User Manual

CORE EDM CO., LTD.

* Cautions for Installation and Users *

1). Installation and use are prohibited in the following areas.
① Where there is a lot of dust
② Avoid high humidity or water faucets
③ Where ambient temperature is high
④ Where combustible gas is generated
⑤ Where work environment is complex and there is a lot of bump

2) Comply with power connection method
① Input voltage: 208V, 220V, 240V, 480V / 3Phase
② Connect electrical wiring without twist and avoid moisture.
③ Always ground the machine body.
④ Be sure to turn off the power during operation.
⑤ When moving the main unit or changing the power source, be sure to contact customer service and headquarters before taking action.

3) User compliance requirement
① Do not open, modify or change the product.
② If an error occurs, please contact customer service.
③ Be careful when moving the W axis. (Check the height of the workpiece and operate.)
④ Check the connection between the table and workpiece. (If the workpiece is rusted or the surface is uneven, the machining will not be smooth.)
⑤ Regularized mechanical inspection is required. (Grease the table and moving parts.)
⑥ Do not touch workpiece or electrode rod during operation.
⑦ Be careful not to let water get inside the machine.

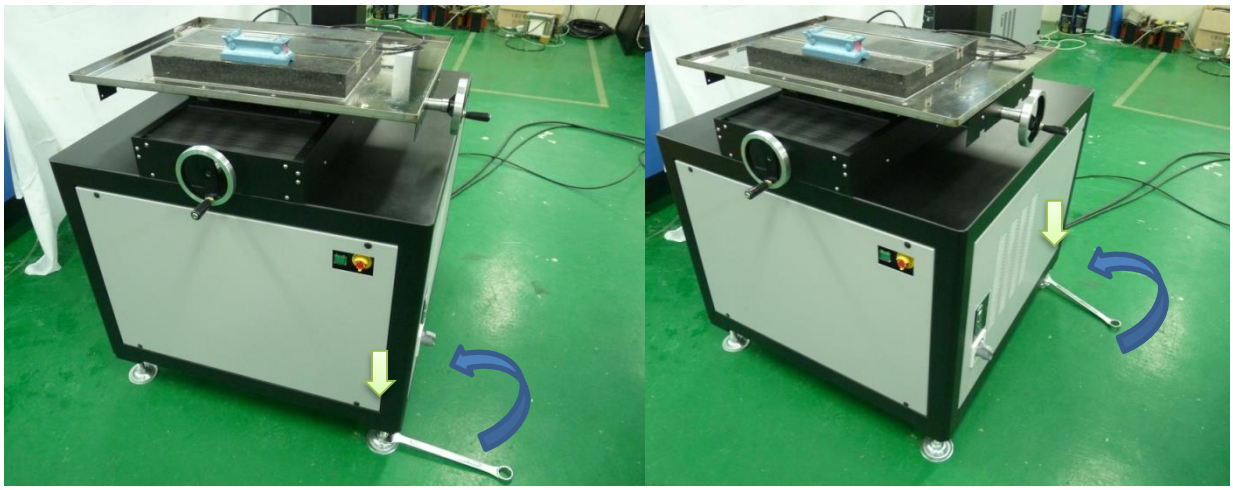
Moving method

<Warning> Upper crane work prohibited

➢ Use forklift and handlebar on the front or side

Leveling method - 1

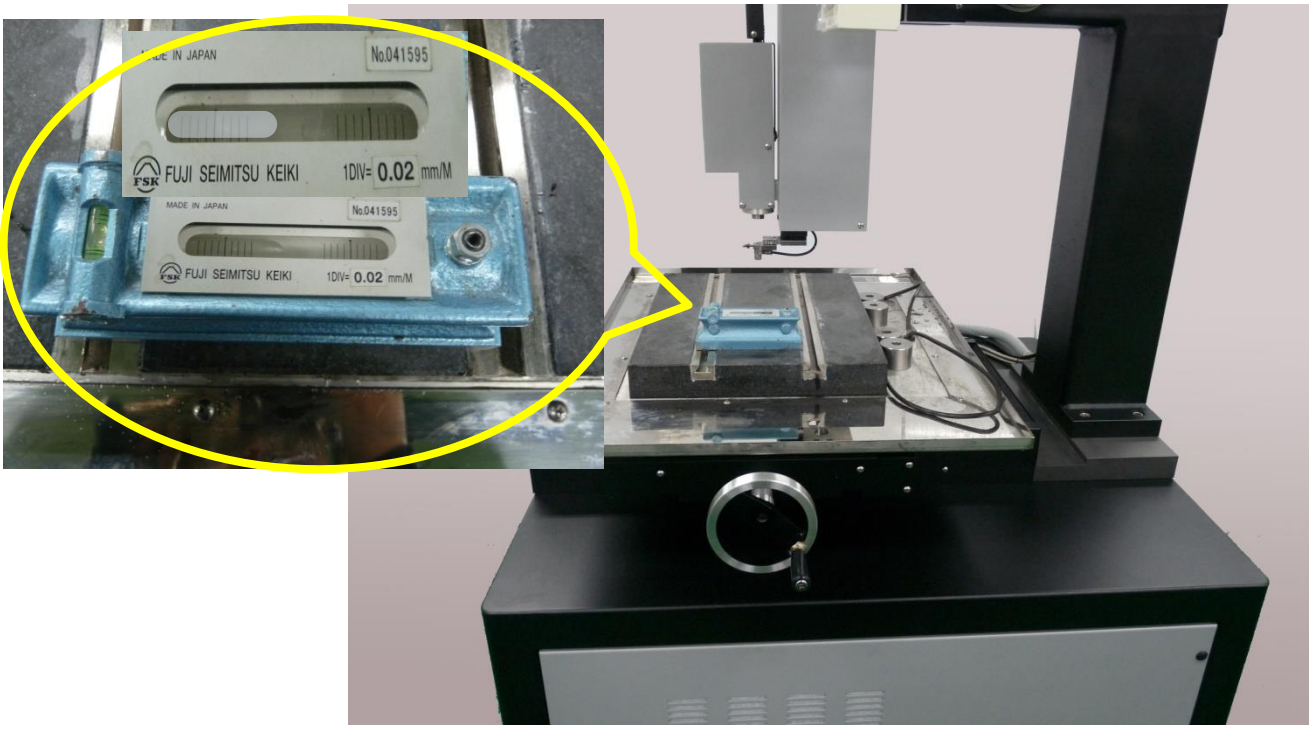
1. Place the level in the X-axis direction.
2. If the position of the water drop is on the right side, the right side is high.



3. Turn the leveling bolt on the machine's right side counterclockwise to lower the right side.
4. Turn the leveling bolt on the machine's left side clockwise to raise the left side.
5. Balance the front and rear leveling bolts.
6. Adjust water drop to the center.

<Note> Use of a 30 mm spanner is recommended.

Leveling method - 2



1. Place the level in the Y-axis direction.
2. If the position of the water drop is at the front side, the front side is high.

3. Turn the leveling bolt on the machine's front side counterclockwise to lower the front part.
4. Turn the leveling bolt on the machine's rear side clockwise to raise the rear part.
5. Balance the left and right leveling bolts.
6. Adjust water drop to the center.

<Note> Use of a 30 mm spanner is recommended.

1. System operating method

1) Power and system activation method

Power is divided into main power, system power and computer power.

① Turn on the main power (breaker) of the machine body.
② Turn on all the power switches.
③ Turn on the computer.

.

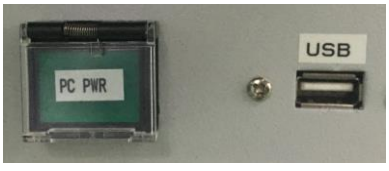
A) Please turn on the compressor before turn on the machine power

① Turn on the breaker (in the rear of the machine). (MAIN POWER S/W)

② Turn it off when cutting off the main power

④ Press the POWER ON switch for the power.

⑤ To turn off the machine, press the POWER OFF switch.



⑥ Turn on the power of the machine by pressing the POWER switch in the front panel of the computer.

1. System operating method

1) **Starting the system**

① Power on both the machine and computer.

② Check for any problem in moving the X and Y axes.

③ Move the W and Z axes upward to move the X and Y axes.

④ Click "ORG START."

* Detect the origin of the machine.

* XY Axis: Detect origin for the X and Y axes. <Required>

* All Axis: Detect origin for the X, Y, W and Z axes. <Recommended>

⑤ When the machine's origin is detected, the coordinate value becomes "0."

* Start the machine after completing the check

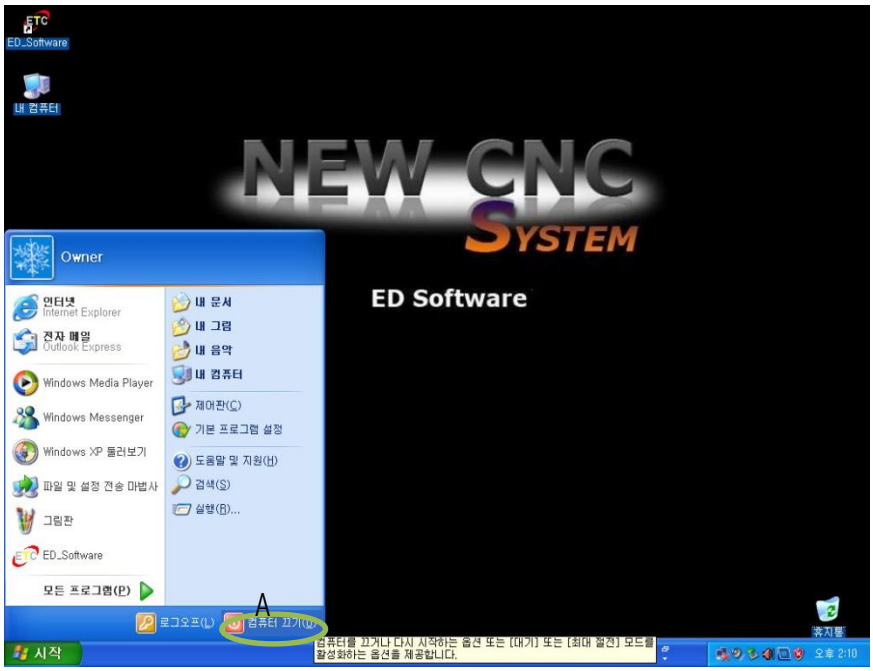
http://www.coreedm.com

1. System operating method

2) **Turning off the system**

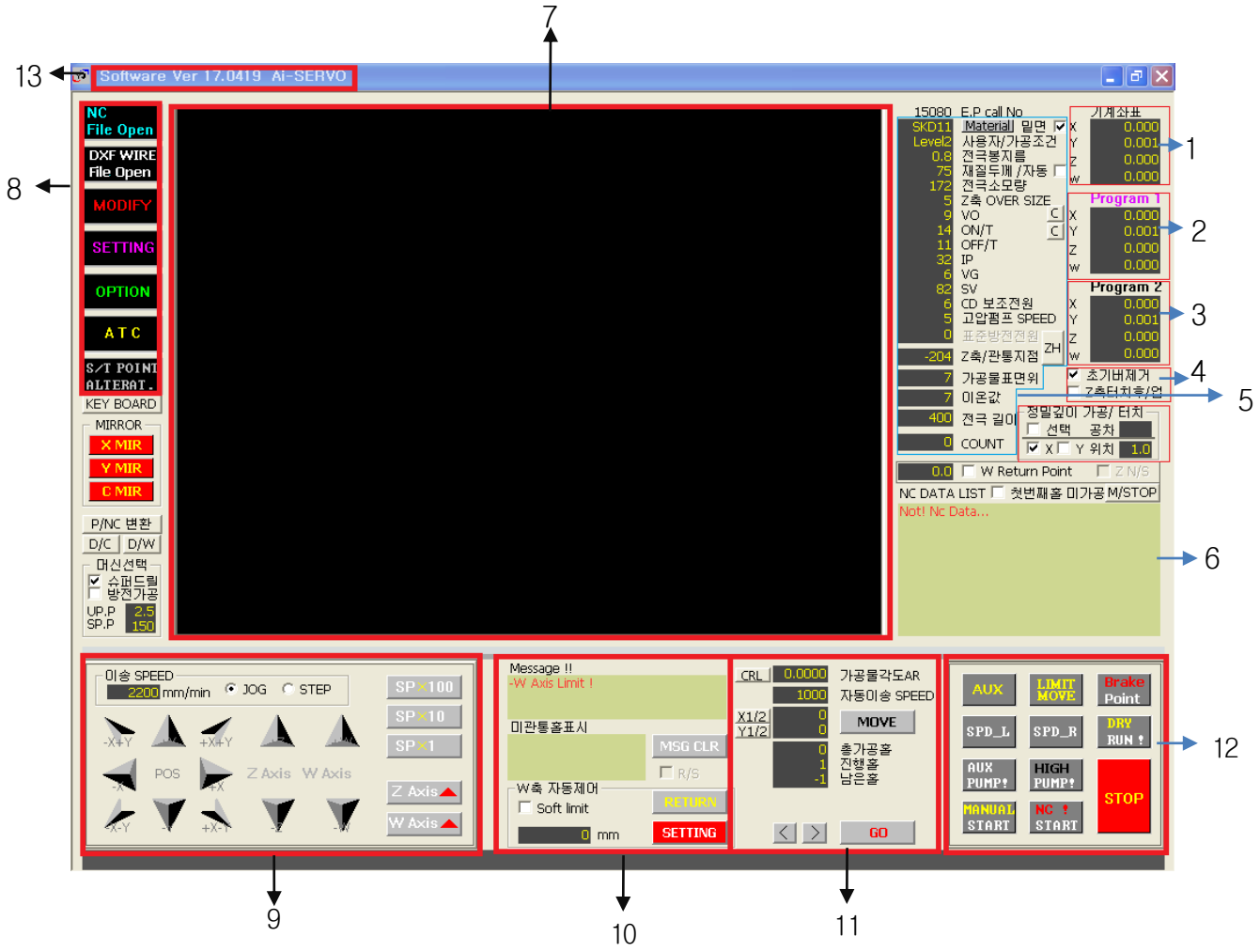
① Click here.

② Power off the machine when the window is closed.



