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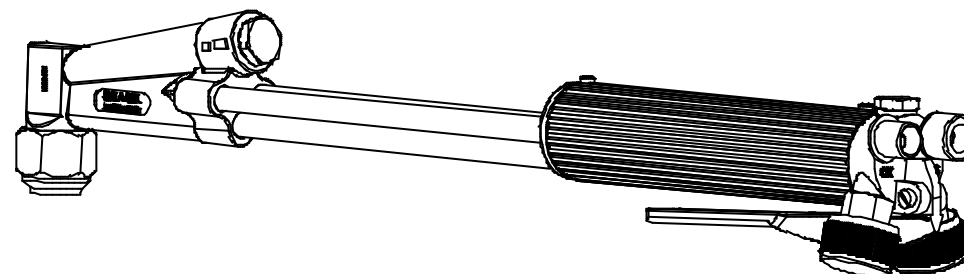
INSTRUCTIONS MANUAL



ISO 9001 QUALITY SYSTEM

H-TYPE CUTTING TORCH

MANUFACTURED ACCORDING TO ISO 5172



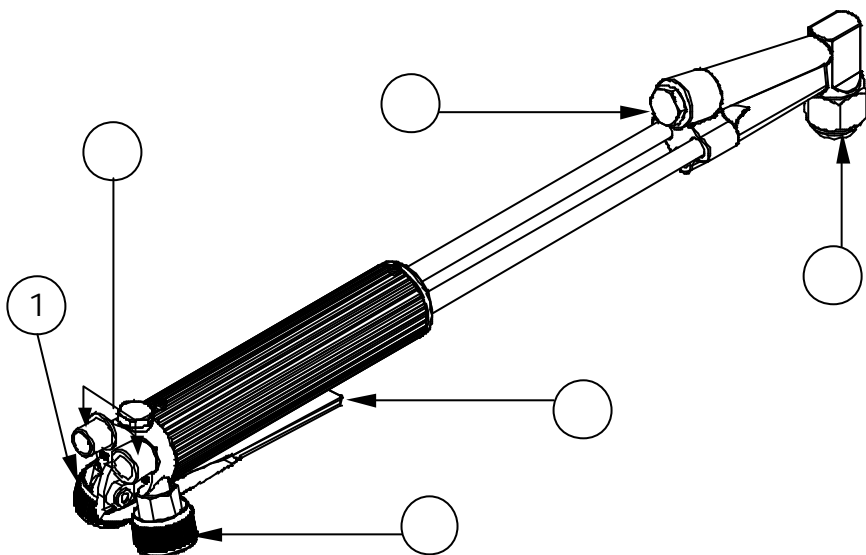
BEFORE STARTING WORK CAREFULLY READ THE CONTENT OF THIS INSTRUCTIONS MANUAL.



RESPECT THE STANDARDS ON SAFETY AND SELF-PROTECTION AGAINST FIRE AND GAS LEAKS. USE PROTECTIVE CLOTHING AND EQUIPMENT THAT ADAPT

TO THE EXISTING RISKS.

H-TYPE CUTTING TORCH (758.00.011)



DESCRIPTION OF THE TORCH COMPONENTS:

- | | |
|------------------------------------|------------------------------|
| 1.- Oxygen valve. | 4.- Injector-mixer assy. |
| 2.- Combustible gas valve. | 5.- Nozzle tightening nut.. |
| 3.- Cutting torch operating lever. | 6.- Hose coupling connectors |

The different equipment variables according to coupling threads are shown on the following table:

REFERENCE	DESIGNATION	coupling threads	HOSE Ø
758.00.001	Acetylene H-type Cutting torch	G1/4"RH - G3/8"LH	6-8 / 8-10 mm.
758.00.006	Acetylene H-type Cutting torch	9/16"RH - 9/16"LH	8-10 / 8-10 mm.
758.00.008	Acetylene H-type Cutting torch	G3/8"RH - G3/8"LH	8-10 / 8-10 mm.
758.00.011	Propane/Nat. Gas H-type Cutting torch	G1/4"RH - G3/8"LH	6-8 / 8-10 mm.

