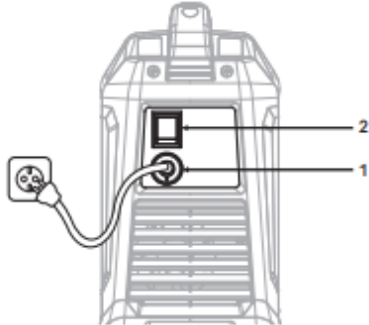
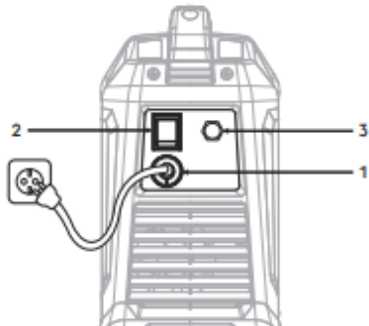


4. SYSTEM PRESENTATION

4.1 Rear panel

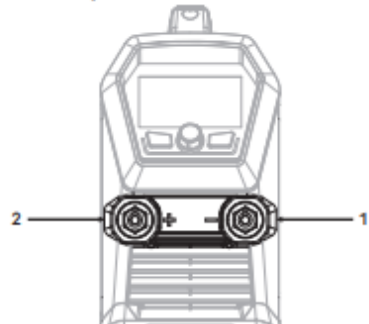


- 1 **Power supply cable**
Connects the system to the mains.
- 2 **Off/On switch**
Turns on electric power.
It has two positions, "O" off, and "I" on.

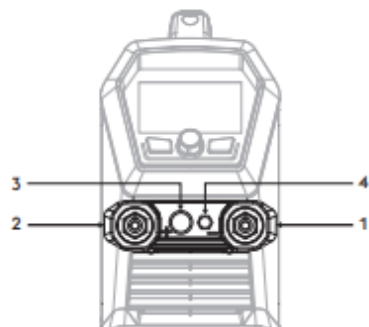


- 1 **Power supply cable**
Connects the system to the mains.
- 2 **Off/On switch**
Turns on electric power.
It has two positions, "O" off, and "I" on.
- 3 **Gas fitting**

4.2 Sockets panel



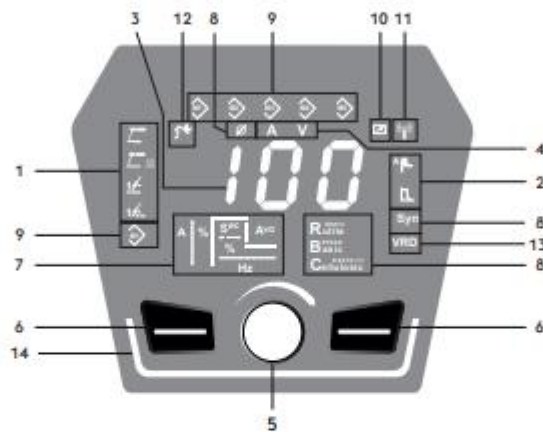
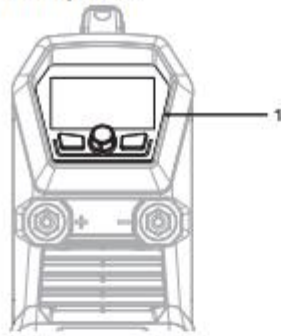
- 1 **Negative power socket (-)**
Process MMA: Connection earth cable
Process TIG: Torch connection
- 2 **Positive power socket (+)**
Process MMA: Connection electrode torch
Process TIG: Connection earth cable










- 1 **Negative power socket (-)**
Process MMA: Connection earth cable
Process TIG: Torch connection
- 2 **Positive power socket (+)**
Process MMA: Connection electrode torch
Process TIG: Connection earth cable
- 3 **Gas fitting**
- 4 **Torch button connection**

4.3 Front control panel

1 Front control panel



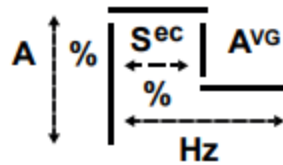
- 1 **Selector of the welding process**
Allows the selection of the welding procedure.
 -  MMA welding process
 -  Pulsed MMA welding process
 -  TIG LIFT welding process
 -  TIG LIFT spot welding process
- 2 **Functions**
Let you select the various system functions:
 -  Hot start
 -  Arc force
- 3 **7-segment display**
Allows the general welding machine parameters to be displayed during start-up, settings, current and voltage readings, while welding, and encoding of the alarms.
- 4 **Measurements selector**
Allows to view the actual welding current or voltage on the display.
 - A** Amperes
 - V** Volts
- 5 **Main adjustment handle.**
Allows the welding current to be continuously adjusted.

