



SAF-FRO

SAFMIG BLX

Digital controlled MIG/MAG step machines.
Complete range of intelligent step
controlled semi-automatic equipment.



2006-367

2000-184

SAFMIG BLX: over 40 years of excellent service



Since their foundation in 1909 and 1920, SAF and FRO (today Air Liquide Welding Group) have unceasingly advanced welding technology by in-depth development of welding power sources and consumable products. In 1950 when MIG/MAG semi-automatic procedures appeared as a requirement, the Air Liquide Group

In 1960 Air Liquide established the first private centre for welding research. To solve customer's problems, the Centre Technique des Applications du Soudage (CTAS) focussed on improving welding and cutting procedures and on the MIG/MAG process.

At this time more than 30 people were involved in this project, resulting a few years later in the first SAFMIG generators, making a name for themselves world-wide: the **SAFMIG 180 and 320 BL**. SAF was the undisputed leader for these products for many years, having sold tens of thousands of generators world-wide. They can still be found today working in numerous workshops, where they are used for high quality welding.

Step controlled power source

The quality of a voltage-switching power generator depends primarily on the calibration and arrangement of the electromagnetic elements used in the construction of the generator.

Only the experience gained from years developing this type of machine brings the perfect mastery of this calibration that optimizes arc transfer modes.

Excellent welding quality

Built and calibrated to the highest standards, this type of machine guarantees excellent welding quality that will not vary over time and provides unrivalled durability that stands up to any challenge.

Another essential advantage as regards process, compared with modern AC/DC inverter power sources, is that there is never a limit on instantaneous current, so that the power source delivers exactly the current that the process requires.

This is highly advantageous when welding medium or thick aluminium.



e - a world renowned reference of standard



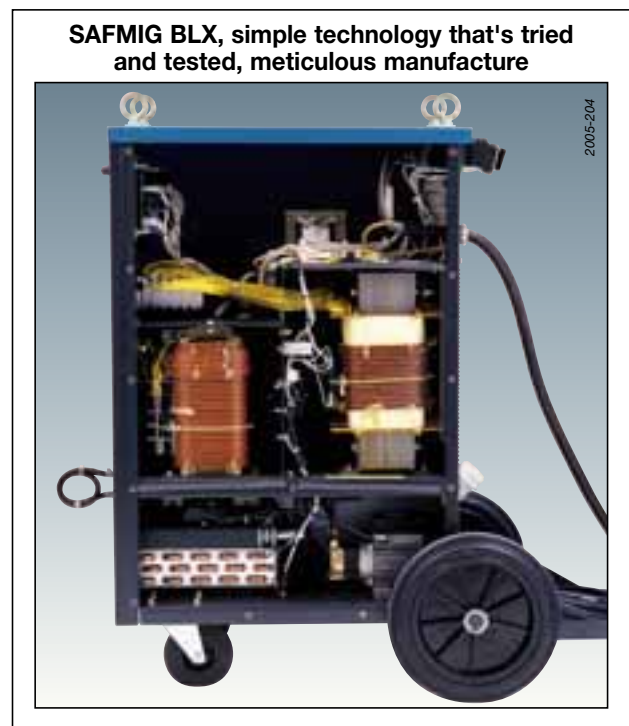
devoted immense resources and investment into research and development of technology, creating the best products in the market. Today SAF presents its SAFMIG BLX range, designed for the most demanding industrial applications.

Our SAFMIG BLX generators have been specially developed and perfected for the most demanding industrial applications. All our customer's expectations regarding improvement of overall quality and productivity have been taken into account in the design and manufacture of these units.

Your expectations

Industrial products

- Tough and durable
- High duty cycle
- Complete welding cycle
- Low maintenance



Easy to use

- Ready to use
- Setting assistance program to find the right parameters quickly
- Compact, mobile wire feed unit

High level of welding quality

- High-performance Short Arc (minimal spatter)
- Welds aluminium 3 mm thick
- Good arc striking and excellent repeatability
- Optimum wire feed for a stable arc and a regular bead

SAFMIG BLX for extreme operating conditions



Productivity is one of the keys to success for today's industrial firms, and this can be enhanced by a SAFMIG BLX, which offers improved welding quality, greater availability of equipment and low maintenance costs. The cost of investing in a welding unit is negligible when compared with that of reworking a bad weld,

Shipyards



Shipbuilding applications, both repair and construction, were a particular focus for this equipment, that combines ergonomic construction and strength with impeccable welding quality.

