

## Kongres Container

**The output voltage of a power station is 500v**



## Overview

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How many volts does a power station produce?

Power stations produce electricity at 25,000V. Electricity is sent through the National Grid at 400,000V, 275,000V or 132,000V. Step-up transformers at power stations produce the very high voltages needed to transmit electricity through the National Grid's power lines.

What is the output of an AC generator in a power station?

The output of an a.c. generator in a power station is 5000V. A transformer increases the voltage to 11500V before the electric power is transmitted to a distance town. I) state and explain, using a relevant equation, one advantage of transforming power at high voltage. II) state the component in the transformer to which a.c. generator is connected.

How much power does a 40 kVA transformer lose?

A 40 kVA transformer has core loss of 400 W & full load copper loss of 800 W. The proportion of full load at maximum efficiency is - Q1.

What is the ratio of voltage across a primary and secondary coil?

The ratio of the voltages across the primary and secondary coils of a transformer is equal to the ratio of the number of turns on each coil A transformer has 20 turns on the primary coil and 800 turns on the secondary coil. The voltage across the primary coil is 500 V. a) Calculate the output voltage of the secondary coil.

How do you calculate power in Watts?

The complex power  $S$  in volt-amperes (VA) is equal to the voltage  $V$  in volts (V) times the current  $I$  in amperes (A):  $S(\text{VA}) = V(\text{V}) \times I(\text{A}) = (|V| \times |I|) \angle (\theta_V - \theta_I)$   
The real power  $P$  in watts (W) is equal to the voltage  $V$  in volts (V) times current  $I$  in amperes (A) times the power factor ( $\cos \phi$ ):  $P(\text{W}) = V(\text{V}) \times I(\text{A}) \times \cos \phi$

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