

The role of nitrogen in the manufacture of high-voltage power lines



High voltage cables (33KV to 210KV) are manufactured in a nitrogen environment. XITE has supplied 10 sets of nitrogen equipment for such applications to several countries in Asia and the Middle East.

Earlier the cables were steam cured, but due to the presence of moisture there was always some moisture left in the insulation of the cables and hence the insulation values were poor.

In the curing lines, the steam is replaced by dry nitrogen and under nitrogen curing thousands of curing lines are now in operation worldwide and are producing high temperature cables.

This curing process requires the continuous use of nitrogen at a pressure of 12 to 18 bar. XITE has successfully supplied high pressure nitrogen generators that meet these requirements.

From a conventional on-site nitrogen generator, nitrogen is produced at a pressure of 5 to 7 bar and then boosted to 25 bar by a booster compressor, where the nitrogen is stored in a high-pressure tank.

The nitrogen in the storage tank is then used in the curing line via an automatic pressure reducing valve. The nitrogen storage tank meets fluctuating nitrogen demands and requires a very high nitrogen flow rate at the start-up of the curing line, using a large amount of nitrogen for cleaning in a very short period of time.

In this application, nitrogen with a purity of 99.9% is used. The nitrogen has a dew point of about (-)60°C for better insulation properties.

We offer two different types of nitrogen generators.

Membrane nitrogen generators - for products with a purity of up to 99.9%.

Membrane nitrogen generators have many benefits over other technologies, such as low maintenance and very low production costs.

PSA nitrogen generator - for purity above 99.9%

PSA nitrogen generators are powerful systems for the production of nitrogen with a purity of 99.9% or more. PSA is a very mature technology and XITE is a professional PSA

nitrogen generator manufacturer in China, supplying more than 1200 nitrogen generators worldwide.

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