

WELDCONN

— WELD WITH CONFIDENCE. EVERY TIME —

TransMig-500i

Workhorse - Ideal for Heavy -duty Steel Welding

High performance, Simple Operation & Intelligent Fabrication





Quick specs

Trans Mig	Trans Mig-500i	Trans Mig-650i
Input voltage	3PH-400V±15%	3PH-400V±15%
Rated output(40°C) 60%	500A/39V	650A/44V
Cooling system	Air-cooled	Air-cooled
Gas	CO ₂ /MAG	CO ₂ /MAG

Equipment

Operational method

At the power source	●
At the wire feeder	●
At the remote control	○
At the torch	○
Available metal material	
Carbon steel	●
Stainless steel	○

Welding process

Solid wires (GMAW)	●
Solid wires (GMAW-P)	●
Flux-cored (FCAW)	●
Metal-cored (MCAW)	●
Air carbon arc cutting & gouging (CAC-A)	●
Stick (SMAW)	●
● Standard options ○ Optionally available	

Advanced processes package

Process	Trans mig 500i	Trans mig 650i
HSP (high speed pulse)	●	●
HSA (high speed spray arc)	○	○
HPC (hybrid pulse control)	○	○
ULS (ultra low spatter)	/	/
Short Arc (refined dip transfer)	●	●
TIG	○	○
MMA	○	○
Gouging	●	●

● Standard options ○ Optionally available

Advantages of the processes	HSP	UCA	HSA	Short Arc	Pulse Arc
Less weld reinforcement	★★★★☆	★★★★☆	★★★★★	★★☆☆☆	★★★★☆☆
Higher wire deposition rate	★★★★☆	★★★★☆	★★★★★	★★☆☆☆	★★★★☆☆
Deeper penetration (depth)	★★★★☆	★★★★☆	★★★★★	★★☆☆☆	★★★★☆☆
Lower heat input	★★★★☆	★★★★☆	★★★★★	★★☆☆☆	★★★★☆
Arc force	★★★★☆	★★★★☆	★★★★★	★★☆☆☆	★★★★☆
Arc rigidity	★★★★☆	★★★★☆	★★★★★	★★☆☆☆	★★★★☆
Reduced spatters	★★★★★	★★★★★	★★★★★	★★☆☆☆	★★★★★
Reduced undercut	★★★★☆	★★★★☆	★★★★★	★★☆☆☆	★★★★☆
Suitable for thin plates < 3mm	NO	NO	NO	YES	REGULAR

Applications					
Unalloyed and low alloy steels	YES	YES	YES	YES	YES
High alloy steels	YES	YES	YES	NO	YES
Fine grained high strength steels	YES	YES	YES	NO	YES
Aluminum	YES	YES	YES	NO	YES
Copper	YES	YES	NO	NO	YES

- * HSP: more droplets in one duty cycle, faster speed
- * UCA: highly concentrated arc suitable for root welding
- * HSA: highly concentrated arc delivers deeper penetration and narrower HAZ
- * Pulse Arc: pulsed arc with controlled energy and low spatters
- * Short Arc: refined dip transfer for steel with less spatter and increased deposition rate
- * HPC: hybrid control of pulse and refined dip transfer for all-position welding

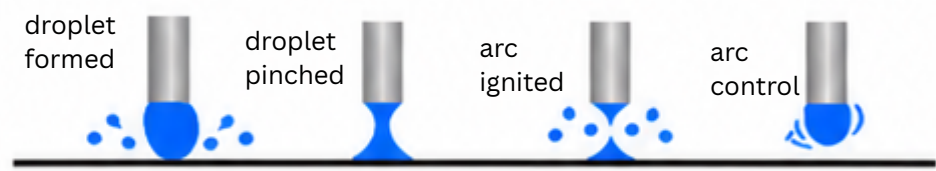
High Performance for steel Welding

Equipped with **refined dip transfer** as well as **high-energy pulse and spray arc**, the TransMig-500i Series is able to provide solutions for **all medium and thick-sheet steel welding**. With **superior function and performance** but **less cost**, it is the most cost-effective choice for steel welding production use.

