

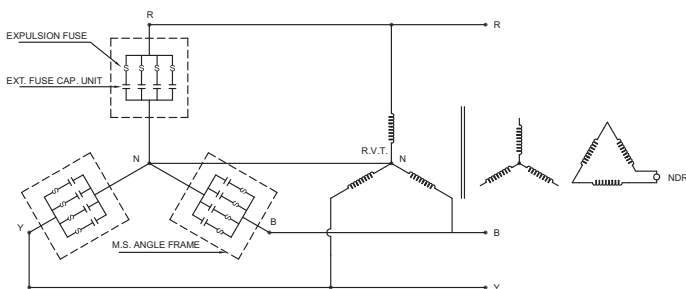
Capacitor Banks :

MV & HV capacitor banks are installed at substations and big industries to achieve the power factor and to maintain optimum reactive power. Capacitor bank consists of single phase capacitor units which are connected together with series and parallel groups depending on voltage and required total KVAR rating. Series groups are mounted on steel racks or enclosures and are insulated by interstack insulators.

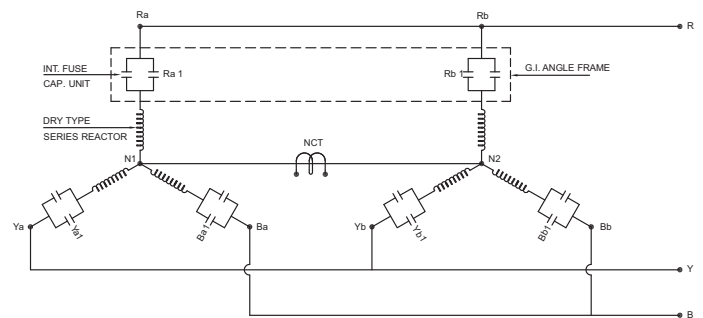


11 & 33 KV fixed capacitor banks are single or double star connected with unbalance voltage or current protection by using RVT or NCT. This primary of these protection transformer are connected to the star point of bank. In case any failure happens, there will be unbalance at secondary side of transformer generating unbalance voltage or current. Thus voltage or current relay will give instant command to tripping relay of controlling switchgear.

Series Reactor rating 0.2%, 1% or 6% of capacitor bank is designed & connected in series. This provides additional reactance in the circuit in order to limit inrush short circuit current to a safe value for purpose of protecting capacitor bank. 0.2% series reactors are neutral side while 6% are connected in line before capacitor bank.



(Residual Voltage Transformer)
RVT connection



(Natural Current Transformer)
NCT connection

HV & EHV Capacitor Banks :

HV banks are installed at substation beyond voltage level of 33KV & upto 220KV System voltage. Banks are provided for power factor correction and for maintaining voltage profile by reducing voltage drops. These banks increase power transmission capacity.



54 MVAR, 132 KV TERNA Rete, Italy.



132 KV Fuseless Capacitor Bank, Phaltan, Maharashtra, MSETCL