CLAIMS

[Claim 1]

A transfer machine comprising:

an arm;

a holding part that is provided on the arm and that is configured to hold a substrate;

a turning part that turns the arm about a turning axis extending in a direction orthogonal to a substrate carry-in direction; and

a control part that adjusts a position in an in-plane direction of the substrate by turning the arm by the turning part based on the position in the in-plane direction of the substrate measured by measurement part,

wherein the turning axis is provided on a carry-in port side than the holding part and extends in the in-plane direction of the substrate before being turned by the turning part.

[Claim 2]

The transfer machine according to claim 1 further comprising a support member that is provided below the arm and that supports the substrate,

wherein the turning part is provided below a support part and below a conveyance path of a substrate conveyance mechanism.

[Claim 3]

A substrate processing apparatus comprising:

a transfer machine according to claim 1;

a measurement part that measures a position in an in-plane direction of the substrate held by the holding part; and

a control part that adjusts the position of the substrate by turning the arm by the turning part based on the position in the in-plane direction of the substrate measured by the measurement part.

[Claim 4]

The substrate processing apparatus according to claim 3,

wherein the measurement part has a first measurement part and a second measurement part provided at a position that is point symmetric to the first measurement part with respect to a center of the substrate.

[Claim 5]

The substrate processing apparatus according to claim 4,

wherein a diameter of the substrate is calculated from measurement results by the first measurement part and the second measurement part, thereby a deviation amount of a size from an ideal diameter of the substrate is calculated, and the position of the substrate is adjusted by turning of the turning part based on the calculation result using the deviation amount of the size.

[Claim 6]

The substrate processing apparatus according to claim 3 or 5,

wherein an angle deviation amount of a tip position of the substrate about the turning axis with respect to a tip position at an ideal position of the substrate is calculated, and the position of the substrate is adjusted by turning of the turning part based on the calculation result using the angle deviation amount.

[Claim 7]

The substrate processing apparatus according to claim 4 or 5,

wherein the first measurement part and the second measurement part are disposed at positions deviated by a predetermined angle θ with respect to a carry-in and carry-out direction of the substrate.

[Claim 8]

The substrate processing apparatus according to claim 4 or 5,

wherein a jig substrate for setting zero points of the first measurement part and the second measurement part is available, and

wherein the jig substrate has an adsorbed part adsorbed by a substrate adsorbing/holding part, and an adjustment part movable in an in-plane direction with respect to the

adsorbed part.

[Claim 9]

The substrate processing apparatus according to claim 3 or 4,

wherein the measurement part has a line sensor.

[Claim 10]

The substrate processing apparatus according to claim 3 or 4 comprising a substrate adsorbing/holding part absorbs and holds the substrate,

wherein an elastic member is provided on a placement surface of the substrate adsorbing/holding part.