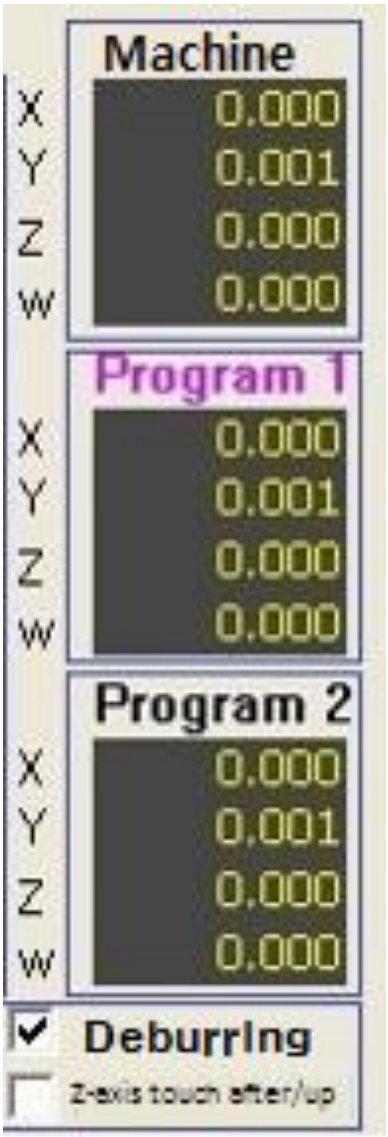
③ Turn off the computer system A.

1. System operating method



1. Machine's coordinates
2. Program coordinates 1
3. Program coordinates 2
4. Initial deburring, Z-axis touch after/up
5. Setting processing condition table
6. NC Data output window
7. Display output
(Graphic, Drawing)
8. Various function keys
(File Open, Modify, Setting)
9. Operation keys (for X, Y, Z, W control)
10. Error and status display window
11. Angle and automatic feed speed
12. Various control keys
(Control of spindle and discharge, etc.)
13. Version

1. System operating method



1. Machine coordinate display

① Displays the absolute coordinates of the machine.

* All the coordinates are "0" when the power is OFF/ON, and when the program is restarted.

② Machine coordinates cannot be changed by user.

* When returning to the origin, the value of each axis becomes "0."

2. Program Coordinates 1

① Displays actual machining coordinates.
* User can modify the coordinates.

② Double clicking the name of each axis will yield a "0."

③ Click the value of each axis and input new value.

* Enter new value and press "ENTER."

3. Program Coordinate 2 (during modification)

① It is the same function as program coordinate 1.

② It is useful for multi-tasking.

- When changing the coordinate system, double clicking 'Program 1' or 'Program 2' will activate in blue.

*** Not in Service**

4. Initial deburring, Z-axis touch after/up

① Initial Burr Removal:

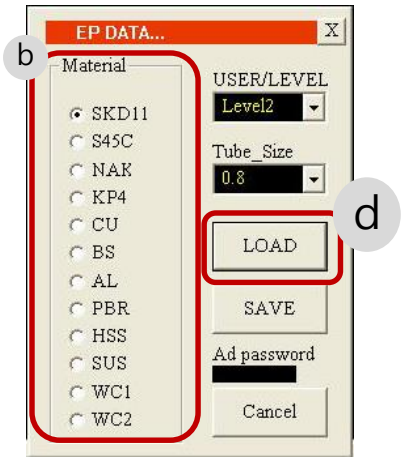
When checked, it control to start from the initial low condition

② Z axis touch after/up:

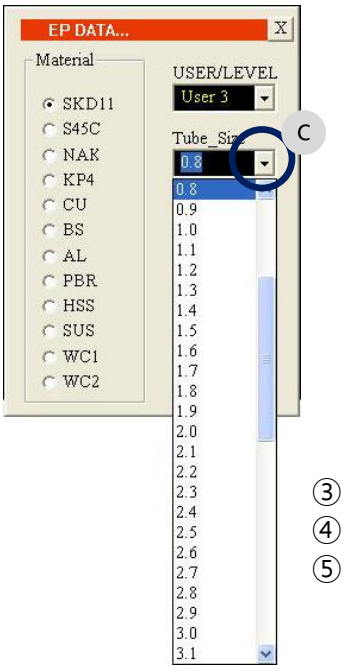
When selected, it stops the electrode rod and the workpiece on the Z axis without causing the Z axis to rise.

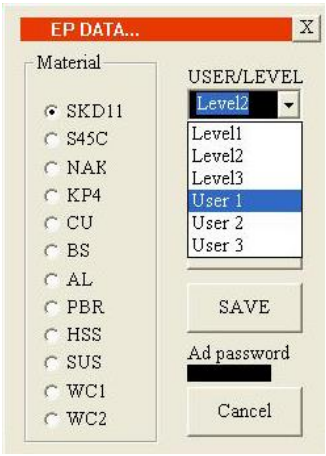
1. System operating method -1

A. Search EP DATA matched with processing conditions



① Click "a" on Material.
② Select quality in the area "b."
* If there is no same quality, select a most similar on in property





③ Click Tube_Size "▼"
④ Select the electrode diameter to be used.
⑤ Click "d"LOAD to retrieve the EP DATA saved.
Default = Level2
<Note> The User area allows the user to save the condition at will.
<Note> CU (copper), AL (aluminum) and WC (carbide) use the copper (CU) electrode

1. System operating method -2

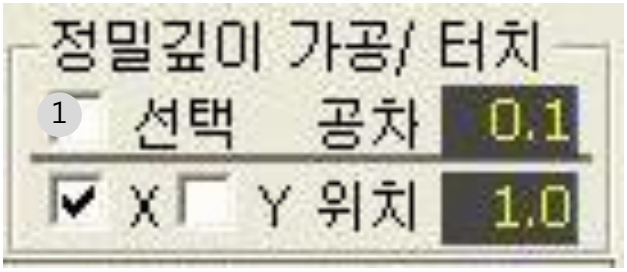
B. Manually adjusting conditions

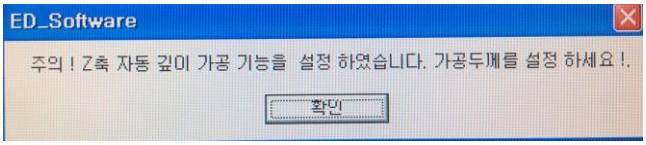
A. Material thickness: thickness of workpiece (T)
B. Electrode consumption: consumption (automatic calculation)
C. Z-axis over size: After passing through, the Z-axis is machined after the oversized Z-axis feed
A. VO: controls the machining voltage.
(Normally 9, or if less, fine hole machining)
B. ON/T: displays discharge ON time
* The higher the ON/T value, the larger the discharge voltage.
C. OFF/T: displays discharge OFF time
D. IP: Indication of discharge current intensity
E. VG: displays the voltage difference between the electrodes
* The higher the VG value,
F. SV Z-axis speed: displays Z-axis machining speed
G. CD auxiliary power: external auxiliary power (external condenser)
H. High pressure pump SPEED: Indicates the pressure of the high pressure pump
(Adjusting the water pressure of the electrode)
A. Z axis / penetration point: Enter the Z axis value of the penetration point of the workpiece directly.
(Calculated automatically according to material thickness)
B. Above the workpiece surface: After penetration, place the electrode on the input value from the top of the workpiece.

N. Ion value: displays the ion value of the current working fluid.
* The ion value setting is done at OPTION. <Default value: 130>
O. Electrode length: enter the length of the electrode to be used.

1. System operating method -3

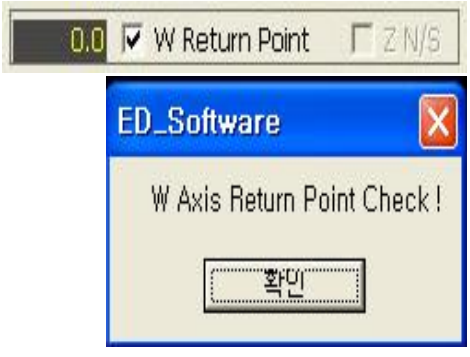
① Precision depth machining touch:
: Through hole processing function
- When selecting, set the desired hole depth.
- Set tolerance
- Tolerance Default: 0.1



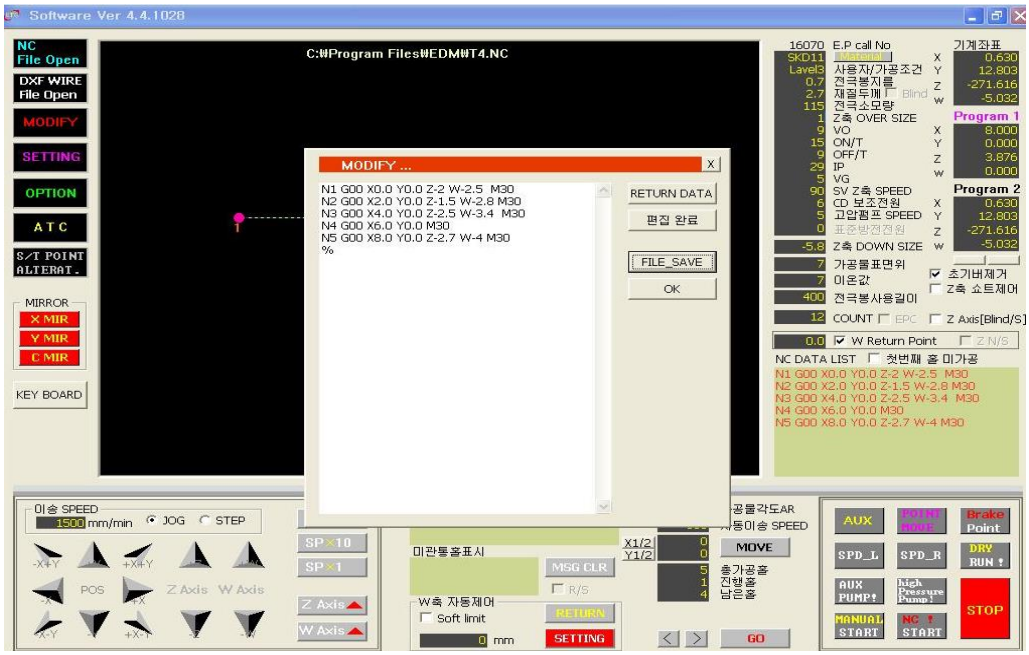


② First hole unprocessed: unprocess N1 and start processing from N2

③ W Return Point
W axis can be controlled automatically
- Automatic measure and process the height of curved workpieces.
- Set the highest point to zero (0.0)..

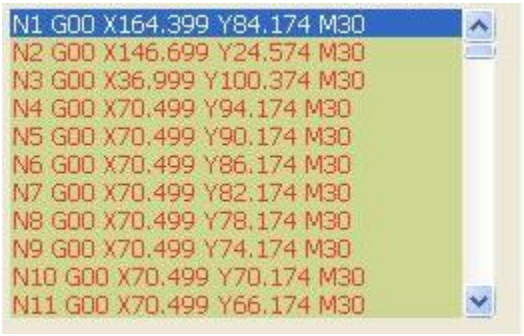


1. System operating method -4



— Input the workpiece's thickness value for the Z axis value, and for the W axis, enter the height value up to the workpiece at the highest point (0,0)..

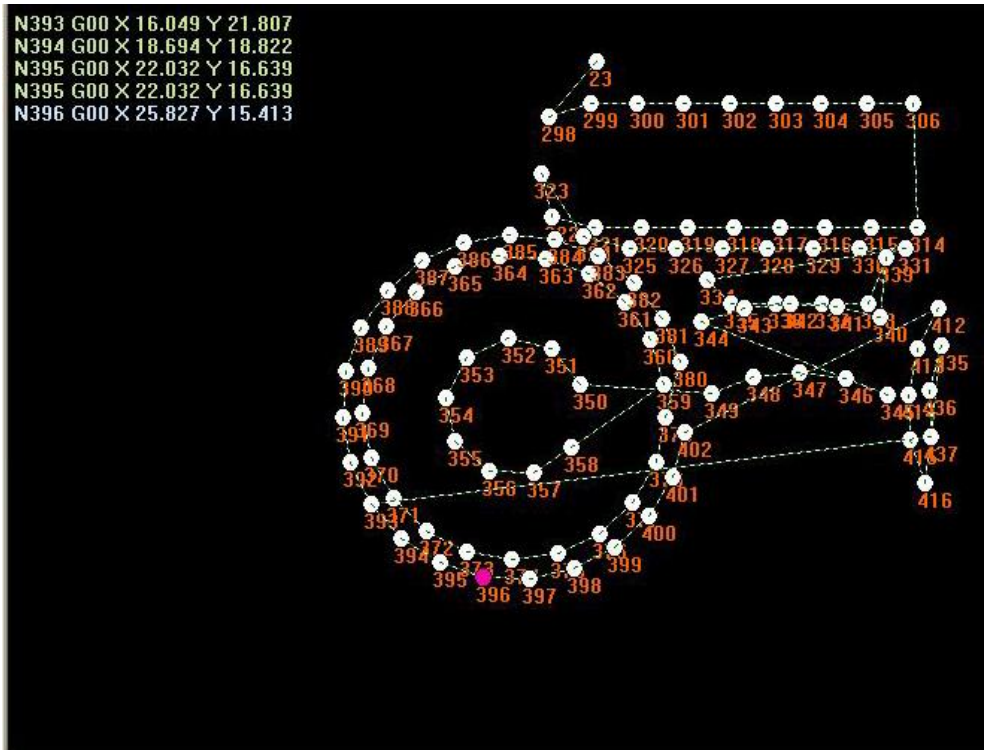
1. System operating method -5



① Displays the current NC data
② Hole under processing is noted in blue

N ?? : Block Number
G00: Rapid feed code
X, Y: X, Y coordinates
M30: Discharge start code

Display out



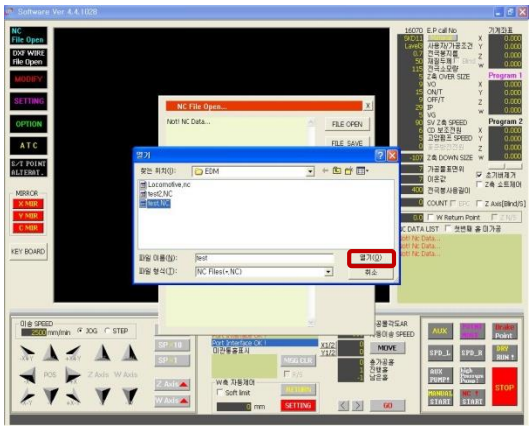
① The current block under work is displayed.
* The current block under work is flashed.
② If you create a window by dragging it with the mouse (top left -> bottom right), the contents inside the window are enlarged.
* If you drag the enlarged picture again and create a window, it will be enlarged.
③ If you drag it (right bottom -> top left) to the opposite of magnification, the original picture will be displayed.

