# UNIMIG EVOLVE


# MULTI 400 PULSE

## INFO SHEET

# EVOLVE MULTI 400 PULSE


## Package Contents

- EVOLVE MULTI 400 Power Source
- EVOLVE Water Cooler Module
- EVOLVE Trolley
- 3m M580W MIG Torch
- 500 Amp Twist Lock Electrode Holder
- 500 Amp Earth Clamp & Lead
- Twin Gauge Argon Regulator
- 1.8m Quick-Conncect Gas Hose
- Operating Manual
- 2 x 1.0-1.2mm U Groove Roller
- 2 x 1.2-1.6mm U Groove Roller
- 2 x 0.9-1.2mm V Groove Roller
- 2 x 1.2-1.6mm V Groove Roller
- Consumable Kit

## Technical Data

| Parameter | Values |
|---|---|
| **SKU** | U11119 |
| **Primary Input Voltage** | 240V Single-Phase /<br>415V Three-Phase |
| **Supply Plug** | 32A |
| **Ieff (A)** | 14.4A (240V Single-Phase) /<br>18.3A (415V Three-Phase) |
| **Imax (A)** | 32.2A (240V Single-Phase) /<br>23.6A (415V Three-Phase) |
| **Rated Output** | 20A-250A (240V Single-Phase) /<br>20A-400A (415V Three-Phase) |
| **No Load Voltage (V)** | 70V |
| **Protection Class** | H |
| **Insulation Class** | IP23S |
| **Minimum Generator (kVA)** | 13kVA (240V Single-Phase) /<br>23kVA (415V Three-Phase) |
| **Dinse Connector** | 35/50 |
| **Standard** | AS 60974.1 |
| **Welds** | **MIG:** Mild Steel, Stainless Steel, Aluminium, Silicon Bronze<br>**MMA:** Mild Steel, Stainless Steel, Cast Iron |
| **Warranty (Years)** | 5 |

## MIG Specifications

| Parameter | Values |
|---|---|
| **MIG Welding Current Range** | 20A-250A (240V Single-Phase) /<br>20A-400A (415V Three-Phase) |
| **MIG Duty Cycle @ 40°C** | **240V Single-Phase**<br>20% @ 250A, 60% @ 144A, 100% @ 112A<br>**415V Three-Phase**<br>60% @ 400A, 100% @ 310A |
| **MIG Wire Size Range** | 0.6-1.6mm |
| **MIG Wire Spool Size** | 5kg (200mm) / 15kg (300mm) |
| **MIG Welding Thickness Range** | 0.6-20mm (Single Pass)<br>>20mm (Multi Pass) |
| **Drive Roller Size** | 30/22 |

## MMA Specifications

| Parameter | Values |
|---|---|
| **MMA Welding Current Range** | 20A-225A (240V Single-Phase) /<br>20A-400A (415V Three-Phase) |
| **MMA Duty Cycle @ 40°C** | **240V Single-Phase**<br>20% @ 225A, 60% @ 130A, 100% @ 100A<br>**415V Three-Phase**<br>60% @ 400A, 100% @ 310A |
| **MMA Electrode Range** | 1.6-6.0mm |
| **MMA Welding Thickness Range** | 2-10mm (Single Pass)<br>>10mm (Multi Pass) |

# Key Features

## Modular Add Ons

Futureproof your purchase with the EVOLVE MULTI 400 PULSE,  with the option to add additional modules as you need them. These optional modules include a Separate Wire Feeder (SWF) module, an AC/DC TIG module and a Plasma Cutting module for all your future needs.

## Power Sense

Experience unmatched flexibility with dual voltage power sense. Connect the three-phase to single-phase plug adapter on and switch between 32A three-phase and 15A single-phase plugs as you need. When in single-phase, the machines output is limited to a maximum of 250A.

## 5" LCD Touchscreen

Navigation has never been easier. With the 5" LCD touchscreen, selecting your weld parameters or changing your settings mid-weld is effortless. Prefer physical buttons? Use the traditional control knobs to make all of your adjustments.

## 4 Geared Wire Drive

The most consistent and smoothest wire-feeding experience there is. With a four geared wire drive unit, there’s more power pushing the wire, improving the wire-feeding, especially with longer torches.

