



INVEST IN THE FUTURE



Made in France  
since 1964

400 A

230 A



**TITANIUM**, a unique AC/DC TIG  
welding experience

## 2 industrial power sources

The TITANIUM units are high performance single and three-phase inverter machines for AC/DC TIG and MMA welding. Intelligent and connected, they offer extremely precise arc control and industrial welding performance up to 400A.

TITANIUM	Power supply	Current range	Duty Cycle at 60% (40°C)	Weight
230 AC/DC	110 / 230 V	3 - 230 A	190 A at 60%	22 kg
400 AC/DC	400 V	4 - 400 A	400 A at 60%	43 kg



### Innovative digital architecture

TITANIUM is the result of many years of development, and is the ultimate solution for all AC & DC TIG welding applications. They are equipped with the most advanced electronics and fully digital management. Two essential elements to ensure unparalleled welding quality and productivity.

They can operate in the most demanding environments with excellent efficiency. The very high duty cycle, the patented Alu Wizard welding mode, the adjustable welding current starting from 3 A, the waveform parameterisation, and the ignition optimisation are only a few of the numerous technical features. Compatible for use with welding robots, the TITANIUM is the ideal choice for all welders looking for the perfect AC/DC TIG power source..

### Highlights

- High duty cycle
- TIG Wizard Solution
- Automatable
- Welding precision
- Free updates

### Applications

- Sheet metalwork
- Shipbuilding
- Railway engineering
- Metallic construction

## 7 TIG welding modes for maximum versatility

- #1 DC Standard:** smooth current welding on most ferrous materials
- #2 DC Pulse:** allows the assembly of parts while limiting the heat transfer (pulsations up to 2.5 kHz)
- #3 DC FastPulse:** allows the arc constriction properties of Pulse mode to be sustained at frequencies that are comfortable or even inaudible to the welder (pulses up to 20 kHz)
- #4 AC Standard:** welding of aluminium and its alloys (Al, AISi, AlMg, AlMn, etc)
- #5 AC Pulse:** precise control of penetration according to AC frequency setting (pulses up to 500 Hz)
- #6 AC Mix:** alternating AC and DC current to increase welding speed
- #7 Wizard Mode (GYS Innovation):** tacking and TIG welding of aluminium, steel, stainless steel and copper parts with or without filler metal

### E-TIG, controlled power output

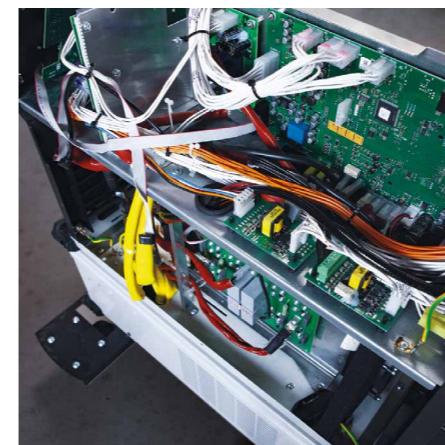
Regardless of the arc length between the torch and the welded part, the E-TIG regulates the energy output. The penetration and bead width stay constant. In the case of abrupt changes in arc length, the E-TIG system automatically adjusts the power to ensure an appropriate energy supply.

- Faster welding thanks to a concentrated arc
- Reduction of thermal discolouration on the workpiece
- Deeper penetration
- Reduced deformation
- Prevention of tungsten inclusions



### Designed for longevity, updates are free

TITANIUM power sources can withstand tough environments, as their ventilation channels help isolate the electronic components from dust contamination. The internal components are cooled by an aluminium radiator and a precise fan that automatically adapts to the actual needs of the machine. This reduces the noise level, energy consumption, and the amount of dust in the machine, which in turn extends the life of the unit. The USB connector makes it easy to update the power source's internal firmware and install new welding programs, free of charge.





# An ingenious package

More than just a power source, the TITANIUM encompasses many features that provide great versatility and total control at every stage of the welding process. Ignition, tacking, arc behaviour and energy input have been developed in the laboratory to provide maximum convenience and outstanding performance on all materials.

