

THEO

By **MAX** PHOTONICS



MA1 Series  
Handheld **Laser Welder**

# //// THEO. A Max Photonics Brand

02

## 2004

Founded in 2004, Max Photonics is a leading global provider of high-performance fibre lasers and laser solutions

Max Photonics Headquarters based in Shenzhen, China, holds a **strong presence** in many countries **across the globe**.



### Research and Development

Max Photonics continually invests in R&D, driving technological advancements and product innovation. The company's in-house R&D team collaborates with leading research institutions and universities, exploring new technologies and materials to create breakthroughs in the field of photonics.



**Engineering Services:** With a highly skilled and knowledgeable team of engineers, Max Photonics offers technical consulting, system integration and customer training services, ensuring that customers receive the best value and optimal performance from their laser systems.

### // Developing state-of-the-art products

**Driving innovation**

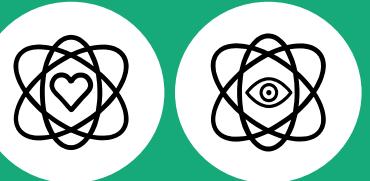
### // Delivering cutting-edge solutions to customers worldwide

### Products and Services

Max Photonics specialises in offering a wide range of high quality products and services, such as:

**Fibre Lasers:** Max Photonics provides a comprehensive portfolio of fibre lasers, including continuous wave (CW) fibre lasers, pulsed fibre lasers, ultra fast fibre lasers and high power fiber lasers. These lasers cater to a vast range of applications, including material processing, healthcare, optical transmission, sensing and research.

**Laser Solutions:** Max Photonics delivers turnkey laser solutions and customised systems for a myriad of industries like automotive, aerospace, electronics and semi conductors. These solutions enable customers to achieve improved efficiency, productivity and cost effectiveness.



### Core Values and Vision

Max Photonics core values revolve around innovation, customer focus and excellence. The company is dedicated to pushing the boundaries of photonic technology and delivering cutting edge, reliable and customised solutions that exceed customer expectations.

The company's vision is to become a global industry leader in advanced fibre lasers, expand its product portfolio and provide advanced photonic solutions that empower businesses to achieve revolutionary improvements in their operations, ultimately contributing to a better world.



THEO is dedicated to providing **world class** quality products and services to its customers.

# //// Introduction

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## // **Laser welding with THEO hand held fibre laser welding equipment**

Wilkinson Star Limited are proud to be the exclusive partners for THEO hand held laser welding equipment in the UK & Ireland.

Targeted at sheet metal fabrication industries, this technology has now been adopted into a growing list of applications including nuclear, aerospace, pharmaceutical and catering to name but a few.

THEO fibre laser technology is a great supplement to conventional welding methods in most fabrication workshops. This technology can offer many advantages over conventional welding methods.

## **Advantages Over Conventional Welding**

- Fast welding speeds
- Minimal heat affected zone
- Minimal material distortion
- High precision and neat welding seams
- Up to 4 times faster than TIG
- Low consumable usage
- High repeatability
- Minimal training required
- Uniform weld bead
- Ability to weld various materials as well as dissimilar materials
- Improves production efficiency
- Reduced post weld cleaning times
- Easy to use
- Low application costs
- Efficient energy usage
- High welding strength
- Excellent welding performance

**LIGHTER // SMALLER // PORTABLE // HIGH PERFORMANCE**

# //// Introduction

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The new generation of THEO hand held fibre laser welders adopts advanced air cooling technology, which ensures long term stability and reliability, whilst maintaining a neat, compact design. The THEO series of machines are supplied as standard with a 7" intelligent graphical user interface, with 32 pre-set programs and the ability to store a further 32 user defined programs. This allows quick, easy use and set up for multiple operators with high repeatability. The compact and ergonomically designed torch allows for comfortable welding for the operator, whilst still being robust enough to withstand the pressures of use in most fabrication environments.

Welding modes including continuous wave, pulse and shooting mode offers flexibility for different welding applications such as spot welding. The wobble function can work in a frequency range of 0 - 280 Hz and the wire feed can be controlled directly via the graphical user interface on the power source. High beam stability ensures consistent high welding quality.

All THEO hand held fibre laser welders are supplied with an exclusive separate wire feed unit complete with 4 roll drive motor, offering smooth wire feeding performance.

The MA1 series of machines are equipped with an external interface for two channel security. There is also the option for external interface control, allowing for compatibility with automated systems. 8 point security check ensures maximum safety protection.

All THEO hand held fibre laser welding equipment are certified to CE and UKCA standards including EN 60825-1 and EN ISO 11553.

Wilkinson Star Limited are an established company of over 50 years within the welding industry and can offer full laser welding solutions with the THEO fibre laser welder technology.

