CLAIMS

[Claim 1] A substrate storage container comprising:

a container main body capable of accommodating a plurality of substrates arranged over one another;

an air feed valve for supplying a substrate protecting gas from an outside of the container main body to an inside of the container main body; and,

an air replacement unit that blows out the substrate protecting gas from the air feed valve into the inside of the container main body,

wherein

the container main body has a front open box form with the air feed valve attached at a bottom in a rear part of the container main body,

the air replacement unit includes a housing member for reserving the substrate protecting gas flowed in through the air feed valve and a covering member that covers an open front face of the housing member,

the housing member is formed to extend in a vertical direction of the container main body and sized so as to be able to face, at least, the most part of the rear wall of the container main body,

at least one of a top and a middle of the housing member is supported by the interior of the container main body,

an interior of the housing member is sectioned into a plurality of reserving spaces,

the plurality of reserving spaces are connected at at least one of an upper position and a lower position so as to allow the substrate protecting gas to flow,

the front face of the housing member is directed toward a front of the container main body,

a bottom of the housing member is connected to the air feed valve so as to flow the substrate protecting gas, and

the covering member is formed with a plurality of blow holes, arrayed vertically and horizontally of the covering member, for blowing the substrate protecting gas in the housing member toward the front of the container main body.

[Claim 2] The substrate storage container according to Claim 2, wherein at least, a rear wall of the container main body is made transparent,

the housing member of the air replacement unit is formed with an observation window for inspection of substrates formed between the plurality of reserving spaces, and,

the covering member of the air replacement unit is formed with a cutout corresponding to the observation window of the housing member.

[Claim 3] The substrate storage container according to Claim

1 or 2, wherein the air replacement unit is disposed so as to create a space between the air replacement unit and an inner face of the rear wall of the container main body and includes an airflow regulating member that faces, at least, a ceiling among the bottom and ceiling of the container main body so as to regulate a clearance between the airflow regulating member and the ceiling, the clearance regulated by the airflow regulating member is made to communicate with the space, forming an air flow path, and among the plurality of blow holes of the covering member, a position of lower blow holes is adjusted so that the substrate protecting gas will not touch an underside surface of the substrate located at a lower-most position.

[Claim 4] The substrate storage container according to any one of Claims 1 to 3, wherein, of the plurality of blow holes of the covering member of the air replacement unit, a position of upper blow holes is adjusted so that the substrate protecting gas will not touch an upside surface of the substrate located at a topmost position.

[Claim 5] The substrate storage container according to any one of Claims 1 to 4, wherein the air replacement unit is formed of electrical conducting material and a connecting portion of the air replacement unit coming into contact with

the container main body enables static electricity on the air replacement unit to be grounded to the outside of the container main body.

[Claim 6] The substrate storage container according to any one of Claims 1 to 5, wherein the air replacement unit is formed of electrical conducting material and a surface resistance of the air replacement unit is specified to fall within a range of 10^3 to 10^{12} Ω.

[Claim 7] The substrate storage container according to any one of Claims 1 to 6, wherein the air replacement unit includes an air permeable filtering member interposed between the housing member and the covering member.