

85.43 - Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this Chapter.

8543.10 - Particle accelerators

8543.20 - Signal generators

8543.30 - Machines and apparatus for electroplating, electrolysis or electrophoresis

8543.40 - Electronic cigarettes and similar personal electric vaporising devices

8543.70 - Other machines and apparatus

8543.90 - Parts

This heading covers all electrical appliances and apparatus, **not falling** in any other heading of this Chapter, **nor covered more specifically** by a heading of any other Chapter of the Nomenclature, nor excluded by the operation of a Legal Note to Section XVI or to this Chapter. The principal electrical goods covered more specifically by other Chapters are electrical machinery of **Chapter 84** and certain instruments and apparatus of **Chapter 90**.

The electrical appliances and apparatus of this heading must have individual functions. The introductory provisions of Explanatory Note to heading 84.79 concerning machines and mechanical appliances having individual functions apply, *mutatis mutandis*, to the appliances and apparatus of this heading.

Most of the appliances of this heading consist of an assembly of electrical goods or parts (valves, transformers, capacitors, chokes, resistors, etc.) operating wholly electrically. However, the heading also includes electrical goods incorporating mechanical features **provided** that such features are subsidiary to the electrical function of the machine or appliance.

The heading includes, *inter alia* :

- (1) **Particle accelerators.** These are devices for imparting high kinetic energy to charged particles (electrons, protons, etc.).

Particle accelerators are used mainly in nuclear research, but they also serve in the production of radioactive materials, in medical or industrial radiography, for the sterilisation of certain products, etc.

Particle accelerators usually consist of large installations (which may weigh several thousands of tons). They comprise a particle source, an acceleration chamber, and devices for producing high frequency voltage, variations of the flux or radio-frequencies which are used to accelerate the particles. They may contain one or more targets.

Acceleration, focalisation and deflection of the particles are achieved by electrostatic or electro-magnetic devices which are fed by high voltage or high frequency generators. Accelerator and generators are often enclosed in an anti-radiation screen.

The particle accelerators covered by this heading include, Van de Graaff accelerators, Cockcroft and Walton accelerators, linear accelerators, cyclotrons, betatrons, synchrocyclotrons, synchrotrons, etc.

Betatrons and other particle accelerators specially adapted for the production of X-rays, including those capable of producing either beta-rays or gamma-rays as required, fall in **heading 90.22**.

- (2) **Signal generators.** These are apparatus for the production of electrical signals, of known wave-form and magnitude, at an assignable frequency (high or low frequency, for example). These include, *inter alia*: impulse generators, pattern generators, wobblers (sweep generators).
- (3) **Mine detectors** based on the change of magnetic flux produced in the apparatus when brought near to a metal object. Similar detectors are used, for example, for detecting foreign metallic bodies in casks of tobacco, food products, timber, etc., and for locating buried pipes.
- (4) **Mixing units**, used in sound recording for combining the output from two or more microphones; they are sometimes combined with an amplifier. Audio mixers and equalisers are also included under this heading. But mixing units specialised for cinematography are **excluded (heading 90.10)**.
- (5) **Noise reduction units** for use with sound recording apparatus.
- (6) **Defrosters and demisters with electric resistors** for aircraft, ships, trains or other vehicles (**except** cycles or motor vehicles - **heading 85.12**).
- (7) **Synchronisers** for use when several generators are feeding into a common circuit.
- (8) **Electrical mine detonators**, consisting of a hand generator (dynamo) and a capacitor.
- (9) **High or intermediate frequency amplifiers** (including measurement amplifiers and aerial amplifiers).
- (10) **Machines and apparatus for electroplating, electrolysis or electrophoresis (other than machines and apparatus of heading 84.86 and electrophoresis instruments of heading 90.27)**.
- (11) **Electronic cigarettes and similar personal electric vaporising devices.**

This group covers :

- (i) Devices commonly known as “electronic cigarettes” that heat and vaporise liquid or solutions which the user inhales directly, of subheading 2404.12 or 2404.19, with or without nicotine; and
- (ii) Other similar personal electric vaporising devices, such as electrically heated tobacco systems (EHTS), ultrasonic vibration devices, etc., that generate aerosol from tobacco products (products of subheading 2404.11) or other products containing nicotine, or tobacco or nicotine substitutes (products of subheading 2404.12 or 2404.19) intended for inhalation without combustion.

These are electrically operated devices that operate, without the use of combustion, to produce an aerosol for direct inhalation by the user through a mouth-piece. They incorporate specific electric or electronic components, such as a heating element (e.g., atomiser), or an ultrasonic vibrator, etc., that allow the device to generate aerosol from a liquid, solution, gel, tobacco plug, or other product designed to be used in the device. They may resemble smoking products of different shapes (e.g., cigarette, cigar, smoking pipe or water pipe), or they may resemble everyday items such as a writing pen or USB flash drive, etc. These products are designed to be refilled or used with replaceable cartridges, tobacco plugs or the like.

(12) **Ultra-violet irradiation equipment** for general industrial uses.

(13) **Ozone generating and diffusing apparatus, electric**, designed for non-therapeutic purposes (e.g., for industrial uses, for the ozonisation of premises).

(14) **Electronic musical modules** for incorporation in a wide variety of utilitarian or other goods, e.g., wrist watches, cups and greeting cards. These modules usually consist of an electronic integrated circuit, a resistor, a loudspeaker and a mercury cell. They contain fixed musical programmes.

(15) **Electric fence energisers**.

(16) **Cordless infrared devices for the remote control** of television receivers, video recorders or other electrical equipment.

(17) **Electro-luminescent devices**, generally in strips, plates or panels, and based on electro-luminescent substances (e.g., zinc sulphide) placed between two layers of conductive material.

(18) **Digital flight-data recorders (flight recorders)** in the form of a fire-proof, crash-proof electronic apparatus for the continuous in-flight recording of specific flight data.

This heading **excludes** :

(a) Disposable electronic cigarettes (disposable e-cigarettes) and similar disposable personal electric vaporising devices, that incorporate the product intended for inhalation without combustion (e.g., e-liquid, gels) in the housing and are disposed of after the product is exhausted or the battery runs out (not designed for refilling or recharging) (**heading 24.04**).

(b) Cartridges or tanks that contain liquids or solutions, whether or not presented with other components (e.g., heating elements or 'atomisers'), intended for use in electronic cigarettes or similar personal electric vaporising devices (**heading 24.04**).

(c) Ion implanters for doping semiconductor or flat panel materials (**heading 84.86**).

(d) Apparatus for physical vapour deposition for the manufacture of semiconductor wafers, semiconductor devices, electronic integrated circuits, or flat panel displays (**heading 84.86**).

(e) "Smart cards" (including proximity cards or tags) as defined in Note 6 (b) to this Chapter (**heading 85.23**).

(f) Non-electric smoking pipes of all kinds (including calumets, chibouks or Turkish pipes, hookahs, etc. (**heading 96.14**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.