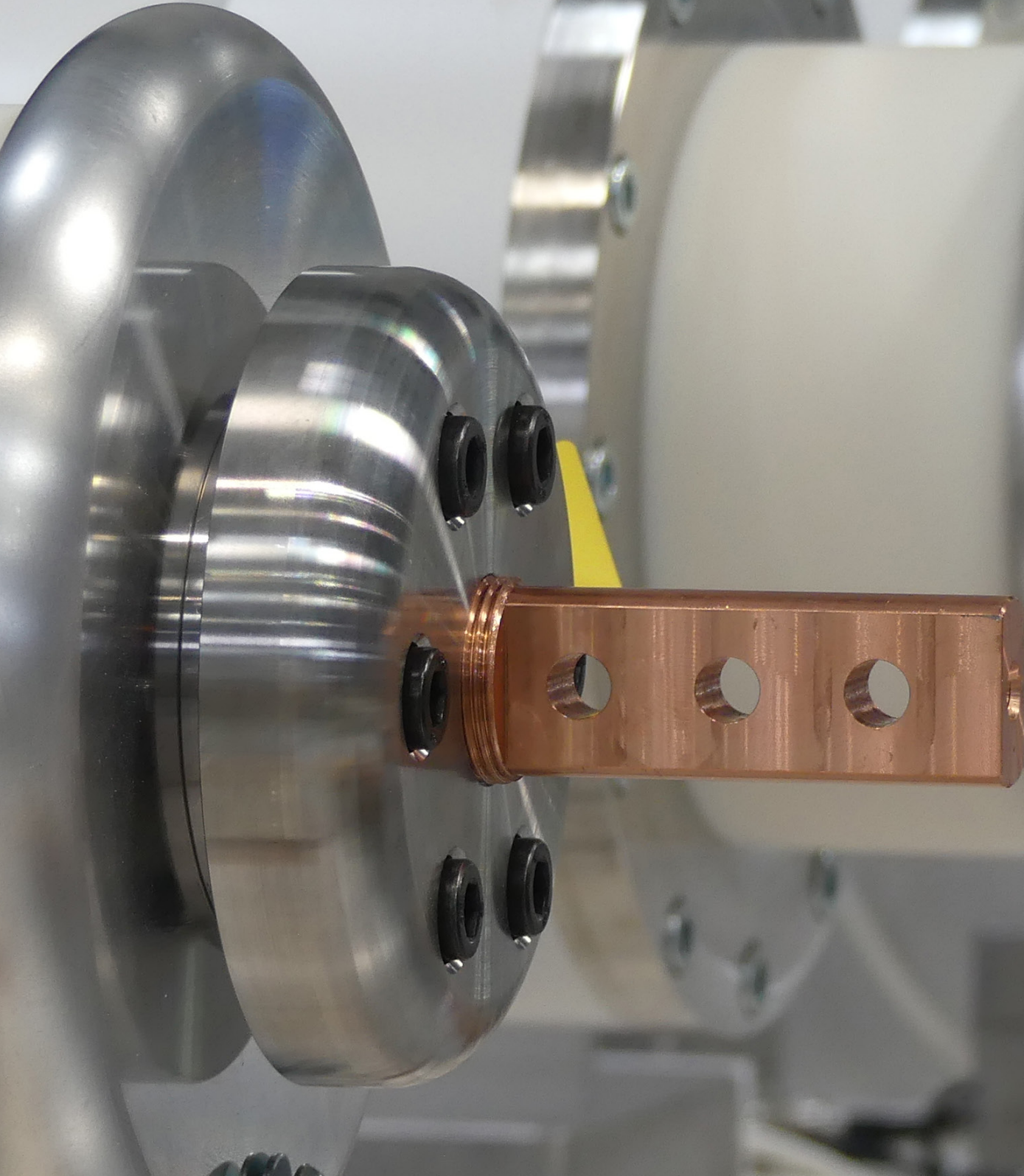

ITOPP
ALCEN

ITOPP, Leader in Pulsed Power Systems

Spark Gap Switches



from **spark** to **lightning**



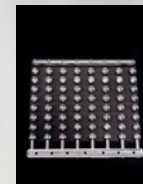
ITOPP, develops components and instrumentation for pulsed power systems, including a range of spark gap gas switches, customized to meet customer needs.

Multi gap multi channel Switches (Linear Transformer Driver, high-current pulsers...)



Operates under pressurized air immersed in oil (LTD)

Operating voltage	up to ± 100 kV
Current	10 to 25 kA
Pulse duration (FWHM)	up to ~ 100 ns



Operates at atmospheric pressure (thin foil insulation)

Operating voltage	up to $+100$ or -100 kV
Current	~ 320 kA
Pulse duration (FWHM)	~ 2.8 μ s

- Operates with dry air;
- Easy triggering and low jitter thanks to multi-gap design;
- Low inductance and resistance;
- Long service life, low material erosion due to current distribution;
- Suitable for high-speed or high-current drivers.

Three-electrode triggered spark gap (i.e. Marx generators, plasma guns drivers)



Three-electrode gas spark gap, air or oil insulated

Operating voltage	± 10 kV to ± 100 kV
Current	a few kA to 130 kA
Pulse duration	in the microsecond range

- Wide voltage and current operating range;
- Long service life;
- Environmentally friendly: dry air operation, no hazardous materials.

High coulombs switches for energy banks (i.e. Laser Mégajoule)



Operating voltage	up to 24 kV
Current	25 or 250 kA
Pulse duration (FWHM)	~ 250 μ s
Charge transferred	4 to 70 C
Lifetime (w/o maintenance)	$> 20\ 000$ shots
Trigger embedded with f.o. command	

ITOPP responds to customer needs with modifications or complete designs:

Our knowledge and know-how are made available to customers having specific needs that ITOPP can meet by adapting pre-existing technologies and techniques or by creating a complete design taking into account the required performance standards.

ITOPP can also supply and develop high voltage/high-current solid-switching systems.

Contact us for more information.

With more than 25 years of existence, ITOPP has become the French leader in pulsed power and high-power microwave technologies. Based on the customer's specifications,



ITOPP designs and manufactures highly innovative adapted systems related to these technologies for scientific research as well as civil and military applications.

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