6  **Function keys**

Let you select the various system functions:


7 **Welding parameters**

The graph on the panel allows the selection and adjustment of the welding parameters.



8 **Syn** Material type synergy


Allows selection of the desired welding mode.

 Electrode diameter synergy


R^{E6013}
Rutile


B^{E70XX}
Basic

C^{E6010/11}
Cellulosic

9  **Program storage**

Allows the storage and management of 5 jobs which can be personalised by the operator.

10  **External devices (RC)**

11  **External devices (wireless)**

12  **Maintenance warning**

13 **VRD** VRD (Voltage Reduction Device)

Voltage Reduction Device

Allows output voltage to be reduced within the limits set by regulations for use in harsh environments.

Active function (Green)

Default: OFF (icon light off)

Contact the Service Dpt. to request activation instructions (eq-service@voestalpine.com).

14 **LED bars**



System in standby (White)

System switched on and arc ignited (Green)

System in error alarm (Red)

System in warning alarm (Orange) (=25% duty cycle remaining)

System in wireless configuration (Blue)

5. EQUIPMENT USE

5.1 Main Screen



Main Screen

1. Welding process symbol
 - Process selected (Green).
 - Process available (White).
2. Function symbol
 - Function enabled (White).
 - Selection and adjustment of the required parameter (Green.)
3. Selector of the welding process.
4. They allow adjustment of the welding parameters. (press to scroll and select the parameters to change).

Allows the regulation of the welding current. (turn to change the value).

5.2 MMA process main screen



Welding process selection

1. Select the desired process by pressing the button.
2. Process selected (Green).
3. Function symbol
 - Function enabled (White).
 - Selection and adjustment of the required parameter (Green.)
4. They allow adjustment of the welding parameters. (press to scroll and select the parameters to change).

Allows the regulation of the welding current. (turn to change the value).

Welding current

Minimum	Maximum	Default
20 A	I _{max}	100 A

Parameter setting: Hot start

1. Select the required parameter by pressing the encoder button.
2. Selected function for parameter adjustment (Green).
3. Adjust the value of the selected parameter by rotating the encoder.

Welding parameters

4. Start current.

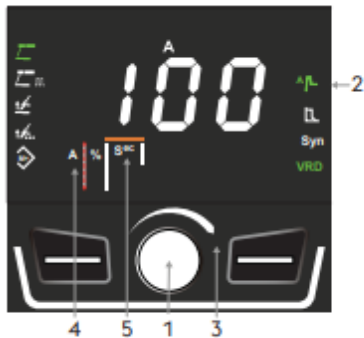
5. Start time.

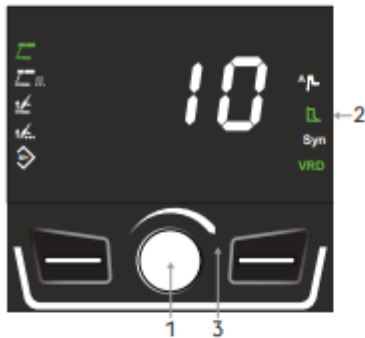
Start current

Minimum	Maximum	Default
50%	200%	120%

Start time

Minimum	Maximum	Default
0s	3s	0.5s





Parameter setting: Arc force

1. Select the required parameter by pressing the encoder button.
2. Selected function for parameter adjustment (Green).
3. Adjust the value of the selected parameter by rotating the encoder.

