Technical Newsletter

DISCO

DGP8761 Series
Correction the procedure regarding the direction of the water cooling chuck table

Purpose of this Technical Newsletter

For the procedure for installing the water cooling chuck table used on the DGP8761 series, the manuals had insufficient contents. Please check the details and correct the errors accordingly.

Possible concern

If the chuck table is installed following the old procedure, the inside of the chuck table will not be cooled, which may adversely affect the shape of finished wafers (especially TTV).

Applicable models

DGP8761 DP, CMP specification
DGP8761 HC, SC specification

Applicable manuals

Please replace the descriptions in each relevant section of the applicable manual by the ones to be described.
The procedures marked with (*) have been changed or added.

Applicable Manual	DISCO Part No.	Relevant Section
DGP8761 Installation Manual Japanese	All part numbers other than UNNSNJH001F	Section 1-15, [Installation of Chuck Tables] of Chapter B
DGP8761 Installation Manual English	All part numbers other than UNNSNEH001F	
DGP8761 Maintenance Manual Japanese	All part numbers other than UNNSMJH001G	Section 7-4-1, [Installation of Chuck Tables] of Chapter B
DGP8761 Maintenance Manual English	All part numbers other than UNNSMEH001G	

Inquiry

If you have any questions on this matter, please contact your nearest DISCO office or DISCO service office.

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Installation of Chuck Tables

Procedures to install the chuck tables

⚠ CAUTION

Make sure to handle the chuck table with both hands all the time

Since the chuck table is heavy, you may get injured unexpectedly if you handle it with one hand.

CAUTION

Mount the chuck table on the chuck table base gently so that no physical shock is exerted

If the chuck table or chuck table base is nicked or scratched, processing accuracy of the machine will be adversely affected.

NOTICE

Before installing the chuck table, make sure that there are no foreign matters between the chuck table back surface and the chuck table base (upper surface of the chuck table axis)

If dirt or any other foreign matters are positioned between them, the shapes of finished wafers (TTV in particular) will be adversely affected.

(*) When placing the water cooling chuck table, align the water line holes of the chuck table base with those located on the rear side of the chuck table

If the water line holes are not aligned with each other, the inside of the chuck table will not be cooled down during processing, which will adversely affect the shapes of finished wafers (especially TTV).

Procedures to install the chuck tables (Continued)

Step No.	Procedure
1	Connect the handy panel to its connector at the machine left side.
2	Press the "TURNTABLE" key on the handy panel. ・The operation screen for the turntable appears.
3	Press the "INITIAL" key on the handy panel. ・The turntable is initialized and the chuck table A axis locates at the front position.
4	Clean the chuck table back surface and chuck table base surface with a lint-free cloth and leveling stone.

