

84.68

84.68 - Machinery and apparatus for soldering, brazing or welding, whether or not capable of cutting, other than those of heading 85.15; gas-operated surface tempering machines and appliances.

8468.10 - Hand-held blow pipes

8468.20 - Other gas-operated machinery and apparatus

8468.80 - Other machinery and apparatus

8468.90 - Parts

The heading covers :

(A) Soldering, brazing or welding machinery and apparatus, whether or not capable of cutting, gas-operated or using processes other than those referred to in the text of **heading 85.15**. Machines designed exclusively for cutting are classified in their own appropriate headings.

(B) Gas-operated surface tempering machines and appliances.

(I) GAS-OPERATED APPLIANCES FOR WORKING METAL, ETC.

The appliances of this group are operated by means of a very hot flame produced by the combustion of an inflammable gas in a jet of oxygen or air.

In general, these appliances can be used not only for the operations referred to in the heading, but also for other operations requiring a similar high temperature (e.g., preliminary heating for certain operations, or refilling worn parts or cavities with metal); in practice certain appliances are specialised for these other operations, but they remain in this heading **provided** they operate in the same manner and on the same principle as the other appliances of the heading.

All the appliances of this group have an arrangement for bringing two gases to the nozzle which has two outlets, either concentric or side by side; one of the gases is inflammable (acetylene, butane, propane, coal gas, hydrogen, etc.) and the other compressed air or oxygen.

The heading covers hand-operated appliances and also machines.

(A) HAND-OPERATED GAS WELDING, ETC., APPLIANCES (BLOWPIPES)

Blowpipes are said to be of high-pressure or low-pressure type depending on whether they are designed to be connected to a high or low-pressure source of inflammable gas. In the high-pressure type, the compression gives the gas the velocity required to produce the flame jet; with the low-pressure type a compressor is necessary.

Both types of blowpipes are otherwise of more or less similar construction. In design, they consist of a handle or body fitted with the supply pipes, at the exit of which (the nozzle) the gas is ignited; they generally also include regulating valves, etc. The apparatus is connected to an external gas supply by flexible tubing.

To enable the appliances to be adapted to the type of work concerned (e.g., to blast-furnace tapping, rivet removing, grooving or simple heating) the tubes and nozzles are usually interchangeable (variable aperture nozzles, multiple nozzle orifices, flame-separating nozzles, etc.). Some blowpipes are specially designed for particular operations, e.g., welding blowpipes equipped with a water-cooling system, for heavy work.

(B) MACHINES FOR WELDING, ETC.

These are based on the same principles as the hand-operated appliances in Part (A) above, and consist essentially of fixed or adjustable blowpipes. Other parts of the machine (e.g., feed-tables, jaws, slide-rests and jointed arms) either enable the part being worked to be fixed, guided or moved forward, or allow the nozzles to be moved or adjusted according to the progress of the work.

(C) SURFACE TEMPERING MACHINES

These consist of a number of nozzles arranged according to the shape of the object to be treated; the flames from these nozzles project on to the surface to be tempered a heat of such intensity that it is rapidly brought to the temperature required, but this heat does not penetrate far below the surface. Once the surface has been brought to the required tempering temperature, sprays of cooling liquid are directed on the article or it is immersed in a bath of the liquid.

(II) GAS-OPERATED APPLIANCES FOR WELDING THERMOPLASTICS

This heading also includes certain appliances for welding or sealing thermoplastic materials or articles thereof. The appliances of this heading operate by means of a flame or a jet of hot air, nitrogen or inert gas from a welding torch. The air or other gases may be heated by passage through a gas-heated tube.

(III) MACHINERY AND APPARATUS FOR WELDING, OTHER THAN GAS-OPERATED APPLIANCE

This group includes :

- (1) Machinery and mechanical appliances for welding by means of grooved wheels or heated irons, **other than** hand soldering irons (**heading 82.05**) and **other than** electrical apparatus of **heading 85.15**.
- (2) Friction welding machines.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machines and apparatus of this heading.

The heading also includes accessory attachments such as supports (ball, roller, etc.).

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The heading also **excludes** :

- (a) Blow lamps and brazing lamps of **heading 82.05**.
- (b) Machinery and apparatus for spraying molten metal (**heading 84.24**).
- (c) Apparatus for cutting or piercing rock or concrete, using the high temperature produced by burning iron or steel in a jet of oxygen (**heading 84.79**).
- (d) Welding, brazing or soldering machines and apparatus, using both gas and electricity (**heading 85.15**).