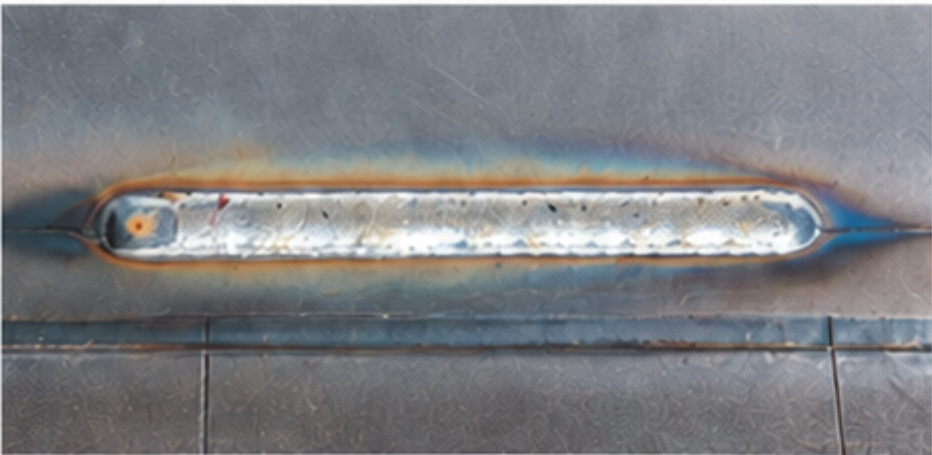
Refined Dip Transfer

- Highly efficient dip transfer arc with refined waveform;
 - Suppress the spatter during short-circuit transition;
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 - Suppress the spatter during short-circuit transition;

Standard Dip Transfer



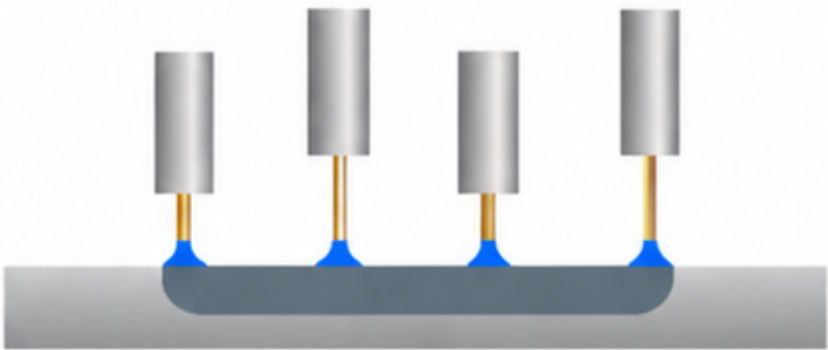
Refined Dip Transfer



Improved Arc Length Controls

The extension self-adjusting function maintains the stability of the same short arc length, enabling constant and regular short circuits, despite the change in the welding torch position, changing sheet thicknesses, or material misalignment.

Benefiting from the wire feed control, the penetration stays stable and constant even in spite of the extension fluctuations.

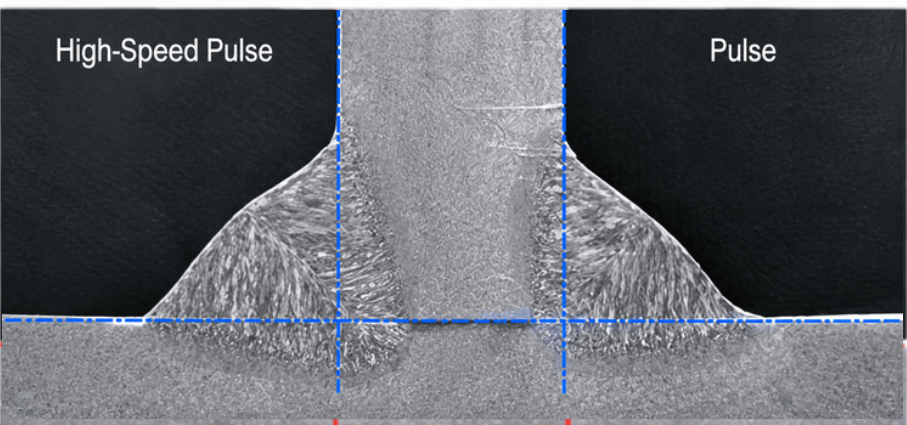
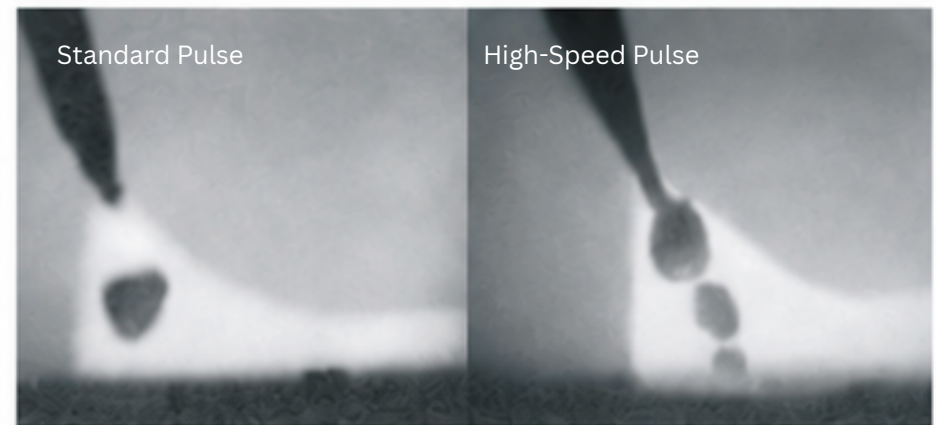


