



MATRIX X AC/DC

THE ULTIMATE SOLUTION
FOR AC/DC TIG



MATRIX X AC/DC are high efficiency TIG AC/DC inverter power sources, studied to satisfy the most advanced and sophisticated request in the TIG welding market.

MATRIX X AC/DC are standard equipped with the new X VISION interface, simple and complete, for the total control and monitoring of all the welding parameters.

Their excellent characteristics, coupled with the high technology of the digital control, allow a perfect stability of the welding arc, granting high performance TIG welding in the more sophisticated industrial applications and maintenance.

MATRIX X AC/DC enable TIG welding of all metals including Aluminium and its alloys, and they also offer excellent performance in MMA welding with the most difficult basic and cellulosic electrodes.

Thanks to PFC the single phase **MATRIX X 220 AC/DC** optimizes the amount of energy consumption by allowing the use of this powerful power source, without problems, with 16 A fuse mains and power generator sets.



- X Vision interface
- Excellent welding performance
- Fast arc control



MATRIX X AC/DC FEATURES

- TIG DC minimum current from 1A and TIG AC starting from 3A
- Excellent welding characteristics in TIG with all material and MMA with any type of electrodes, cellulosic included
- Smart HF IGNITION to grant more accurate and prompter Arc Striking in all conditions
- LIFT ARC CURRENT - with possibility to set the value of the starting current in LIFT
- Use of Up/Down TIG torches will enable to adjust directly from the torch both welding parameters and memorized JOBS
- Reduced weight and size, easy-to-carry
- Control rack protection cover
- Compact water cooling equipment integrable with the power source (optional)
- Simple automation: TSA1 TIG KIT (Optional)

TIG RCT - Running coldTACK

RCT is the acronym of **Running coldTACK**; indeed, the TIG RCT process allows to benefit of all the coldTACK advantages, by repeating the single coldTACK point in a continuous way, in order to achieve a cold and perfect welding seam.

Using **TIG RCT** the welding seam is much colder in comparison to the one achievable with Pulse TIG and it represents the ideal solution to weld thin materials with a very low heat transfer. TIG RCT is a direct current process not available in AC welding.



coldTACK

Innovative spot welding device to achieve precise and safe joining with a minimal thermal input.

Multi-coldTACK function grants cold spotting in a rapid sequence, thus further widening the benefits of the single spot.

Thanks to **Perfect-Point** function, coldTACK allows to obtain the most precise spot positioning.



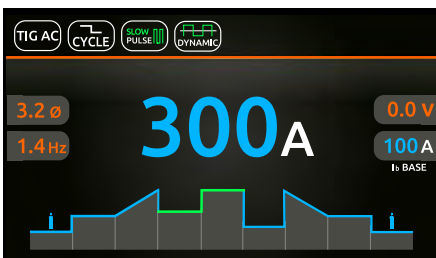
X VISION CONTROL DISPLAY

X Vision control display with "ONE CLICK KNOB" encoder for the pre-setting and monitoring of all the welding parameters:

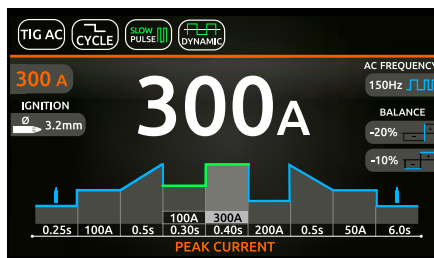
- User friendly interface
- Digital Ammeter and Voltmeter with welding current pre-setting and Hold Function of the last read value
- Welding mode "cycle"
- Personalized welding program storing and recalling
- Possibility of copying job/s easily from one machine to another via USB
- Advance setting infographic



