

# WELDING PFC TECHNOLOGY

















## STAYER GROUP TECHNOLOGIES IN WORK SINCE 1958

#### STAYER IBERICA

**STAYER** has been operating in the professional Power tools market since 1958. Following our customers demands of new products and services, our range has grown and renewed with new launches.

**STAYER** has also been active in Inverter Welding Professional Equipment since 1996. The knowledge developed from the experience materialized in our R&D department of our own **STAYER** Welding Line.

Advanced technology and competitive prices are the key to the success of STAYER Welding, allways offering very high quality and performance.

#### STE - Energy Transfer Systems

STE is the group division that deals with the production and marketing of welding inverters and accessories. Deep knowledge of welding processes and technologies, attention to the needs of retailers and final users and, awareness of the problems of the market, are the foundations that support our offer of Electrode, Mig, Tig and Plasma Cutting ranges.

### SE - Stayer Engineering

True heart of the group, is the division of research and development of new products and new technologies, supports and anticipates the needs of the markets worldwide through the commitment of highly qualified staff supported by advanced equipment.







### **INDEX**











### STE ENERGY TRANSFER SYSTEM

- **STE** Inverter arc welders come from Stayer's R & D in permanent innovation and research of new technological solutions.
- Duty cycle is strictly tested under EN60974-1 standard including power tests at 40°C air temperature.
- STE products come with an exclusive module for thermal control and improvements of the welding performance as the adaptative arc force, hot start and anti stick functions for maximum security and stability of the welding process.
- **STE** welding input cables are made of pure copper with double rubber coverage.
- **STE** products are designed and developed to be used with both, gasoline and diesel electricity generators.
- Best design practices and the choice of high quality components and parts make possible the development of a high performanced and secured product manufactured for a long life and minimum failure.
- **STE** welders fully satisfy all European and International Standards and Normatives .





### **OVERCONTROL 400**



### **FEATURES**

Nominal Voltage	230V 50Hz-400Hz
Nominal amperage	16 Amp RMS under nominal voltage
Maximum amperage	40 Amp RMS under nominal voltage
Adjustable protection range	LO: 140V – 240V, HI: 240V – 300V
Protection range	Above 300V, 50Hz-400Hz
Nominal consumption	50W
Nominal efficiency	99,98%
Solid / liquid protection grade	IP20
Display	3 red leds "high brithtness"
Preciseness on Display	+/- 4%
Dimensions	11.3x12x14 cm
Weight	1.6 Kg

#### **ADVANTAGES**

#### INVERTER WITHOUT OVERCONTROL

Most inverters in the market have a narrow, margin, (+/- 10%) of voltage protection. Standard inverters usually have a poor overvoltage protection. This causes premature failures and burnt machines.

#### INVERTER WITH OVERCONTROL

The inverter is fully protected by an advanced external protection module for an inmediate disconnection in bad supply conditions as overvoltage, undervoltage and spikes.

The inverter is **safely and quickly disconnected** until the correct input returns and after a pre-programmed post-failure safe period of time of 2 seconds.

#### **INCLUDES**

Power cable  $2.1m \times 3 \times 2.5mm^2$ 



### **CITYWORK**

- Lightest equipment.

- 60% duty cycle and advanced parameters control.

- Suitable for any type of light and medium work, maintenance and metallic construction.

#### **ADVANTAGES**

Ready for TIG welding by the use of tungsten electrode in inert Argon gas atmosphere.



125 A.

REDUCED SIZE

20x12x9cm

LIGHT 2 Kg.

(NEW)
Check availability

Include **ALUMINUM** 



### **FEATURES**

Nominal amperage	125 A
Nominal Voltage	230 V
Generator	2-4 KVA
Duty cycle	60%
Electrode	2.5-3.25 mm
Weight	2 Kg
Socket	3/8"

### **ADVANTAGES**

- Reduced size  $20 \times 12 \times 9$  cm.
- Light weight 2 kg.
- Power 125 A Real duty cycle 60%.
- Easy welding, even for inexperienced users, due to the STAYER WELDING smart control, including optimised features as Hot Start, Arc Force and Anti Stick to make easier the starting of the arc, stabilising the welding process and preventing electrode stick by mis management.
- Unmatched performance in its price: 125A at 60% duty cycle at  $40^{\circ}$ C air temperature due to the advanced IGBTs with Eoff=0.37mJ, secondary no load voltage = 65Vdc.



### **MMA PLUS GE**

### INVERTER WELDING EQUIPMENT FROM 120 TO 200 A. 30% DUTY CYCLE DESIGNED FOR LIGHT AND MEDIUM SERVICE



PLUS RANGE	, PL	PLUS 120 BGE K PLUS 140 BGE K PLUS 160 BGE K PLUS 200 DIG GE K				
Power (Amps)	A	120	140	160	200	
Voltage	v	230	230	230	230	
Generator	KVA	2-4	2-4	2-5	2-6	
Duty Cycle	%	30	30	30	30	
Max. Electrode	mm_	3.25	3.25	4	5	
Weight	Kg	3	3.5	4	5	
Case (K)		SI	SI	SI	SI	
DINSE Terminal	Ø	3/8(10/25)	3/8(10/25)	3/8(10/25)	1/2(10/25)	

#### ADVANTAGES RANGE PLUS GE

- Innovative and compact inverter design for coated MMA electrode welding. (suitable for TIG welding).
- Easy to use: Specially adjusted for a simple use, perfect even with inexperienced users, includes hot start (for an easy arc start), Arc Force (to maintain arc continuity) and anti-stick (to prevent the electrode from sticking).
- Robust: Reinforced metal structure with falling protection system.
- High Quality: Premium components, searve oversized electronic and mechanic parts and High-performance modulator be switching semiconductors.
- Ready to be used with stabilized electricity generators, bearing voltage rises and downs up to 15%.

Letter "K" in model denomination means: Carry case



#### **INCLUDES**

	PLUS 120/140 BGE	PLUS 160 BGE / 200 DIG GE
Power cable	2m x 1.5mm <sup>2</sup>	2m x 2.5mm <sup>2</sup>
Ground cable with clamps	1.5m x 10mm <sup>2</sup>	2.5m x 16mm <sup>2</sup>
Electrode holder cable	2.5m x 10mm <sup>2</sup>	2.5m x 16mm <sup>2</sup>
Hammer-brush		
Mask		



### **MMA PLUS GE**

### **PLUS 200 DIGITAL**

Intelligent control by microprocessorHigh capacity DINSE terminals.



