



# APOLLO MATRIX MIG SERIES 350P & 500P



Introducing the revolutionary Thermamax APOLLO MATRIX MIG Series, the ultimate welding solution for professionals seeking unmatched power, versatility, and cutting-edge technology. With its synergic multi-process pulse welding inverters, this series sets a new standard in welding excellence. Discover how the APOLLO MATRIX MIG Series can transform your welding experience and elevate your craftsmanship to new heights.

### Unleash the Power of Synergic Pulse Technology

Experience the future of welding with the APOLLO MATRIX MIG Series and its groundbreaking synergic pulse technology. Pulse welding, characterized by alternating high and low currents, offers a host of advantages that will revolutionize your work. By harnessing high peak currents, these machines enable deeper, more penetrating welds, while the controlled cooling provided by low currents keeps your materials cooler, reducing the risk of distortion.



#### INCLUDES:

- Trafimet Water-Cooled MIG Torch
- Wire Feeder
- Water Cooler
- Earth Cable
- Interconnecting Cable
- Trolley
- Flowmeter
- Auto-darkening helmet





# MATRIX MIG MATRIX SERIES 350P & 500P

## Enhanced Safety and Quality

Safety is paramount, and that's why the APOLLO MATRIX MIG Series is TÜV certified and conforms to the IEC60974 international safety standard. Weld with confidence, knowing that these machines meet the highest safety requirements. Additionally, the reduced heat input of pulsed MIG welding results in less spatter, fewer welding fumes, and improved resistance to a lack of fusion. This means cleaner, stronger welds and a safer working environment.

## Complete Package for Ultimate Convenience

The APOLLO MATRIX MIG Series comes fully equipped with everything you need to get started. With a Trafimet water-cooled torch, wire feeder, water cooler, trolley, flowmeter, and auto-darkening helmet included, you have all the essential accessories at your fingertips. No more searching for compatible components - everything is conveniently bundled together for your convenience.

## Unmatched Quality and Compliance

When it comes to quality and compliance, the APOLLO MATRIX MIG Series leaves no room for compromise. These machines are not only ROHS compliant but also hold CE, CCC, ISO, and TUV certifications. This ensures that they meet the highest industry standards, delivering exceptional performance, durability, and peace of mind.

Elevate your welding game with the Thermamax APOLLO MATRIX MIG Series. Embrace the power of synergic pulse technology, experience unparalleled precision, and enjoy the convenience of a complete package. With its commitment to safety, quality, and compliance, this series is the ultimate choice for welders who demand excellence. Upgrade your welding capabilities today and unlock a world of possibilities with the APOLLO MATRIX MIG Series.





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## FEATURES



### ARC FORCE TECHNOLOGY:

Arc force technology compensates for the temporary increase of the output current during welding, when the current is too short.



### PULSE MIG WELDING TECHNOLOGY:

Efficiently delivers identical weld droplets by alternating between a high and a low current..



### ADVANCED IGBT INVERTER & DIGITAL CONTROL TECHNOLOGY



### HOT START:

Hot start delivers a peak of current when striking the arc, ensuring a smoother start and better fusion especially in difficult welding circumstances.



### DC OUTPUT



### POWER GRID ADAPTABILITY:

Input voltage AC 380 +/- 20% 50Hz. These machines are suitable for unstable networks.



### 3-PHASE



### CC/CV:

Constant Current (CC) and Constant Voltage (CV). Multi-process machine capable of both MMA (ARC) and MIG/MAG welding.



### SYNERGIC CONTROL FUNCTION:

By adjusting a single setting (e.g. Voltage), the remaining parameters (i.e. Wire Feed Speed) are automatically adjusted to the optimal setting.



