

Chapter 11, Problem 82.

A 240-V (rms), 60-Hz source supplies a parallel combination of a 5-kW heater and a 30-kVA induction motor whose power factor is 0.82. Determine: (a) the system apparent power, (b) the system reactive power, (c) the kVA rating of a capacitor required to adjust the system power factor to 0.9 lagging, (d) the value of the capacitor required.