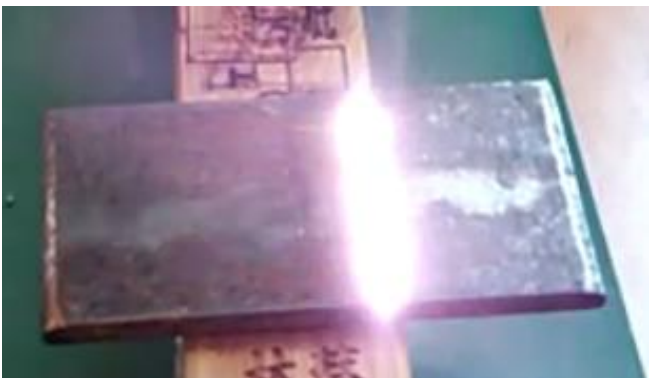


Laser Cleaning Machines

Low power system: M-CLEAN-50-100



We are pleased to announce our brand new Laser Cleaning Machine! Please see the video to see how quick the cleaning is: <https://youtu.be/6vHzlnoz0CE>

We developed a special customized head which focusses the laser beam into a line. The head is specially designed to be handheld and light, so that a human can easily hold it and move it around as you can see in the video! The focused laser beam quickly reacts with the light-absorbing coatings and removes rust/oxides, oil grease and production residues. Since metals are highly reflective, once the contaminants are removed, the newly exposed metal will reflect most of the laser light, thus sustaining no damage to the metal! This is great for industrial, military, and shipyard – production intensive de-coating.

We are working very closely with local polytechnic to continue to develop higher power versions up to 1000W or more to enable faster cleaning! Currently, we only offer the low power 50W version available now.

Applications:

- Rust-removal
- De coating
- Paint removal
- Labeling & Marking

- Micro-structuring on surfaces
- Mold cleaning and De-oiling
- Pre-treatment for adhesive bonding

Pulsed lasers are used in the laser cleaning machines. Maintenance and lifetime of the product is not an issue. The simple integration of the system requires no after-installation service. It comes in OEM desktop configuration with detachable cleaning head. You may need a lab jack to place your workpiece. The safety ring attachment is optional to prevent your hands from going into the laser beam path!



It is so simple to use too! A simple switch is provided, so the user can use 2 hands to hold the detachable cleaning head, and then use his foot to step on the pedal to enable the laser output! To stop the laser output, simply lift your foot off the pedal!

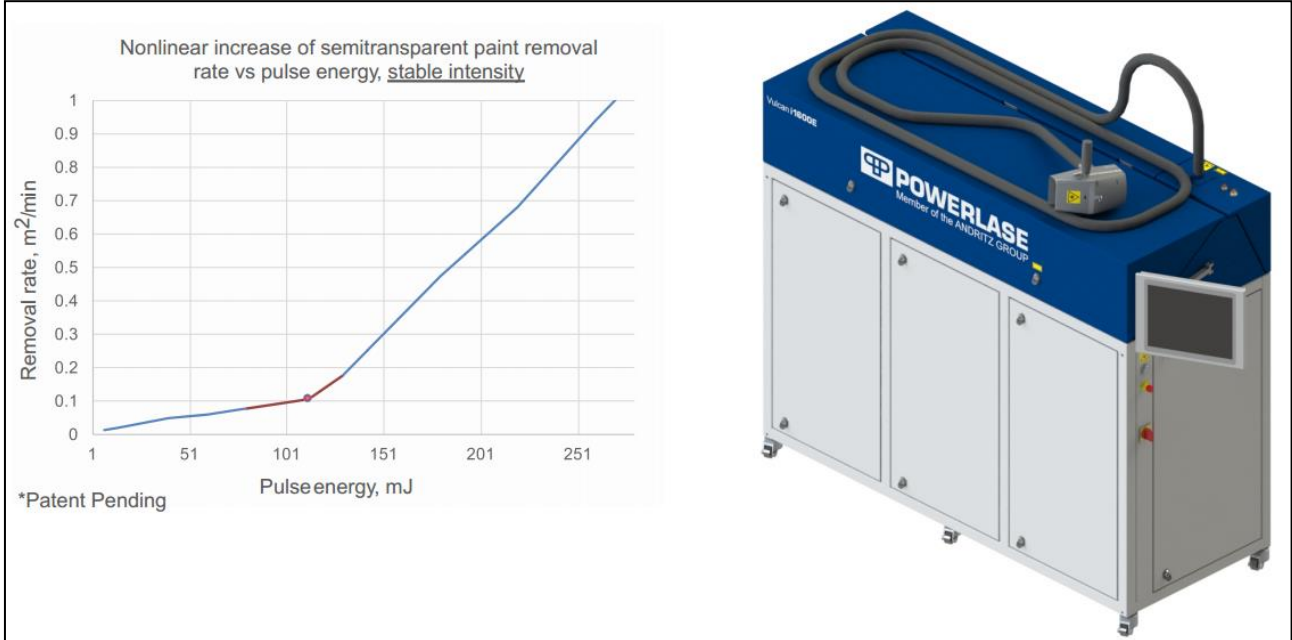
Model	M-CLEAN-50-100
Laser Source	
Laser type	Pulsed laser
Laser wavelength	1060-1080 nm
Laser power	50 W
Laser Peak Power	10,000 W
Laser Pulse Width	~100ns
Cooling method	Air
Weight (exclude detachable cleaning head)	~40kg
Detachable Handheld Cleaning Head	
Weight	3-4 kg (easy for human to hold)
Max Length of focused laser line (like in video)	100 mm (others available upon request)
Cleaning speed	~50 cm ² / minute (we are developing higher speeds)
Control Switch	
Simple Foot Pedal	
Advanced Control GUI	
Additional software can be installed & controlled on a regular Windows PC for advanced options	

