Displacement Power Factor.

Displacement Power Factor Definition : Displacement Power factor is the Cosine of the angle between the supply voltage and the current flowing in the load.

A poor power factor due to an inductive load can be improved by the addition of power factor correction capacitors to the load or to the supply.

Reactive current flowing in the supply is refered to as reactive power and is usually expressed in VARs or KVARs. A VAR is the product of the reactive current and the applied voltage. A KVAR is equal to 1000 VARs.

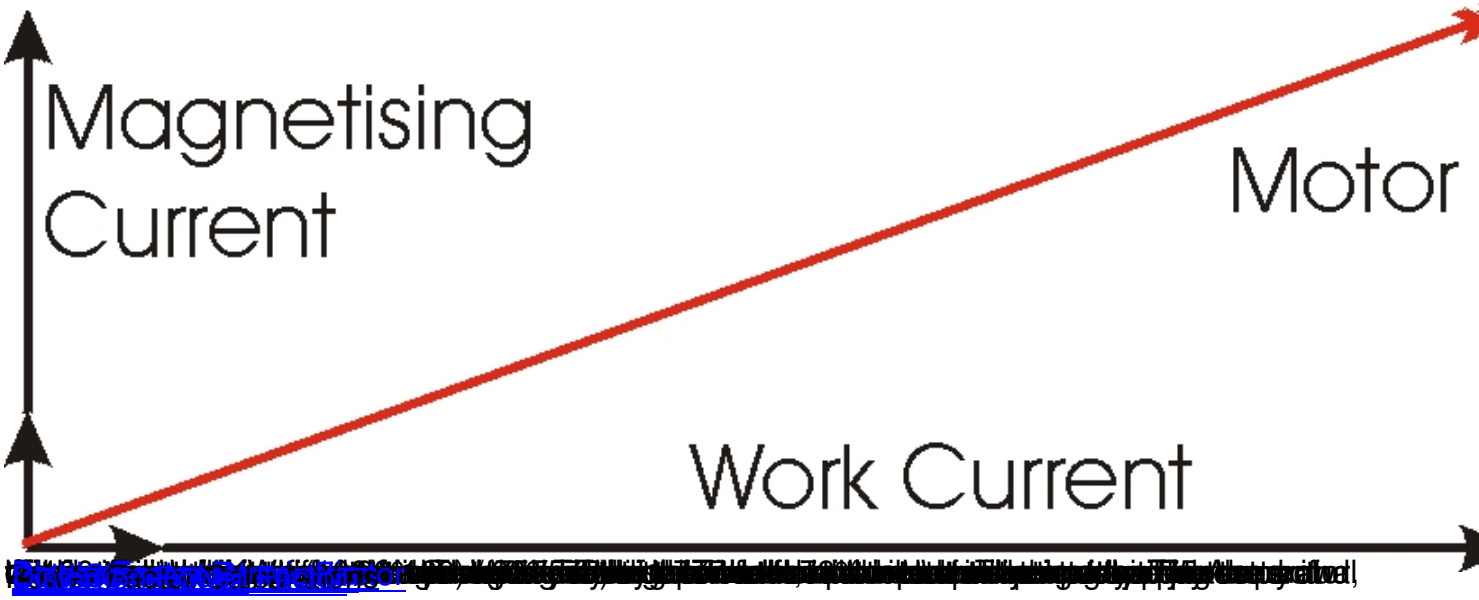
Common loads causing a poor displacement power factor are induction motors, transformers, reactive ballasts used for lighting and voltage control, welding systems (non inverter based).

An induction motor draws current from the supply, that is made up of resistive components and inductive components. The resistive components are:

1) Load current.
2) Loss current.

and the inductive components are:

3) Leakage reactance.
4) Magnetizing current.


Magnetising
Current
Motor
Work Current