netalux

reddot winner 2020

reddot winner 2022

inspired by people, designed for the future.

content

from Einstein until today

Did you know that the word laser is an abbreviation for '**Light Amplification by Stimulated Emission of Radiation**'? And that Albert Einstein was one of the first to publish about this in 1905? However, it will take until the 1960s before the first lasers actually see the light of day.

You can take that quite literally, because a laser is nothing more or nothing less than a beam of light. Most light sources, such as LED lighting, emit light in all kinds of directions and in a wide spectrum of wavelengths and phases. A laser does just the opposite: the light is **bundled into a beam** and is very stable. This laser beam contains so much energy that it is **the ideal way to process and clean many materials**.

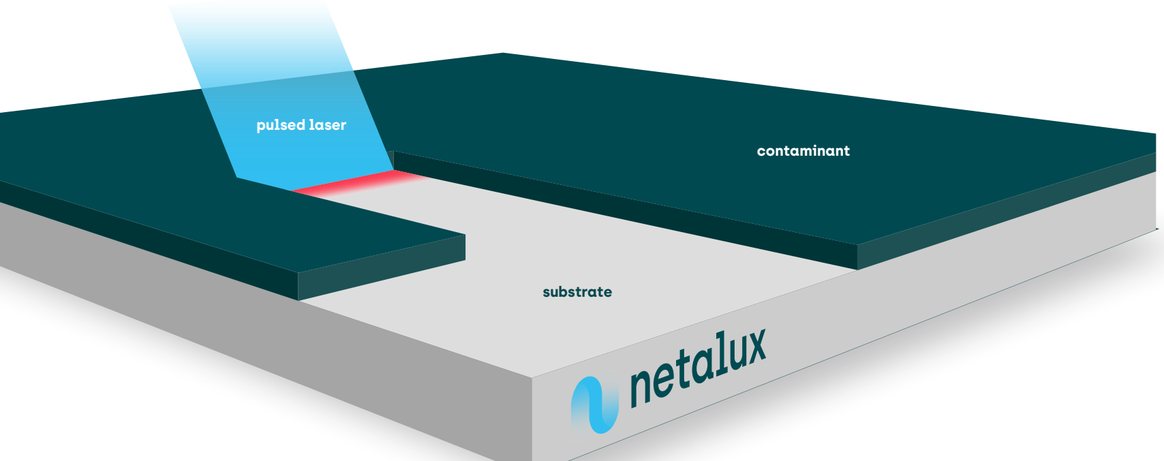
Netalux is your **partner in innovative laser cleaning**. With many years of experience as a contractor, we develop **award-winning machines**. We are also happy to share our expertise in the **Netalux Academy**. Here you will learn everything about the technology and how to work with it.

discover more
in this video

laser cleaning: how it works

Laser cleaning uses a principle we call **sublimation**. This means converting solid material to gas, without reaching the liquid state in between. We do this by sending very **fast, short, high-energy pulses of light** to the surface. This light beam is absorbed by the contamination **(contaminant)** and immediately reflected back by the underlying layer **(substrate)**.

A gas layer is created between the two layers, which creates **buoyant pressure** and causes the pollution to evaporate or dry out. In the latter case, this remains as loose residue that you can easily vacuum up. Important to know: when used correctly, the underlying layer or substrate is not damaged in any way during laser cleaning, unlike traditional cleaning methods.



all kinds of materials

These properties allow you to use laser cleaning for many applications and materials. **Stainless steel, aluminium, machine steel or copper**, but also **plastics** and even **wood**: no challenge is too big for us. We are therefore active in just about every sector. From the (petro)chemical and pharmaceutical sector to the automotive, aviation and food sector.

Depending on the application, the pulse frequency, energy and surface speed of the laser must be carefully programmed. We would love to help you discover the potential of this groundbreaking technology.

Sublimation, or the conversion of solid material to gas by fast, short, high-energy pulses of light.

why use laser technology?

7 benefits

01

qualitatively & reliable

Spotless with no damage. Our laser technology is synonymous with quality and reliability; Rust, paint, coatings, oil or other residues evaporate completely without risk of damaging the underlying materials. For the development and construction of our innovative lasers, we only work with high-quality and reliable suppliers.

