



OERLIKON



CITOWAVE III

The WAVE revolution

www.oerlikon-welding.com



“The WAVE revolution”

CITOWAVE III

CITOWAVE III is the third generation of multi-process welding installation.

Composed of a three phase inverter based on soft switching technology, this machine incorporates an energy efficient design.

The **CITOWAVE III** has higher performance than the previous version but with 30% reduction of electrical consumption*.

Behind the outstanding welding performance, the **CITOWAVE III**'s upgradeable platform is based on Linux system, embedded with new communications tools such as USB, Ethernet even Wifi allowing an accurate traceability and monitoring of your welding activities.

Manual or robotic applications, dual feeder, fume extraction, WPQR & WPS software management, and a lot more... Only your imagination will limit the possibilities...

The **CITOWAVE III** is an industrial machine which is built to last, whatever your needs, your constraints, and the challenges you will have to face for.

Key takeaways

- Outstanding welding performance.
- Technology at your service.
- Ensure your productivity.
- Experience the future.
- Opt for the high-end range.
- High level automation.





High energy efficiency

CITOWAVE III is compliant with EN 60000-3-12
(the machine can be connected to a public electrical network).

Energy efficiency

The importance of energy savings has been thought down to the smallest details:

- Automatic start up of the water cooler and on demand fan
- Adjustable standby delay of the colour screen
- You consume only what you really need.

IDLE power consumption

CITOWAVE III 420	35 W
CITOWAVE III 520	38 W



With the low consumption function,
you can save up to **30%** on your energy bill.

CITOWAVE III

In today's global economy, companies must have resources to adapt themselves quickly to remain competitive.

CITOWAVE III is one of those resources: reliable, efficient and versatile, it will ensure the success that your company deserves.

Digital precision

Entirely digitalized, **CITOWAVE III** provides more than 200 synergic curves developed by our engineers. It ensures an outstanding welding for a wide range of combinations of materials, diameters, wire, gas.



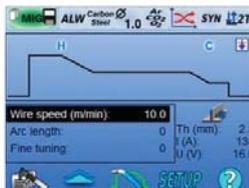
Want more freedom?

For really specific application cases, you can exit the synergic mode for total freedom in the setup of your welding parameters. Wire speed, arc voltage, arc fine tuning, striking parameters: you control in detail to obtain a perfect weld.

OUTSTANDING WELDING PERFORMANCE

Create and store your own curves

CITOWAVE III offers the possibility to create up to **50** customizable synergic curves. Finally a machine which completely suits your needs!



Processes

- MIG/MAG
 - Solid & Flux Cored Wire
 - Carbon steel, stainless steel
 - Aluminum
 - Inconel, Duplex & special wire
 - CuAl & CuSi wire
 - Ø: from 0.6 to 1.6 mm
- MMA
- TIG Lift (by trigger)
- Gouging: up to 8 mm electrode

Respecting the norms

The respect of norms and qualifications are increasingly present in the welding sector. Because we are aware of these constraints, our products are evolving and following all the directives in order to become your best Ally. With the automatic or manual setting of the torch calibration, the respect of the norms is within your reach.

Optimal quality

The latest innovation from our center of excellence, **CITOWAVE III** ensures process control, giving you optimal welding quality: Set the control thresholds of the welding parameters yourself and receive warnings in real-time as soon as a defect is detected. Thus, you avoid the destruction of pieces and ensure a total respect of your WPQR.

Power source	CITOWAVE III		
	420	520	
Main primary power supply 50/60 Hz	400 V (+20% / -20%)		
Max primary consumption	25 A	28.5 A	
Power factor at max current	0.96	0.93	
Efficiency at max current	0.89	0.89	
Duty Cycle (at 40 °C)			
	60%	420 A	500 A
	100%	350 A	450 A
Duty Cycle (at 25 °C)			
	100%	420 A	500 A
Current range MIG/MAG	15 A - 420 A	15 A - 500 A	
Weight	34 kg	40 kg	
Dimensions (LxIxh)	738 x 273 x 521 mm		

CITOWAVE III provides a full range of processes for all your applications:

Carbon
Steel &
Stainless
Steel

Speed Short Arc - SSA

A semi controlled short circuit mode which allows to shift globular behavior using wire feed speed normally reachable only in puls mode:

- Welding speed around 20% higher than traditional CV mode
- Handling ability largely improved and easily for welder's to use
- Lower heat input and less deformation

Pure Controlled Metal - PCM

A fully controlled short arc for a clean welding:

- Spatters emission close to zero
- Bridge large gaps
- Unrivalled welding quality on galvanized steel

NEW



All
materials

Pulse

A universal pulse mode allowing welding as all materials:

- Handling ability, low spatters

Soft Silent Puls - SSP

The top for stainless steel welding:

- Clearly better wetting than traditional puls mode
- Undercut effect almost nonexistent
- Around 50% noise arc reduction (*Valuable for welding work in confined area*)

Advanced SeQuencer - ASQ

In combining two different wire feed speeds related to different arc transfer modes (ex. : CV / Puls) possibilities are countless:

- Weld bead with tig appearance with productivity 5 times higher than tig
- Vertical up (no weaving) even with solid wire
- Low heat input, less completion, less deformation



Carbon
Steel

High Penetration Speed - HPS

A special spray mode but with a focused arc offering higher penetration:

- Limited or no preparation for thickness less than 8 mm
- Undercut effect almost nonexistent
- No sticking effect for deep bevel weld



Aluminum

Spray Modal - SM

This is the solution for porosity issues In aluminium welding.

Spray modal is based on a frequency modulation principle with very low value:

- Reduction and even elimination of porosity
- Productivity increase by 20%
- For manual or automatic application

CITOWAVE III is equipped with a large colour screen that allows a very simple setting with extremely precise control of the welding cycle: 2T/4T, preflow, Hot/Soft Start, downslope, crater fill, burn-back, post retract spray to ease the striking... **Everything is under control, and if you have any doubt, the embedded guide in your language is there to assist you!**



**HIGH QUALITY
WELDING**



Your best warranty

Your productivity and efficiency are at the core of our concerns.

Discover cloning...

The “cloning” feature allows you to keep and duplicate an exact backup of your Wave III installations. Thanks to this function, unforeseen circumstances can be easily managed ensuring your production.

Productivity above all

The features of counters and thresholds alert you directly as soon as the spool runs out or as a replacement of wear parts is required, so you can improve the arc-time.

In addition, **CITOWAVE III** memorizes and gives you access to the log of your production so that you can constantly assess and improve your procedures in a relevant way.

And for even more productivity, **CITOWAVE III** is equipped as standard with a standard communication interface for all levels of automation.

WARRANTY
3
YEARS



Up to 50 m water harnesses

**WARRANTY YOUR
PRODUCTIVITY**

This is why we are striving in designing and building a reliable and high-standard welding installation. The proof of our commitment to this ethos is a three year warranty period on **CITOWAVE III** Power supply and an ease of access to maintenance if needed.



Extended service life

An extended service life comes above all from the quality of the components and innovative technologies. **CITOWAVE III** is a soft switching technology equipped inverter, which gets you low consumption and high reliability.

For all conditions

Robust, **CITOWAVE III** fits particularly well in any environment, thanks to its wide main input tolerance (-20% / $+20\%$) and operating temperatures (-10°C / $+55^{\circ}\text{C}$).

Moreover, it has an optimal protection against metallic dust. It is designed to ensure the best performance even with a power generator. Not only uses indoor or outdoor are possible since **CITOWAVE III** meets industry standards IP 23, but you increase also your level of protection with the safety measures procured by the machine.

Analyzing the characteristics of your welds from your computer, transferring welding programs from a machine to another, managing user profiles: are these options drawing your attention? Thanks to its advanced connectivity, **CITOWAVE III** offers an impressive number of applications, enhancing service and performance.



CONNECT TO THE WORLD

User Management

To help you organize, **CITOWAVE III** was designed to allow user management with 3 distinct profiles. Our objectives:

- To give a full access to the administrator to the most elaborated functions of the installation.
- To allow the technician selecting the best parameters for each weld and assigning tasks to his/her team.
- To ease the welder's tasks with quick and easy access to his/her usual welding programs.