Screen (within Step 2):

```
R   #400   T.TBL. / INIT                <P    N>


                W.BLOW: #.#   GROOVE: #.# L/min
OUT    A:     # B:     # C:     # D:        # kPa
IN     A:     # B:     # C:     # D:        # kPa
T:      #.## °                  VAC:       # kPa

INITIAL          C.TBL. Z1        C.TBL. Z2



SEQUENCE         C.TBL. FRONT     C.TBL. Z3
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Procedures to install the chuck tables (Continued)

Step No.	Procedure
5(*)	Gently place the chuck table on the center of the chuck table axis (base) that locates at the front position. ・For the water cooling chuck table (DP or CMP specification), align the water cooling line holes of the chuck table base with those located on the rear side of the chuck table. [When the chuck table base is viewed from the top of the machine] Water cooling line holes On an extended line of the water cooling line holes, there are M12 bolt holes. [When the chuck table is viewed from the top of the machine] On an extended line of the water cooling line holes, there is a notch on the circumference.(**) Water cooling line holes (rear side) (**) For chuck tables having no notch, check the position of each hole on the rear side of the chuck table.
6	Press the "R" key several times on the handy panel to display the menu screen of the Z2 side. <table><tr><td>R</td><td>#020</td><td>MENU / RIGHT-SIDE</td><td>V##.##</td></tr><tr><td colspan="4">- Z2&Z3 side -</td></tr><tr><td colspan="4">... Please select any unit.</td></tr><tr><td>ROBOT</td><td></td><td>Z3</td><td>Z2</td></tr><tr><td>CHUCK-TABLE</td><td></td><td>Z3-SEQUENCE</td><td>Z2-SEQUENCE</td></tr><tr><td>TURNTABLE</td><td></td><td></td><td></td></tr></table>
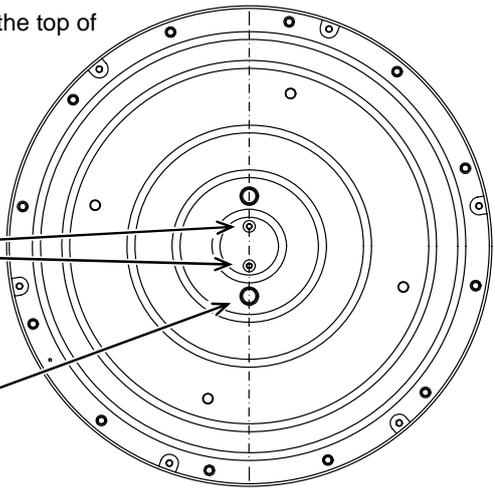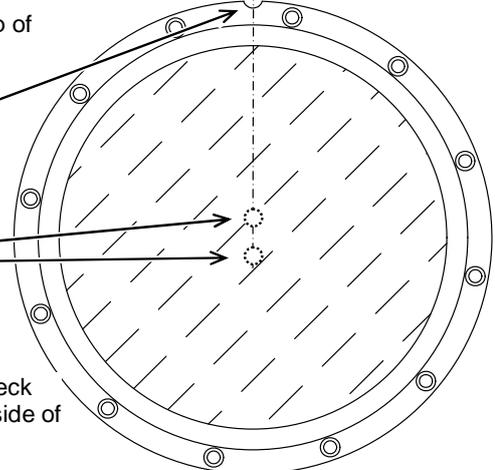
Procedures to install the chuck tables (Continued)

Step No.	Procedure
7	Press the "CHUCK-TABLE" key on the handy panel. ・The operation screen for the chuck table appears. R #420 C.TBL. / MENU - N> VAC.A I: # kPa (O: # kPa) B I: # kPa (O: # kPa) C I: # kPa (O: # kPa) D I: # kPa (O: # kPa) <table><tr><td>C.TBL A</td><td>C.TBL FRONT</td><td>C.TBL Z1</td></tr><tr><td>C.TBL B</td><td>C.TBL ALL</td><td>C.TBL Z2</td></tr><tr><td>C.TBL C</td><td>C.TBL D</td><td>C.TBL Z3</td></tr></table>
8	Press the "C.TBL FRONT" key on the handy panel.
9	Press the "N>" key on the handy panel. ・The following screen appears. R #433 C.TBL.FR / ROTATION <P N> VAC. CT: # kPa (*: # kPa) <table><tr><td>SERVO ON</td><td>ROTATION STOP</td><td>ROTATION GRIND</td></tr><tr><td>SERVO OFF</td><td></td><td>ROTATION DRESS</td></tr><tr><td>INITIAL</td><td>ROTATION WARMUP</td><td>ROTATION SELF</td></tr></table>
10	Press the "SERVO OFF" key on the handy panel. ・The servo-ON condition of the chuck table (at the front position) is cleared and manual turning of the chuck table is enabled.
11	Put in the twelve chuck table retaining screws (M6) and plain washers into the screw holes and tentatively fasten them using an Allen wrench. Chuck table Hexagon socket-head screw (12)

Procedures to install the chuck tables (Continued)

Step No.	Procedure