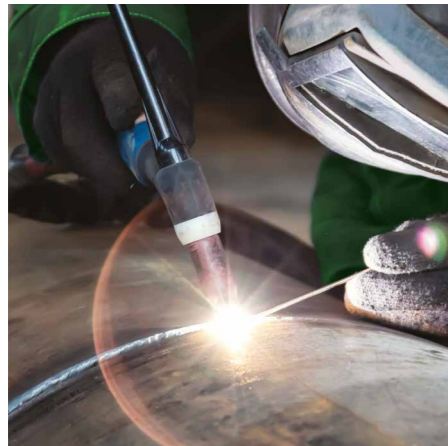


## TACK, the ultimate spot weld

The TITANIUM has two tacking modes with or without time delay (Multi) for pre-assembly of the workpieces before welding:

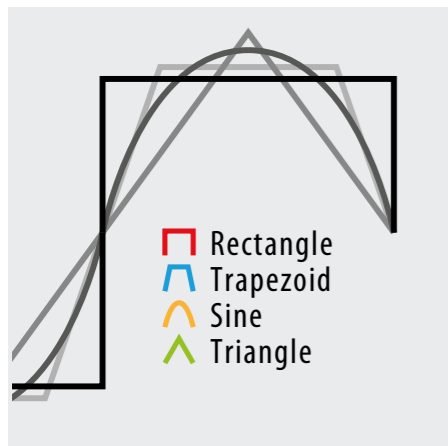
Spot TACK: allows fast and accurate tacking with minimal heat input for DC TIG welding. Ideal for multiple consecutive tacking on thin sheets, where a uniform and consistent appearance is essential. Deformation is reduced, the spot shows no oxidation, and the consistency is virtually flawless. This mode also allows for greater productivity, as the spot is concealed under the weld bead without any further action from the welder.

Traditional SPOT tacking.



## Excellent arc ignition

The TITANIUM incorporates High Frequency (HF) adjustable TIG ignition by default. In the event of contactless ignition, the arc is ignited immediately by a high-voltage pulse, which ensures perfect arc initiation, even on long cable lengths, at the first pull of the trigger. TIG Lift ignition (without HF) is primarily used in electrosensitive environments where it is important that there are no tungsten inclusions.



## 16 possible waveform combinations

The TITANIUM offers a multitude of configurations to specify the current behavior between positive and negative. These waveforms are configurable per half-wave in AC Standard, AC Pulse and DC Pulse modes. This critical function reduces the high frequency noise level, and also contributes to the stability of the arc.

The stars shown below indicate the level of productivity:

 Very stable, noisy arc	★★★★	 Quiet, soft arc	★★
 Very stable, quiet arc	★★★★★	 High pressure, stable arc	★



Thickness: 0.5 to 5 mm

30% more productive

- 5 assembly types:
- Butt joint (BW)
  - Lap (FW)
  - Inner corner (BP)
  - External corner
  - Wire to wire for splicing

## WIZARD ALU, a patented process developed for industrial welders

Tacking and TIG welding aluminium workpieces without filler metal is a daily challenge faced by welders around the world.

GYS has developed a patented solution that is unique to the market: the ALU WIZARD mode.

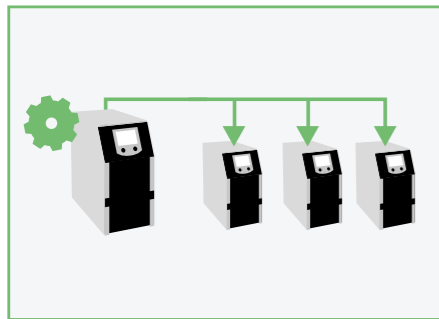
This method of tacking and welding has been developed by GYS engineers to simplify aluminium welding and make it accessible to everyone. With or without filler metal, this built-in feature of the TITANIUM range ensures that the tacking process takes less than a second. This mode is also available for tacking and welding all types of materials: steel, stainless steel, aluminium and copper.