758.00.016	Propane/Nat. Gas H-type Cutting torch	9/16"RH - 9/16"LH	8-10 / 8-10 mm.
758.00.018	Propane/Nat. Gas H-type Cutting torch	G3/8"RH - G3/8"LH	8-10 / 8-10 mm.
758.00.020	70° Acetylene H-type Cutting torch	G1/4"RH - G3/8"LH	6-8 / 8-10 mm.
758.00.026	70° Acetylene H-type Cutting torch	9/16"RH - 9/16"LH	8-10 / 8-10 mm.
758.00.028	70° Acetylene H-type Cutting torch	G3/8"RH - G3/8"LH	8-10 / 8-10 mm.
758.00.120	70° Propane/Nat. Gas H-type Cutting torch	G1/4"RH - G3/8"LH	6-8 / 8-10 mm.
758.00.126	70° Propane/Nat. Gas H-type Cutting torch	9/16"RH - 9/16"LH	8-10 / 8-10 mm.
758.00.128	70° Propane/Nat. Gas H-type Cutting torch	G3/8"RH - G3/8"LH	8-10 / 8-10 mm.

The rated thickness and cutting Ø for the different nozzles are indicated on the following tables, for acetylene, propane and natural gas.

Nozzles for propane and natural gas			
REFERENCE	DESIGNATION	CUT HOLE Ø	CUTTING THICKNESS
756.00.201	Cutting nozzle no. 1	1 mm.	4 -9 mm.
756.00.202	Cutting nozzle no. 2	1.3 mm.	9 -25 mm.
756.00.203	Cutting nozzle no. 3	1.7 mm.	25 -50 mm.
756.00.204	Cutting nozzle no. 4	2 mm.	50 -75 mm.
756.00.205	Cutting nozzle no. 5	2.5 mm.	75 -150 mm.
756.00.206	Cutting nozzle no. 6	2.9 mm.	150 -200 mm.
756.00.207	Cutting nozzle no. 7	3.4 mm.	200 -300 mm.



NOZZLES FOR ACETYLENE			
REFERENCE	DESIGNATION	CUT HOLE Ø	CUTTING THICKNESS
714.00.201	Cutting nozzle no. 1	0.8 mm.	4 -9 mm.
714.00.202	Cutting nozzle no. 2	1.3 mm.	9 -25 mm.
714.00.203	Cutting nozzle no. 3	1.7 mm.	25 -50 mm.
714.00.204	Cutting nozzle no. 4	2.1 mm.	50 -75 mm.
714.00.205	Cutting nozzle no. 5	2.5 mm.	75 -150 mm.
714.00.206	Cutting nozzle no. 6	2.9 mm.	150 -200 mm.
714.00.207	Cutting nozzle no. 7	3.4 mm.	200 -300 mm.

The rated pressures and consumptions for the different nozzles are indicated in the following tables, for acetylene, propane and natural gas:

Nozzles for propane and natural gas								
REFERENCE	DESIGNATION	P _{PROPANE} (Bar)	P _{N. GAS} (Bar)	P _{CUTTING} (Bar)	Q _{propane} (NI/h)	Q _{oxygen} (NI/h)	Q _{NATURAL G.} (NI/h)	Q _{oxygen} (NI/h)
756.00.201	Cutting nozzle no. 1	0,1-0,3	0,15-0,3	2-2,5	275	915	205	675
756.00.202	Cutting nozzle no. 2	0,1-0,3	0,15-0,3	2,5-3	280	955	225	730
756.00.203	Cutting nozzle no. 3	0,1-0,3	0,15-0,3	3-3,5	290	1080	240	830
756.00.204	Cutting nozzle no. 4	0,1-0,3	0,15-0,3	3,5-4	310	1280	250	900
756.00.205	Cutting nozzle no. 5	0,15-0,3	0,15-0,3	4-4,5	335	1365	320	1195
756.00.206	Cutting nozzle no. 6	0,15-0,3	0,15-0,3	4,5-5	450	1500	335	1220
756.00.207	Cutting nozzle no. 7	0,15-0,3	0,15-0,3	5-6	550	1815	340	1345

