Claims

[Claim 1]

A dust collection apparatus configured to collect dust from one or a plurality of dust collection ports provided in a resin molding apparatus, the dust collection apparatus comprising:

an air moving apparatus driven by a motor; and

an inverter configured to control a rotation speed of the motor, the dust collection apparatus being configured to collect dust from a dust collection port provided in a molding die cleaner portion configured to clean a molding die of the resin molding apparatus, wherein the inverter is configured to control the rotation speed of the motor to be a first rotation speed when the molding die is cleaned by the molding die cleaner portion, and allow inertial rotation of the motor by releasing electrical connection with the motor after the cleaning of the molding die by the molding die cleaner portion,

wherein the inverter is configured to switch the rotation speed of the motor between the first rotation speed and a second rotation speed that is a rotation speed lower than the first rotation speed and allow inertial rotation of the motor by releasing the electrical connection with the motor when the first rotation speed is switched to the second rotation speed.

[Claim 2]

The dust collection apparatus according to claim 1, the dust collection apparatus being configured to collect dust from a dust collection port provided in a molded product cleaner portion configured to clean a resin molded product, wherein the inverter is configured to control the rotation speed of the motor to be the first rotation speed when the resin molded product is cleaned by the molded product cleaner portion, and allow inertial rotation of the motor by releasing the electrical connection with the motor after the cleaning of the resin molded product by the molded product cleaner portion.

[Claim 3]

The dust collection apparatus according to claim 1 or 2, wherein the inverter is configured to control the rotation speed of the motor to be the second rotation speed after the rotation speed of the motor reaches the second rotation speed by inertial rotation.

[Claim 4]

The dust collection apparatus according to any one of claims 1 to 3, the dust collection apparatus being configured to collect dust from a dust collection port provided in a resin supplying module of the resin molding apparatus, wherein the inverter is configured to allow inertial rotation of the motor by releasing the electrical connection with the motor or control the rotation speed of the motor to be the second rotation

speed when dust is collected from the dust collection port provided in the resin supplying module.

[Claim 5]

The dust collection apparatus according to any one of claims 1 to 4, comprising:

a connecting pipe that connects a plurality of the dust collection ports and the air moving apparatus to each other; and

a switching mechanism that is provided in the connecting pipe and configured to switch the dust collection port that collects dust by the air moving apparatus.

[Claim 6]

The dust collection apparatus according to claim 5, wherein the rotation speed of the motor is set in correspondence with the dust collection port switched by the switching mechanism.

[Claim 7]

The dust collection apparatus according to any one of claims 1 to 6, wherein the inverter is configured to detect the rotation speed of the motor and restart energization of the motor based on the detected rotation speed when the inverter performs control of setting the motor to be at the first rotation speed from an inertial rotation state.

[Claim 8]

A resin molding apparatus, comprising:

a resin molding module configured to perform transfer molding of a resin material with respect to a molding target by a pair of molding dies;

a molding die cleaner portion configured to clean the molding dies; and

the dust collection apparatus according to any one of claims 1 to 7.

[Claim 9]

A resin molded product manufacturing method using the resin molding apparatus according to claim 9, comprising:

supplying a molding target and a resin material to the molding die;

performing resin molding with respect to the molding target; and

conveying a resin molded product that is resin-molded from the molding die.