CLAIMS

1. An automatic cutting machine, characterized in that it comprises:

at least one first cutting device (1) and at least one second cutting device (2), which are arranged in tandem, for cutting a profile to form a front end and a rear end of a finished product of profile, respectively;

at least one finished product taking device (3), for taking away the finished product of profile having been cut;

at least one profile transporting device (4), for transporting the profile to be cut to the first cutting device (1) and the second cutting device (2);

at least one profile placing device (5), for placing the profile to be cut on the profile transporting device (4); and

an electric control box with a PLC arranged therein,

wherein the first cutting device (1), the second cutting device (2), the finished product taking device (3), the profile transporting device (4) and the profile placing device (5) are connected to the electric control box respectively, and controlled by the PLC,

wherein the first cutting device (1) includes:

a first cutting blade (11);

a first cutting motor (12), having a motor shaft on which the first cutting blade (11) is arranged, for outputting power to drive the first cutting blade (11) into rotation;

a first motor base (13), on which the first cutting motor (12) is mounted;

a first cutting motor moving device, for driving the first motor base (13) to move rightward or leftward; and

at least one sensor for detecting a position of the first motor base (13),

and wherein the second cutting device (2) includes:

a second cutting blade (21);

a second cutting motor (22), having a motor shaft on which the second cutting blade (11) is arranged, for outputting power to drive the second cutting blade (21) into rotation;

a second motor base (23), on which the second cutting motor (22) is

mounted;

a second cutting motor moving device, for driving the second motor base (23) to move rightward or leftward;

at least one sensor for detecting a position of the second motor mounting base (23);

a profile pressing assembly, for pressing, guiding and limiting the profile;

a feeding assembly, for conveying the profile;

a cutting platform (24);

a platform moving device, for driving the cutting platform (24) to move forward or rearward; and

at least one sensor for detecting a position of the cutting platform (24),

wherein the second motor base (23), the second cutting motor moving device, the profile pressing assembly and the feeding assembly are all mounted on the cutting platform (24),

wherein the profile pressing assembly comprises a front profile pressing unit (251), two middle profile pressing units (252), and a rear profile pressing unit (253), which are respectively arranged at a front portion, a middle portion and a rear portion of the cutting platform (24), and

wherein the front profile pressing unit (251) and the rear profile pressing unit (253) each include a double-shaft cylinder and a guiding member, and each of said two middle profile pressing units (252) includes a double-shaft cylinder and a roller member.

2. The automatic cutting machine according to claim 1, characterized in that a lower part of the first cutting blade (11) corresponds to a position where the profile is placed, while an upper part of the second cutting blade (21) corresponds to the position where the profile is placed.

3. The automatic cutting machine according to claim 1, characterized in that the first cutting device (1) and the second cutting device (2) are both provided with a dust cover assembly, the dust cover assembly including a dust cover and a double-shaft cylinder for driving the dust cover to move vertically.

4. The automatic cutting machine according to any one of claims 1 to 3, characterized in that the finished product taking device (3) comprises:

at least one first guide rail (31), which are mounted on the first cutting device (1) and the second cutting device (2);

two mounting plates (32), both slidably mounted on said first guide rail (31);

two mounting plate driving mechanisms, for driving said two mounting plates (32) respectively to slide forward or rearward along the first guide rail (31);

a first gripper assembly (33), which is arranged under each of the mounting plates (32) in a vertically movable manner, for gripping the profile; and

a first rodless cylinder (34) fixed to each of the mounting plates (32), for driving the first gripper assembly (33) to move rightward or leftward.

5. The automatic cutting machine according to any one of claims 1 to 3, characterized in that the profile placing devices (5) comprises:

at least one second guide rail (52) and a rack (53), which are arranged transversely on a mounting frame (51) along a left-right direction;

a sliding plate (54), which is slidably mounted on the second guide rail (52);

a transverse moving motor (55), which is fixed on the sliding plate (54);

a second gripper assembly (56), which is arranged under the sliding plate (54), for gripping the profile to be cut; and

a gripper vertical moving assembly, for driving the second gripper assembly (56) to move vertically,

wherein the transverse moving motor (55) has a motor shaft, which is provided thereon with a gear in engagement with the rack (53), so that the transverse moving motor (55) drives the gear in rotation, for driving, through the rack (53), the sliding plate (54) and the second gripper assembly (56) to move transversely along the second guide rail (52).

6. The automatic cutting machine according to any one of claims 1 to 3, characterized in that

the profile transporting device (4) includes multiple auxiliary transporting assemblies (41), which are arranged longitudinally in a front-rear direction; and at least two material pressing and conveying assemblies (42), which are arranged in a direction along which the auxiliary transporting devices (41) are arranged,

wherein each of the auxiliary transport assemblies (41) includes: a limit receiving block, for receiving the profile; a double-shaft cylinder, for driving the limit receiving block to move vertically; a rodless cylinder, for driving the limit receiving block and the double-shaft cylinder to move transversely; and receiving rollers; and

the material pressing and conveying assembly (42) includes at least one bearing wheel, a conveying motor for driving the bearing wheel in rotation, at least one limiting wheel arranged above the bearing wheel, and a double-shaft cylinder for driving the limiting wheel to move vertically.

7. The automatic cutting machine according to any one of claims 1 to 3, characterized in that two sets of the first cutting devices (1), two sets of the second cutting device (2), two sets of the finished product taking device (3) and two sets of the profile transporting device (4) are provided, each set being located at one side of the machine, and

two sets of the profile placing device (5) are arranged respectively at a front end and a rear end of said two sets of profile transporting devices (4).