

A hand is holding a grey laser welding unit over a dental mold. The mold is blue and has a control panel with a red laser dot and a green light. The control panel has a digital display showing '380', '35', '25', and '2.10'.

Laser Welding Unit Connexion II Ergo

Innovative Joining
Technique

DeguDent
A Dentsply International Company

The High-End Laser Technology for High-End Results



The Connexion II Ergo laser welding unit builds on the success and know-how of Connexion I. It represents the latest in high-tech laser technology, which guarantees you outstanding results with high throughput. As the most innovative laser welder on the dental market anywhere in the world, it is currently unequalled in terms of performance and operator comfort, thanks to a unique configuration that combines two state-of-the-art technologies for the very first time: Sweet spot Technology and Pulse Customization.

Sweet spot Technology and Pulse Customization

Sweet spot Technology guarantees precise focusing thanks to an easy-to-manage laser beam profile that enables accurate reproducible welding over long periods.

Patented Pulse Customization lets you tailor energy to the materials used. This means that almost any metal or alloy can be processed, specifically to produce welding seams with guaranteed homogeneity in both depth and breadth.

Efficiency

The Connexion II Ergo's efficiency makes all facets of productive work possible. Right in these times of cost pressure,

the unit thus meets all of a laboratory's requirements for economy and reliability, and stands for maximum productivity.

Connexion II Ergo



Ergonomics and Technology



The design of the Connexion II Ergo is based on knowledge of the latest studies in ergonomics. It makes highly concentrated and efficient work possible over a long period of time and thus contributes significantly to the unit's efficiency.

Connexion II Ergo uniquely combines the particular advantages of laser welding: top-quality welding seams thanks to Sweet spot Technology, individual shaping of the spot weld made possible by Pulse Customization, an extremely high performance potential and comfortable operation.



The Leica x 15 stereo microscope guarantees the best possible detailed view.

The sitting position guarantees maximum legroom and thus a low stress ergonomic working posture.

Sweet spot Technology produces a wonderful beam quality with optimized initial pulse behaviour.



The tilt angle of the Leica stereo microscope can be additionally altered with the Ergo* wedge.

Operation without interrupting the workflow is made possible by the control elements for all parameters being laid out in the working drawer.

That makes it easy to position the object under the microscope. So the finest high-quality welding seams are now no longer a problem even with high throughput requirements.



Cobra display unit*

The Cobra display unit* with best resolution is an alternative to the Leica stereo microscope and makes work easier, especially for people with glasses.

The armrest cushions* support the hands during focusing, while soft leather sleeves prevent electrostatic charging.



Leather sleeves



Pedal switch





The patented Sweet spot Technology makes regular pulse behaviour possible (above). Pulse behaviour without Sweet spot Technology (below).



Economically lasered homogeneous and perfect welding seams thanks to pulse customization at 5, 10, 15 and 20 Hz with a constant feed.



Working room with the inner operating elements: Diode ring light, Argon- and air nozzle and much more.



Open working drawer



External control panel

Pulse Customization: Within an impulse, the flow of energy can be customized and tailored to any metallic material. This enables safe machining even of materials that were previously hard to weld. Pulse Customization guarantees homogeneous welding seams.

Argon rinsing: Two argon nozzles, one fixed and the other movable, produce a noble gas atmosphere that fully envelops the tool with minimal argon usage. The optimized extractor fan has an integrated microfilter that ensures efficient cleaning of the atmosphere.

Performance potential: Connexion II Ergo is a very high-performance product, working especially economically with low power consumption.

Diode ring light*: The object receives the best possible illumination without reflections or shadows and without the working area being heated up.

Display of welding parameters*: You can read parameters easily in your field of vision without changing your posture. This ensures ergonomical and comfortable working.

Laser resonator for precision welding*: This enables filigree welding with spot diameters of 0.1–1.5 mm.

Additional air blow nozzle*: The object can be cooled via a separate pedal switch with a practical shape.

20 Hz technology: The high pulse frequency makes ultra-fast work a reality.

Pre-programmed microprocessor control for most applications and pulse forms speeds work up. 90 additional sets of parameters can be individually programmed and saved with no restrictions.