### PLUS 200 DIG GE

- Incomparable features in its price range: no-load voltage = 73Vdc, up to 200A Arc-Force dynamics.
- Digital potentiometer ensuring accuracy and ease of use.
- Suitable for all type of light and medium works, maintenance, construction and DIY.
- Prepared for special TIG welding by tungsten electrode in an inert atmosphere.
- Advanced thermal system for maximum performance and stability.
- Easy welding, even for inexperienced users, thanks to the STAYER WELDING intelligent control that includes the advantages of Hot Start, Arc Force and Anti Stick to optimize initial arc starting, improves welding stability and prevents electrode Stick to mismanagement.
- Fully equipped equipment for safe use with stabilized generators.
- Solid construction under European and international standards 2011/65 / EU, 2014/35 / EU and 2014/30 / EU / IEC 60974.
- Maximum power density: the lightest equipment in its category: only 5 kg of weight.



### MMA POTENZA GE

#### INVERTER WELDING EQUIPMENT FROM 120 TO 200 A. 60% DUTY CYCLE.



POTENZA RANGE	A PO	TENZA 160 GE	POTENZA 200 GE	POTENZA 200 CEL GE K	POTENZA BITENSION GE K
Power (Amps)	Α	160	200	200	200/160
Voltage	v	230	230	230	230/110
Generator	KVA	4.5	6	6	3-8
Duty Cycle	%	60	60	60	60
Max. Electrode	mm	4	5	5	5
Weight	 Kg	4.4	6	6	5
DINSE Terminal	ø	1/2	1/2	1/2	1/2

#### **ADVANTAGES RANGE POTENZA**

- Electronic equipment for standard coated MMA electroded welding, 60% duty cycle.
- Robust: Double metal structure prepared to resist shocks and protected with angled front housing to protect the potentiometer.
- Incorporates hot start, Arc Force and anti-stick to easily prime a cold electrode, maintain arc continuity and give safety when an electrode gets stuck.
- High Quality: Oversized components and relays, 400V power capacitors and 600V switches and first brand IGBTS for a perfect performance. With 12 operational amplifiers.
- Easy to use: Advanced control of current with pulse to pulse limitation for a maximum security and push pull totem pole drivers with 30V of dynamic margin.
- Large DINSE terminals for a maximum power transmission.
- High brightness led display for easy adjustment
- Versatile: Ready to be used with stabilized electricity generators, bears voltage rises and downs up to 17%.

Letter "K" in model denomination means: Carry case.

Optional in Potenza 160 GE and Potenza 200 GE



#### **INCLUDES**

	POTENZA 160 GE	POTENZA 200 GE POTENZA 200 CEL GE	POTENZA BITENSIÓN GE
Power cable	3m x 1.5mm <sup>2</sup>	3m x 2.5mm <sup>2</sup>	$3m \times 2.5mm^2$
Ground cable with clamps	2m x 16mm <sup>2</sup>	2m x 25mm <sup>2</sup>	2m x 25mm <sup>2</sup>
Electrode holder cable	3m x 16mm <sup>2</sup>	3m x 25mm <sup>2</sup>	2m x 25mm <sup>2</sup>
Hammer-brush	SI	SI	SI
Mask	Manual	Manual	Manual



### MMA POTENZA GE

### **POTENZA 200 CEL GE**

- Admits all kind of electrodes and especially cellulosic and aluminium.
- TIG Lift Arc professional.



### POTENZA 200 CEL GE

- Professional inverter 200 A, at 60% Duty Cycle, designed for welding with electrodes up to 6mm, cellulosic and aluminium. By means of a switch the machine is programmed to weld depending on the type of electrodes (rutile, basic, stainless, cast iron, etc.)
- Suitable to weld with all type of electrodes: Adaptive Arc Force configurable, No load voltage: 103V, model capable of welding cellulosic E6010 electrodes without arc breaks, sticking and penetration problems.
- Includes professional TIG: Ready for TIG with soft lift arc welding, for stainless steel, carbon steels by using a special torch (not included) with gas control valve. Switching from TIG to MMA by a commutator.
- Designed and manufactured with top quality and oversized electronic components such as high quality double toroid transformer, large DINSE 1/2 "terminals and modular design for long life without failures.
- High quality: Electronics thermally stabilized at 70° and ease welding thanks to the well-calibrated hot start, arc force and anti-stick aids for easy initial arc priming, good arc stability during welding and safety protection in the case of the electrode gets stuck.
- Includes high brightness led display for easy adjustment.
- Versatile: Ready to be used with stabilized electricity generators, bearing voltage rises and downs up to 17%.



### **MMA PROGRESS GE**

### INVERTER WELDING EQUIPMENT WITH ADVANCED TECHNOLOGY (HQ) FROM 150 TO 170 AMP AND 60% DUTY CYCLE



PROGRESS RANGE	PRO	GRESS 1500	PROGRESS 1700 L	
Power (Amps)	Α	150	170	
Voltage	v	230	230	
Generator	KVA	2-4.5	2-5	
Duty Cycle	%	60	60	
Max. Electrode	mm	3.25	4	
Weight	Kg	4	5	
DINSE Terminal		1/2	1/2	

### **ADVANTAGES RANGE PROGRESS**

- The PROGRESS range is the next technical level with respect to the POTENZA.
- Within the PROGRESS range you will find the most advanced and versatile designs, together with the best components in low loss transformers, switching and rectifying semiconductors with redundant control sensors.
- Advanced IGBT Inverter, compact and lightweight designed for MMA coated electrode welding (suitable for TIG welding) (Lif Arc in PROGRESS 1700L).
- The key to this product range is the superior quality of welding, using innovative technology, components and high-end parts.
- Very productive: Easy to use with good and deep fusion by perfect A / V control with double hall sensors and selection of the best E65 ferrites for balanced secondary power transformers, exact double pulse width (PWM) modulation.
- High Quality: Excellent quality control and oversized electronics of top category, modulator with automatic correction of symmetry, correction of double pulse, band of performance and precision of 1%.
- Perfect welding: Very well calibrated, adaptive arc force professional response, anti-stick, hot start.
- All terrain: Ready for generator, bears voltage rises and downs up to 17%.

