THEO BY MAXPHOTONICS

MA1 Series
Laser welding

Air-cooled handheld fibre laser systems for sheet metal fabrication.

MACHINES / ACCESSORIES / SPARES



MA1 Ultra / 2,000 W

MATCH THE MACHINE TO YOUR WORK

Choose from four power levels, then specify the wire feeder, tooling and laser cell around your material, joint and production volume.

Section	What you'll find	Page
Why laser welding?	In-use photographs and the benefits for sheet fabrication	02
MA1 machine range	Model comparison and stainless steel penetration figures	03
Feeders & laser-cell equipment	Single and dual wire feeding, enclosures and PPE	04
Spares & consumables	UK starter kit contents and individual part numbers	05

DISCUSS YOUR APPLICATION

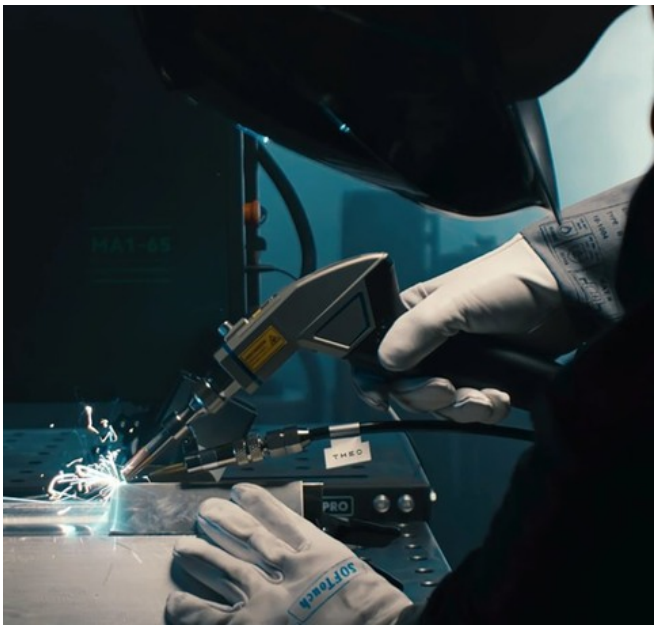
Bring a drawing or sample, with the material, thickness and joint type. Ask R H Davey about a demonstration and the right setup for your workshop.

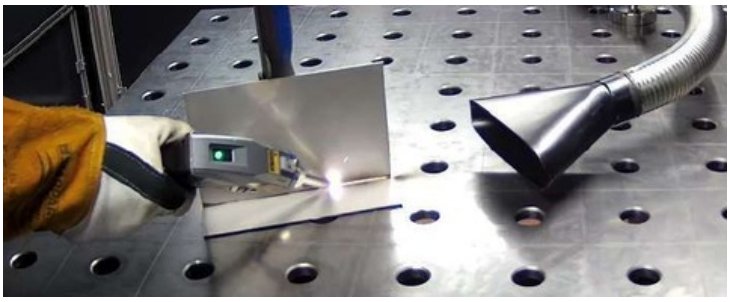
Email R H Davey

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Why handheld laser welding?

A concentrated fibre laser puts heat into a narrow seam. On well-fitted sheet-metal joints, that can mean faster welding, flatter panels and less time dressing the weld.





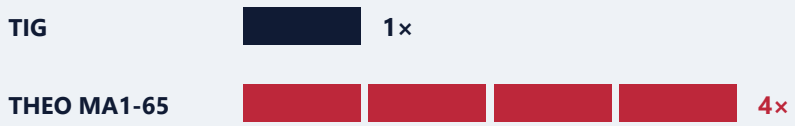


UP TO

4×

TIG welding speed

RELATIVE WELDING SPEED



THEO's published maximum for the MA1-65. Actual speed depends on material, thickness and joint fit-up.

LESS PANEL DISTORTION

Lower heat input helps keep thin sheet flatter, reducing the time spent straightening panels or correcting fit after welding.

LESS WELD DRESSING

A narrow, neat seam can cut grinding and blending time, especially on visible stainless steel corners and edges.

TRY IT ON A PART YOU ALREADY MAKE

Start with a repeat job that has consistent fit-up. Bring a drawing or sample and compare the time for fit-up, welding and finishing. Run trials in a suitable Class 4 laser-controlled area. See page 4 for cell equipment.

Ask R H Davey about a demonstration / 02380 339443

THEO MA1-65 specifications

TWI process guidance

Choose your MA1

Four air-cooled models, each with a 7-inch touchscreen. UK machine packages are available with the T1 single wire feeder.



