


USER MANUAL

MANUAL DE USUARIO



Every SWEISS machine comes with 3 years of limited warranty. However, it is necessary to take the machine to a free technical checkup every year (the cost of labor is free, the spare parts will require payment), at any of the SWEISS AUTHORIZED service centers, at the end of which the warranty will be extended to the next year. The technical checkup must get done between 11 to 13 months from the purchase, and then 11 to 13 months from the first checkup. Not taking the machine to the annual checkup will void the warranty.

Accessories or consumable parts like ground clamp, electrode holder and torches ARE NOT COVERED BY WARRANTY, unless there is a manufacturing defect.

Never use GAS, only AIR provided by a compressor, with a maximum pressure of 120 PSI.

SKYCUT 690/1000

IMPORTANT: Read this Owner's Manual Completely before attempting to use this equipment. Save this manual and keep it handy for quick reference. Pay particular attention to the safety instructions we have provided for your protection. Contact your distributor if you do not fully understand this manual.

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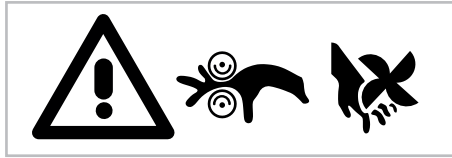
IMPORTANTE: Lea el manual de usuario completamente antes de utilizar el equipo. Mantenga este manual al alcance para futuras referencias. Ponga especial atención a las instrucciones de seguridad para la protección de su integridad física. Contacte a su distribuidor local si tiene alguna duda acerca de la operación de cualquiera de los equipos SWEISS.

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1. Security

1.1. Description and explanation of signs



The Symbols located at the top, mean ATTENTION, Moving parts in operation. There is risk of electric shock, or hot parts can damage parts and / or body. By following the Indications below, it is safe enough to operate after taking the corresponding safety measures.

1.2. ELECTRIC ARC HAZZARDS

- The following signs and descriptions refer to the dangers and damages that your body or others may suffer when carrying out the welding process. Remember when you see these symbols that welding without proper protection can be dangerous.
- Only properly instructed and trained personnel can install, check, operate, maintain and repair any SWEISS equipment.
- During operation, people not directly involved in the welding process should be far enough away, especially children.
- After stopping the power of the equipment, to carry out maintenance or to examine the equipment, proceed according to chapter “\$ 5”, since residual voltage may remain in the capacitors and / or other electronic parts.



Electric shock can kill!

- Never touch electrical parts.
- Use dry clothes and gloves with no holes for electrical isolation.
- Isolate yourself from work zone and ground with dry insulation. Make sure the isolation is large enough to avoid physical contact with work area and ground.
- Take special measures when the machine is used on closed places, work at height or high humidity.
- Always disconnect the electrical supply before installation and initial adjustment of the machine.
- Make sure the machine is well installed and correctly place and ground the object or metal being welded.

- The electrode holder and the work clamp are electrically active when the machine is on. Do not touch these parts without adequate isolation or with wet clothing. Wear dry gloves without holes to isolate your hands.
- In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun also conduct electricity.
- Always make sure the work clamp is well connected to the material being welded. The connection must be done as close as possible to the area being welded.
- Maintain the work clamp, electrode holder, welding cables and welding machine in good condition. Replace damaged parts.
- Never dip the electrode in water for cooling.
- Never simultaneously touch electrically active parts of electrode holders or work clamps connected to two welders.
- When working above floor level, use a safety belt to protect yourself from an accidental fall.



Fumes and gases can be dangerous

Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. When welding with electrodes which require special ventilation such as stainless or hard facing or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and below threshold limit using mechanical ventilation. In confined spaces or in some circumstances, outdoors, a respirator with adequate filters may be required. Additional precautions are also required when welding on galvanized steel.

- Avoid welding near locations with chlorinated hydrocarbon vapors coming from degreasing and cleaning operations. The heat and electricity of the arc can react with solvent vapors and form phosgene, a highly toxic gas, and other irritating products.
- The gases used for arc welding can displace air and cause asphyxia, intoxication or death. Always use enough ventilation, especially in confined areas, to make sure breathing air is safe.
- Read and understand the manufacturer's instructions for this equipment and the consumables to be used, including the material in the safety data sheet and follow your employer's safety practices.



Arc rays can burn

- Use a shield with an adequate filter to protect your eyes from sparks and the rays of the arc when welding or for observing the welding arc.
- Use appropriate clothing made from flame-resistant material to protect your skin and that of your helping personnel from the welding arc rays.
- Protect the nearby personnel with protective non-flammable elements. The nearby personnel must be warned about not to watch the arc directly nor expose themselves to the arc.