**Wilkinson Star Limited are committed to offering safe solutions and guidance to their customers.**

All THEO hand held fibre laser welders supplied by Wilkinson Star Limited are supplied complete with a 2 year power source warranty and 12 month warranty on the torch.

Wilkinson Star Limited have also adopted a loan unit system, with a team of engineers available to visit site and swap over the power source in the unlikely event there is an issue which cannot be rectified on site, keeping you welding!



## // Hand held fibre laser welding safety guidance

Lasers are classified into several classes depending on the level of hazard they present and the risk to the operator and others within the surrounding area, with the highest Class 4 representing the most hazardous lasers available. EN-60825-1 outlines the classification and safety guidance of laser products.

Handheld fibre laser welding machines are classified as hazardous, Class 4 laser products, but with the required PPE to protect the operator and a purpose built Kyrus Automation Class 4 laser welding enclosure, this technology is safe to use. Users can enjoy the many benefits that handheld fibre laser welding offers over traditional welding methods.

The difference between laser welding and traditional arc welding processes is that laser energy is used instead of an electrical arc to form the weld pool. As such, additional/process specific safety measures must be considered when operating this equipment.

It is mandatory that businesses with class 4 laser appliances on site have carried out a suitable and sufficient risk assessment and have appointed a competent person to undertake these tests. It is advised that the company has a Laser Safety Officer (LSO) or a Laser Protection Advisor (LPA).

### NEW Dedicated Laser Welding Helmet with ADF

- Shell Material:  
Special material mix, no lining
- Certification: ISO 16321EN 207,  
Helmet shell: D LB 6 OD6,  
ADF: D LB 7 OD7  
1000 - 1100nm
- Impact Rating: E
- Weight: +/- 490g
- Airkos PAPR solution available



 **weltek**

### INTRODUCING THEO ACADEMY LASER WELDING SAFETY KNOWLEDGE ACCESSIBLE FOR ALL

- THEO Academy is your go-to resource for laser welding safety knowledge. It's designed for both THEO customers and the broader welding community to learn essential safety practices efficiently.
- With THEO Academy, gain quick access to expert guidance that enhances your skills and ensures a safe welding environment. Stay sharp, stay safe - THEO Academy makes it easy.

**THEO**  
ACADEMY

## // Laser Radiation



Exposure to laser light can inflict severe retina and/or cornea injuries leading to permanent eye damage and may cause skin damage. Some laser light is invisible. Safety protocols must be followed to prevent accidental exposure to invisible, direct and reflected beams. The system must only be operated in a Laser Controlled Area.



## // Personal Protection



Appropriately certified eyewear must be worn which is suitable for the laser output wavelength, by both the operator and anyone within the enclosed working environment. The standards for such protection are governed by EN-207:2017.



The key aspects of eye and face protection when using a class 4 laser are the LB and OD ratings. The Laser Barrier (LB) rating is reference to the level of protection the face shield or glasses can provide against a direct hit from a laser beam. There will always be a letter stated before the LB reference, which in the case of hand held laser welders should be 'D' (Continuous Wave). The Optical Density (OD) rating is reference to the level of protection the filter of the glasses/lens can provide and the level of light able to pass through the filter and reach your eyes. EN 207 encompasses the full protection of the helmet or glasses, including the face shield or frame.



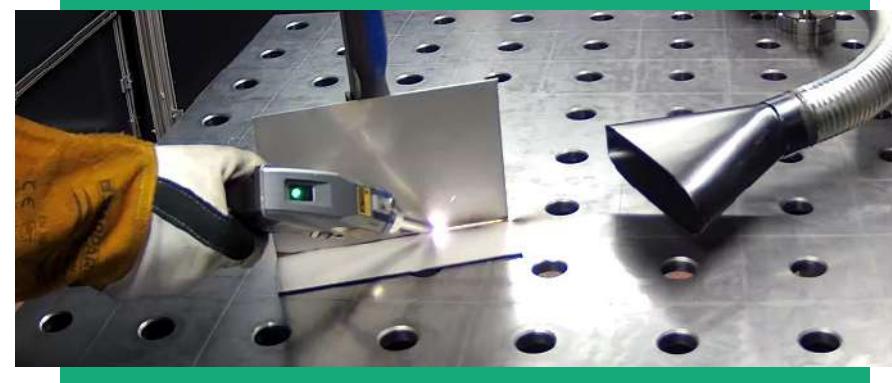
All THEO laser welders are supplied with glasses certified to EN 207 D LB6 OD8. The Kapiro laser helmet offers full face protection to EN 207 D LB 6 OD6 with the ADF offering protection to D LB 7 OD7. The Kapiro laser helmet is also available as a personal air powered respirator system (PAPR) to offer full protection for the operator. Operators and all personnel working within the Laser Controlled Area must wear protective clothing including laser-resistant and heat resistant gloves, caps, leather apron and other laser-resistant and heat-resistant clothing.

