

What is claimed is:

1. A wafer processing system for processing wafers one at a time, the wafer processing system comprising:

a plurality of trays each configured to accommodate a wafer;

a conveyor configured to transfer the wafers accommodated in the trays;

first and second tray holding apparatuses arranged to be spaced from each other along the conveyor, the first and second tray holding apparatuses unloading the trays from the conveyor and loading the unloaded trays onto the conveyor;

first and second apparatuses provided for the first and second tray holding apparatuses, respectively, the first and second apparatuses including processing means configured to process the wafers transferred by the conveyor, and loading/unloading means configured to unload a wafer from or load a wafer onto one of the trays that is held by the first or second tray holding apparatus; and

a pair of rail members, with one of said rail members formed on each side of the conveyor, wherein each of said rail members includes first and second accommodation grooves therein, and further wherein said pair of first accommodation grooves are configured and arranged to accommodate downward movement of said first tray holding apparatus and said pair of second accommodation grooves are configured and arranged to accommodate downward movement of said second tray holding apparatus.

2. The wafer processing system of claim 1,

wherein each of the first and second tray holding apparatuses has a first tray holding section configured to hold the tray and a second tray holding section configured to hold the tray, and

the second tray holding section can unload or load one of the trays onto or from the conveyor while at the same time the first tray holding section is holding another tray.

3. The wafer processing system of claim 1,

wherein processes performed by the processing means include machining and testing of the wafers.

4. The wafer processing system of claim 1, wherein:

the first and second tray holding apparatuses each include an upper holding section and a lower holding section; and

the upper and lower holding sections are each configured and arranged to slidably receive and support one of said trays via lateral protruding portions thereof.

5. A wafer processing system for processing wafers one at a time, the wafer processing system comprising:

a plurality of trays each configured to accommodate a wafer;

a conveyor configured to transfer the wafers accommodated in the trays;

first and second tray holding apparatuses arranged to be spaced from each other along the conveyor, the first and second tray holding apparatuses unloading the trays from the conveyor and loading the unloaded trays onto the conveyor; and

first and second apparatuses provided for the first and second tray holding apparatuses, respectively, the first and second apparatuses including processing means configured to process the wafers transferred by the conveyor, and loading/unloading means configured to unload a wafer from or load a wafer onto one of the trays that is held by the first or second tray holding apparatus, and

wherein the first tray holding apparatus is configured and arranged to be raised and lowered with respect to the conveyor, and further wherein when the first tray holding apparatus is in an uppermost position, sufficient space is provided between the first tray holding apparatus and the conveyor to enable a tray positioned on the conveyor to pass below the first tray holding apparatus without interference from the first tray holding apparatus or any tray held therein.

6. The wafer processing system of claim 5,

wherein each of the first and second tray holding apparatuses has a first tray holding section configured to hold the tray and a second tray holding section configured to hold the tray, and

the second tray holding section can unload or load one of the trays onto or from the conveyor while at the same time the first tray holding section is holding another tray.

7. The wafer processing system of claim 5,
wherein processes performed by the processing means include machining and testing of the wafers.

8. The wafer processing system of claim 5, wherein:
the first and second tray holding apparatuses each include an upper holding section and a lower holding section; and
the upper and lower holding sections are each configured and arranged to slidably receive and support one of said trays via lateral protruding portions thereof.