POWERTEC® i250C & i320C STANDARD
POWERTEC® i250C & i320C ADVANCED
POWERTEC® i380C & i450C ADVANCED

OPERATOR'S MANUAL

ENGLISH

THANK YOU! For choosing the QUALITY of the Lincoln Electric products.
- Please check packaging and equipment for damage. Claims for material damaged in shipment must be notified immediately to the dealer.
- For ease of use, please enter your product identification data in the table below. Model Name, Code & Serial Number can be found on the machine rating plate.

Model Name:
....
Code & Serial number:
....	....
Date & Where Purchased:
....	....

ENGLISH INDEX

Technical Specifications

NAME	INDEX
POWERTEC® i250C STANDARD	K14284-1
POWERTEC® i250C ADVANCED	K14285-1
POWERTEC® i320C STANDARD	K14286-1
POWERTEC® i320C ADVANCED	K14287-1
POWERTEC® i380C ADVANCED	K14288-1
POWERTEC® i450C ADVANCED	K14289-1

INPUT			
	Input Voltage U_1	EMC Class	Frequency
i250C STANDARD			
i250C ADVANCED			
i320C STANDARD	400V ± 15%, 3-phase	A	50/60Hz
i320C ADVANCED			
i380C ADVANCED			
i450C ADVANCED			

	Input Power at Rated Cycle	Input Amperes I1max	PF
i250C STANDARD	10,3 kVA @ 60% Duty Cycle (40°C)	14,7A	0,85
i250C ADVANCED			
i320C STANDARD	13,6 kVA @ 40% Duty Cycle (40°C)	19,6A	0,90
i320C ADVANCED			
i380C ADVANCED	17,1 kVA @ 40% Duty Cycle (40°C)	26 A	0,92
i450C ADVANCED	20,7 kVA @ 80% Duty Cycle (40°C)	30 A	0,92

RATED OUTPUT					
		Open Circuit Voltage	Duty Cycle 40°C (based on a 10 min. period)	Output Current	Output Voltage
i250C STANDARD i250C ADVANCED	GMAW	49Vdc	60%	250A	26,5Vdc
			100%	195A	23,8Vdc
	FCAW		60%	250A	26,5Vdc
			100%	195A	23,8Vdc
	SMAW		60%	250A	30Vdc
			100%	195A	27,8Vdc
i320C STANDARD i320C ADVANCED	GMAW	49Vdc	40%	320A	30Vdc
			60%	250A	26,5Vdc
			100%	195A	23,8Vdc
	FCAW		40%	320A	30Vdc
			60%	250A	26,5Vdc
			100%	195A	23,8Vdc
	SMAW		40%	320A	32,8Vdc
			60%	250A	30Vdc
			100%	195A	27,8Vdc

			40%	380A	33,0Vdc
i380C ADVANCED	GMAW	54Vdc (peak) 48Vdc (RMS)	60%	320A	30,0Vdc
			100%	240A	26,0Vdc
	FCAW		40%	380A	33.0Vdc
			60%	320A	30,0Vdc
			100%	240A	26,0Vdc
	SMAW		40%	380A	35,2Vdc
			60%	320A	32,8Vdc
			100%	240A	29,6Vdc
i450C ADVANCED	GMAW	60Vdc (peak) 49Vdc (RMS)	80%	450A	36,5Vdc
			100%	420A	35,0Vdc
	FCAW		80%	450A	36,5Vdc
			100%	420A	35,0Vdc
	SMAW		80%	450A	38,0Vdc
			100%	420A	36,8Vdc

WELDING CURRENT RANGE

	GMAW	FCAW	SMAW
i250C STANDARD	10A÷250A	10A÷250A	10A÷250A
i250C ADVANCED	10A÷250A	10A÷250A	10A÷250A
i320C STANDARD	10A÷320A	10A÷320A	10A÷320A
i320C ADVANCED	10A÷320A	10A÷320A	10A÷320A
i380C ADVANCED	20A÷380A	20A÷380A	10A÷380A
i450C ADVANCED	20A÷450A	20A÷450A	10A÷450A

RECOMMENDED INPUT CABLE AND FUSE SIZES

	Fuse Type gR or Circuit Breaker Type Z	Power Lead
i250C STANDARD	16A, 400V AC	4 Conductor, 2,5mm^2
i250C ADVANCED	16A, 400V AC	4 Conductor, 2,5mm^2
i320C STANDARD	20A, 400V AC	4 Conductor, 2,5mm^2
i320C ADVANCED	20A, 400V AC	4 Conductor, 2,5mm^2
i380C ADVANCED	25A, 400V AC	4 Conductor, 2,5mm^2
i450C ADVANCED	32A, 400V AC	4 Conductor, 4,0mm^2

DIMENSION

	Weight	Height	Width	Length
i250C STANDARD	69 kg			
i250C ADVANCED	70 kg			
i320C STANDARD	69 kg	878,3 mm	560 mm	934,7 mm
i320C ADVANCED	70 kg			
i380C ADVANCED	70 kg			
i450C ADVANCED	82 kg			

WIRE FEED SPEED RANGE / WIRE DIAMETER			
	WFS Range	Drive Rolls	Drive roll diameter
i250C STANDARD			
i250C ADVANCED			
i320C STANDARD	1.5 ÷ 20,32m/min	4	Ø37
i320C ADVANCED			
i380C ADVANCED			
i450C ADVANCED			
	Solid Wires	Aluminum Wires	Cored Wires
i250C STANDARD			
i250C ADVANCED	0.8 ÷ 1.2 mm	1.0 ÷ 1.2 mm	0.9 ÷ 1.2 mm
i320C STANDARD			
i320C ADVANCED			
i380C ADVANCED	0.8 ÷ 1.4 mm	1.0 ÷ 1.2 mm	0.9 ÷ 1.4 mm
i450C ADVANCED	0.8 ÷ 1.6mm	1.0 ÷ 1.6 mm	0.9 ÷ 1.6 mm
	Protection Rating	Maximum Gas Pressure	Operating Humidity (t=20°C)
i250C STANDARD			
i250C ADVANCED			
i320C STANDARD	IP23	0,5MPa (5 bar)	≤ 90 %
i320C ADVANCED			
i380C ADVANCED			
i450C ADVANCED			
	Operating Temperature	Storage Temperature	
i250C STANDARD			
i250C ADVANCED			
i320C STANDARD	from -10°C to +40°C	from -25°C to 55°C	
i320C ADVANCED			
i380C ADVANCED			
i450C ADVANCED			

ECO design information

The equipment has been designed in order to be compliant with the Directive 2009/125/EC and the Regulation 2019/1784/EU.

Efficiency and idle power consumption:

Index	Name	Efficiency when max power consumption / Idle power consumption	Equivalent model
K14284-1	POWERTEC® i250C STANDARD	87,2% / 27W	No equivalent model
K14285-1	POWERTEC® i250C ADVANCED	87,2% / 27W	No equivalent model
K14286-1	POWERTEC® i320C STANDARD	87,2% / 27W	No equivalent model
K14287-1	POWERTEC® i320C ADVANCED	87,2% / 27W	No equivalent model
K14288-1	POWERTEC® i380C ADVANCED	86,2% / 29W	No equivalent model
K14289-1	POWERTEC® i450C ADVANCED	88,3% / 29W	No equivalent model

Idle state occurs under the condition specified in below table

IDLE STATE	
Condition	**Presence**
MIG mode	X
TIG mode	
STICK mode	
After 30 minutes of non-working	
Fan off	X

The value of efficiency and consumption in idle state have been measured by method and conditions defined in the product standard EN 60974-1:20XX.

Manufacturer's name, product name, code number, product number, serial number and date of production can be read from rating plate.
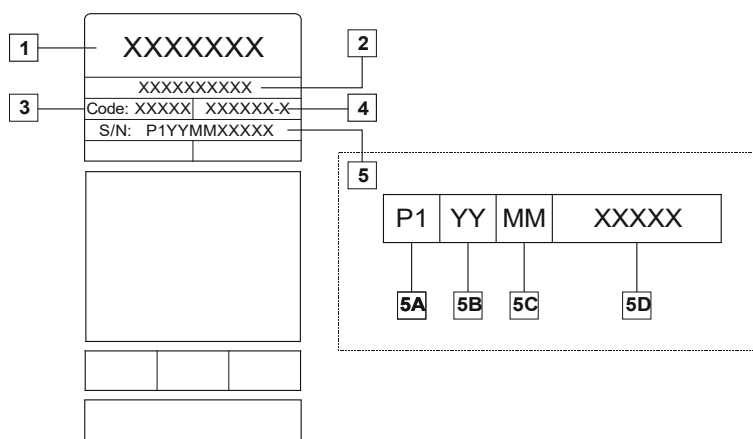
Where:
1- Manufacturer name and address
2- Product name
3- Code number
4- Product number
5- Serial number
    5A- country of production
    5B- year of production
    5C- month of production
    5D- progressive number different for each machine

Typical gas usage for **MIG/MAG** equipment:

| Material type | Wire diameter [mm] | DC electrode positive | | Wire Feeding [m/min] | Shielding Gas | Gas flow [l/min] |
		Current [A]	Voltage [V]			
Carbon, low alloy steel	0,9 ÷ 1,1	95 ÷ 200	18 ÷ 22	3,5 – 6,5	Ar 75%, CO_2 25%	12
Aluminium	0,8 ÷ 1,6	90 ÷ 240	18 ÷ 26	5,5 – 9,5	Argon	14 ÷ 19
Austenic stainless steel	0,8 ÷ 1,6	85 ÷ 300	21 ÷ 28	3 - 7	Ar 98%, O_2 2% / He 90%, Ar 7,5% CO_2 2,5%	14 ÷ 16
Copper alloy	0,9 ÷ 1,6	175 ÷ 385	23 ÷ 26	6 - 11	Argon	12 ÷ 16
Magnesium	1,6 ÷ 2,4	70 ÷ 335	16 ÷ 26	4 - 15	Argon	24 ÷ 28

Tig Process:

In TIG welding process, gas usage depends on cross-sectional area of the nozzle. For commonly used torches:

Helium: 14-24 l/min
Argon: 7-16 l/min

Notice: Excessive flow rates causes turbulence in the gas stream which may aspirate atmospheric contamination into the welding pool.

Notice: A cross wind or draft moving can disrupt the shielding gas coverage, in the interest of saving of protective gas use screen to block air flow.

 End of life

At end of life of product, it has to be disposal for recycling in accordance with Directive 2012/19/EU (WEEE), information about the dismantling of product and Critical Raw Material (CRM) present in the product, can be found at https://www.lincolnelectric.com/en-gb/support/Pages/operator-manuals-eu.aspx

Electromagnetic Compatibility (EMC)

01/11

This machine has been designed in accordance with all relevant directives and standards. However, it may still generate electromagnetic disturbances that can affect other systems like telecommunications (telephone, radio, and television) or other safety systems. These disturbances can cause safety problems in the affected systems. Read and understand this section to eliminate or reduce the amount of electromagnetic disturbance generated by this machine.

> This machine has been designed to operate in an industrial area. To operate in a domestic area it is necessary to observe particular precautions to eliminate possible electromagnetic disturbances. The operator must install and operate this equipment as described in this manual. If any electromagnetic disturbances are detected the operator must put in place corrective actions to eliminate these disturbances, if necessary with assistance from Lincoln Electric.

⚠ WARNING

Provided that the public low voltage system impedance at the point of common coupling is lower than:
- 56,4 mΩ for the **POWERTEC® I250C STANDARD**
- 56,4 mΩ for the **POWERTEC® I250C ADVANCED**
- 56,4 mΩ for the **POWERTEC® I320C STANDARD**
- 56,4 mΩ for the **POWERTEC® I320C ADVANCED**
- 56,4 mΩ for the **POWERTEC® i380C ADVANCED**
- 23 mΩ for the **POWERTEC® i450C ADVANCED**

This equipment is compliant with IEC 61000-3-11 and IEC 61000-3-12 and can be connected to public low voltage systems. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the system impedance complies with the impedance restrictions.

Before installing the machine, the operator must check the work area for any devices that may malfunction because of electromagnetic disturbances. Consider the following.
- Input and output cables, control cables, and telephone cables that are in or adjacent to the work area and the machine.
- Radio and/or television transmitters and receivers. Computers or computer controlled equipment.
- Safety and control equipment for industrial processes. Equipment for calibration and measurement.
- Personal medical devices like pacemakers and hearing aids.
- Check the electromagnetic immunity for equipment operating in or near the work area. The operator must be sure that all equipment in the area is compatible. This may require additional protection measures.
- The dimensions of the work area to consider will depend on the construction of the area and other activities that are taking place.

Consider the following guidelines to reduce electromagnetic emissions from the machine.
- Connect the machine to the input supply according to this manual. If disturbances occur if may be necessary to take additional precautions such as filtering the input supply.
- The output cables should be as short as possible and positioned together as close as possible to each other. If possible connect the work piece to ground in order to reduce the electromagnetic emissions. The operator must check that connecting the work piece to ground does not cause problems or unsafe operating conditions for personnel and equipment.
- Shielding of cables in the work area can reduce electromagnetic emissions. This may be necessary for special applications.

⚠ WARNING

EMC classification of this product is class A in accordance with electromagnetic compatibility standard EN 60974-10 which means that the product is designed to be used in an industrial environment only.

⚠ WARNING

The Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility in those locations, due to conducted as well as radiated disturbances.

Safety

 WARNING

This equipment have to be used by qualified personnel. Be sure that all installation, operation, maintenance and repair procedures are performed only by qualified person. Read and understand this manual before operating this equipment. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or equipment damage. Read and understand the following explanations of the warning symbols. Lincoln Electric is not responsible for damages caused by improper installation, improper care or abnormal operation.

	WARNING: This symbol indicates that instructions must be followed to avoid serious personal injury, loss of life, or equipment damage. Protect yourself and others from possible serious injury or death.
	READ AND UNDERSTAND INSTRUCTIONS: Read and understand this manual before operating this equipment. Arc welding can be hazardous. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or equipment damage.
	ELECTRIC SHOCK CAN KILL: Welding equipment generates high voltages. Do not touch the electrode, work clamp, or connected work pieces when this equipment is turned on. Insulate yourself from the electrode, work clamp, and connected work pieces.
	ELECTRICALLY POWERED EQUIPMENT: Turn off the input power using the disconnect switch at the fuse box before working on this equipment. Ground this equipment in accordance with local electrical regulations.
	ELECTRICALLY POWERED EQUIPMENT: Regularly inspect the input, electrode, and work clamp cables. If any insulation damage exists replace the cable immediately. Do not place the electrode holder directly on the welding table or any other surface in contact with the work clamp to avoid the risk of accidental arc ignition.
	ELECTROMAGNETIC FIELD MAY BE DANGEROUS: Electric current flowing through any conductor creates electromagnetic field (EMF). EMF fields may interfere with some pacemakers, and welders having a pacemaker shall consult their physician before operating this equipment.
	CE COMPLIANCE: This equipment complies with the European Community Directives.
	ARTIFICIAL OPTICAL RADIATION: According with the requirements in 2006/25/EC Directive and EN 12198 Standard, the equipment is a category 2. It makes mandatory the adoption of Personal Protective Equipment (PPE) having filter with a protection degree up to a maximum of 15, as required by EN169 Standard.
	FUMES AND GASES CAN BE DANGEROUS: Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. To avoid these dangers the operator must use enough ventilation or exhaust to keep fumes and gases away from the breathing zone.
	ARC RAYS CAN BURN: Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing. To protect the skin, use suitable clothing made of durable, fireproof material. Protect other nearby personnel with suitable, non-flammable screening and warn them not to watch the arc nor expose themselves to the arc.

English   7   English

	WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION: Remove fire hazards from the welding area and have a fire extinguisher easily accessible. Welding sparks and hot materials from the welding process can easily go through small cracks and openings to adjacent areas. Do not weld on any tanks, drums, containers, or material until the proper steps have been taken to insure that no flammable or toxic vapors will be present. Never use this equipment when flammable gases, vapors or flammable liquids are present.
	WELDED MATERIALS CAN BURN: Welding generates a large amount of heat. Hot surfaces and materials in work area can cause serious burns. Use gloves and pliers when touching or moving materials in the work area.
	CYLINDER MAY EXPLODE IF DAMAGED: Use only certificate, compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. Always keep cylinders in an upright position securely chained to a fixed support. Do not move or transport gas cylinders with the protection cap removed. Do not allow the electrode, electrode holder, work clamp or any other electrically live part to touch a gas cylinder. Gas cylinders must be located away from areas where they may be subjected to physical damage or the welding process including sparks and heat sources.
	MOVING PARTS ARE DANGEROUS: There are moving mechanical parts in this machine, which can cause serious injury. Keep your hands, body and clothing away from those parts during machine starting, operating and servicing.
	HOT COOLANT CAN BURN SKIN: Always be sure coolant is NOT HOT before servicing the cooler.
S	SAFETY MARK: This equipment is suitable for supplying power for welding operations carried out in an environment with increased risk of electric shock.

