

The ORION 321 AC/DC is a state-of-the-art AC/DC TIG welding machine. Its user-friendly colour graphical interface makes it very easy to use, and offers straightforward access to advanced features such as welding synergies, traceability, and highly specialised welding modes. It significantly reduces set-up time, which improves overall user productivity.

5 TIG WELDING MODES

- | | |
|----|---|
| DC | DC Standard: DC welding on most ferrous materials.
DC Pulse: used for welding while limiting the amount of heat transferred to the workpiece. |
| AC | AC Standard: for welding aluminium and aluminium alloys (Al, AlSi, AlMg, AlMn, etc.).
AC Pulse: precise control of weld penetration based on the AC frequency setting.
AC Mix: alternating between AC and DC current, to increase welding speed. |

OPTIMISED TIG SETTINGS

- There are numerous synergies available for a variety of materials: Fe, FeNiCr, Al99, AlSi, AlMg.
- 2 tacking modes:
 - Spot: traditional spot welds before welding thin materials.
 - Pulse spot: ultra-precise, oxidation-free spot welds, reducing the risk of workpiece deformation.
- 3 ignition methods: Lift, HF, and Touch.HF (timed high-frequency ignition).
- 4 trigger modes: 2T, 4T-Start, 4T-Weld, and 4T-LOG
- E-TIG Mode: ensures that the welder can maintain the welding power regardless of the position of the torch in relation to the workpiece (control of welding energy).
- Adjustable offset: to minimise electrode wear.
- Adjustable pulse waveforms for noise reduction.

MMA WELDING

- MMA: Basic, Rutile, and Cellulosic electrodes.
- MMA Pulse: facilitates welding in ascending vertical positions (pipes/pipelines, etc.).
- 3 integrated welding aids:
 - Antisticking: reduces the risk of the electrode sticking to the workpiece
 - Adjustable Hot Start: delivers a temporary surge of current to aid arc ignition.
 - Arc Force: a temporary increase in current during difficult welding conditions.

ADVANCED CONNECTIVITY

- Traceability of all welds, in accordance with standard EN 3834.
- Calibration mode for welding accessories (refines the energy calculation).
- A free online interface customisation tool.
- Save user JOBS (up to 200) and machine settings on a USB stick.
- Compatible with lever-style switch torches, single and double-button torches, potentiometer torches, and Up & Down torches.
- Full update of the machine software and synergies via USB stick.
- Remote controls available.
- Optional cooling units available.
- VRD (Voltage Reduction Device) can be activated to reduce the open-circuit output voltage to < 35 V.

ACCESSORIES (OPTIONS)

Torches



Cooling units

Thermal protection	■	■
Coolant flow sensor	■	■
Coolant level sensor	■	■
Noise reduction	■	■
	KOOLWELD 1 070820	KOOLWELD 4 087293
	1000 W 3 L	

Trolley



Remote controls



Supplied without accessories



- An intuitive, multilingual and customisable 3.5-inch colour display.
- 2 user interface levels: Easy and Pro

	TIG DC	TIG AC	MMA	INTEGRATED TECHNOLOGY			TIG AC			TIG DC			MMA			U ₀	U _R	mm ²	cm	kg	IP	Protected & compatible power generator (+/-15%)
				TIG DC PULSE	TIG AC PULSE	MMA PULSE	X% (I ₂ max)	IA (60%)	100%	X% (I ₂ max)	IA (60%)	100%	X% (I ₂ max)	IA (60%)	100%							
50/60 Hz	A	A	A																			
400 V - 3~	16	5 → 320	10 → 320	5 → 320	0.1 → 2 kHz	0.1 → 2 kHz	45%	300 A	270 A	27%	275 A	250 A	27%	265 A	215 A	83	27	50/70	61 x 26 x 53	30	IP 23S	24 kW