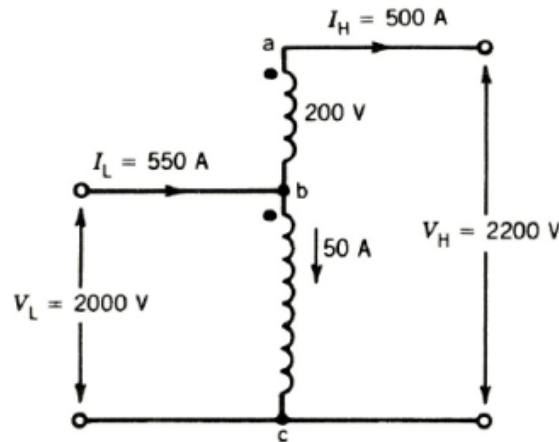


Example 2.6:

A 1ϕ , 100 kVA, 2000/200 V two-winding transformer is connected as an autotransformer as shown in Fig. E2.6 such that more than 2000 V is obtained at the secondary. The portion ab is the 200 V winding, and the portion bc is the 2000 V winding. Compute the kVA rating as an autotransformer.

**FIGURE E2.6****Example 2.7:**

Three 1ϕ , 50 kVA, 2300/230 V, 60 Hz transformers are connected to form a 3ϕ , 4000/230 V transformer bank. The equivalent impedance of each transformer referred to low voltage is $0.012 + j0.016 \Omega$. The 3ϕ transformer supplies a 3ϕ , 120 kVA, 230 V, 0.85 PF (lag) load.

- Draw a schematic diagram showing the transformer connection.
- Determine the transformer winding currents.
- Determine the primary voltage (line-to-line) required.

Example 2.8:**EXAMPLE 2.8**

A 3ϕ , 230 V, 27 kVA, 0.9 PF (lag) load is supplied by three 10 kVA, 1330/230 V, 60 Hz transformers connected in Y- Δ by means of a common 3ϕ feeder whose impedance is $0.003 + j0.015 \Omega$ per phase. The transformers are supplied from a 3ϕ source through a 3ϕ feeder whose impedance is $0.8 + j5.0 \Omega$ per phase. The equivalent impedance of one transformer referred to the low-voltage side is $0.12 + j0.25 \Omega$. Determine the required supply voltage if the load voltage is 230 V.