High-energy Arc for Steel Welding

Aside from refined dip transfer, the TransMig-500i Series is equipped with two **complimentary** advanced MIG/MAG welding processes, including **HSP and HSA as a plus**, which allows more complicated problems to be solved as well as better welding results to be delivered.

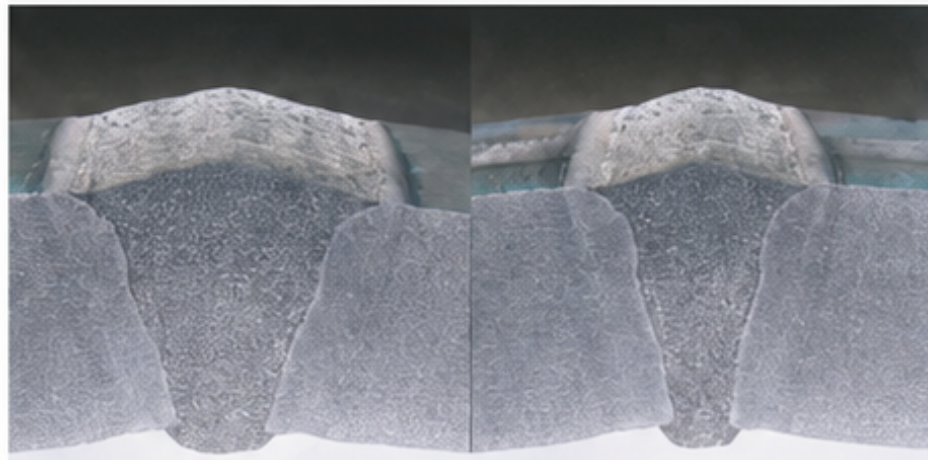
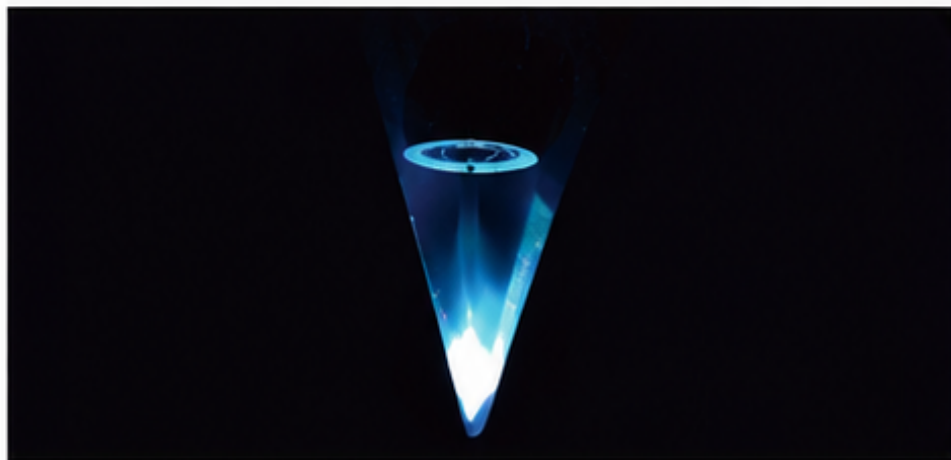
HSP (High Speed Pulse) - Ultra High Deposition Rate

Compared to a standard pulse process, the HSP extends its transition to a virtually flowing material transition to the work pieces, which **boosts deposition rates by 35%** while ensuring smooth, spatter-free seams. It helps users to save time, money, and resource as no reworks are required.