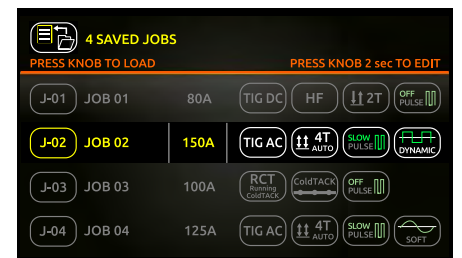
WELDING MODE



WELDING SETTING MODE



ADVANCE JOB MANAGEMENT



PULSE DC MODE



SYN PULSE

SYN PULSE will synergically generate pulse frequency and base current



FAST PULSE

Adjust frequency from 0,5 Hz to 500 Hz



ULTRA FAST

HIGH PULSE FREQUENCY IN DC
Adjust frequency up to 2000 Hz

PULSE DC AND AC/DC MODE

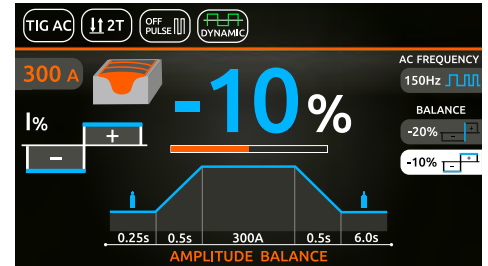
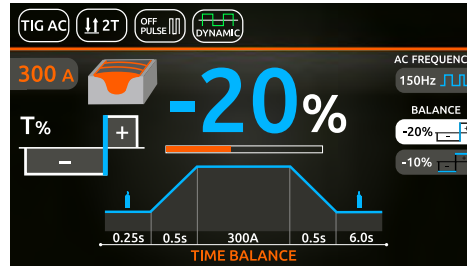


SLOW PULSE

Adjust separately current/time of peak and base

BALANCE PLUS

Possibility of independently adjust both current time (t) and its amplitude (A) while staying in either positive or negative polarity, by offering a perfect control of penetration and arc cleaning with a drastic reduction in lateral undercuts.



WAVE SHAPES SPECIAL TIG AC FUNCTIONS



DYNAMIC

Square wave: high arc dynamics for all applications



SOFT

Sinusoidal wave: smoother and softer arc with a reduced noise, ideal for medium thickness



SPEED

Mixed wave: optimal penetration at high welding speed and low consumption of the electrode



COLD

Triangular wave: low heat transfer with reduced deformation, ideal for small thickness

TECHNICAL DATA		MATRIX X							
		220 AC/DC		300 AC/DC		400 AC/DC		500 AC/DC	
		TIG	MMA	TIG	MMA	TIG	MMA	TIG	MMA
Single phase input 50/60 Hz	V +/- 20%	230		-		-		-	
Three phase input 50/60 Hz	V +/- 20%	-		400		400		400	
Input Power @ I2 Max	kVA	5,6	6,2	9,0	9,6	19,0	24,7	26,0	31,0
Delayed Fuse (I eff)	A	16	16	10	10	32	32	40	50
Power Factor / cos φ		0,99/0,99	0,99/0,99	0,93/0,99	0,94/0,99	0,65/0,99	0,67/0,99	0,73/0,99	0,73/0,99
Efficiency Degree		0,80		0,83		0,86		0,87	
Open circuit voltage	V	85		85		85		85	
Current range	A	1 - 220	10 - 180	1 - 300	10 - 250	1 - 400	10 - 400	1 - 500	10 - 500
Duty cycle at (40°C)	A 100 %	140	120	210	190	350	350	400	400
	A 60 %	180	150	250	220	400	400	500	500
	A X %	220 (30%)	180 (30%)	300 (35%)	250 (40%)	-	-	-	-
Standards		EN 60974-1 • EN 60974-3 • EN 60974-10 [S]							
Protection Class	IP	23 S		23 S		23 S		23 S	
Dimensions (L x W x H)	mm	530 x 215 x 410		530 x 215 x 410		710 x 290 x 530		710 x 290 x 530	
Weight	Kg	20		21,5		53		54	