#### **INCLUDES**

Power cable	2m x 2,5mm <sup>2</sup>
Ground cable with clamps	2m x 16mm <sup>2</sup>
Electrode holder cable	2.5m x 16mm <sup>2</sup>
Strip for easy - carry	YES



### **MMA PROGRESS GE**

### **PROGRESS 1700 L**

- THE CLASSIC, maximum quality of welding. - Professional TIG Lift Arc.



### **PROGRESS 1700 L**

- Fast and very easy to use without errors, even by non-specialists. The best MMA coated electrode welding: smooth fusion, silent and with great penetration. TIG specialised program with Soft Lift Arc, enables the equipment as TIG welding inverter by using a special torch with gas control by Valve (not included). Very stable TIG arc even with minimum 7 amps amperage. By means of a switch the programming between MMA / TIG Lift Arc is changed.
- Innovative typology of half bridge with double hall control in both primary and secondary, parallel bridges, high quality pulse transformer for better performance together with an exceptional quality transformer with an average outlet for an exact welding arc. Welding functions well evolved: Hot Start functions, special adaptive Arc Force and immediate Anti Stick, good Arc stability in any situation and a safety protection in the case of a stuck electrode.
- High Quality: Excellent quality control, automatic double sensor, thermal control system, over-dimensioned switches, diodes and advanced safe ferrite transformers.
- All Terrain: Ready to be used with electricity generators bearing voltage rises and downs up to 17 %, allowing its use with small power generators starting with 2 KVA.



### **MMA PROGRESS PFC**



PROFESSIONAL HIGH QUALITY MULTI-VOLTAGE INVERTER WITH ADVANCED TECHNOLOGY (HQ) FROM 170 TO 210 AMP AND 100% DUTY CYCLE.



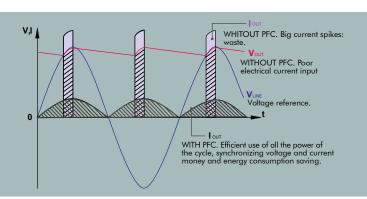
### **PFC RANGE**

#### PROGRESS 1700 PFC PROGRESS 2100 PFC

Current (Amps) (X=100% A, 230V)	Α	170	210
Current (Amps) (X=100% A, 110V)	A	130	160
Operating Voltage	v	85-265	85-265
Voltage Maximum Power	v	180-265	180-265
Generator	KVA	1-5	2-6
Duty Cycle	<u></u> %	100	100
Electrode	mm	5	6
Weight	Kg	6.4	8.4
DINSE Terminal	Ø	1/2(35/50)	1/2(35/50)

#### PFC ADVANTAGES

- Multi-voltage: Connectable to single-phase installations of 85 265V.
- Able to work with surges and voltage drops.
- Connectable to long lengtheners: 250mts section of  $4 mm^2 \ / \ 500mts$  section of  $6.0mm^2$
- Ideal to be used with generator, minimizes the need for power to 2.5 KVA with electrodes of 3.25mm.
- 40% of energy savings in the electric bill.
- Quiet and clean fan control.



#### **ENERGY SAVING**

IN	PROGRESS 1	700 PFC	IN -	PROGRESS 2	100 PFC
COMPARISON	EUR ANUAL SAVINGS VS	S EQUIVALENT IN	COMPARISON -	EUR ANUAL SAVINGS \	/S EQUIVALENT IN
CUNIFACIOUN	TRANSFORMER	INVERTER	CUMPANISUN	TRANSFORMER	INVERTER
INDUSTRIAL USE	1708	489	INDUSTRIAL USE	2009	575
<b>MAINTENANCE USE</b>	512	147	MAINTENANCE USE	603	172

According to 0.16€ KWh and medium values of use of 1.5h/day for maintenance and 4h/day for industrial in a five days work week. No VAT added.

#### **INCLUDES**





Letter "K" in model denomination means: Carry case



### **MMA PROGRESS PFC**

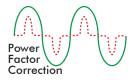
TIG lift arc



### **PROGRESS 2100 PFC**

Multi-Voltage: - Works from 85 to 265 V

Saves up to 50% on electricity bill. TIG Lift Arc.





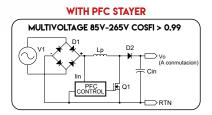
TIG LIFT ARC





SMART FANS MANAGER

# WITHOUT PFC SINGLE VOLTAGE 230V COSFI < 0.65



### **PROGRESS 2100 PFC**

- Electronic equipment designed for MMA coated electrode welding with professional Arc Force and TIG Lift arc.
- Multi-voltage active PFC for maximum economy, versatility and safety.
- Suitable for welding with all type of electrodes, including: basic, aluminium, cast iron, cellulose, high performance, Inox and rutile.
- Includes Lift Arc TIG welding with precise regulation of inert tungsten gas and friendly start of are.
- Suitable for all type of medium works, maintenance, construction and metal structures.
- Unparalleled performance: 210 A at 100% Duty Cycle, no-load voltage= 86 Vdc.
- Incorporates professional double silent fan system for thermal stability and maximum performance in its category.
- Thermal cut of low temperature (75°C) with improved hysteresis for better robustness.
- Easy welding even for inexperienced users, thanks to the STAYER WELDING intelligent control that includes the advantages of Hot Start, Arc Force and Anti Stick to optimize initial arc priming, improves welding stability and prevents electrode Stick to mismanagement. Manual Arc force for an exact adjustment to the type of electrode.
- Fully prepared equipment for safe use with all type of generators: Stabilized, AVR and Inverter.
- Solid construction under European specifications 2011/65 / EU, 2014/35 / EU, 2014/30 / EU and IEC 60974.
- Oversized design for a maximum robustness, top quality components (Philips, Motorola, IXYS, APT, Mitsubishi, etc.) and toroidal core crystalline ferrite transformer and bucked inductance.
- SILENT control (rpm) of fans according to work level. Reduces dirt entering into the machine and saves money.