Moving parts can be dangerous

- Keep all security equipment, guards, covers and devices in position and in good state.
- Keep hands, hair, clothing and tools away from fans and all other moving parts when starting, operating or repairing equipment.
- Don't put the hands near the fan.



NEVER add fuel near fire, a welding arc, or hot splatter or metal.



Welding sparks can cause fire or explosion


- Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks can easily go through small openings to adjacent areas. Avoid welding near hydraulic lines. Keep a fire extinguisher available.
- To avoid hazardous situations in places where compressed gases are used additional precautions should be taken.
- While there is no welding operation being done, make sure no part of the circuit is in contact with the working piece or the ground. Accidental contact can cause overheating or fire hazard.
- Do not heat, cut or weld tanks, drums or containers until measures have been taken to ensure that flammable gases and toxic vapors had been eliminated, they can cause explosions.
- Vent hollow castings or containers before heating, cutting or welding them. They may explode.
- Sparks and spatter are thrown from the welding arc. Wear oil free protective clothing such as leather gloves, heavy shirts and pants, protected shoes and head protection. Wear ear plugs when welding in confined places.
- Connect the work cable as close as possible to the welding work area. Work cables connected to the building structure can increase the possibility of the welding current passing through cables and alternate circuits.

2. Parameters

TECHNICAL SPECIFICATIONS SWEISSWELD.COM



SWEISS SCHWEISSTECHNIK®



SKYCUT690 **MX** 220V 1/3ph
ULTRA



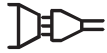
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WELDING OUTPUT

	$U_i=1\sim 220V$ Output 20A/88V-60A/104V	
		X 95% 100%
S	$U_0=420V$	I_2 60A 58A
		U_2 104V 103,2V

	$U_i=3\sim 220V$ Output 20A/88V-60A/104V	
		X 95% 100%
S	$U_0=420V$	I_2 60A 58A
		U_2 104V 103,2V


ENERGY INPUT

1~50/60HZ	$U_i=220V$	$I_{i,max}=51A$	$I_{i,eff}=40A$
3~50/60HZ	$U_i=220V$	$I_{i,max}=29A$	$I_{i,eff}=19A$
		IP23S	F

TECHNICAL SPECIFICATIONS SWEISSWELD.COM



SWEISS SCHWEISSTECHNIK®



SKYCUT1000 **MX** 220V 1/3ph
ULTRA



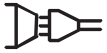
IEC60974-1

WELDING OUTPUT

	$U_i=1\sim 220V$ Output 20A/88V-60A/104V	
		X 100%
S	$U_0=450V$	I_2 100A
		U_2 104V

	$U_i=3\sim 220V$ Output 20A/88V-100A/120V	
		X 60% 100%
S	$U_0=450V$	I_2 100A 80A
		U_2 120V 112V

ENERGY INPUT

1~50/60HZ	$U_i=220V$	$I_{i,max}=51A$	$I_{i,eff}=40A$
3~50/60HZ	$U_i=220V$	$I_{i,max}=55A$	$I_{i,eff}=45A$
		IP23S	F

3. Installation & Adjustment

3.1 Unpacking the Equipment.

Check all equipment with its accessories and consumables for any transport damage. If damage is evident contact your dealer before proceeding with installation.

3.2 Power input connections.

Verify that the power supply is appropriate according to the equipment specifications before connecting the equipment. (check 2.1 Parameters)

Take special care NOT to connect the equipment to a 3ph connection, this connection will automatically void the warranty.