## // Fume Hazards



As with all welding processes, there is a fume hazard present. The appropriate measures should be taken to ensure safety, with the most effective method being an extraction hood coupled with a personal air powered respirator system for the operator. It is important that any filtration is matched to the welding process/material.

Wilkinson Star Limited offer an extensive range of extraction and PPE under the F-Tech and Weltek brands. Further information is available at [www.wilkinsonstar247.com](http://www.wilkinsonstar247.com).



## // Class 4 Enclosures by Kyrus Automation

The required safety and personal protection measures must not be overlooked whilst capitalising on the productivity gains that hand held fibre laser welding offers. When using a Class 4 laser welder it is imperative that you use a suitable Class 4 enclosure.

Wilkinson Star Limited together with our integrator Kyrus Automation offer full Class 4 laser welding enclosure solutions to offer protection to all workers within the workspace.

A Kyrus Laser Welding Enclosure helps mitigate the hazards of hand held laser welders by providing a safe and contained working environment.

Kyrus have designed a standard "plug and play" range that provides this safe working environment.

**Please see page 20 for more information.**

# //// Application Materials

## Stainless Steel

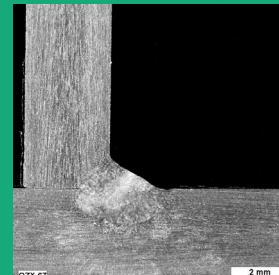


3mm Fillet weld

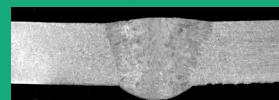


3mm Butt weld

## Aluminium



3mm Fillet weld



3mm Butt weld

## Carbon Steel



OZX 69 2 mm

3mm Fillet weld

.....

3mm Butt weld

## Galvanised



## Copper



## Brass



// APPROVED  
WITH  WELD STAR®  
CONSUMABLES

// ABILITY TO WELD VARIOUS MATERIALS  
AS WELL AS DISSIMILAR MATERIALS

# //// Comparison Laser vs TIG Welding

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## // Basic Data

- **Welding length:** 500mm
- **Base Material:** Stainless Steel (AISI 304)
- **Thickness:** 2.0mm
- **Application:** Fillet Weld (T-Joint)

## // Working Time

Process	Time
Laser	0.29 min (29 seconds)
TIG	2.53 min (173 seconds)

- **Result:** Laser reduces working time by 83.24% compared to TIG (excluding post processing steps)

## // Filler Wire Consumption

Process	Wire Length Consumption
Laser	348mm (13.7in)
TIG	1000mm (39.4in)

- **Result:** Laser reduces filler wire consumption by 65.2% compared to TIG

## // Gas Consumption

Process	Gas Flow Rate	Total Consumption	Gas Type
Laser	0.29 min (29 seconds)	7.25 litres	N2
TIG	2.53 min (173 seconds)	34.6 litres	AR

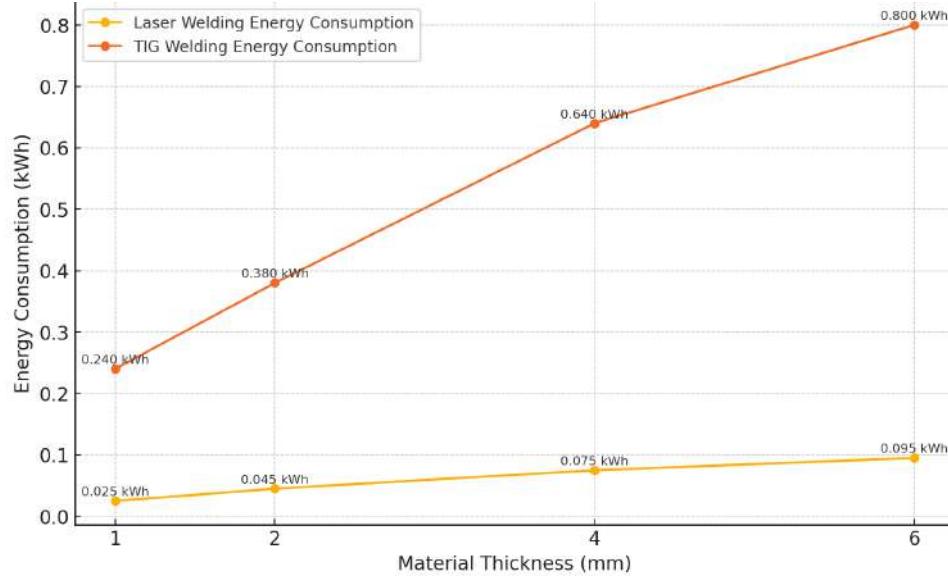
- **Result:** Laser reduces gas consumption by 79.04% compared to TIG