### **INDUSTRIAL MMA**

#### INDUSTRIAL QUALITY FOR NONSTOP USE



MMA RANGE		S 100.20	S 250DV	S 400T
Voltage	V	230	1 ph:400/230	3 ph:400
Power (Amps)	A	200	250/200	400
Generator	KVA	6	8	8
Duty cicle		100	60	60
Max. Electrode	mm	6	8	8
Weight	Kg	14	18	20
DINSE Terminal	<i>"</i>	1/2	1/2	1/2

### ADVANTAGES RANGE INDUSTRIAL MMA

- Robust designed equipment for industrial and heavy duty works with MMA coated electrode welding suitable for all kind of environments.
- Very productive: Production-oriented, industrial design with professional Hot start, adaptive Arc Force and Anti Stick that facilitate to easily start or restart a cold electrode, always maintain arc continuity and fusion in any situation and prevent electrode Stick to mismanagement. In S250DV / S400T models the performance can be adjusted expertly by professionals for optimal performance in both Arc Force and Hot Start.
- High Quality: Double robust metal structure 100% for severe service including wheels (model \$250D / \$400T).
- Oversized designed components and parts: Parallelized bridges and relays, high-range IGBTS power capacitors and switches, primary filtration stages with mass filtering, high-power transformers and high amperage switches. Fans with cast iron structure and 100% metal parts.
- Versatile: Ready to be used with electricity generators bearing voltage rises and downs up to 17%.

### **INCLUDES**

	\$ 100.20	S 250 DV	S 400 T
Power cable	3m x 2,5mm <sup>2</sup>	2m x 6mm <sup>2</sup>	2m x 4mm <sup>2</sup>
Ground cable with clamps	3m x 25mm <sup>2</sup>	2m x 25mm <sup>2</sup>	— 5m x 35mm²
Electrode holder cable	3m x 25mm <sup>2</sup>	2m x 25mm <sup>2</sup>	— 3m x 35mm²



### **INDUSTRIAL MMA**

### **\$ 250 DV**

- Professional Hot Start. Professional Arc Force
- Automatic voltage change.



**DUAL VOLTAGE** 

400V/230V **MONOPHASIC** 

### S 250 DV

- Electronic equipment for standard welding with any type of MMA coated electrode, including cellulose and aluminium.
- Versatile: Suitable to work with a single phase at both 400V and 230V.
- Designed for special TIG welding by using tungsten electrode in an inert atmosphere.
- Professional arc priming using a clean procedure by an expert external control.
- Suitable for all type of production work and severe service in which maximum quality of welding is required.
- Unmatched performance in its price range: 250A at 60%, Duty Cycle no-load voltage = 72Vdc
- Easy welding even for inexperienced users thanks to the STAYER WELDING intelligent control that includes the advantages of Hot Start, Adjustable Arc Force and Anti Stick to optimize initial arc priming, improve welding stability and prevent electrode Stick to mismanagement.
- Equipment fully prepared for a safe use with stabilized generators, allowing overvoltages of + 17%.
- Solid construction under European specifications 2011/65 / EU, 2014/35 / EU, 2014/30 / EU and IEC 60974.
- Top quality components, including 600V IGBT switches and high-end UC3846 PWM modulator.
- Toroidal transformer with physical inductance. Massive rectifier of 8x560 μFg and components of first brands (Philips, Motorola, lxys) of maximum reliability.



### TIG HF

TIG HF



#### TIG EQUIPMENT WITH HIGH FREQUENCY ARE START



RANGE TIG	POTENZA TI	G 170 HF	
Power (Amps)	· · · A A A A A	170	200
Voltage		230	230
Generator	KVA	5	6
Duty Cycle	<u></u> %	60	100
Max. Electrode	mm	4	6
Weight	Kg	5	14
Carry case (optión K	(1)	YES	NO
DINSE Terminal		1/2	1/2

#### **ADVANTAGES RANGE TIG HF**

- Robust TIG welding equipment for severe service, for maximum quality welding of all type of carbon steels, stainless steels, titanium and alloys. Welding mode for MMA coated electrodes included.
- High Quality: Double reinforced metal structure for continuous and severe use.
- Oversized components, with parallelized bridge and relays, high quality power capacitors and IGBTS switches, high performance power transformers, high amperage switches and fans.
- Very productive: High frequency priming and professional controls for a perfect welding of all type of material with easy power control setting, clean and contactless priming HF-HV, Argon post-flow and full pulsed wave control mode (TIG 200 HF P) for fast productivity even for a non-expert TIG welders.
- The MMA electrode mode includes professional Hot Start, Adaptive Arc and Anti-Stick for easy prime of a cold electrode, always maintains arc continuity and protects operator and equipment in the case the electrode gets stuck.
- All Terrain: Ready to be used with electricity generators bearing voltage rises and downs up to 17%.

Letter "K" in model denomination means: Carry case

INCLUDES	POTENZA TIG 170 H	TIG 200 HF P
Power cable	2.2m	3m x 2.5 mm <sup>2</sup>
Ground cable with cla	amps2m	3m x 25mm <sup>2</sup>
Electrode cable with a	lamps 2.5m	3m x 25mm <sup>2</sup>
TIG HF Torch	2.5m	3m
Hammer-brush		
Mask		



### TIG AC/DC

#### TOP RANGE PULSED, AC/DC TIG SUITABLE FOR ALUMINUM WELDING



#### **ADVANTAGES RANGE TIG AC/DC**

- Professional and severe service inverter welding equipment for 200-315 AMP TIG processes at 60% Duty Cycle, designed for Industrial TIG productivity. Special for works in stainless steel, aluminium, alloys and all kinds of steels.
- Productivity: All possibilities of control and configuration are possible through an easy and intuitive menu controlled by
  microprocessor. Includes professional functions of HF-HV (High Frequency / High Voltage) 2T / 4T, optional DC mode control,
  Pulse mode control, AC mode control, ramps and gas control, gas flow and post flow control. Includes an Easy Mode to get
  most of the optimal configuration even when a welder is not yet accustomed to the set up.
- Water-cooled TIG torch (mod. 315) for a service of 60% Duty Cycle even in very hot processes of 315 A AC welding with aluminium. Extra-sized refrigerating unit for a non-stop productivity.
- Includes a special connector (mod. 315) to enable an amperage control pedal for Professional TIG welding, (optional).
- Suitable to weld coated electrodes simply by enabling it from the menu.
- Includes double reactor for generation of AC for aluminium welding.
- High Quality: Robust and safe design, double structure 100% metal, heavy plate cover for industrial productivity without stops in complete security. Parts and components of industrial and military category including EMI filter, main and secondary transformers for maximum performance and 800V / 300A, C150 / MURP200 unique IGBTS, secondary diodes and industrial rectifiers.
- Versatile: Ready to be used with electricity generators bearing voltage rises and downs up to 17%.