MA1-35

800 W



MA1-45

1,200 W



MA1-65

1,500 W



MA1 Ultra

2,000 W

Model	Output	SS penetration*	Weight†	Touchscreen	Ordering ref.
MA1-35	800 W	3.5 mm	29 kg	Top	ZXMA1-35
MA1-45	1,200 W	4.5 mm	38 kg	Front	ZXMA1-45
MA1-65	1,500 W	6.5 mm	39 kg	Front	ZXMA1-65
MA1 Ultra	2,000 W	8.5 mm	42 kg	Front	ZXMA1-ULTRA

* THEO's maximum published weld penetration on stainless steel. Confirm the result on your material, joint and procedure. † Manufacturer machine weights. Confirm the supplied configuration and site power requirements before ordering.

HOW THE MODELS FIT YOUR WORK

MA1-35

The lightest model in the range. Start here for thinner sheet and small assemblies.

MA1-45

A step up in power for a workshop handling a wider mix of sheet thicknesses.

MA1-65

Choose when your work calls for more penetration than the MA1-45 can provide.

MA1 Ultra

The highest output in the range. Trial it where deeper penetration or higher throughput is the priority.

THEO model specifications **UK technical booklet**

Equip the laser cell

Specify wire feeding, guarding, extraction and personal protection around the job and the installation.



T1 SINGLE WIRE FEEDER

Four-roll feeder for the MA1. Supports 0.8, 1.0, 1.2 and 1.6 mm filler wire. Select the liner and feed components for the wire material and diameter.

TD1 WF DUAL WIRE FEEDER

Optional dual-feed setup for joints that need more filler. Supports 1.2 and 1.6 mm wire. Confirm the machine and kit configuration before ordering.

THEO feeder specifications

UK dual-feed kit ref. ZXMA1-DFK

ENCLOSURES & LASER PPE

Kyrus ref.	Footprint	Door configuration
KY-LENC-001	3 × 2 m	1.2 m hinged door
KY-LENC-001A	3 × 2 m	1.3 m sliding door
KY-LENC-002	3 × 3 m	1.2 m hinged door
KY-LENC-003	3 × 3 m	1.3 m sliding door
KY-LENC-004	4 × 3 m	1.3 m sliding door
KY-LENC-005	4 × 4 m	2 m sliding door



Ask about the enclosure layout, roof, access interlocks and extraction provision. Confirm the door and equipment specification with your quotation.

PPE reference	Option to discuss
THEO VIZ-R2	Laser welding helmet with THEO interlock integration
PL90LA	Weltek Kapio laser welding helmet
CR90LA	Weltek Kapio laser helmet with Airkos PAPR

CLASS 4 LASER EQUIPMENT

Specify a laser-controlled area with suitable beam containment and access control. Use trained operators, laser-rated eye and face protection selected for the assessed exposure, and fume extraction at source.

UK enclosure and PPE range **THEO helmet details** **HSE laser guidance** **HSE welding fume**

Spares & consumables

Quote the machine model and part number. The quantities below are the contents of the UK MA1 spares starter kit.

ZXMA1-STARTERKIT

UK kit with protective and focus lenses, torch nozzles and wire-feed service parts.

UK kit contents

Protective lens



Nozzle B



Feed rollers*

TORCH & OPTICS

Part number	Description	Qty
701601825	Protective lens	20
141500100	Focus lens	2
701601883	Nozzle connecting pipe	2
101112238	Nozzle A	10
101112239	Nozzle B	10
101112240	Flat nozzle	5
101112236	Nozzle 1	5
101112237	Nozzle 3	5

WIRE FEED & PPE

Part number	Description	Qty
101113543	Wire feed nozzle, 0.8 mm	2
101113544	Wire feed nozzle, 1.0 mm	2
101113545	Wire feed nozzle, 1.2 mm	2
101113546	Wire feed nozzle, 1.6 mm	2
103100010	Steel liner, 4 m	1
103100011	PTFE liner	1
101113452	Wire feeding arm	1
723100141	Laser safety goggles	2

*FEED ROLLERS / ORDER SEPARATELY

UK accessories booklet

Roller profile	0.8 / 1.0 mm wire	1.2 / 1.6 mm wire
V groove	709901151	701602178
U groove	709901148	709901150

Quote the model, serial number, feeder type and wire diameter. Confirm PTFE liner length and dual-feed tooling when ordering.

R H DAVEY SALES & TECHNICAL ENQUIRIES

Call 02380 339443 for machine, accessory and spare-part enquiries.
Email R H Davey