



INVERTER TECHNOLOGY POWER SOURCE FOR MIG AND MMA

GENESIS PME

282-352-503

High quality MIG-MAG,
and MMA welding

These are inverter power sources purposely designed for exceptional quality welding both with electrode (MMA) and continuous wire (MIG, MAG, Pulsed Spray Arc); TIG welding is also possible with contact ignition. Top performance is guaranteed by use of innovative technology in the primary power block (**European Patent N° 602495**), the latest studies on welding parameter control systems, and the most advanced and dependable components on the world market (**microprocessor, IGBT and SMD components**).

The control panel is easy to use and 52 different synergic curves are available to the operator for MIG/MAG and pulsed MIG welding of all the most common materials.

On these new PME series welders, striking of the arc is always accurate and without spattering, and welding is always smooth and stable. Maximum continuous performance of the three power sources has also been increased and they can now deliver, respectively:

280A, 350A and 500A without interruption at ambient temperature of 25°C.

They are the most powerful welders in their category!

Genesis 282/352/503 PME fully comply with the new European standard **EN60974-1** (equivalent to the International Standard **IEC974-1**) on electrical safety of welders and the stringent European Standard **EN50199** on electromagnetic compatibility; application of these standards ensures compliance of the welder with the **Community Directives** and maximum operator safety during work.

Selco is an **ISO9001** certified company with a highly efficient distribution network, further confirmation of the product and service quality it offers its customers.



USE

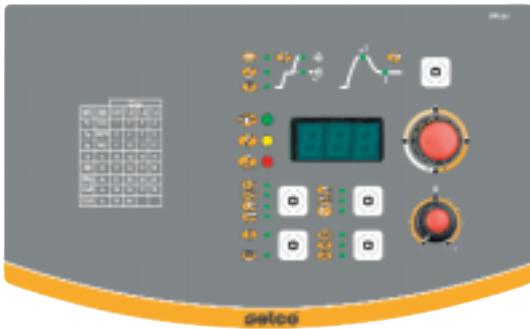
Inverter technology, use of a microprocessor and accurate construction ensure **safety, dependability and stable precise welding arc** in all operating conditions.

The **WF104** separate wire feed unit weighs only 19 kg (without wire reel) and can be positioned above the power source on a pin, which permits 360° rotation, or at a distance near the work place by means of a connection cable bundle up to 10 m long; the **microprocessor**, the **Encoder** and a sturdy **4 roller** gearmotor ensure maximum precision in welding wire delivery speed.

The **WU21** unit cools the TIG and MIG torches, making them easier to handle and increasing performance. The **GT23** power source trolley simplifies transport of the whole system and gas bottle, making it one single compact unit.

The **FP141** front panel is extremely simple and user-friendly, permitting adjustment of all welding parameters via 2 knobs and 5 buttons. A number of LEDs are provided, allowing for easy identification of the machine operating status and the parameter shown on the **display**. The arc current and voltage values measured in real time for welding quality controls can also be shown on the display.

At **switch-off**, the last welding condition is stored, making it easier to re-start work after interruptions.



FP 141: Control panel

MMA welding



The **Hot-Start**, **Arc-force** and **Anti-sticking** functions make welding easier, smoother and better quality even with particularly difficult electrodes.

The powerful current and exceptional dynamic response permit welding of rutilic, basic and cellulosic electrodes, including large sizes, in addition to cast iron, aluminium and stainless steel electrodes.

MIG-MAG welding



The Genesis PME power sources have been purposely designed and sized for high-efficiency welding in continuous wire procedures, both in the **Short Arc** mode (for low current

welding) and **Spray Arc** mode (for large deposits of material); operation in **Pulsed Spray Arc (pulsed MIG)** mode minimises spattering of molten material during welding, resulting in **reduction in time** for re-working the welded piece and therefore **lower costs** overall.

Pulsed MIG is ideal for welding carbon steel on thin sheet metal, stainless steel and aluminium (with results comparable to TIG AC welding); piece overheating and fumes are reduced compared to conventional MIG/MAG welding methods.

The **synergic welding programs** for the most frequently used materials can be easily recalled from the internal memory; once the type of material, type of gas and wire diameter have been chosen, the operator only has to adjust the material deposit rate (**wire speed**) and arc length (**welding voltage**); these two parameters can also be varied by means of the **RC 07** remote control.

The motor **Soft-Start**, **Crater-Filler** and **Burn-Back** functions optimise striking of the arc, end of the welding bead and final wire **Stick-Out**.



RC07 remote control

TIG DC welding



Contact start (LIFT start) has been purposely designed to minimise inclusion of tungsten in the material to be welded and reduce electromagnetic interference.



The **WF 104** wire feed unit weighs less than 20 kg and can be easily transported.