INCLUDES	TIG AC/DC 200 HF	TIG AC/DC 315 HF
Power cable	3m x 2,5mm <sup>2</sup> —	3m x 2,5mm <sup>2</sup>
Ground cable with clamps	3m x 25mm <sup>2</sup> —	3m x 25mm <sup>2</sup>
Electrode holder cable	3m x 25mm <sup>2</sup> —	3m x 25mm <sup>2</sup>
Ergonomic torch	3m/5m x 16mm <sup>2</sup> —	3m/5m x 16mm <sup>2</sup>





VERSATILE MULTI-PROCESS WELDERS (MIG, MAG AND HOLLOW WIRE),



		MIG 160 Multi	MIG 170 Multi	MIG 200 Multi	MIG 250 BM/BT	MIG 350 BT	MIG 500 BT
Torch		MIG 13 AK _	MIG 13 AK_	BINZEL 15AK_	BINZEL 25AK	BINZEL 36AK	BINZEL 501D 36AK
Power (Amps)	A	160	170	200	250	350	500
Voltage	V	230	230	230	1X230/3X400	3X400	3X400
Generator	_KVA_	6 _	6 _	6	8_	17 _	25
Wire	mm	0.8	0.6-0.9	0.8-1.0_	0.8-1.0_	0.8/1.0-1.0/1.2 _	0.8/1.0-1.2/1.6
Coils	Kg _	0.5-1 _	0.5-5	5-15 _	5-15_	5-15 _	5-15
Duty cycle	%	60 _	60	60	60_	60 _	60
Electrode	mm	4 - 5 _	5	5	6_	8 _	8
Weight	_ Kg _	8 _	17	22	42_	45 _	50
DINSE Termina	ıl _ "	3/8 _	3/8	1/2	1/2_	1/2 _	1/2

#### **ADVANTAGES RANGE MIG**

- Inverter equipment 60% Duty Cycle. Corresponding to STAYER'S MIG range of 160-500 A, designed for MIG, TIG and MMA of the highest quality processes. Suitable for wires of 0.8 1.6mm diameter and coated electrode up to 5mm. Easy to use and easy to set up.
- Efficient and simple Classic wire welding with only two setting buttons: one for control including Speed mode and another for Voltage mode. A switch enables the change of the working mode, MIG, MMA and TIG.
- Easy and simple inversion of polarity to enable the machine to flux core wire welding (without gas).
- Very complete equipment including torches, ground cables and electrode.
- Ligthweigth and robust: Compact, powerful by fully IGBT power circuitry. Oversized design, components and strict quality control to each machine.
- Industrial / household consumption limiter available (16 A) for a safe work at homes, hospitals, etc.
- IGBT technology based on microprocessor advanced control.
- Independent wire feeder with water cooling and wheels, 5 m connection (optional 10 m) with the central unit, the wire feeder includes the best mechanism of double roller, four contacts, of the market and able to house large coils of 15 kg on reel holders of 310 mm (models 350 and 500 only).
- Torch trigger handling 2T / 4T for comfortable and top-quality welding.
- MIG 170 allows small reels of 0.5 kg, or 1 kg., along with medium weight coils of 5Kg.
- MIG 160, ligthweigth special model allows only 1 KG max reels.

INCLUDES	MIG 160 Multi MIG 170 Multi	MIG 200 Multi MIG 250 BM/BT	MIG 350 BT	MIG 500 BT
Power cable	2m x 2.5mm <sup>2</sup>	2mx2.5mm <sup>2</sup>	3mx4mm <sup>2</sup>	3mx6mm <sup>2</sup>
Ground cable with clamps	2.5 m x 16 mm <sup>2</sup>	3mx25mm <sup>2</sup>	3mx40mm <sup>2</sup>	3mx40mm²
Flectrode cable with clamps	2.5 m x 16 mm <sup>2</sup>	3mx25mm <sup>2</sup>	3my40mm <sup>2</sup>	$3mx40mm^2$



### MIG 200 MULTI

- Classic thread control:
- Only speed and voltage.
   Easy inversion of polarity.
   MMA Electrode welding.
- TIG welding.



### VERSATILE MMA ELECTRODE WELDER, TIG, MIG AND FLUX CORE. STEEL AND ALUMINIUM

- IGBT Inverter equipment of 200 A at 60% Duty Cycle, corresponding to STAYER's MIG range, designed for the highest MIG, TIG and MMA quality processes. Suitable for 0.8-1.0 mm wires, TIG and MMA coated electrode up to 5 mm. Easy to use and easy to set up.
- Elegant and simple adjustment of welding parameters, with only two control buttons: One for speed control and one for voltage. A switch enables the change of the working mode, MIG, MMA and TIG.
- Easy and simple inversion of polarity to enable the machine to flux core wire welding (without gas).
- Quick wire load for a simple and safe start-up operation of the torch without voltage in the wire.
- Big wire 310 mm reel, that also allows the use of large reels of 5 x 15 kg.
- Transportable and robust: Compact, low weight by fully IGBT power circuitry. Oversized design, components and strict quality control of each machine. Mobility with 4 wheels and balanced handle.
- Set of special roller for aluminium and flux core wire available.
- Industrial / domestic consumption limiter available (16 A).
- Includes BINZEL 15AK quality torch and ground and electrode rod welding cables.
- Quality thread driving mechanism. Robust, reliable gearbox and stabilized motor.
- Optional Kit for aluminium (page 30).





### MMA ELECTRODE WELDER, MIG / MAG, FLUX CORE. STEEL AND ALUMINIUM.



#### **ADVANTAGES MIG 250 B**

- Three-phase (BT) and single-phase (BM) versions.
- Professional inverter equipment for continuous wire, MIG/MAG, MMA coated electrode and TIG.
- Easy handling, even for non-expert welders. Computerized manual control that avoids complex menus.
- Easy inversion of polarity for flux core wire welding.
- Two high-brightness displays for simultaneous viewing of current and voltage in precised real time.
- Manufactured under strict European specifications 2011/65 / EU, 2014/35 / EU, 2014/30 / EU and IEC 60974.
- Suitable for 3x400 generators. Able to withstand voltage deviations  $\pm$  10%.
- Professional wire feeder, with 60W motor, safe and stable thread reducer, suitable for large coils. Includes wire rollers with grooves for, 0.8mm and 1mm, complete Binzel torch, clamps and cables.





