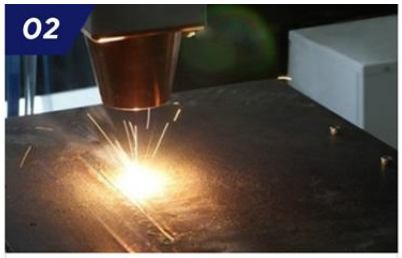
Sintec Optronics

SXM Series Laser Cleaning Machines

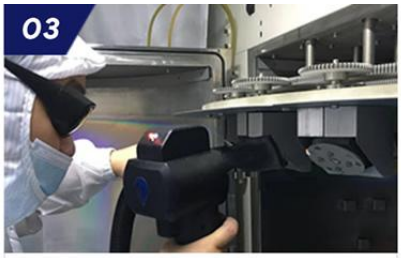
Our laser cleaning machines are mainly used for cleaning various metal surfaces with localized rust, paint, coatings, oil stains, oxide films, and other pollutants. It can also be used for cleaning the surfaces of non-metallic substrates such as ceramics, glass, and composite materials. Typical applications include cleaning of natural oxide film on aluminum alloy before welding, cleaning of black and gray oxide on battery trays after welding, cleaning of welds on train bogies before non-destructive testing, cleaning of automotive sheet metal parts before refurbishment, and cleaning of parts of steel components such as small holes and grooves that cannot be reached by wire brushes.

Product Advantages:

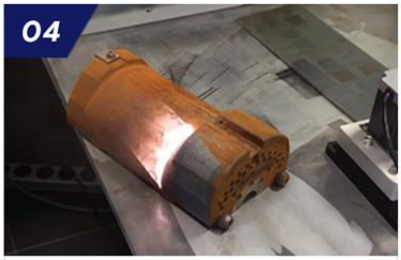
Professional customized laser light source