02

environmentally friendly & innovative

Traditional industrial cleaning methods blow dirt and sometimes harmful substances around. Even chemical products are regularly used. These conventional techniques are logistically difficult and consume a lot of energy. Moreover, Netalux machines only consume a limited amount of energy and you can be sure of a long service life.

03

fast & cost efficient

You do not have to disassemble devices or seal the environment hermetically. The plug & play setup is quick and easy. Only electricity is needed. This ensures that production restarts faster and that you save costs. An integration in your production line? Full or partial automation? Reading CAD drawings? Everything is possible.

04

safe & ergonomic

Laser cleaning is a human and environmentally friendly technology. This means that we not only pay attention to a safe and ergonomic design, but that our user interface is the same for all our products. This way every device feels familiar. Through the continuous improvement of the interface, we strive for instinctive operation.

05

versatile & for every sector

Inox, aluminium, machine steel or copper, but also concrete and even wood: no challenge is too big for us. We are therefore active in just about every sector. From the (petro)chemical and pharmaceutical sector to the automotive, aerospace and food sector: the applications are spectacularly diverse.

06

experience & award winning

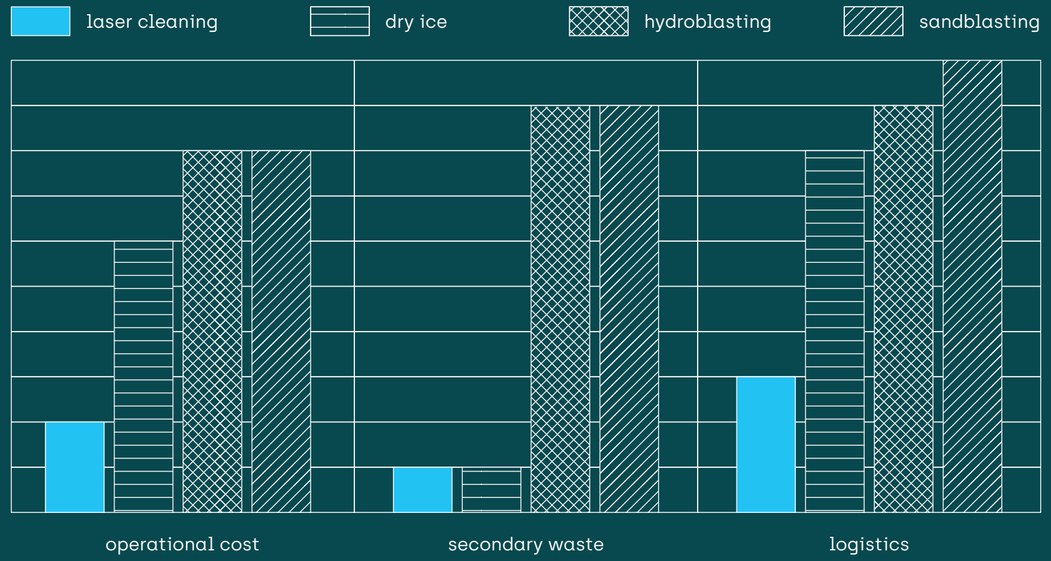
We are deeply rooted in the field. We fall back on years of expertise in laser cleaning assignments. We use this extensive practical experience to design, build and optimize our machines. Our unique, functional designs have already won several Red Dot Design Awards.