The manufacturer reserves the right to make changes and/or improvements in design without upgrade at the same time the operator's manual.

Introduction

General Description
The welding machines
POWERTEC® i250C STANDARD
POWERTEC® i250C ADVANCED
POWERTEC® i320C STANDARD
POWERTEC® i320C ADVANCED
POWERTEC® i380C ADVANCED
POWERTEC® i450C ADVANCED
enables welding:
- GMAW (MIG/MAG),
- FCAW (Flux-Cored),
- SMAW (MMA),

The complete package contains:
- Work lead – 3m,
- Gas hose – 2m,
- Driving roll V1.0/V1.2 for solid wire (mounted in the wire feeder).

Recommended equipment, which can be bought by user, was mentioned in the chapter "Accessories".

Installation and Operator Instructions

Read this entire section before installation or operation of the machine.

Location and Environment
This machine will operate in harsh environments. However, it is important that simple preventative measures are followed to assure long life and reliable operation.
- Do not place or operate this machine on a surface with an incline greater than 15° from horizontal.
- Do not use this machine for pipe thawing.
- This machine must be located where there is free circulation of clean air without restrictions for air movement to and from the air vents. Do not cover the machine with paper, cloth or rags when switched on.
- Dirt and dust that can be drawn into the machine should be kept to a minimum.
- This machine has a protection rating of IP23. Keep it dry when possible and do not place it on wet ground or in puddles.
- Locate the machine away from radio controlled machinery. Normal operation may adversely affect the operation of nearby radio controlled machinery, which may result in injury or equipment damage. Read the section on electromagnetic compatibility in this manual.
- Do not operate in areas with an ambient temperature greater than 40°C.

Duty cycle and Overheating
The duty cycle of a welding machine is the percentage of time in a 10 minute cycle at which the welder can operate the machine at rated welding current.

Example: 60% duty cycle

Welding for 6 minutes.   Break for 4 minutes.

Excessive extension of the duty cycle will cause the thermal protection circuit to activate.

Minutes   or decrease Duty Cycle
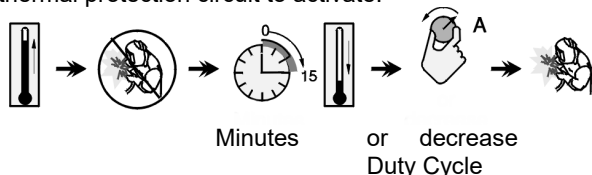
Input Supply Connection

⚠ **WARNING**
Only a qualified electrician can connect the welding machine to the supply network. Installation had to be made in accordance with the appropriate National Electrical Code and local regulations.

Check the input voltage, phase and frequency supplied to this machine before turning it on. Verify the connection of ground wires from the machine to the input source. The welding machine **POWERTEC® i250C STANDARD / ADVANCED, POWERTEC® i320C STANDARD / ADVANCED, POWERTEC® i380C ADVANCED, POWERTEC® i450C ADVANCED** must be connected to a correctly installed plug-in socket with an earth pin.
Input voltage is 400 Vac 50/60Hz. For more information about input supply refer to the technical specification section of this manual and to the rating plate of the machine.

Make sure that the amount of mains power available from the input supply is adequate for normal operation of the machine. The necessary delayed fuse or circuit breaker and cable sizes are indicated in the technical specification section of this manual.

⚠ **WARNING**
The welding machine can be supplied from a power generator of output power at least 30% larger than input power of the welding machine.

⚠ **WARNING**
When powering the machine from a generator be sure to turn off welder first, before generator is shut down, in order to prevent damage to welder!

Output Connections

Refer to points [2], [3] and [4] of the Figures below.

Controls and Operational Features
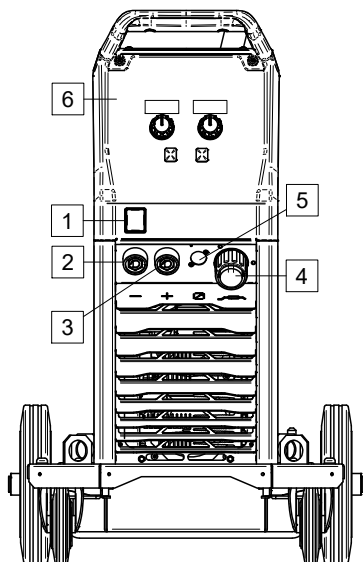
Front panel POWERTEC® i250C&i320C Standard Version

Figure 1

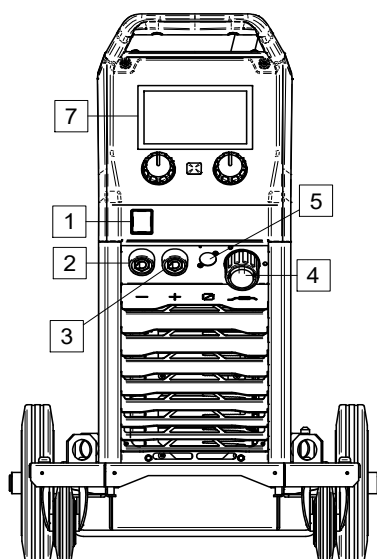**Front panel POWERTEC® i250C&i320C Advanced Version**

Figure 2
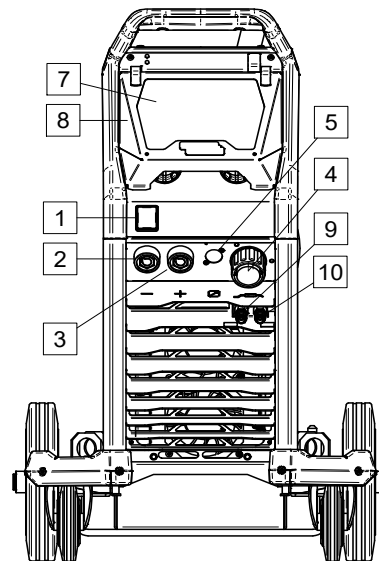
Front panel POWERTEC® i380C&i450C Advanced Version

Figure 3

1. Power Switch ON/OFF (I/O): Controls the input power to the machine. Be sure the power source is connected to the mains supply before turning power on ("I"). After input power is connected and the power switch is turned on, the indicator will light up.

2. Negative Output Socket for the Welding Circuit: For connecting an electrode holder with lead / work lead depending on the require configuration.

3. Positive Output Socket for the Welding Circuit: For connecting an electrode holder with lead / work lead depending on the require configuration.

4. EURO Socket: For connecting a welding gun (for GMAW / FCAW process).

5. Remote Control Connector Plug: To install Remote Control Kit. This connector allows connection Remote Control. See "Accessories" chapter.

6. U0 User Interface: See "User Interfaces" Chapter.

7. U7 User Interface: See User Interfaces chapter

8. Display Cover. Display protection for U7.

9. Quick Connect Coupling: Coolant outlet (supplies cool coolant to the torch/gun).

10. Quick Connect Coupling: Coolant inlet (takes warm coolant from torch/gun).

Rear Panel POWERTEC® i250C&i320C
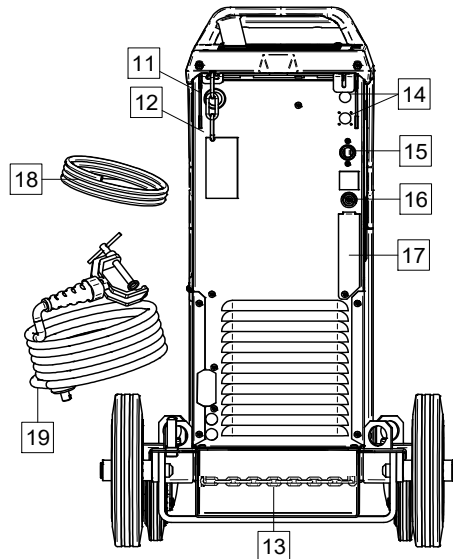
Figure 4

Rear Panel POWERTEC® i380C&i450C
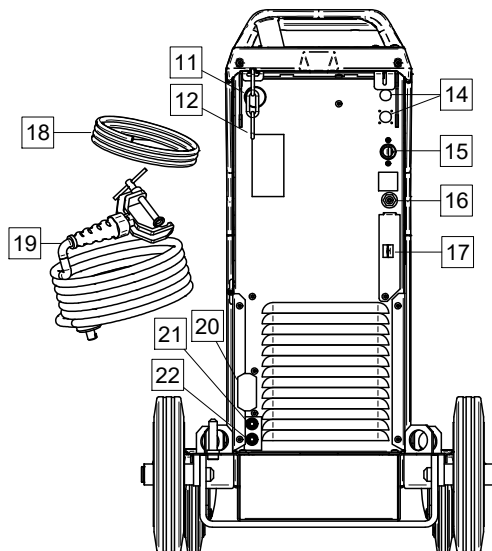
Figure 5

11. Wire Liner Entry: Enables installing liner for welding wire delivered in drum package.

12. Top Chain: To protect gas bottle.

13. Bottom chain: For properly securing the gas cylinder

14. Supply Plug: For gas heater kit (see "Accessories" chapter).

15. Power Lead (5m): Connect the supply plug to the existing input cable that is rated for the machine as indicated in this manual, and conforms to all applicable standards. This connection shall be performed by a qualified person only.

16. Gas Connector: Connection for gas line.

17. Gas Flow Regulator Plug: Gas flow regulator can be purchased separately (see "Accessories" chapter).

18. Gas hose

19. Work Lead

20. Cover bracket: To install **COOL ARC® 26** power supply and control cable (see "Accessories Suggested" chapter).

21. Quick Connect Coupling: Coolant inlet (supplies cool coolant to the torch/gun).

22. Quick Connect Coupling: Coolant outlet (takes warm coolant from torch/gun).

Internal Controls
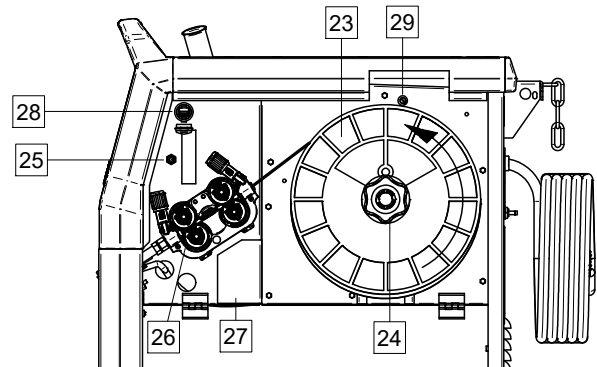
Figure 6

23. Spooled Wire (for GMAW / FCAW): Not supplied as standard.

24. Wire Spool Holder: Maximum 16kg spools. Holder allows mounting plastic, steel and fiber spools onto 51 mm spindle.
Note: Plastic Brake Nut has a Left-hand thread.

25. Switch: wire feed / gas purge: This switch allows wire feeding (wire test) and gas flow (gas test) without switching on the output voltage..

26. Wire drive: 4-rolls wire drive.

27. Terminal Block of Changing Polarity Plug (for GMAW / FCAW-SS process): This terminal block enables to set the welding polarity (+ ; -), which will be given at the welding gun

28. USB Receptacle Type A: For USB memory stick connection. For machine software update and service purpose, video playing.

29. Fuse F1: Use the low blow fuse:

POWERTEC® i250C	POWERTEC® i320C	POWERTEC® i380C	POWERTEC® i450C
1A / 400V (6,3x32mm)	1A / 400V (6,3x32mm)	2A / 400V (6,3x32mm)	2A / 400V (6,3x32mm)

Standard User Interface (U0)
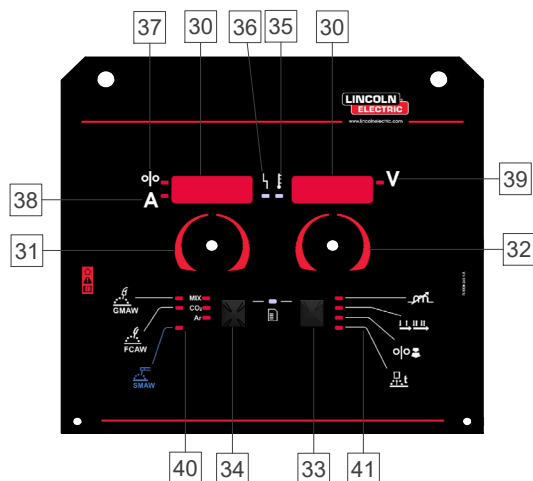
Figure 7

30. Display:
    - Left display: Shows wire feed speed or welding current. During welding shows the actual welding current value.
    - Right display: Shows the welding voltage in volts units. During welding shows the actual welding voltage value.

31. Left Control: Adjusts values on the Left display.

32. Right Control: Adjusts values on the Right display.

33. Right Button: Enables scrolling, changing and setting welding parameters.

34. Left Button: Enables changing the welding process.

35. Thermal Overload Indicator: It indicates that the machine is overloaded or that the cooling is not sufficient.

36. Status LED: A two color light that indicates system errors. Normal operation is steady green light. Error conditions are indicated, per Table 1.

⚠ **WARNING**

The status light will flash green, and sometimes red and green, for up to one minute when the machine is first turned on. When the power source is powered it can take as long as 60 seconds for the machine to be ready to weld. This is a normal situation as the machine goes through initialization.

Table 1 LED Light Conditions

LED Light Condition	Meaning
	Only machines which using CAN protocol for communication
Steady Green	Correct operation mode. The power source communicates normally with all peripheral equipment.
Blinking Green	Occurs during a system reset, and indicates that the power source is mapping (identifying) additional connected components in the system. This condition occurs for 1-10 seconds after connecting the power supply or when the system configuration is changed during operation.
Alternating Green and Red	If the status lights are flashing any combination of red and green color, it means that an error is present in the machine. Each digit of the code represents the number of red flashes of the indicator light. Individual code digits are flashed in red with a long pause between digits. If more than one code is present, the codes will be separated by green light. Read the error code before you turn of the machine. To clear the error, turn off the machine, wait a few seconds, and then turn on the machine again. If the error remains, a maintenance is required. Please contact the nearest authorized service center or Lincoln Electric and report the error code.
Steady Red	Indicate no communication in CAN protocol.

37. LED Indicator: Informs that the left display shows the wire feed speed.

38. LED Indicator: Informs that the left display shows the ampere units.

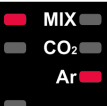39. LED Indicator: Informs that the right display shows the volts units.

40. Welding Programs Indicators: LED light indicate the active manual weld mode. See Table 2.

41. Welding Parameters Indicators: LED light indicate the active weld parameters. See Table 3.

Welding process change

It is possible to quick recall of one of the six manual welding programs - Table 2.

Table 2 Manual Weld Modes:

Symbol	LED	Process
GMAW	MIX ■ / CO₂ / Ar	GMAW MIX
	MIX / CO₂ ■ / Ar	GMAW CO₂
	MIX / CO₂ / Ar ■	GMAW AR
FCAW	MIX ■ / CO₂ ■ / Ar	FCAW MIX
	MIX / CO₂ ■ / Ar	FCAW CO₂
SMAW	MIX / CO₂ / Ar	SMAW

To set the welding process:
- Press the left button [34], to select the right weld mode – LED of the current program flashes.
- Again press the left button, the active weld mode indicator will skip to the next program.

⚠ **WARNING**

During switching the displays show a "dotted line" on the screen.

Quick Access and Configuration Menu for U0 User Interface

Users have access to the two menu levels:
- Quick Access – basic menu related with welding parameters settings
- Configuration Menu – advanced menu associated with machine configuration and selected welding parameters.

⚠ **WARNING**

Access to the menu is not available under welding, or if there is a fault (status LED is not solid green).

Availability of the parameters in the Quick Access and Configuration Menu depend on the selected welding program / welding process.

After the device has been restarted the user settings are restored.

Parameter Selection Mode – the parameter name on the left display [30] blinking.

Parameter Change Value Mode – the parameter value on the right display [30] blinking.

Basic level
To enter the menu (Table 3):
- Press the right button [33] to select mode.
- Use the right knob [32] to set the value of parameter.
- Press the left button [34], to return to main menu.
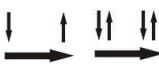
⚠ **WARNING**

System returns to the main menu automatically after 2 seconds of inactivity.