Our product covers four basic areas: The Connexion II Ergo makes fixing and welding possible with:

- 1) Precious metal
(e.g. Degunorm programme)
- 2) Nonprecious metal
(e.g. Biosil I programme)
- 3) Precious metal to nonprecious metal
- 4) Titanium

*Optional equipment

Service

Connexion II Ergo:	The Connexion II Ergo doesn't just boast outstanding technology, but excellent and reliable service as well.	That's because this is also a critical factor when it comes to saving time and money.
Training:	To help you get the desired results with the Connexion II Ergo in the shortest time possible, you can receive training to become a Laser Safety Officer when you acquire your laser. The training includes topics like laser safety, basic laser.	principles and the practical application of the laser in dental engineering. One-day courses for advanced users (course title: Laser Technology – Joining Technology) are offered in our training centres.
Maintenance:	When it comes to clearly reducing service times from the outset, a standout feature of the Connexion II Ergo is its very maintenance-friendly design. This makes maintenance of the unit quick and easy.	If you decide on a service agreement, our expert customer service will take responsibility for maintaining and checking your laser.
Consultation:	The DeguDent Service and our team of experts will be happy to give you dental engineering advice for all areas of laser	technology. For a personal consultation, just get in touch with the DeguDent Sales Centre in your area.

Laser Weldable Alloys from DeguDent

High-gold, crown & bridge	Degulor S* • Degulor C • Degulor NF IV • Biocrown IV plus • Degulor M • Degulor MO • Biolor SG
High-gold, ceramic	Degunorm • Degunorm logic • Degunorm pur • BiOcclus 4 • BiOcclus N • BiOcclus HT • BiOcclus LTG • Degudent G • Degudent GS • Degudent U • Degudent H • Degudent U 94 • DG 88 • Degutan • Biobond SG IV • Biobond III
Gold reduced, crown & bridge	Degunorm eco • Degudor • Deva 4 • Degubond 4 • Stabilor LTG
Gold reduced, ceramic	Stabilor IV plus* • Stabilor GL • Stabilor G • Stabilor NF IV
Pd base, ceramic	Degupal G • Pors-on 4*
Co-Cr alloys	Biosil I

* welding rod of same type of material not available

The Right Tool

Whether you're making something new, carrying out repairs or using different alloy combinations, you have the right tool in Connexion II Ergo to perform your required

tasks effectively and efficiently. If you have any questions about the examples shown here, or other applications, contact one of our expert consultants.

Examples:



The double pin retention of the removable denture is fused with the corresponding perforated retention of the ring telescope and CSP.



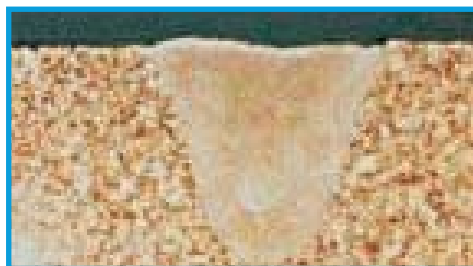
The secondary crown's stump bar is lasered to the box retention of the partial denture.



Repair welding of the fractured saddle in region 17.



Fusing of the conical bar retention of a precious metal secondary appliance to the partial denture.



BiOclus 4: 350 V, 5 ms, \varnothing 1.6 mm heat affected zone without defect points. Homogeneous structure despite large welding depth.



Degunorm: 250 V, 5 ms, \varnothing 0.7 mm homogeneous joint welding, constructed from the middle, magnified 25 times.

Technical Data

Laser Source	Pulsed Nd: YAG laser – Sweet spot
Power Supply	400 V
Wavelength	1.06 μm
Average Nominal Power	Approx. 40 watts
Max. Pulse Energy	Approx. 60 joules
Max. Pulse Peak Power	4.0 kW
Pulse Duration	0.5 – 50 ms
Max. Power Consumption	1.7 kW
Pulse Frequency	0 – 20 Hz
Variable Spot Weld Diameter	0.2 – 2.0 mm
Pulse Shaping	Yes (with six measuring points)
Weight	143 kg
Dimensions	L 1.000 mm x W 600 mm x H 1.200 mm

Included in Delivery

- 1 Connexion II Ergo
- Complete with Leica Stereo Microscope
- Sweet spot Resonator and Pulse Customization
- 1 Connection Cable, 1 Argon Tube
- 10 l DI Water

REF 5202 0001

Accessories

Cobra Display Unit (interchangeable)	REF 5202 0100
Laser Parameters Displayed in Microscope	REF 5202 0101
Air Blow Nozzle with Pedal Switch	REF 5202 0102
Armrest cushions, 1 pair	REF 5202 0103
Ring Light	REF 5202 0105
Resonator for Precision Welding	REF 5202 0106
Ergo Wedge for Microscope	REF 5202 0107