## Digital Control Torch

Our digital MIG torch allows you to adjust your settings on the fly. Change the amps, current and voltage at the touch of a torch button.

## Large Wire Spool Capacity

Fits both D200 and D300 wire spools, so you can put 15kg mild steel or 7kg aluminium spools in the machine.

## Job Memory

Save all of your favourite settings with the Job Memory feature. With up to 100 saves available, you’ll never need to memorise your parameters again. Plus, seamlessly switch between different jobs with the touch of a button.

## $CO_2$ Preheater Plug

Connect a preheater for your $CO_2$ regulator with the preheater plug to prevent it from freezing during prolonged use. Keeping the gas heated allows a consistent gas flow and stops fluctuations or reductions in the gas flow.

## Power Factor Correction (PFC)

Get the most out of your machine. The PFC maximises the electrical efficiency of the machine and automatically compensates for any voltage fluctuations, so you get more output power and the internal components last longer.

## Inverter Technology

Not every inverter is made equal. With UNIMIG's ever-evolving, state-of-the-art IGBT Inverter technology, you get better performance, better efficiency, and better reliability.

## Robotics Connection

The robot connection lets you integrate a robotic arm into your workflow, which can improve the precision, consistency, and efficiency across welding tasks. It allows for automated, repeatable welds, reducing human error and improving productivity.

## Generator Compatible

Take it anywhere. Connect the machine to a generator and use it wherever, whenever you need it. We recommend 19kVA for this machine.

## IP23S

Rated IP23S, so it’s protected from touch by fingers and objects greater than 12mm, and water spray less than 60° from vertical while still.

# MIG Features

## Single & Double Pulse MIG

No spatter. Less heat. Same penetration. Streamline your welds with the single and double pulse functions.

## Single pulse

A single pulse weld alternates between a peak and base current, which works to minimise the amount of heat input without compromising on any of the penetration. The addition of a base current and reduction in heat means it's perfect for softer materials like aluminium. Pulse welding is also done by spray transfer, eliminating spatter and cutting your post-weld clean-up time.

## Double pulse

A double pulse weld alternates between a peak current and two base currents, reducing the heat input of the weld even further than single pulse, while still maintaining all of the benefits. Because of the faster freezing puddle, your double pulse welds come out looking just like a stack of dimes. You get the aesthetics of a TIG weld with all the speed of spray MIG.

## 100+ Smart-Set MIG Progams

Getting set up for a weld has never been faster with over 100 synergic programs. Simply select your metal type, wire size, gas type and material thickness, and the machine does the rest. It'll pick the optimal settings for your weld.

## Hot Start

Get the smoothest arc start possible. The Hot Start function gives a boost of current at the beginning of your weld, eliminating any issues with starting on cold metal, letting you weld on thicker materials and making welding aluminium even easier.

## Crater Fill

End your welds as strong as they started. Crater Fill ramps your welding current and voltage down at the end of a weld, filling it in at a lower amperage, eliminating craters and pinholes.

## Adjustable Arc Length

Get absolute precision on your settings. The adjustable arc length allows you to increase or decrease the preselected voltage while in synergic and pulse MIG modes.

## Inductance Control

Take complete control of your arc with the inductance settings. By changing the frequency of your short circuit MIG welds with the Inductance controls, you can choose your preferred arc characteristics on every weld.

## Burnback Adjustment

Stop your wire from ever fusing with your weld or your contact tips again. Tune your burnback control to suit how much wire you want to remain sticking out from your torch when you finish a weld.

## Push-Pull Gun Ready

Achieve smooth and steady wire feeding, especially when using softer wires such as aluminium. With a 'Pull' motor built into the torch, the wire can be fed over a greater distance, granting you the freedom to move and manoeuvre with ease while MIG welding.

# MMA Features

## Arc Force

The adjustable arc force adjusts the current (and, therefore, the heat) based on the length of the arc. When the arc becomes shorter, the current increases to keep it stable and stop the electrode from sticking. When the arc becomes longer, the current will decrease.

The adjustable arc force allows you to fine-tune your arc and improve your weld’s quality and consistency, especially in tight corners or when welding overhead or vertically.