## // Energy Consumption

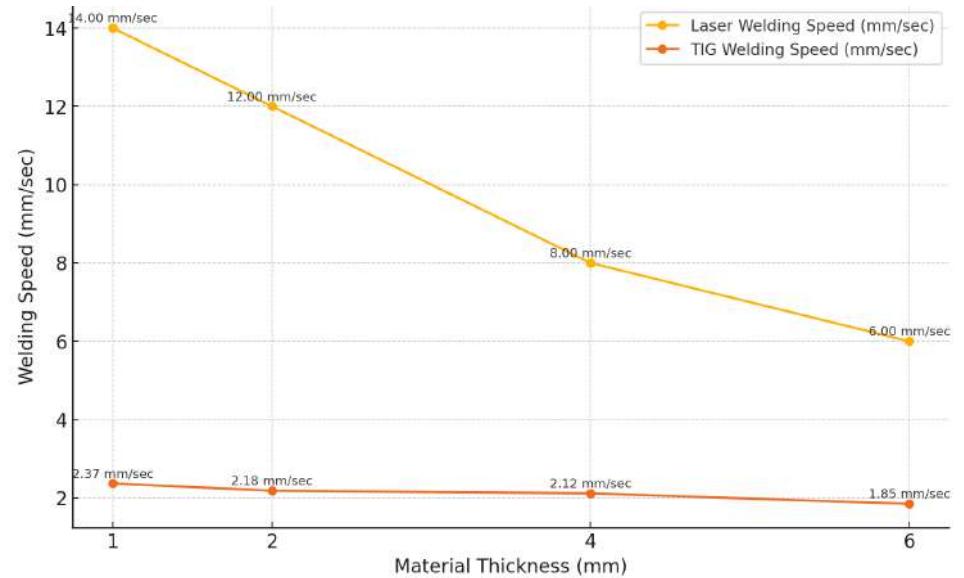
Process	Power	Total Consumption
Laser	6kW	0.2175 kWh
TIG	22.8kW	1.1 kWh

- **Result:** Laser reduces energy consumption by 80.23% compared to TIG

## // Energy Consumption Chart



## // Welding Speed Chart



# //// Interface

ON



// SIMPLE AND EASY TO USE

## // Key Features

- Embedded with 32 pre-set modes for various materials
- Ability to store up to 32 user defined programs
- Minimal training time needed for beginners to operate the welding system
- Synergic interface allows the user to select the material, plate thickness and joint configuration for quick set up
- Advanced user menu for user defined set up for advanced operators
- Detailed warning page for easy diagnosis
- Full control over external wire feed system
- Password protected advanced service menu
- Fish scale welding mode
- Easily switch between CW, pulse and shooting modes

7 INCH TOUCH SCREEN

## // 800W Power



## // Key Features

- Portable design
- Compact handheld welding torch
- Stable performance and reliable quality
- Six layers of safety protection
- Simple operating system
- Easy installation and operation
- Bespoke wire feed unit
- External interface with dual channel safety interlock
- Ability to enable the feeder on/off via the torch
- Top mounted control panel for enhanced user experience
- Includes 4.3m torch
- Product demonstrations available

## // Product Specification

Material	One Sided Limit Welding Seam
Stainless Steel	up to 3.5 mm
Carbon Steel	up to 3.5 mm
Aluminium	up to 3 mm

// **1200W Power**



// **Key Features**

- Portable design
- Compact handheld welding torch
- Stable performance and reliable quality
- Six layers of safety protection
- Simple operating system
- Easy installation and operation
- Bespoke wire feed unit
- External interface with dual channel safety interlock
- Includes 5.6m torch
- Product demonstrations available

// **Product Specification**

Material	One Sided Limit Welding Seam
Stainless Steel	up to 4.5 mm
Carbon Steel	up to 4.5 mm
Aluminium	up to 4 mm

// **1500W Power**



// **Key Features**

- Portable design
- Compact handheld welding torch
- Stable performance and reliable quality
- Six layers of safety protection
- Simple operating system
- Easy installation and operation
- Bespoke wire feed unit
- External interface with dual channel safety interlock
- External interface suitable for automated applications
- Includes 5.6m torch
- Product demonstrations available

// **Product Specification**

Material	One Sided Limit Welding Seam
Stainless Steel	up to 6.5 mm
Carbon Steel	up to 6.5 mm
Aluminium	up to 5.5 mm

// 2000W Power



## // Key Features

- Portable design
- Compact handheld welding torch
- Stable performance and reliable quality
- Six layers of safety protection
- Simple operating system
- Easy installation and operation
- Bespoke wire feed unit
- External interface with dual channel safety interlock
- External interface suitable for automated applications
- Includes 5.6m torch
- Product demonstrations available

## // Product Specification

Material	One Sided Limit Welding Seam
Stainless Steel	up to 8.0 mm
Carbon Steel	up to 8.0 mm
Aluminium	up to 6.0 mm

