

WHAT IS CLAIMED IS:

1. A suction device, comprising:

a suction head;

5 a movement control unit that causes the suction head to move between a first position for suction of an electronic component housed in a recess of a housing member and a second position further separated from the electronic component than the first position;

a suction control unit that causes suction of the electronic component to the suction head when the suction head is located at the first position,

10 wherein when located at the first position, the suction head has a contact portion that comes into contact with a first surface on an outer side of a region where the recess in the housing member is opened, and a portion having an outer diameter smaller than that of the contact portion that protrudes from the contact portion when the contact portion is in contact with the first surface of the housing member and suctions and holds the electronic component from the recess;

15 a detection unit that detects a load acting on the suction head based on a height position of the suction head measured by an encoder and a driving force output from the movement control unit to the suction head and detects that the contact portion is in contact with the first surface of the housing member according to a change in the load is further comprised; and

20 the suction control unit stops movement of the suction head on condition that it is detected by the detection unit that the contact portion of the suction head is in contact with the first surface of the housing member and causes the suction of the electronic component to the suction head.

2. The suction device according to claim 1,

25 wherein a gap is interposed between the suction head and the electronic component

when the suction head is located at the first position.

3. The suction device according to claim 1 or 2,

wherein the contact portion comes into contact with the first surface of the housing member on at least two opposing sides of the recess when the suction head is located at the first position.

4. The suction device according to any one of claims 1 to 3,

wherein the contact portion comes into contact with the first surface of the housing member while surrounding the recess when the suction head is located at the first position.

5. A suction unit, comprising:

a suction head;

a housing member having a recess for housing an electronic component;

a movement control unit that causes the suction head to move between a first position for suction of the electronic component housed in the recess of the housing member and a second position further separated from the electronic component than the first position;

and

a suction control unit that causes suction of the electronic component to the suction head when the suction head is located at the first position,

wherein when located at the first position, the suction head has a contact portion that comes into contact with a first surface on an outer side of a region where the recess in the housing member is opened, and a portion having an outer diameter smaller than that of the contact portion that protrudes from the contact portion when the contact portion is in contact with the first surface of the housing member and suctions and holds the electronic component from the recess;

a detection unit that detects a load acting on the suction head based on a height position of the suction head measured by an encoder and a driving force output from the

movement control unit to the suction head and detects that the contact portion is in contact with the first surface of the housing member according to a change in the load is further comprised; and

the suction control unit stops movement of the suction head on condition that it is
5 detected by the detection unit that the contact portion of the suction head is in contact with the first surface of the housing member and causes the suction of the electronic component to the suction head.

6. A suction method, comprising:

a step of causing a suction head to move to a first position for suction of an
10 electronic component housed in a recess of a housing member and causing a contact portion of the suction head to come into contact with a first surface on an outer side of a region where the recess in the housing member is opened;

a step of detecting a load acting on the suction head based on a height position of the suction head measured by an encoder and a driving force output from a movement control
15 unit to the suction head and detecting that the contact portion is in contact with the first surface of the housing member according to a change in the load; and

a step of stopping movement of the suction head on condition that it is detected that the contact portion of the suction head is in contact with the first surface of the housing member and causing suction of the electronic component to a portion having an outer diameter smaller
20 than that of the contact portion of the suction head, which protrudes from the contact portion when the contact portion is in contact with the first surface of the housing member, when the suction head is located at the first position.

7. A program, causing a computer to execute:

a processing of causing a suction head to move to a first position for suction of an
25 electronic component housed in a recess of a housing member and causing a contact portion of

the suction head to come into contact with a first surface on an outer side of a region where the recess in the housing member is opened;

5 a processing of detecting a load acting on the suction head based on a height position of the suction head measured by an encoder and a driving force output from a movement control unit to the suction head and detecting that the contact portion is in contact with the first surface of the housing member according to a change in the load; and

10 a processing of stopping movement of the suction head on condition that it is detected that the contact portion of the suction head is in contact with the first surface of the housing member and causing suction of the electronic component to a portion having an outer diameter smaller than that of the contact portion of the suction head, which protrudes from the contact portion when the contact portion is in contact with the first surface of the housing member, when the suction head is located at the first position.