## Power Limit

The adjustable power limit is designed to help maintain a constant power level while welding. Power limit automatically drops the current to a set limit and prevents it from rising to maintain a constant power when the electrode is lifted from the weld pool.

## Anti-Stick

The built-in anti-stick is designed to keep you from ever sticking an electrode again, whether you’re at the start of a weld, halfway through or about to end one.

When the machine detects that the electrode is sticking, the current will shut off and unstick it.

# EVOLVE AC/DC TIG MODULE


## Technical Data

| Parameter | Values |
|---|---|
| **SKU** | U11142 |
| **Rated Output** | 5-400A |
| **Protection Class** | H |
| **Insulation Class** | IP23 |
| **Dinse Connector** | 35/50 |
| **Standard** | AS 60974.1 |
| **Welds** | Aluminium, Magnesium, Zinc Alloys, Mild Steel, Stainless Steel, Copper, Silicon Bronze, Titanium |
| **Warranty (Years)** | 5 |

## TIG Specifications

| Parameter | Values |
|---|---|
| **TIG Function Type** | HF AC/DC |
| **TIG Welding Current Range** | 5-400A |
| **TIG Duty Cycle @ 40°C** | 60% @ 400A |

# MIG Features

### AC MIG

Get even more control over your aluminium MIG welds. The alternating current (AC) gives you the heat input and the cleaning action usually reserved for AC TIG.

### AC Welding Speed

Increase your efficiency with the advanced AC Welding Speed. By setting the rate the wire is deposited during the negative portion of the AC cycle, you can adjust your welding speed while still maintaining your desired arc length.

# TIG Features

### AC/DC TIG

Weld every kind of metal. With the ability to run on an Alternating Current (AC) you're able to weld aluminium as effortlessly as mild and stainless steels on a Direct Current (DC).

### High-Frequency TIG

Maximise your results from start to finish. A high-frequency torch can start an arc without contacting the workpiece, reducing the risk of contaminating the tungsten or the weld. It also means you get access to the entire TIG weld cycle, including pre- and post-gas and up and down slope parameters.

### Multiple AC Waveforms

Completely customise your aluminium welds. Switch between Sine, Square, Trapez and Triangle waves, or use a combination of the two, to change the arc characteristics, bead profile, and penetration to suit your weld.

### Maximum AC Amperage

Set the maximum current of the positive side of the AC cycle the machine can reach. By reducing the amperage of the positive portion of the cycle, the negative portion works to compensate, allowing for a more penetrative weld and reduced risk of the tungsten melting.

### Mixed TIG

Experience the best of both worlds. Mixed AC/DC combines the efficiency of AC and the penetration of DC- TIG in one weld. With it, you get faster welding speeds, better penetration, a faster weld puddle on cold workpieces, and you can weld on thicker materials.

### Foot Pedal

Enjoy greater control and precision with our optional foot control accessory. This handy feature allows you to easily adjust your TIG amperage on the fly, without interrupting your torch movement.

