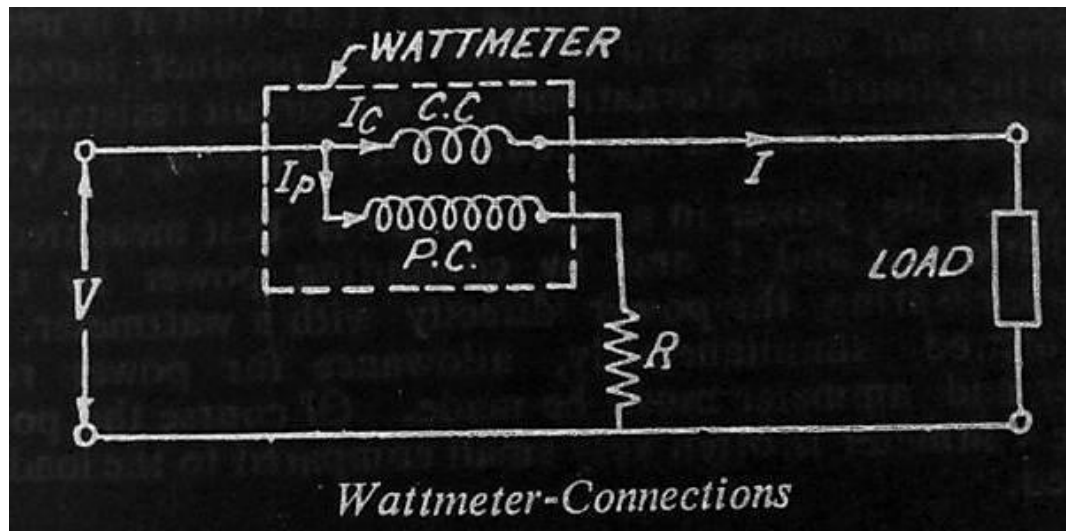


Three-phase power and its measurement

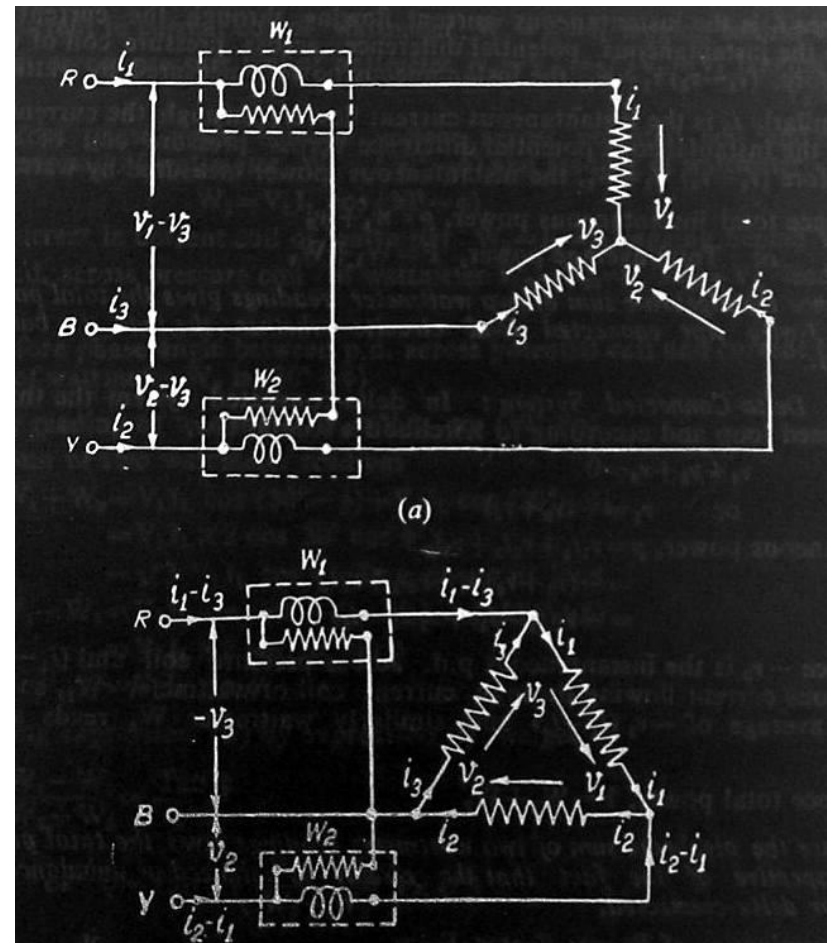
- A wattmeter is essentially an inherent combination of an ammeter and a voltmeter and, therefore, consists of two coils known as *current coil* and *pressure coil*.
- Wattmeter connection:



- 2-wattmeter method of measuring 3-phase 3-wire power :

- (a) star connected,
- $P=W_1+W_2$

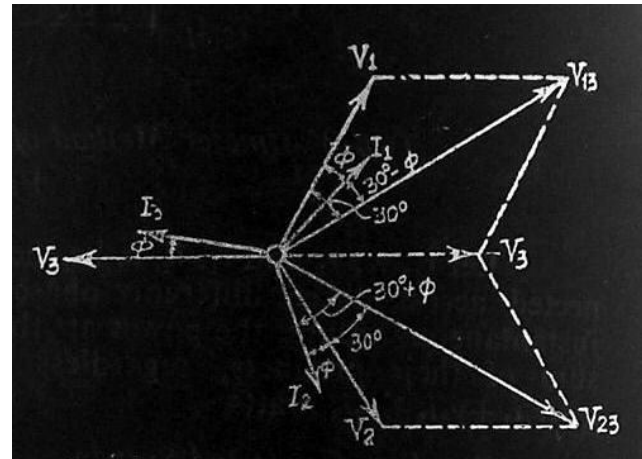
- (b) delta connected
- $P=W_1+W_2$



Determination of P.F. from Wattmeter Reading

- If load is balanced, then p.f. of the load can be determined from the wattmeter readings
- Vector diagram for balanced star connected inductive load ----->

$$\cos \phi = \cos \tan^{-1} \frac{\sqrt{3}(W_1 - W_2)}{W_1 + W_2}$$



- The watt-ratio Curve ----->
- p.f. can be determined from reading of two wattmeters