ORDER INFORMATION

CODE	DESCRIPTION	MATRIX X							
		220 AC/DC		300 AC/DC		400 AC/DC		500 AC/DC	
		AIR	WATER	AIR	WATER	AIR	WATER	AIR	WATER
POWER SOURCE									
004512	Power source MATRIX X 220 AC/DC 230V 1 Phase X Vision control	●	≈						
004565	Power source MATRIX X 300 AC/DC 400V 3 Phase X Vision control			●	≈				
004093	Power source MATRIX X 400 AC/DC 400V 3 Phase X Vision control					●	≈		
004097	Power source MATRIX X 500 AC/DC 400V 3 Phase X Vision control							●	≈
TIG TORCHES									
020562	CEA Torch TXA 26.4 4 m - 250 A 60% (DC)	●	/	●	/	●	/	●	/
020662	CEA Torch TXA 26.4 "UP/DOWN" 4 m - 250 A 60% (DC)	/	/	/	/	/	/	/	/
020667	CEA Torch Mini TXH 20.4 4 m - 250 A 100% (DC) - water cooled	/	≈	/	/	/	/	/	/
020680	CEA Torch Mini TXH 20.4 "UP/DOWN" 4 m - 250 A 100% (DC) - water cooled	/	/	/	/	/	/	/	/
020672	CEA Torch TXH 18.4 4 m - 320 A 100% (DC) - water cooled	/	/	/	≈	/	≈	/	≈
020677	CEA Torch TXH 18.4 "UP/DOWN" 4 m - 320 A 100% (DC) - water cooled	/	/	/	/	/	/	/	/
<i>For torches with 8 m long cable see tig accessories</i>									
TROLLEYS									
234929	Trolley VT 101 for power source, cooling equipment and cylinder	●	≈	●	≈	/	/	/	/
234931	Trolley CT 401 for power source, cooling equipment and cylinder	/	/	/	/	/	/	/	/
234914	Trolley CT 70 with 4 rolls for power source, cooling equipment and cylinder	/	/	/	/	●	≈	●	≈
234928	Trolley CT 75 with 4 rolls for power source, cooling equipment and cylinder	/	/	/	/	/	/	/	/
234932	Trolley CT 80 with 4 rolls for power source, cooling equipment and cylinder	/	/	/	/	/	/	/	/
WATER COOLING									
032120	Water cooling equipment HRX 20 230 V	/	≈	/	/	/	/	/	/
032115	Water cooling equipment HRX 30 400 V	/	/	/	≈	/	/	/	/
032130	Water cooling equipment HRX 52 400 V	/	/	/	/	/	≈	/	≈
402275A	Cea CL-1100 cooling liquid - 5 l Tank	/	≈	/	≈	/	≈	/	≈
GROUND CABLES									
239601	35 mm² / 4 m Ground cable with clamp	●	≈	●	≈	/	/	/	/
239607	70 mm² / 4 m Ground cable with clamp	/	/	/	/	●	≈	●	≈
GAS REDUCERS									
020916	Reducer with flowmeter and 1 manometer	/	/	/	/	/	/	/	/
OPTIONAL									
031118	TSAI - TIG Simple Automation KIT - (Torch trigger - Arc On - Current Adj, 0-10V)	/	/	/	/	/	/	/	/
031119	TSA5 - TIG Simple Automation KIT - (Torch trigger - Arc On - Current Adj, 0-10V)	/	/	/	/	/	/	/	/
353485	DFX1 - Dust Filter for MATRIX X 220 / X 300	/	/	/	/	/	/	/	/
353486	DFX5 - Dust Filter for MATRIX X 400 / X 500	/	/	/	/	/	/	/	/
236243	CD 6/8 8 m remote control with geared down potentiometer	/	/	/	/	/	/	/	/
020919	PSR 7 5 m foot remote control	/	/	/	/	/	/	/	/
460056	Adapter for simultaneous connection of Torch and PSR 7	/	/	/	/	/	/	/	/
460005	A6 Connection kit for non-standard Torch	/	/	/	/	/	/	/	/
	MATRIX X 220 AC/DC Suggested air cooled version with torch	●							
	MATRIX X 220 AC/DC Suggested water cooled version with torch		≈						
	MATRIX X 300 AC/DC Suggested air cooled version with torch			●					
	MATRIX X 300 AC/DC Suggested water cooled version with torch				≈				
	MATRIX X 400 AC/DC Suggested air cooled version with torch					●			
	MATRIX X 400 AC/DC Suggested water cooled version with torch						≈		
	MATRIX X 500 AC/DC Suggested air cooled version with torch							●	
	MATRIX X 500 AC/DC Suggested water cooled version with torch								≈



VT 101 trolley for lodging gas cylinder and water cooling equipment



CT 401 trolley for lodging gas cylinder and water cooling equipment



CT 70 trolley for lodging gas cylinder and water cooling equipment