Light control technology



Multiple security measures

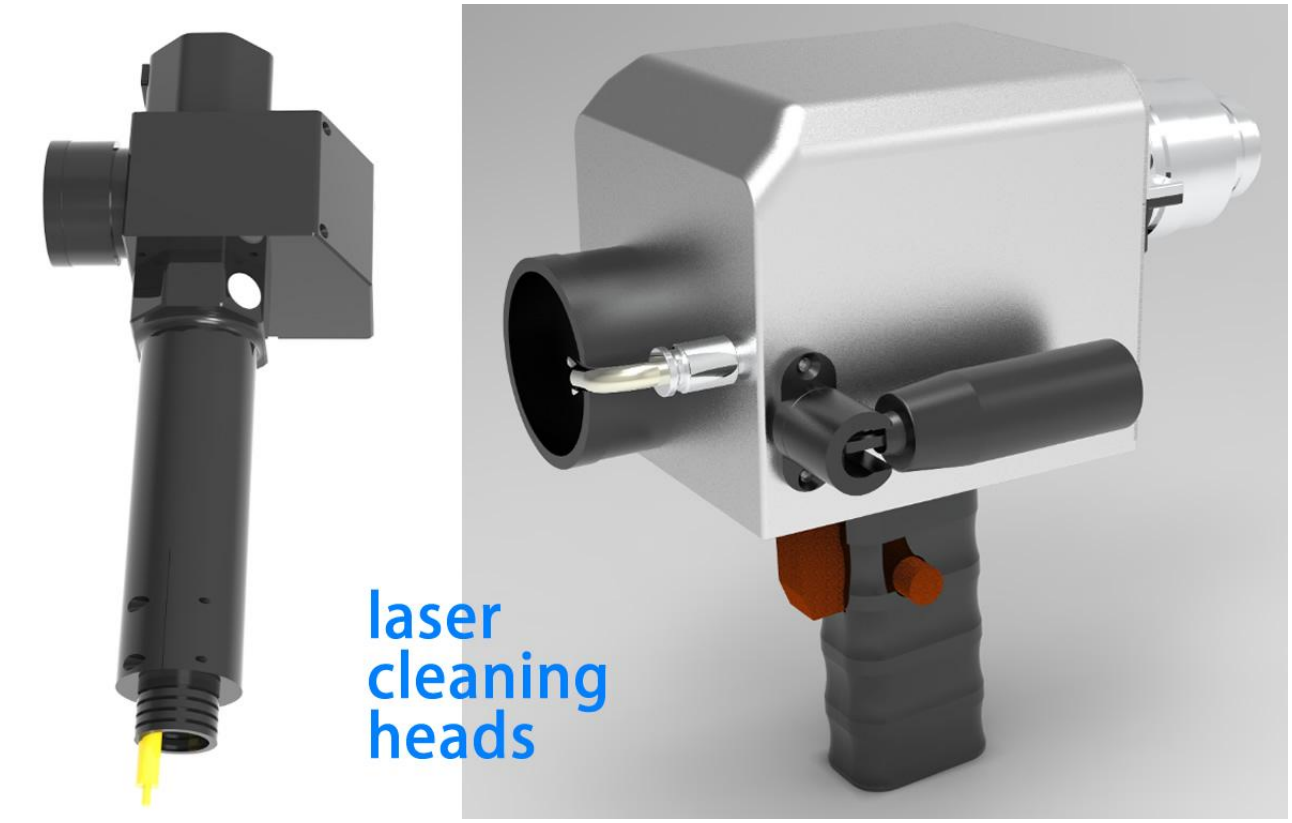


Anti shake technology

Over ten years of process precipitation

Easy to use and durable

1. Hand-held Pulsed Laser Cleaning Machines
Product Specifications:



Part number	SXM-H-100W	SXM-H-200W SXM-H-300W	SXM-H-500W SXM-H-1000W
Laser power	100W	200W/300W	500W/1000W
Machine weight	22kg	60kg	180kg
Cleaning head weight	1.3kg	1.3kg	4.5kg (single mode) 2kg (multiple mode)
Fiber length	5m	5m	10m
External dimensions	603*258*481mm	783*300*784mm	913*573*881mm
Cooling method;	Air cooling	Air cooling	Water cooling
Laser wavelength	1064nm	1064nm	1064nm
Pulse energy	Max. 1.5mJ	Max. 1.5mJ (single mode), 5mJ	
Scanning width	5-150mm adjustable	5-100mm adjustable	5-150mm adjustable
Power consumption @25℃	< 500W	<1000W/<1500W	<4000W/<6000W
Supply gas pressure	0.4MPa clean air	0.4MPa clean air	0.4MPa clean air

Cleaned Samples:

Gear surface rust

Cleaning of aluminum alloy after welding

Cleaning of oil stains on the surface of titanium steel

2. Hand-held CW Laser Cleaning Machines

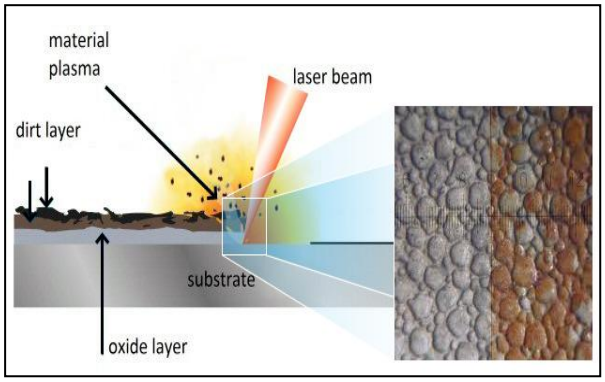
The high-power CW laser cleaning machines are mainly used in such as rust removal of steel structures, rust removal of steel plates, rust removal of ships, paint removal of steel structures, paint removal of ships and components, oil removal, etc. Suitable for the refurbishment of marine vessel components, rail transit components, steel structure rust removal, steel structure refurbishment, etc.

Part number	SXM-CW-H-1000W SXM-CW-H-1500W SXM-CW-H-2000W	SXM-CW-H-3000W
Laser power	1000/1500/200W	3000W
Machine weight	170kg	220kg
Cleaning head weight	Lightweight cleaning head	1.5kg

Fiber length	10m	10m
External dimensions	980*420*712mm	1264*779*1287mm
Cooling method;	Internal water circulation	Internal water circulation
Laser wavelength	1080nm	1080nm
Scanning width	5-150mm adjustable	5-150mm adjustable

STX Series Fiber Laser Cleaning Machines

Our cleaning system is the new generation product with a high technology that applies for the purpose of the material surface cleaning application, which is easily to be set up, operated and automated. No need of chemistry, water or other working medias, the equipment can be also applied for removing the resin, grease, stains, dirt, rust material, coating, coating and paint. This device can be auto-focused on a specified area of the target surface of the material, which leads to a high performance of cleanliness result.



