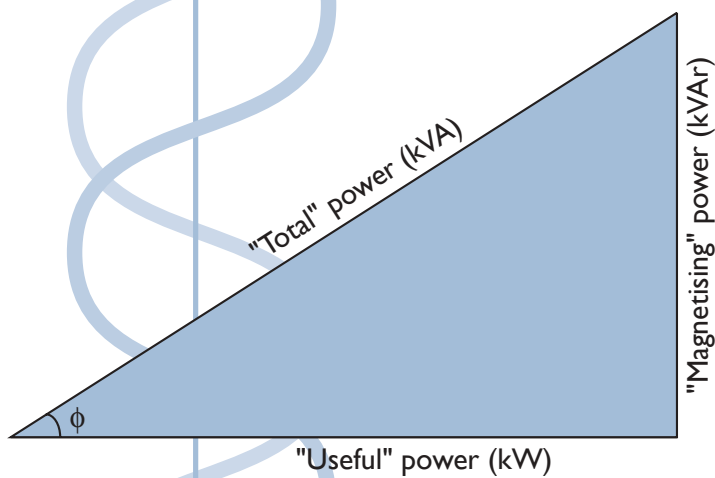


Power Factor ($\cos \phi$) is the ratio of “useful” power to “total” power consumed by an item of electrical plant.

Electrical equipment requiring the creation of a magnetic field to operate, for example:

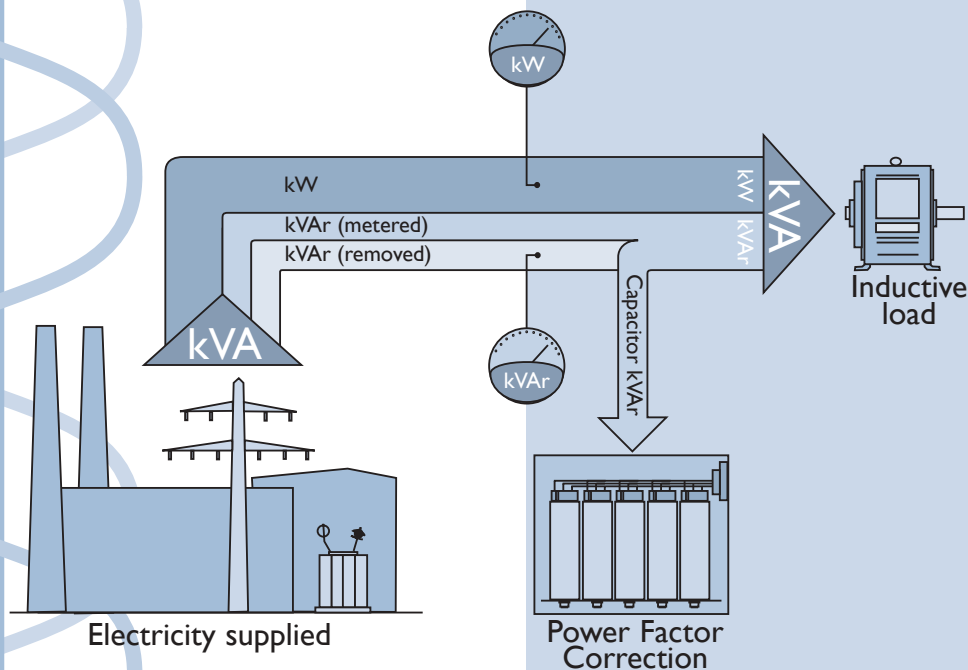
- Motors & motor driven machines
- Induction heaters
- Fluorescent lighting

will all draw a current which is said to ‘lag’ behind the voltage thus, producing a “lagging” Power Factor.



Capacitors contained in most Power Factor Correction Equipment draw current that is said to ‘lead’ the voltage, thus producing a “leading” Power Factor. If Capacitors are connected to a circuit that operates at a nominally lagging power factor, the extent that the circuit lags is reduced proportionately. Circuits having no resultant leading or lagging component are said to operate at a “unity” (1) power factor, and the total energy consumed is equal to the useful energy.

Diagram indicating the composition and usage of industrial energy



Why improve my Power Factor ?

Improving a systems power factor will reduce the total power consumed by an electrical installation and will provide the following benefits:

- **Financial saving** - *By reducing power consumed electricity costs are reduced.*
- **Extended equipment life** - *Reduced electrical burden on cables and electrical components.*
- **Increase load capacity** - *Provide additional capacity for other loads to be connected.*
- **Environmental benefit** - *Reduced power consumption means less "Greenhouse" gas emissions and fossil fuel depletion by power stations.*



The Power Factor Correction Capacitor option offered by PFC Engineering has been specifically designed and tested for various load characteristics and applications, offering:

- Extremely high reliability
- Long service life
- High current and voltage overload withstand capabilities
- Individual 'fail safe' protection mechanism
- Low weight and volume

Our policy is one of continuous improvement and we reserve the right to alter any details of design from that shown in this leaflet without prior notice.