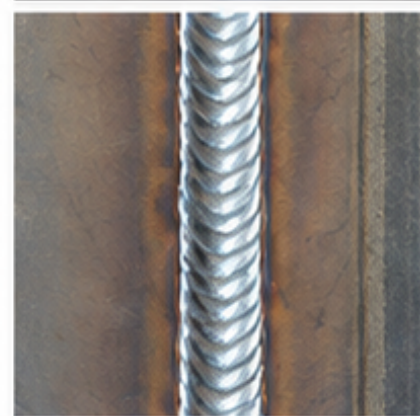
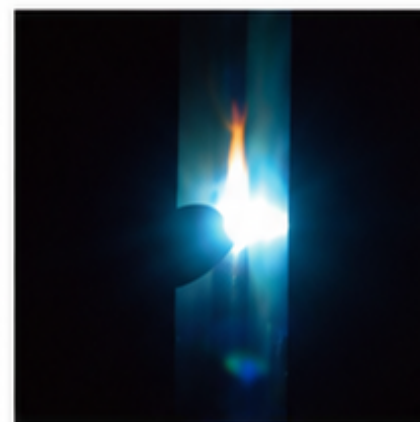
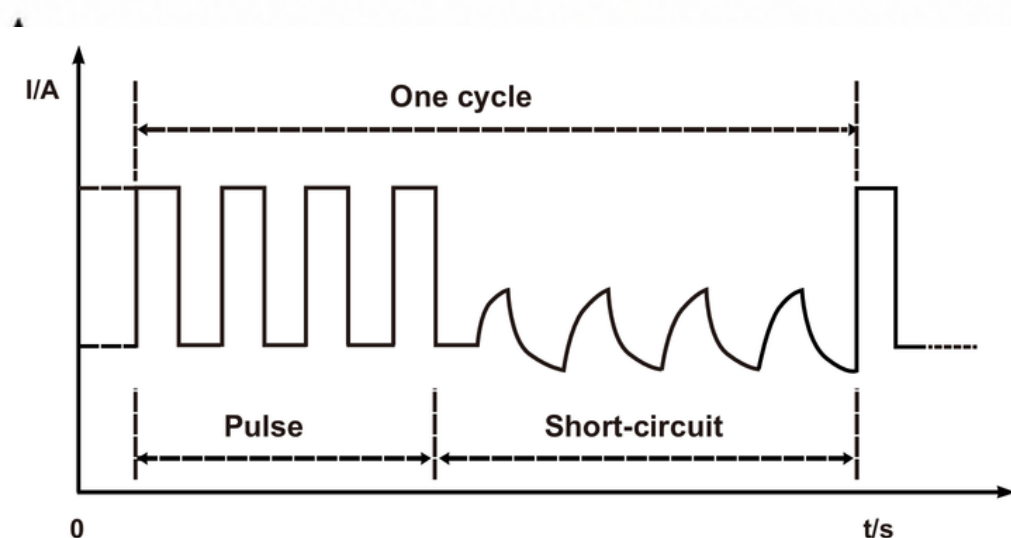
HSA (High Speed Spray Arc)—Superior Directional Property

With a highly concentrated and extremely stable arc in high density, the HSA process delivers spatter-free weld seams, deeper penetration, and narrower heating-affected zones. It is also possible to weld at small opening angles with the high directional property. Its welding speed is more than 30% faster than conventional MIG or MAG welding.



HPC (Hybrid Pulse Control)—Excellent in All-Position Welding

HPC—Hybrid Pulse Control is an advanced hybrid process that integrates pulse and short-circuit transfer methods. By alternating between these two modes, the molten pool is heated and cooled periodically, creating a distinct "fish-scale" ripple pattern. The frequency and duty cycle can be precisely fine-tuned to shape the bead appearance as required. This exceptional puddle control makes HPC ideal for all-position welding, particularly for challenging vertical-up applications



The specialty of HPC-Vertical Up lies in two processes: one is to **heat up** the material with high energy, and another is to steeply **lower the heat** to contribute to the well-formation of seams within a short time.

