

## Operational instructions for the microflame soldering unit 13250

### The Kit and its components (see illustration)

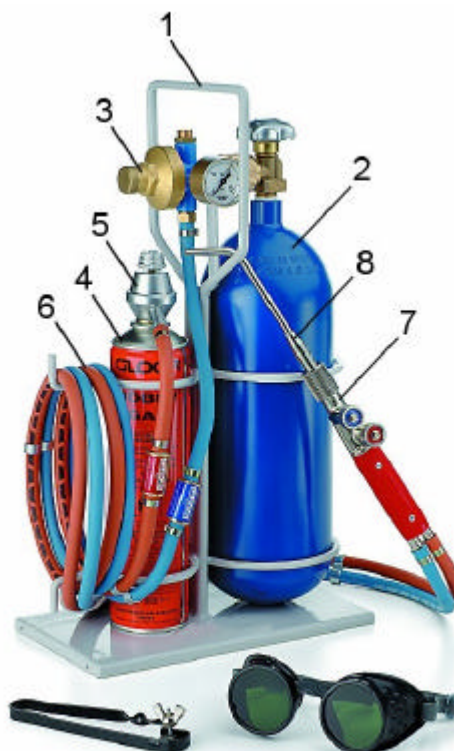
- 1 Frame
- 2 Oxygen cylinder of high quality light steel with fixed high pressure cylinder valve volume 2,5 l, content 0,5 m3, filling pressure 200 bar
- 3 Oxygen cylinder pressure regulator with manual fastening, indicator of content and safety valve, with fixed working pressure at 1,5 bar
- 4 Butane pressure gas cartridge (butane/propane mixture), with automatic shut-off valve, content approx. 340 g
- 5 Butane regulator with non-return-valve (working pressure at normal consumption see chapter "setting the kit into operation", 0,3 – 0,4 bar)
- 6 Pressure gas hoses for oxygen resp. butane, internal dia. 5 mm, length 2 m each
- 7 Torch handle
- 8 Head size no. 1, standard consumption (see chapter "setting the kit into operation") approx. 170 l oxygen and approx. 35 l (approx. 75 g) butane per hour

### *Packed into cardboard box:*

- Welding goggles
- Gas lighter
- Nozzle cleaner

### *Auxiliary equipment:*

Head size no. 2, micro head with three exchangeable needle-jets and cutting attachment (3 to 20 mm cutting thickness).



## Capacities, application, dimensions and weight of the kit

When operating head no 1 with a flame-setting to normal consumption (see chapter "setting the kit into operation") the gas reserves will allow an uninterrupted working time of approx. three hours. The kit may be used for heating and soldering/brazing jobs and with the cutting attachment -supplied as auxiliary equipment- also for the flame cutting.

Dimensions of the original cardboard box: 28 x 15 x 46 cm  
Weight: 7,8 kgs

## Assembling the kit

The kit may be set into operation without any further assembling. The instructions here below refer to the exchange of the oxygen cylinder and the butane pressure gas cartridge and also to the exchange of the heads: the oxygen cylinder pressure regulator may be detached from the oxygen cylinder valve without the help of a wrench resp. fastened onto the valve of the new cylinder; thereto it is necessary to close first the cylinder valve. The gas hoses must be decharged (see chapter "setting the kit out of operation"). The butane regulator is as well detached (by screwing it out) resp. fixed onto the new butane gas pressure bottle. Therewith the valve on the threaded connection on the pressure gas cartridge is automatically opened.

The head no. 2, the micro head and the cutting attachment, available as auxiliary equipment, are as well operated on the same torch handle. The heads no 1 and 2 are fastened manually; for the tightening of the cutting attachment a wrench is supplied along with the set.

Prior to every setting into operation, it is necessary to check that all connections from the cylinder resp. gas pressure cartridge to the head are tight.

## Setting the kit into operation

With the torch handle valves still closed, the oxygen cylinder valve and the butane regulator are opened by turning the hand wheels to the left. Therewith the full oxygen flow is streaming to the torch handle; the butane regulator opens first the shut-off valve on the gas pressure cartridge and allows then to dose the quantity of butane supplied to the torch. Fully open first the oxygen hand wheel of the torch handle and then the one for butane by 1/8 to 1/4 turn. Let the butane/oxygen-mixture stream out for a few seconds before igniting the flame as near to the outlet orifice (nozzle) as possible. The desired flame is adjusted with the butane hand wheel at the torch handle. In addition to this it is possible -with the regulator on the pressure gas cartridge- to supply more or less butane to the flame. The torch handle oxygen valve normally remains fully opened; just in order to reduce the efficiency of the flame (soft flame) this valve may be slightly closed if simultaneously the butane supply is being reduced correspondingly.

If the oxygen valve on the torch handle is fully opened and such a quantity of butane is conveyed that a cone of a length of approx. 10 mm is formed within the flame (normal consumptions) a max. temperature of approx. 2830° C is obtained. The setting into operation of the cutting attachment with nozzles takes place in a similar way: in addition to the torch handle valves (see above) the heating oxygen valve on the cutting attachment must be opened by about a 1/4 turn. Before igniting the flame, let the heating oxygen-butane mixture stream out for a few seconds. The necessary flame setting is adjusted with the torch handle valve for butane and the heating oxygen valve on the cutting attachment; after having fully opened the cutting oxygen valve on the cutting attachment, the cone length of the heating flame should be approx. 5 mm.

