

Kemppi Mastertig MLS™ 2500 and 3500

Welding
Versatility
for
Professionals



 **KEMPPI**
The Joy of Welding

Kemppi Mastertig MLS™ 2500 and 3500 – Welding Versatility for Professionals

The Mastertig MLS™ 2500 and 3500 offer outstanding TIG performance in the most demanding welding environments. Super-efficient and compact, the Mastertig MLS™ is designed for professional welders who expect the most from their welding equipment.



CONVENIENT AND SAFE

The Mastertig MLS™ series builds on the success of Master MLS™ MMA welding machines. That means you benefit from Kemppi's strong track record in innovative welding technology.

- Micro-processor controlled IGBT DC power sources: 250 and 350 A
- Protective casing for outdoor use
- Easy-to-access controls
- Interchangeable control panels
- Efficient spark transformer for high frequency ignition with cables up to 50 m
- Wide voltage range (340-440 V) for use with power generators
- Compliance with key international safety norms and certificates

MASTER PERFORMANCE

The Mastertig MLS™ is also a trailblazer in disturbance-free welding.

- The new ICS™ (Isolated Cooling System) prevents dust and metal particles from penetrating the machine's interior. The cooling air now flows from the back of the machine forward – that is towards the point being welded. As a result, the particle content of the air is smaller than if the air flowed in the opposite direction.



Other advantages

- Effective protection against over and under voltage
- Cooling fan that runs only if necessary

PREMIUM WELD CONTROL

Mastertig MLS™ delivers excellent weld control with three interchangeable control panels. Whether TIG or MMA welding, you can choose the optimal panel for your welding needs.



CONTROLLING YOUR TIG WELD

- Choose between high-frequency (HF) ignition or contact ignition if the former causes interference in nearby equipment.
- Adjust pre- and post-gas time to protect the weld pool from oxidation.
- Preset the welding current's up-slope and down-slope time to avoid defects at the ends of the weld.

The panels' auxiliary functions can be adjusted from the setup function. (Set Up). The Set Up has four different levels and you can adjust the top level. The other levels require a Kemppi service pro.





SMART TORCHES

The new Kemppi TTC torches help you make the most of your Mastertig MLS™ TIG welding machines.



Feel the benefits

- Lightweight and ergonomic
- Flexible cable up to 16 meters
- Industry certified and reliable
- Gas or liquid-cooled model
- Integrated torch controls for optimal performance with panels

COOL WELDING

With water-cooled TIG torches, you can improve weld quality by installing a MASTERCOOL 10 water circulator. The cooling liquid unit is connected below the power source.



Dependable

- Quick connector with safety screws
- Easy-to-access controls on the power source panel
- Top reliability thanks to simple structure
- Torches against clogging or rotary pump failure

COMPACT AND PORTABLE

Moving your Mastertig machines is easy with the new **T 200 transport unit**. Designed for superior mobility and functionality, the T 200 can handle even large gas bottles and fits in most vans. A quick connection mechanism allows you to fasten the bottle safely. There is also a handy storage compartment for welding accessories.

LESS MAINTENANCE

Kemppi welding machines are built to last, and require minimal maintenance.

The Mastertig MLS™ series features

- Durable casing
- Shielded panel knobs
- Unique service channel for troubleshooting
- ICS™ technology for minimal particle intake

Kemppi TIG welding machines also include a robot connection that allows you to use the equipment as a power source for mechanical or automated welding.

THE KEMPPI PLEDGE

The Kemppi Mastertig MLS™ welding machines are manufactured in Finland according to CE directives. As part of Kemppi's commitment to welding excellence, all products and components undergo extensive testing during and after manufacture.





MTL

The MTL panel offers smart MMA and TIG welding features.

- Separate indicator lights for power connection, overheating, and power source voltage.
- A panel switch allows you to adjust the welding current with the remote control unit, the foot pedal or the panel's potentiometer. You can also control the current from the Kemppi TTC torch. The remote control unit improves work ergonomics and productivity.
- Welding current and arc voltage are shown on a clear digital display, which also indicates both the set values and the values used. For time-specific adjustments, the display shows the time in seconds (s).



MTX

The MTX panel has the same functions as the MTM panel except for the MINIOLOG function.

- The 4T LOG function is ideal for arc control. The Search Arc helps you find the exact spot where to start, while the Tail Arc fills tail craters and prevents welding faults.
- Synergic Quick Pulse TIG welding offers a high welding speed, an even run and a narrow deformation area. This is useful when welding stainless steel because of the constant risk of weld deformation and after work. The Quick Pulse function speeds up joint completion and reduces welding costs. This method is based on a set high-frequency pulsed current in which the pulse parameters are controlled synergically.
- Pulsed-TIG welding offers a similar control for the weld pool. You can use the MTX panel to set the pulse current, pulse ratio, frequency and the base current level.
- The TIG SPOT welding automatics adjusts the length of the current pulse between the slope-up and slope-down of the current. The welding current setting is based on material thickness. TIG SPOT welding reduces surface treatment costs compared with resistance welding.



