

present invention to provide a polishing method and a polishing apparatus which suppress a reduction in temperature of a turntable during standby and eliminate a need for warming-up based on dummy polishing before restart of polishing.

MEANS FOR SOLVING PROBLEM

[0011]

To achieve the object, the present invention provides a polishing method including rubbing a wafer held by holding means against a polishing pad attached to a turntable while cooling the turntable by supplying a refrigerant to a refrigerant flow path provided in the turntable which is driven to rotate by a motor, thereby performing polishing, the polishing method being characterized in that, during standby after end of the polishing of the wafer and before performing the polishing of a next wafer, a flow volume of the refrigerant is controlled to be less than a flow volume of the refrigerant during the polishing where the wafer is polished, the turntable is rotated by the motor, and a water retaining liquid having a temperature adjusted to a room temperature or more is supplied to the polishing pad.

[0012]

As described above, during the standby, when the flow volume of the refrigerant is reduced and heat is generated from the motor by driving the turntable to rotate and the temperature of the water retaining liquid which is supplied to the polishing pad is increased to a room temperature or more, the turntable is not excessively cooled, and hence an extreme reduction in temperature of the turntable can be avoided.

[0013]

a motor 6, and the rotation of the turntable 2 is controlled by a turntable control unit 7. The turntable control unit 7 can control the rotation of the turntable 2 by, e.g., controlling an output from the motor 6.

[0032]

In the polishing apparatus 1 according to the present invention, the turntable control unit 7 rotates the turntable 2 by using the motor 6 not only during polishing of the wafer W but also during standby after end of the polishing of the wafer W and before polishing a subsequent wafer W.

[0033]

Furthermore, a flow volume of the refrigerant which is supplied to the refrigerant flow paths 5 is controlled by a flow volume adjusting valve 8. In the polishing apparatus 1 according to the present invention, the flow volume adjusting valve 8 controls a flow volume of the refrigerant during the standby to be less than a flow volume of the refrigerant during polishing where the wafer W is polished.

[0034]

More specifically, it is preferable for the flow volume adjusting valve 8 to control the flow volume of the refrigerant during the standby to 1/4 or less of the flow volume of the refrigerant during the polishing. When the flow volume adjusting valve 8 controls the flow volume of the refrigerant during the standby to 1/4 or less of that during the polishing, excessive cooling of the turntable 2 can be more assuredly prevented.

[0035]

Moreover, the polishing apparatus 1 according to the present invention includes a water retaining liquid supply mechanism 9 which supplies a water retaining liquid to

CLAIMS

1. A method for polishing comprising rubbing a wafer held by holding means against a polishing pad attached to a turntable while cooling the turntable by supplying a refrigerant to a refrigerant flow path provided in the turntable which is driven to rotate by a motor, thereby performing polishing,

wherein, during standby after end of the polishing of the wafer and before performing the polishing of a next wafer,

a flow volume of the refrigerant is controlled to be less than a flow volume of the refrigerant during the polishing where the wafer is polished, the turntable is rotated by the motor, and a water retaining liquid having a temperature adjusted to a room temperature or more is supplied to the polishing pad.

2. The method for polishing according to claim 1, wherein the flow volume of the refrigerant during the standby is set to 1/4 or less of the flow volume of the refrigerant during the polishing.

3. The method for polishing according to claim 1 or 2, wherein the polishing is performed by using a polishing apparatus which has a plurality of turntables and carries out the polishing on each turntable.

4. A polishing apparatus comprising: a turntable which is driven to rotate by a motor and has a refrigerant flow path provided therein; a polishing pad attached to the turntable; and holding means for holding a wafer, the apparatus being configured to rub the wafer held by the