

### Typical Specifications for Single Phase Motors

..... Hp, ..... RPM,  $\left\{ \begin{smallmatrix} 25 \\ 60 \end{smallmatrix} \right\}$  Cycles,  $\left\{ \begin{smallmatrix} 115 \\ 230 \end{smallmatrix} \right\}$  Volts, Single Phase Motor of the ..... Type for Driving ..... Motor Shall (Capacitor, Split Phase, etc.) (Application)

Be Arranged for  $\left\{ \begin{smallmatrix} \text{Horizontal} \\ \text{Vertical} \end{smallmatrix} \right\}$  Mounting And Shall Be Provided With

a ..... Type of Enclosure, NEMA  $\left\{ \begin{smallmatrix} \text{Class A} \\ \text{Class B} \end{smallmatrix} \right\}$  Insulation, And (Open, Splashproof, etc.)

$\left\{ \begin{smallmatrix} \text{Ball} \\ \text{Sleeve} \end{smallmatrix} \right\}$  Bearings.

### Typical Specifications for Squirrel-Cage Motor Control

Control for Squirrel-Cage ..... Motors Shall Consist of An Enclosed (Fan, Pump, etc.)

$\left\{ \begin{smallmatrix} \text{Manual} \\ \text{Magnetic} \end{smallmatrix} \right\}$  Type  $\left\{ \begin{smallmatrix} \text{Across The Line} \\ \text{Reduced Voltage} \end{smallmatrix} \right\}$  Starter Providing Overload Protection And Low Voltage  $\left\{ \begin{smallmatrix} \text{Protection} \\ \text{Release} \end{smallmatrix} \right\}$ . Control Shall Include A Safety Disconnect Switch

$\left\{ \begin{smallmatrix} \text{Separately Mounted} \\ \text{In a Common Enclosure} \end{smallmatrix} \right\}$  With the Starting Controller.

### Typical Specifications for Wound Rotor Motor Control

Control for Wound Rotor Motor Control for ..... Applications Shall Consist of a Safety (Fan, Pump, etc.)

Disconnect Switch, a  $\left\{ \begin{smallmatrix} \text{Separately} \\ \text{Common} \end{smallmatrix} \right\}$  Mounted Across the Line Starter Providing Overload Protection, Low Voltage  $\left\{ \begin{smallmatrix} \text{Protection} \\ \text{Release} \end{smallmatrix} \right\}$ , and a Secondary  $\left\{ \begin{smallmatrix} \text{Starting} \\ \text{Speed Regulating} \end{smallmatrix} \right\}$  Controller for  $\left\{ \begin{smallmatrix} \text{Separate Mounting} \\ \text{Mounting in Same Enclosure} \end{smallmatrix} \right\}$ . Primary and Secondary Control Shall Be Interlocked so as to Provide Complete Control from the Rheostat Handle.

the commutator when the motor comes up to speed. These motors are suitable for applications such as industrial compressors where high break-away torque is required and where commutator and brush noise are not factors.

*Split Phase* motors have a high resistance auxiliary winding which is in the circuit during starting but is disconnected through the action of a centrifugal switch as the motor comes up to speed. Under running conditions it operates as a single phase induction motor with one winding in the circuit. These units are available for the small horsepower ratings and when equipped with a high slip rotor may be used for adjustable

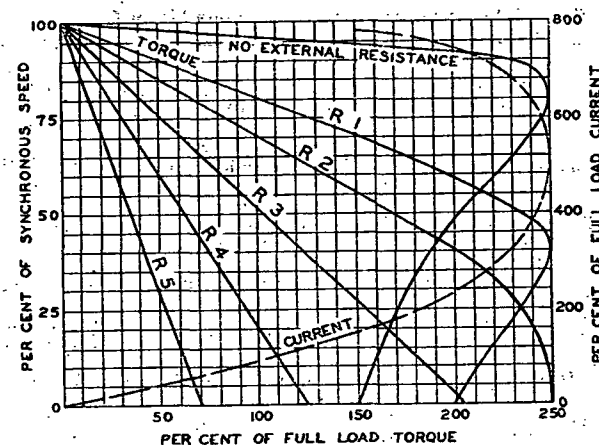


FIG. 9. PERFORMANCE CHARACTERISTICS OF A WOUND ROTOR MOTOR WITH EXTERNAL RESISTANCE

varying speeds through line voltage control. The motors are ideally suited for fan duty.

Speed-torque characteristics of single phase motors are shown in Fig. 10.

Typical specifications for single phase motors are shown on page 632.

### CONTROL FOR ALTERNATING CURRENT MOTORS

*Squirrel-Cage* motors are usually linestarted where power company limitations permit. In sizes up to 2 hp the motors are started by means of manual switches with an overload current element for motor protection.

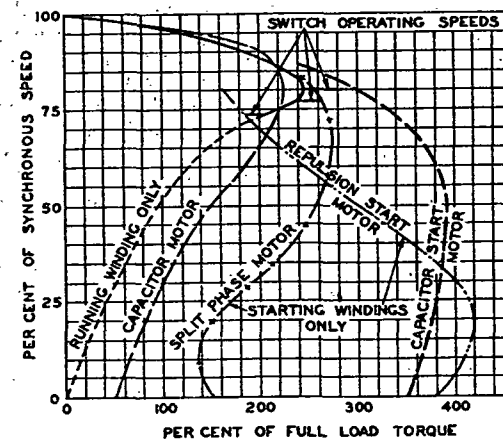


FIG. 10. SPEED-TORQUE CHARACTERISTICS OF SINGLE PHASE MOTORS