<p><b>ALU Wizard</b></p> <p>Productivity Minimises porosity Welder versatility No cracking</p>	<p><b>STAINLESS Wizard</b></p> <p>No oxidation No finishing action Easy to weld</p>	<p><b>STEEL Wizard</b></p> <p>Weld quality Oxidation-free bead Synergic mode</p>	<p><b>COPPER Wizard</b></p> <p>Ideal for wire splicing (0.5 to 2.2 mm)</p>
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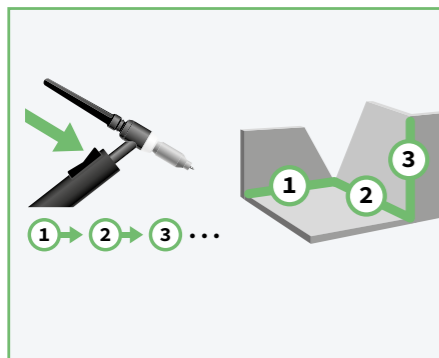
# Ergonomics & productivity

Quickly sequencing stored programs, configuring an entire machine fleet with identical settings, recording all weld data, and storing it electronically are essential criteria in industrial environments. TITANIUM power sources are the only ones to have these features as standard.



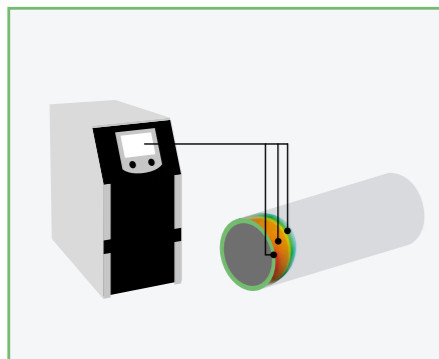
## Unlimited portability

A simple USB stick is all that is needed to configure an entire fleet of TITANIUM units. Up to 500 programs can be stored. The interface preferences, the welding programs, etc. Everything can be replicated ad infinitum. The operator can then travel with their own configuration, determined in the workshop, and set it up on the machine(s) waiting for them on a different site or at a remote location.



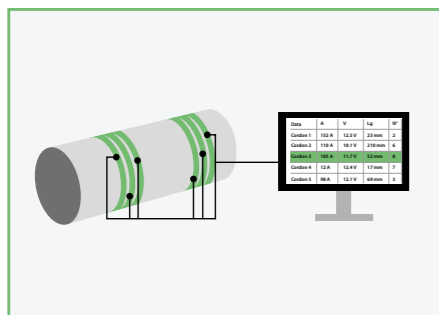
## 500 welding programs (JOBS)

Programs can be switched instantaneously by pressing the trigger of the torch. Switching from one phase to the next can be done without the need to directly modify the power source, and is an ideal solution to increase productivity, especially when the power source is not within reach of the user.



## Accurately measured energy intake

On-board digital technology provides the capability to measure welding voltages (U) and currents (I) at 20 kHz. This acquisition frequency is much better than the current clamps available on the market, and recommended by standard EN 50504. The data can be seen instantaneously through ENERGY mode.



## Traceability of all weld beads

The TITANIUM's internal memory allows all welding data to be recorded for every weld bead, in order to present proof of compliance with the relevant manufacturing regulations (DMOS/QMOS). The sampling time of the measurements can be adjusted to one hundredth of a second. These records can be exported to a USB stick in «.csv» format and can be analysed on a simple spreadsheet.



## Colour interface 5 inches

The new TITANIUM interface is the result of many years of careful consideration and work. The GYS team always considered welders and their habits in order to best optimize their experience and interaction with this XXL 5" (12.7 cm diagonal) colour screen..

The control panel, with 2 navigation wheels and 4 selection buttons, allows access to all functions required for AC/DC TIG welding.. Extremely user-friendly with numerous icons and animations, this multilingual interface allows the user to navigate through the various menus via clearly identified sections.