1. System operating method -6

Various function keys

① Open the NC file.
② Convert and save DXF file and NC data into a file that conforms to the format.
③ Revise the NC DATA.
④ Set the machining position for the workpiece.
⑤ OPTION
⑥ Set ATC (Auto Tool Changer)
⑦ Change Start Point

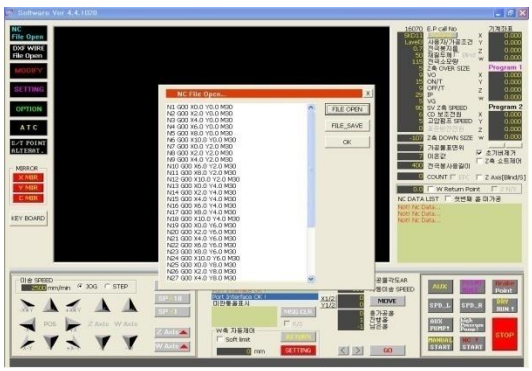
① NC File Open



a. Click 

b. Click FILE OPEN.

c. Double click or, after choosing, click "Open" the file to work on

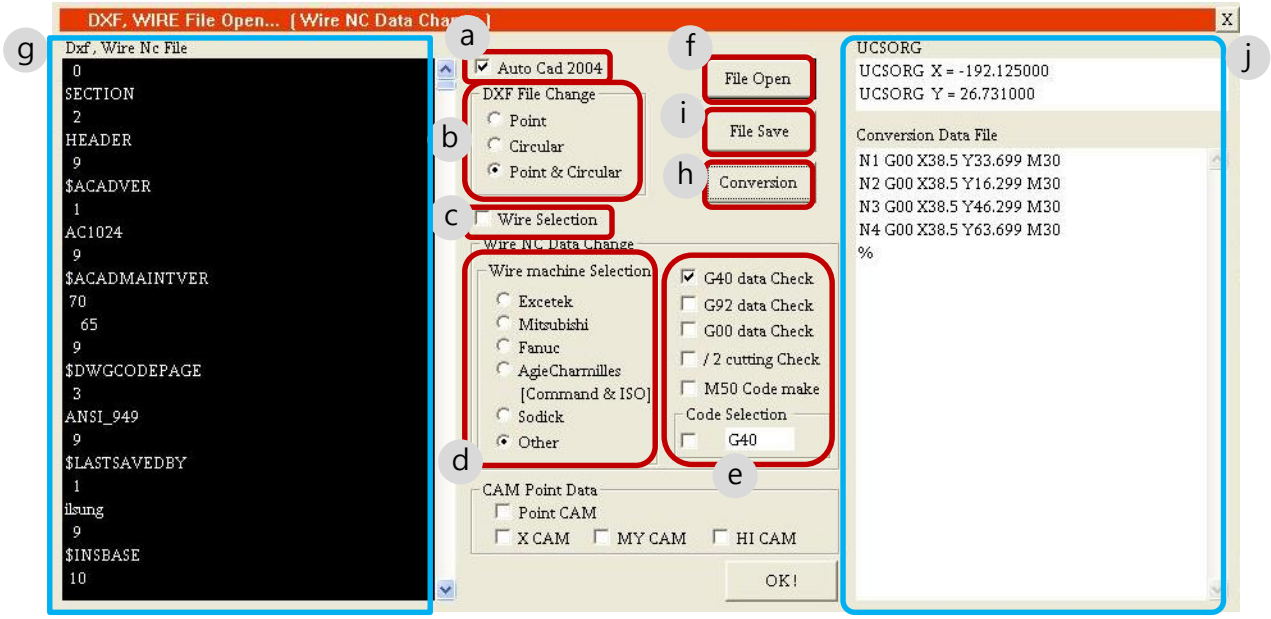


d. Click "OK" after retrieving file

e. If edited, click "FILE_SAVE" and rename or use the existing name to save, then click "OK."

1. System operating method -7

② DXF File Open

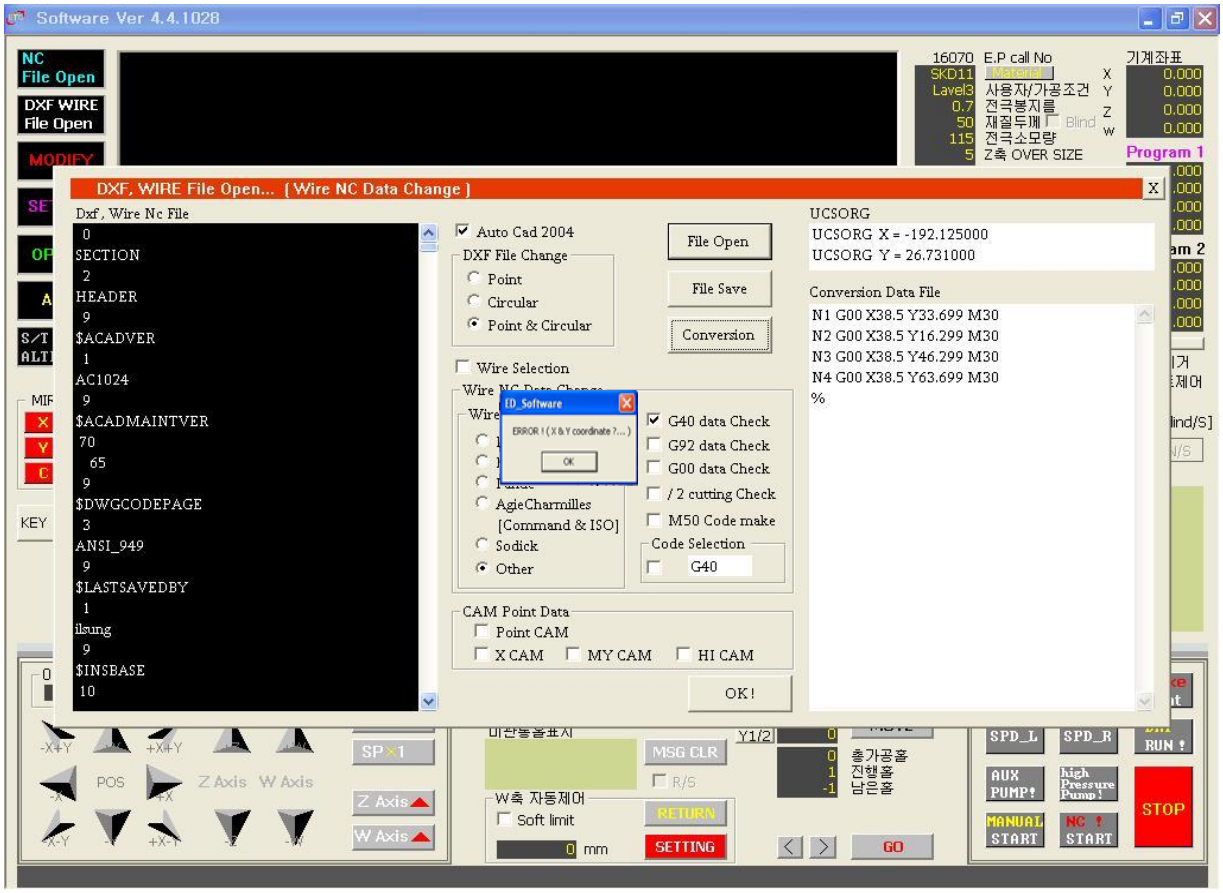


a. Auto Cad 2004: select DXF files in the Auto Cad 2004 format
b. DXF File Change
① Point: Converts only the point coordinates on the drawing.
② Circular: Converts only the center point of the circle on the drawing.
③ Point & Circular: Converts the point on the drawing and the center point of the circle.
c. Wire Selection: Converts NC data for wire cutting to YJ system.
d. Wire machine selection: Select the type of NC data for wire cutting.
e. Code Selection
① G40: Only coordinate values of G40 are recognized as point coordinates.
② G92: Only coordinate values of G92 are recognized as point coordinates.
③ G00: Only the coordinate values of G00 re recognized as the point coordinates.
④ /2 cutting Check: Does not recognize lines starting with '/'.
⑤ M50: Automatically makes circular touch. (Finding the center point) Insert the M50 code.
⑥ Code Selection: When checking v, only G-Code value set by user is recognized as coordinates
f. File Open: Retrieves NC file for DXF or wire cutting.
g. Dxf, Wire Nc File: Displays the NC file for DXF or wire cutting.
h. Conversion: Converts opened DXF or NC file for wire cutting into NC-File to YJ System.
i. File Save: Saves the converted file as a YJ System NC file.
j. Displays the file converted to NC-File for YJ System.

http://www.coreedm.com

1. System operating method -8

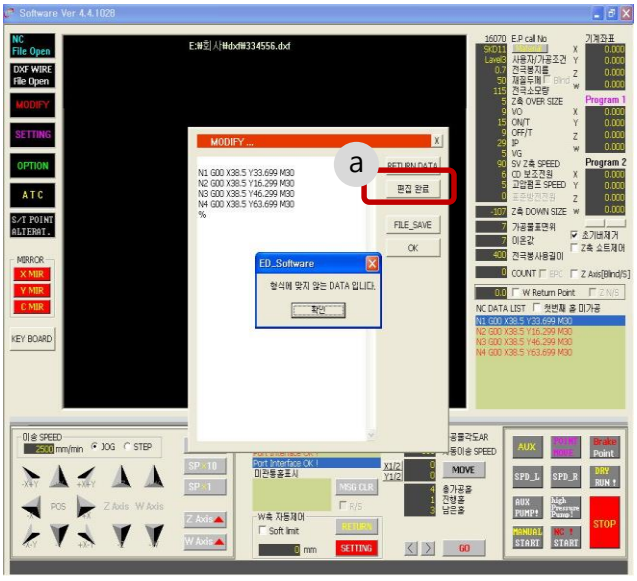
② DXF File Open

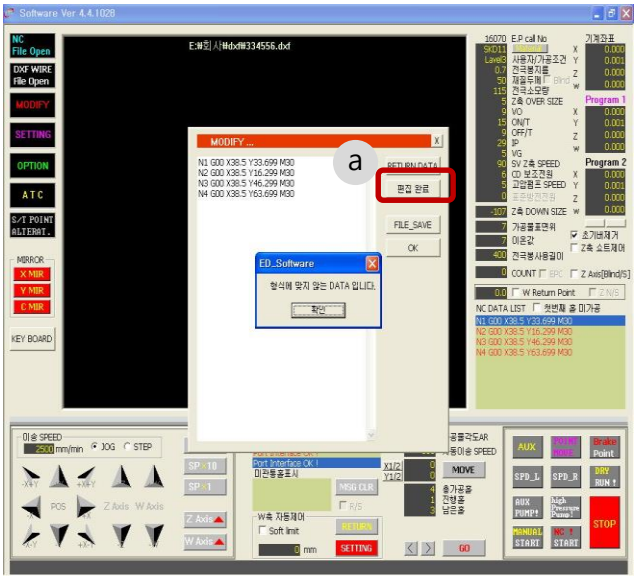


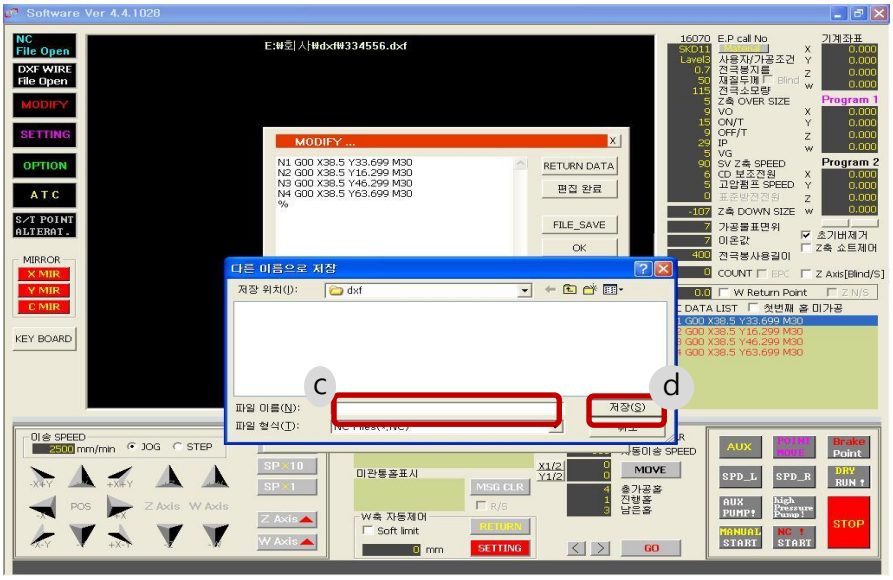
Occurrence of ERROR

① Occurs when there is no X axis or Y axis coordinate on NC DATA during conversion
② Click "OK" to continue.
③ Files without X or Y coordinates are not converted.

③ MODIFY



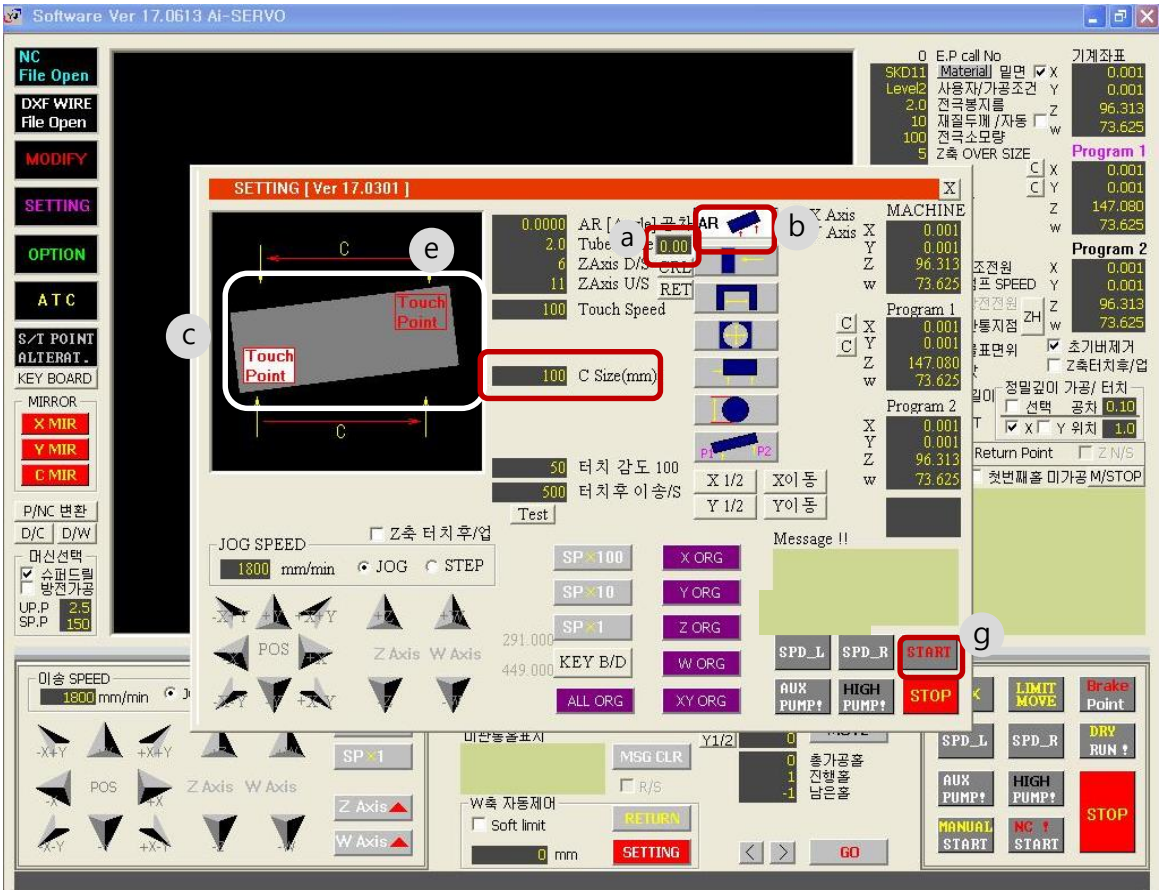




➢ MODIFY

A. Edits (revises) the converted NC file in NC DATA OPEN and DXF.WIRE File Open.
B. When edited (revised), NO. An error occurs when the value of the first line is missing or when there is no value (%).
- When editing (revision) is completed, click FILE_SAVE.
C. Enter the name to save.
D. Click the Save (S) button.

