

37.72 A 460-V three phase AC motor rated for 60hp operates with an efficiency of 93% and a power factor of 0.85. How much current will the motor draw?

- A. 60A
- B. 66A
- C. 71A
- D. 123A

Use the first three-phase equation in the table **Power for Different Motor Phases**, where the power rating is given in horsepower. Voltage, power factor, and efficiency are all given. Calculate the current.

$$I_{[amps]} = \frac{P_{[hp]} (746)}{\sqrt{3} V \eta (pf)}$$
$$I_{[amps]} = \frac{(60) (746)}{\sqrt{3} (460) (0.93) (0.85)} = 71A$$

Answer C