ADVANTAGES

- ✓ **Greater power** at 100% duty cycle.
- ✓ **Reduced electricity consumption** compared to traditional power sources and first generation inverter power sources.
- ✓ **Easy to use.**
- ✓ Lightweight easy-to-handle **wire feed unit.**
- ✓ Can be used in severe environmental conditions: **electronic circuits protected from dust** and **IP23** protection rating.
- ✓ The **microprocessor** facilitates setting of the parameters, ensures **welding repeatability** and therefore quality.
- ✓ **Pulsed MIG** reduces spattering of molten material during welding with reduction in time required for re-working the welded piece and therefore **lower overall costs** in addition to **reduced deformation and welding fumes.**
- ✓ Excellent electrode welding: **Hot-Start, Arc-Force and Anti-sticking.**
- ✓ **Measurement of welding arc voltage and current** for quality controls.

APPLICATIONS

- NUCLEAR INDUSTRY
- AEROSPACE AND DEFENCE INDUSTRY
- TRANSPORT INDUSTRY
- PROFESSIONAL MAINTENANCE
- HEAVY AND LIGHT METAL STRUCTURES



EMC test



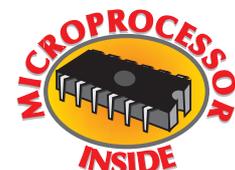
IP 23 test



40°C operation test



Welding test



TECHNICAL DATA 282 PME 352 PME 503 PME

SUPPLY VOLTAGE 50/60 Hz	3X400V ±15%	3X400V ±15%	3X400V ±15%
INPUT CURRENT X=100%	13 A	19.5 A	32 A
MAXIMUM INPUT CURRENT	21 A	27.5 A	42.9 A
MAXIMUM POWER REQUIREMENT	10.1 kW	13.7 kW	22.9 kW
POWER FACTOR	0.69	0.72	0.77
EFFICIENCY	0.87	0.87	0.87
WELDING CURRENT 40°C	X=50%		500 A
	X=60%	280A	350A
	X=100%	220 A	270 A
			400 A
WELDING CURRENT 25°C	X=100%	280A	350A
ADJUSTING RANGE	6-280 A	6-350 A	6-500 A
OPEN CIRCUIT VOLTAGE	81 V	81 V	79 V
PROTECTION RATING	IP23 C	IP23 C	IP23 C
INSULATION CLASS	H	H	H
CONSTRUCTION STANDARDS	EN60974-1,EN50199	EN60974-1,EN50199	EN60974-1,EN50199
WEIGHT	32 kg	32 kg	39 kg
DIMENSIONS (L x P x H)	27.5x62x50 cm	27.5x62x50 cm	27.5x62x50 cm

FUNCTIONS

MMA

HOT-START	Y
ARC-FORCE	Y
ANTI-STICKING	Y

TIG DC

LIFT START	Y
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MIG/MAG

SYNERGIC PROGRAMS

WIRE DIAMETERS		0.8	1.0	1.2	1.6	
MATERIAL	Fe	100% CO ₂	S	S	S	S
	Fe	80% Ar 20%CO ₂	S/P	S/P	S/P	S/P
	Ss	98%Ar 2%CO ₂	-	S/P	S/P	S/P
	Al	100% Ar	-	S/P	S/P	S/P
	AlSi	100%Ar	S/P	S/P	S/P	S/P
	AlMg	100%Ar	S/P	S/P	S/P	S/P
	CuAl	100%Ar	S/P	S/P	S/P	S/P
	CuSi	100%Ar	-	S/P	-	-

VARIABLE INDUCTANCE	Y
2/4 TIME	Y
SOFT-START	Y
CRATER-FILLER	Y
BURN-BACK TIME	Y
TEST-GAS	Y
WIRE TEST	Y
PUSH-PULL	OPTIONAL
RC07	Y

LEGEND

Y= yes S= Short-Spray Arc P= Pulsed-Spray Arc

ITEM CODES

Genesis 282 PME 3x400V	55.03.128
Genesis 352 PME 3x400V	55.03.135
Genesis 503 PME 3x400V	55.03.150
RC07 MIG remote control 5 m	71.02.007
Interconnection cable for Genesis 282 GSM/PME H ₂ O 35 mm ² 1,3m	71.06.236
Interconnection cable for Genesis 352/503 GSM/PME H ₂ O 70 mm ² 1,3m	71.06.240
Interconnection cable for Genesis 352/503 GSM/PME H ₂ O 70 mm ² 4 m	71.06.241
Interconnection cable for Genesis 352/503 GSM/PME H ₂ O 95 mm ² 10 m	71.06.254
WF104 4 roller wire feeder	71.01.104
WU21 cooling unit	71.03.021
GT23 trolley	71.03.023

Items available: torches, earth cables and all welding fittings.

Since SELCO pursues a policy of continuous research and development, the data shown may be subject to modifications without notice.



SELCO s.r.l. - Via Palladio, 19 - 35010 ONARA DI TOMBOLO (PADOVA) ITALY
Tel. + 39 049 9413111 - Fax + 39 049 9413311 - www.selco.it - E-mail: selco@selco.it
SELCO2 - Via Macello, 61 - 35013 CITTADELLA (PADOVA) ITALY