Welding parameters

Arc force

Minimum	Maximum	Default
-10	+10	0

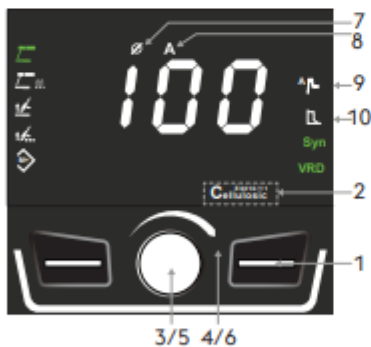
5.3 Selecting synergy parameters

Function only available in the MMA process.



Synergy enabling

1. Press and hold the button for 3 seconds to enable synergy functions.
2. Function enabled (Green).
3. Synergic programs (White).



Parameter setting

1. Press the button to select the desired electrode
 - ∅: active diameter selection.
 - Turn the encoder to select the desired diameter.
 - Welding current adjustment becomes available again after 3 seconds.
2. Synergy
3. Press the encoder button to select the electrode diameter parameter.
4. Turn the encoder to select an electrode diameter value.
 - A pre-selection of welding parameter values will be loaded automatically.

Welding parameters can be further adjusted:

5. Press the encoder button to activate adjustment of the desired parameter.
6. Adjust the value of the selected parameter by rotating the encoder.

Welding parameters

7. Electrode diameter synergy.
8. Welding current.
9. Hot start.
10. Arc force.

EQUIPMENT USE



Rutile electrode

Diameter	Welding current	Hot start	Arc force
2.0	40A	100% 0s	-5
2.5	60A	100% 0s	-5
3.2	100A	100% 0s	-5
4.0	135A	100% 0s	-5

Table of default values

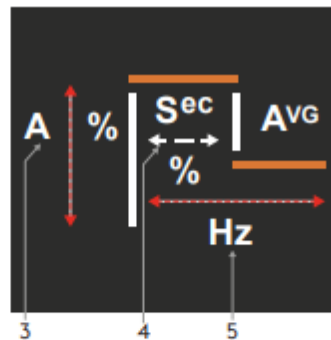
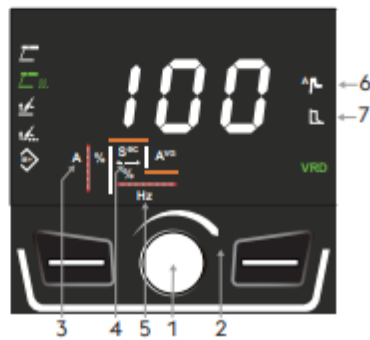
Basic electrode

Diameter	Welding current	Hot start	Arc force
2.0	65A	120% 0,5s	3
2.5	90A	120% 0,5s	3
3.2	130A	120% 0,5s	3
4.0	160A	120% 0,5s	3

Cellulosic electrode

Diameter	Welding current	Hot start	Arc force
2.0	55A	120% 0,5s	7
2.5	75A	120% 0,5s	7
3.2	110A	120% 0,5s	7
4.0	130A	120% 0,5s	7

5.4 Pulsed MMA process main screen



Welding process selection

1. Select the desired process by pressing the button.
2. Process selected (Green).
3. Welding current (average value).
4. Allows the regulation of the welding current.

Welding current

Minimum	Maximum	Default
20 A	Imax	100 A

Parameter setting

1. Activate the regulation of the selected parameter by pressing the encoder button.
2. Adjust the value of the selected parameter by rotating the encoder.

Welding parameters

3. Current pulsation.
4. Duty cycle.
5. Pulse frequency.
6. Hot start.
7. Arc force.

Current pulsation

Minimum	Maximum	Default
100%	260%	140%

Duty cycle

Minimum	Maximum	Default
10%	90%	50%

Pulse frequency

Minimum	Maximum	Default
0.2Hz	5Hz	0.2Hz

5.5 TIG Lift process main screen



Welding process selection

1. Select the desired process by pressing the button.
2. Process selected (Green).
3. Welding current.
4. Allows the regulation of the welding current.

Welding current

Minimum	Maximum	Default
10 A	Imax	100 A

 See the setup chapter for parameter settings.

5.6 TIG LIFT spot welding process main screen



Welding process selection

1. Select the desired process by pressing the button.
2. Process selected (Green).
3. Welding current.
4. Allows the regulation of the welding current.

