**84.59 - Machine-tools (including way-type unit head machines) for drilling, boring, milling, threading or tapping by removing metal, other than lathes (including turning centres) of heading 84.58** (+).

8459.10 - Way-type unit head machines

- Other drilling machines :

8459.21 - - Numerically controlled

8459.29 - - Other

- Other boring-milling machines :

8459.31 - - Numerically controlled

8459.39 - - Other

8459.40 - Other boring machines

- Milling machines, knee-type :

8459.51 - - Numerically controlled

8459.59 - - Other

- Other milling machines :

8459.61 - - Numerically controlled

8459.69 - - Other

8459.70 - Other threading or tapping machines

This heading covers machine-tools for drilling, boring, milling, threading or tapping by removing metal, **other than** lathes (including turning centres) of **heading 84.58**.

In general machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.
This heading covers :

(1) **Way-type unit head machines**. These machines, which are designed to perform drilling, boring, milling, threading or tapping operations, have no attached base. They consist only of a "frame" holding a motor and a tool holder and are equipped with guides (ways) and can therefore move back and forth repetitively when placed on a suitable base. The workpiece is inserted in a work holder independent of the way-type unit head machine which moves back and forth horizontally for drilling, boring, etc.

(2) **Drilling machines**. These are used for cutting cylindrical holes, including recessed holes, in articles by means of a rotating tool called a drill or bit. The article remains immobile during the working of the tool which is rotated (cutting action) or fed into the work (feed action). This heading also covers drilling machines which employ a fixed tool to work a rotating article, or like machines using both processes.

Drilling machines include single spindle machines, radial or otherwise, and machines with several spindles (multi-spindle drilling machines).

(3) **Boring machines**. These further work the internal surface of an existing hole to exact dimensions. Boring may be cylindrical, conical or spherical. Boring machines are used, for example, for working to exact dimensions the cylinder bores of piston engines or pumps.

The operation of boring involves the use of free standing facing tools with fixed dimensions (borer drills, straight or helically-fluted finishing borers) or variable dimensions (expanding-end borers, inset-strip borers, micrometrically adjustable boring heads, boring heads with inset cutters) or with tools working on a guideway (adjustable, expanding or non-adjustable cutters and hollow one-piece sleeves or sleeves with inset parts).

This heading includes, *inter alia*, vertical boring machines, horizontal boring machines (with fixed or moveable mounting), multiple boring machines, boring machines for duplicating the interiors of hollow-bored shafts as well as machines commonly called miller-borers fitted with a composite spindle made up of two concentric spindles which may function independently; the interior spindle consists of a long sleeve allowing the attachment of a boring bar (spindle borer), while the external spindle, generally coupled to a plate in a rigid manner, is adapted for fitting with a milling cutter (milling spindle).

This heading also covers those machines designed and built essentially for boring, even if they are adapted for carrying out other additional operations (for example, drilling, surfacing, milling, turning and sometimes even screw cutting). On the other hand, lathes (including turning centres) which carry out boring as an auxiliary or additional operation are classified in **heading 84.58**.

(4) **Milling machines**. These work a plane or profile surface by means of rotating tools (known as milling cutters), the circular cutting movement is combined with a traversing movement of the article fixed on the machine table. Milling machines include, *inter alia*, horizontal milling machines, vertical milling machines, horizontal-vertical milling machines, milling machines with adjustable heads, plane-milling machines, universal milling machines which, in addition to the normal milling work, can by means of a dividing head mounted on the machine, mill splines in a shaft, or spur or helical gears, repetitive milling machines, milling machines for grooving or chamfering, engraving millers.

(5) **Tapping machines** (i.e., machines to produce a screw thread in an existing hole) and **threading machines** for threading bolts, screws, etc. It should be noted that **thread milling machines** are regarded as milling machines.

## PARTS AND ACCESSORIES

**Subject** to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

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The heading also **excludes** :

(a) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines (**heading 84.56**).

(b) Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal (**heading 84.57**).

(c) Lathes (including turning centres) for removing metal (**heading 84.58**).

(d) Machine-tools for planing and other machine-tools working by removing metal, of **heading 84.61**.

(e) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(f) Machines and appliances for testing, of **heading 90.24**.

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**Subheading Explanatory Notes.**

**Subheadings 8459.21, 8459.31, 8459.51 and 8459.61**

See the Explanatory Note to subheadings 8458.11 and 8458.91.

**Subheadings 8459.51 and 8459.59**

The machines of these subheadings can be identified by the presence of a console which consists of a horizontal element which moves vertically on a stand by means of guideways. This stand supports the worktable which is operated in a transverse direction. The console usually contains the devices necessary to drive the machines.