It ensures a reliable penetration, precisely sized weld fillings, and a near-optimal throat thickness and is faster and easier than the conventional "X-Mas tree"

Also Good For Stainless Steel Welding

With the advanced welding processes equipped, the TransMig-500i Series is not only a great mate for mild steel welding, but also good for stainless steel welding.

The TransMig-500i single/double pulse technology optimizes welding results by precisely controlling heat input while maintaining metal fluidity, minimizing total heat input as much as possible to ensure excellent welding quality and preserve the original properties and mechanical structure of the base material.



Easy To Use

Simple Operation



3 Steps to Achieve Weld Perfection

1. Select Processes—List No.
 2. Adjust welding current.
 3. Save it into JOBS.
- (Always the perfect setting by the synergic function using the material thickness)

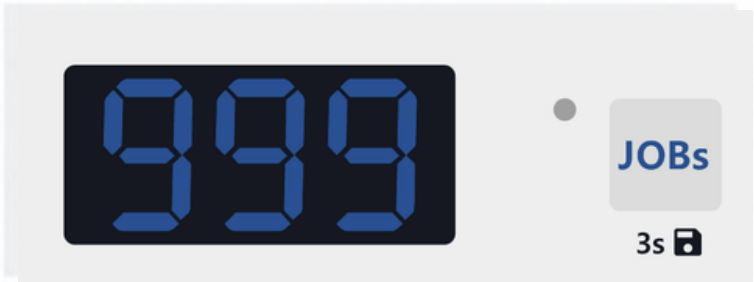
Processes-list							
	Material	Process	Gas	Wire			
				0.8	1.0	1.2	1.6
M.S.	Flux Cored	Short Arc	100%CO ₂	/	/	103	104
	Solid wires	Short Arc	100%CO ₂	201	202	203	204
			82%Ar 18%CO ₂	211	212	213	214
		HSP	82%Ar 18%CO ₂	/	302	303	/
		HSA		/	312	313	/
		UCA		/	322	323	/
		HPC		/	332	333	/
S.S.	ER308L (X2CrNi189)	HSP	98%Ar 2%CO ₂	/	402	403	/
		UCA		/	412	413	/

Synergy Control With Processes-list

The Processes-list display is easily and intuitively controlled through its graphical user interface. We assembled the perfect welding curve in every Process-No. to help the users choose the best welding process for carbon steels, aluminum alloys and stainless steel. Operation is easier than ever before.

Memory Storage Function

Users will have a variety of welding needs and hope to set the most suitable welding parameters for different materials and workpieces. The TransMig-500i Series has a memory storage function, up to 999 independent welding tasks (jobs), to maintain/save different welding operation parameters. Select and quickly restore previous settings with one click, making operation simpler and more efficient



Flexible Control Methods

You can regulate the machine at the standard wire feeder, the optional remote control or the digital torch.



Optional Compact Wire Feeder With Detachable Control Panel

- A lighter and compact wire feeder is easy and convenient to be carried around in heady-duty working environments.
- Super durability comes from an enhanced protective design
- Simply operate the machine and set the parameters on the full-function wire feeder control panel
- Detachable remote control on the wire feeder; all operations are in hand.



