# Rating of alternators

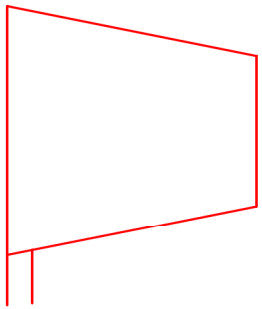
- Power rating alternator is normally specified in terms of VA, kVA or MVA
- This is because the power dissipated in the machine is decided by the current flowing through the windings
- If the power rating of the generator is specified in kW or MW, it may be for a particular power factor, say 0.8. This power factor will also be specified along with other parameters

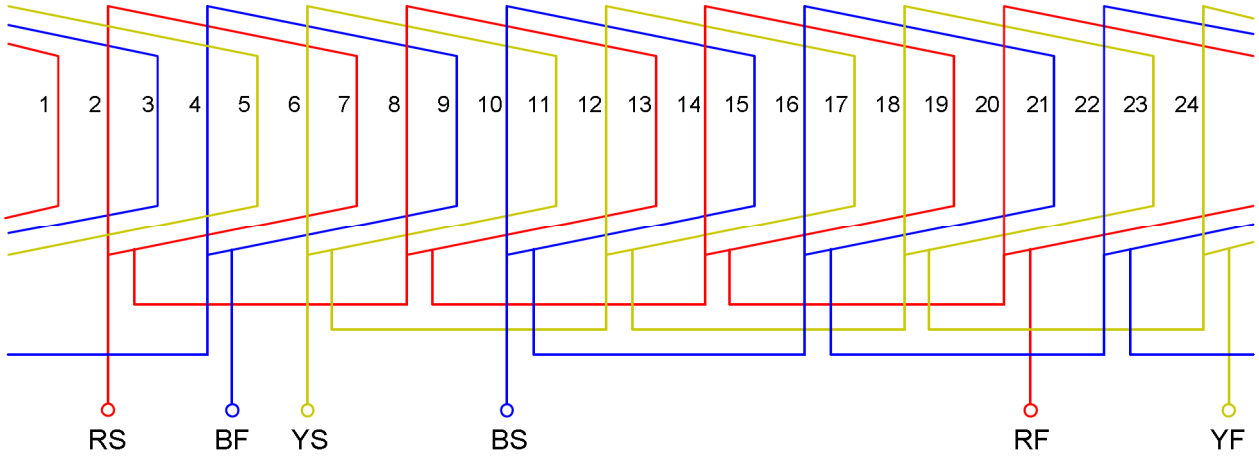
# Classification of AC windings

- **Single layer windings**
  - Mush winding
  - Unbifurcated windings
    - Coils in a phase group are concentric
  - Bifurcated winding
    - Each phase group is split into two sets of concentric coils
- **Double layer windings**
  - Lap winding
  - Wave winding

# Mush Winding

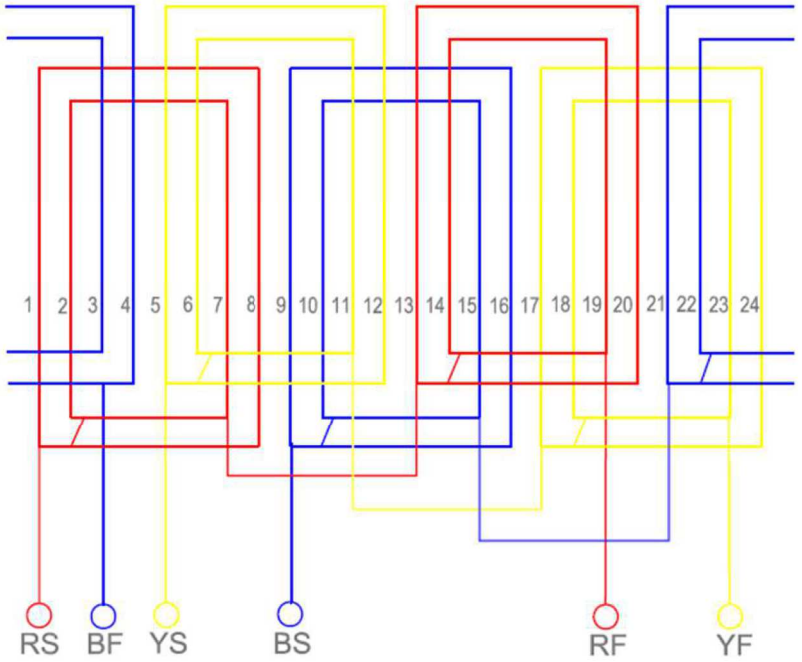
- It is a single layer winding
- In each coil, one coil side is longer than the other
- The coil span should be an odd number





