

Pulsgeneratoren und Funkenstreckenschalter für Elektroporationsanlagen

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The pulse circuit for an electroporation device consists of the pulse source, the electrode system with the medium in between, and the connecting transmission line. It needs to be tailored to the specific needs of each application. For large-scale electroporation devices Marx generators with spark gap switches are used as pulse source, which are operated at a pulse length in the microsecond range. The spark gap electrodes are equipped with a homogeneous-field profile enabling homogeneous wear of the electrodes across the surface. Over-voltage triggering of the 1st stage's spark gap switch enables long-term operation of several Marx generators synchronized to each other without additional wear of the electrodes.

This talk gives a short overview over different kinds of pulse generators for electroporation devices, and describes in more detail design and operation of spark gap switches for Marx generators in electroporation devices.

On request, the talk will be given in English language.