④ SETTING



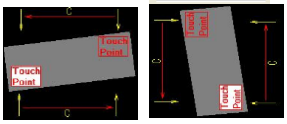
Click 

A. AR (Auto Rotation) 

a. Electrode guide tolerance 

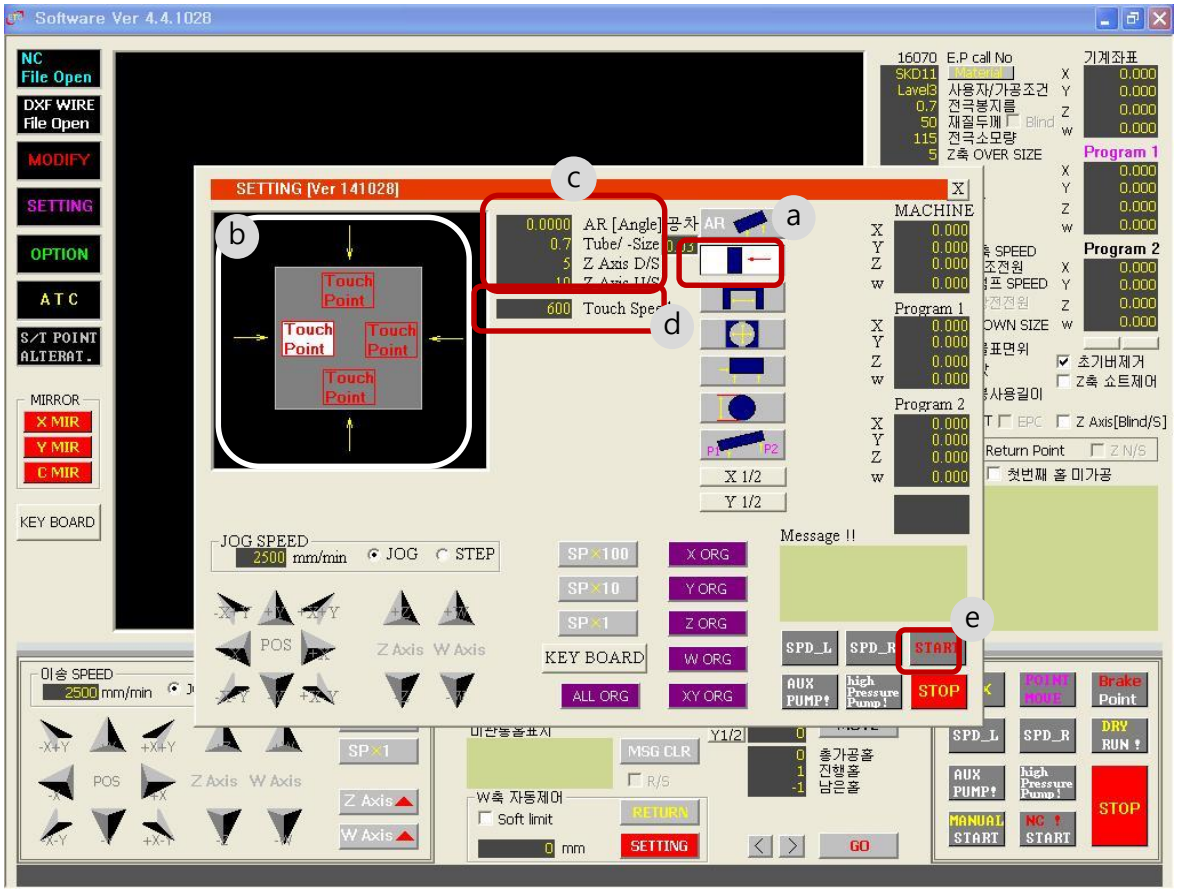
b. Click AR 

, and select the display to touch per workpiece



c. Enter C distance value.
* Ensure that the C distance value does not deviate from workpiece.
d. Position electrode in front of workpiece.
* Further lower the electrode than the workpiece to execute.
* Location of "d" must not be interfered with when the C distance is moved.
e. Set the speed for moving the X and Y axes. (Default = 300)
f. Click START "g."

④ SETTING



Click SETTING

B. One touch 

a. Click one touch 

b. Select the surface to touch.

c. Enter Tube_Size.

d. * Place the guide over the workpiece and lower the Z-axis to lower only the electrode rod below the workpiece.

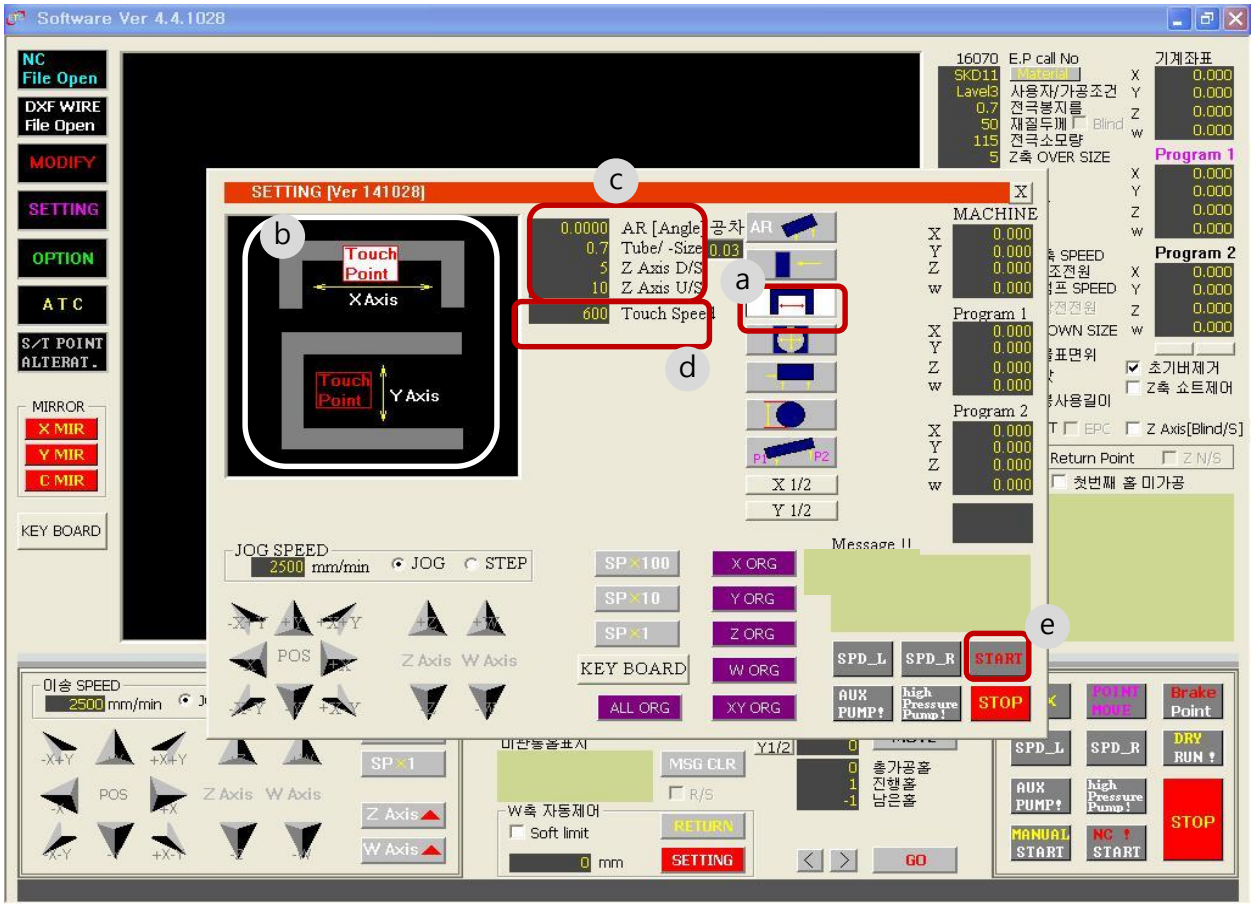
* Z Axis D / S: Downsizes Z-axis downsizing (Closes to touch the workpiece)

• Z Axis U / S: Upsizes Z-axis (Set to rise above the workpiece

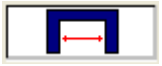
d. Set the speed when moving the X and Y axes.

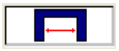
e. Click START "e."

④ SETTING



Click **SETTING**

C. Double-sided touch 

a. Click double-sided touch 

b. Select the direction for touch.

c. Enter Tube_Size. (Omission available)

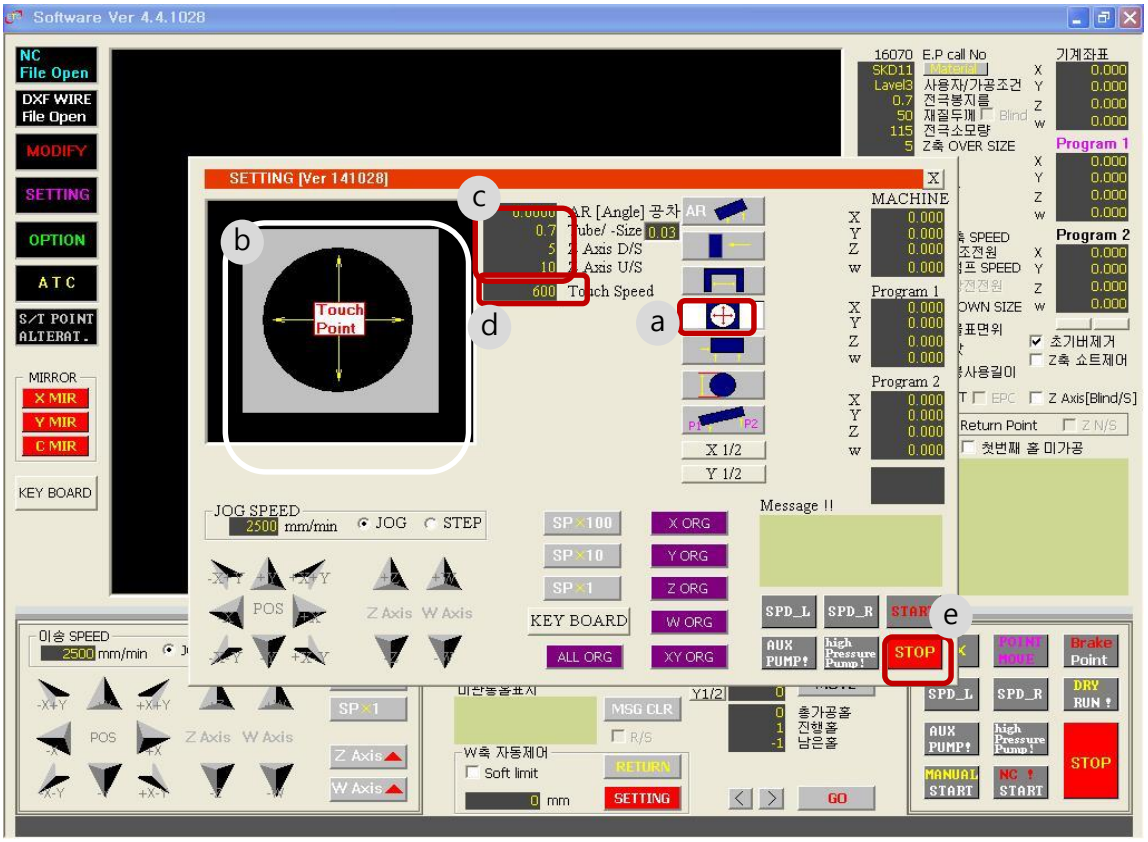
d. * Place the guide over the workpiece and lower the Z-axis to lower only the electrode rod below the workpiece.

e. Set the speed when moving the X and Y axes.

f. Click START "e."

.

④ SETTING



Click 

D. Circular touch 

a. Click corner touch 

b. b. Select the direction for touch.

c. c. Enter Tube_Size. (Omission available)

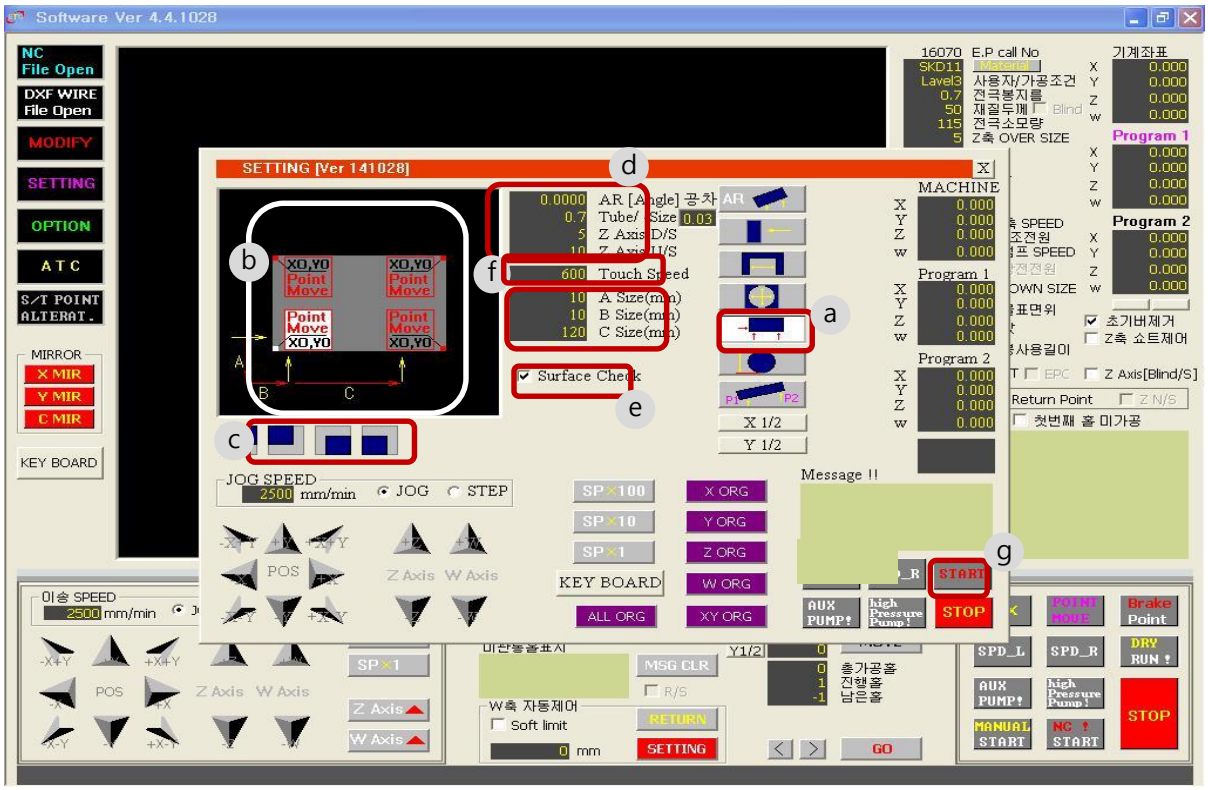
d. * Position the electrode bar inside the hole.

e. * Place the guide over the workpiece and lower the Z-axis to lower only the electrode rod below the workpiece.

