WELDING TOP GUN SUPPLIES

# SYN SERIES

## SYNERGIC PULSE MIG WELDING MACHINES

**2000 SYN**
**2500 SYN**
**3500 SYN**


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# SYNERGIC PULSE MIG WELDING

The future is here today with the arrival of the newest addition to Top Gun's comprehensive range: Synergic Pulse MIG Welding Equipment. Set to transform the growing automotive, Aluminium/Stainless Steel fabrication and repair/maintenance sectors, the SYN series is a complete range of high-technology digital microprocessor controlled Synergic Pulse MIG Welding Equipment. This state-of-the-art technology is designed to meet the rigorous demands of a wide range of welding applications, including:

- General aluminium, stainless steel and carbon steel fabrication
- Boat building
- Automotive components and repairs
- Railcar manufacturing
- Custom job shops


# FEATURE PACKED

The Top Gun SYN Series offers a vast array of features, including:

- Multi-Process, GMAW-Conventional (MIG);
- Synergic non-pulse; Synergic Pulse; DualPulse, GTAW, MMAW and CAG
- Huge list of synergic non-pulse/ synergic pulse programs in each model.
- Multiple independent, user-defined, frequently used welding job presets.
- MIG DualPulse, providing effortless TIG-like weld appearance.
- Programmable scratch-start TIG
- Single Touch Control, set the material thickness, then start welding.
- Manual MIG mode, enables 2-knob conventional welding controls.
- User-friendly controls.

# INVERTER TECHNOLOGY

The inverter technology lowers the power consumption while generating the same output power, consequently reducing energy costs.

# SINGLE TOUCH CONTROL

## AT YOUR FINGERTIPS

Selecting a welding machine for a specialised project – or even for general welding requirements – can be a daunting task. You have to take many factors into account, such as running costs, ease of use, versatility and mobility, not to mention machine cost. Always at the forefront of your mind is the awareness that your profitability is based on weld quality, weld repeatability, power consumption, equipment flexibility, workforce flexibility, negligible rework and minimal weld clean up.

Our intelligent Single Touch Control delivers the perfect welding parameters for both synergic non-pulse welding and synergic pulse welding over a wide range of different gas/wire/material thickness combinations. And now setting the optimum welding conditions is as simple as selecting the material thickness.

### HOW DOES IT WORK?

In synergic non-pulse MIG mode the One Touch Control links the wire feed speed to the arc voltage eliminating the guesswork to achieve the optimum welding parameters.

When synergic pulse mode is selected, the Auto Control adjusts all the pulse parameters – such as pulse height, pulse width, pulse frequency, background power and wire feed speed – via the micro-processor, giving you the perfect pulse welding performance.

# WHAT IS SYNERGIC PULSE MIG WELDING?

Synergic Pulse MIG Welding links the pulse welding parameters to the wire feed speed to achieve optimum welding conditions across the full range of wire feed speed for a given wire size.

- The welding pulse profile is a combination of pulse height, pulse width, pulse frequency and background power – all these parameters are linked via the micro-processor to give the correct arc energy.
- This arc energy is then matched to a wire feed speed that gives an acceptable arc length and the best welding conditions for the chosen gas mixture, wire diameter and material type combination.
- The synergic Single Touch Control knob adjusts the arc energy over the available current range of the power source, while maintaining approximately the same arc length. An additional choke knob is also provided to allow the user to tune in the arc length for the particular welding job.
- Pulsed weld current facilitates exact control over the transfer of molten metal droplets across the welding arc.
- As the weld current is pulsed, each droplet is forced off the end of the wire and projected across the arc into the weld pool. Varying the pulse height and frequency allows the size and time of the transferring droplet to be accurately controlled.
- The pulsed droplet transfer produces a spray-like arc over the entire current range, with a smooth, stable weld current producing no spatter and an even weld bead shape.