Principle:

- A high-energy-density laser beam is used to irradiate
- The surface of the workpiece, so that the dirt,
- Rust spots or coating on the surface instantly evaporate

Advantages:

- Non-contact cleaning, without damage to parts matrix.
- Precise cleaning, with accurate location, precise size and selective cleaning.
- No chemical cleaning fluid, no consumables, safe and environmental protection.
- Simple operation, the power can be charged, and the automatic cleaning can be realized by hand or with the manipulator.
- Cleaning efficiency is very high and saving time.
- The laser cleaning system is stable and little maintenance requirement.

Features:

- No damage to the base of the material due to the no-touch surface cleaning performance
- Precise cleaning technic for the specific area in a selected area
- No need of chemistry or other added supplies
- Easy to be operated, can be hand-held or auto-cleaned by installing a robotic arm
- Small cleaning time consumption and comes with a high quality finishing result

Applicable Industry:

- Metal surface derusting
- Surface paint removal paint treatment
- Handheld model
- Fiber laser source
- Cable length:3m/5m
- Laser head:3KG
- Packing size:100*63*109cm
- Weight: 200 KG

Sintec Optronics

Specifications:

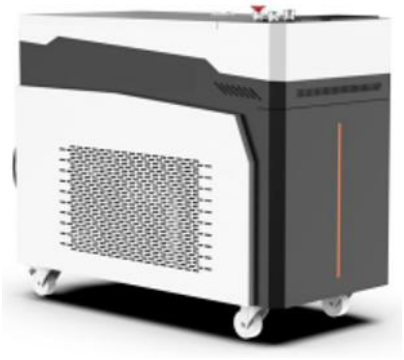
Model	STX-QX100	STX-QX200	STX-QX300	STX-QX500
Ave. Laser Power (W)	100	200	300	500
Wavelength	1064±5nm			
Pulse Frequency (kHz)	20-200	10-50	20-50	20-50
Cable Length (m)	3	5	5	10
Cooling	Air-Cooling	Water-Cooling	Water-Cooling	Water-Cooling
Scanning Width (mm)	10-10			
Speed (mm/s)	1000-8000			
Laser Head Weight (kg)	3			
Total Power (W)	1000	2700	3900	4700
Machine Weight (kg)	125	200	200	240
Operating Voltage	Single phase 220VAC/50-60Hz			

Samples:





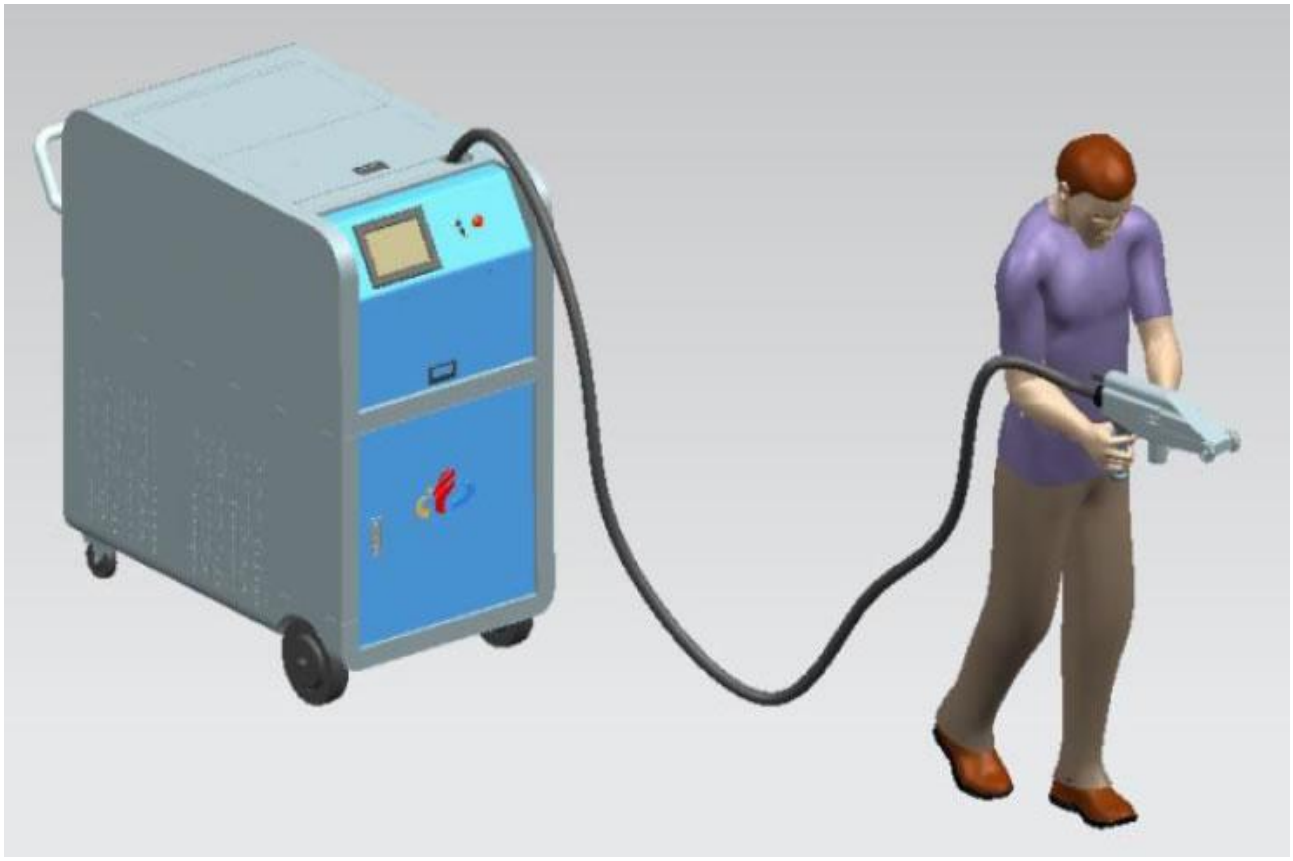

STX 1500W~3000W Continuous-wave Fiber Laser Cleaning Machine



S/N	Parameter	1500W	2000W	3000W
Laser Source				
1	Laser Power	1500W	2000W	3000W
2	Modulation Frequency	1 – 20,000Hz		
3	Wavelength	1080 +/- 5nm		
4	Cooling Method	Water-cooled		
5	Power Required	220V±20%/AC/50Hz	380V±20%/AC/50Hz	380V±20%/AC/50Hz
6	Power Consumption (per hr)	7kW	9.5kW	13.3kW
7	Fiber Length	8m		
8	Fiber Core Diameter	50um		
Cleaning Head				
9	Weight	0.8kg		
10	Beam Width	Up to 300mm		
Machine Dimension and Weight				
11	Dimensions	1000 x 530 x 725mm	1000 x 530 x 725mm	1120 x 580 x 1020mm
12	Net Weight	Up to 150kg		

STF Series Laser Cleaning Machines

1. 200W/300W Cart Laser Cleaning Machine



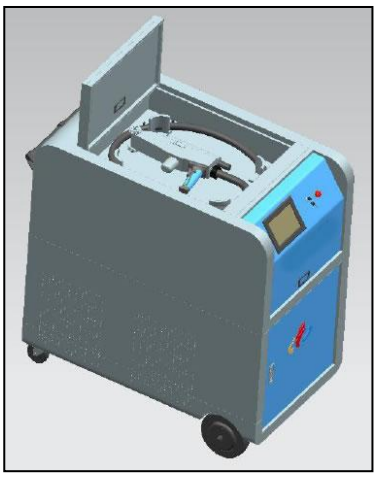
Product Introduction

- Cart design ,easy to move
- Pulse fiber laser: 200W/300W water cooling
- Voltage of the power supply: 220VAC
- Cabinet integrated with chiller & dust extractor
- Top hat beam profile

Advantages

- Cart cabinet: equipped with wheels and convenient to move in the workshop.
- Touch screen: easily to modify and save the parameters.
- Integrated dust extraction port on cleaning head: No extra dust extraction pipe needed.
- Integrated chiller & dust extraction system inside.
- Adopted spiral cleaning method: to avoid damage on the surface of parts
- Top hat beam mode: with high efficiency and no damage on the substrate surface. a good choice on cleaning mould, paint, floating rust, saponification liquid and oil stain.
- High tolerance technology: focus height tolerance can be up to 40 mm range, it is beneficial to improve the cleaning efficiency under the condition of uneven surface and reduce the focusing requirements of hand-held operation.

Laser cleaning machine consists of two parts: cart cleaning control system and laser cleaning head.

