

INNOVATIVE TEST LAB

FOR LARGE POWER DRY-TYPE REACTORS

Size: 500 m²
Height: 26 m

Opening: 2021

Main performed tests:

- Lightning impulse tests
- Switching impulse tests
- Sound measurements
- Heat run tests

The new test hall is made from wood in terms of sustainability and because of technical requirements.

- Wood construction, foundations are fiberglass reinforced
- Thick sound absorbing material inside
- Nearly no negative influence during the tests (neither by metallic parts nor by weather conditions)
- Reduction of factory sound emission

IMPULSE VOLTAGE GENERATOR

The impulse voltage generator consists of 10 stages and reaches a max. energy of 200 kJ:

- Lightning impulses up to 1900 kV at 1,2/50 μ s respectively chopped
- Switching impulses with 1400 kV 250/2500 μ s

All components (a total of 140 pieces) of all generator circuits are mounted per stage on the generator and are also stored there.

The entire generator can be moved into the high voltage test lab as a **mobile device** by means of a **remote-controlled load robot** and - if necessary - can be driven into the second high voltage test lab. This **tailor-made mobile solution** was specially developed for TA.

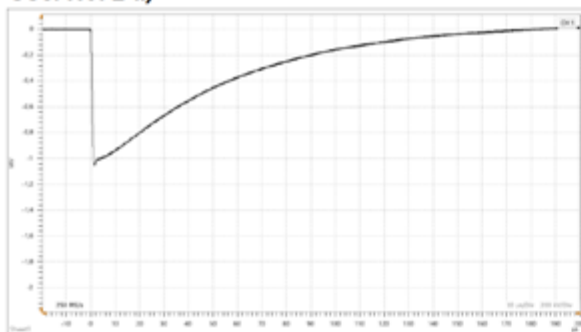
The **safety technology** of the generator in the new test lab was upgraded to **SIL3 (Safety Integrity Level)**.

In comparison: an nuclear power plant has got SIL4



**1050 kV lightning impulse test
of our 220 kV shunt reactor**
(curve forms 1,2 / 50 μ s)

Osc. No. 2 a)



b)

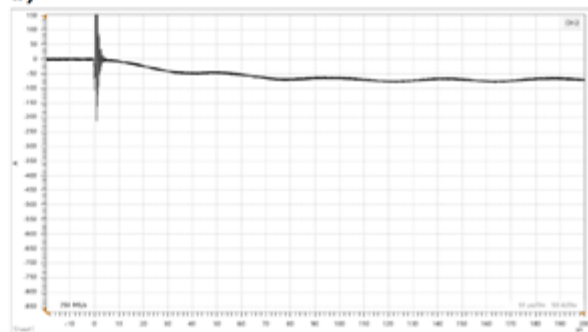


Figure 3: a) Voltage record b) Current record

For more resources on Dry-type Reactors please check out our website:
<https://www.trench-group.com/products/>
 Contact us: sales@trench-group.com