



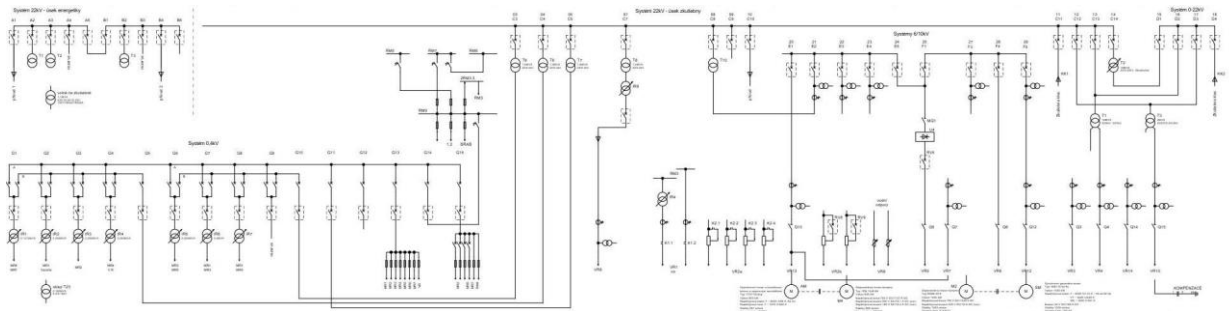
ELEKTROTECHNIKA

TEST ROOM

ELEKTROTECHNIKA, a.s.

The Test Room is designed for performing unit and type tests of power semiconductor applications, tests of transformers and chokes and routine manufacturing tests of rotating machines up to approx. 1 MW.

This test facility is equipped with both AC and DC power supplies with the possibility of voltage regulation and corresponding power loads.



The test room is powered from a 22 kV main power station.

There are 3 substations in the building:

- 22 kV – Input
- 0.4 kV – Outlets and boosters power supplying
- 6/10 kV – For manipulation



Three-phase transformers are powered from the 22 kV substation, the largest one is a 22 kV autotransformer with a 16 MVA tap switch. By combining the connections with other transformers, it is possible to make the following:



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1.1/ AC power supplies

0 to 22 kV / 16 MVA

0 to 35 kV / 4 MVA

0 to 11 kV / 4 MVA

0 to 6 kV / 16 MVA

0 to 2.2 kV / 12 MVA

0 to 0.8 kV / 4 MVA

0 to 27 kV / 1f/ 3 MVA

0 to 10 kV / 500 kVA

Other transformers are used, for example, to supply the 150 to 610 V/1000 A (1 MVA) booster and the 400 V own network.

For current testing, air type transformers of an output voltage of approx. 20 V to 50 V and current up to 20,000 A can be connected to the booster.



1.2/ DC power supplies

0 to 4 kV 1000 A

0 to 1 kV 800 A

0 to 20 V 6000 A



2/ Load:

- 1 x 1.5 MW load resistance Fechral with fan
- 1 x load choke 20 mH, 1200 A, ins. voltage 12 kV
- 1 x load choke 1124 mH, 78 A, ins. voltage 27 kV
- RL load for voltage up to 3 kV DC according to the customer's request



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3/ Loading sets 0.85 MW:

Asynchronous motor with a ring anchor and a resistive starter:

Overload: 850 kW

Voltage/current: stator Y 6000 V/98 A - 50Hz
rotor Y 1070 V/490 A

Speed: 991 rpm

DC motor-dynamo

Type: 1DN 1446-6k

Power: 845 kW

Voltage/current: Anchor 750 V DC/1127 A

Separate excitation

200V/18.1A to 180 V/16.4 A

Speed: 989 rpm



4/ Power supply set 1 MW:

Synchronous AC generator-motor
1800/3000/6000 V, up to 60 Hz DC
Motor-dynamo 750 V, 1330 A
including power supplies and motor
excitation power supplies

5/ Other:

Power supplies for test by applied voltage up
to 80 kV AC 50 Hz

Medium-frequency power supply 170 Hz,
1200 V, 40 A

Measuring transformer of voltage and
current POB-35 (10 to 2000 A/5 A; 3750,
7500, 15000 V/150 V)

Base steel plate 2 x 5 m for fastening the
tested machines

Fans for cooling the inverters

Cranes with 5 ton and 20 ton load capacity

Refrigeration block for technical (raw) water,
loss power 300 kW.