07

Netalux Academy

In addition to the extremely robust hardware and software, Netalux offers superior customer support. In our Netalux Academy we train operators and managers. We offer several modules allowing you to get going with the technology safely and productively.

laser cleaning vs traditional methods

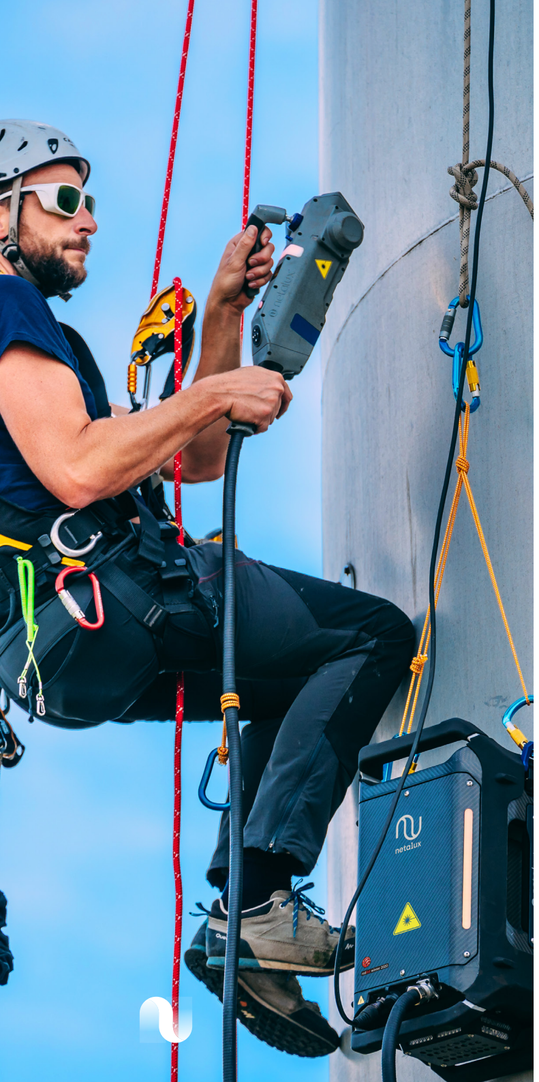


* indicative quantities for illustration purposes only

award-winning products

Needle® got blessed with the prestigious Red Dot Design Award in 2020. Meanwhile, Jango® was awarded the same honourable award in 2022.

"Each detail is carefully conceived and ergonomically designed in order to achieve the greatest possible user-friendliness."



our lasers: inspired by people, designed for the future.

Netalux developed a revolutionary range of laser cleaning machines under the names Needle® and Jango®. All lasers can be built mobile or stationary and with different power levels. Discover in this catalogue what suits you best.

power

From the automotive, pharmaceutical sector, food industry to production companies. And from stainless steel to aluminum, machine steel, copper, super alloys or even concrete: you can carry out the most diverse assignments with our unique range. Depending on the material, pollution and type of laser, we determine the necessary power (from 100 Watt to 1000 Watt).

Needle® vs Jango®

The **pulse shape** is crucial in laser cleaning. The Needle® is a 'Gaussian' laser where the laser beam is as sharp as a needle. Because all energy is concentrated in that one point, this laser is very powerful, fine and can clean deeper into the material. Ideal for removing hard layers such as the oxide layer on a new weld. The Jango® has a 'Top Hat' profile. Lower energy density compared to the Needle, flatter and ideal for larger surfaces such as tank cleaning or coating removal.

Another difference is the **cooling**. Needle® lasers are air-cooled, Jango® lasers are water-cooled. That makes a big difference in volume. The Jango is bigger and heavier, the Needle® compact and flexible. More information about each laser machine can be found on the following pages.

mobile vs stationary

Is only an occasional cleaning necessary? Are you talking about hard-to-reach workplaces? Or are there drastic measures needed to combat atmospheric contamination? Then choose a mobile laser. These compact laser cleaning machines are easy to handle and suitable for the most challenging environments.

When a certain cleaning must be carried out very often or even 24/7, we recommend a stationary solution. This laser cleaning device is very easy to integrate into your existing processes, which means that implementation costs are kept to an absolute minimum. The simple interface with MODBUS protocols allows integrators to select the program, clean the part and repeat the cycle indefinitely.