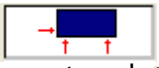
f. d. Set the speed when moving the X and Y axes.

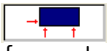
g. e. Click START "e."

④ SETTING



Click **SETTING**

E. Corner touch 

a. Click corner touch 

b. b. Select the surface to touch.

c. Select a point in the figure or from the following items.

d. c. Enter the distance value of each item.

e. * Ensure that the distance value of each item is not too short or large.

f. d. Enter the electrode diameter.

g. * Z Axis D/S value: Depth value to lower the electrode rod from the touch surface after touching the surface.

h. * Z Axis U/S value: Raises the electrode rod as much as the input value from the surface.

i. (Input larger than the amount that the electrode rod descends to below the workpiece.)

j. e. Position the guide about the selected corner.

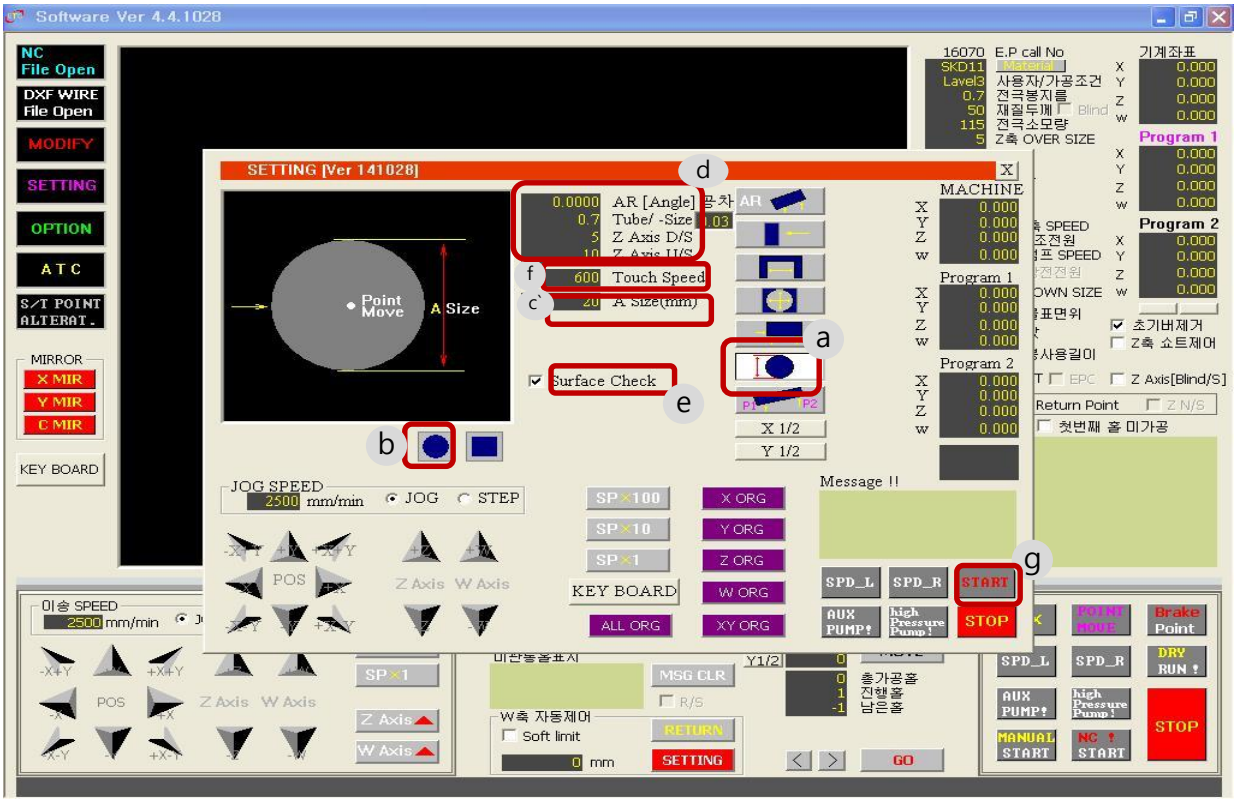
k. If Surface Check is V checked, check the surface height.

l. f. Set the speed when moving the X and Y axes.

m. g. Click START "e."

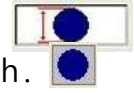
http://www.coreedm.com

④ SETTING



Click 

Outer touch 

a. Click Outer touch. 

b. Select the form to touch.

c. Enter the distance A and B values.

* * Ensure that the distance A and B values are beyond the workpiece.

d. Enter the electrode diameter. (Omission available)

* Z Axis D/S value: Depth value to lower the electrode rod from the touch surface after touching the surface.

* Z Axis U/S value: Raises the electrode rod as much as the input value from the surface.

(Input larger than the amount that the electrode rod descends to below the workpiece.)

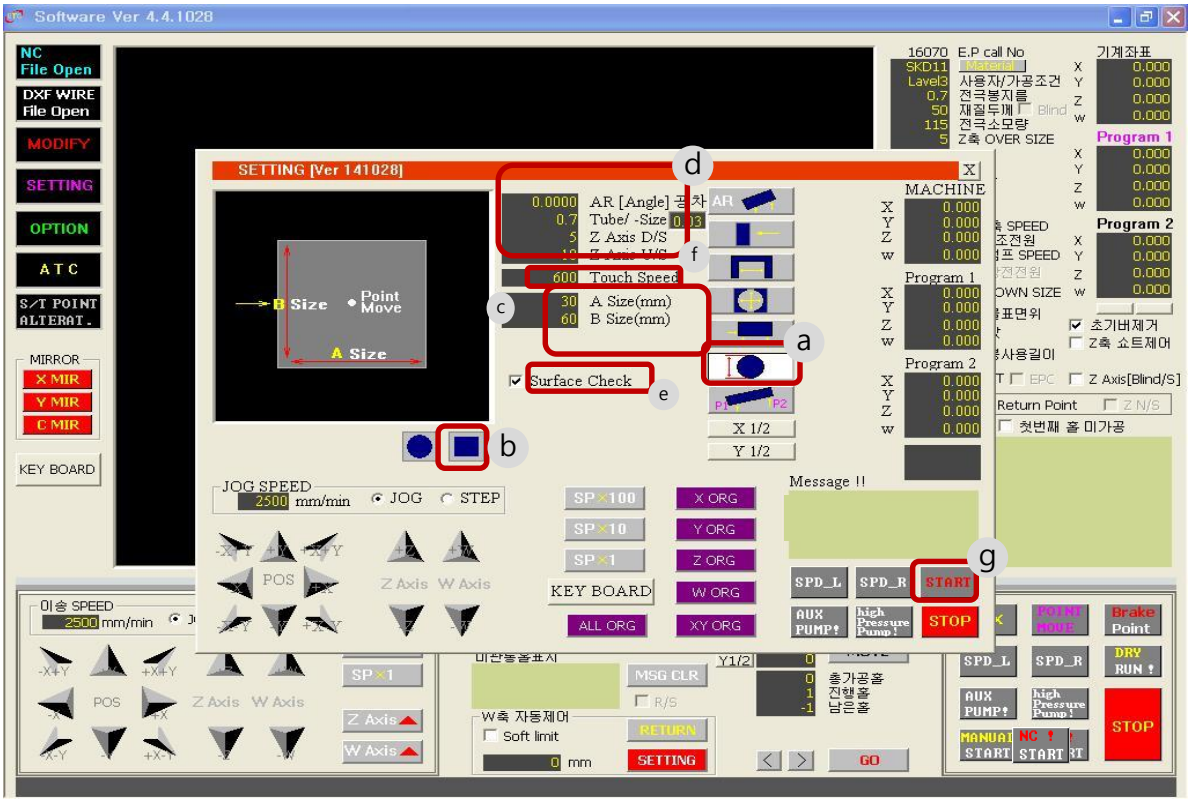
e. If Surface Check is V checked, check the surface height.

Position the guide about the center of the workpiece.

f. Set the speed when moving the X and Y axes.

g. Click START "e.".

http://www.coreedm.com



Click SETTING

Outer touch 

a. Click Outer touch. 

b. Select the form to touch. 

c. Enter the distance A and B values.

* * Ensure that the distance A and B values are beyond the workpiece.

d. Enter the electrode diameter. (Omission available)

* Z Axis D/S value: Depth value to lower the electrode rod from the touch surface after touching the surface.

* Z Axis U/S value: Raises the electrode rod as much as the input value from the surface.

(Input larger than the amount that the electrode rod descends to below the workpiece.)

e. If Surface Check is V checked, check the surface height.

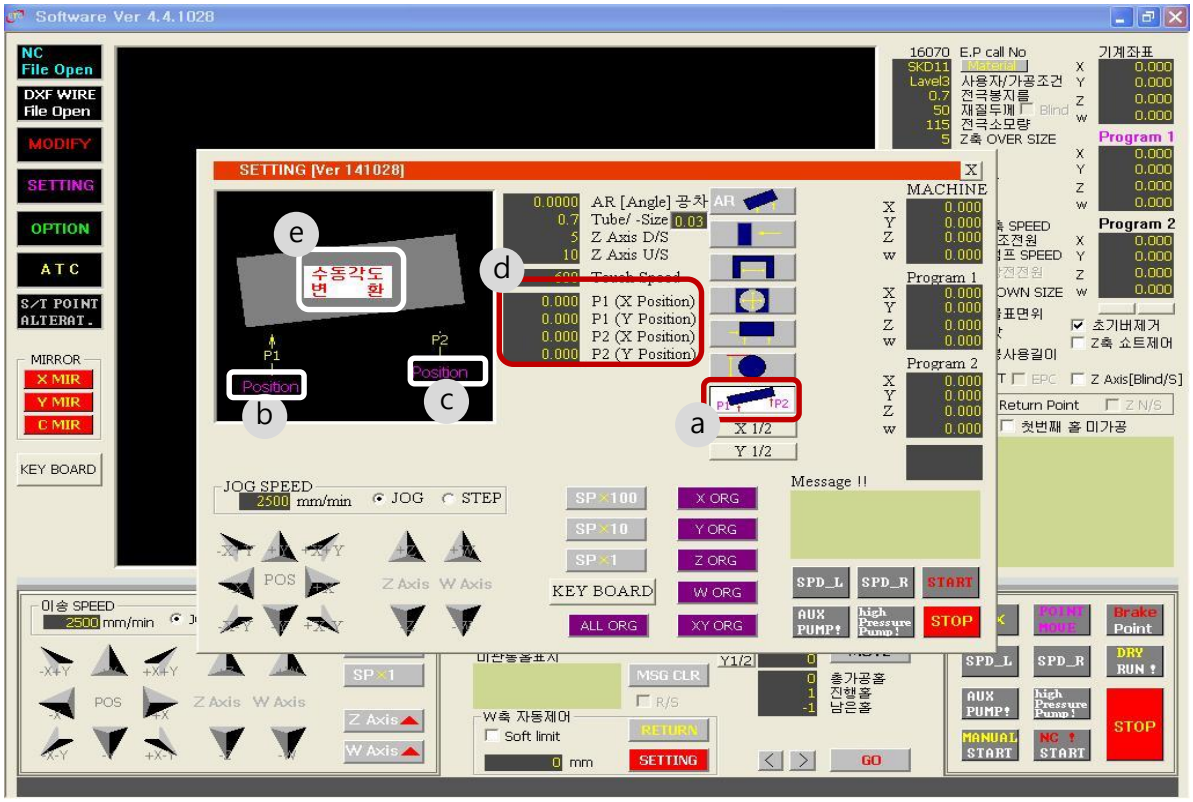
Position the guide about the center of the workpiece.

f. Set the speed when moving the X and Y axes.

g. Click START "e.".

http://www.coreedm.com

④ SETTING



Click 

A. Manual Angle 

a. Click manual angle 

b. <Note> The manual angle must be to the left of P1.

c. b. Execute surface or circular touch from P1 direction.

d. Double-click "b" Position in the above picture of manual angle.

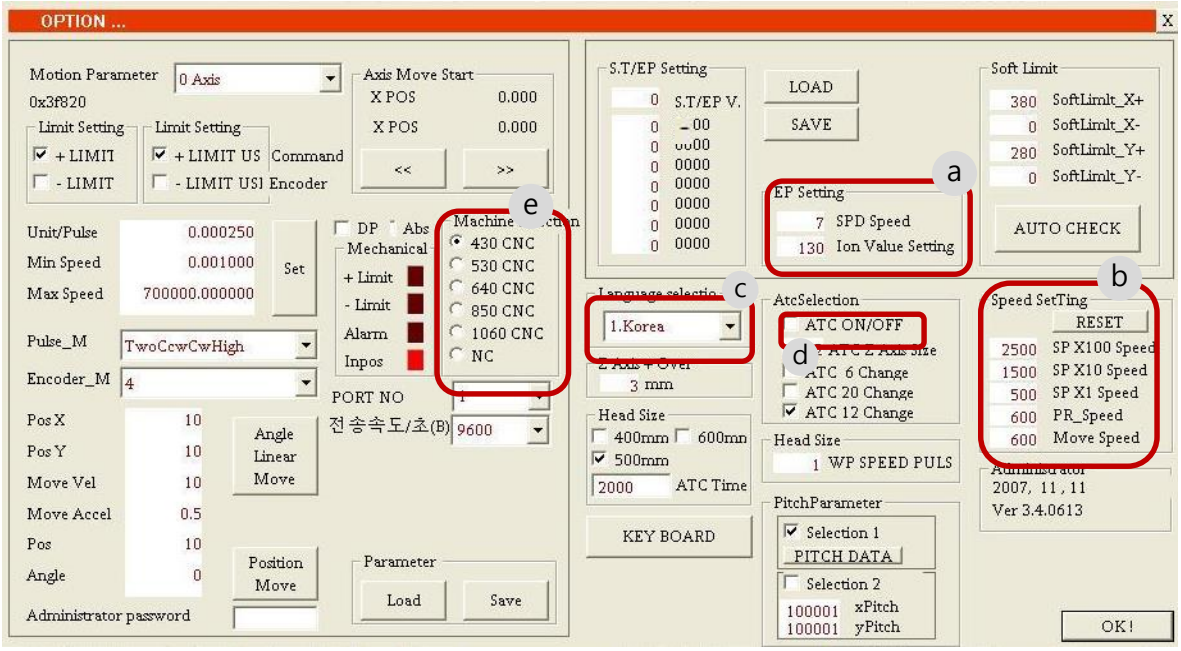
e. c. Surface or circular touch from P2 direction

f. Double-click "c" Position in the above picture of manual angle.

g. d. The machine coordinates of P1 Position and P2 Position are input.

h. E. Click manual angle conversion "e."