# EVOLVE MULTI 400 PULSE Parts List

## M350/M580W Consumables

| SKU | Description |
|---|---|
| **U11075** | CONSUMABLE STARTER KIT SUIT M350 |
| **U11076** | CONSUMABLE STARTER KIT SUIT M580W |
| **U11050** | CONTACT TIP ALUMINIUM 1.0MM SUIT M350/M580W QTY 10 |
| **U11051** | CONTACT TIP ALUMINIUM 1.2MM SUIT M350/M580W QTY 10 |
| **U11052** | CONTACT TIP ALUMINIUM 1.6MM SUIT M350/M580W QTY 10 |
| **U11171** | CONTACT TIP STEEL 0.8MM SUIT M350/M580W QTY 10 |
| **U11045** | CONTACT TIP STEEL 0.9MM SUIT M350/M580W QTY 10 |
| **U11046** | CONTACT TIP STEEL 1.0MM SUIT M350/M580W QTY 10 |
| **U11047** | CONTACT TIP STEEL 1.2MM SUIT M350/M580W QTY 10 |
| **U11048** | CONTACT TIP STEEL 1.6MM SUIT M350/M580W QTY 10 |
| **U11055** | GAS NOZZLE WITH INSULATOR CONICAL SUIT M350 QTY 2 |
| **U11057** | GAS NOZZLE WITH INSULATOR CONICAL SUIT M580W QTY 2 |
| **U11056** | GAS NOZZLE WITH INSULATOR CYLINDRICAL SUIT M350 QTY 2 |
| **U11059** | GAS NOZZLE WITH INSULATOR CYLINDRICAL SUIT M580W QTY 2 |
| **U11054** | GAS NOZZLE WITH INSULATOR TAPERED SUIT M350 QTY 2 |
| **U11058** | GAS NOZZLE WITH INSULATOR TAPERED SUIT M580W QTY 2 |
| **U11065** | LINER COMBINATION 0.8-1.2MM 3M SUIT M350 QTY 1 |
| **U11066** | LINER COMBINATION 0.8-1.2MM 4M SUIT M350 QTY 1 |
| **U11067** | LINER COMBINATION 1.0-1.2MM 3M SUIT M580W QTY 1 |
| **U11068** | LINER COMBINATION 1.0-1.2MM 4M SUIT M580W QTY 1 |
| **U11069** | LINER COMBINATION 1.6-2.0MM 3M SUIT M580W QTY 1 |
| **U11070** | LINER COMBINATION 1.6-2.0MM 4M SUIT M580W QTY 1 |
| **U11178** | LINER STEEL 0.6-0.9MM 3M SUIT M350 QTY 1 |
| **U11179** | LINER STEEL 0.6-0.9MM 4M SUIT M350 QTY 1 |
| **U11180** | LINER STEEL 1.0-1.2MM 3M SUIT M350 QTY 1 |
| **U11174** | LINER STEEL 0.8-1.2MM 3M SUIT M580W QTY 1 |
| **U11181** | LINER STEEL 1.0-1.2MM 4M SUIT M350 QTY 1 |
| **U11175** | LINER STEEL 0.8-1.2MM 4M SUIT M580W QTY 1 |
| **U11176** | LINER STEEL 1.6-2.0MM 3M SUIT M580W QTY 1 |
| **U11177** | LINER STEEL 1.6-2.0MM 4M SUIT M580W QTY 1 |
| **U11079** | SWAN NECK SUIT M350 |
| **U11080** | SWAN NECK SUIT M580W |
| **U11060** | TIP ADAPTER SUIT M350 QTY 2 |
| **U11063** | TIP ADAPTER SUIT M580W QTY 2 |
| **U11064** | TIP ADAPTER INSULATOR SUIT M580W QTY 2 |
| **U11077** | TORCH MODULE BLANK SUIT M350/M580W |
| **U11078** | TORCH MODULE DIGITAL SUIT M350/M580W |

## EVOLVE Range

| SKU | Description |
|---|---|
| **U11130** | EVOLVE MULTI 300 |
| **U11119** | EVOLVE MULTI 400 |
| **U11142** | EVOLVE MULTI 500 |

## Torches

| SKU | Description |
|---|---|
| **U11209** | TIG TORCH T4W 35/50 4M |
| **U11210** | TIG TORCH T4W 35/50 8M |
| **U11071** | MIG TORCH M350 3M |
| **U11072** | MIG TORCH M350 4M |
| **U11073** | MIG TORCH M580W 3M |
| **U11074** | MIG TORCH M580W 4M |

## EVOLVE Modules

| SKU | Description |
|---|---|
| **U11147** | EVOLVE AC/DC MODULE |
| **U11150** | EVOLVE SWF MODULE |
| **U11146** | EVOLVE WATER COOLER MODULE |

## Accessories

| SKU | Description |
|---|---|
| **U51023** | WIRED FOOT PEDAL - 12/2 PIN |
| **U11028** | LOW CONDUCTIVITY COOLANT 4L |
| **U11162** | 5356 ALUMINIUM MIG WIRE PREMIUM 1.0MM 7KG |
| **U11163** | 5356 ALUMINIUM MIG WIRE PREMIUM 1.2MM 7KG |
| **U11073** | MIG TORCH M580W 3M |
| **U11074** | MIG TORCH M580W 4M |