

EXPLORING ORION SEEING THE DIFFERENCE

A SIDE-BY-SIDE COMPARISON



"WHICH ORION WELDER SHOULD I PURCHASE?"

As welding experts, we don't make one-size-fits-all products. We design and build welding solutions that fit specific needs and purposes.

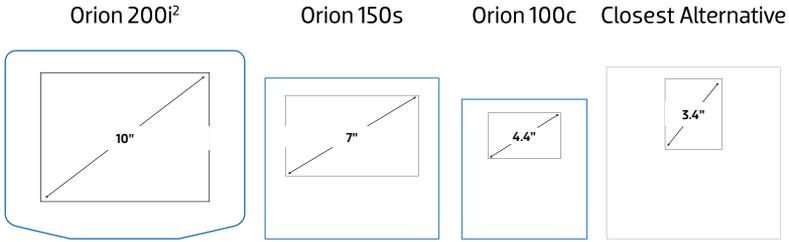
This booklet reviews the current Orion welders; including the new Orion 200i², welder specific features, and specifications that jewelers and metalsmiths have shared with us that are most important to them, their businesses, and craft.

Also included is the closest performing alternative welder so that an accurate side-by-side comparison can be measured.

When ready, speak with one of our representatives. Together, we'll answer the question above and get you working right away with your new Orion Welder.

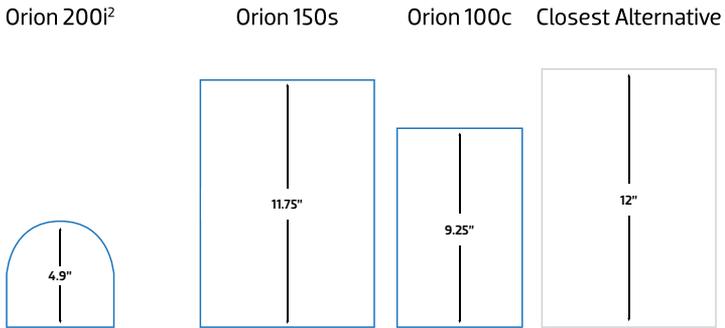
FIRST IMPRESSION COMPARISONS

Touch Screen Display Size



Orion Welders are fully controlled by a touch screen interface that allows for complete control of every welding parameter and weld setting.

Welder Footprint Size



All Orion Welders save bench space when compared to a laser. However, the Orion 200i² (with a 4.9"x4.9" footprint) saves even more space than anything else on the market—without giving up any of the amazing new features mentioned throughout this brochure.

Microscope View



Orion Welders utilize a microscope with a built-in shutter system, providing users with a clear view of what they are welding.

TECHNICAL COMPARISON

	Orion 200i ²	Orion 150s	Orion 100c	Closest Alternative
Display (Touch Screen)	10" Full	7" Full	4.4" Full	3.4" Limited
Languages	20 +	20 +	20 +	Yes
Welder (L x W x H)	4.9" x 4.9" x 27"	11.75" x 8" x 8"	9.25" x 5.75" x 6.5"	12" x 8" x 8"
Weld Programs	16	15	5	10
Save Settings Spaces	1000	10	5	30
CE Certificate	●	●	●	●
USB Upgradeable Software	●	●	●	○
Pulse Arc Welding				
Energy (min-max in Joules)	0.01 – 200	1 – 150	3 – 100	undisclosed
Current (min-max in Amps)	6 – 1000A	6 – 900A	6 – 350A	9 – 400A
Power Settings	20,000	280	105	30
Length (min-max)	0.1 – 100ms	1 – 60ms	3 – 40ms	0.5 – 34ms
Length Settings	6000	200	3	30
Weld Spot Diameter Range	= 0.1 – 4.5mm	= 0.5 – 3.5mm	= 0.75 – 2.5mm	undisclosed
High Frequency Agitation	Multiple/Advanced	Multiple	Basic	Multiple
Pulse Shaping	Advanced	Basic	Basic	Basic
Max Welding Speed (Hz)	30Hz	2Hz	1.5Hz	1.5Hz
Max Charging Time	1.2s	1.2s	1.2s	0.8s
Single Fire Mode	1 weld/0.5 seconds	1 weld/0.5 seconds	1 weld/0.7 seconds	1 weld/0.8 seconds
Rapid Fire Mode	1 – 4 welds/sec (4Hz)	○	○	○
Seam Mode	1-30 welds/sec (33Hz)	○	○	○
Pico Mode	●	○	○	○
Ultra Mode	●	●	○	○
Adaptive Weld Ignition	●	○	○	○
Arc Start Technology	●	●	○	○
Internal Weld Monitoring	●	○	○	○
Tack Welding				
Energy (min-max in Joules)	5 – 200	5 – 150	3 – 100	undisclosed
Peak Current (max in Amps)	4,000	4,000	1,000	600
Power Settings	20,000	150	1	undisclosed
Length (min-max in milliseconds)	60ms	5 – 60ms	20ms	0.2 – 6ms
Length Settings	1	100	1	undisclosed
Microscope				
Magnification	5x	5x	5x	10x
Vertical Stylus Working Space	-110 mm	-110 mm	-110 mm	-145mm
Eye Protection	Darkening Lens	Shutter	Shutter	Darkening Lens
UV Protection	> UV 16	Full	Full	> UV 15
IR Protection	> IR 16	Full	Full	> IR 14

