings capable of being grouped so as to form different numbers of poles.

(c) **ADJUSTABLE SPEED MOTORS:**

(1) **SHUNT WOUND MOTORS** in which the speed can be varied gradually over a considerable range, but when once adjusted, remains practically unaffected by the load; such as motors designed for a considerable range of speed by field variation.

(2) **COMPOUND WOUND MOTORS** in which the speed can be varied gradually over a considerable range as in (1) and when once adjusted, varies with the load similar to compound wound constant speed motors or varying speed motors, depending upon the percentage of compounding.

(d) **VARYING SPEED MOTORS** or motors in which the speed varies with the load, decreasing when the load increases such as series motors and heavily compounded motors. Examples of heavily compounded motors are those designed for bending roll service and mill service, in which a shunt winding is provided only to limit the light load operating speed.

### WESTINGHOUSE DIRECT CURRENT APPARATUS

For information concerning other Westinghouse direct current motors and starting and controlling devices ask for the following publications:

Small power motors	1/20 to 1/2 h.p.	Circular 1128
Type R power motors	1/2 to 10 "	" 1099
Type K crane and hoist motors	2 " 50 "	" 1097
Mill motors	25 " 150 "	" 1147
Type EM large power motors	85 " 500 "	" 1138

Full ratings, dimensions, etc., are given on separate leaflets, which will be sent on request.

For starters and controllers (both manual and automatic) ask for motor control leaflets, series 0000.