### RANGE SYNERGIC WATER COOLED MIG, MMA & FLUX CORE, ELECTRODO MMA Y TIG.

- Professional inverter equipment for continuous wire welding, coated MMA electrode and TIG.
- Welding wire feder head detachable from main machine with 5/10 m connection, wheels and full control.
- Simple to use with simple menus to set in classic manual mode.
- Adjustable Arc Force for cellulosic welding and to improve TIG response.
- Easy inversion of polarity for flux core welding.
- Current and voltage indicators in real time and high precision.
- Superior Inverter technology, without heavy transformer, light and very powerful, at 60% Duty Cycle at  $40^{\circ}$ C.
- Manufactured under strict European specifications 2011/65 / EU, 2014/35 / EU, 2014/30 / EU and IEC 60974.
- Suitable for 3x400 generators. Able to withstand voltage deviations between  $\pm$  10%.
- Professional wire feeder, with 85W motor and two push-pull rollers, safe and stable thread reducer, suitable for all type of coils.
- Intelligent voltage control, current and speed directly from the wire feeder unit.
- Synergic and manual mode (voltage & speed) with ratio-metric arc length control by advanced MCU algorithm.
- 500 BT: Witer cooling system with Binzel 5010 high power ( 500 A ) torch.



### **PLASMA**

### INVERTER EQUIPMENT FROM 40 TO 120 AMP FOR ALL TYPE OF METAL CUTTING



#### PLASMA CUTTING RANGE

#### PLASMA MULTI 40GE PLASMA 40 COMGE PLASMA 100 T GE

Power (Amps)	ROD/TIG - PLASMA A	<u> </u>	40	100
Voltage	v _	230 +/- 17%	230	3x400
Generator	KVA	6	4.4	11
Duty Cycle	%	60	60	60
Electrode	mm _	4/5		-
Cutting depth	mm _	12	12 _	32
Weight	Kg_	7	21_	30
DINSE Terminal	"	1/2	3/8	3/8
Compressor		Externo	Interno_	Externo

#### **ADVANTAGES RANGE PLASMA**

- Professional plasma cutting system by Inverter technology.
- Prepared for fast and clean cutting of all types of metals and alloys.
- Solid manufacturing under European regulations 2014/35 / EU, 2014/30 / EU, 2011/65 / EU, IEC 60974.
- Manufactured to be used in production tasks in severe industrial service environments for metallic constructions, boiler-making, shipbuilding, scrapping and maintenance.
- Unrivalled in quality / price ratio: 40 A and 100 A at 60% Duty Cycle with no load voltage from 100 to 130 Vdc.
- Very easy execution of cutting operations even for inexperienced users, thanks to the STAYER WELDING intelligent logic.
- All equipment include high quality pressure regulator with filter and clock manometer. The PLASMA 40 COM GE includes 1 HP internal compressor for autonomy without having to connect the equipment to the installation of compressed air.
- Metal carpentry and extra strong housings with internal reinforcements to resist shocks and rough use. Steel blades for a greater duration and resistance.
- Advanced design and high quality electronic components, including switches and HF rectifiers of high range, toroidal power transformers and components of top brands (Philips, Motorola, APT, lxys ...) oversized for a maximum durability and safety.
- Upgraded power supply to resist up to 270 Vac in single phase equipment and up to 470 Vac in three-phase with 50 meters long elongation cables.
- Prepared for all type of condensers stabilized by generators, AVR or sine wave inverter.
- All models include cutting torches, air hoses and ground cable and clamp.

INCLUDES	PLASMA MULTI 40	PLASMA 40 COM	PLASMA 100 T
Power cable	2m x 2.5mm <sup>2</sup>	2m x 2.5mm <sup>2</sup>	2m x 2.5mm <sup>2</sup>
Ground cable with clamps	2m x 25mm <sup>2</sup>	2m x 10mm <sup>2</sup>	2m x 16mm <sup>2</sup>
Workpiece electrode cable with clamps	2m x 25mm <sup>2</sup> —	NO	NO
Plasma torch	SG 55 4m	IPT 40 6m	LT 100 6m
TIG torch	SR 17 HF	NO	NO



### **PLASMA**



### PLASMA MULTI 40 A AT 60 % DUTY CYCLE

- Electronic inverter equipment for welding and cutting by electric arc.
- Three functions:
- 1. MMA coated electrode welding with external Arc Force and even cellulosic welding with 160 A at 60% Duty Cycle.
- 2. Top quality TIG welding with high frequency arc starting.
- 3. Cutting of all type of metals by means of Plasma with non-contact HF of 40 A.
- Very complete accessories including plasma torch, TIG torch and coated electrode (MMA) cables.
- Suitable for all type of light and medium works, maintenance and construction in which maximum quality of welding, cutting and simplicity of use are required.
- Unparalleled performance in its price range: 160 A at 60% Duty Cycle,no load voltage = 76Vd
- Easy welding, even for inexperienced users, thanks to the intelligent control STAYER WELDING which includes the advantages of Hot Start, Arc Force and Anti-stick to optimize the arc priming, improve weld stability and prevent electrode Stick to mismanagement.
- Fully prepared equipment for a safe use with stabilized generators, allowing overvoltages of + 17%.
- Solid construction under European specifications 2011/65 / EU, 2014/35 / EU, 2014/30 / EU and IEC 60974.
- Top quality components, including 600V IGBT switches and high-end UC3846 PWM totem pole controller.
- Maximum power density: The lightest equipment in its category, only 7kg of weight.