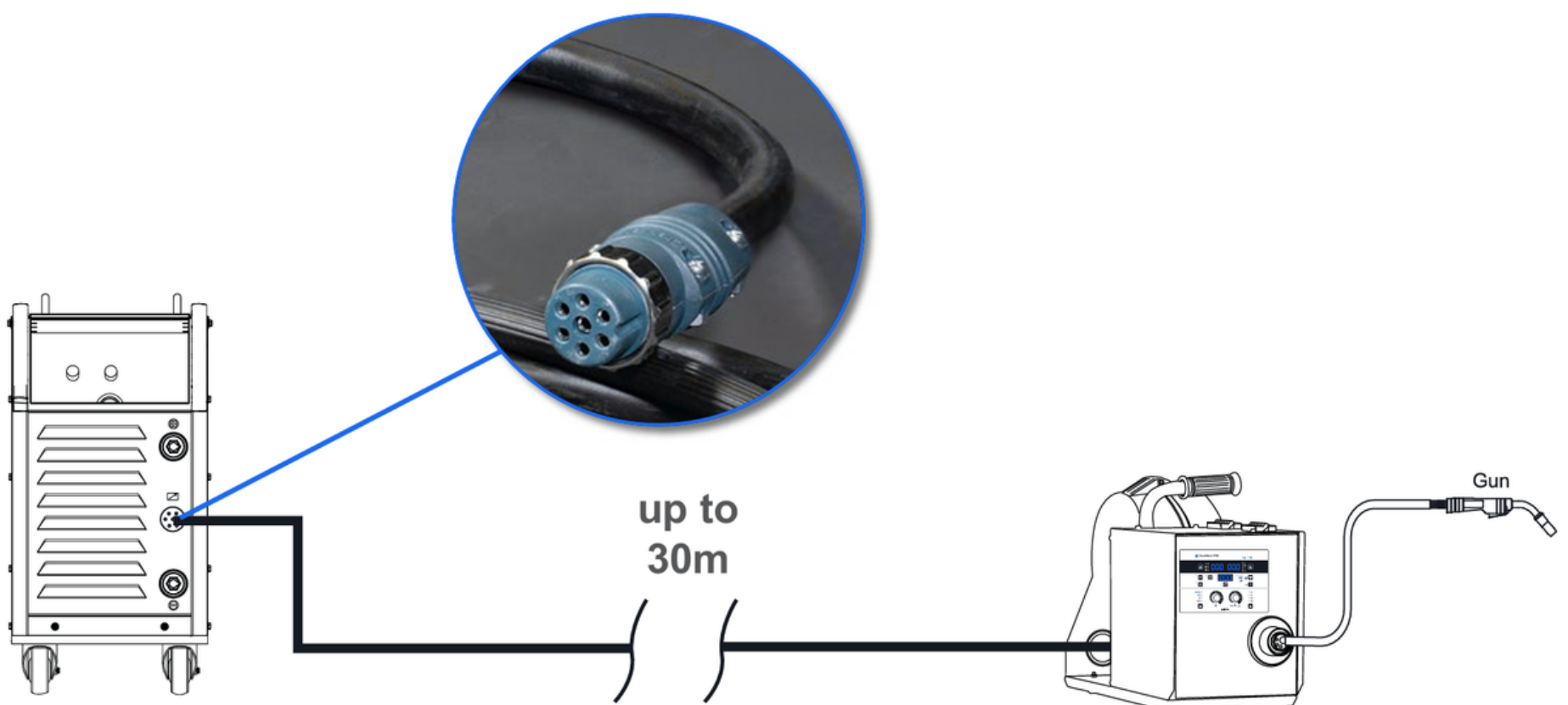
Ultra-long Distance Welding with Precise and Stable Arc Control

Ultra-long Cable Loop Compensation

Regardless of working distance and long cable loop (up to 30 meters), the TransMig-500i series maintains its high stability and performance thanks to the intelligent compensation function.