Nozzles for acetylene					
REFERENCE	DESIGNATION	P _{ACETYLENE} (Bar)	P _{CUTTING} (Bar)	Q _{ACEYLENE} (NI/h)	Q _{oxygen} (NI/h)
714.00.201	Cutting nozzle no. 1 (4-9 mm.)	<0,6	1,4-2,1	235	590
714.00.202	Cutting nozzle no. 2 (9-25 mm.)	<0,6	2,1-2,8	440	1100
714.00.203	Cutting nozzle no. 3 (25-50 mm.)	<0,6	2,8-3,4	515	1290
714.00.204	Cutting nozzle no. 4 (50-75 mm.)	<0,6	3,4-4,0	635	1595
714.00.205	Cutting nozzle no. 5 (75-150 mm.)	<0,6	4,0-4,8	700	1755
714.00.206	Cutting nozzle no. 6 (150-200 mm.)	<0,6	4,8-5,4	790	1975



714.00.207	Cutting nozzle no. 7 (200-300 mm.)	<0,6	5,4-6,3	905	2260
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2.- USE AND TYPES OF GASES

The torch is especially designed for manual cutting. It has a cutting capacity of up to 300 mm. It uses oil-liquefied gases such as propane or natural gas, and acetylene together with oxygen gas. The gases are mixed by injector and mixer.

When the gas used is changed, the injector must be changed for another that adapts to the gas to be used. Specific nozzles must also be fitted for the new gas. Before putting the torch into operation make sure that both the injector and the nozzles are suitable for the gas that is going to be used.

3.- INSTRUCTIONS FOR USE

- Before beginning work, make sure that the gas supply installation and the adjustment and safety elements are in perfect conditions for use.
- Make sure that the gas by-pass valves in the torch (1 and 2) and in the supply system are closed.
- Connect the hoses to the torch input connectors (6) and to the supply point. Make sure the coupling elements and the hoses are in good conditions in order to be connected. Check there are no gas leaks.
- Fit the nozzle to be used and tighten with wrench so they fit correctly into the cutting torch lance head.
- Open the supply system valves and choose the pressures on the regulators depending on the nozzle chosen.
- To light up the cutting torch nozzle, open the combustible gas valve slightly and apply a spark to the nozzle with a flint lighter. Never use the flame directly. Then open the cutting torch oxygen adjustment valve and regulate the correct flame.
- To begin cutting, first heat the part to be cut and then use the auxiliary lever which lets the cutting oxygen come through. Keep the contact tip 4 or 5 mm from the part to be cut.
- To switch the cutting torch off, firstly close the combustible gas valve and then the oxygen valve. Finally close the pressure regulators and the cylinders.



NEVER TRY TO CONNECT ANY NOZZLE OR DEVICE WHICH HAS NOT BEEN MANUFACTURED AND EXPRESSLY RECOMMENDED BY GALA SOL. IF OTHER NOZZLES ARE USED ACCIDENTS COULD OCCUR.

4.- SAFETY INSTRUCTIONS

4.1.- SAFETY OF PEOPLE:

- Use protective goggles while working.
- Protective gloves and clothing, resistant to heat and incandescent particles must be used to prevent burns. The clothing must be free from oil and grease.
- The fumes and gases given off during the cutting work may be harmful.
- Make sure the working place is sufficiently ventilated, and if not, use auxiliary ventilation or aspiration means. Do not use compressed air or oxygen currents.
- Remember that oxygen in the presence of oil and grease produces violent explosions.

4.2.- SAFETY OF EQUIPMENT:

- Check the state of the conduction hoses as well as their connections and connectors before being connected for use. They must be free from oil and grease and without dents, cuts and burns.
- Check the correct state of the conduction, regulation and safety elements of the gas installation.
- Always use safety valves against flame and gas flashback.
- Move any equipment or object, which might undergo damage or produce fires or explosions due to the sparks produced by the torch, away from the work area, and keep fire extinguishing equipment, suitable for the type of fire that might be generated from the material near to the working position, close by.