MTM

The MTM panel supports quick-pulse welding, pulse welding and MINILOG interruption automatics.

- The MTM panel includes a memory block for storing adjusted values.
- With the MINILOG interruption automatics, the weld pool is controlled from the torch switch by periodically lowering the welding current below the actual level needed for welding. This innovative technology cools the weld pool and improves welding speed. The MINILOG function is selected from the switch in connection with the 2-/4-tact function. If necessary, this function can include a low-current Search Arc.
- You can reuse settings by retrieving them from the panel's memory as Set values. The memory function can be accessed from the panel, the remote control unit or the control module of the welding gun.
- Other MTM functions are a selection of MMA/TIG methods, a foot pedal control for setting current limits, gas flow testing and the TIG 2-/4-tact switch to select trigger logic.

Order Information

Mastertig 2500MLS		6114250	Earth cables					
Mastertig 3500MLS		6114350	Earth cable	16 mm ² , 5 m		6184015		
Cooling unit	MASTERCool 10	6122350	Earth cable	25 mm ² , 5 m		6184211		
Control panels	MTL	6116000	Earth cable	35 mm ² , 5 m		6184311		
	MTX	6116005	Earth cable	35 mm ² , 10 m		6184312		
	MTM	6116010	Earth cable	50 mm ² , 5 m		6184511		
Welding cables			Earth cable	50 mm ² , 10 m		6184512		
Welding cable	16 mm ² , 5m	6184005	Remote control units					
Welding cable	25 mm ² , 5m	6184201	R10 Remote control unit			6185409		
Welding cable	35 mm ² , 5m	6184301	R 11 F Foot remote control			6185407		
Welding cable	35 mm ² , 10m	6184302	Extension cable for remote control					
Welding cable	50 mm ² , 5m	6184501	Cable for remote control	10 m		6185481		
Welding cable	50 mm ² , 10m	6184502						
Tig-torches								
Length/Order number	TTC 130	TTC 130F	TTC 160	TTC 160S	TTC 220	TTC 200W	TTC 250W	TTC 250WS
4m	627013004	627013104	627016004	627016204	627022004	627020504	627025504	627025704
8m	627013008	627013108	627016008	627016208	627022008	627020508	627025508	627025708
16m	627013016	627013116	627016016	627016216	627022016	627020516	627025516	627025716
Transport units								
Transport unit T200		6185258						

Technical data: MASTERTIG MLS™ 2500**MLS™3500**

Mains voltage	3~50/60 Hz	380V -10%...415V +6%	380V -10%...415V +6%
Rated power	30% ED TIG	300 A	400 A
	60% ED TIG	205 A	285 A
	100% ED TIG	160 A	220 A
Connection cable / fuse delayed		4 x 1.5S - 5m / 10 A	4 x 2.5S - 5m / 16 A
Welding current	TIG	5 A / 10.0 V...300 A / 22.0 V	5 A / 10.0 V...400 A / 26.0 V
Max. welding voltage		36.0 V / 250 A	45.0 V / 350 A
Electrode sizes to be welded		Ø1.5...5.0 mm	Ø1.5...6.0 mm
Welding current control		stepless	stepless
Open circuit voltage		80 V	80 V
Efficiency		86% (250 A / 30.0 V)	86% (350 A / 34.0 V)
Power factor		0.95 (250 A / 30.0 V)	0.95 (350 A / 34.0 V)
Open circuit power		approx. 10 W	approx. 10 W
Storage temperature range		-40...+60 °C	-40...+60 °C
Operation temperature range		-20...+60 °C	-20...+60 °C
Temperature class		H(180 °C) / B(130 °C)	H(180 °C) / B(130 °C)
Degree of protection		IP 23C	IP 23C
External dimensions (mm)	L x W x H	500 x 180 x 390 (650)	500 x 180 x 390 (650)
		(TIG power source+cooling unit)	(TIG power source+cooling unit)
Weight	TIG power source	22 kg	23 kg
Cooling unit			
Connection voltage		380 V -10%...415 V +6% 50/60 Hz	
Connection power	100 %ED	250 VA	
Cooling capacity		1.05 kW	
Start pressure, max.		4.5 bar	
Cooling liquid		20 % - 40% glycol-water	
Tank volume		abt. 3 l	
Overall dimensions (mm)	L x W x H	500 x 180 x 260	
Weight		10 kg	
"S" marking, "CE" marking			

 **KEMPPI**
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Kemppi Oy
P.O. Box 13
FIN-15801 LAHTI
FINLAND
Tel. +358 3 899 11
Telefax +358 3 899 428
www.kemppi.com

Kemppi (U.K) Ltd.
4-6 Sergeants Way
Elms Industrial Estate
BEDFORD, MK 41 0EH
ENGLAND
Tel. +44 1234 213 581
Telefax +44 1234 215 128
www.kemppi.com

**Kemppi Welding Machines
Australia Pty Ltd**
P.O. Box 404 (2/58 Lancaster Street)
INGLEBURN NSW 2565
AUSTRALIA
Tel. +61 2 9605 9500
Telefax +61 2 9605 5999
www.kemppi.com

