
ITOPP
ALCEN

ITOPP, Leader in Pulsed Power Systems

Revolutionizing Drain
Cleaning with High-Voltage
Electro Pulse Equipment

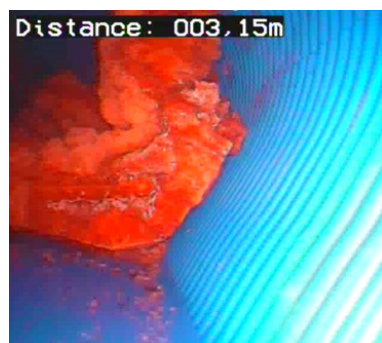


from **spark** to **lightning**

Upgrade your Drain Cleaning with a High-Voltage Electro Pulse System

ITOPP has developed cutting-edge, electro-pulse cleaning equipment designed to clean drains with high voltage precision. This system is especially useful in situations where other conventional methods may not be effective.

- Breaks hard rocks or dense clogs of hard-to-fracture materials, such as calcite, iron/manganese hydroxide or biofilm,
- Enables access to and treatment of hard-to-reach areas.



Before treatment



After treatment

Adapted to the constraints of the areas to be treated

The HV cable is guided by a set of static and dynamic devices that enable it to adapt to the treatment zone, for example, passing under a cable, going through a trench, or a wall, etc.

Automated system

The control panel located outside the electro-cleaning equipment area allows remote control of the system via the electrical cabinet.

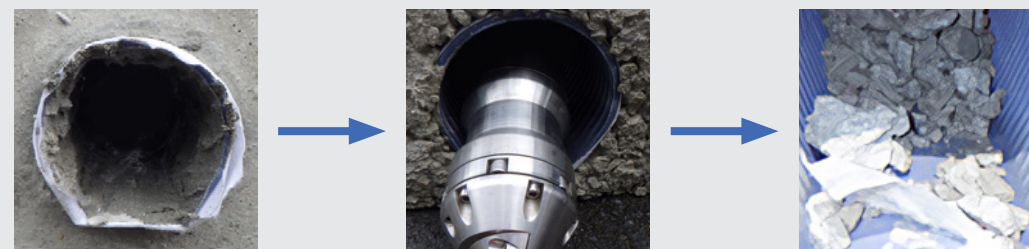
ITOPP can respond by adapting this technology and these techniques or by creating a complete design, taking into consideration the required performance standards, safety and ergonomic use.



How does it work?

The pulse generator is electrical equipment operating at High Voltage (HV), with the principle of creating an impulsive current discharge in the medium to be treated,

The capacitor bank is rapidly charged through an electrical bay, reaching a preset voltage threshold, initiating an impulsive discharge. These discharges store energy in the electro-cleaning probe via the coaxial HV cable. At the cable's submerged end, two electrodes create an electric arc, producing a shockwave that impacts and reduces the treated element in the pipes. This process repeats at a set frequency until the desired number of shots is reached.



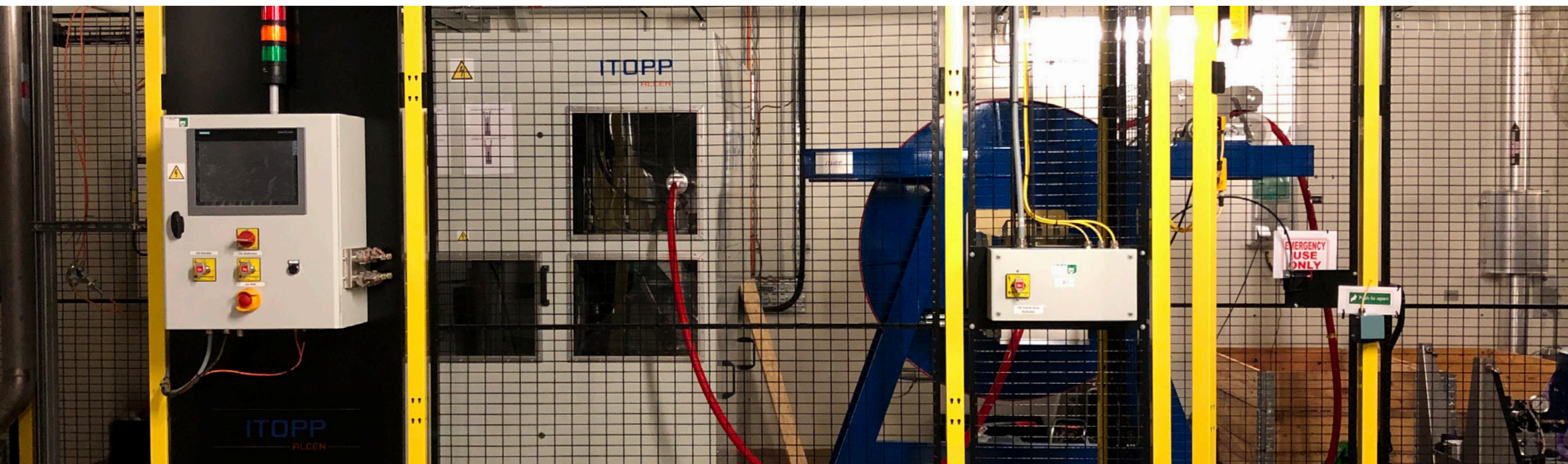
Technical parameters

Subassembly space constraints

Electrical bay + Energy bank	2,500 × 2,000 × 2,200 mm
Cable reel	2,000 × 2,000 × 2,000 mm
Electrode-carrying probe diameter	100 – 200 mm

Electrical specifications

Operating voltage	16 – 20 kV (≈ 1 kJ)
Repetition rate	0.2 Hz
Firing series duration	15 min
Rest time between firing series	5 min



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.

ALCEN

6 rue Paul Baudry – 75008 Paris – France
Tel. + 33 (0)1 40 72 55 00
alcen@alcen.com
www.alcen.com



ITOPP

1160 route de Miers – 46500 Thegra – France
Tel. +33(0)5 65 33 43 30
contact@itopp-alcen.com
www.itopp-alcen.com