Needle®

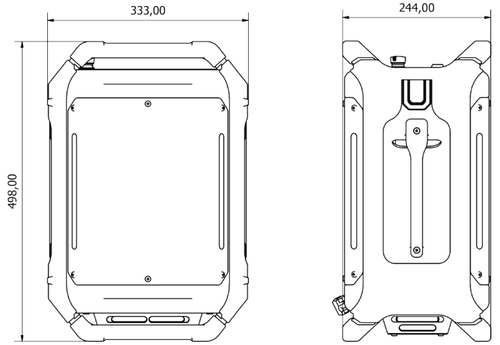
100 / 150 Watt

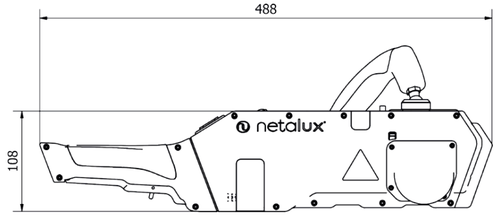
reddot winner 2020

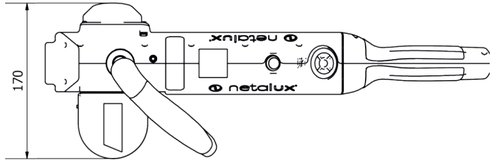
This compact, air-cooled laser cleaning machine is small enough to use in hard-to-reach locations. Even when the workplace is located in the middle of other installations or atmospheric contamination is a risk, this Needle® is ideal.

The limited weight makes it flexible and easy to handle. Available in powers from 100 and 150 Watt.

watch the tutorial





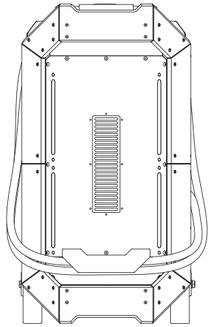


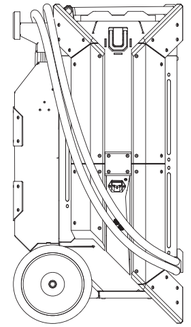
Needle®

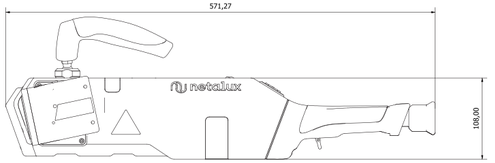
200 / 300 Watt

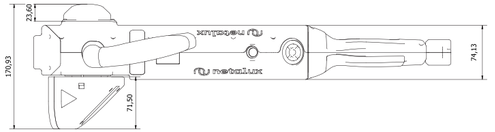
The Needle® 200 and 300 Watt received their own design. Still very compact and air-cooled, but this model with 5m fiber does not need a transport box.

In addition, unlike the Needle® 100 / 150 Watt, it has a pulse energy of 2mJ. A lot more power and you will therefore get faster returns.









Jango®

500 / 1000 Watt

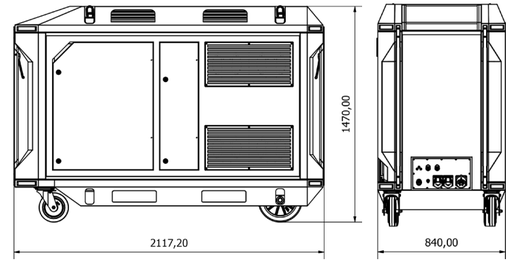
reddot winner 2022

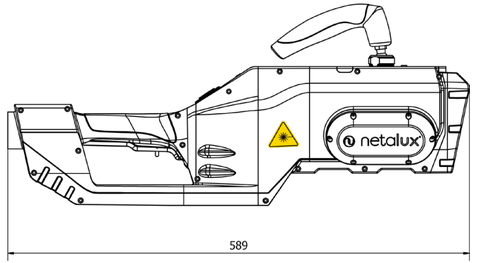
The Jango® is the bigger brother of our Needle®. The Top Hat laser profile, with no less than 50m fiber, is suitable for larger industrial jobs. Supplied in a comprehensive unit including water cooling.

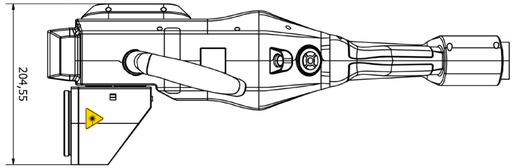
The power can be distributed to peripherals. This way you only need one power supply. The robust lifting points, forklift compatibility and wheels provide various transport options.