DEFINITIONS

Weld Programs	Factory weld parameter settings that are pre-programmed into the welder.
Save Settings Spaces	The available number of spaces for saving custom weld parameters.
Min-Max Energy (in Joules)	Possible range of weld energy.
Min-Max Current (in Amps)	Possible range of weld current.
Power Settings	The number of increments on the welder for adjusting the weld energy.
Length	The duration of your weld.
Length Settings	The number of increments on the welder for adjusting the weld duration.
Weld Spot Diameter Range	The smallest to largest weld spot diameter size that the welder can produce.
Pico Mode	Ability to set the weld energy extremely low for welding fine pieces.*
Ultra Mode	Ability to set the weld energy at 150 joules or higher for welding thick pieces.
Adaptive Weld Ignition	Checks electrode location before weld ignition to ensure longer electrode life.
Arc Start Technology	Compensates for distance, touch, and movement of the piece to the electrode.
High Frequency Agitation	Improves weld formation and penetration.
Pulse Shaping	The ability to customize your weld waveform (see waveform definition).
Waveforms	The visual representation of how weld energy is released into the work piece.
Internal Weld Monitoring	Computer guided system that adjusts weld consistency as it happens.*
Max Welding Speed (Hz)	The maximum rate at which the system can make a weld.
Max Charging Time	The maximum amount of time between welds.
Single Fire Mode	A normal rate at which the system makes a weld.
Rapid Fire Mode	A feature that allows users to make 1-4 welds per second.*
Seam Mode	A feature that allows users to make 1-30 welds per second.*
Vertical Stylus Working Space	The amount of workable space between the electrode and table top.
Shutter	An eye protection system, built into the microscope, that completely blocks all dangerous UV and IR light during each weld.
Darkening Lens	An eye protection system, built into the microscope, that blocks the necessary amount of dangerous UV and IR light during each weld.

* This feature is unique to the Orion 200i² software.

THE ORION 200i²

THE JEWELER'S DREAM MACHINE

The system that has it all—our most advanced micro welder yet. With it, you'll increase your **PRODUCTIVITY**; you'll improve the **QUALITY** of your workpieces; and you'll achieve the **CONSISTENCY** you need to produce your best work. The Orion 200i² is the **AFFORDABLE** welding solution that you've been looking for.

Orion 200i² Features

- Internal weld monitoring—provides weld consistency and auto-optimizes weld parameters
- Weld energy selection—Set energy by dial, or by keypad
Adjustable from 0.01 – 200 Joules
- 3 Pulse Waveforms—Classic, Triangle, Square
- Advanced waveform shaping options
- Adaptive Weld Ignition™—for extended electrode tip life
- Seam mode—weld up to 30 welds per second
- Pico mode for extremely small and precise welds
- Pulse arc and resistance welding technology in one machine
- High frequency agitation
- Updateable software via USB port
- 25.4 cm touch screen display
- 5x Microscope





Patented



The new Square Waveform is one of the many features that the Orion 200i² offers to help increase productivity. For example, this feature allows users to close a silver ring with just one weld.

THE ORION 150s



The Orion 150s is the perfect welder for those needing a wide range of power (from 1 – 150 joules of energy) to get work done. This mid-range solution includes a high-frequency agitation feature that adds deeper penetration and weld strength. The 150s, used on jewelers' benches around the world, surpasses any competing product in feature and price. When you need a straightforward welding solution, this is the machine you want.



All Orion Pulse Arc Welders are made to help in any metal adding application.



Soft or hard metals (like Titanium) are bonded easily with an Orion.



Re-tipping prongs is incredibly fast and easy using an Orion welder.