A small, lightweight wire feed unit facilitates access to all the compartments in a ship's hull.

The addition of a water cooling unit in the power source makes it possible to use a smaller, liquid-cooled torch, facilitating these welding operations.

Boiler factories



The great diversity of welding applications in this sector of the market means that MIG/MAG welding installations have to be versatile in their utility and operation.

Used not only for spot welding sheet, but also for penetration pass and joint filling, SAFMIG BLX units are specially adapted to these operations. Numerical control of wire speed helps to keep the welding parameters constant, ensuring excellent reproduction of the welded joints.

Performance of the MIG/MAG process



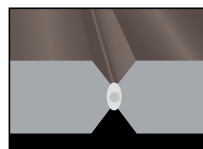
MIG Short Arc thickness < 3.0 mm



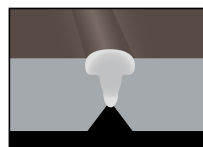
MIG Spray Arc thickness < 10 mm



Performance of the MIG/MAG process



Penetration pass MIG Short Arc thickness < 25 mm



Cored wire joint filling MIG Spray Arc thickness < 25 mm



something that sometimes has to be done at great expense. This is why we have equipped our SAFMIG BLX range with a "smart" system to aid parameter settings, enabling any operator to produce quality weld. All he has to do is follow the instructions shown on the digital display to obtain suitable settings according to thickness of metal, the material to be welded and the gas used.

Railway equipment



Working closely with the railway construction companies, we contribute to improving the weld quality by adapting our power sources and procedures in response to the developments in the materials used within this market segment.

Quality and productivity requirements are important in this market, that is growing vigorously world-wide especially in Asia. Air Liquide Welding offers a complete solution for all welding requirements through equipment consumables and services in over 60 countries.

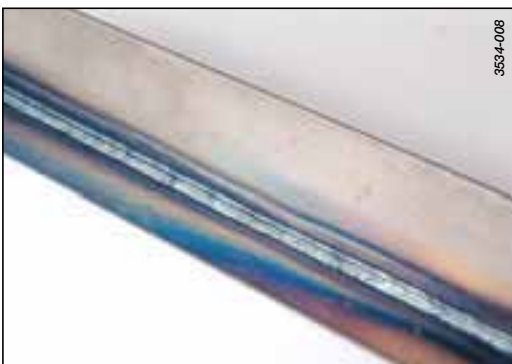
Road transport



With a wide selection of bodies, tanks for liquid (alimentary, combustible, chemical and powder) skips, flat-beds and containers. Made from a wide range of materials (steel, stainless steel and aluminum), companies have to adapt to the rapid changes in manufacturing practices whilst remaining in control of quality.

The SAFMIG BLX settings assistance system (ESP) facilitates this adaptation while respecting the economic and environmental considerations associated with each production site.