### **WELDING MASKS**





GS-0

- LARGE VISION AREA WITH DARK FILTER
- READY FOR GRINDING WORKS
- DARK CRYSTAL FILTER DIN 11
- TRANSPARENT HINGE FILTER
- PROFESSIONAL QUALITY HARNESS

### AS-1D AUTOMATIC

SOLAR POWER SUPPLY WITH BACK UP
 HIGH RESISTANCE POLYMERIC MASK
 AUTOMATIC PROTECTION DEGREE EN 169, 9-13 DIN
 SENSIBILITY ADJUSTMENT

• BACK TO CLEAR DELAY TIME ADJUSTMENT

AUTO POWER OFF



	GS-0	AS-ID
Filter Dimensions	_110 x 80 x 3 mm	110 x 90 mm
Vision area	97 x 73 mm	92 x 35 mm
Protection grade in clearing up mode	11 DIN	4 DIN
Protection grade in darkening mode	11 DIN	9/13 DIN
Protection grade in grinding mode	<u>-                              </u>	<del>-</del>
UV/IR Protection	11 DIN	15 DIN
Delay from light to shadow	0s	1/20.000s
Delay from shadow to light	Os	0.2-0.8s
Sensibility		Min - Max
Temperature of use	-5°C - 55°C	-5°C - 55°C
Weight	400 gr.	440 gr.
Filter use safe time	2 YEARS	2 YEARS





- ADJUSTABLE SHADING EN 169 FROM DIN 9 TO DIN 13
- HIGH RESISTANCE POLYMER MASK
- SOLAR POWER SUPPLY



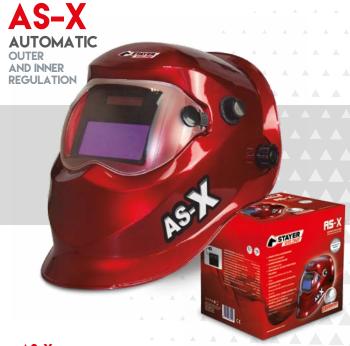
### AS-R

Filter Dimensions	110 x 90 x 8 mm
Vision area	92 x 35 mm
Degree of protection clear state	4 DIN
Degree of protection dark state	9/13 DIN
UV/IR Protection	15 DIN
Time from light to darkness	1/20000s
Time from darkness to light	0.4s
Sensibility	Media
Temperature of use	- 5°C / -55°C
Weight	500 gr
Filter use safe time	2 YEARS



### **WELDING MASKS**





AS-XL

AUTOMATIC

LARGE VISION AREA

LARGE SHADE RANGE 5-13

#### AS-X

- SOLAR POWER SUPPLY WITH BACKUP
- ADJUSTABLE SHADING EN 169 FROM DIN 9 TO DIN 13
- VISION AREA 94 X46 MM.
- HIGH RESISTANCE POLYMER MASK
- GRINDING POSITION TO AVOID AUTOMATIC DARKNESS.
- SENSITIVILITY AND BACK TO CLEAR DELAY TIME CONTROLS.

#### AS-XI

- SOLAR POWER SUPPLY WITH DOUBLE BACKUP
- ADJUSTABLE SHADING EN 169 FROM DIN 5 TO DIN 13 IN TWO RANGES
- LARGE VISION AREA 100 X 60 MM.
- AUTOMATIC DARKENING IN LESS THAN 0.0001 SG.
- SENSITIVILITY AND CLEARING UP DELAY TIME CONTROLS OF MAX PRECISION
- LARGE FRONT FILTER PROTECTOR.
- ERGONOMIC HARNESS WITH 4 ADJUSTING AXES.
- 4 ARC SENSORS FOR DOUBLE SECURITY WITH RESET.

### 3 1b 4





### **FILTER AS-XL**

- 1. Grade selector: 9-13 / 5-9 / Ready for GRINDING (No darkening).
  - **1.**B. Shade selector (for a greater grade of sensitivity)
  - Clearing up delay setting (MIN-MAX).
  - 3. Low battery indicator.
  - 4. RESET button.
  - 5. Sensitivity adjustment (LO-HI).

	AS - X	AS - XL
Filter Dimensions	110 x 90 x 9 mm	100 x 60 mm
Vision area	94 x 46 mm	100 x 60 mm
Protection grade in clearing up mode	4 DIN	4 DIN
Protection grade in darkening mode	9/13 DIN	5-9 / 9-13DIN
Protection grade in grinding mode	2 DIN	2 DIN
UV/IR Protection	16 DIN	16 DIN
Delay from light to shadow	1/25000s	1/30000s
Delay from shadow to light	0.2/0.8s	0.2s / 0.8s
Sensibility	Manual —	Manual
Number of sensors		4
Low battery indicator	No	Si
Power Supply	Solar cells	Solar cells
Temperature of use	-5°C - 55°C	-5ºC - 55ºC
Weight	430 gr.	440 gr.
Filter use safe time	2 años	2 años



### **ACCESSORIES**

### **CONECTION ACCESSORIES**

**WELDING CABLE** 

8110.1160 KIT 3/8", 10-25:  $2m \text{ Cable} + \text{Electrode clamp holder} / 1.5m \text{ cable} + \text{ground clamp. } 10mm^2$ . 8110.1159 KIT 1/2", 25-50:  $2m \text{ Cable} + \text{Electrode clamp holder} / 1.5m \text{ cable} + \text{ground clamp } 25mm^2$ .





#### **SOCKETS AND CLAMPS**

Electrode clamp 300 amps, 500 amps / ground clamp 300 amps, 500 amps / Aereal socket DINSE 1/2", 3/8" 8110.637 8110.1227 8110.638 8110.1228 38.232







### **SQUARES AND HAMMERS**

Magnetic square 45° / 90°, Supports 25Kg / Hammer with chisel 500gr Welder pointer / Standard hammer with brush.

8110.777







### MIG TORCH, EUROTORCH connection

8110.1158	Torch MIG 13 AK, 3m for MIG 170 Multi
38.483	Torch MIG 15 AK,4m for MIG 200 Multi
38.484	Torch MIG 25 AK, 4m for MIG 250 BM/T
38.485	Torch MIG 36 AK, 4m for MIG 350 BT
38.486	Torch MIG 501 D, 4m for MIG 500 BT









### **TIG TORCH**

38.85	TIG torch universal valve, DINSE 3/8", gas 3/8". 3m.
38.87	TIG torch universal valve, DINSE 1/2", gas 3/8". 4m.
4120.172	TIG torch, Plasma Multi 40, DINSE 1/2", M16x1.5, 4m.
38.713	TIG torch, Potenza 170 HF, DINSE 1/2", M16x1.5, 4m.
4019.55	TIG torch, TIG 200 AC/DC, DINSE 1/2", gas M10x1, 3m.
4019.125	TIG torch, TIG 315 AC/DC water, DINSE 1/2", gas M10x1, 3m.