Reliable and Durable Intermediate Cable Kit

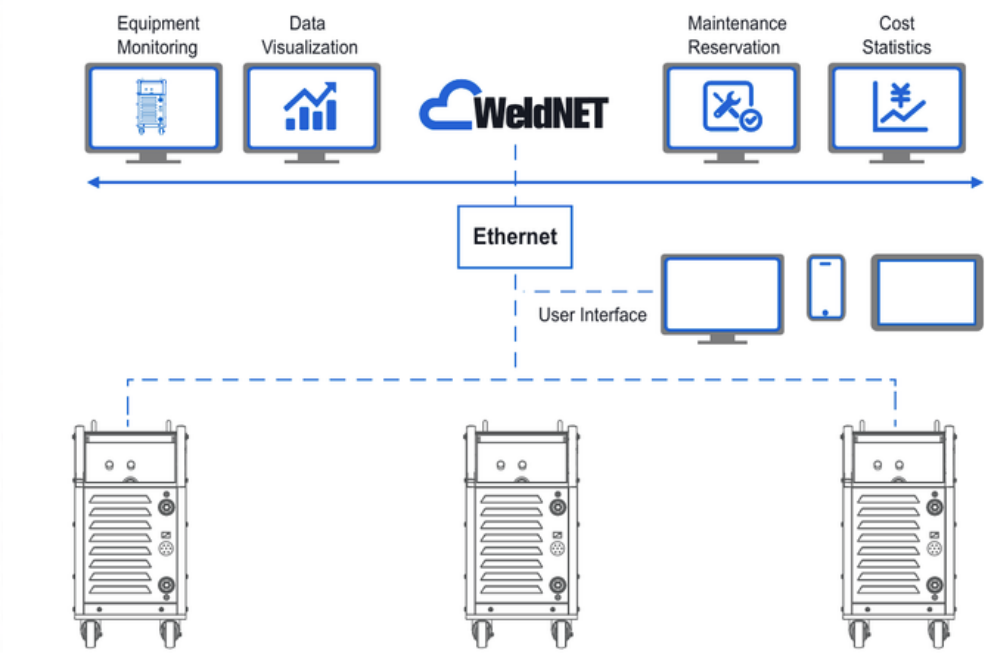
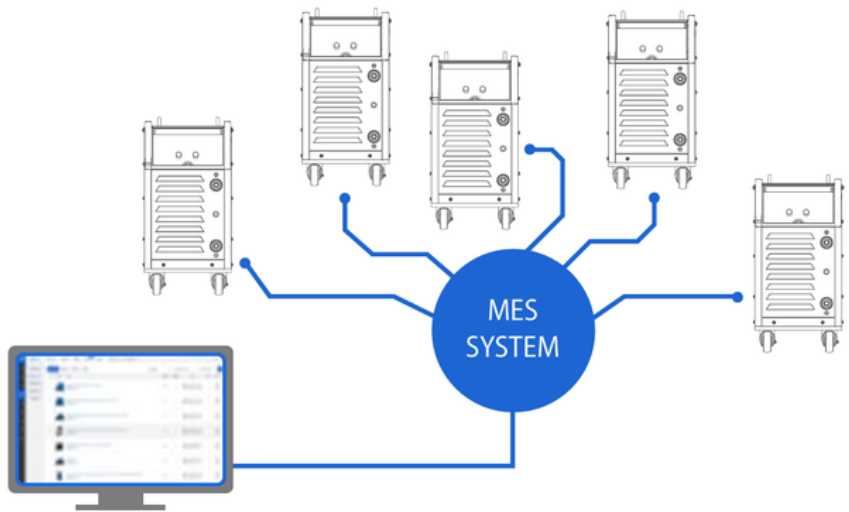
The Intermediate cable kit (7 Pins only) connecting the main machine and the wire feeder is wrapped in thick rubber, which not only meets the needs for efficient communication, allowing for more precise control, but also helps reduce the occurrence of malfunctions



Ready For intelligent Fabrication

MES and WeldNET Accessible

TransMig-500i series is equipped with active user management and assigned NFC keys to set protection and permissions for parameter adjustment. It can also choose to connect to the MES system, which is more suitable for modern production data management



By connecting to **Weldconn’s WeldNET**, you can pre-control the parameters, monitor the process in real time, and trace the quality, thanks to the equipment, production, and process management modules. Meanwhile, your productivity and quality are boosted with analytic and statistical tools. It unleashes the potential of your future welding production.

Robot Welding Accessible

Robot interfaces are inserted via digital port (EtherNet/IP, DeviceNet, CAN, CANOPEN, RJ485,etc.) with built-in communication protocols. No additional external communication modules are needed



Specification

Item No	TransMig-500i	TransMig-650i
Mains voltage(V)	3PH~400V±15% (50/60Hz)	3PH~400V±15% (50/60Hz)
Max. load power capacity	25.18KVA	30.1KVA
Output range	30A/15.5V~500A/39V	30A/15.5V~650A/44V
Rated duty cycle at 40°C (105°F): 60%	500A/39V	650A/44V
Rated duty cycle at 40°C (105°F): 100%	400A/31.5V	500A/39V
Open circuit voltage	70V~82V	70V~85V
Power factor	0.87	0.87
Efficiency	89%	89%
Wire feed unit	4 rollers	4 rollers
Wire feed speed range	0~25m/min	0~25m/min
Wire spool capacity	300mm (15~20KG)	300mm (15~20KG)
Wires ϕ (mm): Fe	0.8~1.6mm	0.8~1.6mm
Wires ϕ (mm): Flux-cored	1.0~1.6mm	1.0~2.0mm
Dimension (L x W x H): Machine	655x300x620mm	655x300x620mm
Dimension (L x W x H): Wire feeder	660x280x400mm	660x280x400mm
Net weight : Machine	50KG	55KG
Net weight : Wire feeder	15KG	15KG

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