Performance of the MIG/MAG process



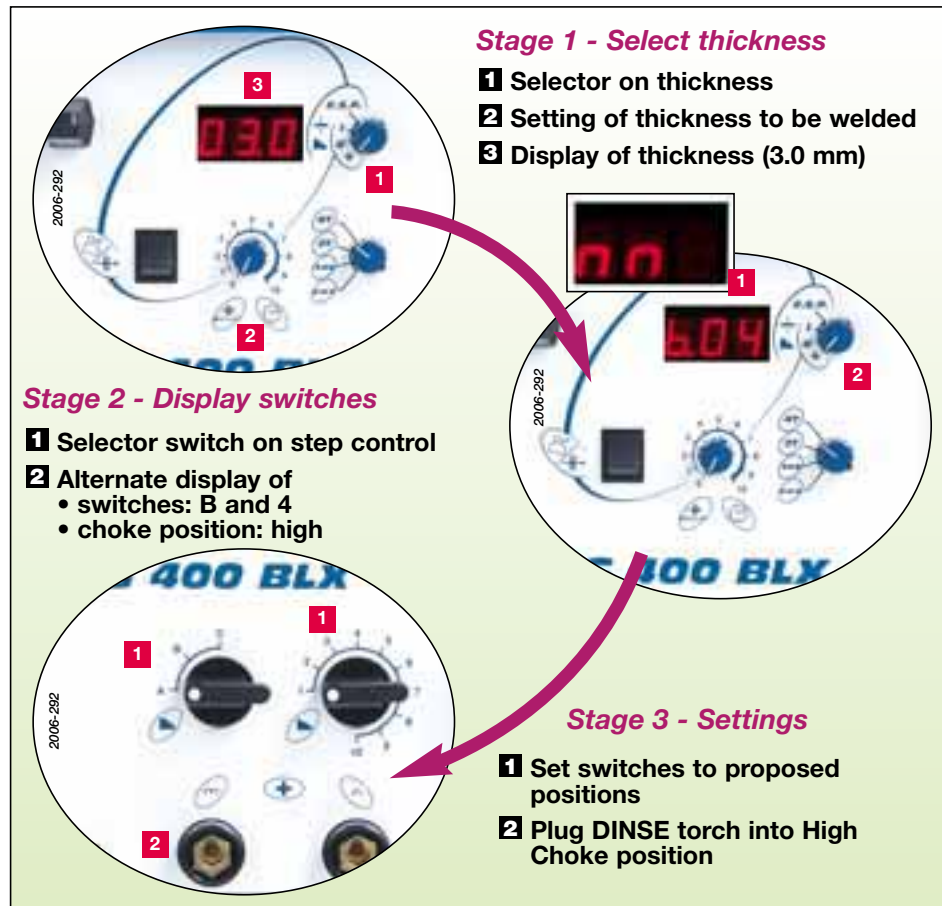
SAFMIG BLX: ten extra quality features in aid

In the world of welding today, it is increasingly difficult to find experienced professionals capable of providing the quality of work that is not only demanded by the norms, but also results directly from the intense competition in Europe. SAFMIG BLX equipment guarantees the required level of quality, primarily through the welding performance of its own units, but also by the addition of a smart internal device that guides the operator to obtain

SAFMIG BLX welding generators are equipped with a settings assistance system. The purpose of the ESP (Electronic Settings Program) is to aid the operator through adjustment of the welding generator to achieve an optimized welding condition for any given application.

ESP: 3-stage adjustment

- **When ESP is deactivated**
the power source is adjusted like any standard source, i.e. select voltage, wire speed and choke.
- **When ESP is activated**
simply follow the setting instructions given by the system (see diagram opposite).



Ten good reasons to choose SAFMIG BLX for industrial installations

- 1 - Robustness of SAFMIG BLX units guaranteed by qualified crash test.
- 2 - ESP (Electronic Setting Program) settings assistance to obtain the right welding parameters instantly.
- 3 - Quality of transformer and choke that guarantee exceptional welding of steel, stainless steel or aluminium.
- 4 - Control of ASC choke (Arc Striking Command) for instant arc strike with minimal spatter.
- 5 - Guaranteed duty cycle at 40 °C meeting industrial productivity requirements due to the optimized cooling of the SAFMIG BLX.
- 6 - Complete welding cycled controlled by microprocessor card for high flexibility.

optimized parameters. This is our settings assistance system, named the Electronic Settings Program (ESP).



Numerical regulation control circuit

2004-934

Description of front panel



- 1** Display
- 2** Wire inch/Gas purge
- 3** Wire feed unit control socket
- 4** Earth socket
- 5** Display selector
- 6** Mode selector
- 7** Wire speed/point welding time adjustment
- 8** Voltage controls
- 9** Choke positions

Description of BLX generator

- A** Manoeuvring handle
- B** Front control panel
- C** Lifting eyes
- D** Power source
- E** Wire feed unit on mobile trolley
- F** Torch
- G** Water cooling compartment
- H** Castors

- 7** - Numerically controlled wire feed is accurate and constant whatever the variations in mains supply or temperature.
- 8** - Display of parameters (voltage, current, speed) essential for the conformity of operating modes
- 9** - Enhanced reliability and life expectancy due to protection of switching equipment in a dust-proof compartment.