Finally, the Jango® is equipped with extra space for storage of accessories, personal protective equipment, etc.

watch the tutorial





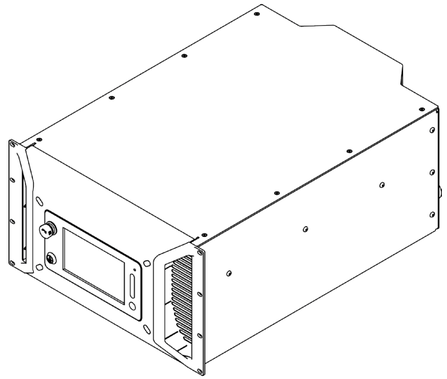


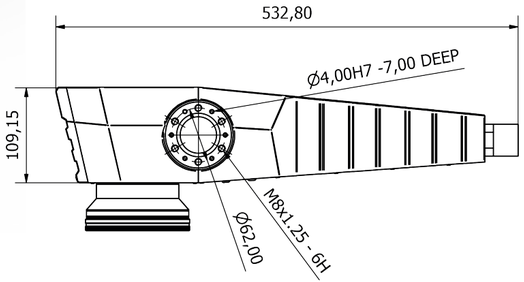
stationary

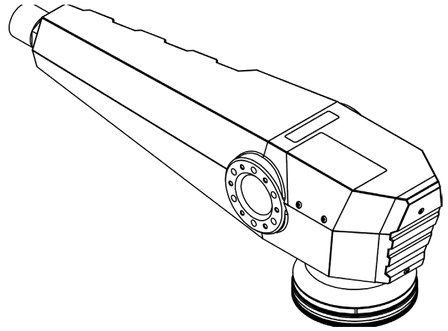
Needle® en Jango®

All our Needle® and Jango® models are available in a stationary version. Integrated into a production line, fully or partially automated, allows you to clean parts with extraordinary precision. The software makes it possible to read in CAD drawings or other data of the surface to be cleaned and to clean it quickly and efficiently.

Moreover, the operational costs are low and transparent. Our machines only consume a limited amount of power and have a long service life (up to 50.000 hours). Installing our laser head is easy. We fit the head with standard bolts on both sides and provide a robust, dust-tight system that keeps the optics and electronics safe, even during prolonged and intense use.