A repeated backfiring of the torch indicates that the mixture leaving the nozzle does not contain enough butane (see chapter "troubles with the torch and their elimination"). However if the flame is lifting off the nozzle, the mixture is containing too much butane, hence the butane pressure is to be reduced by mean of the regulator on the butane gas pressure cartridge. In both the cases a precautional cleaning of the cutting attachment is strongly recommended.

## **Closing down the kit**

The flame is extinguished by closing the torch handle valves in reverse order, i.e. first close the butane valve and then the oxygen valve and on the cutting attachment both valves.

At the end of an operation, at prolonged interruptions, for the transport and when the kit should remain without any supervision for an extended period, it must be closed down in the following order:

Close first the butane valve on the torch handle, then the oxygen valve, on the cutting attachment as well both valves. Then close the oxygen cylinder valve and set the butane regulator to zero-position; with this the shut-off valve of the butane gas pressure cartridge is automatically closed. Finally discharge the pressure gas hoses -each hose separately- by the opening of the torch handle valves and make sure that the valve of the other gas is closed.

## **Explanation of the markings on the kit and its components**

Beside of the marking with the name of the manufacturers of the kit (GLOOR) the following marks are used:

### *Gas hoses:*

The colours of distinction of the gas hoses are orange for the butane/propane mixture and blue for oxygen. The hoses are marked in conformity with the international standard, among others with two stars (\*\*) which means that the hoses correspond to a minimal bursting pressure of 60 bar.

### *Torch handle:*

The hose connectors are bearing the international marking "O" for oxygen and "P" for the butane-propane mixture (P = propane is used for all LPG-gases). When exchanging the hoses, make sure that you fix them onto the correct connector. The hand wheels of the torch handle valves are marked as well, i.e. with an identity colour and with an inscription.

### *Heads:*

The heads used -which are to be screwed on the torch handle- are as well marked with a letter "P". This means that they are to be operated on a propane-butane mixture or on propane only. head size no 1 and 2 are additionally marked with the figure "1" resp. "2", the micro-head with "3" and the cutting attachment with the number "4".

## **Maintenance of the kit**

Handle the kit with care and protect it from damaging and soil. Especially in case of extended periods of interruptions it must be stored in such a way that it cannot come in contact with grit, dirt, oil and grease. The connected heads must not be stored in cupboards, drawers, tool cases or other hollow spaces. Repairing which could trouble the function and unauthorized modifications on the kit are not allowed and exclude all responsibility.

## **Troubles with the kit and their elimination**

Troubles with the kit may occur when some of the connections are leaking or the head is getting too hot or the nozzle outlet is plugged or touching the work piece surface (backfiring, flashbacks); in such a case cool-down the head, remove plug from nozzle with the nozzle cleaner and check once again the tightness of all connections.

If in spite of the correct opening of the valves (oxygen cylinder valve, butane regulator and torch handle valves and as well the heating oxygen valve on the cutting attachment) the flame cannot be ignited, either the oxygen cylinder is empty (check pressure gauge), or the butane pressure is too low. However if in spite of the presence of oxygen and the progressive opening of the butane regulator the flame cannot be ignited, it is likely that the butane cartridge is empty. However if by shaking the cartridge the presence of liquefied gas is detected, there is an Interruption of vaporization. This may occur with external temperatures ranging below 0°. If the butane cartridge is warmed up (by storing it in a warm room), pressure is re-built and vaporization continues.

If, while operating the kit, a flashback of the flame into the torch should happen -manifested by a wisseling sound in the torch- (rather seldom with used type of gas mixture) immediately close torch handle valves, i.e. first the oxygen and then the butane valve; otherwise the torch could be seriously damaged.

If -after having cooled down and cleaned the head, tightened all connections and operated the torch in the prescribed manner- the backfiring is repeated, the torch must be sent for repair.

If, while operating it, the flame goes out, shut first the torch (see above) then check contents of oxygen cylinder and butane cartridge on the pressure gauge of the oxygen cylinder pressure regulator resp. by shaking the butane cartridge. If necessary, replace the oxygen cylinder and/or the butane gas pressure cartridge (see "assembling the kit"). The contents are allowing an uninterrupted operation time of approx. three hours (see chapter "capacities, application, dimensions and weight of the kit"). As already mentioned, and in particular with continues consumption, a lack of butane could be caused by an Interruption of vaporization in the cartridge. In such a case either await the warming-up of the butane cartridge or replace it by a new one (see above); the butane cartridge containing a rest of liquefied gas may be re-used later on.

### **Safety remarks with the use of the kit (see as well "maintenance of the kit")**

Operate the kit only after having carefully consulted the operational instructions and store it out of the reach of non-authorized persons, especially children. Store it -even if you do not use it- in vertical position only. The working place and the depository must be well ventilated and protected against heat influences. Keep the set clean with all its components; under no circumstances it should be lubricated or come into contact with oil and grease.

Before screwing-off the oxygen regulator, close first the oxygen cylinder valve and discharge the gas hoses. Strictly observe the instructions printed on the butane cartridge.

With the flame lit, handle torch with great care and do not direct flame elsewhere than to the work piece. Even at a short stop -for example for work piece preparation- it is convenient to park the torch on a safe support. When operating the torch, use the protection goggles supplied with the kit. Nylon clothes or of other synthetic materials are very dangerous when working with a flame.

As regards the working place, it is in any case necessary to take precautions against the danger of fire. Inflammable objects are to be removed from the working place or must be covered. In case of a fire, close first the oxygen cylinder valve, then the butane regulator, and immediately evacuate the kit from the zone of danger.