# /// Product Specification

Parameter	MA1-35	MA1-45	MA1-65	MA1-ULTRA	Key EU / Safety Note
Classification	Class 4 near-IR fiber laser	Conforms to IEC 60825-1 / EN 60825-1			Class 4 lasers demand a laser-controlled area with door/curtain interlocks, warning signs (ISO 7010), and strict PPE. Comply with EN 60825-4 for enclosures/guards.
Wave Length	1080 ± 10 nm				
Output Power	800W (±50W)	1200W (±50W)	1500W (±50W)	2000W (±50W)	All can be adjusted from ~10- 100% of nominal. Even at lower settings, Class 4 hazard remains
Input Power	3000W	4800W	6000W	6000W	
Weld Penetration Stainless Steel	up to ~3.5mm	up to ~4.5mm	up to ~6.5mm	up to ~8.0mm	
Weld Penetration Steel	up to ~3.5mm	up to ~4.5mm	up to ~6.5mm	up to ~8.0mm	Actual penetration depends on travel speed, shielding gas, and material properties
Weld Penetration Aluminum	up to ~3.0mm	up to ~4.0mm	up to ~5.5mm	up to ~6.0mm	
Power Supply	Single-phase 200-240 V AC (~25 A recommended)				Must fulfill CE requirements under Low Voltage Directive (2014/35/EU) and local electrical standards. Proper grounding is mandatory.
Operating Ambient Temperature	0 - 40°C				
Relative Humidity in the Environment	10 - 85%				
Storage Temperature	-10 - 60°C				
Weight	29 ±3	38 ±3	39 ±3	42 ±3	
Dimensions (mm)	577 x 512 x 265	667 x 542 x 276			

Parameter	MA1-35	MA1-45	MA1-65	MA1-ULTRA	Key EU / Safety Note
Airbourne Noise Level	Max. 85 db (A)	Automatically adjust, according to working condition.			For installations within the EU, comply with EN ISO 11553-3
Cooling Method - Laser Source		Air-cooled (internal fans)			Ensure vents are unobstructed. Ambient operating temperature and humidity must stay within specified limits.
Cooling Method - Welding Head		Gas cooling of the fiber connector and optics			
Operating Mode	Continuous-Wave (CW) fiber laser	May be rapidly gated on/off for tack or "fish-scale" welds			No Q-switched or short-pulse output. Laser is fundamentally CW, which is fully Class 4 at any power setting.
Polarisation	Random				
Output	750 - 800 W	1150 - 1200 W	1450 - 1500 W	2000 - 1900 W	100 % CW   Ambient temperature 26 °C
Electro-Optical Efficiency	27 %			35 %	
Area of Power Control	10 - 100 %				1 %   Ambient temperature 26 °C
Raw Beam Diameter	5,495 mm				
Beam Diameter at Focus Point	56,1 µm	58,1 µm	65,6 µm	69,4 µm	
Divergence Angle	32,7 mrad	32,1 mrad	29,1 mrad	21,8 mrad	
Rayleigh Length	1,3 mm	1,8 mm	2,4 mm	2,8 mm	
Duty cycle lightoff time	75 %			100%	(75 % ~ ON 120 sec / Off 6s)
Wobble Width range	0 - 4 mm			0 - 4 mm *	* Upgrade possibility on request

# /// Product Specification

Parameter	MA1-35	MA1-45	MA1-65	MA1-ULTRA	Key EU / Safety Note
Maximum modulation frequency	10 KHz				
Laser switch-off duration	0-100 ms				
Short-term power stability	2 %			100% CW > 1 h	
Beam Quality M <sup>2</sup>	1,3 (Typ.)			100 % CW	
Laser activation time ON	50 - 100 µs			10 % - 90 % Power	
Laser switch-off time	50 - 100 µs			90 % - 10 % Output	
Fiber break detection	100 µs				
Displayed power of the red light beam	300 - 1000 uW			100 % CW	
NOHD	118 m	144 m	178 m	282 m	Eye Hazard calculations
MPE (EMZB)	70,7 W/m <sup>2</sup>				Based on DIN EN 60825-1
NHZ	22 m	27 m	34 m	53 m	Skin Hazard calculations
MPE	2.000 W/m <sup>2</sup>				Based on DIN EN 60825-1
Fiber diameter	20 µm				
Length of the hose pack with optical fibers	4,35 m	5,6 m	5,6 m	5,6 m	
Bending radius of fiberglass hose packs	200 mm				
Laser output connector	QCS integrated Fiber				