Many possibilities are available:

- Up to 20 different users per power source.
- Password protection.
- Limitations on setting ranges.
- Assignment of program lists.
- Management of access rights.
- Profile recognition by USB key.

Connectivity & Monitoring

OERLIKON intends to be a major player in the digital revolution that is currently encountered in the industry. With **CITOWAVE III**, a new step has been reached.

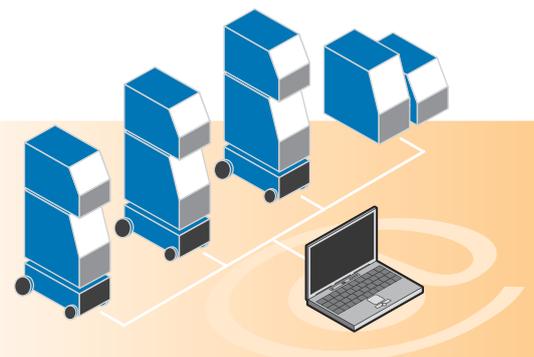
Maximum connectivity

- Compatibility USB 2.0 / Ethernet.
- Wi-Fi communication - optional.
- Part serial number management with bar code scanner. Complete Remote control through VNC Application.
- Import/Export of welding programs and customized synergic curves from a machine to another.

A successful monitoring

- IP address assignment.
- Remote monitoring of networked machines.
- Centralized software to update the installation.

Even at the other end of the world, you keep the control of your installations and you are never caught off guard.





SWAN

Supervising Welding Administrator Network

A laptop software to manage welding parameters:

- Welding current.
- Welding voltage.
- Wire speed.
- Motor consumption.
- Heat input.
- Programs.



Directly exportable through the network and on USB, these reports indicate the date, time and connected user during welding. It has never been so easy to monitor and assess the quality of welding in respect of WPQR/WPS.



SWAN CLOUD

Digitalizing your welding activities...

Whole welding activities management software :

- WPQR / WPS management.
- Welder & consumable certification management.
- Parts sketch tools embedded allowing weld identification.
- Weld control.
- Machine configuration management.
- And more...

Edit your welding book in one click !

Ask for the Brochure.

Ask for a live demo.



Program management

CITOWAVE III can memorize up to 99 welding programs to ensure a perfect reproducibility of your welds. And for complex parts, the necessary programs can be gathered into a list and chained with the trigger during welding for an easy and quick access.



Opt for the high-end range

Successful welding is obtained thanks to an efficient power source, but above all thanks to an ergonomic installation that ensures the welder good operating conditions. **For OERLIKON, comfort and safety of the welder are key components:** extra flexible torches, light and portable wire feeder, fume extraction...

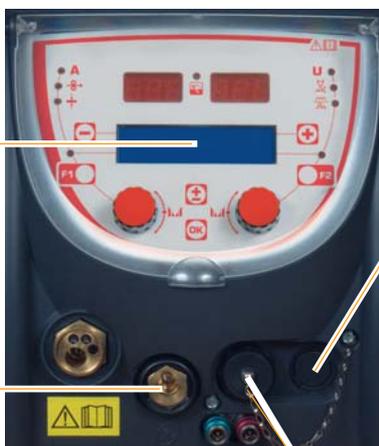
Advanced wire feeder DMU W500, with improved features:

High visibility display

The brightness and contrast of the screen have been highlighted for a better readability in any light and from all angles.

MMA & Gouging

With the fast connection for the MMA process or gouging, you get outstanding results.



PROMIG Push-Pull torch

With the universal plug, the connection of the push-pull system is simple and fast to obtain excellent results for aluminum applications and small diameters wires.

Remote control

To give more flexibility, the remote control RC JOB II allows remotely adjustment exactly as the wirefeeder does.



Light and easy to carry, the Advanced wire feeder helps you in the most difficult tasks.

Particularly robust, the Advanced wire feeder is protected by a fully metallic body for a lasting durability.

Flexibility



Big wheels trolley

	DMU W500
Weight	16 kg
Dimensions (l x b x h)	603 x 262 x 446 mm
Motor rollers	4
Wire diameter range	0.6 to 1.6 mm
Wire speed range	0-25 m/min
Spool diameter	300 mm

Really powerful

WANT MORE?