technical data sheet

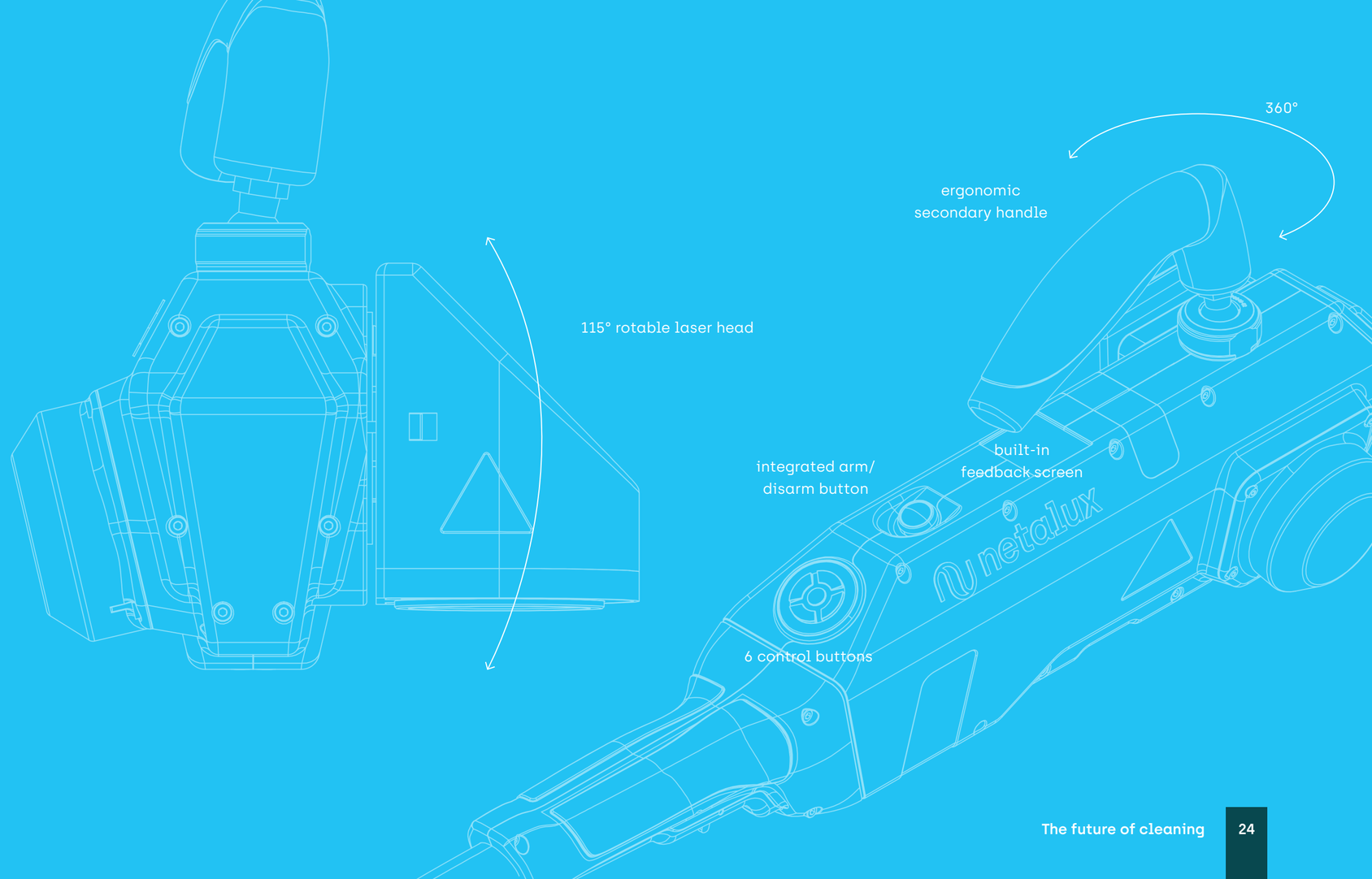
	Needle® 100 / 150 Watt	Needle® 200 / 300 Watt	Jango® 500 / 1000 Watt
Weight (unit)	≈ 20 kg	≈ 40 kg	≈ 850 kg
Weight (handset)	≈ 2,3 kg	≈ 3 kg	≈ 4 kg
Dimensions l x b x h	333 x 244 x 498 mm	812 x 430 x 431 mm	2117 x 840 x 1470
Fiber length	4,5 m	7,5 m	45 m
Diameter	25 mm	25 mm	40 mm
Minimum bending radius	120 mm	120 mm	150 mm
Laser type	Klasse IV pulsed laser	Klasse IV pulsed laser	Klasse IV pulsed laser
Wave length	1064 nm	1064 nm	1064 nm
Pulse type	Gaussian	Gaussian	Top Hat
Pulse length	150 ns	20 ns - 500 ns	100 ns
Pulse frequency	10 - 500 kHz	2 - 4000 kHz	2 - 50 kHz
Maximum pulse energy	1 mJ	2 mJ	100 mJ
Average electric power	600 W	750 W	4,5 kW / 7,5 kW
Electric facility	1P + PE | 110-240V | 50-60hz	1P + PE | 110-240V | 50-60hz	3P + N + PE | 380-440V | 50-60hz
Cooling	Air	Air	Water
Display	Tempered glass touchscreen	Tempered glass touchscreen	Tempered glass touchscreen
Standard plug	EU, others on demand	EU, others on demand	5P-32A
Humidity	Not applicable	Not applicable	95%
IP-value	IP 54	IP 54	IP 54
Temperature (°C)	0-35°C	0-35°C	4-35°C

unique features for every laser

The mobile Needle® & Jango® were developed in such a way that the operator always has a familiar feeling and only needs to get to know the hardware once so that you can mainly concentrate on your work. Our mobile devices all have:

- → a unique, rotable laser head (115° freedom)
- → integrated LED headlight
- → secondary handle for extra ergonomics
- → integrated controls
- → arm / disarm button for extra safety and comfort
- → unique feature of 3 (Jango ®) or 5 (Needle ®) integrated lenses
- → fully equipped to be lifted
- → equipped with industrial voltage protection
- → attachment point for accessories

We know better than anyone that the transport and durability of our machines is also important. They are always hoistable and equipped with the necessary transport options. You can also rest assured that the machines work in the most challenging environments.



the right PPE

Our lasers are perfectly safe to use - provided you wear the correct laser safety goggles. The glasses must comply with EN207 and must be able to filter out harmful, invisible infrared radiation. You can learn more about all possible risks and how to safeguard them in our Netalux Academy. →

welcome to our Netalux Academy

Acquire in-depth knowledge and become a laser cleaning expert thanks to our Netalux Academy. We offer several modules allowing you to get going with the technology safely and productively. Our experience of the past few years puts us in the right position to teach you all we know about laser cleaning and its possibilities.

Don't miss out our free webinars on various topics and subscribe to our newsletter to stay up-to-date.

subscribe to our newsletter

our modules

- → Laser Cleaning Fundamentals
- → LCF Rental
- → LCF Operations
- → LCF Sales
- → Distributors Training
- → Rental User Training

“Professional company with a laser-fine eye for quality. Customer friendly, nothing is too much, no job too hard. The most human and environmentally friendly technology there is.”

built by users

our field experience

Netalux is active worldwide and in the most diverse sectors. Our clients range from promising start-ups, mature SMEs to international players. From the (petro)chemical and pharmaceutical sector to the automotive, aerospace and food sector: the possibilities of laser cleaning are surprisingly versatile.

We use our many years of expertise as a contractor not only to develop award-winning laser machines, but also to train our customers in the Netalux Academy and to advise them on the purchase and installation of the right solutions. We therefore always start with an extensive analysis of your needs, challenges, products and processes. We will then propose a solution. Naturally, all information is treated confidentially and discreetly.

Thanks to our practical experience, we know better than anyone that it is the productive blasting hours that count. That is why we offer a maintenance contract with a guarantee that the spare parts for your machine are always in stock with us. Our teams can quickly be on site for the necessary diagnosis, repair or support.

meet the future of cleaning

Netalux was **founded in 2017** as **the world's first** dedicated laser cleaning contractor.

The first two years of our existence, we've literally spent on site holding this device in our hands day in day out and in the most challenging of circumstances. That has allowed us to **discover the possibilities** of laser cleaning, but also get to **know its limits**.

Soon enough we understood the important potential for this **human and environmentally friendly technology**, but there was room for improvement. One of the most important improvements was of course the equipment itself. That's why we decided to start from scratch; resulting in our first product: the Needle 100. It immediately won a **Red Dot Award** for its smart and distinctive industrial design.

A second important improvement was spreading of knowledge. The world was missing **a Laser Cleaning Academy**, so we founded it. This allows people to truly understand laser cleaning and get a better insight in its possibilities and how to successfully implement it.

As a company, we find it important **to continuously improve** our offerings. Having **a strong relationship with our customers** therefore is paramount. We also feel it's our responsibility as a manufacturer to take the lead in research & development and **deepen our own knowledge** about the technology & its side effects.

we're here
for you

Headquarters Belgium
Industrieterrein 1
I.Z. Webbekom nr. 1105

3290 Diest
T. +32 13 77 71 73
E. info@netalux.com

HQ

France
Contact: Hervé Nau
+33 6 12 53 39 42
hna@netalux.com

Germany
Contact: Michael Yoon
+49 151 25 20 03 53
myo@netalux.com

Italy
Contact: Pierangelo Bonacina
+39 33 94 15 22 47
pbo@netalux.com

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“Finally a company that thinks along with possibilities and sees opportunities. Always evolving, building on experience in the field.”