



Laser Cleaning Systems

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CONSERVATION OF MONUMENTS / INDUSTRY / CONSTRUCTION



ABOUT US

Manufacturer of cleaning lasers



We are a manufacturer of laser ablation cleaning devices. We specialize in the construction of **multimode lasers with high pulse energy** for cleaning sensitive materials and **single-mode lasers** intended for processing and structuring materials.

All lasers manufactured by us are based on European components, German pulse sources from IPG Photonics and our own proprietary software. Each device is built in our facility in Poland. All units have a technology passport and necessary certifications. We provide training, as well as comprehensive warranty and post-warranty support.

We engage not only in designing and building laser systems but also in extensive materials engineering.

TECHNOLOGY



Laser cleaning is an advanced process where the precise selection of equipment and laser beam parameters plays a key role. During cleaning, ablation occurs. Appropriate wavelength and optimal process parameters enable laser radiation to be absorbed by surface contaminants. After the particles adhering to the substrate are detached, the laser radiation does not penetrate deeper into the material, enabling cleaning without significant interference or surface damage.

Hulk 200/300/500

Multimode lasers

Our multimode devices have high pulse energy, achieving full beam density at short pulse durations and low frequencies. That way they prevent excessive heat introduction during cleaning processes. Our machines are primarily used in industries requiring high-quality surface finishes. They perform excellently in heritage conservation, cleaning sensitive materials, stone, wood, polychrome, and in industries such as cleaning injection molds.

Flash 200/300

Single-mode lasers

These devices are ideally suited for micro-processing, structuring, modifying material roughness, and surface development. They prepare surfaces effectively, for example prior to painting, allowing more extensive material interaction. The Flash line is excellent for automated processes.

- **Laser Software**

All FLASER lasers are equipped with proprietary software for controlling laser parameters. It is dedicated software for our devices, available in Polish, English, German, and French.

- **Remote Communication**

Diagnostyka serwisowa oraz aktualizacje mogą odbywać się zdalnie poprzez połączenie ze smartfonem. Nie ma potrzeby każdorazowego przewożenia lasera do serwisu.

- **Easy Integration**

All lasers can communicate via external industrial controllers using MODBUS-RTU or MODBUS IP protocols.

TECHNICAL SPECIFICATIONS

Hulk 200	Hulk 300	Hulk 500
OPTICAL CHARACTERISTICS	OPTICAL CHARACTERISTICS	OPTICAL CHARACTERISTICS
Laser operation type: Pulsed	Laser operation type: Pulsed	Laser operation type: Pulsed
Average beam power: 200W	Average beam power: 300W	Average beam power: 500W
Beam pulse energy: 10 mJ	Beam pulse energy: 10 mJ	Beam pulse energy: 100 mJ
M2 beam quality: 12	M2 beam quality: 12	M2 beam quality: 27
Beam wavelength: 1064 nm	Beam wavelength: 1064 nm	Beam wavelength: 1064 nm
PULSE CHARACTERISTICS	PULSE CHARACTERISTICS	PULSE CHARACTERISTICS
Pulse duration: 30, 60, 120, 240 ns	Pulse duration: 30, 60, 120, 240 ns	Pulse duration: 25, 50, 70, 100 ns
Pulse frequency: 2 : 200 kHz	Pulse frequency: 3 : 300 kHz	Pulse frequency 2:100 kHz
OPTICAL OUTPUT CHARACTERISTICS	OPTICAL OUTPUT CHARACTERISTICS	OPTICAL OUTPUT CHARACTERISTICS
Fiber optic length: 3m	Fiber optic length: 3m	Fiber optic length: 15m
ELECTRICAL CHARACTERISTICS	ELECTRICAL CHARACTERISTICS	ELECTRICAL CHARACTERISTICS
Control voltage: 24V DC	Control voltage: 24V DC	Control voltage: 24V DC
Supply voltage: 90 : 253V	Supply voltage: 90 : 253V	Supply voltage: 90 : 253V
Power consumption: 800W	Power consumption: 1200W	Power consumption: 2400W
OPERATING CHARACTERISTICS	OPERATING CHARACTERISTICS	OPERATING CHARACTERISTICS
Operating temperature range: +10 : +50 oC	Operating temperature range: +10 : +50 oC	Operating temperature range: +10 : +50 oC
Storage: -10 : +60 oC	Storage: -10 : +60 oC	Storage: -10 : +60 oC
Coolant temperature: +20 oC	Coolant temperature: +20 oC	Coolant temperature: +20 oC
Cooling type: Liquid	Cooling type: Liquid	Cooling type: Liquid
Humidity range: 10 : 90 %	Humidity range: 10 : 90 %	Humidity range: 10 : 90 %
Weight: 110 kg	Weight: 120 kg	Weight: 170 kg
Dimensions: 110 cm x 56 cm x 82 cm	Dimensions: 110 cm x 56 cm x 82 cm	Dimensions: 120 cm x 56 cm x 90 cm

