a conveyance device configured to convey the coated film in a longitudinal direction of the coated film such that the coated film passes through the cleaning tank;

a suction box disposed in the cleaning tank, the suction box being configured to surround a part of a conveyance path of the coated film with a gap through which a film can pass;

a removing mechanism in which at least an edge in contact with the coated film is disposed in the suction box, the removing mechanism being configured to remove the coating film from the coated film; and

a discharge device for discharging the cleaning liquid and the removed coating film from the suction box to an outside of the cleaning tank.

[0008] In the coating film removing equipment of the present invention, preferably, the discharge device includes a removal device for removing a foreign substance from a discharge liquid, and is configured to supply the discharge liquid from which the foreign substance has been removed to the cleaning tank.

A coating film removing equipment according to another aspect of the present invention that solves the above problems is a coating film removing equipment for removing a coating film from a coated film including the coating film on at least one surface of a base film, and includes:

two or more cleaning tanks disposed side by side in a conveyance direction of the coated film;

a supply device configured to supply a cleaning liquid to at least the cleaning tank disposed most downstream in the conveyance direction;

a conveyance device configured to convey the coated film in a longitudinal direction of the coated film such that the coated film sequentially passes through the

cleaning tanks;

suction boxes each disposed in each of the cleaning tanks, each suction box being configured to surround a part of a conveyance path of the coated film with a gap through which a film can pass;

removing mechanisms each in which at least an edge in contact with the coated film is disposed in each of the suction boxes, each removing mechanism being configured to remove the coating film from the coated film; and

discharge devices each for discharging the cleaning liquid and the removed coating film from each of the suction boxes to an outside of each of the cleaning tanks, wherein

at least one of the discharge devices includes a removal device for removing a foreign substance from a discharge liquid, and is configured to supply the discharge liquid from which the foreign substance has been removed to another cleaning tank disposed on an upstream side of the cleaning tank including the discharge device in the conveyance direction.

[0009] A coating film removing method of the present invention that solves the above problems is a coating film removing method for removing a coating film from a coated film including the coating film on at least one surface of a base film, and includes:

supplying a cleaning liquid to a cleaning tank;

conveying the coated film in a longitudinal direction of the coated film such that the coated film passes through the cleaning liquid;

introducing the coated film into a suction box disposed in the cleaning liquid, the suction box having a gap through which a film can pass, and removing the coating film by a coating film removing mechanism in the suction

CLAIMS

[Claim 1]

A coating film removing equipment for removing a coating film from a coated film including the coating film on at least one surface of a base film, the coating film removing equipment comprising:

two or more cleaning tanks disposed side by side in a conveyance direction of the coated film;

a supply device configured to supply a cleaning liquid to at least the cleaning tank disposed most downstream in the conveyance direction;

a conveyance device configured to convey the coated film in a longitudinal direction of the coated film such that the coated film sequentially passes through the cleaning tanks;

suction boxes each disposed in each of the cleaning tanks, each suction box being configured to surround a part of a conveyance path of the coated film with a gap through which a film can pass;

removing mechanisms each in which at least an edge in contact with the coated film is disposed in each of the suction boxes, each removing mechanism being configured to remove the coating film from the coated film; and

discharge devices each for discharging the cleaning liquid and the removed coating film from each of the suction boxes to an outside of each of the cleaning tanks, wherein

at least one of the discharge devices includes a removal device for removing a foreign substance from a discharge liquid, and is configured to supply the discharge liquid from which the foreign substance has been removed to another cleaning tank disposed on an upstream side of the cleaning tank including the discharge device in the

conveyance direction.

[Claim 2]

A coating film removing equipment for removing a coating film from a coated film including the coating film on at least one surface of a base film, the coating film removing equipment comprising:

a cleaning tank;

a supply device configured to supply a cleaning liquid to the cleaning tank;

a conveyance device configured to convey the coated film in a longitudinal direction of the coated film such that the coated film passes through the cleaning tank;

a suction box disposed in the cleaning tank, the suction box being configured to surround a part of a conveyance path of the coated film with a gap through which a film can pass;

a removing mechanism in which at least an edge in contact with the coated film is disposed in the suction box, the removing mechanism being configured to remove the coating film from the coated film; and

a discharge device for discharging the cleaning liquid and the removed coating film from the suction box to an outside of the cleaning tank.

[Claim 3]

The coating film removing equipment according to claim 2, wherein the discharge device includes a removal device for removing a foreign substance from a discharge liquid, and is configured to supply the discharge liquid from which the foreign substance has been removed to the cleaning tank.

[Claim 4]

A coating film removing method for removing a coating film from a coated film including the coating film on at

least one surface of a base film, the coating film removing method comprising:

disposing two or more cleaning tanks side by side in a conveyance direction of the coated film;

supplying a cleaning liquid to at least the cleaning tank disposed most downstream in the conveyance direction;

conveying the coated film in a longitudinal direction of the coated film such that the coated film sequentially passes through the cleaning liquid in the cleaning tanks;

introducing the coated film into suction boxes each disposed in the cleaning liquid in each of the cleaning tanks, each suction box having a gap through which a film can pass, and removing the coating film by a coating film removing mechanism in the suction box;

discharging the cleaning liquid and the removed coating film in each of the suction boxes to an outside of each of the cleaning tanks; and

removing a foreign substance from a discharge liquid discharged from at least one of the suction boxes, and then supplying the discharge liquid from which the foreign substance has been removed to another cleaning tank disposed on an upstream side of the cleaning tank including the at least one of suction boxes in the conveyance direction.

[Claim 5]

A coating film removing method for removing a coating film from a coated film including the coating film on at least one surface of a base film, the coating film removing method comprising:

supplying a cleaning liquid to a cleaning tank;

conveying the coated film in a longitudinal direction of the coated film such that the coated film passes through the cleaning liquid;

introducing the coated film into a suction box disposed in the cleaning liquid, the suction box having a gap through which a film can pass, and removing the coating film by a coating film removing mechanism in the suction box; and

discharging the cleaning liquid and the removed coating film in the suction box to an outside of the cleaning tank.

[Claim 6]

The coating film removing method according to claim 5, wherein a foreign substance is removed from a discharge liquid discharged from the suction box, and then the discharge liquid from which the foreign substance has been removed is supplied to the cleaning tank.

[Claim 7]

The coating film removing method according to any one of claims 4 to 6, wherein a discharge amount of the discharge liquid from the suction box is set such that a flow rate of the cleaning liquid at the gap through which the coated film in the suction box goes out is larger than a conveyance speed of the coated film.