

Table 7

**ALLOWABLE NUMBER OF STARTS AND MINIMUM TIME  
BETWEEN STARTS FOR DESIGN A AND DESIGN B MOTORS**

| HP  | 2-Pole |     |      | 4-Pole |      |     | 6-Pole |      |     |
|-----|--------|-----|------|--------|------|-----|--------|------|-----|
|     | A      | B   | C    | A      | B    | C   | A      | B    | C   |
| 1   | 15     | 1.2 | 75   | 30     | 5.8  | 38  | 34     | 15   | 33  |
| 1.5 | 12.9   | 1.8 | 76   | 25.7   | 8.6  | 38  | 29.1   | 23   | 34  |
| 2   | 11.5   | 2.4 | 77   | 23     | 11   | 39  | 26.1   | 30   | 35  |
| 3   | 9.9    | 3.5 | 80   | 19.8   | 17   | 40  | 22.4   | 44   | 36  |
| 5   | 8.1    | 5.7 | 83   | 16.3   | 27   | 42  | 18.4   | 71   | 37  |
| 7.5 | 7.0    | 8.3 | 88   | 13.9   | 39   | 44  | 15.8   | 104  | 39  |
| 10  | 6.2    | 11  | 92   | 12.5   | 51   | 46  | 14.2   | 137  | 41  |
| 15  | 5.4    | 16  | 100  | 10.7   | 75   | 50  | 12.1   | 200  | 44  |
| 20  | 4.8    | 21  | 110  | 9.6    | 99   | 55  | 10.9   | 262  | 48  |
| 25  | 4.4    | 26  | 115  | 8.8    | 122  | 58  | 10.0   | 324  | 51  |
| 30  | 4.1    | 31  | 120  | 8.2    | 144  | 60  | 9.3    | 384  | 53  |
| 40  | 3.7    | 40  | 130  | 7.4    | 189  | 65  | 8.4    | 503  | 57  |
| 50  | 3.4    | 49  | 145  | 6.8    | 232  | 72  | 7.7    | 620  | 64  |
| 60  | 3.2    | 58  | 170  | 6.3    | 275  | 85  | 7.2    | 735  | 75  |
| 75  | 2.9    | 71  | 180  | 5.8    | 338  | 90  | 6.6    | 904  | 79  |
| 100 | 2.6    | 92  | 110  | 5.2    | 441  | 110 | 5.9    | 1181 | 97  |
| 125 | 2.4    | 113 | 275  | 4.8    | 542  | 140 | 5.4    | 1452 | 120 |
| 150 | 2.2    | 133 | 320  | 4.5    | 640  | 160 | 5.1    | 1719 | 140 |
| 200 | 2.0    | 172 | 600  | 4.0    | 831  | 300 | 4.5    | 2238 | 265 |
| 250 | 1.8    | 210 | 1000 | 3.7    | 1017 | 500 | 4.2    | 2744 | 440 |

Where:

- A = Maximum number of starts per hour.  
 B = Maximum product of starts per hour times load  $Wk^2$ .  
 C = Minimum rest or off time in seconds between starts.

Allowable starts per hour is the lesser of (1) A or (2) B divided by the load  $Wk^2$  i.e.

$$\text{Starts per hour} \leq A \leq \frac{B}{\text{Load } Wk^2}$$

Note: Table 7 is based on the following conditions:

- Applied voltage and frequency in accordance with MG 1-12.44.
- During the accelerating period, the connected load torque is equal to or less than a torque which varies as the square of the speed and is equal to 100 percent of rated torque at rated speed.
- External load  $Wk^2$  equal to or less than the values listed in MG 1-12.54.
- For other conditions, the manufacturer should be consulted.