Parameter	MA1-35	MA1-45	MA1-65	MA1-ULTRA	Key EU / Safety Note
Shielding Gas	Argon (Ar) @ 99,996% purity	Nitrogen (N <sub>2</sub> ) @ 99,999% purity	~10-16 L/min		Argon or nitrogen helps reduce oxidation and spatter. Gas supply and pressure must adhere to local gas safety standards
Laser Eye Protection	>1070 - 1075 nm → OD9+, D LB6 + IR LB8 + M LB9	>1075 - 1080 nm → OD8+, D LB6 + IRM LB8	>1080 - 1087 nm → OD7+, D LB6 + IRM LB7		Check label for wavelength and OD. Use a visor or helmet with IR filter. PPE must meet EU Regulation 2016/425 and/or ANSI Z136.7 outside the EU. In the EU, use EN 207 glasses for full protection or EN 208 for alignment.
Barrier Interlock	Use laser-rated enclosures or curtains. Interlock doors recommended (EN 60825-4)				Class 4 lasers require strict access control. Automatic shutdown upon unplanned entry is standard best practice.
Other PPE & Clothing	- Laser goggles + welding helmet (IR filter)	- Flame-resistant outerwear/gloves (CE-approved, e.g. EN 11611 or EN 11612)			Protects from direct/diffuse beam, welding arc glare, sparks, and hot spatter.
Ventilation	Local exhaust or filtration recommended (e.g., EN ISO 15012) to manage fumes and airborne particles				Laser welding can produce particulates, especially on coated or galvanized metals. Proper ventilation is essential for safety and legal compliance.

# /// Packing List

## // MA1-35

No	Name of Fittings	Description	Unit	Qty
<b>1</b>	Hand Held Laser	MA1-35	Pc	1
<b>2</b>	Welding Torch	Torch	Pc	1
<b>3</b>	Power Cable	5m	Pc	1
<b>4</b>	Ground Cable	5m	Pc	1
<b>5</b>	Goggle	Support the 0D7+	Pc	2
<b>6</b>	Hanging Welding Torch Frame	Hexagon flowered countersunk head screws with socket (4pcs)	Pc	1
<b>7</b>	Armoring Cable Rack	Hexagon flowered countersunk head screws with socket (8pcs)	Pc	1
<b>8</b>	Gun Nozzle	Brass nozzle 1, 3, A, B and flat nozzle each	Pc	5
<b>9</b>	Protective Lens	φ20*3	Pc	5
<b>10</b>	Lock Ring Wrench	/	Pc	1
<b>11</b>	Wire Outlet Assembly	0.8/1.0/1.2/1.6mm wire feeding nozzle and wire feeding frame	Pc	1
<b>12</b>	Cotton Swabs 1	25 pcs	Pc	1
<b>13</b>	Cotton Swabs 2	25 pcs	Pc	1
<b>14</b>	Wire Feeder (Individually packaged)	Including wire feeding conduit, wire feeding wheel	Pc	1
<b>15</b>	Acoustic Earplugs	3M brand	Pc	5
<b>16</b>	Dust Mask	Advanced dust	Pc	2
<b>17</b>	Screwdriver	Hex Wrench	Pc	1
<b>18</b>	Safe Return Route	3m	Pc	1
<b>19</b>	Silicone Sleeve	/	Pc	1
<b>20</b>	Reel	/	Pc	1
<b>21</b>	Trachea	φ6, 5m	Pc	1
<b>22</b>	Two Vent Quick Plug Connector	φ6 to φ10	Pc	1
<b>23</b>	Live Ore Desiccant	/	Pc	2

## // MA1-45, MA1-65 & MA1-ULTRA

No	Name of Fittings	Description	Unit	Qty
<b>1</b>	Hand Held Laser	MA1-45 / MA1-65	Pc	1
<b>2</b>	Welding Torch	Torch	Pc	1
<b>3</b>	Power Cable	10m	Pc	1
<b>4</b>	Ground Cable	10m	Pc	1
<b>5</b>	Goggle	Support the 0D7+	Pc	2
<b>6</b>	Hanging Welding Torch Frame	Hexagon flowered countersunk head screws with socket (4pcs)	Pc	1
<b>7</b>	Armoring Cable Rack	Hexagon flowered countersunk head screws with socket (8pcs)	Pc	1
<b>8</b>	Gun Nozzle	Brass nozzle 1, 3, A, B and flat tips	Pc	5
<b>9</b>	Protective Lens	φ20*3	Pc	5
<b>10</b>	Lock Ring Wrench	/	Pc	1
<b>11</b>	Wire Outlet Assembly	0.8/1.0/1.2/1.6mm wire feeding nozzle and wire feeding frame	Pc	1
<b>12</b>	Spear Jig	The collimating focusing lens is disassembled and used	Pc	1
<b>13</b>	Cotton Swabs 1	25 pcs	Pc	1
<b>14</b>	Cotton Swabs 2	25 pcs	Pc	1
<b>15</b>	Wire Feeder (Individually packaged)	Including wire feeding conduit, wire feeding wheel	Pc	1
<b>16</b>	Acoustic Earplugs	3M brand	Pc	5
<b>17</b>	Dust Mask	Advanced dust	Pc	2
<b>18</b>	Screwdriver	Allen	Pc	1
<b>19</b>	Ground Wire	3m	Pc	1
<b>20</b>	Graphene Wire Feed Tube	3m	Pc	1