Table 3 The default settings of basic menu

Parameter		Definition
Ind 0		**Inductance** – controls the arc characteristics when short-arc welding. Increasing Inductance higher than 0.0 provides a crisper arc (more spatter) while decreasing the inductance less than 0.0 provides a softer arc (less spatter). • Regulation range: from -10.0 to +10.0. • Factory default, Pinch is OFF.
MOdE 2 St		**Torch trigger mode (2-step / 4-step) -** changes the function of the torch trigger. • 2 Step trigger operation turns welding on and off as direct response to the trigger. Welding process starts when the torch trigger is press. • 4-Step mode allows to continue welding, when the torch trigger is released. To stop welding, the torch trigger should be pressed again.4-step model facilitates to making long welds.
rUnI OFF		**Run-in WFS** – sets the wire feed speed from the time the torch trigger is pressed until an arc is established. • Regulation range: from minimum to maximum of the wire feed speed. • Factory default, Run-in WFS is turned off.
bUrn Auto		**Burnback Time** – amount of time that the welding is continue after the wire stops feeding. It prevents the wire from sticking in the puddle and prepares the end of the wire for the next arc start. • Burnback Time is set automatically (0,07s) • Regulation range: from 0s (OFF) to 0,25s

Advanced menu

To enter the menu (Table 4):

- Press the right [33] and left button [34] simultaneously, to access the menu.
- Use the left knob [31], to choose the parameter.
- Press the right button [33], to confirm.
- Use the right knob [32] to choose the value of parameter. At any time you can return to the list of parameters using the left button [34].
- Press the right button [33], to confirm.
- Press the left button [34], to return to main menu.

⚠ **WARNING**

To exit from the menu with saved changes, press the left [34] and right button [33] simultaneously.

System returns to the main menu automatically after one minute of inactivity.

Table 4 The default settings of advanced menu

Parameter	Definition
SPOt / OFF	**Spot Welding Settings** – sets the total welding time in the range of 0-120 seconds, even if the torch trigger is still pressed. This function does not work in 4-Step Trigger Mode.
CrAt	**Crater Procedure** – turn ON/OFF the crater procedure: • "ON" = Crater can be adjusted. The crater parameter is assigned to the right button on user interface. During adjusting of crater, the LED indicator is on. • "OFF" (factory default) = The Crater Procedure adjustment is OFF and ignored after pressing the right button on the user interface.
PrE / 0.2	**Preflow Time** – time that shielding gas flows after the torch trigger was pressed before prior to wire feeding. • Factory default, Preflow Time is set at 0.2 seconds. • Regulation range: od 0.1 seconds do 25 seconds.
POSt / 0.5	**Postflow Time** – time that shielding gas flows after the welding sopped. • Factory default, Postflow Time is set at 0.5 seconds. • Regulation range: from 0.1 seconds to 25 seconds.
ArCL / OFF	**Arc/Loss Time** – this option can be used to optionally shut off output if an arc is not established, or is lost for a specified amount of time. Error 269 will be displayed if the machine times out. If the value is set to OFF, machine output will not be turned off if an arc is not established or will output be turned off if an arc is lost. When a value is set, the machine output will shut off and error 269 will be displayed if an arc is not established within the specified amount of time after the trigger is pulled or if the trigger remains pulled after an arc is lost. To prevent errors, set the appropriate Arc/Loss Time values taking into account all parameters (Run-in WFS, Wire Feed Speed, Burnback Time etc.). • Regulation range: from OFF (0) to 10 seconds, (OFF is factory default). **Note:** This parameter is disabled while stick welding process.
brI / 5	**Screen Brightness** – enables setting the display brightness level. • Factory default: 5. • Regulation range: from 1 to 10
FEEP / n0	**Feedback Persist** – determines how the welding current value will be displayed after stopped welding. • "n0" (factory default) = last recorded feedback value will blinked for 5 seconds after stopped welding, then return to default values on display. • "Yes" - last recorded feedback value will blinked after stopped welding until the trigger will pressed or the knob will be used or arc ignition.

UnIt **CE**	**Wire Feed Speed (WFS) unit** – enables change of the displayed WFS unit: • CE (factory default) - m/min; • US - in/min.
HOt **0**	**Hot Start** - percentage regulation of growth nominal current value during arc start. It cause temporary rise up of output current which makes ignition of the electrode easier. • Factory default: 0.0 • Regulation range: from -10.0 to +10.0. This parameter is only for SMAW.
ArCF **0**	**Arc Force** - temporary increased of the output current to prevent sticking of the electrode in order to facilitate welding process. Lower values will provided less short circuit current and a softer arc. Higher settings will provided a higher short circuit current, more forceful arc and possibly more spatter. • Factory default: 5.0 • Regulation range: from 0.0 to +10.0
FACt **no**	**Restore to Factory Settings** – it allows to restore the factory settings.
SOFt **0095** **00.14**	**View Software version** – used for viewing the software version on user interface. • First view shows the effect after getting access to the Soft menu. • Second view shows the effect after getting access to parameter edit.
COOL **FILL**	**Cooler** – option is available when cooler is connected. This function allows following cooler modes: • FILL – Filling. • AUTO – Automatic mode. • On – Cooler on in the continuous mode. • Off – Cooler off. Refer cooler instruction manual for more details.

Interface Marking Guide

Table 5 Symbols description

⌖	Select Welding Process	1 2 3	Select Welding Program	⌖	Process SMAW (MMA)
⌖	Process GMAW (MIG/MAG)	⌖	Process FCAW	Ⓜ↗	Recall from the User Memory
→Ⓜ	Save to the User Memory	👤	User setup	📄	Advanced Setup
🔧	Configuration	◺	Arc Force	⌖ A	Hot Start
⌖	Pinch	t1 ⌖	Preflow Time	⌖ t2	Postflow Time
⌖ t	Burnback Time	o|o ⌖	Run-in WFS	⌖	Select Function of Gun Trigger (2-Step / 4-Step)
⊢Ⓜ⊣	Limits	↓ ↑	2-Step	∏	Crater Procedure
⌖	Spot Welding Settings	↑↓ ↑↑	4-Step	∏	Start Procedure
o|o ⌖	Cold Feed	☀	Brightness Level	🏭	Restore Factory Setting
⌖?	Machine information	Ⓐ⇄Ⓑ	A/B Procedure	⌷←●	USB Memory
✓	Check Mark	✕	Resignation Mark	⌖O	Access control
✋	Error	↩	ESCape Button	↵	Confirm Button
in min	Wire Feed Speed [in/min]	V	Welding Voltage	A	Welding Current
🔒	Locked	📖ⓘ	Support	m min	Wire Feed Speed [m/min]
🌐	Set the Language	⌖	Advanced UI look	▭	Display Configuration Settings
⌖	Standard UI look	Ⓜ	Enable/ Disable Jobs Save	▭	Select Item to lock
Ⓜ...	Enable/ Disable Jobs Mode or Select Jobs for Jobs Mode	▸⌷←	Save	🔒***	Lock
📁	Weld History	▸⌖	Load	⬤	Service weld logs
📷	SnapShot	⚙	Cooler	⚙⚙	Service Menu
ECO 🍃	Green Mode	⌖Ⓜ	Settings	🍃 <30W	Standby
🍃 <10W	Shutdown	🕐	Date / Time	🔊	Sound Volume

	Video		Play		Pause
	Stop		Repeat off		Repeat on
	Mute				

User Interface Advanced (U7)
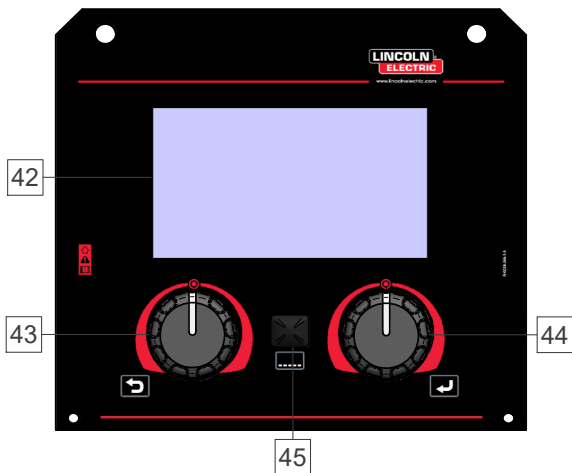

Figure 8

42. <u>Display:</u> 7" TFT display shows welding processes parameters.

43. <u>Left Knob:</u> Sets the value in the top Left corner of the display. Cancel selection. Return to the previous menu.

44. <u>Right Knob:</u> Sets the value in the top Right corner of the display. Confirmation of changes.

45. <u>Button:</u> It enables return to main menu.
Users have access to the two different views of interface:
- Standard view (Figure 7.)
- Advanced view (Figure 8)

To choose the view of interface:
- Press the Button [45] or Right Knob [44].
- Use the Right Knob [44] to highlight the "Configuration" icon.
- Press the Right Knob [44] to confirm decision.
- Use the Right Knob [44] to highlight "UI look" icon.
- Press the Right Knob [44] to confirm decision.
- Select one of the view (Standard – Figure 7 or Advanced – Figure 8).
- Press the button [45] or Left Knob [43] to return to main menu.

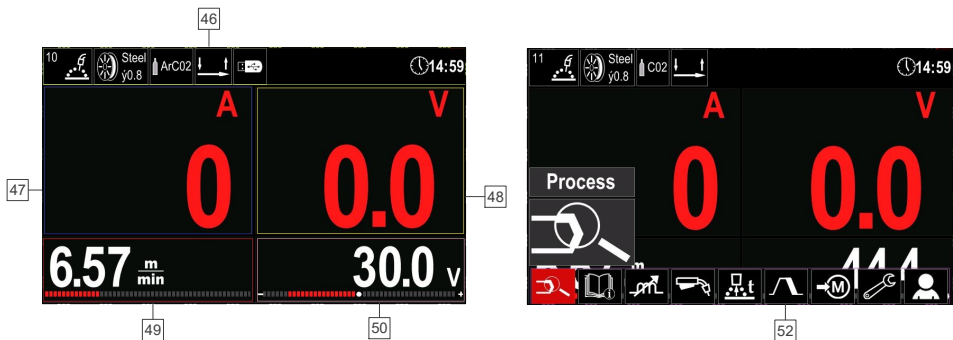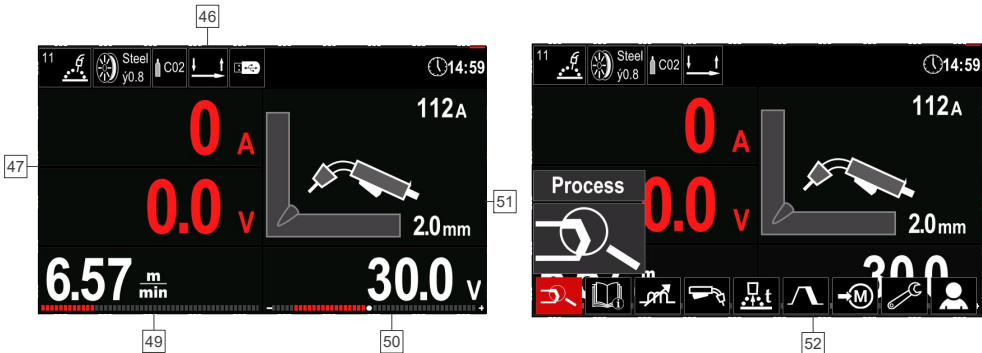**Table 6 Standard / Advance UI Look**

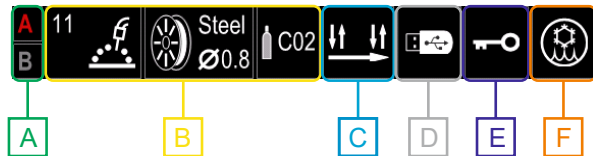|	Functions
Figure 9 **Figure 10**	46. Status bar. 47. Measured value of current (Figure 9) and voltage Figure 10). 48. Measured value of voltage. 49. Parameter Value (wire feed speed or current) regulated by left knob [43]. 50. Parameter Value (voltage, trim) regulated by right knob [44]. 51. Visualization of Welding Parameters. 52. Welding Parameters Bar.

Status bar

Figure 11

A - A/B Procedure
B - Information about active welding mode
C - 2/4 - Step
D - USB Memory
E - Access control
F - Cooler

Welding Parameters Bar

The Welding Parameters Bar enables:
- Welding process/program change.
- Torch trigger function change (GMAW,FCAW),
- Add or hide functions and welding parameters – user setup.
- Change the setup.

Table 7 GMAW and FCAW Welding Parameters Bar

Symbol	Description
	Select Welding Process
	Support
	Select Function of Gun Trigger (2-Step / 4-Step)
	Pinch
	Configuration
	User setup

⚠ **WARNING**

Availability of the parameters depend on selected welding program / welding process.

Table 8 SMAW Welding Parameters Bar

Symbol	Description
	Select Welding Process
	Support
	Arc Force
	Hot Start
	Configuration
	User setup

Select Welding Program

To select the Welding Program:
- Press the button [45] or right knob [44] to get access of Welding Parameters Bar.
- Use the right knob [44] to highlight the icon "Select Welding Process".
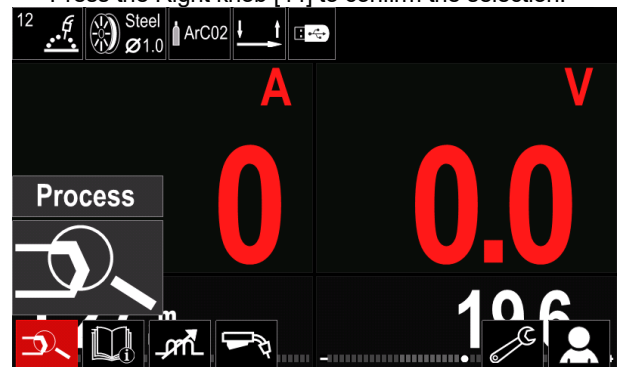- Press the Right knob [44] to confirm the selection.

Figure 12

- Use the right knob [44] to highlight the icon "Select welding Program".
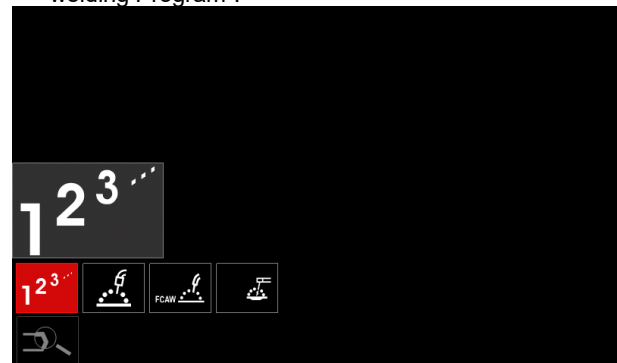

Figure 13

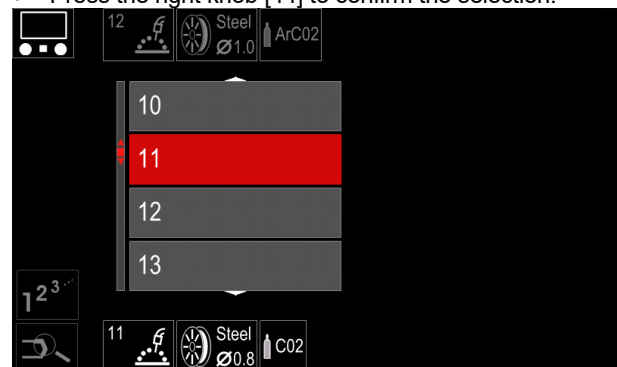- Press the right knob [44] to confirm the selection.

Figure 14

- Use the right knob [44] to highlight the program number.
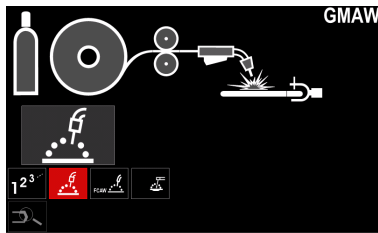- Press the right knob [44] to confirm the selection.
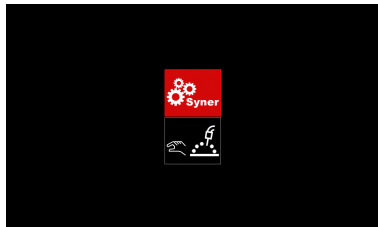
⚠ **WARNING**

The lists of available programs depends on the power source.

If user does not know the Welding Program Number, it can be choose manually. In that case please follow below guide:

- Welding Process

- Mode change: Synergy / Manual

- Electrode Wire Material
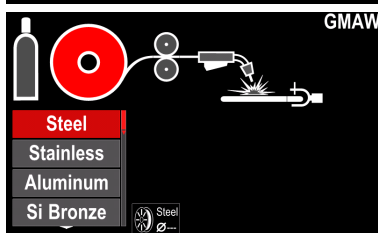
- Electrode Wire Diameter
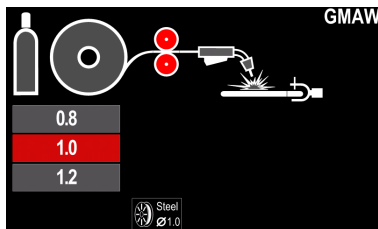
- Shielding Gas
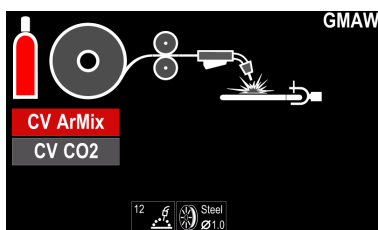
Support

To access the Support Menu:
- Press the button [45] or right knob [44] to get access of Welding Parameters Bar.
- Use the right knob [44] to highlight the icon "Support".
- Press the right knob [44] to confirm the selection.

