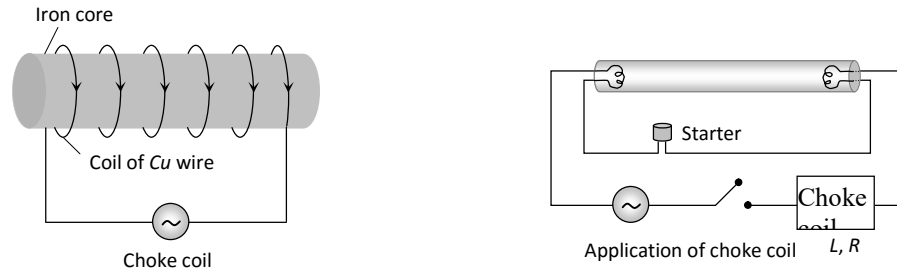


Choke Coil.

Choke coil (or ballast) is a device having high inductance and negligible resistance. It is used to control current in ac circuits and is used in fluorescent tubes. The power loss in a circuit containing choke coil is least.



- (1) It consists of a Cu coil wound over a soft iron laminated core.
- (2) Thick Cu wire is used to reduce the resistance (R) of the circuit.
- (3) Soft iron is used to improve inductance (L) of the circuit.
- (4) The inductive reactance or effective opposition of the choke coil is given by $X_L = \omega L = 2\pi v L$
- (5) For an ideal choke coil $r = 0$, no electric energy is wasted i.e. average power $P = 0$.
- (6) In actual practice choke coil is equivalent to a R – L circuit.
- (7) Choke coil for different frequencies are made by using different substances in their core.

For low frequency L should be large thus iron core choke coil is used. For high frequency ac circuit, L should be small, so air cored choke coil is used.