12	Place the tip (gauge head) of the dial gauge at the ceramic part of the chuck table lateral side by adjusting the orientation of the measuring jig. Dial gauge tip Chuck table retaining screw Chuck table
13	Set the dial of the dial gauge at "0".
14	Adjust the chuck table position so that the variation of the dial gauge measurement values falls within 0.1 mm (100 μm) by turning the chuck table lightly by hand. ・If the position is off, adjust the chuck table position by hitting the lateral side of the chuck table with the plastic hammer lightly.
15	Remove the measuring jig.
16(*)	Using the provided torque wrench, fasten the retaining screws in the order 1 through 12 as shown in the figure below. ・Set the tightening torque to 4 N・m. (figure showing screw order: 12, 7, 2 at top; 5, 9; 10, 4; 3, 11; 8, 1, 6) __If you use the water cooling chuck table (DP or CMP specification)__ move to Step 17. __If you use the chuck table without water cooling (Poligrind specification)__ move to Step 21.
17(*)	[Only for when the water cooling chuck table is used] Press the "N>" key on the handy panel. ・The following screen appears. R #434 C.TBL.FR / OPTION <P - VAC. CT: # kPa (*: # kPa) CT COOLING ON CT COOLING OFF
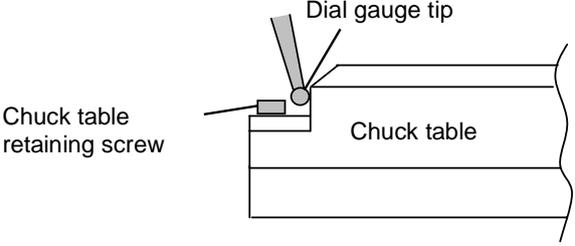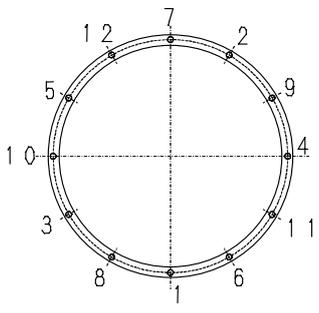
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Procedures to install the chuck tables (Continued)

Step No.	Procedure
18(*)	[Only for when the water cooling chuck table is used] Press the "CT COOLING ON" key on the handy panel. ・Cooling water for the front-side chuck table turns on.
19(*)	[Only for when the water cooling chuck table is used] Check to make sure that water is flowing from the lateral side of the chuck table. ・If the water is not flowing, the chuck table may have been installed in an incorrect orientation. In such a case, repeat the procedures from Step 5.
20(*)	[Only for when the water cooling chuck table is used] Press the "CT COOLING OFF" key on the handy panel. ・Cooling water for the front-side chuck table turns off.
21	Press the "R" key several times on the handy panel to display the menu screen of the Z2 side. | R	#020 MENU / RIGHT-SIDE	V##.## | - Z2&Z3 side - ... Please select any unit. | ROBOT	Z3	Z2
CHUCK-TABLE	Z3-SEQUENCE	Z2-SEQUENCE
TURNTABLE			
22	Press the "TURNTABLE" key on the handy panel. ・The operation screen for the turn table appears. | R	#400 T.TBL. / INIT	<P	N> | W.BLOW: #.# GROOVE: #.# L/min OUT A: # B: # C: # D: # kPa IN A: # B: # C: # D: # kPa T: #.## ° VAC: # kPa | INITIAL	C.TBL. Z1	C.TBL. Z2
SEQUENCE	C.TBL. FRONT	C.TBL. Z3	

Procedures to install the chuck tables (Continued)

Step No.	Procedure
23	Press the "N>" key several times on the handy panel to display the screen "#402 T.TBL. /INDEX".

R	#402 T.TBL. / INDEX	<P	N>

W.BLOW: #.#   GROOVE: #.# L/min
OUT   A: # B: # C: # D: # kPa
IN   A: # B: # C: # D: # kPa
T: #.## °   VAC: # kPa

	INDEX 60 deg (OFFSET-30)	INDEX 150 deg (OFFSET-30)
INDEX 0 deg	INDEX 90 deg	INDEX 180 deg
INDEX 30 deg (OFFSET+30)	INDEX 120 deg (OFFSET+30)	INDEX 210 deg (OFFSET+30)

Step No.	Procedure
24	Press the "INDEX 90 deg" key on the handy panel. ・The turntable is initialized and the chuck table B axis locates at the front position.
25	Repeating the steps 4 through 24, install all the chuck tables (total 4).