Figure 15

The Support Menu enables to get information of the following points:
- Technicial specification.
- Accessories.
- Welding materials.
- Safety guides.
- Welding variables effect MIG.

User setup

To access the User Setup:
- Press the button [45] or right knob [44] to get access of Welding Parameters Bar.
- Use the right knob [44] to highlight the icon "User setup".
- Press the right knob [44] to confirm the selection.

Figure 16

The User Setup Menu enables to add the additional function and / or parameters to the Welding Parameters Bar [52] as shown in Table 9.

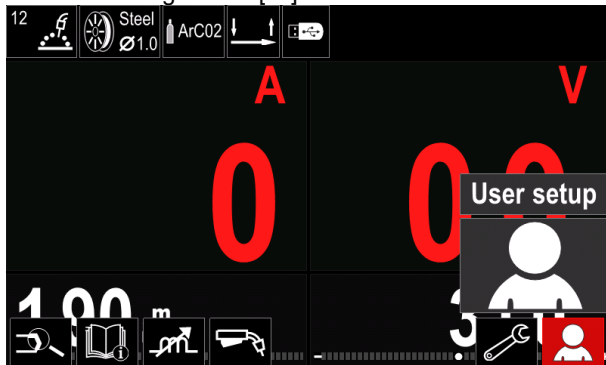**Table 9. User Setup Menu**

Symbol	Description
t1	Preflow Time
t2	Postflow Time
t	Burnback Time
	Spot Welding Settings
o|o	Run-in WFS
	Start Procedure
	Crater Procedure
A⇄B	A/B Procedure
M	Recall from the User Memory
→M	Save to the User Memory
USB	USB Memory

⚠ **WARNING**

To change the parameters or functions value, theirs icons has to be added to the Welding Parameters Bar [52].

To add parameter or function to the Welding Parameters Bar [52]:
- Access to the „User Setup" (see the Figure 16.)
- Use the right knob [44] to highlight the parameter or function icon which will be added to the Welding Parameters Bar [52], for example Run-in WFS.
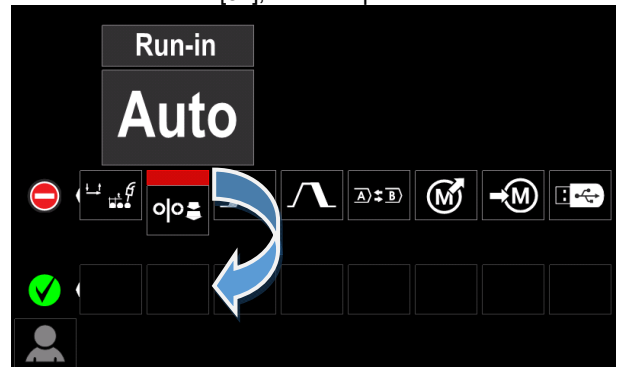

Figure 17

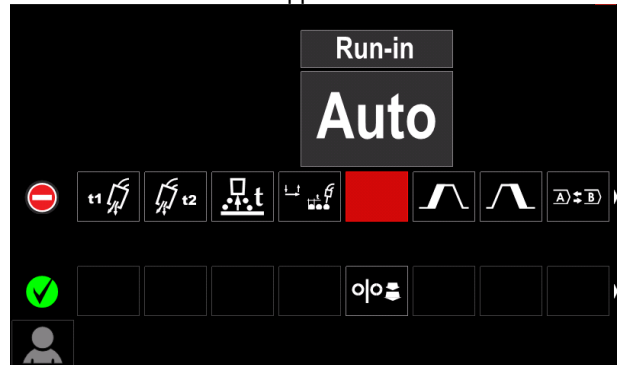- Press the right knob [44] to confirm the selection. Run-in WFS icon will be dropped.

Figure 18

⚠ **WARNING**

- To remove the icon - press the right knob [44] once again.
- To exit from User Setup Menu – press the left button [43].

- Selected parameter or function were added to the Welding Parameters Bar [52].

Figure 19

To remove selected parameter or function from the Welding Parameters Bar [52]:

- Access to the „User Setup".
- Use the right knob [44] to highlight the parameter or function icon which was added to the Welding Parameters Bar [52].
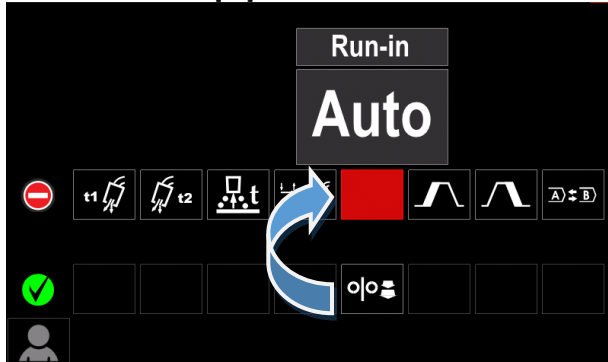

Figure 20

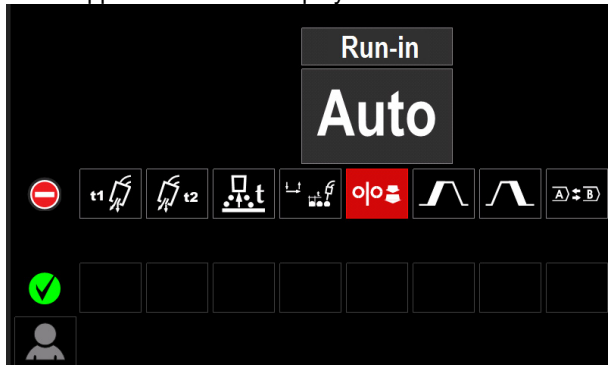- Press the right knob [44] – selected icon will disappeared from the display bottom.

Figure 21

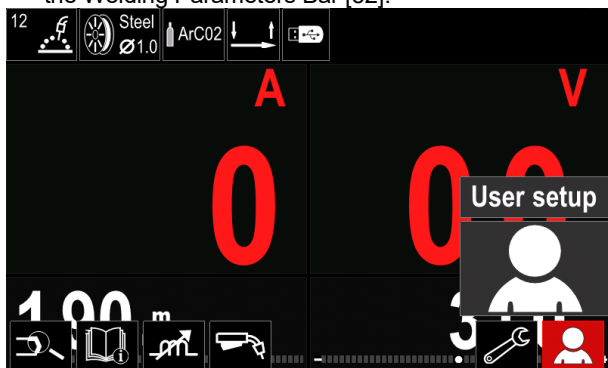- Selected parameter or function was disappeared from the Welding Parameters Bar [52].

Figure 22

Parameters and functions description:

Preflow Time – time that shielding gas flows after the torch trigger was pressed before prior to wire feeding.
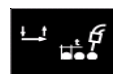Regulation range: from 0 seconds (OFF) to 25 seconds (factory default is set at Auto mode).

Postflow Time – time that shielding gas flows after the welding sopped.
- Regulation range: from 0 seconds (OFF) to 25 seconds (factory default is set at Auto mode).

Burnback Time - amount of time that the welding is continue after the wire stops feeding. It prevents the wire from sticking in the puddle and prepares the end of the wire for the next arc start
- Regulation range: from OFF to 0.25 seconds (factory default is set at Auto mode).

Spot Welding Settings – sets the total welding time even if the torch trigger is still pressed. This function does not work in 4-Step Trigger Mode.
- Regulation range: from 0 second (OFF) to 120 seconds (factory default is OFF).

⚠ **WARNING**
Spot Timer has no effect in 4-Step Trigger Mode.

Run-in WFS – sets the wire feed speed from the time the torch trigger is pressed until an arc is established.
- Regulation range: from minimum to 150 in/min (factory default is set at Auto mode).

Start Procedure – controls the WFS and Volts (or Trim) for a specified time at the beginning of welding. During the start time, the machine will ramp up or down from the Start Procedure to the preset Welding Procedure.
- Adjust time range: from 0 seconds (OFF) to 10 seconds.

Crater Procedure – controls the WFS (or value in ampere units) and Volts (or Trim) for a specified time at the end of the welding after the trigger was released. During the crater time, the machine will ramp up or down from the Weld Procedure to the Crater Procedure.
- Adjust time range: from 0 seconds (OFF) to 10 seconds.
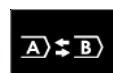
A/B Procedure – enables quick weld procedure change. The sequence changes may occur between:
- Two different welding programs.
- Different settings for the same program.

Recall from the User Memory - recall the stored programs from the user Memory. To recall the Welding Program from the User Memory:

Note: Before using, the Welding Program had to be assigned to the user memory

- Add the "Load" icon to the Welding Parameters Bar.
- Use the right knob [44] to highlight the "Load" memory icon.
- Press the right knob [44] to confirm – the "Load" memory menu is shown on the display.
- Use the right knob [44] to highlight the Memory number from which Welding Program will be recall.
- Confirm the selection – press the right button [44].

Save to the User Memory - Store the welding programs with their parameters to one of the fifty user memories. To save in memory:

- Add icon „Save to the User Memory" to Welding Parameters Bar.
- Use the right knob [44] to highlight the icon „Save to the User Memory".

Figure 23

- Press the right knob [44] to confirm - „Save to the User Memory" is shown on the display.
- Use the right knob to highlight the memory number where the program would be stored.

Figure 24

- Confirm selection – press and hold for 3 second right knob [44].

Figure 25

- Rename job – turn right knob [44] to select: numbers 0-9, letters A-Z, a-z. Press right knob [44] to confirm first character of the name.
- Next characters should be selected in the same way.
- To confirm the name of job and go back to the main menu press button [45] or left knob [43].

USB Memory - when the USB storage device is connected to USB port user have access to (Table 10.):

Table 10 USB Menu

Symbol	Description
	Save
	Load

Save – the following data can be save on a USB Memory Stick: (Table 11.):

Table 11 Save and restore selection

Symbol	Description
	Current Welding Settings
	Advanced Parameters Configuration (P menu)
	All welding programs stored in user memory
M1 ⋮ **M50**	One of the welding programs stored in user memory

To save data into USB device:
- Connect the USB to welding machine.
- Add "USB Memory" icon to the Welding parameters bar [52].
- Use the right knob [44] to highlight the icon "USB Memory".

Figure 26

- Press the right knob [44] to confirm selection – the USB menu is shown on the display.
- Use the right knob [44] to highlight the icon "Save".
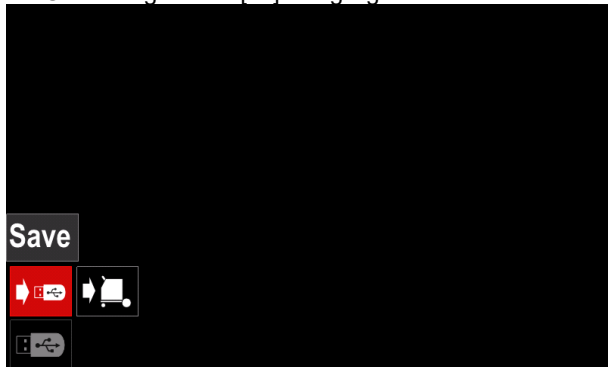
Figure 27

- Press the right knob [44] to get access of "Save" option – the save menu is shown on the display.

Figure 28

- Create or choose a file in which will be saved data copies.
- Display shows the Save Data Menu on USB Memory Stick.
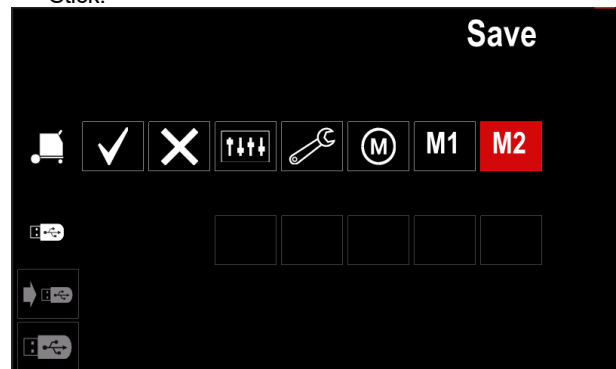
Figure 29

- Use right knob [44] to highlight data icon which will be saved in the file on USB Memory Stick. For example: Advanced Parameters Configuration icon.
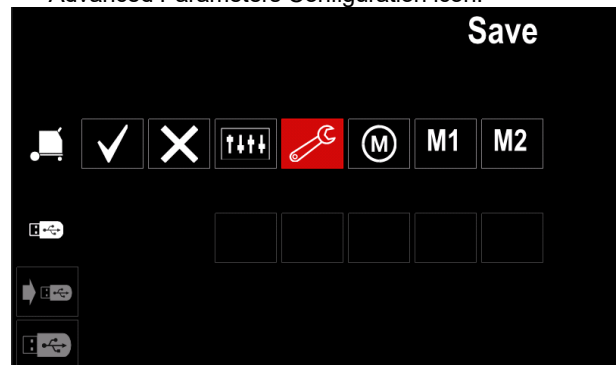
Figure 30

- Press the right knob [44] to confirm.

Figure 31

- To confirm and save the data on USB Memory Stick, highlight the "Check Mark" icon and then press the right knob [44].
- To exit the "USB Memory" menu – press left button [45] or disconnect USB Memory Stick from the USB receptacle.

Load – restore data from the USB Device to the machine memory.

Table 12 Load Menu

Symbol	Description
	Settings
	Video

To load the data from the USB Memory:
- Connect the USB to welding machine.
- Add "USB Memory" icon to the Welding parameters bar [52].
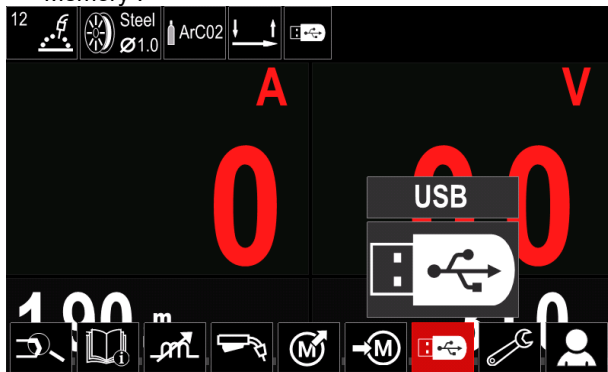- Use the right knob [44] to highlight the icon "USB Memory".

Figure 32

- Press the right knob [44] to get access to "Load" menu – the load menu is shown on the display.

Figure 33

- Press the right knob [44] to get access to "Settings" menu – the Settings menu is shown on the display
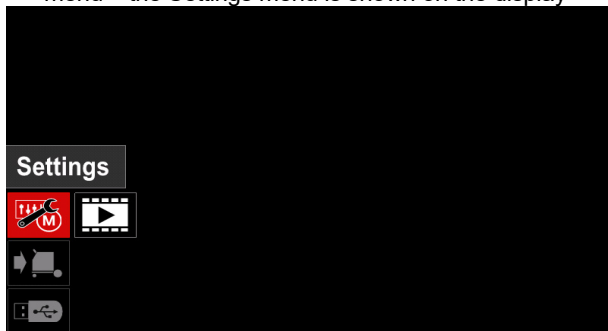
Figure 34

- Settings – this option allows you to load.

