

84.08 - Compression-ignition internal combustion piston engines (diesel or semi-diesel engines).

8408.10 - Marine propulsion engines

8408.20 - Engines of a kind used for the propulsion of vehicles of Chapter 87

8408.90 - Other engines

This heading covers compression-ignition internal combustion piston engines (**other than** those of **Chapter 95**), including those for motor vehicles.

These engines are of similar mechanical construction to spark-ignition internal combustion piston engines and have the same essential elements (i.e., cylinder, piston, connecting-rod, crank shaft, flywheel, inlet and exhaust valves, etc.), but differ in that the air (or sometimes air mixed with gas) is first admitted to the cylinder where it is rapidly compressed. Atomised liquid fuel is then injected into the combustion chamber where it is spontaneously ignited by the heat developed, the compression being considerably greater than in the spark-ignition engine.

In addition to diesel engines, there are intermediate compression-ignition semi-diesel engines which operate at lower compression. To start this type, the cylinder-head must be pre-heated by a blow-lamp or a glow plug must be used.

Compression-ignition internal combustion piston engines operate on heavy fluid fuels such as heavy petroleum or coal tar oils, shale oils, vegetable oils (ground-nut, castor, palm, etc.).

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The engines of this heading may have one or several cylinders. In the latter case the connecting-rods are coupled to a single crank shaft, and the cylinders, fed separately, may be arranged in various ways, e.g., in a vertical line (upright or inverted), in two symmetrical obliquely opposed rows (V-engines), horizontally opposed on opposite sides on the crank shaft.

The engines of this heading are suitable for very many uses, e.g., in agricultural machines, for propelling motorcars, tractors, locomotives or ships or in electric power stations, etc.

The engines of this heading may be equipped with fuel injection pumps, ignition parts, fuel or oil reservoirs, water radiators, oil coolers, water or oil pumps, blowers, air or oil filters, clutches or power drives, or starting devices (electric or other). Change speed gears may also be fitted. The engines may also be equipped with a flexible shaft.

It also covers mobile motors consisting of engines mounted on a wheeled chassis or on runners, including those with driving mechanisms permitting their self-propulsion to a certain extent (but **not** constituting vehicles of **Chapter 87**).

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84.08

The heading **excludes** variable compression motors of the compression-ignition internal combustion piston engine type designed specially for determination of the octane and cetane value of motor fuels (Chapter 90).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the engines of this heading are classified in heading **84.09**.