FIGURE 4–10
The full equivalent circuit of a three-phase synchronous generator.

From Chapman, Electric Machinery Fundamentals (5e)
FIGURE 4–11

The generator equivalent circuit connected in (a) Y and (b) Δ.

From Chapman, Electric Machinery Fundamentals (5e)
FIGURE 4–12
The per-phase equivalent circuit of a synchronous generator. The internal field circuit resistance and the external variable resistance have been combined into a single resistor $R_F$. 