

### **Substrate Cassette**

The invention concerns a substrate cassette for housing several substrates stacked on top of each other, in particular wafers.

Substrate cassettes for housing substrates stacked on top of each other are well-known. Such substrate cassettes normally have several slots, wherein one substrate can be housed in each slot. The well-known substrate cassettes are particularly suitable for housing planar substrates. If the substrates are however curved, in some cases, these cannot be positioned stably in a defined position in a slot in the substrate cassette. Providing a stable support is particularly difficult in the case of multi-curved substrates. The form of a multi-curved substrate resembles the form of a potato chip. Owing to the curvature that resembles the form of a potato chip, the distance between two substrates is variable depending on the rotational position of the substrate in the substrate cassette, which makes removing a substrate difficult, particularly if a random removal from any slot is desired.

It is however necessary that the substrates are stored as parallel to each other as possible in a defined position in the substrate cassette. This is the only way to ensure that there is no collision between the end effector and the substrates, which could potentially damage the substrates, when removing the substrates by means of an end effector.

It is therefore the object of the present disclosure to provide a substrate cassette in which curved substrates can be housed stacked as parallel to each other as possible.

## Summary

According to an aspect, the present disclosure refers to a substrate cassette for housing several substrates stacked on top of each other comprising a housing that comprises a first side and a second side that is parallel to the first side, wherein at least an elongated first support is provided for a substrate within the housing between the sides, said first support being in part spaced from the first side, wherein the first side is closest to said at least one first support is closer to the first side than to the second side, and wherein the at least one first support is provided on a support arm that extends from the support to the first side.

According to another aspect, the present disclosure refers to a substrate cassette for housing several substrates stacked on top of each other comprising a housing that comprises a first side and a second side that is parallel to the first side, wherein at least an elongated first support is provided for a substrate within the housing between the sides, said first support being in part spaced from the first side, wherein the at least one first support is closer to the first side than to the second side, and wherein the support is height adjustable relative to the first side.

According to another aspect, the present disclosure refers to a substrate cassette for housing several substrates stacked on top of each other comprising a housing that comprises a first side and a second side that is parallel to the first side, wherein at least an elongated first support is provided for a substrate within the housing between the sides, said first support being in part spaced from the first side, wherein the at least one first support is closer to the first side than to the second side, and wherein the at least one first support is provided on a support arm that is fastened to the first side at an axial end of the support arm.

This object is solved according to the present disclosure by means of a substrate cassette for housing several substrates stacked on top of each other, in particular wafers, with a housing comprising a first side and a second side that is parallel to the first side, wherein at least an elongated first support is provided for a substrate within the housing between the sides, said support being spaced apart

Claims

1. A substrate cassette for housing several substrates stacked on top of each other comprising a housing that comprises a first side and a second side that is parallel to the first side, wherein at least an elongated first support is provided for  
5 a substrate within the housing between the sides, said first support being in part spaced from the first side, wherein the first side is closest to said at least one first support is closer to the first side than to the second side, and wherein the at least one first support is provided on a support arm that extends from the support to the first side.
- 10 2. The substrate cassette according to claim 1, wherein the substrates are wafers.
3. The substrate cassette according to claim 1, wherein on the second side, at least a second support is positioned at the height of said at least one first support, wherein in each case a slot is defined by one of said at least one first  
15 support and said at least one second support.
4. The substrate cassette according to claim 3, wherein said at least one second support is spaced apart from the second side or is a support rail that comes into direct contact with the second side.
5. The substrate cassette according to claim 4, wherein said at least one second  
20 support is molded directly on the second side.
6. The substrate cassette according to claim 3, wherein several slots arranged on top of each other are provided.
7. The substrate cassette according to claim 6, wherein the supports of slots arranged on top of each other are spaced a maximum of 50 mm apart.
- 25 8. The substrate cassette according to claim 7, wherein the supports of slots arranged on top of each other are spaced between 5 mm and 30 mm apart.
9. The substrate cassette according to claim 1, wherein the distance of the first support to the first side is at least one of between 25 mm and 40 mm in size and at the most as large as half of the diameter of a substrate intended to be received  
30 in the substrate cassette.

10. The substrate cassette according to claim 1, wherein at least one of said at least one first support and said at least one second support comprise a support line or a support area.
- 5 11. The substrate cassette according to claim 1, wherein at least one of said at least one first support and said at least one second support extend parallel to or at an acute angle to the sides.
12. The substrate cassette according to claim 3, wherein the at least one second support is provided on a support arm that extends from the support to the second side.
- 10 13. The substrate cassette according to claim 1, wherein the support arm is attached to the first side or to the second side accordingly.
14. The substrate cassette according to claim 1, wherein, viewed in a top view on the support arm, at least a part of the support arm extends in a region between the first support and the rear side or front side of the substrate cassette with  
15 respect to an insertion direction.
15. The substrate cassette according to claim 1, wherein the support arm has a triangular base area.
16. The substrate cassette according to claim 1, wherein the support is located at an uppermost surface of the support arm when the support arm is in a mounted  
20 position in the substrate cassette.
17. The substrate cassette according to claim 1, wherein several support arms are provided, wherein the support arms are designed as one piece.
18. The substrate cassette according to claim 17, wherein the support arms are combined in the form of a support comb.
- 25 19. The substrate cassette according to claim 1, wherein the support is height adjustable relative to at least one of the side and the support arm.
20. A substrate cassette for housing several substrates stacked on top of each other comprising a housing that comprises a first side and a second side that is parallel to the first side, wherein at least an elongated first support is provided for  
30 a substrate within the housing between the sides, said first support being in part

spaced from the first side, wherein the at least one first support is closer to the first side than to the second side, and wherein the support is height adjustable relative to the first side.

21. A substrate cassette for housing several substrates stacked on top of each other comprising a housing that comprises a first side and a second side that is parallel to the first side, wherein at least an elongated first support is provided for a substrate within the housing between the sides, said first support being in part spaced from the first side, wherein the at least one first support is closer to the first side than to the second side, and wherein the at least one first support is provided on a support arm that is fastened to the first side at an axial end of the support arm.