3.3 Gas connections.

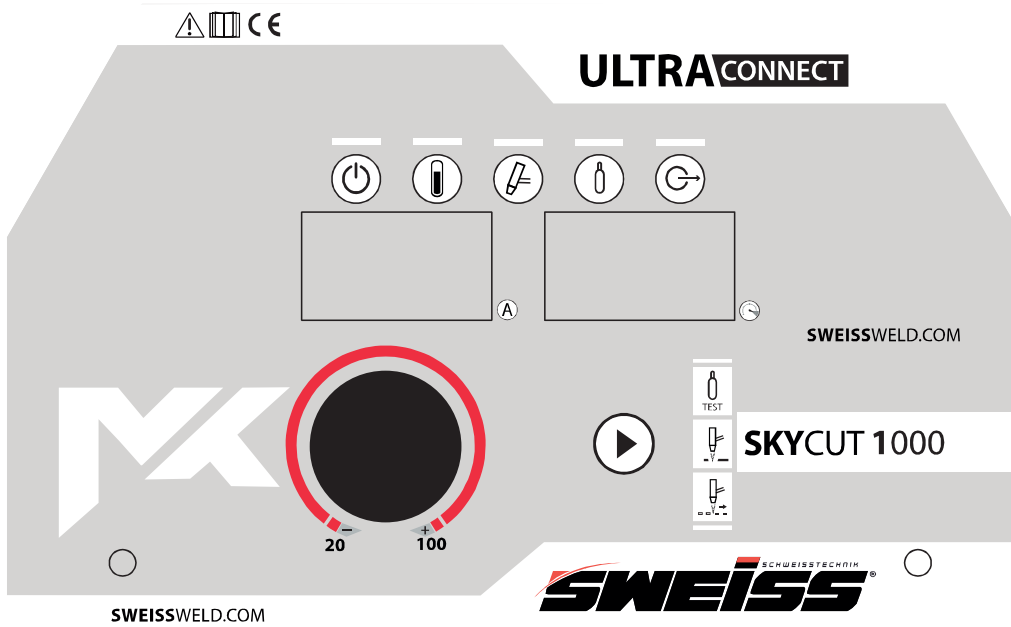
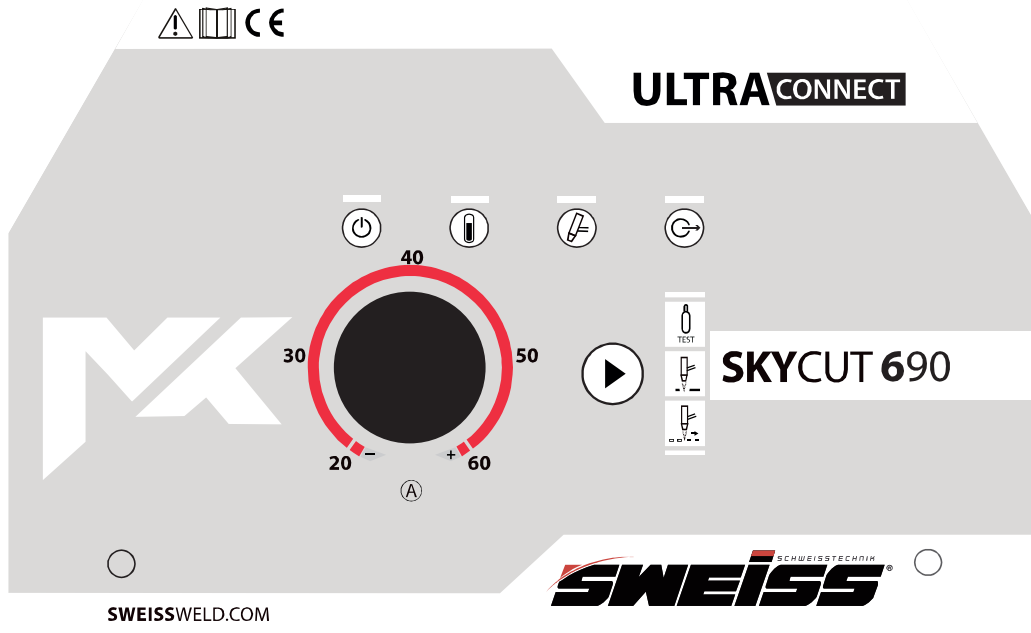
A. Connect the gas supply to the machine: Connect the gas to the unit at the rear panel inlet port.

B. Check the air quality and pressure, it should be between 0.45 and 0.5MPa (65-75psi).








- It is recommended to use an additional water filter, to avoid premature deterioration of the air system and consumables.
- It is the responsibility of the user to deliver the air clean and free of Water, oils or any other material or liquid, this can affect the useful life of the equipment or its carriage, at the same time that it can void the warranty.
- An appropriate flow for the correct operation of the equipment must be supplied, with a minimum of 6cfm, with the indicated pressure.

4. Operation

4.1 Front panel diagram



4.2 Symbols

SYMBOL	INDICATION	INFORM
	Current input	Only indicates current input
	Temperature warning or alarm	Duty Cycle or Alarm Exceeded
	Continuous normal cutting mode	Indicates the way of working during the cut
	Intermittent working mode when there is material	The arc automatically turns on when there is material and stops when there is not
	Air test mode	It only serves to test the air outlet
	Air trouble notice	Check pressure and flow
	Torch problem	Consumables problem

4.3 Cutting preparation

1. Connect the power cable to the power supply (check the voltage according to the technology parameters section 2.1).
2. Connect the air hose to the air inlet connection to the equipment and the ground clamp to the workpiece.
3. Turn on the equipment and verify that the power supply lamp is on.
4. Press and hold button 1 for 10 seconds to check the air inlet pressure and adjust until the alarm disappears.
5. After verifying that the air is dry and free and within the pressure limits, go to point 6.
6. Start using the equipment.