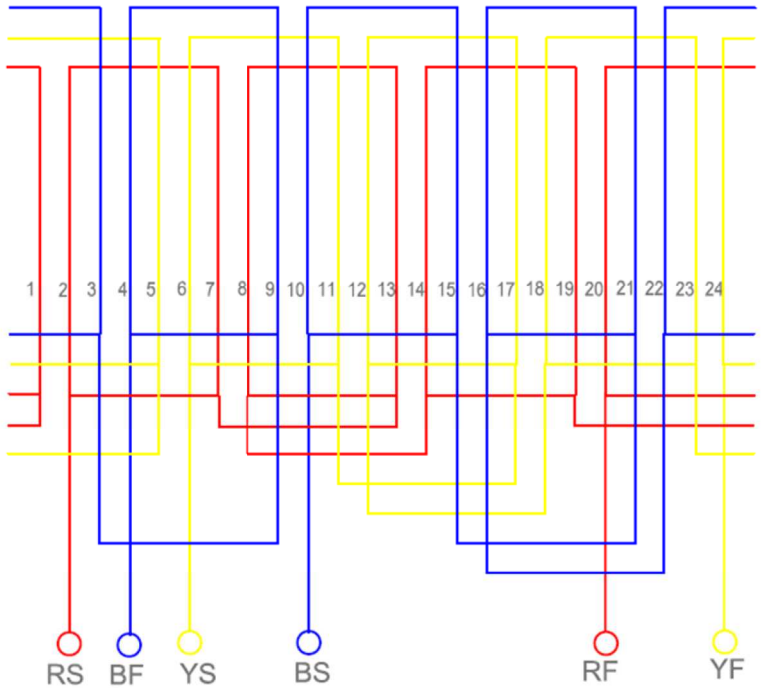
# Unbifurcated concentric coil

- It is a single layer winding
- Coils in a phase group are concentric
- Concentric windings may have unequal coil span

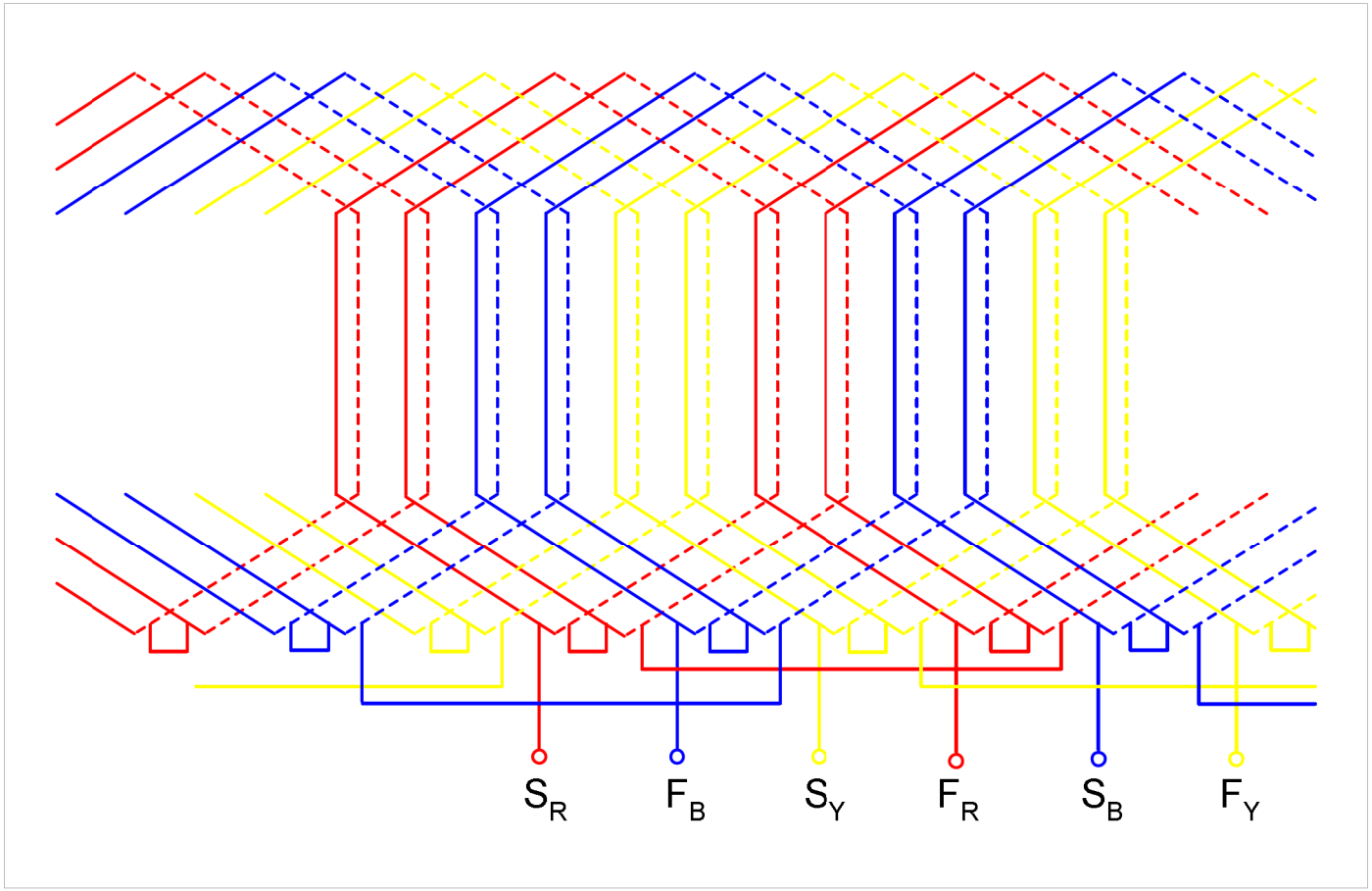


# Bifurcated single layer winding

- It is a single layer winding
- Each phase group is split into two sets of concentric coils



# Double layer lap winding



# Double layer wave winding