Settings, – this option allows you to load Current Welding Settings, Advanced Parameters Configuration or Welding Programs stored in memory. To load one of above:

- Select file with the data to be loaded into machine. by right knob [44].
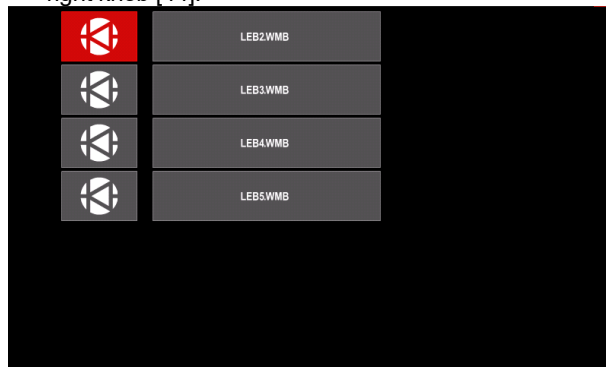
Figure 35

- Press the right knob [44] to confirm the file selection.
- The display shows the data which can be loaded. Use the right knob [44] to highlight the data icon.
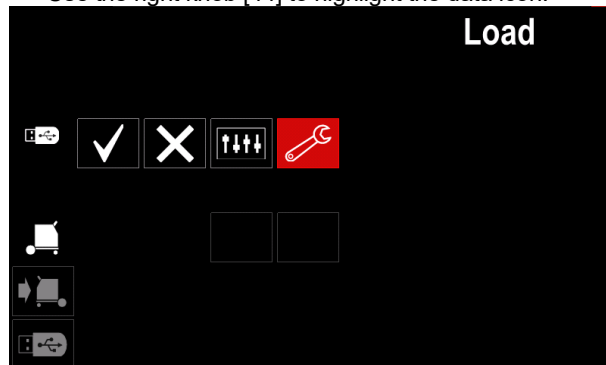
Figure 36

- Press the Right Knob [44] to confirm the data selection.
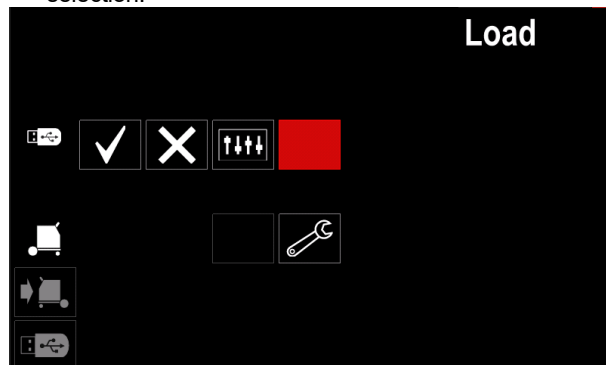
Figure 37

- To confirm and load the data from a USB Memory Stick, highlight the „Check Mark" icon and then press the right knob [44].
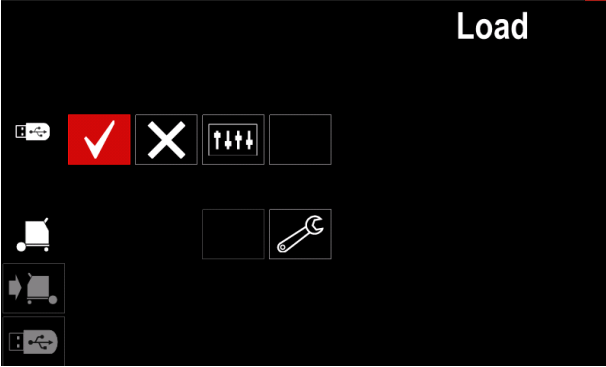
Figure 38

- To exit from "USB Memory" menu press the left button [45] or disconnect USB Memory Stick from the USB receptacle.

 Video – this option allows you to play video from USB.

To open video file:
- Press the right knob [44] to get access to "Load" menu – the load menu is shown on the display.

Figure 39

- Use the right knob [44] to highlight the Video icon and confirm by press it.

Figure 40

- A list of available video files will be displayed on the screen.

Figure 41

- Highlight the file by right knob [44] and confirm by press it.

Figure 42

Table 13 Video Player Menu

Symbol	Description
	Play
	Pause
	Stop
	Repeat off
	Repeat on
	Volume
	Mute

- Video player Menu navigation:
  - Selecting option – turn right knob
  - Confirm by press it

In any case you can return to selection of files list by Left knob [43] press.

Settings and Configuration Menu

To access the Settings and Configuration Menu:

- Press the button [45] or right knob [44] to get access to Welding Parameters Bar.
- Use the right knob [44] to highlight the icon "Configuration".
- Press the right knob [44] to confirm the selection.
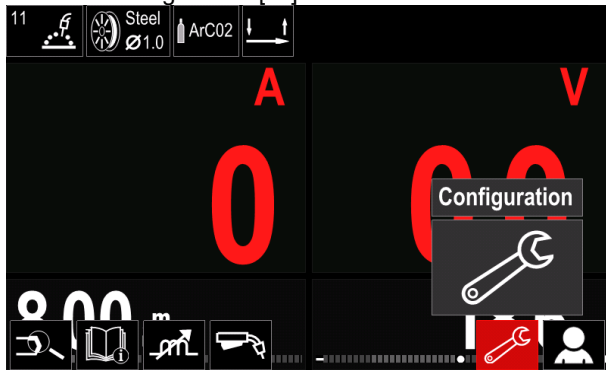
Figure 43

Table 14 Configuration Menu

Symbol	Description
◀(M)▶	Limits
🖥	Display Configuration Settings
💡	Brightness Level
🔑	Access control
(M)	Enable/ Disable Jobs Mode or Select Jobs for Jobs Mode
🌐	Set the Language
🏭	Restore Factory Setting
?	Machine information
📄	Advanced Setup
⚙	Cooler
⚙⚙	Service Menu
ECO	Green Mode
🔊	Volume Level
🕐	Date / Time

Limits – it allows the operator to set the limits of main welding parameters in selected job. The Operator is able to adjust the parameter value within specified limits.

⚠ **WARNING**

Limits can be set only for the programs stored in the user memory.

Limits can be set for below parameters:
- Welding Current
- Wire Feed Speed
- Welding Voltage
- Hot Start
- Arc Force
- Pinch

To set the range:
- Enter to „Configuration" menu.
- Use right knob [44] to highlight „Limits" icon.
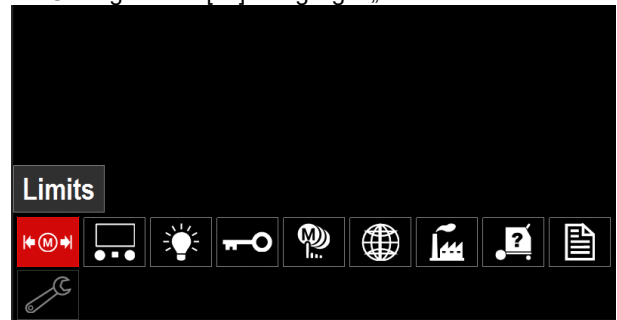
Figure 44

- Press right knob [44] to confirm. List with available jobs will be shown on the screen.

Figure 45

- Use right knob [44] to highlight the job.
- Press right knob [44] to confirm selection.

Figure 46

- Use right knob [44] to choose the parameter which will be changed.
- Press right knob [44] to confirm.
- Use right knob [44] to change the value. Press right knob [44] to confirm.
- Figure 47 shown the effect of parameter values change.

Figure 47

- Press button [45] to exit with saved changes.

Display Configuration Settings
Two Display configuration are available:

Table 15 Display Configuration Settings

Symbol	Description
	Standard UI look
	Advanced UI look

To set the Display Configuration:
- Access to the "Configuration" Menu.
- Use right knob [44] to highlight the "UI look" icon.

Figure 48

- Press right knob [44]. The "UI look" menu is shown on the display.
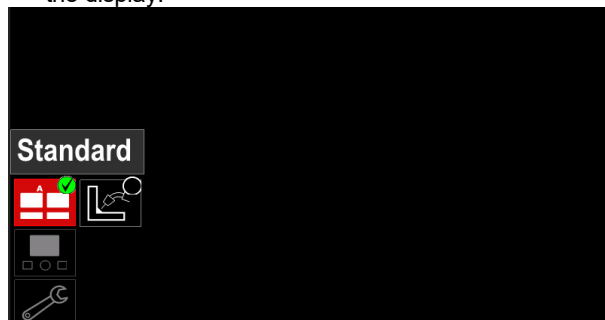
Figure 49

- Use the right knob [44] to choose the display configuration.

Brightness Level
It allows to adjust the display brightness from 0 to 10.
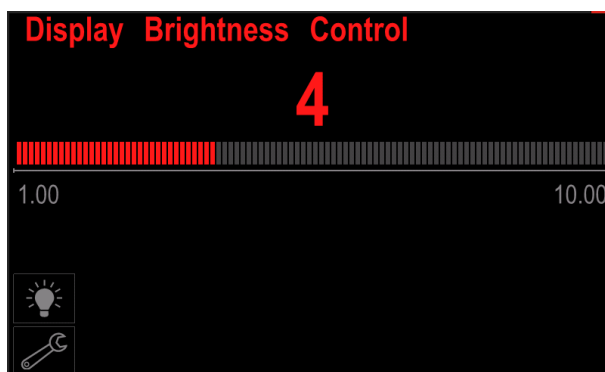
Figure 50

Access control
This function allows following activities:

Table 16 Access control

Symbol	Description
	Lock
	Select Item to lock
	Enable/ Disable Jobs Save
	Enable/ Disable Jobs Mode or Select Jobs for Jobs Mode

Lock – it allows to set the password.

To set the password:
- Access to „Configuration" menu.
- Use the right knob [44] to highlight the "Lock" icon.

Figure 51

- Press right knob [44]. The "Lock" setting menu is shown on the display.
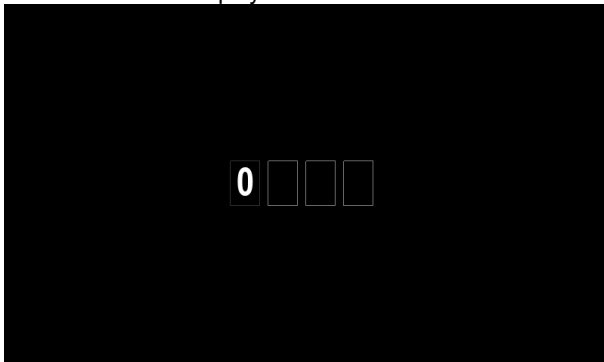
Figure 52

- Turn right knob [44] to select: numbers 0-9.
- Press right knob [44] to confirm first character of the password.
- Next characters should be selected in the same way.

⚠ **WARNING**
After setting last character system automatically exit.

Select Item to lock – it allows to lock/unlock some functions on welding parameters bar.
To lock functions:

- Access to "Configuration" Menu.
- Use right knob [44] to highlight the „Select Item to lock" icon.
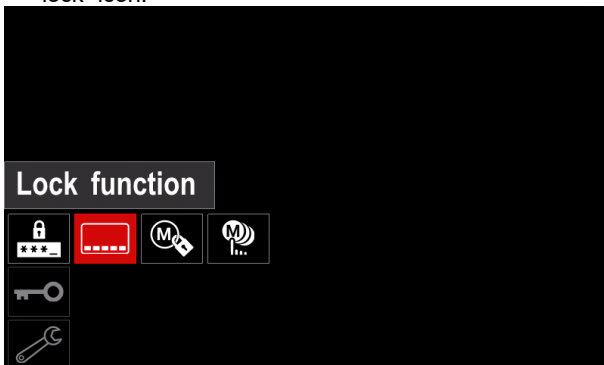
Figure 53

- Press the right knob [44]. Lock function menu is shown on the display.
- Use the right knob [44] to highlight the function (for example "Advanced Setup").
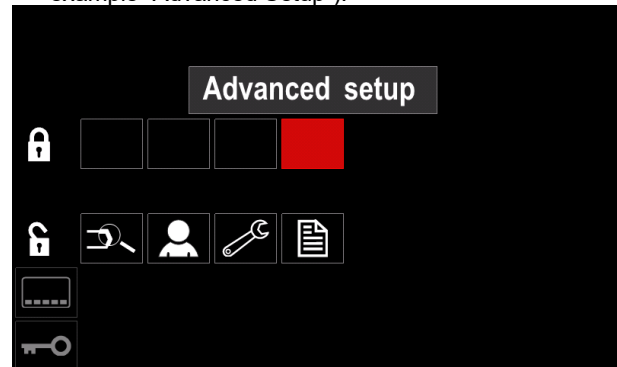
Figure 54

- Press right knob [44]. The icon of chosen parameter will disappeared from the lower part of the display (Figure 55). This parameter disappeared from the Welding parameters bar as well [52].
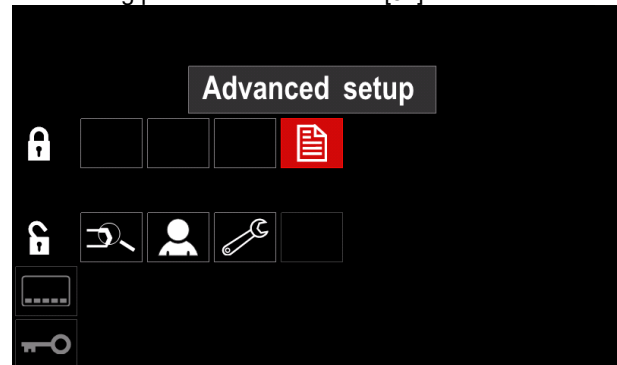
Figure 55

⚠ **WARNING**
To unlock function user have to perform the same steps as steps to lock function.

 Enable/ Disable Jobs Save - it allows to switch off/on save jobs to memory

- Access to „Configuration" menu.
- Use right knob [44] to highlight the "Enable/Disable Jobs" icon.
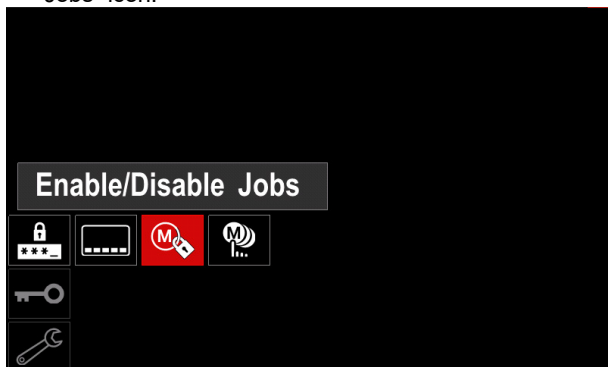
Figure 56

- Press right knob [44] to confirm. The "Enable/Disable Jobs" menu is shown on the display.
- Use the right knob [44] to highlight the job number. The icon of chosen job will disappear from the lower part of the display.
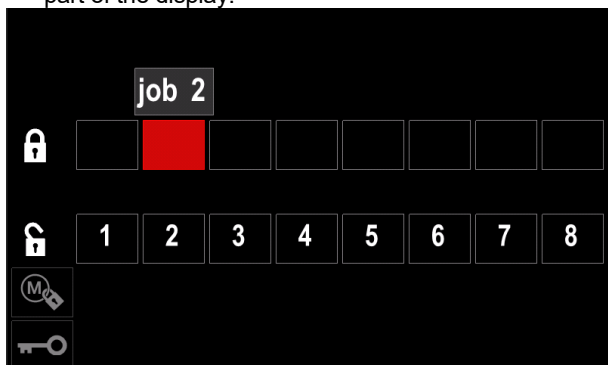
Figure 57

- Press right knob [44]. The icon of the selected program will disappeared from the bottom of the display.
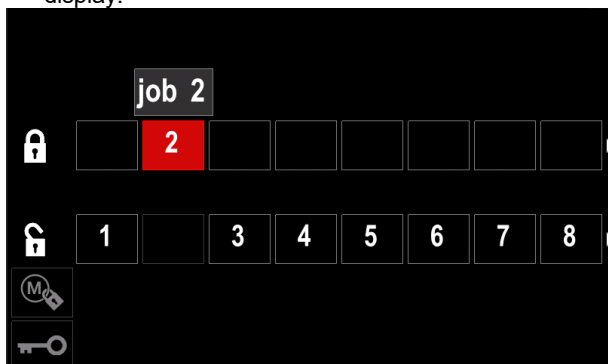
Figure 58

⚠ **WARNING**

The jobs which are disabled can not be using in "Save memory" function – shown Figure 59 (job 2 is not available).
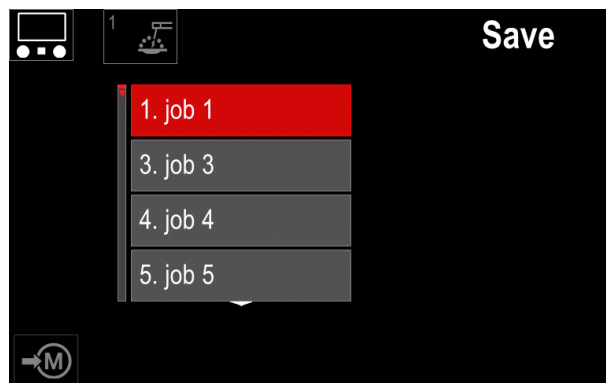
Figure 59

 Select Jobs for Job Work - it allows to choose which jobs will be enable when Job Mode will be activated.

To select Jobs for Job Work:
- Access to the „Configuration" menu.
- Use the right knob [44] to highlight the icon "Select Jobs for Job Mode".

Figure 60

- Press right knob [44] to confirm.
- Use right knob [44] to highlight the job number.
- Press right knob [44] to confirm – the icon of chosen parameter will appear on the lower part of the display.
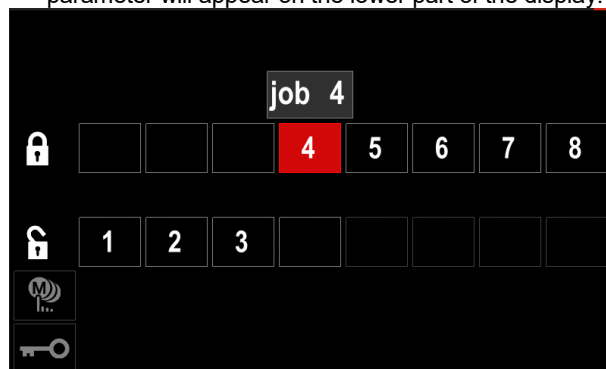
Figure 61

- Press button [45] to return to main menu.