⑤ OPTION

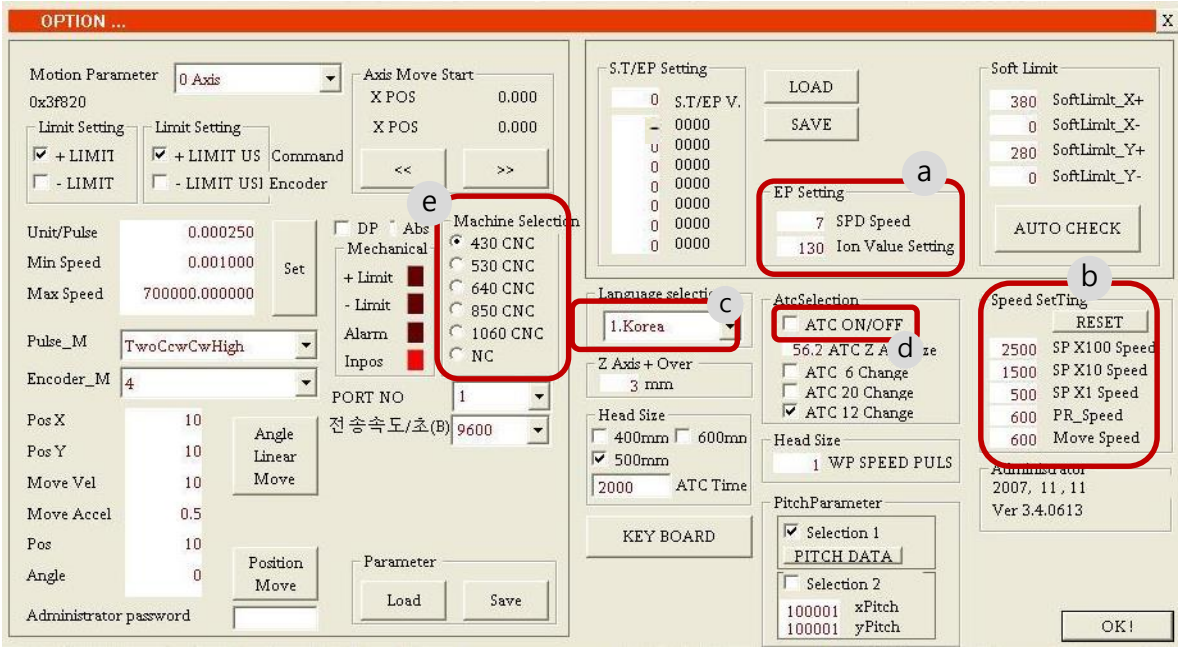


➢ OPTION

A. SPD Speed: Sets the spindle speed. The standard is 4 to 5. (Range 1 to 9)
Ion Value Setting: Sets the ion value. Default = 130
If you change the setting, please make sure to click the "OK" button.

Caution! Do not change any other settings.

⑤ OPTION-1



➢ OPTION

b. Speed Setting : Sets the JOG speed.

① SP *100 Speed : Sets the speed of the remote control and JOG * 100

② SP * 10 Speed : Sets the speed of the remote control and JOG * 100

③ SP * 1 Speed : Sets the speed of the remote control and JOG * 100

④ PR_Speed : Sets DRY-RUN, block feed and coordinate feed speed

⑤ MOVE Speed : Sets feed speed under "SETTING"

⑥ "RESET" : Sets default

=> Does not apply if you do not click "OK" after setting each item

* Speed setting range (0 ~ 4000) c. Language selection: Selects a message language

D. ATC ON/OFF: Selects V when using ATC (Auto Tool Changer)

E. Machine selection: Selects model (It is administrator´s area. Please do not change.)

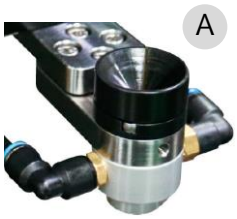
Caution! Do not change any other settings

⑥ Tap processing - 1

1. After the processing screen is terminated, execute the tap processing program .

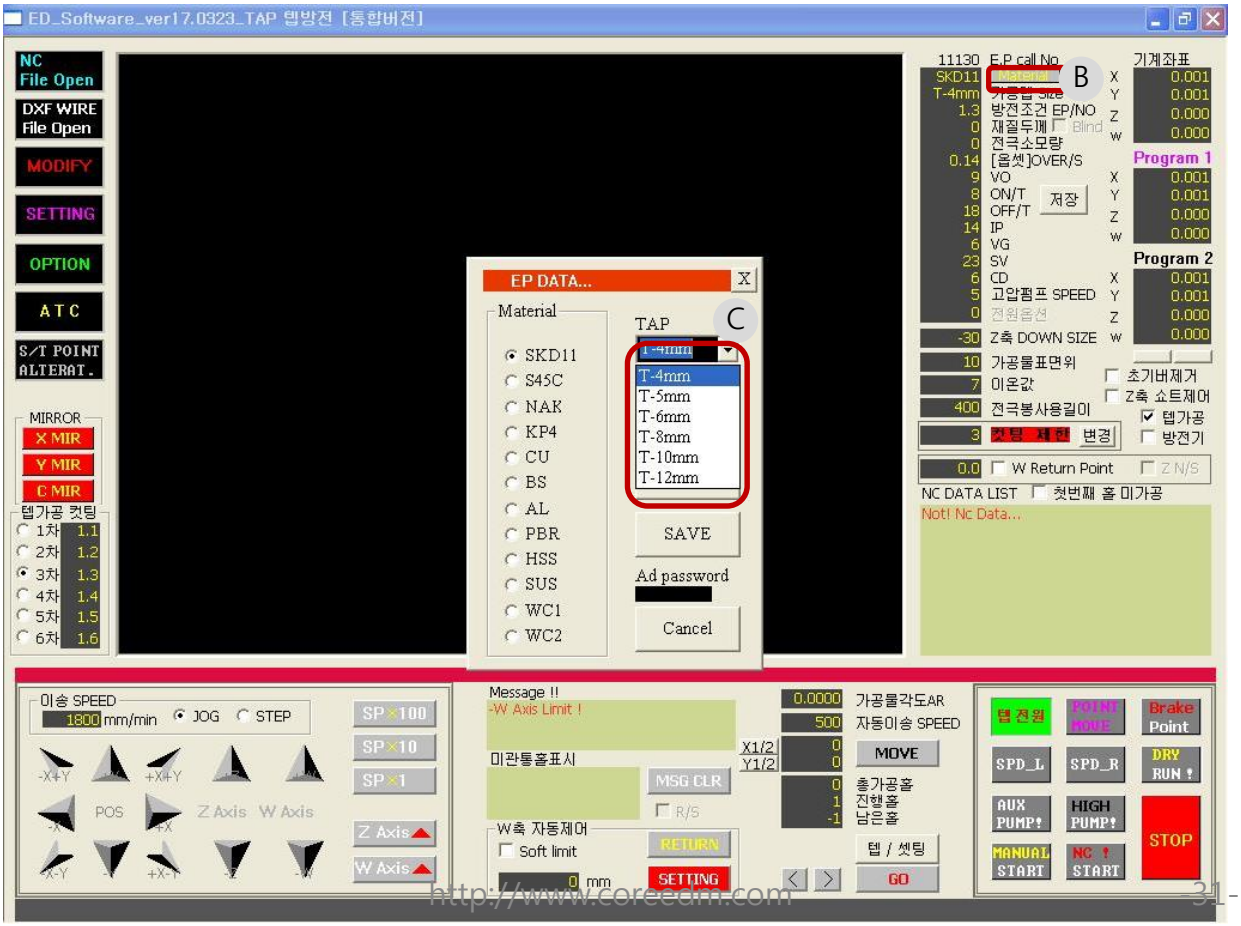
⑥ Tap processing - 2

Photo of a mounted discharge tab

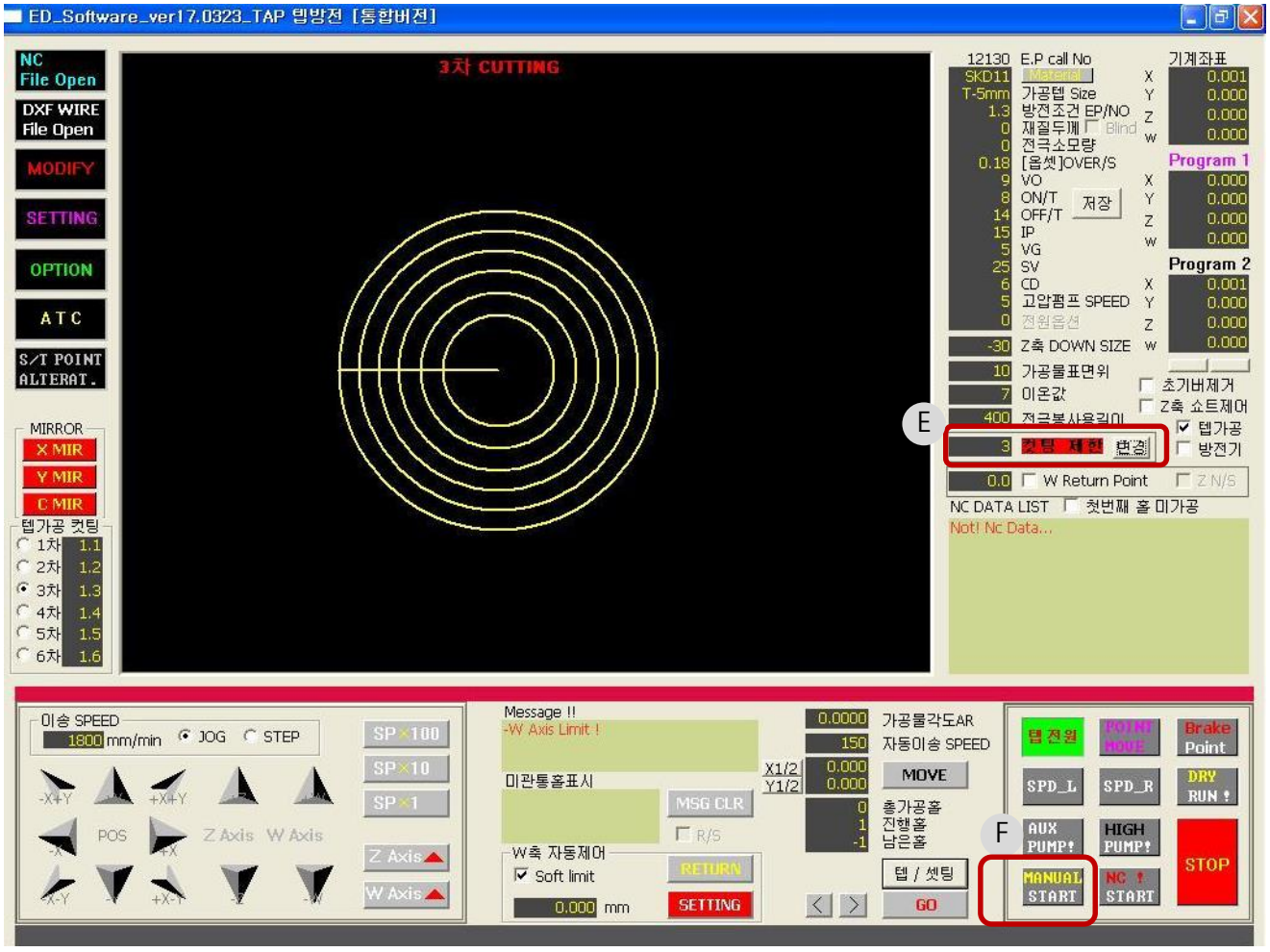


Basic view

1. Remove A (guide part) as shown in the picture above and mount the discharge tab as in the picture.
2. Types of discharge tabs - M3, M4, M5, M6, M8, M10, M12
3. Click Material (B) and select the discharge tab type (C) in the picture below.