### ON-DEMAND FAN AIR-COOLING



### ON-DEMAND WATER-COOLING



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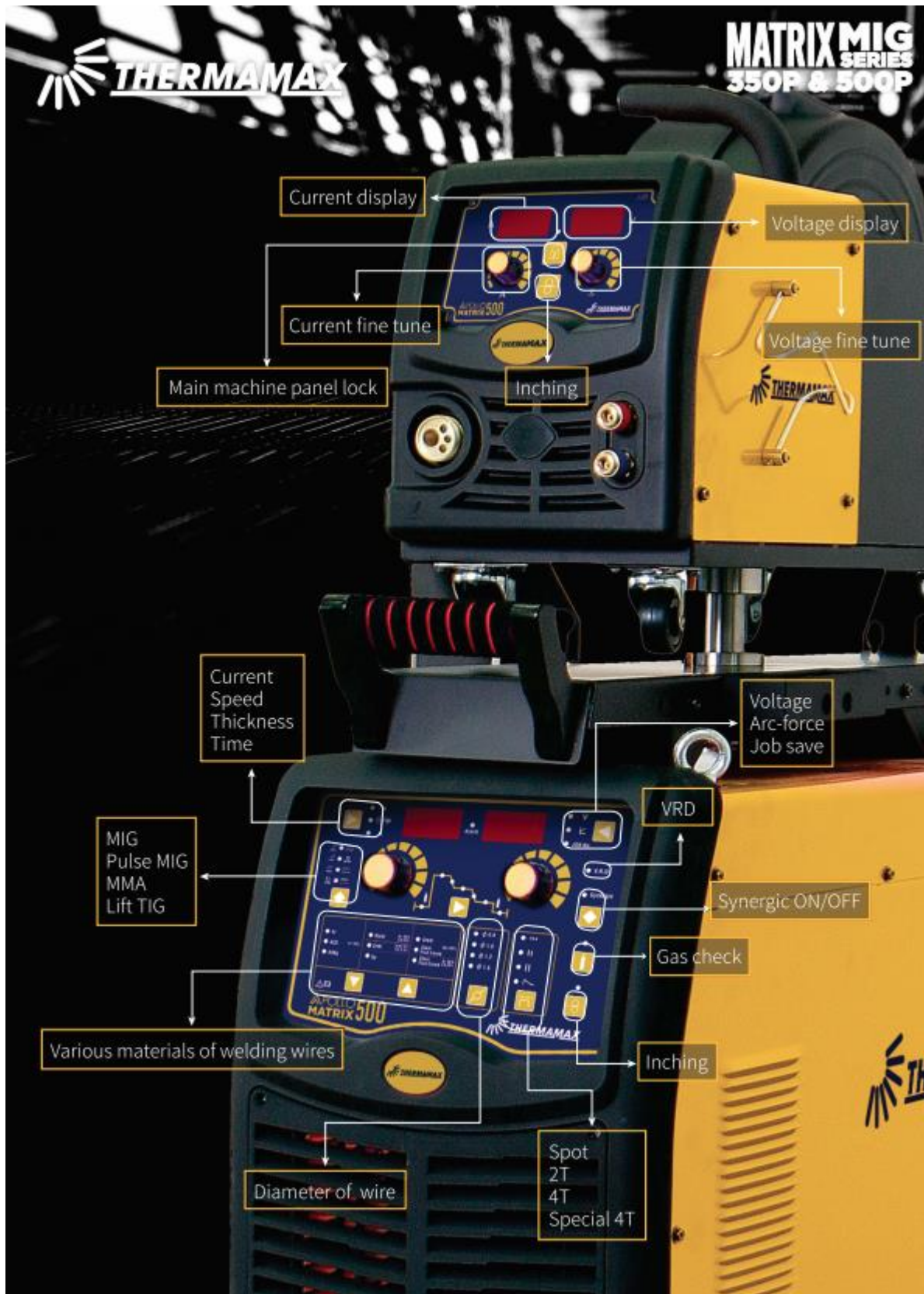
## SPECIFICATIONS

