CLAIMS

What is claimed is:

1. A storage equipment for storing and extracting an object, comprising:

a storage device for storing the object, including a rotating module and a storage module disposed on the rotating module, wherein the rotating module drives the storage module to rotate;

an object delivery platform arranged adjacent to the storage device;

an object storage and extraction device arranged adjacent to the storage device; and

a control device electrically connected to the storage device and the object storage and extraction device;

wherein, when the control device receives an object inbound command or an object outbound command, the control device controls the rotating module according to the object inbound command or the object outbound command to drive the storage module to rotate around a rotation central axis of the rotating module, so that the storage module rotates to a storage and extraction position;

wherein, when the control device receives the object inbound command or the object outbound command, the control device controls the object storage and extraction device according to the object inbound command or the object outbound command to move the object from the object delivery platform to the storage device or from the storage device to the object delivery platform;

wherein the storage module includes a first base body and a second base body that are disposed on the rotating module, a plurality of carrier

plates disposed between the first base body and the second base body, and a plurality of storage elements disposed on each of the carrier plates and sequentially arranged along a length direction of each of the carrier plates, and wherein the carrier plates, the first base body, and a second base body define an air flow space;

wherein the carrier plates are spaced apart from each other, two adjacent ones of the carrier plates define an air flow gap therebetween, and wherein the first base body has an airflow hole that is in spatial communication with the air flow gaps by the air flow space, and when the rotating module drives the storage module, the spaced apart configuration of the carrier plates permits air to flow between the airflow hole and the air flow gaps.

2. The storage equipment according to claim 1, further comprising a weighing device and a labeling device, wherein the weighing device and the labeling device both are arranged adjacent to the storage device, the control device is electrically connected to the weighing device and the labeling device, so as to receive a weight information of the object measured by the weighing device, and to control the labeling device to attach an identification label on the object.

3. The storage equipment according to claim 2, further comprising an object carrying platform which is arranged adjacent to the storage device, wherein the object storage and extraction device includes a first object storage and extraction module and a second object storage and extraction module;

wherein, when the control device receives the object inbound command, the control device controls the first object storage and extraction module to move the object from the object delivery platform to the object carrying platform according to the object inbound command; the control device controls the second object storage and extraction module to move the object from the object carrying platform to a labeling position which is adjacent to the labeling device according to the object inbound command to attach the identification label on the object; the control device controls the second object storage and extraction module to move the object with the identification label to the weighing device according to the object inbound command to measure the weight of the object; the control device controls the second object storage and extraction module to move the object from the weighing device to the object carrying platform according to the object inbound command; and the control device controls the first object storage and extraction module to move the object from the object carrying platform to the storage module of the storage device according to the object inbound command.

4. The storage equipment according to claim 3, wherein the first object storage and extraction module includes a robotic arm, a first object storage and extraction unit disposed on the robotic arm, and an image recognition unit disposed on the robotic arm; wherein the second object storage and extraction module includes a base, a first moving unit disposed on the base, a second moving unit disposed on the first moving unit, a third moving unit disposed on the second moving unit, and a second object storage and extraction unit disposed on the third moving unit; the first moving unit

moves relative to the base along a first movement direction, the second moving unit moves relative to the base along a second movement direction, the third moving unit moves relative to the base along a third movement direction, and the first movement direction, the second movement direction, and the third movement direction are perpendicular to one another.

5. The storage equipment according to claim 4, wherein the second object storage and extraction module further includes a rotation unit disposed on the third moving unit, the second object storage and extraction module is disposed on the rotation unit and indirectly disposed on the third moving unit, so that the rotation unit drives the second object storage and extraction module to rotate around a rotational central axis.

6. The storage equipment according to claim 2, wherein the labeling device includes a label adhering unit and a pressing column that is arranged adjacent to the label adhering unit; wherein, when the control device moves the object from the object carrying platform to a labeling position which is adjacent to the labeling device so as to attach the identification label on the object according to the object inbound command, the pressing column abuts against the identification label as the identification label is adhered to the object by the label adhering unit, so as to press the identification label onto the object.

7. The storage equipment according to claim 1, wherein each of the storage elements includes a fixed part and a storage socket connected to the fixed

part, the storage socket has a central axis, and the central axis and the rotation center axis of the rotating module form a predetermined angle therebetween ranging from 20° to 60°.

8. The storage equipment according to claim 1, wherein the carrier plates surround the rotation center axis.

9. The storage equipment according to claim 1, wherein the first base body includes a plurality of first slots, the second base body includes a plurality of second slots, one end of each of the carrier plates is disposed in the corresponding one of the first slots, and another end of each of the carrier plates is disposed in the corresponding one of the second slots.