- 10** - Tested for HF immunity and endurance to enable operation in harsh industrial environments.

Characteristics



Technical characteristics

SAFMIG generator	300 BLX	400 BLX	500 BLX
Primary			
Three-phase supply	230/400 V - 50 Hz		
Consumption at max. current	27 A (230 V) 16 A (400 V)	47 A (230 V) 27 A (400 V)	63.3 A (230 V) 36.6 A (400 V)
Secondary			
Open circuit voltage	16.5 – 35.8 V	16.6 – 45.8 V	15.8 – 50.4 V
Welding current	30 A à 280 A	28 A à 380 A	16 A à 480 A
Duty cycle at 100%	200 A	280 A	350 A
at 40 °C	at 60%	320 A	410 A
	at 50%	270 A	380 A (40%)
Protection index	IP 23 S		
Insulation class	H		
Standards	EN 60974-1 / EN 60974-10		
Dimensional characteristics			
Dimensions (L x W x H)	780 x 390 x 825 mm	925 x 580 x 1060 mm	925 x 580 x 1060 mm
Net weight	98 kg	161 kg	201 kg

Wire feed units (with trolley)

DV 44X / DV 44X W

Dimensions (L x W x H)	610 x 330 x 510 mm
Net weight	5 m: 28 kg 10 m: 36 kg 15 m: 45 kg 20 m: 53 kg
Twin plate	4-roll - Ø 37 mm
Wire feed speed	1 - 20 m/min
Wire speed regulator	numerical
Wire sizes	0.8 to 2.4 mm
Able to pass through manhole	yes (without trolley)

Torches

Air cooled

Water cooled

Duty cycle	60 %		100 %			
PROMIG NG	341	441	341 W	441 W	450 W	501 W
Under mixed gases Ar + CO ₂ (ATAL M21)	320 A	400 A	340 A	400 A	450 A	500 A

SAFMIG 300/400/500 BLX power sources are equipped with:

- a 5 m power supply cable,
- a 5 m welding cable fitted with earth clamp

To order

SAFMIG generator		300 BLX	400 BLX	500 BLX
Compact version	air	W 000 260 977	W 000 260 979	-
	water	-	W 000 260 980	-
Separate version	air	W 000 260 978	W 000 260 981	W 000 260 983
	water	-	W 000 260 982	W 000 260 984

Package*		300 BLX	400 BLX	500 BLX
Compact version	air	W 000 267 155	W 000 267 157	-
	water	-	W 000 267 159	-
Separate version	air	W 000 267 156	W 000 267 158	W 000 267 161
	water	-	W 000 267 160	W 000 267 162

DV 44X wire feed unit on mobile trolley with harness

Air version	5 m	W 000 260 986
	10 m	W 000 260 987
Water version	5 m	W 000 260 988
	10 m	W 000 260 989
	15 m	W 000 268 547
	20 m	W 000 268 546

		PROMIG NG				PROMIG	
		341	341 W	441	441 W	450 W	501 W
air	3 m	W 000 345 066	-	W 000 345 072	-	-	-
	4 m	W 000 345 067	-	W 000 345 073	-	-	-
	5 m	W 000 345 068	-	W 000 345 074	-	-	-
water	3 m	-	W 000 345 069	-	W 000 345 075	W 000 345 052	W 000 345 058
	4 m	-	W 000 345 070	-	W 000 345 076	W 000 345 054	W 000 345 059
	5 m	-	W 000 345 071	-	W 000 345 077	W 000 345 057	-

Options

Wire feed unit swivel mount		W 000 055 048
Suspension support		W 000 305 061
Torch arm rest for	compact versions	W 000 261 845
	separate versions	W 000 261 846

* Power source + torch + regulator (French market)



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Founded in 1902, Air Liquide is the world leader in industrial and medical gases and related services. The company has offices in 75 countries and employs a work force of 40,000. Drawing on constantly renewed technologies, Air Liquide develops groundbreaking solutions used in making countless everyday products and in helping to preserve life.