4.3.- RECOMMENDATIONS TO AVOID FLASHBACKS:

The flashback effect occurs when for some reason the flame enters the torch nozzle, producing a clapping noise similar to a gunshot. The flame may go out at that time or go into the torch, destroying it by heat if action is not quickly taken.



The reasons for possible flashbacks are:

1. Incorrect place for mixing the gases or proportion not correct.
2. Unsuitable gas pressures.

Either of these two reasons may be caused by:

1. Incorrect pressure assignment of gases in the regulators.
2. Obstruction or dirt in the nozzles that may cause variations of the gas pressure.
3. Cutting nozzles lock nut not tight enough, which gives rise to incorrect seating of the nozzle and communication between the gases
4. Bad coupling of the lances in the handle as they are not tight enough or the O-rings are deteriorated.
5. Lighting the torch with the valves open.
6. Drowning the flame on the fused material by cutting or welding. It may be difficult for the flame to stay alive and therefore the gases loose speed, giving rise to the flashback.
7. Excessive heating of the nozzle due to hard work or bad state of the nozzle. This gives rise to a change of the balance between the inflammation speed and the supply speed.



"IN ORDER FOR FLASHBACKS NOT TO OCCUR PREVENT THE REASONS GIVEN ABOVE FROM APPEARING".



WARNING: "IT IS ESSENTIAL TO USE SAFETY VALVES AGAINST FLAME FLASHBACKS AND BACKFLOW".

4.4.- WHAT TO DO IN THE CASE OF FLASHBACKS

One knows when a flashback has occurred if the flame disappears from the nozzle and a bang is heard similar to a gun-shot. If the gas combustion continues inside the torch a typical whistling sound is heard and the area where the flame has stopped starts to overheat.

In any case, the following must be quickly done:

1. Do not leave or throw a torch with flashback onto the ground.



2. Do not shake or knock the torch to try to put the flashback out; this could cause more serious damage.
3. Immediately close the torch oxygen regulation valve.
4. Immediately close the combustible gas regulation valve.
5. Wait until the flame on the inside of the torch goes out and the whistling noise in the torch disappears.
6. Cool the nozzle and the torch.
7. Check that the torch and the nozzles are in perfect conditions to continue working. If in doubt have them inspected by technically qualified personnel.

5.- WHAT TO DO IN THE CASE OF BREAKDOWNS

If, during operation, a flame appears in the nozzle seating area due to leaks, or the classical flashback noise is heard, tighten the nozzle by fastening the nut. If the problem does not disappear, request the equipment to be repaired.

If the flame continually goes out for no apparent reason or when the cutting oxygen level is activated, check that the pressures are correct for the nozzle being used. If the problem is not solved request the equipment to be repaired.

If leaks are observed in any part of the cutting torch, immediately have the equipment repaired.

After a strong flame flashback the torch may have undergone serious damage. Check its state with care and if in doubt, request it to be checked.