Enable/ Disable Jobs Mode or Select Jobs for Jobs Mode – user has access to operate only with selected jobs.

WARNING: First of all user have to select jobs which can be used in Job Mode (*Lock -> Enable/ Disable Jobs Mode or Select Jobs for Jobs Mode*).

To activate Job Mode:
- Access to „Configuration" menu.
- Use right knob [44] to highlight the Job Mode icon.
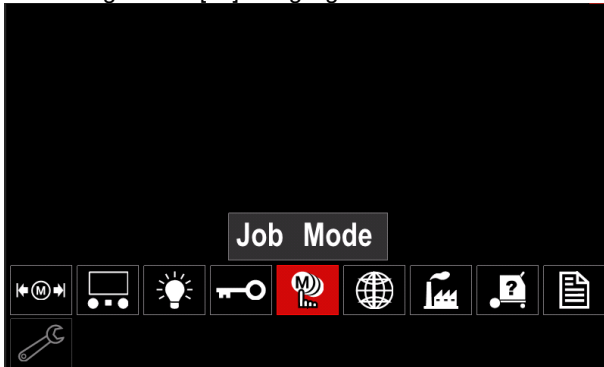
Figure 62

- Press right knob [44]. The Job Mode menu is shown on the display.
- Use right knob [44] to highlight one of the option shown on the figure below.

 Cancel Job Mode

 Activate Job Mode
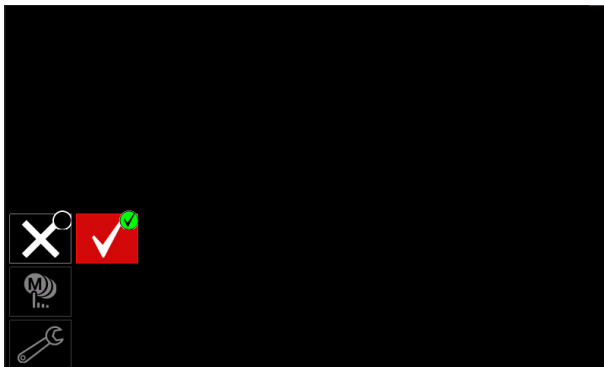
Figure 63

- Press right knob [44] to confirm the selection.

⚠ **WARNING**

After activated Job Mode the icon of this function will be displayed on the Welding Parameters Bar. Load Memory and Save Memory options will be blocked in this mode.

Set the Language – user can choose interface language (English, Polish, Finnish, French, German, Spanish, Italian, Dutch, Romanian).

To set the language:
- Access to the "Configuration" menu.
- Use right knob [44] to highlight the "Set the Language" icon.
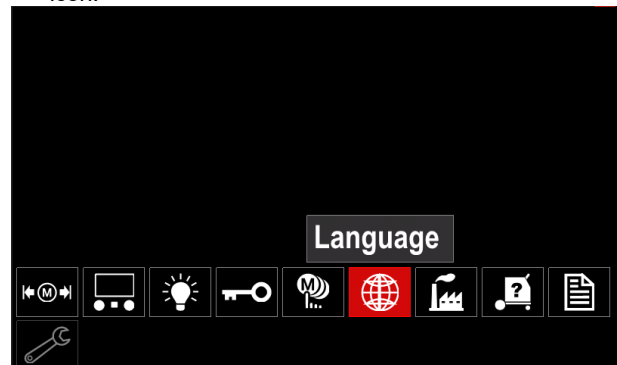
Figure 64

- Press the right knob [44]. The Language Menu is shown on the display.
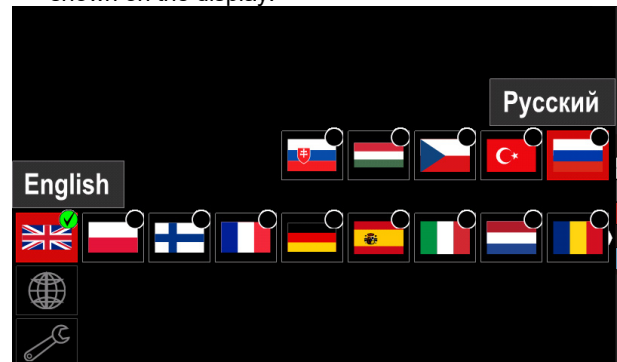
Figure 65

- Use right knob [44] to choose the Language.
- Press the right knob [44] to confirm selection.

Green Mode – is a power management feature that enables welding equipment to switch to low power state and reduce power consumption while is not using.

To adjust this functions:

- Access to "Configuration" Menu.
- Use right knob [44] to highlight the „Green Mode" icon.
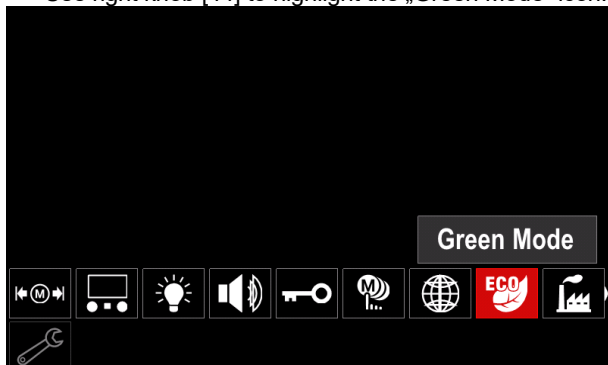
Figure 66

- Press right knob [44]. The "Green Mode" menu is shown on the display
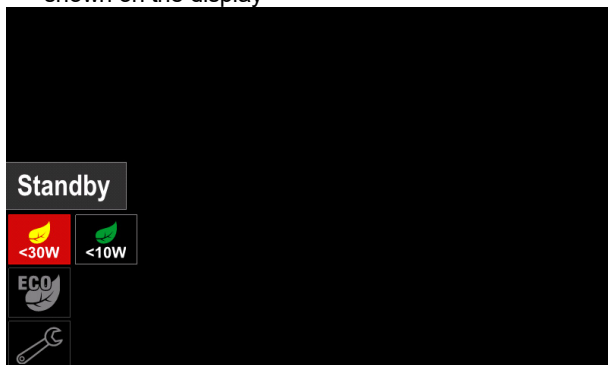
Figure 67

Table 17 Display Configuration Settings

Symbol	Description
	Standby (default :Off)
	Shutdown (default :Off)

Standby – this option allows you to reduce energy consumption to the level below 30W when the welding equipment is unused.

To set the time when Standby option will be turn on:

- Press right knob [44] to enter in to Standby menu
- By the right knob [44] set require time from 10-300min range or Off this function.
- Press right knob [44] to confirm.
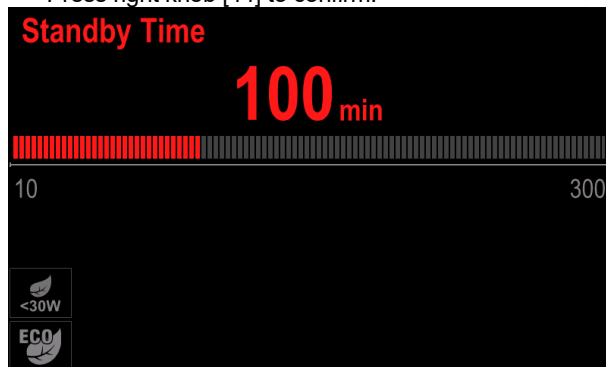
Figure 68

When machine is under Standby mode any action on user interface or trigger activates normal work of welding machine

Shutdown – this option allows you to reduce energy consumption to the level below 10W when the welding equipment is unused.

To set the time when Shutdown option will be turn on:

- Press right knob [44] to enter in to Shutdown menu
- By the right knob [44] set require time from 10-300min range or Off this function.
- Press right knob [44] to confirm.
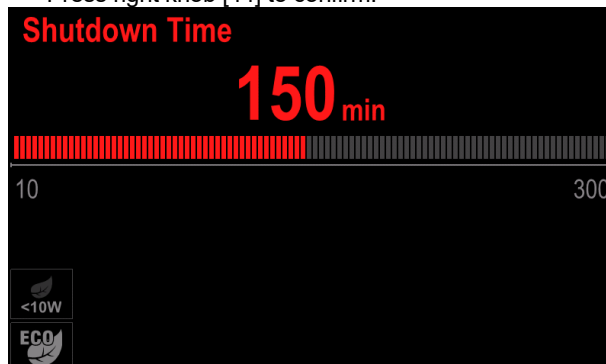
Figure 69

- Operating system inform you 15s before activate Shutdown Mode by time counter.
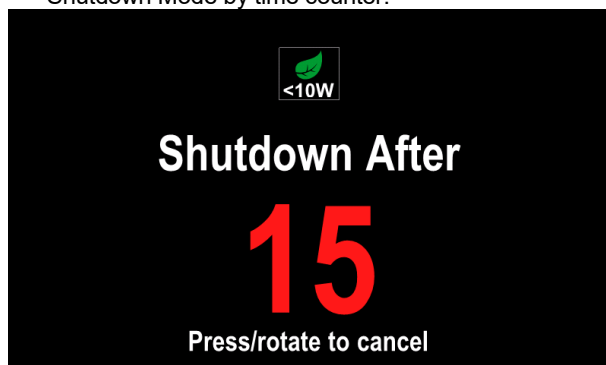
Figure 70

⚠ WARNING

When machine is under Shutdown mode it is require to switch machine off and on to activates normal operation.

⚠ WARNING

Under Standby and Shutdown mode display backlight is disable.

Sound volume - It allows to adjust the operation sound level.
To adjust this functions:

- Access to "Configuration" Menu.
- Use right knob [44] to highlight the „Volume level" icon
- Press the right knob [44]. The Volume Level Menu is shown on the display
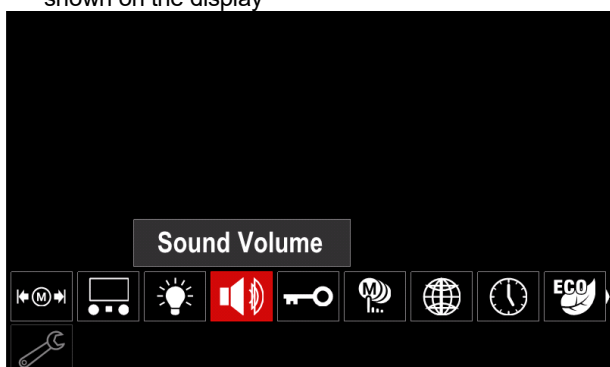
Figure 71

- By the right knob [44] set require time volume level from 1-10 range or Off this function.
- Press right knob [44] to confirm.
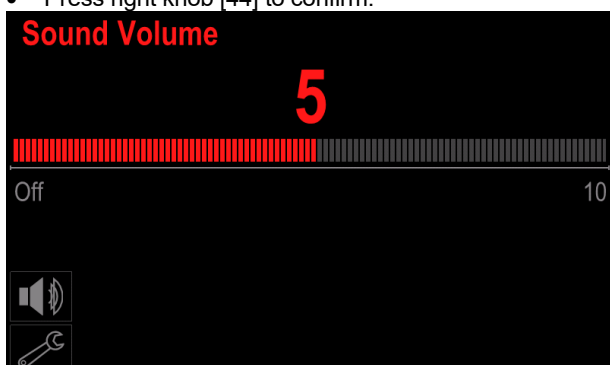
Figure 72

⚠ WARNING

Operating system sound volume is separate from video player volume level.

Date / Time – It allows to setup current date and time.
To set date and time:
- Access to "Configuration" Menu
- Use right knob [44] to highlight the „Date / Time" icon
- Press the right knob [44]. The Date / Time Menu is shown on the display
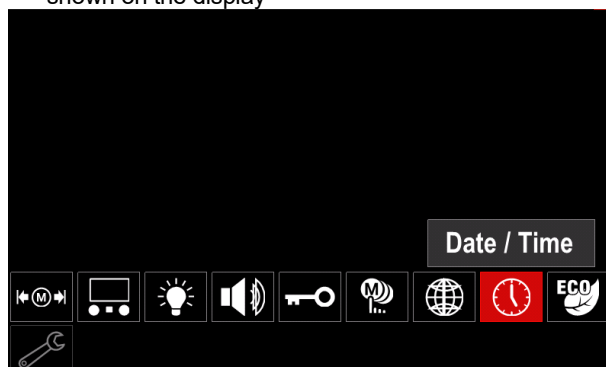
Figure 73

- By the right knob [44] select one of the date or time components you want to change.
- Press right knob [44] to confirm, chosen cell will blink
- By the right knob [44] set require value.
- Press right knob [44] to confirm
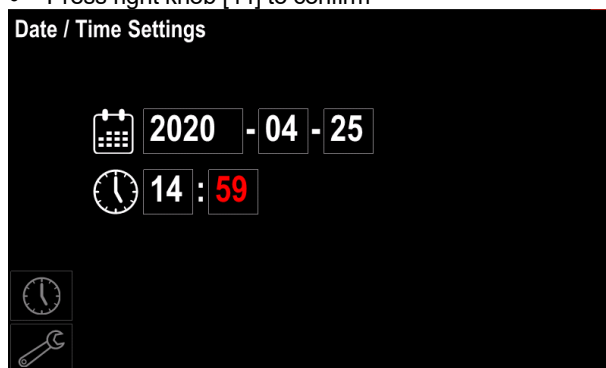
Figure 74

- Setuped time will be displayed on Status Bar [46]
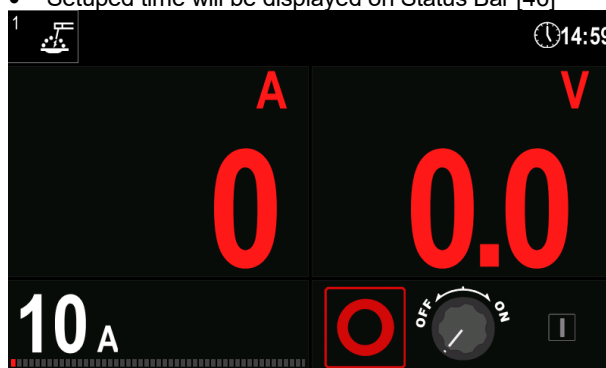
Figure 75

Restore Factory Setting

⚠ **WARNING**

After Factory Settings restore, the settings stored in user memory will be deleted.

To restore factory settings:
- Access to "Configuration" menu.
- Use right knob [44] to highlight the "Restore Factory Settings' icon.

Figure 76

- Press the right knob [44]. The "Restore Factory Settings" icon is shown on the display.
- Use the right knob [44] to highlight the "Check Mark".
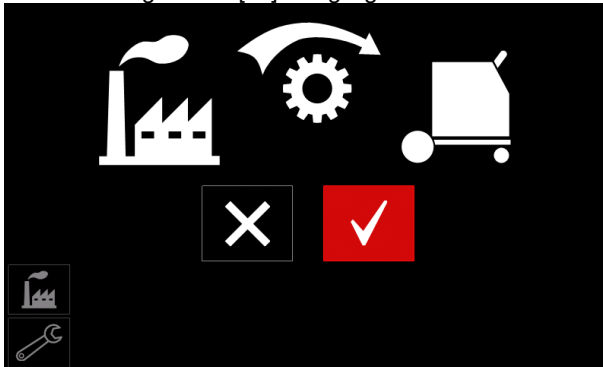
Figure 77

- Press right button [44] to confirm selection. The factory settings are restored.

Machine information

Available information:
- Software Version.
- Hardware Version.
- Welding Software.
- Machine IP Address.