# //// Laser Welding Torch

// **680 grams**

// **Ergonomic Design**

// **Status Indicator**

// **Robust**

// **Single Trigger Operation**

// **QCS Fibre Optic Cable**

// **Wire Feed On/Off Switch**



The use of collimated QCS interface greatly reduces the size and weight of the welding torch, only 680g. The optical design is perfectly matched with the QCS output head, the transmission efficiency is high, and the heat generation is small. The welding torch design is ergonomic, comfortable to hold and easy to operate. In addition, the torch has a built-in swing function that allows the operator to consistently and safely perform high-quality welds throughout the day with dual safety light buttons.

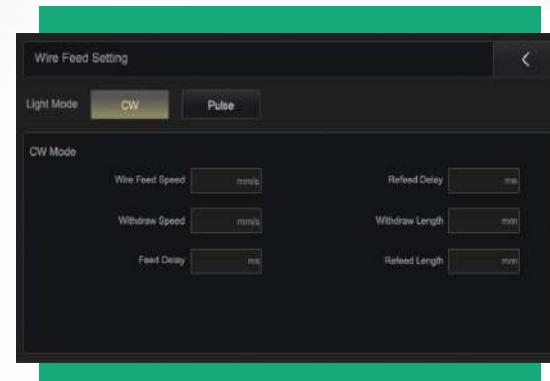
// **THE LIGHTEST AND SMALLEST HANDHELD WELDING TORCH IN THE INDUSTRY**

# //// T1 Wire Feed Unit

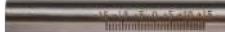
- Exclusive wire feed unit developed and built by THEO for the MA1 series of machines
- 4 roll drive system ensures smooth wire feeding
- Controlled via user interface of the power source
- Wire inching and retraction control
- Wire spool size D200/D300 up to 25Kg
- Quick release liner connection
- Supports wire feeding speeds from 2-100mm/s
- Continuous and pulse wire feeding options



Parameter	T1 Wire feeder
Power Supply	24 V DC
Ambient conditions	No vibration, no bounce
Operating ambient temperature	5 – 50 °C
Ambient humidity	< 90 %RH
Storage environment temperature	-15 – 85 °C
Dimensions (L x H x W)	580 x 360 x 245 mm
Weight (Kg)	13 ±3
Maximum wire coil weight	25 Kg



# //// Accessories

Part No.	709901151	701602178	709901148	709901150	101113452
Description	V Groove Wire Feed Roller		U Groove Wire Feed Roller		QR Wire Feeding Arm
Wire Diameter (mm)	0.8mm/1.0mm	1.2mm/1.6mm	0.8mm/1.0mm	1.2mm/1.6mm	
					
Part No.	701601883	101113543	101113544	101113545	101113546
Description	Nozzle Connecting Pipe	Wire Feeding Nozzle	Wire Feeding Nozzle	Wire Feeding Nozzle	Wire Feeding Nozzle
Wire Diameter (mm)		0.8mm	1.0mm	1.2mm	1.6mm
					
Part No.	101112238	101112236	101112239	101112237	101112240
Description	Nozzle A	Nozzle 1	Nozzle B	Nozzle 3	Flat Nozzle
Wire Diameter (mm)	Up to 1.2mm		1.6mm/Aluminium Wire		
					
Part No.	109902039	103100010	103100011	701601825	723100141
Description	2.5mm Steel Liner	4m Steel Liner	3m Teflon Liner	Protective Lens	Laser Safety Goggles 1080mm OD7+
					

# //// Enclosures



The required safety and personal protection measures must not be overlooked whilst capitalising on the productivity gains that hand held fibre laser welding offers. When using a Class 4 laser welder it is imperative that you use a suitable Class 4 enclosure.

Wilkinson Star Limited supply Class 4 laser welding enclosure solutions to offer protection to all workers within the workspace.

A Kyrus Laser Welding Enclosure helps mitigate the dangers of hand held laser welders by providing a safe and contained working environment.

Kyrus have designed a standard "plug and play" range that provides this safe working environment.