### 3 modes Display

Easy: simplified functionality  
Expert: complete display  
Advanced: full access to all parameters



### Update USB

The USB connector on the back of the power source makes it easy to update the firmware and install new welding programs and synergies for free.



### Configurator interface

Web-based tool for interface customisation: adding a logo, limiting access to certain welding processes, disabling features, the entire HMI is customisable.



### Sharing account

The user mode allows the product to be shared between multiple welders. Each user can have their own configuration and setting preferences.

# Technical specifications



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## TITANIUM 230 AC/DC FV

Power supply	Fuse	Max. welding current	
110 / 230 V 1 ph, 50 / 60 Hz	16 A (230 V) 32 A (110 V)	230 A (230 V) 140 A (110 V)	
Current range TIG <b>AC</b>	Current range TIG <b>DC</b>	Current MMA range	
3-230 A (230 V) 3-140 A (110 V)	5-230 A (230 V) 5-140 A (110 V)	5-230 A (230 V) 5-140 A (110 V)	
Duty cycle (40°C ambient temperature)			
TIG <b>AC</b> (230 V) 190 A/17.6 V at 60% 160 A/16.4 V at 100%	TIG <b>DC</b> (230 V) 190 A/17.6 V at 60% 160 A/16.4 V at 100%	MMA (230 V) 160 A/26.4 V at 60% 130 A/25.2 V at 100%	
Dimensions L x W x H	49 x 26 x 44 cm	Weight	22 kg
Protection class	IP23	Voltage open circuit	55 V
Standards	IEC 60974-1/3/10 A		

## TITANIUM 400 AC/DC

Power supply	Fuse	Max. welding current	
400 V 3 ph, 50 / 60 Hz	32 A	400 A (AC) 400 A (DC)	
Current range TIG <b>AC</b>	Current range TIG <b>DC</b>	Current MMA range	
5-400 A	3-400 A	5-400 A	
Duty cycle (40°C ambient temperature)			
TIG <b>AC</b> 400 A/26 V at 60% 360 A/24.4 V at 100%	TIG <b>DC</b> 400 A/26 V at 60% 360 A/24.4 V at 100%	MMA 400 A/36 V at 60% 360 A/34.4 V at 100%	
Dimensions L x W x H	68 x 30 x 54 cm	Weight	43 kg
Protection class	IP23	Voltage open circuit	85 V
Standards	IEC 60974-1/3/10 A		

## Common accessories\*

Manual remote control RC-HA1	8 m	045675
	12 m	066625
Remote Control Pedal RC-FA1	4 m	045682
Digital remote control RC-HD2		062122
Communication cable for RC-HD2	2.8 m	063907
	6 m	063914
	11 m	036925

\*non-exhaustive list

## Ordering information

TITANIUM 230 AC/DC FV + accessories	
Double button TIG torch SR26DB - 8 m + Consumables box + Ground cable 250 A - 4 m, 25 mm <sup>2</sup> .	075924
TITANIUM 230 AC/DC FV - without accessories	061996
Cooling unit KOOLWELD 1 (3.3 L)	070820
Quick connection for cooling unit	076006
Coolant	062511
Sack Truck 10m <sup>3</sup> XL	076341
TIG torch - Trigger - 8 m	SR20L 046153
	SR26L 046184
Double button TIG torch GRIP 8 m - SR26DB	046177
Earth cable 250 A / 25 mm <sup>2</sup> - 4 m	043794

## Ordering information

TITANIUM 400 AC/DC - without accessories	013568
Cooling unit WCU1KW C (5.5 L)	013537
Coolant	062511
Trolley 10m <sup>3</sup> T/M	037328
Skate Trolley	073593
ABITIG 450W torch - 8 m	Trigger 037359
	Double button 037366
Double button TIG torch GRIP 8 m - SR26DB	046177
Ground cable 600 A / 70 mm <sup>2</sup> - 4 m	043831
Dust filter	046580
DEGAUSS Kit	067981



Do you have a project for TIG automation?  
Read the guide [online](#).

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