STARTING AUTOTRANSFORMER

These apparatus allow the starting of motors under reduced voltage.

The starting current is divided by: $\left(\frac{Un}{Ur}\right)^2$

Un: nominal voltage
Ur: reduced voltage

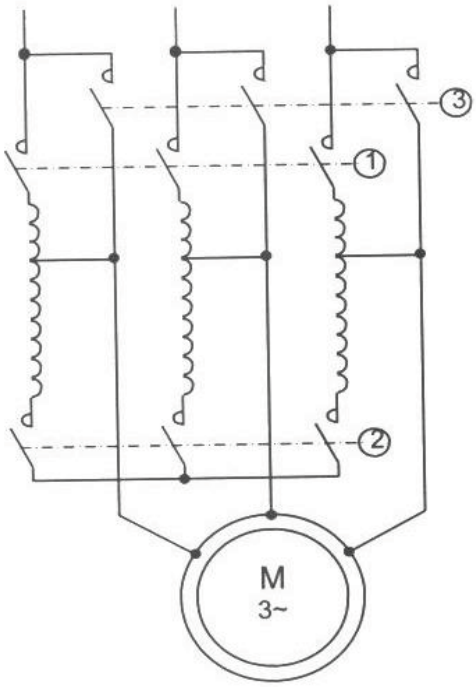

DIAGRAM OF STARTING

More usually used the starting in three times.

1st time: 1 and 2 are closed, 3 is open feeding of the motor under reduced voltage.

2nd time: 1 is closed, 2 and 3 are open feeding of the motor in serie with the inductance due to the fraction of the winding of the autotransformer.

3rd time: 3 is closed, 1 and 2 are open the motor runs under its nominal voltage.

Example of reference

Natural cooling oil immersed autotransformer for starting in three times of motor 7 800kVA, 11kV f=50Hz In= 442A Is/In= 4.2
Characteristics:
Primary: 11kV – secondary: 8,14kV ±5%
Off voltage tap changer 3 startings of 36 seconds each one separated by 6mn, then 2 startings per hours.
Weights: oil: 540kg - core and coils 1 785kg - total 2 695kg
Length: 1 800mm - Width: 960mm - Height: 1 800mm.

celduc® transfo