On site laser welding system and enclosure, Wilkinson Welding Academy, Manchester, UK

# //// Enclosures

## // Key Features

- Specifically designed for use with the new generation of hand held laser welders, and comply to IEC 60825-4 standards
- Integrates with the built in safety systems of your laser welding equipment
- Fully integrated “plug and play” electronics including door interlock, power distribution, cable trunking and LED lighting
- Modular design, allowing for interchangeable positions and future expansion capabilities
- Supplied as flat pack and can be easily installed (or for peace of mind we offer installation as a service)
- Floor seals to prevent visible reflections
- Illuminated laser warning signage
- Available with three external viewing options: CCTV with live screen (recommended), 4K CCTV with live screen (recommended for demonstration areas) or optical viewing window
- Light-tight services connection
- Enclosed roof option
- Sliding and hinged door options
- Bespoke enclosure packages/sizes available on request



# //// Kyrus Enclosures



## // Hand Held Laser Welding Enclosure - 3m x 2m

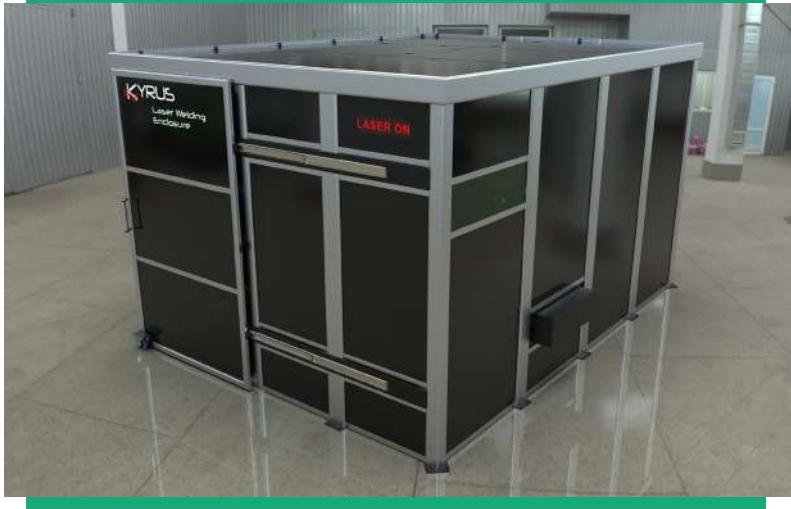
Order Code	Description
<b>KY-LENC-001</b>	3m x 2m Enclosure, with 1.2m Hinge Door c/w power distribution, lighting, safety interlock & laser on signage
<b>KY-LENC-001A</b>	3m x 2m Enclosure, with 1.3m Sliding Door c/w power distribution, lighting, safety interlock & laser on signage
<b>KY-LENC-3020H12</b>	3m x 2m Enclosure, with 1.2m Hinge Door c/w safety interlock and laser on signage only
<b>KY-LENC-3020S13</b>	3m x 2m Enclosure, with 1.3m Sliding Door c/w safety interlock and laser on signage only
<b>ASM-000137</b>	Option: Roofing Module
<b>ASM-000136</b>	Option: CCTV Module (recommended)
<b>OS-000030</b>	Option: Optical Viewing Window



## // Hand Held Laser Welding Enclosure - 3m x 3m

Order Code	Description
<b>KY-LENC-002</b>	3m x 3m Enclosure, with 1.2m Hinge Door c/w power distribution, lighting, safety interlock & laser on signage
<b>KY-LENC-003</b>	3m x 3m Enclosure, with 1.3m Sliding Door c/w power distribution, lighting, safety interlock & laser on signage
<b>KY-LENC-3030H12</b>	3m x 3m Enclosure, with 1.2m Hinge Door c/w safety interlock and laser on signage only
<b>KY-LENC-3030S13</b>	3m x 3m Enclosure, with 1.3m Sliding Door c/w safety interlock and laser on signage only
<b>ASM-000138</b>	Option: Roofing Module
<b>ASM-000136</b>	Option: CCTV Module (recommended)
<b>OS-000030</b>	Option: Optical Viewing Window

# //// Kyrus Enclosures



## // Hand Held Laser Welding Enclosure - 4m x 3m

Order Code	Description
<b>KY-LENC-004</b>	4m x 3m Enclosure, with 1.3m Hinge Door c/w power distribution, lighting, safety interlock & laser on signage
<b>KY-LENC-3040S13</b>	4m x 3m Enclosure, with 1.3m Sliding Door c/w safety interlock and laser on signage only
<b>ASM-000140</b>	Option: Roofing Module
<b>ASM-000136</b>	Option: CCTV Module (recommended)
<b>OS-000030</b>	Option: Optical Viewing Window



## // Hand Held Laser Welding Enclosure - 4m x 4m

Order Code	Description
<b>KY-LENC-005</b>	4m x 4m Enclosure, with 2m Sliding Door c/w power distribution, lighting, safety interlock & laser on signage
<b>KY-LENC-4040S20</b>	4m x 4m Enclosure, with 2m Sliding Door c/w safety interlock and laser on signage only
<b>ASM-000139</b>	Option: Roofing Module
<b>ASM-000136</b>	Option: CCTV Module (recommended)
<b>OS-000030</b>	Option: Optical Viewing Window

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