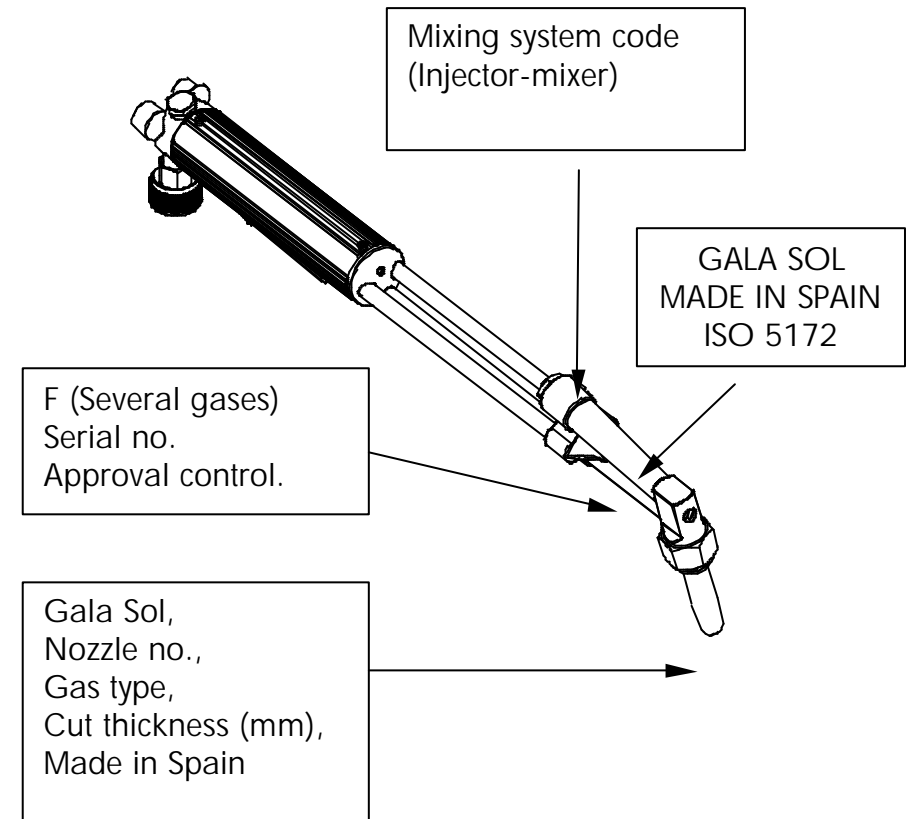
To obtain a good cut with the torch, the correct nozzles must be used with the different pressures and they must be in good conditions. Avoid knocking the nozzles and clean them whenever necessary.

If lack of flow is observed in the nozzle and the pressures are correct, check the torch safety valves, as they may be blocked up.

6.- SERVICING AND MAINTENANCE INSTRUCTIONS.

- From time to time water tightness and operation tests must be made on the torch by technically qualified personnel.
- Repairs on the cutting torch must be carried out by specialised personnel. Always request original parts with GALA SOL's guarantee.
- Dismount the nozzle from time to time and clean them with brushes. Check the state of the injector and clean away any particles which might block it up, taking care not to damage it.

7.- CUTTING TORCH AND NOZZLES MARKING.





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GARANTIA

GENERAL GUARANTEE CONDITIONS:

GALA GAR, S.A. guarantees the correct operation against any manufacturing defect following the date of purchase (guarantee period) of:

- The MIG/MAG semi-automatic electric welding machines, the plasma-cutting machines and the professional welding self-contained units for 12 months.
- The semi-professional and industrial manual electrical welding machines, polishing machines, grinders and sandpapering machines for 6 months
- Welding appliances with flame, welding torches and accessories for 3 months.

This Certificate of Guarantee does not apply to components with a shorter working life than the guarantee period, such as consumables, bushings, nozzles, etc.

In addition, the guarantee does not include the installation, start-up, cleaning or replacement of filters, fuses and cooling or oil refills.

If the product should present any defect during the guarantee period, GALA GAR, S.A. undertakes to repair it without any additional charge, unless the damage caused to the product is the result of accidents, improper use, negligence, inappropriate accessories, unauthorized servicing or modifications to product not carried out by GALA GAR, S.A.

The decision to repair or replace parts or supply a new appliance will depend on the criterion of GALA GAR, S.A. All replaced parts and products will be the property of GALA GAR, S.A.

In order for the guarantee to take effect, the product, the purchase invoice and the duly completed Certificate of Guarantee, stamped by an authorised Technical Service, must be handed over. Shipping and transport expenses will be on the user's account.

galagar. CERTIFICATE OF GUARANTEE

Model:	
Reference:	
Serial no.:	
Date of purchase:	

Dealer's stamp and signature:

THIS CERTIFICATE OF GUARANTEE WILL NOT BE VALID IF IT IS NOT ACCOMPANIED BY PURCHASE INVOICE.

Model:	
Reference:	
Serial no.:	
Date of purchase:	

Dealer's stamp and signature:

THIS CARD MUST BE SENT TO GALA GAR, S.A., IN THE TERM OF FIFTEEN DAYS AS OF THE DATE OF PURCHASE.