Welding current

Minimum	Maximum	Default
10 A	Imax	100 A



Parameter setting

1. Activate the regulation of the selected parameter by pressing the encoder button.
2. Adjust the value of the selected parameter by rotating the encoder.

Welding parameters

3. Welding time.

Welding time

Minimum	Maximum	Default
0s	60s	0,5s

 See the setup chapter for parameter settings.

5.8 LED bar



White light LED bar

- ▶ Indicates the presence of voltage at the system's output connectors.
- ▶ System ready to weld.



Green light LED bar

- ▶ Indicates that the system is working and the arc ignited.



Red light LED bar

- ▶ Indicates the possible intervention of protection devices such as the temperature protection..



Orange light LED bar

- ▶ Indicates that during welding the system has reached 75% of its duty cycle.
- 👉 Momentarily stop welding to prevent the system triggering a thermal alarm.



Blue light LED bar

- ▶ Indicates that the system is connected to a wireless device.

5.9 Adaptive maintenance



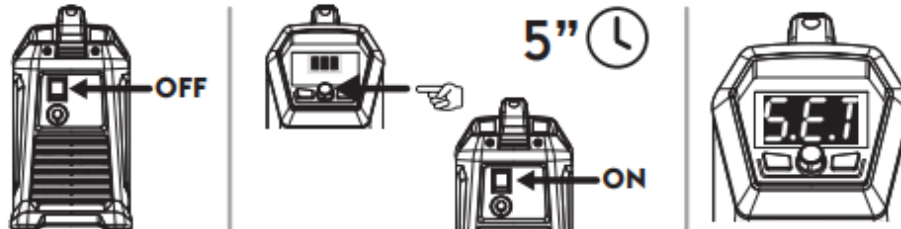
Adaptive maintenance

- ▶ Indicates that the system has already worked with the arc ignited for the set number of hours.
- 👉 Perform ordinary maintenance.
Consult the "Set up" section in your generator manual.

6. SETUP

Permits set-up and adjustment of a series of additional parameters for improved and more accurate control of the welding system.

Entry to set up



- ▶ Set the switch lever to "0" to switch off the generator.
- ▶ Switch on the generator while holding down the encoder key.
- ▶ Press and hold the encoder button for 5 sec.
- ▶ The entry will be confirmed by the writing SET on the display

Selection and adjustment of the required parameter

- ▶ Rotate the encoder until you display the numerical code for the required parameter.
- ▶ If the encoder key is pressed at this point, the value set for the parameter selected can be displayed and adjusted.

Exit from set up

- ▶ Press the encoder button for 5 seconds to exit setup.

6.9.1 List of set up parameters (TIG)

Pog Post-gas

Permits setting and adjustment of the gas flow at the end of welding.

Minimum	Maximum	Default
0 s	20.0 s	6.0 s

A1 Initial current (%-A)

Allows regulation of the weld starting current.

Allows a hotter or cooler welding pool to be obtained immediately after the arc striking.

Minimum	Maximum	Default
10 %	200 %	25 %

t1 Initial current time

Allows setting of the time for which the initial current is maintained.

Minimum	Maximum	Default
0 s	10 s	0.2 s

tuP Slope-up

Allows you to set a gradual passage between the initial current and the welding current.

Minimum	Maximum	Default
0 s	10.0 s	0.5 s

t dn Slope-down

Allows you to set a gradual passage between the welding current and the final current.

Minimum	Maximum	Default
0s	3s	0.5s

A2 Final current (%-A)

Permits adjustment of the final current.

Minimum	Maximum	Default
10 %	200 %	25 %

t2 Final current time


Makes it possible to set the time for which the final current is maintained.

Minimum	Maximum	Default
0 s	10.0 s	0.2 s

SPo Spot welding

Allows you to enable the "spot welding" process and establish the welding time.
Allows the timing of the welding process.

AcT always active

 Description of functioning with solenoid gas valve.

When using a model with an external gas valve, the gas valve must be opened manually.

- ▶ Touch the workpiece with the electrode to start the pre-gas phase.
- ▶ Arc ignition in Lift mode. Lifting the torch off the workpiece ignites the arc.
- ▶ The arc remains active for the set time.

2T 2 Step

 Description of functioning with solenoid gas valve.