| Model                | Matrix MIG 500P              | Matrix MIG 350P          |            |  |
|----------------------|------------------------------|--------------------------|------------|--|
| Input                | Power supply                 | 3Phase AC380V±20% 50Hz   |            |  |
|                      | Rated input (KVA)            | 33.3                     | 13.67      |  |
|                      | Power factor                 | 0.9                      | 0.89       |  |
| Output               | Rated OCV (V)                | 86                       | 86         |  |
|                      | V.R.D                        | √                        | √          |  |
|                      | MMA, TIG Rated VRD (V)       | 15                       | 15         |  |
|                      | MIG rated max output (A/V)   | 500A/39V                 | 350A/31.5V |  |
|                      | MMA rated max output (A/V)   | 500A/40V                 | 350A/34V   |  |
|                      | TIG rated max output (A/V)   | 500A/30V                 | 350A/24V   |  |
|                      | Welding voltage (V)          | 10-50                    | 10-42      |  |
|                      | Welding current (A)          | 30-500                   | 30-350     |  |
|                      | Wire feed speed (m/min)      | 1.5-23.0                 | 1.5-23.0   |  |
|                      | Regulator heater voltage (V) | AC36                     |            |  |
|                      | Output characteristics       | MMA&TIG:CC MIG/MAG:CV    |            |  |
|                      | Environment                  | Working temperature (°C) | -10~+40    |  |
|                      |                              | Storage temperature (°C) | -25~+55    |  |
| IP class             |                              | IP23                     |            |  |
| Cooling type         |                              | Air-cooled               | Air-cooled |  |
| Rated duty cycle (%) | 50                           | 60                       |            |  |
| Efficiency (%)       | 91                           | 90                       |            |  |
| Insulation grade     | F                            | F                        |            |  |
| Dimension (L×W×H mm) | 785×330×666                  | 630×300×540              |            |  |
| Weight (kg)          | 59                           | 45                       |            |  |





# MATRIX MIG SERIES 350P & 500P



Current display

Voltage display

Current fine tune

Voltage fine tune

Main machine panel lock

Inching

Current  
Speed  
Thickness  
Time

Voltage  
Arc-force  
Job save

MIG  
Pulse MIG  
MMA  
Lift TIG

VRD

Synergic ON/OFF

Gas check

Various materials of welding wires

Inching

Diameter of wire

Spot  
2T  
4T  
Special 4T



**MATRIX MIG  
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# SYNERGIC PULSE MIG WELDING

Pulse welding is a form of welding in which the current is pulsed i.e. it alternates between a high and low current. The welding is performed by the peak (high) current while controlled cooling is enabled by the low current. Although you will have a high peak current that allows more penetrating welds, you will have a lower average current with pulse welding, which will keep the material cooler.

## **Unparalleled Precision and Efficiency**

With the pulsed MIG process, each pulse forms a droplet of molten metal at the electrode's end, precisely controlled to push the droplet across the arc and into the weld puddle. This controlled transfer, occurring droplet by droplet, ensures impeccable precision and efficiency. Pulsed MIG drops the current at times when extra power is not needed, therefore cooling off the process. It is this "cooling off" period that allows pulsed MIG to weld better on thin materials, control distortion and run at lower wire feed speeds. Say goodbye to inconsistent welds and hello to flawless results.

In out-of-position welding, pulse welding aids in the condensing activity of the weld, meaning that the molten metal is prevented from splashing out of the joint by the background cycle. It also allows for the same wire diameter to be used across a number of different applications due to its ability to extend the low-end and high-end current range.

Because the overall heat input is decreased, there is less spatter, less welding fumes and a greater resistance to a lack of fusion. The benefit of this is that you can weld both high heat conductive and thinner metals without burning them. Additionally, you can accomplish narrower and more penetrating welds on thicker metals with this type of welding.

Pulse welding can also help achieve the same weld penetration as the other variants of welding with less heat and power. Not only does this save energy and use less material, but it also prevents the material from getting warped due to the welding process. Another reason to use pulse welding is that it makes easier for you to create a reliable and more uniform weld. This improves the overall quality and appearance of the weld.

## **Versatility for Every Application**

The APOLLO MATRIX MIG Series empowers you to tackle a wide range of welding applications with ease. Its synergic operation automatically adjusts the waveshape and frequency as you adjust the wire feed speed, simplifying the process for welders of all skill levels. Whether you're working with thin materials or thicker metals, these machines deliver exceptional performance, allowing you to achieve the same level of penetration as other welding techniques while using less heat and power.

[www.uniquewelding.co.za](http://www.uniquewelding.co.za)

## EXCELLENT WELDING PERFORMANCE



### - One Pulse, One Droplet

High-Precision Waveform Management  
Consistent Pulse Output  
Unified and Stable Droplet Formation



### - Solid Weld

Strong Penetration  
Consistent Arcing and Crater Formation (Reduced Ball Formation on Wire Tips)