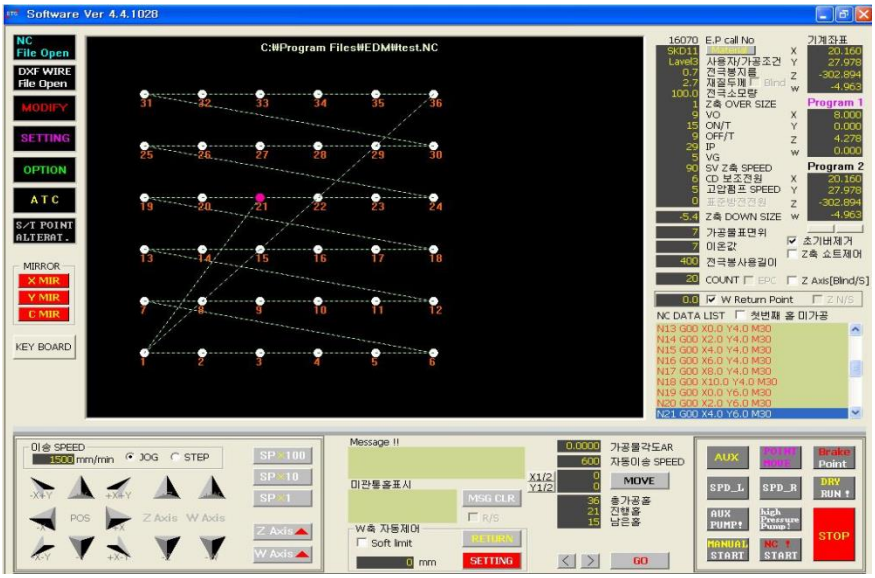


⑥ Tap processing - 3



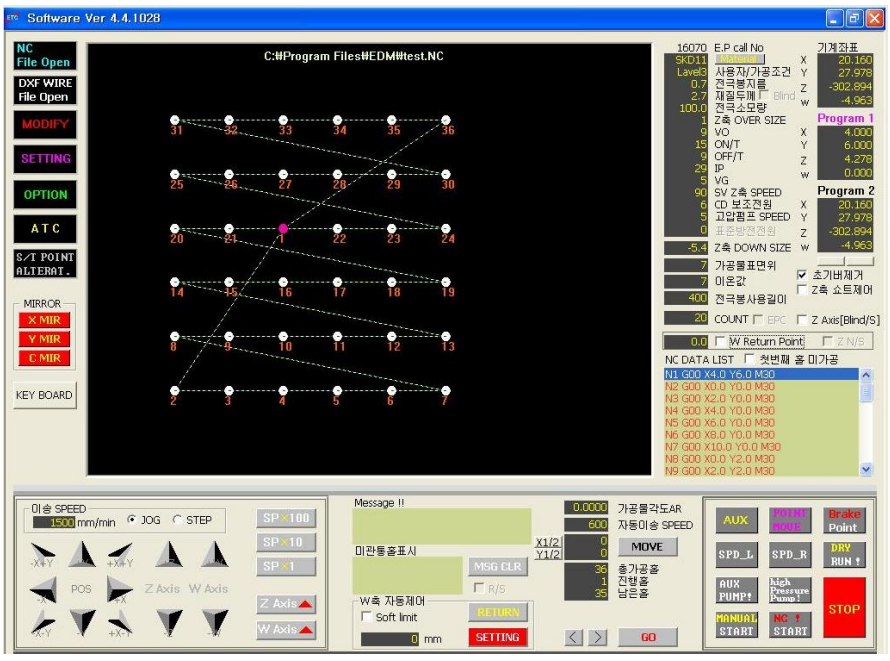
4. Select the number of processing (E) up to 6 sessions with a minimum of 3 sessions.
5. Start processing - Manual Start (F)

⑦ S/T POINT ALTERAT

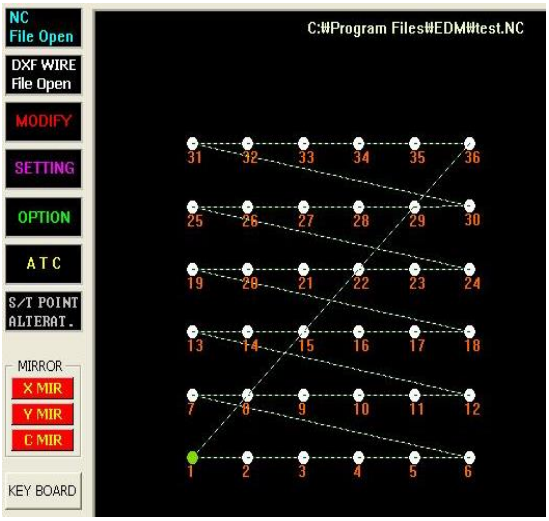


♧ ex) If starting from Point 21, click 21 and press 

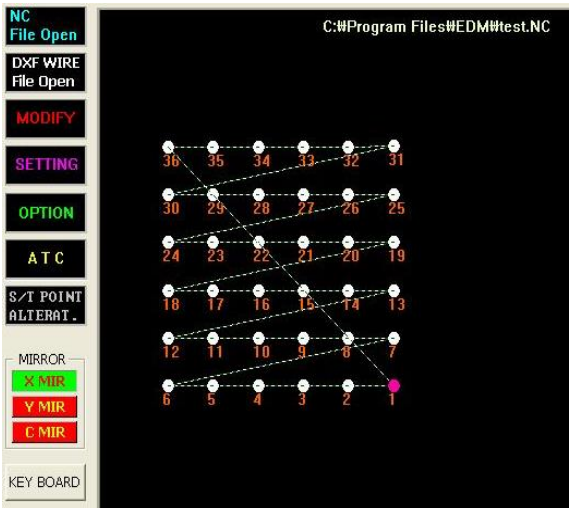
to convert to the point of origin (1) as below



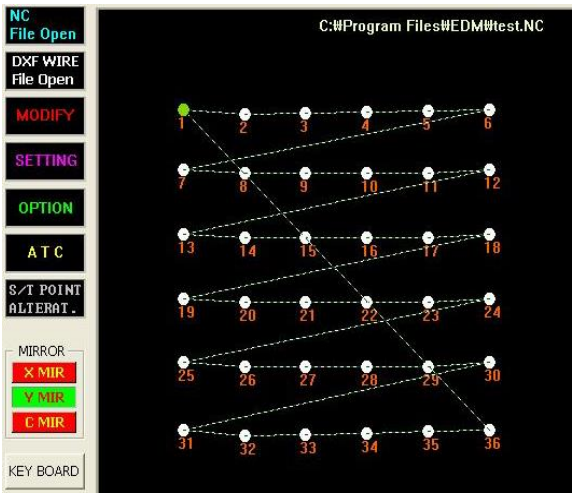
⑧ MIRROR



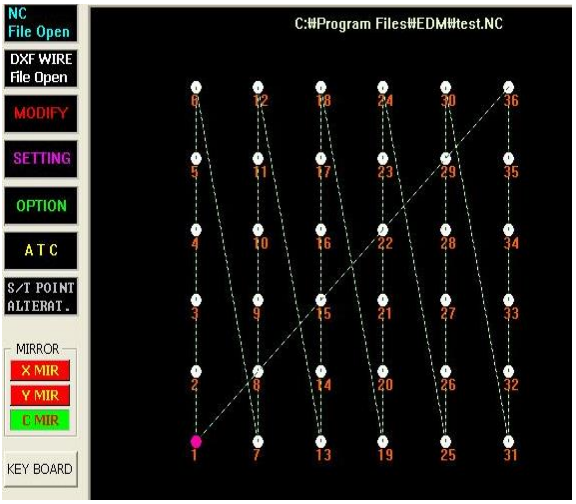
1. Click File Oper to retrieve data



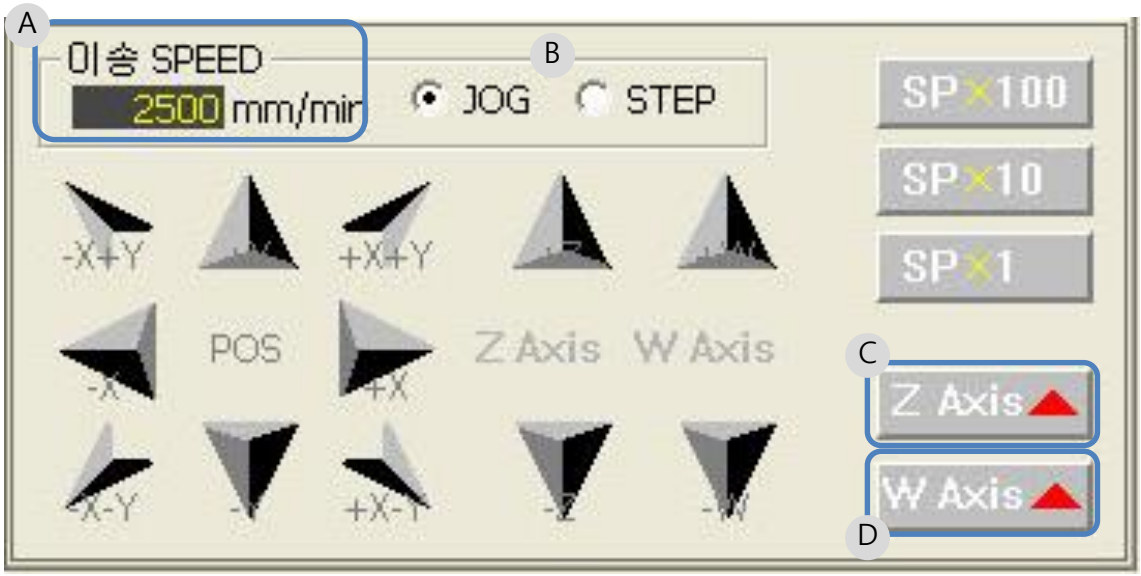
2. X MIR



3. Y MIR



4. C MIR



Controls the feed of each axis.
Move the mouse pointer and click.

A. JOG SPEED
JOG : Axis moves while pressing switch.
JOG SPEED : Used for changing JOG SPEED
SPEED scope (1 ~ 4500 mm/min)
④ Default setting value
a. SP * 100 = 2900 mm/min
b. SP * 10 = 1600 mm/min
c. SP * 1 = 940 mm/min

B. STEP
① STEP : Each time you press the switch, it moves by the set amount.
② Default setting value
a. SP * 100 = 0.100 mm
b. SP * 10 = 0.010 mm
c. SP * 1 = 0.001 mm

C. Z Axis Feeds the Z-axis up to the limit at high speed
D. W Axis Feeds the W-axis up to the limit at high speed

Various error (ERROR) and status indication

A. Message
① Displays various information.

B. Displays non-through holes

① Displays the block number that is not completely penetrated.
② Unprocessed job processing method
a. Click the block number in the Pierced Box
b. Click the Start Discharge button.
③ MSG CLR: After completing the job, click to delete all.

C. W-axis automated control
① SETTING: Recalls the current W-axis machine coordinate value.
② RETURN: The W-axis feeds to the stored coordinates.
③ Soft limit: If V checked, it does not move below the stored value.
<Caution> After checking the W-axis setting value, please Return.
If V is checked when initial power is ON, the W-axis Down feed will not be performed.

Automatic angle, position shift, processing block information

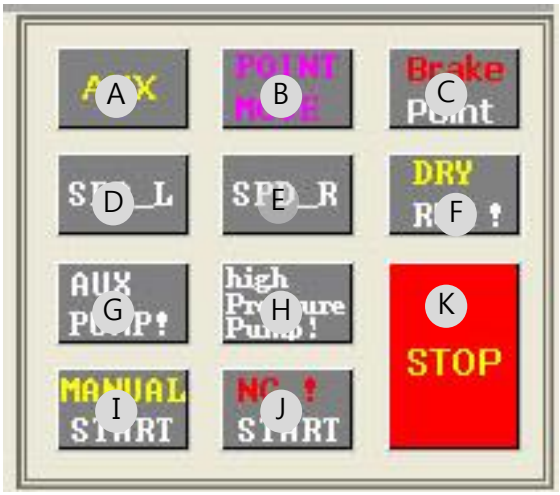
A. Workpiece angle AR [Angle]
① Displays the current automatic angle (AR).

B. Automatic feed SPEED
① Control the X, Y coordinate feed rate.
② Range (1 ~ 4500 mm / min)
<Note> Coordinate feed rate regardless of JOG SPEED.

C. Coordinate feed
① Enter the X and Y coordinates to feed.
② Click "MOVE".
<Note> Feed based on the currently active coordinate system
③ When clicked, X1/2 Y1/2 the coordinate value will be reduced by half.

D. Processing Block Information
① Total processing hole: Total number of NC-DATA blocks currently loaded
② Progress hall: current block number of total blocks
After entering the block number , Click "GO" to move to the specified block.
③ Remaining hole: Displays the number of remaining blocks.
④ Based on this block, block number changes back and forth one block at a time
< >
⑤ Move to the position of this block value.

1. System operating method - 28



A. AUX: Option

B. POINT MOVE: Moves the table forward (Convenient when moving workpieces)

C. Brake Point: Moves to last machining time in case of power failure

D. SPD_L: Spindle reverse (counterclockwise) ON / OFF

E. SPD_R: Spindle forward (clockwise) ON / OFF

F. DRY RUN: Discharge operation is not actually performed, and the operation is virtually performed.

<The X and Y axes actually feed>

G. AUX_PUMP: auxiliary pump ON / OFF

H. High Pressure Pump: High Pressure Pump (inside electrode pipe) ON / OFF

I. MANUAL_START: Starts discharging at the current position.

<Reference> When MANUAL_START, SPD_R, AUX_PUMP, and High Pressure Pump are automatically turned on.

J. NC_START: Discharges processing as NC-DATA.

<Note> When NC_START, SPD_R, AUX_PUMP and High Pressure Pump are automatically turned on.

This block feeds to the coordinates and is discharged.