CUTTING PERFORMANCE / CAPACIDADES DE CORTE

SKYCUT 690 (60A)

SEVERANCE
SEPARACIÓN

35mm.

MAXIMUM
MÁXIMO

30mm.

RECOMMENDED
RECOMENDADO

25mm.

SKYCUT 1000 (100A)

SEVERANCE
SEPARACIÓN

60mm.

MAXIMUM
MÁXIMO

55mm.

RECOMMENDED
RECOMENDADO

50mm.








(CUTTING CAPACITIES)		SKYCUT 690	SKYCUT 1000
Carbon steel (mm) Clearance		≤35	≤60
Recommended cutting capacity in different materials (mm)	Carbon Steel	≤25	≤45
	Stainless steel	≤25	≤45
	Aluminum	≤20	≤36
	Copper	≤14	≤20

5. Maintenance & Troubleshooting

5.1 Basic troubleshooting guide.

There is voltage and amperage that can injure or even kill the cutting machine, do not attempt to repair it. Only properly trained and certified personnel should open and repair the equipment.

Warning: Check consumables constantly and if they are damaged, replace them. Disconnect the power cord from the equipment before checking or removing consumables from the torch.

SYMBOL	INDICATION	INFORM
	Current input	Only indicates current input
	Temperature warning or alarm	Duty Cycle or Alarm Exceeded
	Continuous normal cutting mode	Indicates the way of working during the cut
	Intermittent working mode when there is material	The arc automatically turns on when there is material and stops when there is not
	Air test mode	It only serves to test the air outlet
	Air trouble notice	Check pressure and flow
	Torch problem	Consumables problem

a) Turn on the machine, the power indicator turns on, but the fans and air control valve do not work.

Check the connection of the connection phases and connect correctly.
The main circuit board is damaged, take the equipment to an authorized service center.

b) Turn on the machine and the wrongly connected low air pressure or torch LED turns on.

Air pressure is too low, adjust pressure to 65PSI / 4.5Bar. The barometer indicates 0.45-0.5MPa

c) Turn on the machine and the poorly connected low air pressure or torch LED blinks.

Nozzle is not properly installed. Turn off the computer and install correctly.
The tip or electrode is not properly installed.

d) The LED temperature indicator lights up after a few minutes of work.

Poor ventilation (blocked air flow).
Fan blocked.
Equipment overheating, allow temperature to recover for five minutes.
Input voltage above the operating range.
Defective components in the equipment. Take the equipment to an authorized service center for inspection.

5.2 Pilot arc problems

a) The torch fails to start the arc when pressing the trigger:

Failure of any of the torch components.
Adjust the air pressure.
Equipment component failure: take it to an authorized service center for inspection and repair.

b) Difficulty in starting the arc

Consumables in poor condition, check the status of consumables
The gas diffuser is not installed
Equipment component failure: take it to an authorized service center for inspection and repair.

c) The torch trigger is pressed but the pilot arc does not change to cut. The power indicator turns on, the air flows and the fan runs.

Incorrect connection between torch and power supply check that torch cables are properly connected.
Work clamp poorly connected to workpiece.
Equipment component failure: take it to an authorized service center for inspection and repair.

d) The arc turns off during the cut and is not reactivated when the trigger is pressed

Overheated equipment. Let it cool for five minutes.

Very low air pressure. Adjust it at 4.5BAR / 65PSI.

Consumables in poor condition. Check and change them.

Equipment component failure. Take it to an authorized service center for inspection and repair..

5.3 Arc Problems

a) The equipment does not cut, the torch produces an arc, air flows and the fans work

Torch poorly connected to equipment

Ground clamp not connected or poorly connected to the workpiece.

b) Low cutting power

Check the cutting power setting.

Equipment component failure. Take it to an authorized service center for inspection and repair.

c) Difficulty in starting the arc

Consumables in poor condition, check the status of consumables

d) The arc turns off during the cut and is not reactivated when the trigger is pressed

Overheated equipment. Let it cool for five minutes.

Very low gas pressure. Adjust it at 4BAR / 60PSI.

Consumables in poor condition. Check and change them.

Equipment component failure. Take it to an authorized service center for inspection and repair.