Advanced Setup

This menu enables access to the configuration parameters of the device. To set the configuration parameters:
- Access to "Configuration" menu.
- Use right knob [44] to highlight the "Advance setup" icon.
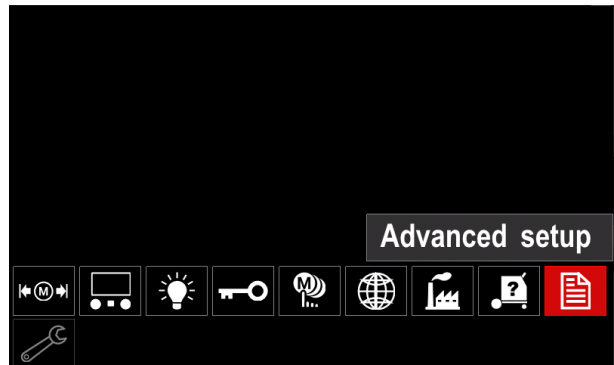
Figure 78

- Press right knob [44]. The "Advance Manu" is shown on the display.
- Use the Right Knob [44] to highlight the parameter number which will be changed, for example P.1 - allows change WFS units, factory default: "Metric" = m/min.
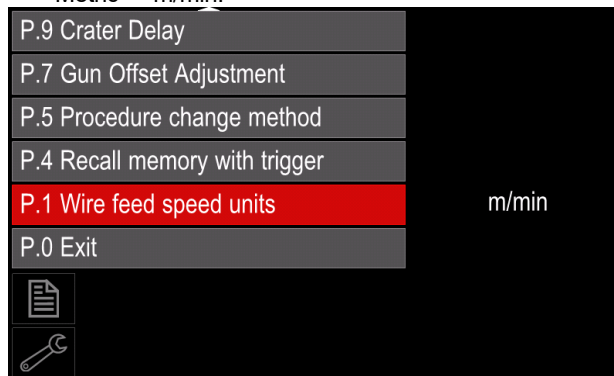
Figure 79

- Press right knob [44].
- Use right knob [44] to highlight the in/min (English/Imperial).
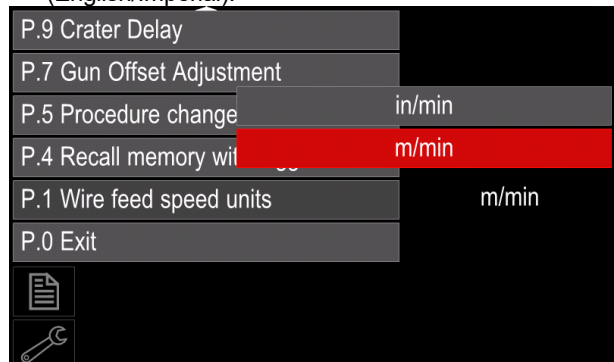
Figure 80

- Press right button [44] to confirm selection.

Table 18 The Configuration Parameters

P.0	**The Menu Exit**	Enables exit from menu
P.1	**Wire Feed Speed (WFS) units**	Enables change WFS units: • "Metric" (factory default) = m/min; • "English" = in/min.
P.4	**Recall Memory with Trigger**	This option allows a memory to be recalled by quickly pulling and releasing the gun trigger: • "Enable" = Selecting memories 2 through 9 by quickly pulling and releasing the gun trigger. To recall a memory with the gun trigger, quickly pull and release the trigger the number of times that correspond to the memory number. For example, to recall memory 3, quickly pull and release the trigger 3 times. Trigger memory recall can only be performed when the system is not welding. • "Disable" (factory default) = Memory selection is performed only by the Panel Buttons.

P.5	**Procedure change method**	This option selects how remote procedure selection (A/B) will be made. The following methods can be used to remotely change the selected procedure:
		• "External Switch" (factory default) = Dual Procedure selection may only be performed by the Cross-switch gun or remote control.
		• "Quick Trigger" = Allows switching between Procedure A and procedure B while welding with 2-stroke mode. The Cross-switch gun or remote control is required. To operate:
		  ◆ Select " WFS/Proced. A-B" in P.25 to set up parameters for A and B procedures.
		  ◆ Start the weld by pulling the gun trigger. The system will weld with procedure A settings.
		  ◆ While welding, quickly release and then pull the gun trigger. The system will switch to procedure B settings. Repeat to switch back to procedure A settings. The procedure can be changed as many times as needed during the weld.
		  ◆ Release the trigger to stop welding. When the next weld is made, the system will start again with procedure A.

P.7	**Gun Offset Adjustment**	This option adjusts the wire feed speed calibration of the pull motor of a push-pull gun. This should only be performed when other possible corrections do not solve any push-pull feeding problems. An rpm meter is required to perform the pull gun motor offset calibration. To perform the calibration procedure do the following:
		  1. Release the pressure arm on both the pull and push wire drives.
		  2. Set the wire feed speed to 200 ipm.
		  3. Remove wire from the pull wire drive.
		  4. Hold an rpm meter to the drive roll in the pull gun.
		  5. Pull the trigger on the push-pull gun.
		  6. Measure the rpm of the pull motor. The rpm should be between 115 and 125 rpm. If necessary, decrease the calibration setting to slow the pull motor, or increase the calibration setting to speed up the motor.
		• The calibration range is -30 to +30, with 0 as the default value.

P.9	**Crater Delay**	This option is used to skip the Crater sequence when making short tack welds. If the trigger is released before the timer expires, Crater will be bypassed and the weld will end. If the trigger is released after the timer expires, the Crater sequence will function normally (if enabled). • OFF (0) to 10.0 seconds (default = Off)

P.17	Remote Control Type	This option selects the type of analog remote control being used. Digital remote control devices (those with a digital display) are configured automatically.
		• "Push-Pull Gun" = Use this setting while MIG welding with a push-pull gun that uses a potentiometer for wire feed speed control (this setting is backward compatible with "P.17 Gun Selection" = PushPull).
		• "TIG Amp Control" = Use this setting while TIG welding with a foot or hand current control device (Amptrol). While TIG welding, the upper left Control on the User Interface sets the maximum current obtained when the TIG amp control is at its maximum setting.
		• "Stick/Gouge Rem." = Use this setting while stick welding or gouging with a remote output control device. While stick welding, the upper left Control on the User Interface sets the maximum current obtained when the stick remote is at its maximum setting. While gouging, the upper left Control is disabled and the gouging current is set on the remote control.
		• "All Mode Remote" = This setting allows the remote control to function in all weld modes which is how most machines with 6-pin and 7-pin remote control connections operate.
		• "Joystick MIG Gun" (European default) = Use this setting while MIG welding with a push MIG gun with a joystick control. Stick, TIG and gouge welding currents are set at the User Interface.
		Note: On machines that do not have a 12-pin connector, the "Joystick MIG Gun" settings will not appear.
P.20	Display Trim as Volts Option	Determines how trim is displayed
		• "No" (factory default) = The trim is displayed in the format defined in the weld set.
		• "Yes" = All trim values are displayed as a voltage.
		Note: This option may not be available on all machines. The power source must support this functionality, or this option will not appear in the menu.
P.22	Arc Start/Loss Error Time	This option can be used to optionally shut off output if an arc is not established, or is lost for a specified amount of time. Error 269 will be displayed if the machine times out. If the value is set to OFF, machine output will not be turned off if an arc is not established nor will output be turned off if an arc is lost. The trigger can be used to hot feed the wire (default). If a value is set, the machine output will shut off if an arc is not established within the specified amount of time after the trigger is pulled or if the trigger remains pulled after an arc is lost. To prevent nuisance errors, set Arc Start/Loss Error Time to an appropriate value after considering all welding parameters (run-in wire feed speed, weld wire feed speed, electrical stick out, etc.). To prevent subsequent changes to Arc Start/Loss Error Time, the setup menu should be locked out by setting Preference Lock = Yes using the Power Wave Manager software.
		Note: This parameter is disabled while welding in Stick, TIG or Gouge.
P.25	Joystick Configuration	This option can be used to change the behavior of the left and right joystick positions:
		• "Disable Joystick" = The joystick does not function.
		• "WFS/Trim" = The left and right joystick positions will adjust Arc Length Trim, Arc Voltage, Power or STT® Background Current based on the selected weld mode. For example, when a non-synergic STT® weld mode is selected, the left and right joystick positions will adjust Background Current. When a Power mode is selected, the left and right joystick positions will adjust the Power (kW).
		• "WFS/Job"(memory) = The left and right joystick positions will:
		• Select a user memory while not welding.
		• Adjust Trim/Voltage/Power/STT Background Current while welding.
		• "WFS/Proced. A-B" = The left and right joystick positions will be used to select procedure A and B, while welding and while not welding. The left joystick position selects procedure A, the right joystick position selects procedure B.
		Note: In all configurations other than "Disable Joystick", the up and down joystick positions will adjust the wire feed speed, while welding and while not welding.

P.28	**Display Workpoint as Amps Option**	Determines how workpoint is displayed: • "No" (factory default) = The workpoint is displayed in the format defined in the weld set. • "Yes" = All workpoint values are displayed as an amperage. **Note:** This option may not be available on all machines. The power source must support this functionality, or this option will not appear in the menu
P.80	**Sense From Studs**	Use this option for diagnostic purposes only. When power is cycled, this option is automatically reset to False. • "False" (default) = Voltage sensing is automatically determined by the selected weld mode and other machine settings. • "True" = Voltage sensing is forced to "studs" of the power source.

Cooler Menu

⚠ WARNING

Cooler Menu is available when cooler is connected.

Figure 81

Table 19 Cooler Menu

Symbol	Description
	Settings
	Filling

 Settings of the cooler – this function allows following cooler modes:

Table 20. Settings of the cooler modes

Symbol	Description
	Automatic
	Off
	On

For more details please refer to cooler instruction manual.

Service Menu
It allows the access to special service functions.

⚠ WARNING

Service Menu is available when USB storage device is connected.
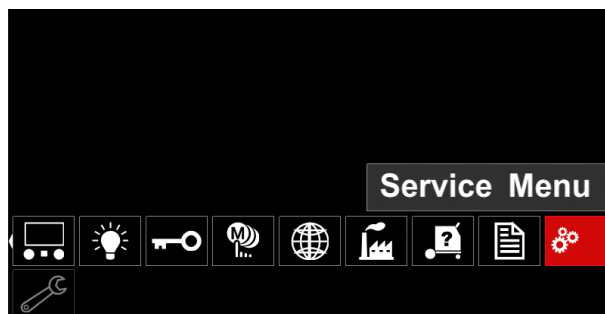
Figure 82

Table 21 Service Menu

Symbol	Description
	Service weld logs
	Weld History
	SnapShot

 Service weld logs - allows recording of the welding which were used during welding.

To access the menu:
- Make sure that USB device is connected to welding machine
- Access to „Configuration" menu.
- Use the right knob [44] to highlight the Service Menu icon.
- Press right knob [44] – recording process will start.

Figure 83

- Press right knob [44] to continue.
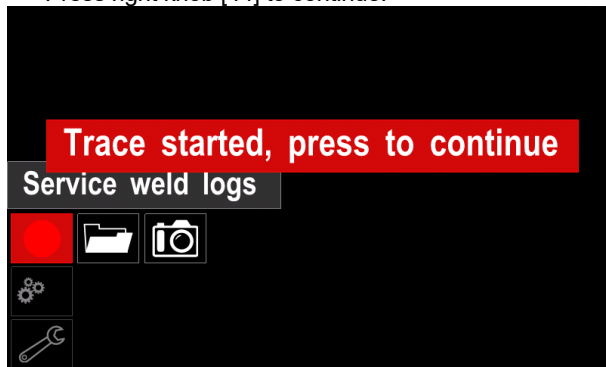
Figure 84

- Press the left knob [43] or button [45] to exit.
- Recording icon will appear on the Status bar [46].

⚠ **WARNING**

To stop recording please move to Service Menu and press the Service weld logs icon again.

 Weld History – after recording, welding parameters are saved into the USB device folder.

To access the Welding history:
- Make sure that USB device is connected.
- Access to „Configuration" menu.
- Go to Service Menu → Weld History

Figure 85

- Press right knob [44] to get access of Weld history – the list of used parameters:
  - Weld number
  - Average WFS
  - Average current [A]
  - Average voltage [V]
  - Arc time [s]
  - Welding program number
  - Job number/name

 SnapShot – create a file that contains detailed configuration and debugging information collected from each module. This file can be sent to Lincoln Electric Support to troubleshoot any possible issues that cannot be easily resolved by the user.

To obtain a SnapShot:
- Make sure that USB device is connected.
- Go to Configuration → Service Menu → Snapshot
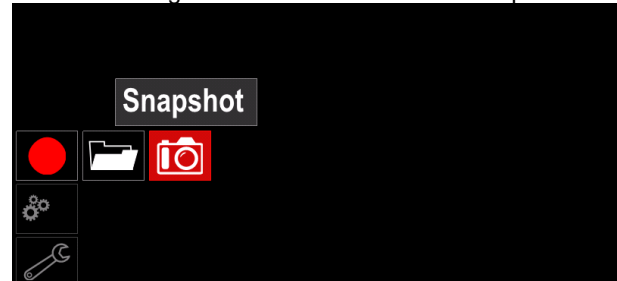
Figure 86

- Press the right knob [44] to start Snapshot process.
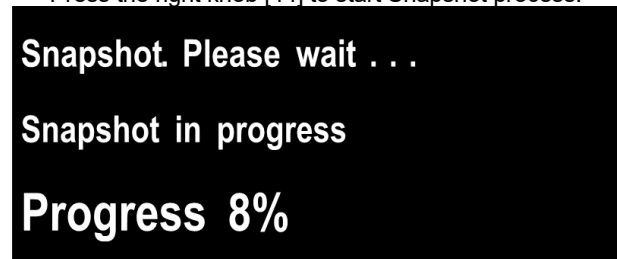
Figure 87

Welding GMAW and FCAW Process in non-synergic mode

During non-synergic mode wire feed speed and welding voltage are independent parameters and must be set by the user.

Procedure of begin welding of GMAW or FCAW-SS process:

- Determine the wire polarity for the wire to be used. Consult the wire data for this information.
- Connect output the gas-cooled gun to GMAW / FCAW process to Euro Socket [4].
- Depending on the using wire, connect the work lead [19] to output socket [2] or [3]. See [27] point – terminal block of changing polarity.
- Connect the work lead [19] to the welding piece with the work clamp.
- Install the proper wire.
- Install the proper drive roll.
- Make a sure if it is needed (GMAW process), that the gas shield has been connected.
- Turn the machine on.
- Push the gun trigger to feed the wire through the gun liner until the wire comes out of the threaded end.
- Install a proper contact tip.
- Depending on the welding process and the type of the gun, install the nozzle (GMAW process) or protection cap (FCAW process).
- Close the Left side panel.
- The welding machine is now ready to weld.
- By applying the principle of occupational health and safety at welding, welding can be begun.

⚠ **WARNING**

Keep the gun cable as straight as possible when loading electrode through cable.

⚠ **WARNING**

Never use defected gun.

- Check gas flow with Gas Purge Switch [18].
- Close the side panel.
- Close the spool wire case.
- Select the Right welding program.
  Note: The list of available programs depends on the power source.
- Set the welding parameters.
- The welding machine is now ready to weld.

⚠ **WARNING**

The side panel and wire spool case have to be completely closed during welding.

⚠ **WARNING**

Keep the gun cable as straight as possible when welding or loading electrode through cable.

⚠ **WARNING**

Do not kink or pull cable around sharp corners.

- By applying the principle of occupational health and safety at welding, welding can be begun.

For non-synergic mode can set:

- Wire Feed Speed, WFS
- The welding voltage
- Burnback Time
- Run-in WFS
- Preflow Time/ Postflow Time
- Spot Time
- 2-Step/4-Step
- Start Procedure
- Crater Procedure
- Wave Control: Pinch

Welding GMAW and FCAW Process in synergic mode CV

In synergic mode, the welding voltage is not set by user. The correct welding voltage will be set by the machine software. Optimal voltage value depends of input data:

- Wire Feed Speed, WFS.

If it is needed, the welding voltage can be adjusted by the right knob [44]. When the right knob is rotated, the display will show a positive or negative bar that indicates if the voltage is above or below the optimal voltage.

Additionally user can manually set:

- Burnback Time
- Run-in WFS
- Preflow Time
- Postflow Time
- Spot Welding Settings
- 2-Step/4-Step
- Start Procedure
- Crater Procedure
- Wave Control: Pinch

Welding SMAW Process

POWERTEC® i250C STANDARD / ADVANCED, POWERTEC® i320C STANDARD / ADVANCED, POWERTEC® i380C ADVANCED, POWERTEC® i450C ADVANCED does not include the electrode holder with lead necessary for SMAW welding, but the one can be purchased separately (see "Accessories" chapter).

Procedure of begin welding of SMAW process:
Procedure of begin welding of SMAW process:
- First turn the machine off.
- Determine the electrode polarity for the electrode to be used. Consult the electrode data for this information.
- Depending on the polarity of using electrode, connect the work lead [19] and the electrode holder with lead to output socket [2] or [3] and lock them. See the Table 22

Table 22 Polarity

			Output Socket	
POLARITY	DC (+)	The electrode holder with lead to SMAW	[3]	+
		Work lead	[2]	—
	DC (-)	The electrode holder with lead to SMAW	[2]	—
		Work lead	[3]	+

- Connect the work lead to the welding piece with the work clamp.
- Install the proper electrode in the electrode holder.
- Turn the machine on.
- Set the SMAW welding program.
- Set the welding parameters.
- The welding machine is now ready to weld
- By applying the principle of occupational health and safety at welding, welding can be begun.

For SMAW process user can set:
- Welding Current
- Switch on / switch off the output voltage on the output lead.
- Wave Control:
  - Arc Force
  - Hot Start

Loading the Electrode Wire

Depending on the type of wire spool it can be installed on the wire spool support without adapter or installed with use applicable adapter that must be purchased separately (see "Accessories" chapter).

⚠ **WARNING**

Turn the input power OFF at the welding power source before installation or changing a wire spool.