### PLASMA TORCH, M16x1.5 connection

4120.170	Plasma torch SG 55 for MULTI 40, 4m
4120.171	Plasma torch IPT 40 for Plasma 40 COM, 4m
4120.173	Plasma torch LT 100 for Plasma 100T, 6m







### **MIG / TIG ACCESSORIES**

11110	Tid Addedddiiled
38.121	KIT welding TIG: Flowmeter + Torch 3/8" + Electrodes
38.122	KIT welding TIG: Flowmeter + Torch 1/2" + Electrodes
1.1533	KIT welding MIG Aluminium: Roller + Torch - For MIG 200 MULTI
1.1781	KIT welding MIG Aluminium: Roller + Liner - For MIG 200 MULTI
38.672	Flowmeter Argón and CO <sub>2</sub> Range R58
	Roldana 0.6-0.8 / Roldana 0.8-1 / Roldana 1-1.2 / Roldana 1.2-1.6 (Check availability)

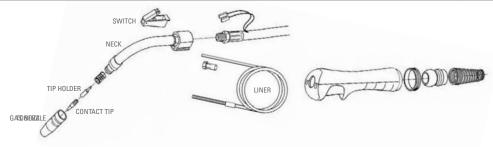




### **CONSUMABLES**

### **TORCH MIG CONSUMABLES**

		MACHINE GA		MACHINE	MACHINE	MACHINE	MACHINE	MACHINE	MACHINE	MACHINE	GAS	CON	TACT TIP S	TEEL	CONTACT TIP STEEL ALUMINUM			TIP			LINER STEEL			LINER ALUMINIUM		
COD.		MODEL	NOZZLE	0.8	1.0	1.2	0.8	1.0	1.2	HOLDER	NECK	SWITCH	0.8	1.0	1.2	0.8	1.0	1.2								
8110.1158	13AK	MIG 170	8110.1165	8110.1162	8110.1163	8110.1164	NO	N0	NO	N0	8110.1166	8110.1167	8110.1168													
38.483	15AK	MIG 200	4019.56	38.50	38.51	N0	38.52	38.53	N0	38.721	38.742	38.613	38.	744	N0	38.	743	NO								
38.484	25AK	MIG 250 B	38.81	38.54	38.55	38.56	38.57	38.745	38.58	38.722	38.746	38.747	38.744 NO		38.	743	N0									
38.485	36AK	MIG 350 BT	38.69	38.59	38.60	38.61	38.62	38.63	38.64	38.480	38.752	38.747	38.750	38.	751	38.749	38.	748								
38.486	501D	MIG 500 BT	38.568	38.542	38.543	38.544	38.545	38.66	38.546	38.736	38.737	38.747	38.553	38.556	38.559	38.554	38.557	38.560								

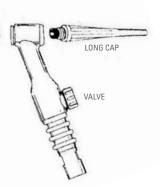


### **TORCH TIG CONSUMABLES**

		LONG BACK CAP	GAS VALVE CONTRO-				COLLE	Τ				COLLET BODY					GAS LENS NOZZLE										
COD.	MODEL	CAP	LLER	1.0	1.6	2.0	2.4	3.2	4.0	4.0	1.0	1.6	2.0	2.4	3.2	4.0	GR-4	GR-5	GR-6	GR-7	GR-8						
38.85	TIG valve 3/8																										
38.087	TIG valve 1/2																										
4120.172	40 Multi																										
38.713	POTENZA 170 HF	2.310	2.311	2.330	2.305	2.331	2.306	2.332	2.333	2.333	2.334	2.308	2.335	2.307	2.306	2.337	2.338	2.339	38.443	2.340	2.341						
4019.55	TIG 200 AC/DC																										
4019.125	TIG 315 AC/DC																										
38.716	TIG 200 HF																										

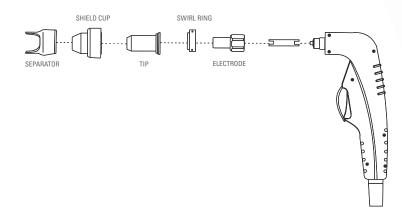






### **TORCH PLASMA CONSUMABLES**

COD.	MODEL	ELECTRODE	SWIRL RING	TIP NOZZLE	SHIELD CUP	TIP SUPPORT	SEPARATOR	NOZZLE
4120.170	SG55	4120.180	NO	N0	4120.178	NO	NO	4120.179
4120.171	IPT40	4120.174	4120.175	4120.176	4120.176	NO	N0	NO
4120.172	LT100	4120.148	4120.145	4120.146	4120.147	4120.144	38.21	NO





### **HELMETS CONSUMABLES**

COD.	MODEL	INTERIOR PROTECTOR	EXTERIOR PROTECTOR	FILTER	HARNESS	SET HARNESS SET	SWEAT BAND
1.1806	GS-0	8110.1220	-	8110.1219	8110.1221	8110.1222	8110.1224
1.1792	AS-R	4020.57	4020.8	4020.53	4020.55	4020.55	4020.32
1.1591	AS-0	4020.39	4020.37	4020.41	4020.46	4020.50	4020.32
1.1606	AS-1C	4020.38	4020.36	4020.40	4020.46	4020.50	4020.32
1.1059	AS-X	4020.13	4020.8	4020.18	4020.19	4020.24	4020.32
1.1386	AS-XL	4020.30	4020.29	4020.27	4020.42	4020.43	4020.32



### **ELECTRODE CONSUMABLES**

COD.	MODEL	DIAMETER (mm)	LENGTH (mm)	AMPERES (A)	WEIGHT (Kg)	UNITS/ PACK
38.93	E 6013	2.5	350	60-100	0.5	20 / Blister
38.94	E 6013	3.25	350	90-140	0.7	20 / Blister
38.99	E 6013	2.5	350	60-100	2.5	100 Carton Box
38.100	E 6013	3.25	350	90.140	3.3	100 Carton Box
38.96	E7018	3.25	350	110-150	0.7	20 / Blister
38.102	E7018	3.25	350	110-150	3.4	100 Carton Box











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