### PERFECT STARTS

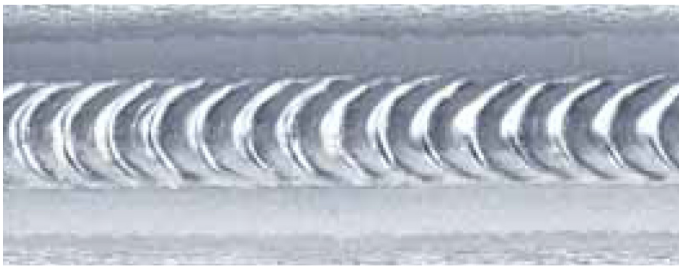
An amplified power level is applied to the welding arc at the beginning of the weld bead to ensure that start defects are a thing of the past.

### NO MORE SPATTER

Micro-processor control of wire speed, weld current and voltage, in conjunction with synergic (non-pulse)/synergic pulse programs, ensures precise control and adjustment for the duration of the welding process. This eliminates spatter, and downtime for cleaning the workpiece. With its ability to adjust in milliseconds, the synergic SYN series provides clean, spatter-free operation from start to finish, every single time.

### INTELLIGENT PULSING

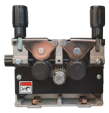
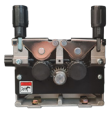
Droplets of molten filler metal are transferred across the arc by expertly tailored current pulse parameters – to achieve spatter-free welding for the selected gas/wire/material combination. The pulse forces the droplet off the end of the wire, transfers it across the arc and into the weld pool. The program is optimised to vary the pulse height and frequency, thus ensuring that the size and time of the transferring droplet is accurately controlled. This produces a spray-like arc over the entire welding power range.



# SPECIFICATIONS

| | 2000 SYN | 2500 SYN | 3500 SYN |
|---|---|---|---|
| Input Voltage (V) | 240 A/C | | 415 A/C |
| Frequency (Hz) | 50/60 Hz | | |
| Output Current Range (A) | 40 - 200A MIG | 40 - 250A MIG | 40 - 350A MIG |
| Rated Duty Cycle (%) | | 30% @ 250A | 30% @ 350A |
| | 60% @ 200A | | 60% @ 248A |
| | 100% @ 155A | 100% @ 137A | 100% @ 192A |
| Wire Sizes | 0.8 - 1.2mm | 0.8 - 1.2mm | 0.8 - 1.2mm |
| Machine Weight | 15.6 Kg | 31.5 Kg | 44.2 Kg |
| Machine Dimensions(mm) | 460 x 215 x 375 | 600 x 500 x 270 | 820 x 510 x 800 |
| Package weight | 21 Kg | 52 Kg | 64 Kg |
| Package Dimensions | 520 x 290 x 460 | 745 x 650 x 420 | 745 x 440 x 920 |
| Warranty | 3 Years | | |

# WHATS IN THE BOX

| | | | |
|---|---|---|---|
| User Manual | ✓ | ✓ | ✓ |
| Wire Feeder |  2 Roller System |  4 Roller System |  4 Roller System |
| Hand Piece |  3MTR MB24 Euro-Fit Mig Torch |  4MTR MB24 Euro-Fit Mig Torch |  4MTR MB36 Euro-Fit Mig Torch |
| Earth Lead |  4MTR Earth Lead with Clamp |  4MTR Earth Lead with Clamp |  4MTR Earth Lead with Clamp |
| Electrode Holder |  2MTR Electrode Lead with Electrode Holder |  2MTR Electrode Lead with Electrode Holder |  2MTR Electrode Lead with Electrode Holder |
| Roller Sets |  0.8mm - 0.9mm “V” Steel Rollers  1.0mm - 1.2mm “U” Aluminium Rollers |  0.8mm - 0.9mm “V” Steel Rollers  1.0mm - 1.2mm “U” Aluminium Rollers |  0.8mm - 0.9mm “V” Steel Rollers  1.0mm - 1.2mm “U” Aluminium Rollers |
| Fitted Plug | Single Phase 15A | Single Phase 15A | Three Phase 32A, 4 Pin |
| Consumable Kit | To Suit MB 24 Mig Torch | To Suit MB 24 Mig Torch | To Suit MB 36 Mig Torch |
| Regulator | Twin Gauge Argon Regulator | Twin Gauge Argon Regulator | Twin Gauge Argon Regulator |
| Gas Hose | 3MTR with Quick Connect Fitting | 3MTR with Quick Connect Fitting | 3MTR with Quick Connect Fitting |