TECHNICAL SPECIFICATIONS

Flash 200	Flash 300
OPTICAL CHARACTERISTICS	OPTICAL CHARACTERISTICS
Laser operation type: Pulsed	Laser operation type: Pulsed
Average beam power: 200W	Average beam power: 300W
Beam pulse energy: 1 mJ	Beam pulse energy: 1 mJ
M2 beam quality: 1,5	M2 beam quality: 1,5
Beam wavelength: 1064 nm	Beam wavelength: 1064 nm
PULSE CHARACTERISTICS	PULSE CHARACTERISTICS
Pulse duration: 30, 60, 120, 240 ns	Pulse duration: 30, 60, 120, 240 ns
Pulse frequency: 20 : 2000 kHz	Pulse frequency: 30 : 2000 kHz
OPTICAL OUTPUT CHARACTERISTICS	OPTICAL OUTPUT CHARACTERISTICS
Fiber optic length: 8m	Fiber optic length: 8m
ELECTRICAL CHARACTERISTICS	ELECTRICAL CHARACTERISTICS
Control voltage: 24V DC	Control voltage: 24V DC
Supply voltage: 90 : 253V	Supply voltage: 90 : 253V
Power consumption: 800W	Power consumption: 1200W
OPERATING CHARACTERISTICS	OPERATING CHARACTERISTICS
Operating temperature range: +10 : +50 oC	Operating temperature range: +10 : +50 oC
Storage: -10 : +60 oC	Storage: -10 : +60 oC
Coolant temperature: +20 oC	Coolant temperature: +20 oC
Cooling type: Liquid	Cooling type: Liquid
Humidity range: 10 : 90 %	Humidity range: 10 : 90 %
Weight: 110 kg	Weight: 120 kg
Dimensions: 110 cm x 56 cm x 82 cm	Dimensions: 110 cm x 56 cm x 82 cm

APPLICATION AREAS



Surface preparation
and contaminant removal



Removal of coatings
from metallic and glass surfaces



Removal of paints and varnishes



Rust removal from surfaces



Mold cleaning



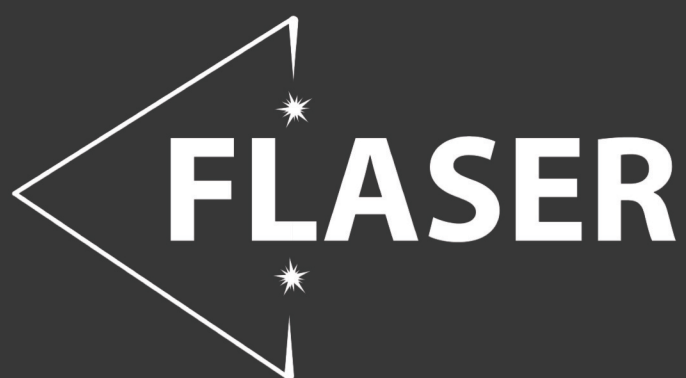
Cleaning of natural stones



Cleaning of materials prior
to bonding and welding



WWW.FLASER.PL



kontakt@flaser.pl
+48 733 003 600

Kuranów 12
96-325 Radziejowice
Poland
NIP 8381868595