When using a model with an external gas valve, the gas valve must be opened manually.

- ▶ Touch the workpiece with the electrode.
- ▶ Press the torch button to start pre-gas.
- ▶ Arc ignition in Lift mode. Lifting the torch off the workpiece ignites the arc.
- ▶ The arc remains active for the set time.

Minimum	Maximum	Default
0.1 s	60.0 s	0.5 s

trt Trigger Tig

AcT always active


 Description of functioning with solenoid gas valve.

When using a model with an external gas valve, the gas valve must be opened manually.

- ▶ Touch the workpiece with the electrode to start the pre-gas phase.
- ▶ Arc ignition in Lift mode. Lifting the torch off the workpiece ignites the arc.
- ▶ Fluctuating the torch extinguishes the arc. Gas continues to flow for the post-gas time.




2T 2 Step

 Description of functioning with solenoid gas valve.

When using a model with an external gas valve, the gas valve must be opened manually.

- ▶ Touch the workpiece with the electrode.
- ▶ Press the torch button to start pre-gas.
- ▶ Arc ignition in Lift mode. Lifting the torch off the workpiece ignites the arc.
- ▶ By releasing the button again, the arc goes out and the gas continues to flow for the post-gas stage.

4T 4 Step

 Description of functioning with solenoid gas valve.

When using a model with an external gas valve, the gas valve must be opened manually.

- ▶ Touch the workpiece with the electrode.
- ▶ Press the torch button to start the pre-gas phase.
- ▶ Arc ignition in Lift mode. Lifting the torch off the workpiece ignites the arc with the pre-set dynamics. The arc remains ignited if the torch button is released.
- ▶ Releasing the button before completion of the dynamics extinguishes the arc immediately.
- ▶ Press the button again to extinguish the arc with the arc extinguishing dynamics. Gas continues to flow for the post-gas time.
- ▶ Releasing the button before the end of the shutdown sequences extinguishes the arc immediately.

6.9.2 Setup parameter list (unit configuration)

di5 Type of measure

Allows the welding current or voltage reading to be set on the display.

Hod Hold Last Parameter

If active, the values of the last welding parameters will be shown on the display for five seconds after the arc is extinguished.

Fn System configuration menu

Allows access to the system configuration menu.

- ▶ Press the encoder button to access the submenu.
- ▶ Turn the encoder to select the desired configuration.
- ▶ Press the encoder button to confirm.
- ▶ The available configurations are as follows.

F1 System configuration

System configuration: F1

- MMA welding process
- TIG LIFT welding process
- Function enabled: Hot start
- Function enabled: Arc force

F2 System configuration

System configuration: F2

- MMA welding process
- TIG LIFT welding process
- TIG LIFT spot welding process
- Function enabled: Hot start
- Function enabled: Arc force

F3 System configuration

System configuration: F3

- MMA welding process
- TIG LIFT welding process
- TIG LIFT spot welding process
- Function enabled: Hot start
- Function enabled: Arc force
- Function enabled: Synergic programs

F4 System configuration

System configuration: F4

- MMA welding process
- Pulsed MMA welding process
- TIG LIFT welding process
- TIG LIFT spot welding process
- Function enabled: Hot start
- Function enabled: Arc force
- Function enabled: Synergic programs

F5 System configuration

System configuration: F5

- MMA welding process
- Pulsed MMA welding process
- TIG LIFT welding process
- TIG LIFT spot welding process
- Function enabled: Hot start
- Function enabled: Arc force
- Function enabled: Programs (JOB POINT)
- Function enabled: Synergic programs

SLP Sleep

If active, the machine switches off after the selected seconds of inactivity.
Set a time value within the range

Value	Inactive time
OFF	Not active
180	180s
300	300s
600	600s
900	900s

Set Adaptive maintenance

If active, illumination of the maintenance symbol on the display indicates that maintenance is recommended.

Consult the "Set up" section in your generator manual.

Value	Function
OFF	Not active
ON	Active
RST	Reset

rSt Reset

Allows you to reset all the parameters to the default values.

- ▶ Press the encoder button to start the procedure.
- ▶ Turn the encoder to the value: ON
- ▶ Press the right function key for 5 seconds.