Scanhead specs:

Part number	Wave-length um	Max input beam dia.mm	Mark area mm	Focused beam dia.um	Model of galvo	Outline	Dimension (LxWxH, mm)
LSSL-1064-10-110-S	1064	10	110x110	18	OSSL-S	F5	115x96x94
LSJC-1064-10-110-S	1064	10	110x110	18		F5	115x97x94

High Power System: STPLVC-i1600E

The first in a family of STPLVC cleaning system, a 1.6 kW Q-switched DPSS laser, fiber delivered to a robust galvanometer based ergonomic hand-held, compact scan head. With the proven reliability and high pulse energy of Rigel, Vulcan offers state of the art universal control systems and simple synchronization that will deliver faster processing and unlock the highest potential of laser based paint, coating removal and surface preparation.

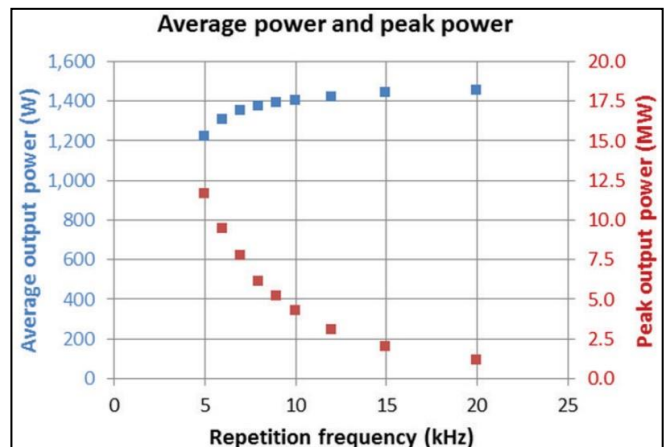
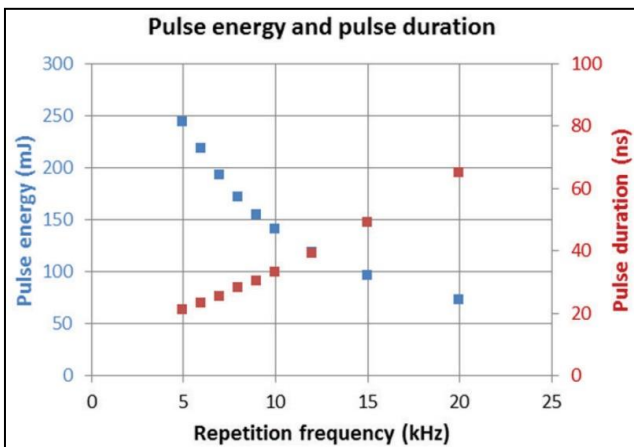


