Load centre substations – indoor installation

Application:
FEAG builds load centre substations (S-stations) specially for the automotive sector. This station type is used for supplying low voltage networks or individual large consumers and is modular in construction.

The S-stations can be installed directly in the production areas without additional safety measures and are suitable for installation in aggressive atmospheres or fire-risk rooms and in environmental conditions as per VDE 670 or 0660 Part 500.

S-Station

The S-station includes (from left to right) the following components:

- Medium-voltage cabinet, consisting of ring cable and supply connection panels for 12kV and 24kV
- Resin-encapsulated transformer with enclosure
- Low voltage cabinets, consisting of the:
  - network cabinet,
  - cable distribution cabinet,
  - high-current busbar cabinet and
  - compensation cabinet.

Each network cabinet is supplied by its own control voltage supply.

The high-current busbar connection cabinets with their connection to the compensation cabinet are directly flanged to the network cabinet or to a cable distribution cabinet.

Technical data:

Test values for the primary distribution panel:
IK" = 16 kA (500 MVA, 20 kV), tk = 1 s
IK" = 25 kA (250 MVA, 6.3 kV or 750 MVA, 20 kV), tk = 1 s
IK" = 31.5 kA (350 MVA, 6.3 kV), tk = 1 s

Test values for the transformer panel:
High-voltage side
IK" = 16 kA (500 MVA, 20 kV), tk = 1 s
IK" = 25 kA (250 MVA, 6.3 kV or 750 MVA, 20 kV), tk = 1 s
IK" = 31.5 kA (350 MVA, 6.3 kV), tk = 1 s
Low-voltage side:
Ik" = 110 kA, tk = 300 ms

Test values for the low voltage panels:
Short-circuit strength with uninfluenced short-circuit current
Ik" = 80 kA or Ik" = 110 kA
taking into account the values in Table V, VDE 0660, Part 500, Section 7.5.3,
tk = 1 s

Height of S-station: 2.40m with 12 kV; 2.60m with 24 kV

Protection class:

Transformer enclosure	IP23,
Compensation cabinet	IP33,
Other system components:	IP43 as per VDE 470 / Part 1 (IEC 529)

Colour / corrosion protection:
Corrosion protection primer coat with top coat, colour RAL 7032

Produced in compliance with the following regulations:

- BV — Equipment regulations issued by VW-AG
- BVL — Special contract conditions for deliveries
- ZVM — Supplementary contract conditions for fitting work
- 8–E–21 — Labelling guideline
- BGV — Accident prevention regulations
- DIN, VDE and EN — electrical engineering regulations

Applicable national regulations for foreign works