The whole installation has been designed to make work more comfortable while maintaining productivity and safety.



CITOWAVE III can provide double wire feeders management:

- Power source standard (420 or 520).
- Wire feeder standard (W500).
- Harness standard.
- Trolley on demand.



OERLIKON provides integral solutions for fume extraction:

- Fume extraction torches.
- Capture units.
- High depression plants.
- Adapted trolleys.



See our online Fume extraction catalogue



CITORCH 2, ergonomics specifically developed for high-end applications:

- The screen displays and allows adjustments in real time of the current, wire speed and program number giving precise control of the weld.
- With a ball knuckle and the ultra flexible harnesses, providing you a comfortable grip for decreasing strain and increasing productivity.

WST2 torches are above all a range of welding torches that efficiently extract welding fumes.

Extraction is obtained at a high extraction rate with low load loss due to the advanced air flow design of the torches.

Know more about WST2 torches



GOLDENARK is a high range welding helmet that provides one of the largest viewing area in the industry.

Equipped with 4 optical sensors, it suits all your applications and is warranted 2 years.

See the video



Plug & Play integration for robotic application

WITH ROBOTICS, A SUCCESSFUL WEDDING



CITOWAVE III is perfect for a robotic application with a plug & play package ready to integrate.

The communication through digital bus brings a complete flexibility to your process and your productivity.

Compatible with all robot brands.

**ALL
INTEGRATED**



Package ready to integrate

DMU-R 500

4 Rollers drive
Only 6.2 Kg
Up to 25 M/min
Hollow arm compatible
No electronic embedded



**Standard interface
for industrial communication**



**Retrofit any old welding
set inside any robotic cell**

Your welding installations are a bit old. Do not wait for the breakdown which will stop your production. Ask, now, for a retrofit intervention! We can replace your old welding set (power source, wire feeder and harness) by a CITOWAVE III pack without changing:

- The robot or controller
- Your welding programs.
- The way you work.

Thanks to the pack, you have a renewed installation with the latest technology and possibilities of evolution. Your welding performance and productivity will be improved.

The sustainability of your production installations is ensured for the next 10 years with a minimum investment.

To order

The modular concept of **CITOWAVE III** allows you to build the perfect configuration for your requirements, from offshore & shipbuilding to boiler makers, train production and small workshops.

Power sources



420 A @ 60 %	CITOWAVE III 420	W000384991
500 A @ 60 %	CITOWAVE III 520	W000384992

Cooling unit



COOLER III	W000273516
Safety device for COOLER II	W000376539

Trolley On site



Trolley On site	W000372274
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Remote control



RC JOB II (10 m)	W000371925
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RC SIMPLE (10 m)	W000275904
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Wire feeders



DMU W500	W000371926
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- 99 programs
- possibility to lock welding parameters
- LCD display

Trolley for installation



TROLLEY III	W000383000
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Support

for wire feeder in vertical suspension



W000377985

Trolley for wire feeder



TROLLEY WF II	W000275908
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Option Push-pull II electronic circuit



Push-pull II	W000275907
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Allowing to connect a push-pull torch or gun.

Harnesses

Length	Water		
	Air	Standard	Aluminium
2 m	W000275894	W000275898	W000371044
5 m	W000275895	W000275899	W000371045
10 m	W000275896	W000275900	W000371175
15 m	W000275897	W000275901	W000371174
25 m	W000276901	W000276902	W000371239
30 m	W000371246	-	-
40 m	W000371245	-	-
50 m	W000371244	-	-



Anti-dust filter

for power source protection



W000373703

TIG torch connector

W000379466



Flowmeter

to measure gas flowrate



Flowmeter	W000275905
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Aluminium welding kit

ALUKIT DVU 1.0 -1.2	W000277622
ALUKIT DVU 1.2-1.6	W000277623

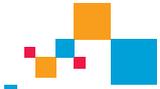
A composition of wire guides and rollers for perfect aluminium welding.





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OERLIKON

CUSTOMER ASSISTANCE POLICY

The business of Lincoln Electric is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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