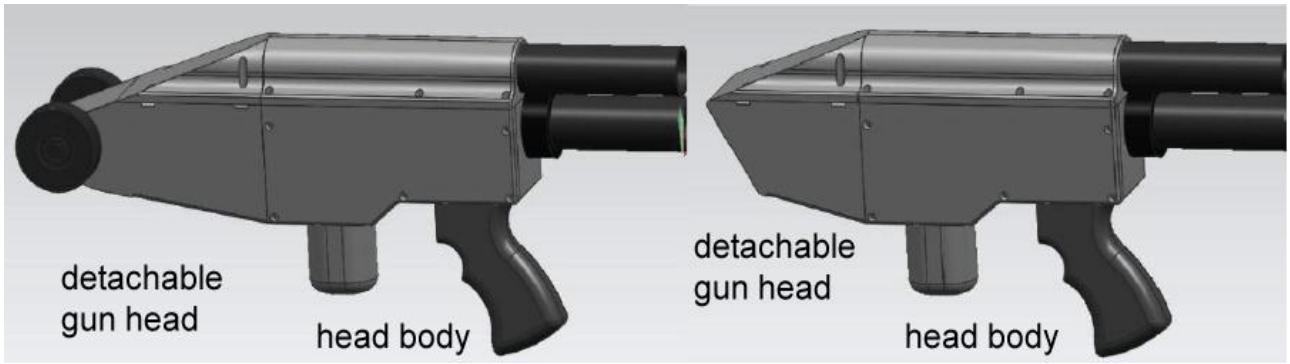


Cart Cleaning Control System

It's easy to manually move to the work area to achieve target selection and positioning cleaning. The product has high average power (200W), high single pulse energy (10mJ), high average power (200W), high single pulse energy (10mJ), top hat mode, high beam uniformity; uniform distribution of spot energy, good bottom processing effect, no damage to substrate, high cleaning efficiency, easy to use and maintenance.

Laser Cleaning Head

It is equipped with a long exhaust nozzle and a short exhaust nozzle. The long exhaust nozzle is equipped with a roller, which can directly roll on the surface of the workpiece and it is convenient for manual hand-held cleaning operation to fix the focus. The short exhaust nozzle without roller can set the cleaning length up to 110mm. The hand-held cleaning gun can realize the spiral cleaning mode, which has obvious advantages over the ordinary linear cleaning method. The linear cleaning method will form color difference marks (called zebra stripes) on the surface of the parts due to the unstable hand speed of the operator. The spiral cleaning method makes the laser focus run in spiral lines, and does not form color difference marks on the surface of the parts.



Model	STF-FED-CLD200R	STF-FED-CLD300R
Average laser power	200W	300W
Single pulse energy	10mJ	12.5mJ
Repeat frequency	20-50kHz	20-50kz
Beam mode	Top hat	Top hat
Wavelength	1064±5nm	1064±5nm
Focus length	160mm	160mm
Scan length	1-100mm	1-100mm
Scan width(in spiral mode)	1-10mm	1-10mm
Cooling method	Water	Water
Max consumption	2500W	3300W
Environment temperature	0~40℃	0~40℃
Weight	200kg	220kg
Size	1060x620x1020mm	1060x620x1020mm
Cleaning paint / rust (20um)	9.5 ㎡/h	13 ㎡/h
Cleaning oil pollution (20um)	11 ㎡/h	15 ㎡/h
Cleaning oxide film of titanium alloy	7 ㎡/h	9.5 ㎡/h

Model	STF-FED-LCD200I
Fiber Laser	IPG
Laser power	200W
Beam Mode	Top hat
Power adjustment range	10~100（%）
Stability of laser power	<5%
Beam Quality（M^2）	9~10
Wavelength	1064±5
Polarization	random
Repeat frequency adjustment range	10~50kHz
Output fiber length	3m (other lengths available)
Environment temperature	10~40℃
Cooling method	Water
Power supply	220VAV, 50/60Hz, 2.5kW
Scan length	5-110mm
Scan depth of focus	±20mm
Scan width (in spiral mode)	2-10mm
Cleaning oxide film of titanium alloy	7㎡/h
Cleaning paint / rust (20um)	9.5㎡/h
Cleaning oil pollution (20um)	11㎡/h

Dust extractor & filter

Model	STF-LB-JZ150	STF-LB-JZ1500
Power	150W	1500W
Working noise	60dB	
air volume flow	320m^3/h	1500m^3/h
Purification rate (0.5um）	99.7%	99.9%
Power Supply	220VAC	380VAC

Remark:
STF-LB-JZ150 is a built-in extractor, which is placed in the cleaning machine control system.
STF-LB-JZ1500 is an external extractor. It is better to add the external extractor when the cleaning head is over 10 meters away from the control system.