THE ORION 100c



The Orion 100c is our basic pulse arc welder, perfect for light work loads or for those on a smaller budget. While we consider it our basic solution, it still has more power and features than any other, non-Orion, pulse arc technology in the market. With a range of power (from 3 – 100 joules of energy), a touch screen interface, and many more features, the 100c packs a punch not expected from a small welding machine.



In addition to jewelry, the Orion can assist in many repairs, including glasses.



Making very accurate welds without damaging a piece is critical.



Welding extremely small pieces is no problem. An Orion is able to do it all.

THE ORION DIFFERENCE

Internal Weld Monitoring* This new feature monitors welds as they are happening to ensure they're consistent with the weld parameters selected. The welder makes slight adjustments as needed during the welding process to assure that welds are guaranteed to be consistent and repeatable every time. With this feature users can be confident their welder is yielding the best results.

Fine-tune Power Adjustment* Orion Welders adjust the weld energy by increments of at least 0.5 joules. For the most precise, fine-tuned adjustability of weld energy, the new Orion 200i² offers the ability to make adjustments by a little as 1/10 of a Joule. Fine tune power adjustment means greater precision, control, and versatility.

Waveforms* Waveforms control how weld energy is released. Multiple waveforms open the door to faster, easier methods of welding your work pieces. The new wave forms (Triangle and Square) found exclusively on the Orion 200i² allow users to weld difficult metals better than before. Welding silver is now easier with these new options offered by Orion. If users don't know which waveform to select, don't worry, we give the best waveform suggestion on the "Metals" screen.

Adaptive Weld Ignition™ Adaptive weld ignition™ helps the welding electrode know exactly when to weld after lifting off the work piece. This helps the electrode stay clean and weld longer before it needs to be sharpened. This saves time and extends the life of the electrodes. With Adaptive weld ignition™ users will experience more consistent welds and save time managing routine electrode maintenance.

Weld Speed Modes (single, rapid, seam*) Orion Welders lets users choose weld speeds. In rapid fire mode the welder yields 1 to 4 welds per second. In seam mode the welder makes up to 30 welds per second! Seam mode is new and unique to the Orion 200i². Try it when resizing a large ring, moving metal around, or to close a seam. We've only realized the tip of the iceberg with this exciting new feature, but we're confident it will open the door to many revolutionary welding uses!

USB Upgradeable Software The Orion Engineering Team is constantly testing to make sure our products are at the top of their game. We provide free software updates to make sure users always have the latest and greatest. This feature is a great benefit and exclusive to Orion Welders. Users no longer need to invest in the latest version or the most recent model.

Innovative Arc Start Technology This is a proprietary pilot arc technology that happens before the weld takes place to navigate or tell the main weld where to go. This feature is what makes Orion welders the most accurate and consistent welders.

Pico & Ultra Modes "Pico Mode" allows users to set weld energy as low as 0.01 joules*. This feature is unique to the Orion 200i². It is excellent for welding close to precious gems and stones or for welding very small pieces. "Ultra Mode" allows users to set weld energies up to 200 joules*. This is an awesome feature for sculpting thicker pieces of metal or for welding large pieces of silver. The Orion 200i² and Orion 150s welders are equipped with "Ultra Mode".

Tack Mode Tack mode is a convenient feature for holding work pieces together before soldering them or placing a permanent weld on them. Orion was the original Pioneer in providing this second welding technology in one unit. Combining the Tack mode with the Pulse arc mode offers the most complete and versatile welding system on the market.

* This feature is unique to the Orion 200i² software.

OUR PAST & FUTURE

In 2003, Sunstone Engineering founder, Dr. Aaron Astle, Ph.D., needed micro welding technology to complete a small turbojet engine he was building as a personal project. Unable to find a quality, reasonably priced micro welder; he instead researched, designed, and built his own micro welding solution.

This experience forged the beginnings of Sunstone Engineering—the parent company of the jewelry line of welders known as Orion Welders.

Over the past twelve years, Sunstone Engineering has become known for providing the most innovative micro welding products by always pushing forward in the steps of our most important principals:

- We don't follow what's been done—we innovate.
- We create welding solutions built to outperform all others.
- We make products built to the highest standards of professional quality.
- We design products to be affordable, insuring that all industries have access to micro welding technology.

Lastly, but most important of all, we want to make sure that every owner loves their welder. Therefore, customer support—before and after the sale—is one of our biggest priorities, as well as one of our greatest strengths.

Contact us and see for yourself why thousands of people all over the world use and depend on Orion Welders.

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