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VACUUM CHAMBER DESIGN FOR HV CIRCUIT BREAKERS

ABSTRACT *The paper presents a vacuum chamber model for a HV circuit breaker. Manufacturers of vacuum circuit breakers apply the axial magnetic field (AMF) to stabilise the electric arc diffusion during current breaking process. The model was analyzed and partly tested to assure its mechanical and electrical withstand. The results of the preliminary calculations of thermal behavior of the vacuum chamber in short-circuit conditions, the magnetic field distribution between contact plates as well as in the contact gap and the dielectric stress inside of the vacuum chamber are shown. The bipolar contacts were tested in a dismountable vacuum chamber. The aim was to determine geometry and to recognize technology and manufacturing facilities required.*

Keywords: *vacuum chamber contacts, AMF distribution, diffusion arc, circuit breaker*

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