Features

- Highest Removal Rate
- Pulse Energy Up To 250 mJ
- Integrated Control PC
- Integrated Fume Extractor
- Fibre Delivery (30+ meter length)
- Computer Controlled Power
- Repetition Frequency Optimisation

Applications

- Paint and Coating Removal
- Rust Removal
- Surface Activation
- Oxidation Removal
- Pre-Weld Preparation
- Surface Cleaning and Restoration



Typical Laser Performance

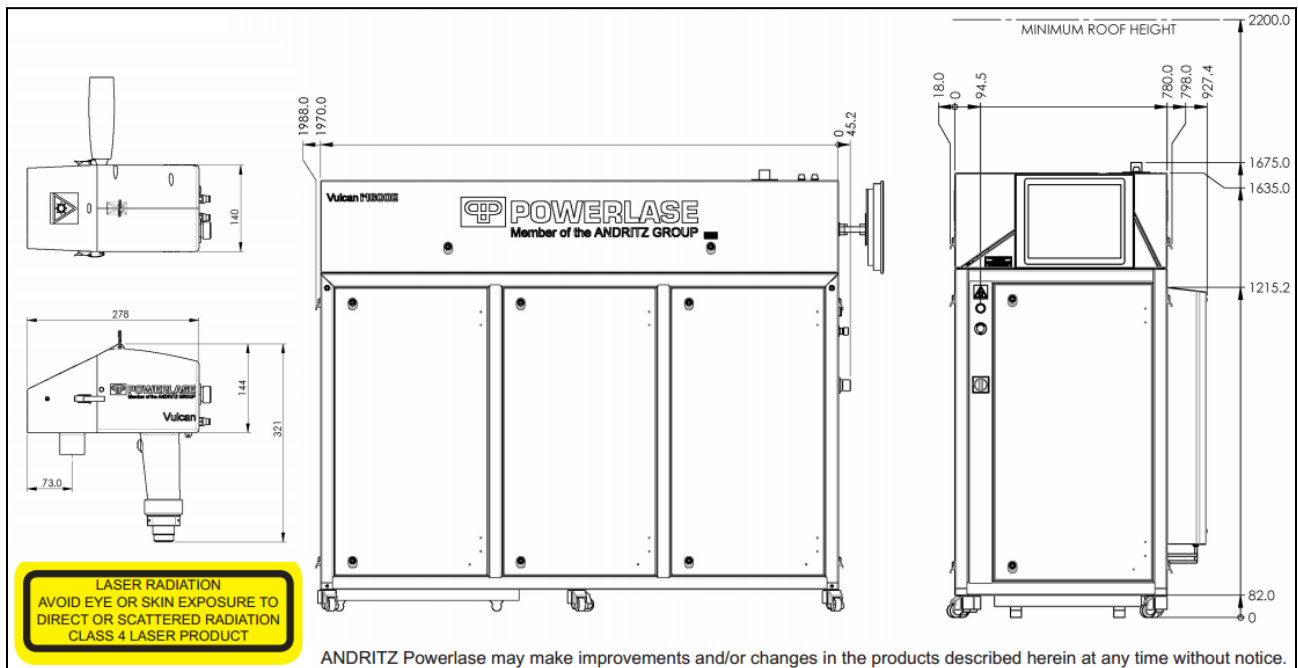
Pulse Repetition Freq. (kHz)	5	10	15	20
Average Power (W)	1250	1500	1550	1580
Pulse Energy (mJ)	250	150	103	79
Pulse Duration (ns)	42	60	80	105
Divergence (mrad, 1/e ² FA)	12			
M ²	<30			
Power Stability (% , 1a)	0.3			
Fibre Core Diameter (pm)	Contact Sales			

Facility Requirements

Supply Voltage	3-phase N+E, 220 or 400 VAC (±10%)
Supply Frequency	50 or 60 Hz
Nominal Power	29kVA
Cooling Water	60 litres/min at 11 - 17°C
Gas Purge	Clean Dry Air (Grade N5.0, <1 ppm THC)
Laser Dimensions	1988 x 1657.6 x 927.4 mm
Environmental Conditions	Temp 15 - 50°C and RH <60% (90% max, non condensing)

Specifications subject to change without notice.

Dimensions



Other STVL Systems

System	Max. Average Power
STPLVC-i1200E	1200W
STPLVC -i800E	800W
STPLVC -i400E	400W