WHAT IS CLAIMED IS:

1. A processing apparatus comprising:

a first cassette stage on which a first cassette accommodating a plurality of wafers is mounted;

a second cassette stage on which a second cassette accommodating a plurality of wafers is mounted;

a selecting section that selects either one of the first cassette stage and the second cassette stage;

a setting section that sets first processing conditions that are used at the time of processing the wafers accommodated in the first cassette mounted on the first cassette stage and second processing conditions that are different from the first processing conditions and that are used at the time of processing the wafers accommodated in the second cassette mounted on the second cassette stage;

a processing unit that processes the wafers;

a turntable on which a plurality of chuck tables having holding surfaces are disposed, wherein a holding surface of one of the plurality of chuck tables holds one of the plurality of wafers accommodated in the cassette mounted on the cassette stage selected by the selecting section;

a conveying-in mechanism that conveys the one of the plurality of wafers onto the holding surface of the one of the plurality of chuck tables;

a conveying-out mechanism that conveys out the one of the plurality of wafers from the holding surface of the one of the plurality of chuck tables;

a conveyance control section; and

a changeover section,

wherein

the plurality of the chuck tables disposed on the turntable, are disposed to be rotatable between a conveying-in position wherein the one of the plurality of wafers can be conveyed onto the holding surface of the one of the plurality of chuck tables by the conveying-in mechanism, and a processing position where the processing unit processes the one of the plurality of wafers held by the holding surface of the one of the plurality of chuck tables,

a next wafer to be processed is conveyed onto a holding surface of another one of the plurality of chuck tables positioned at the conveying-in position, and the plurality of wafers accommodated in the cassette mounted on the cassette stage selected by the selecting section are drawn out one after another and subjected to

processing according to processing conditions corresponding to the cassette stage selected by the selecting section, and

when the processing of wafers is ended after all the wafers accommodated in the cassette mounted on the cassette stage selected by the selecting section are conveyed onto a holding surface of one of the plurality of chuck tables positioned at the conveying-in position holding surface and, by conveying out a last wafer from the holding surface to be accommodated back in the cassette mounted on the cassette stage selected by the selecting section, one of the plurality of holding surfaces becomes vacant,

the conveyance control section performs control to automatically convey a first one of the plurality of wafers accommodated in a cassette mounted on the other cassette stage onto the vacant holding surface via a temporary placing region, and

the changeover section changes over the processing conditions to the processing conditions corresponding to the other cassette stage when the wafer to be mounted on the holding surface is changed from the wafer conveyed out from the cassette stage selected by the selecting section to the wafer conveyed out from the

other cassette stage.

2. The processing apparatus according to claim 1, wherein

the conveyance control section is connected to a pressure monitor means connected to the holding surface and measures the magnitude of pressure on the holding surface,

when the last wafer is conveyed out from the holding surface, making the holding surface vacant, said vacancy is recognized by a change in the pressure being monitored by the pressure monitor means, and is transmitted as an electrical signal to the conveyance control section,

when the electrical signal is transmitted to the conveyance control section, the second cassette stage is selected by the selecting section, and

the wafer accommodated in the second cassette mounted on the second cassette stage is conveyed onto the holding surface.

3. The processing apparatus according to claim 1 or claim 2, wherein the conveyance control section is further connected to

a recognition means that recognizes a number of wafers preliminarily accommodated in the first cassette;

and

a counter that counts a number of wafers drawn out from the first cassette and processed.

4. The processing apparatus according to claim 3, wherein

a timing when a processing of the last wafer is to be ended is recognized based on the number of wafers preliminarily accommodated in the first cassette which is recognized by the recognition means and the number of the processed wafers which is counted by the counter, and

when the last wafer is conveyed out from the holding surface, making the holding surface vacant, such vacancy is recognized when the number of the wafers preliminarily accommodated in the first cassette which is recognized by the recognition means and the number of the processed wafers which is counted by the counter match with each other.

5. The processing apparatus according to claim 1, wherein the processing unit comprises a grinding apparatus, and the first processing conditions and the second processing conditions both comprise processing by grinding.