- Turn the input power OFF.
- Open the side panel of the machine.
- Unscrew the Locking Nut [24] and remove it from the Spindle.
- Place the spool [23] on the Spindle [24] making certain the Spindle Brake Pin is put in the hole in back side of spool.
  If using adapter (see "Accessories" chapter), place it on the spindle [24] making certain the spindle brake pin is put in the hole in back side of the adapter.

⚠ **WARNING**

Position the spool so that it will rotate in the same direction as wire feed and electrode wire should feed from the bottom side of the spool.

- Install the locking nut [24]. Make sure that the locking nut is tightened.

Adjustments of Brake Torque of Sleeve

To avoid spontaneous unrolling of the welding wire the sleeve is fitted with a brake.
Adjustment is carried by rotation of its screw M10, which is placed inside of the sleeve frame after unscrewing the brake locking nut.

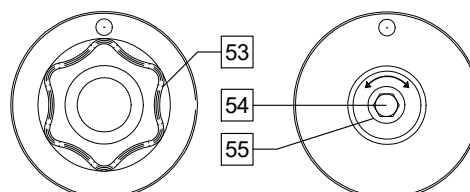**Figure 88**

53. Locking Nut.
54. Adjusting Screw M10.
55. Pressing Spring.

Turning the M10 screw clockwise increases the spring tension and increase the brake torque

Turning the M10 screw anticlockwise decreases the spring tension and decrease the brake torque.

After finishing of adjustment, you should screw brake locking nut again.

Adjusting of Pressure Roll Force

The pressure arm controls the amount of force the drive rolls exert on the wire. Pressure force is adjusted by turning the adjustment nut clockwise to increase force, counterclockwise to decrease force. Proper adjustment of pressure arm gives the best welding performance.

⚠ WARNING

If the roll pressure is too weak the roll will slide on the wire. If the roll pressure is set too heavy the wire may be deformed, which cause feeding problems in the welding. The pressure force should be set properly. For this purpose decrease the pressure force slowly until the wire just begins to slide on the drive roll and then increase the force slightly by turning of the adjustment nut by one turn.

Inserting Electrode Wire into Welding Torch

- Turn the welding machine off.
- Depending of welding process connect proper welding torch to the euro socket. Rated parameters of the torch and welding machine should be matched.
- Depends on type of gun must be remove the nozzle from the gun and contact tip or protection cap and contact tip.
- Turn the welding machine on.
- Hold the Cold Feed/Gas Purge Switch [25] or use torch trigger until wire appear over threaded end of the gun.
- When the Cold Feed switch or torch trigger is released spool of wire should not unwind.
- Adjust wire spool brake accordingly.
- Turn the welding machine off.
- Install a proper contact tip.
- Depending on the welding process and the type of the gun, install the nozzle (GMAW process) or protection cap (FCAW process).

⚠ WARNING

Take precaution to keep eyes and hands away from the end of the gun while the wire is being come out of the threaded end.

Changing Driving Rolls

⚠ WARNING

Turn the input power off before installation or changing drive rolls.

POWERTEC® i250C STANDARD, POWERTEC® i250C ADVANCED, POWERTEC® i320C STANDARD, POWERTEC® i320C ADVANCED, POWERTEC® i380C ADVANCED, POWERTEC® i450C ADVANCED are equipped with drive roll V1.0/V1.2 for steel wire. For others wires and sizes it is required to install proper drive rolls kit (see "Accessories" chapter) and follow instruction:

- Turn the input power OFF.
- Unlock 4 rolls by turning 4 Quick-Change Carrier Gear [60].
- Release the pressure roll levers [61].
- Change the drive rolls [59] corresponding to the used wire.

⚠ WARNING

Be sure that the gun liner and contact tip are also size to match the selected wire size.

⚠ WARNING

For wires with the diameter larger than 1.6mm, the following parts have to be changed:
- The guide tube of the feeding console [57] and [58].
- The guide tube of the Euro Socket [56].

- Lock 4 new rolls by turning 4 Quick-Change Carrier Gear [60].
- Insert the wire through the guide tube, over the roller and through the guide tube of Euro Socket into liner of gun. The wire can be pushed into the liner manually for a few centimeters, and should feed easily and without any force.
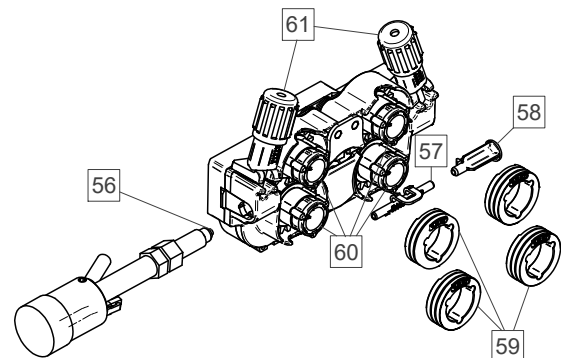- Lock the pressure roll levers [61].

Figure 89

Gas Connection

⚠ WARNING

- CYLINDER may explode if damaged.
- Always fix the gas cylinder securely in an upright position, against a cylinder wall rack or purpose-made cylinder cart.
- Keep cylinder away from areas where it may be damaged, heated or electrical circuits to prevent possible explosion or fire.
- Keep cylinder away from welding or other live electrical circuits.
- Never lift welder with cylinder attached.
- Never allow welding electrode to touch cylinder.
- Build up of shielding gas may harm health or kill. Use in a well-ventilated area to avoid gas accumulation.
- Close the gas cylinder valves thoroughly when not in use to avoid leaks.

⚠ WARNING

Welding machine supports all suitable shielding gases at a maximum pressure of 5,0 bar.

⚠ WARNING

Before use, make sure that the gas cylinder contains gas suitable for the intended purpose.

- Turn off input power at the welding power source.
- Install a proper gas flow regulator to the gas cylinder.
- Connect the gas hose to the regulator using the hose clamp.
- The other end of gas hose connect to the gas connector on the power source rear panel.
- Turn on input power at the welding power source.
- Open the gas cylinder valve.
- Adjust the shielding gas flow of the gas regulator.
- Check gas flow with Gas Purge Switch [25].

⚠ WARNING

To weld GMAW process with CO_2 shielding gas, CO_2 gas heater should be used.

Transport & Lifting

⚠ WARNING

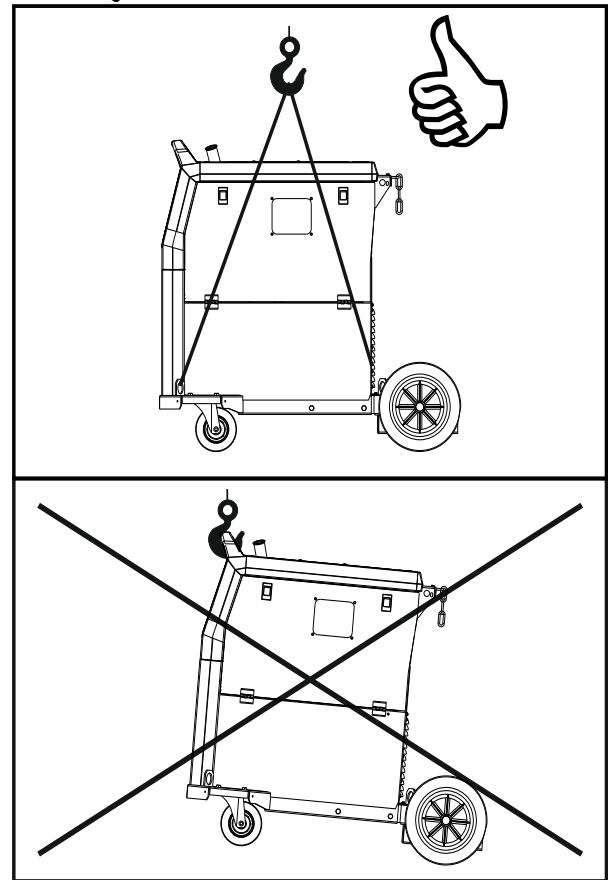Falling equipment can cause injury and damage to unit.

Figure 90.

During transportation and lifting with a crane, adhere to the following rules:
- The device contains elements adapted for transport.
- For lifting a suitable lifting equipment capacity.
- For lifting and transport use minimum four belts.
- Lift and transport only power source without gas cylinder, cooler, or/and any other accessories.

Maintenance

 WARNING

For any repair operations, modifications or maintenances, it is recommended to contact the nearest Technical Service Center or Lincoln Electric. Repairs and modifications performed by unauthorized service or personnel will cause, that the manufacturer's warranty will be lost.

Any noticeable damage should be reported immediately and repaired.

Routine maintenance (everyday)
- Check condition of insulation and connections of the work leads and insulation of power lead. If any insulation damage exists replace the lead immediately.
- Remove the spatters from the welding gun nozzle. Spatters could interfere with the shielding gas flow to the arc.
- Check the welding gun condition: replace it, if necessary.
- Check condition and operation of the cooling fan. Keep clean its airflow slots.

Periodic maintenance (every 200 working hours but at least once a year)
Perform the routine maintenance and, in addition:
- Keep the machine clean. Using a dry (and low pressure) airflow, remove the dust from the external case and from the cabinet inside.
- If it is required, clean and tighten all weld terminals.

The frequency of the maintenance operations may vary in accordance with the working environment where the machine is placed.

 WARNING

Do not touch electrically live parts.

 WARNING

Before removed case, machine has to be turned off and the power lead has to be disconnected from mains socket.

 WARNING

Mains supply network must be disconnected from the machine before each maintenance and service. After each repair, perform proper tests to ensure safety.

Customer Assistance Policy

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.
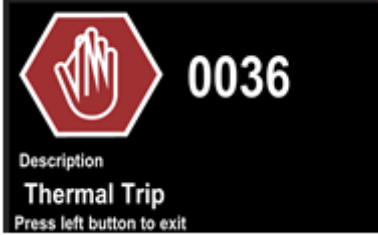
Error

Table 23 Interface Components

	Interface description
Figure 91	62. Error code 63. Error description.

Table 24 shows list of basic errors that can appear. To get full list of error codes, please contact with authorize Lincoln Electric service.

Table 24 Error codes

Error code	Symptoms	Cause	Recommended Course of Action
6	Power source is not connected.	The User Interface cannot seem to communicate with the Power Source.	• Check cable connections between the power source and the user interface.
36	The machine has shut down because it has overheated.	System detected a temperature level beyond the normal system operating limit.	• Be sure process does not exceed duty cycle limit of the machine. • Check the setup for proper air flow around and through the system. • Check that the system has been properly maintained, including removal of accumulated dust and dirt from the intake and outlet louvers. • User interface show information when machine will be cooled down. To continue welding operation Please press left knob or start welding operation by the torch trigger.
81	Motor overload, long term.	The wire drive motor has overheated. Check that the electrode slides easily through the gun and cable.	• Remove tight bends from the gun and cable. • Check that the spindle brake is not too tight. • Verify the adequacy of the electrode to the welding process. • Verify a high quality electrode is being used. • Check drive rolls alignment and gears. • Wait for the error to reset and the motor to cool (approximately 1 minute).

⚠ **WARNING**

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your Local Lincoln Authorized Field Service Facility for technical troubleshooting assistance before you proceed.

WEEE

07/06

	Do not dispose of electrical equipment together with normal waste! In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment (WEEE) and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and returned to an environmentally compatible recycling facility. As the owner of the equipment, you should get information on approved collection systems from our local representative. By applying this European Directive you will protect the environment and human health!

Spare Parts

07/06

12/05

Part List reading instructions
- Do not use this part list for a machine if its code number is not listed. Contact the Lincoln Electric Service Department for any code number not listed.
- Use the illustration of assembly page and the table below to determine where the part is located for your particular code machine.
- Use only the parts marked "X" in the column under the heading number called for in the assembly page (# indicate a change in this printing).

First, read the Part List reading instructions above, then refer to the "Spare Part" manual supplied with the machine that contains a picture-descriptive part number cross-reference.

REACh

11/19

Communication in accordance with Article 33.1 of Regulation (EC) No 1907/2006 – REACh.
Some parts inside this product contain:
Bisphenol A, BPA,   EC 201-245-8, CAS 80-05-7
Cadmium,   EC 231-152-8, CAS 7440-43-9
Lead,   EC 231-100-4, CAS 7439-92-1
Phenol, 4-nonyl-, branched,   EC 284-325-5, CAS 84852-15-3
in more than 0,1% w/w in homogeneous material. These substances are included in the "Candidate List of Substances of Very High Concern for Authorisation" of REACh.
Your particular product may contain one or more of the listed substances.
Instructions for safe use:
- use according to Manufacturer instructions, wash hands after use;
- keep out of reach of children, do not put in mouth,
- dispose in accordance with local regulations.

Authorized Service Shops Location

09/16

- The purchaser must contact a Lincoln Authorized Service Facility (LASF) about any defect claimed under Lincoln's warranty period.
- Contact your local Lincoln Sales Representative for assistance in locating a LASF or go to www.lincolnelectric.com/en-gb/Support/Locator.

Electrical Schematic

Refer to the "Spare Part" manual supplied with the machine.

English   47   English

Accessories

K14201-1	CABLE MANAGEMENT KIT
K14325-1	DISPLAY COVER KIT LE
K14328-1	BUMPERS
K10095-1-15M	REMOTE CONTROL
K2909-1	6-PIN/12-PIN ADAPTER
K14290-1	12PIN REMOTE HARNESS KIT
K14175-1	GAS FLOW METER KIT
K14176-1	GAS HEATER KIT
K14182-1	COOLER COOLARC 26
R-1019-125-1/08R	ADAPTER FOR SPOOL S200
K10158-1	ADAPTER FOR SPOOL TYPE B300
K10158	ADAPTER FOR SPOOL 300mm
K14091-1	REMOTE MIG LF45PWC300-7M (CS/PP)
E/H-300A-50-XM	WELDING CABLE WITH ELECTRODE HOLDER 300A (X=5, 10m)
E/H-400A-70-XM	WELDING CABLE WITH ELECTRODE HOLDER 400A (X=5, 10m)
MIG/MAG TORCHES	
W10429-36-3M	LGS2 360 G-3.0M MIG GUN AIR COOLED
W10429-36-4M	LGS2 360 G-4.0M MIG GUN AIR COOLED
W10429-36-5M	LGS2 360 G-5.0M MIG GUN AIR COOLED
W10429-505-3M	LGS2 505W 3.0M MIG GUN WATER COOLED
W10429-505-4M	LGS2 505W 4.0M MIG GUN WATER COOLED
W10429-505-5M	LGS2 505W 5.0M MIG GUN WATER COOLED
ROLL KIT FOR SOLID WIRES	
KP14150-V06/08	ROLL KIT 0.6/0.8VT FI37 4PCS GREEN/BLUE
KP14150-V08/10	ROLL KIT 0.8/1.0VT FI37 4PCS BLUE/RED
KP14150-V10/12	ROLL KIT 1.0/1.2VT FI37 4PCS RED/ORANGE
KP14150-V12/16	ROLL KIT 1.2/1.6VT FI37 4PCS ORANGE/YELL
KP14150-V16/24	ROLL KIT 1.6/2.4VT FI37 4PCS YELL/GREY
KP14150-V09/11	ROLL KIT 0.9/1.1VT FI37 4PCS
KP14150-V14/20	ROLL KIT 1.4/2.0VT FI37 4PCS
ROLL KIT FOR ALUMINIUM WIRES	
KP14150-U06/08A	ROLL KIT 0.6/0.8AT FI37 4PCS GREEN/BLUE
KP14150-U08/10A	ROLL KIT 0.8/1.0AT FI37 4PCS BLUE/RED
KP14150-U10/12A	ROLL KIT 1.0/1.2AT FI37 4PCS RED/ORANGE
KP14150-U12/16A	ROLL KIT 1.2/1.6AT FI37 4PCS ORANGE/YELL
KP14150-U16/24A	ROLL KIT 1.6/2.4AT FI37 4PCS YELL/GREY
ROLL KIT FOR CORED WIRES	
KP14150-V12/16R	ROLL KIT 1.2/1.6RT FI37 4PCS ORANGE/YELL
KP14150-V14/20R	ROLL KIT 1.4/2.0RT FI37 4PCS
KP14150-V16/24R	ROLL KIT 1.6/2.4RT FI37 4PCS YELL/GREY
KP14150-V09/11R	ROLL KIT 0.9/1.1RT FI37 4PCS
KP14150-V10/12R	ROLL KIT 1.0/1.2RT FI37 4PCS -/ORANGE
WIRE GUIDES	
0744-000-318R	WIRE GUIDE SET BLUE Ø0.6-1.6
0744-000-319R	WIRE GUIDE SET RED Ø1.8-2.8
D-1829-066-4R	EURO WIRE GUIDE Ø0.6-1.6
D-1829-066-5R	EURO WIRE GUIDE Ø1.8-2.8