K. STOP: Stops all the work.

Forward rotation ON

Forward rotation OFF

Auxiliary pump ON

Auxiliary pump OFF

Reverse rotation ON

Reverse rotation OFF

High pressure pump ON

High pressure pump OFF

Manual Start

Manual Start OFF / NC Start ON

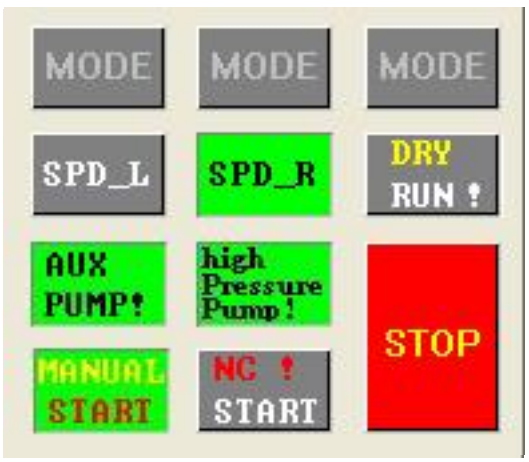
NC Start ON

NC OFF / NC Start ON

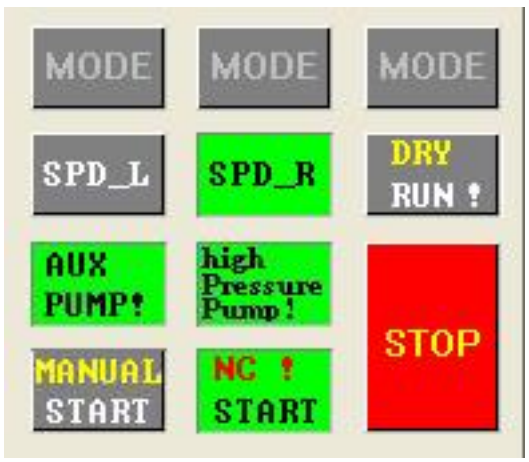
DRY-RUN ON

DRY-RUN OFF

12. 방전 중 표시상태



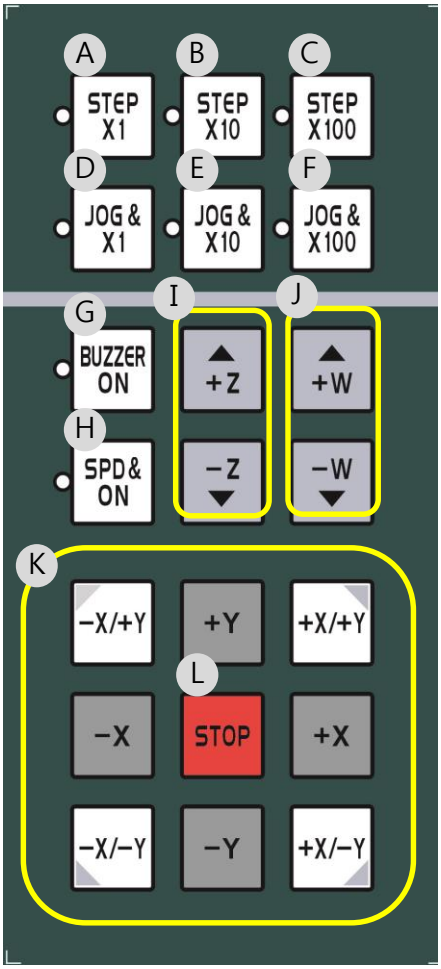
General Discharging ON



NC Discharging ON

1. System operating method - 30

Remote control use



Remote control

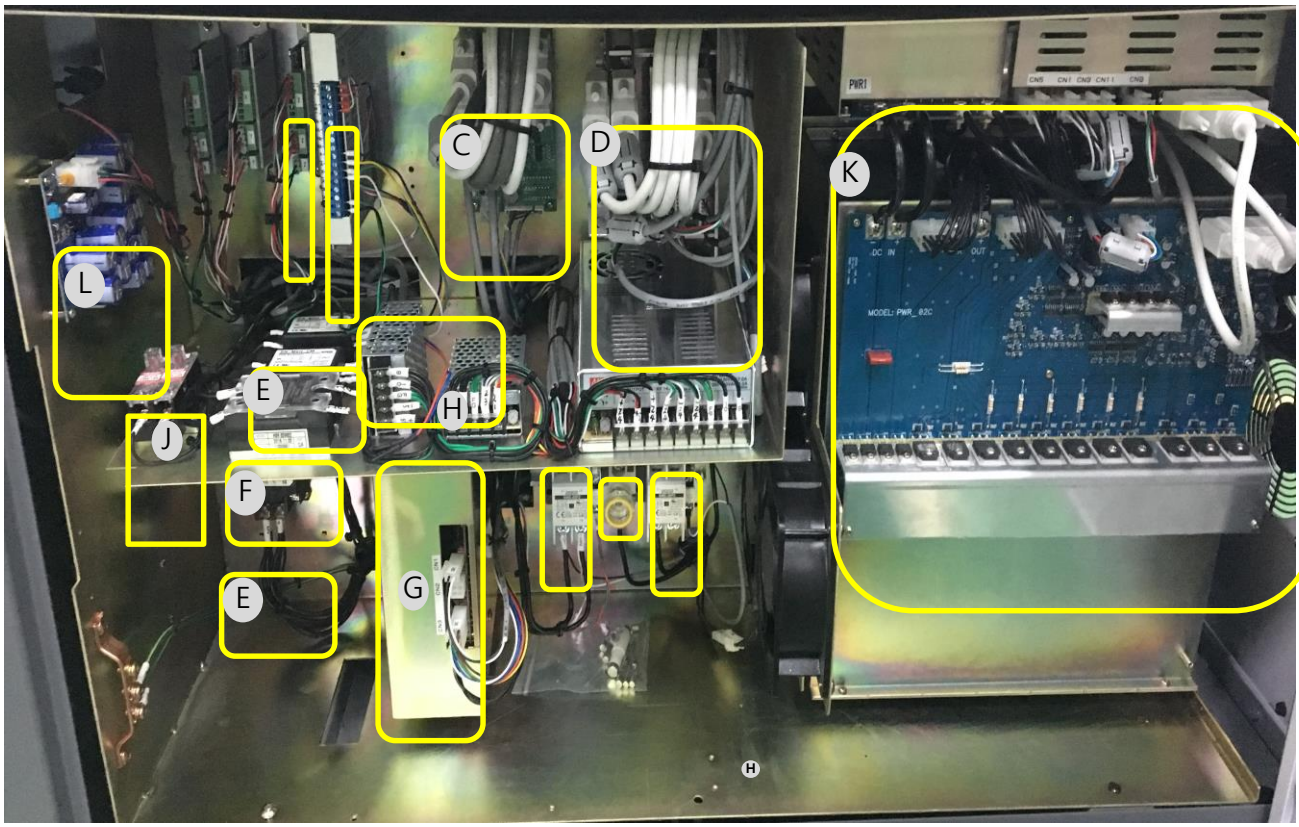
A. STEP*1
: Feeds 0.001mm when moving axis

B. STEP*10

: Feeds 0.010mm when moving axis
C. STEP*100 : Feeds 0.100mm when moving axis
D. JOG&*1 : Feeds 940 mm/min when moving axis
E. JOG&*10 : Feeds 1600 mm/min when moving axis
F. JOG&*100 : Feeds 2900 mm/min when moving axis
G. BUZZER ON : Z axis short control function ON / OFF
Controls the Z axis server with short signal.
H. SPD&ON : SPINDLE ON/OFF
I. Controls the Z-axis.
J. Controls the W-axis.
K. Controls the X and Y axes.
L. Stops all the work.

2. Maintenance

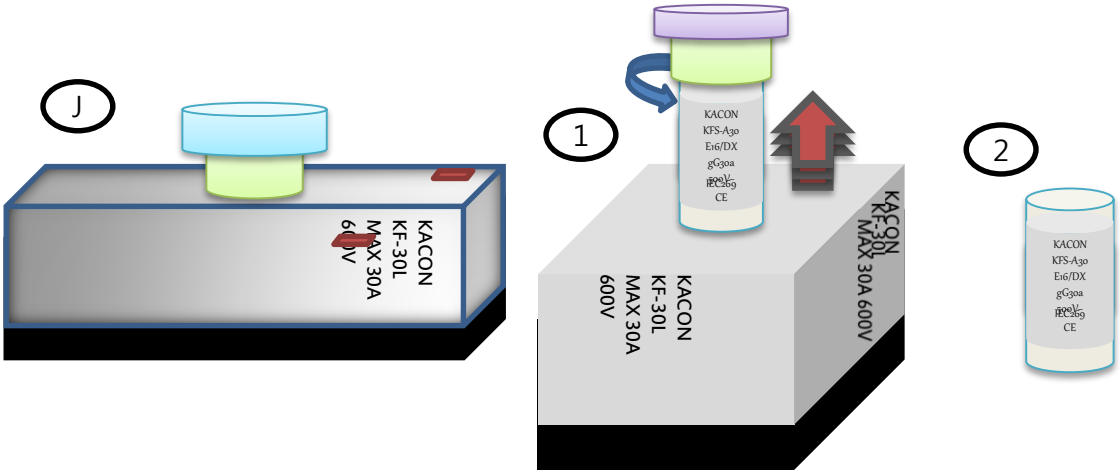
➢ Electronic parts



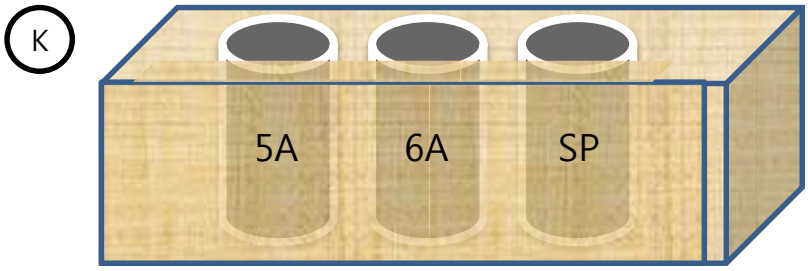
A. X axis drive
B. Y axis drive
C. Z axis drive
D. W axis drive
E. Interface board (axis motion communication board)
F. I/O Boards (communication board)
G. Brake Board (for W axis)
H. Fuse – Glass tube fuse (30mm 5A)
I. Fuse – Glass tube fuse (30mm 6A)
J. Noise filter (Parts no.)
K. SSR (Solid State Relay)
L. SMPS 5Volt (Parts no. NES-15-05)
M. SMPS 24Volt (Parts no. NES-15-24)
N. SMPS 24Volt (parts no. NES-350-24)
O. Noise filter (Parts no.)
P. Transmission module (PWR4)
R. Mechanical power magnet
S. Fuse - 16A
** Lager power for 30A fuse
T. PWR1
U. PWR2, PWR3 (for high output)
V.

2. Maintenance

➢ Various fuse replacement



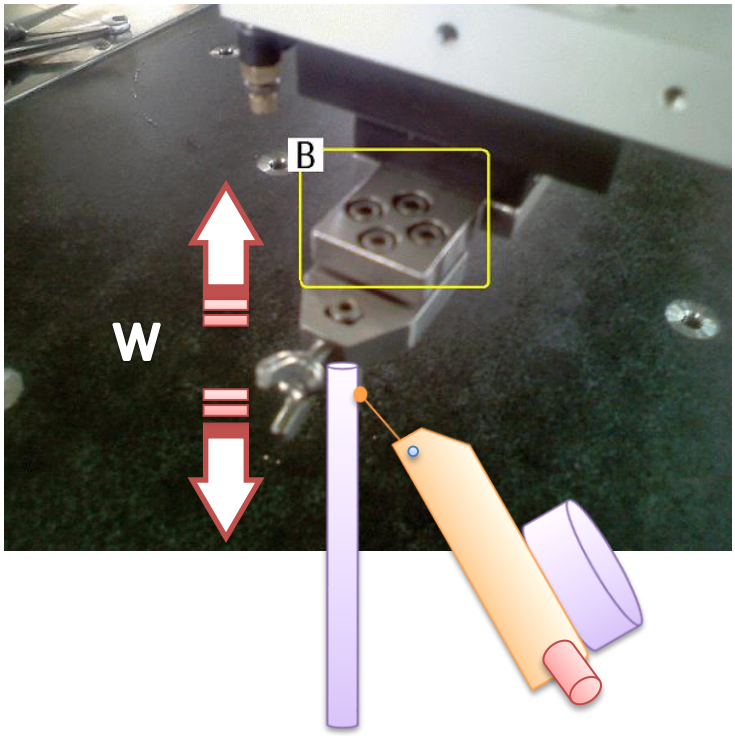
16A: discharge fuse * 1 (general use)
30A: Discharge fuse * 1 (for high output)
LAMP turns on when discharging fuse is disconnected.



5A: Monitor, Computer
6A: Machine power

2. Maintenance

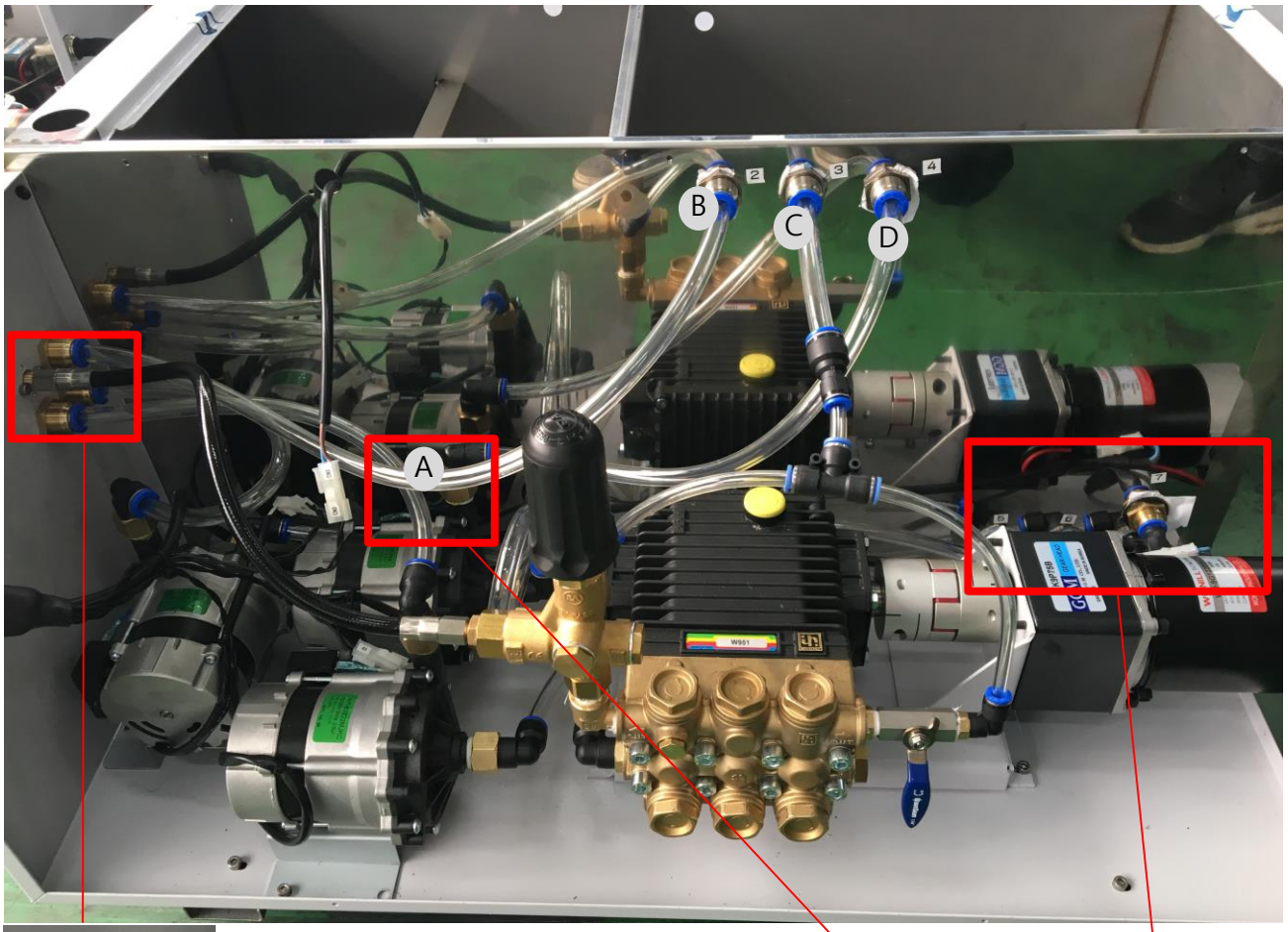
Vertical correction

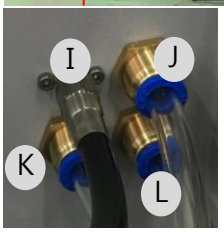


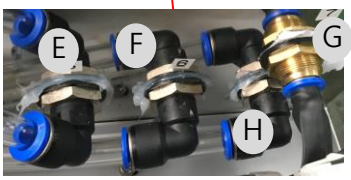
Use the bolts in the "B" area to correct the vertical.

① Separate the electrode guide using a butterfly bolt.
② Fix the 6 ⌀ rod to the electrode guide position.
③ Place measuring equipment (INDICATOR) on TABLE.
④ Adjust the W axis by moving it up and down.
⑤ Perform U-axis correction. (Use only U-bolts.)
⑥ Perform V-axis correction. (Only V-axis bolts are used.)
⑦ Check and correct the U axis again.
⑧ Check and correct the V axis again.
a. Adjust the left and right bolts to correct the U axis.
b. Adjust the front and rear bolts to correct the V axis.

Water tank connection diagram

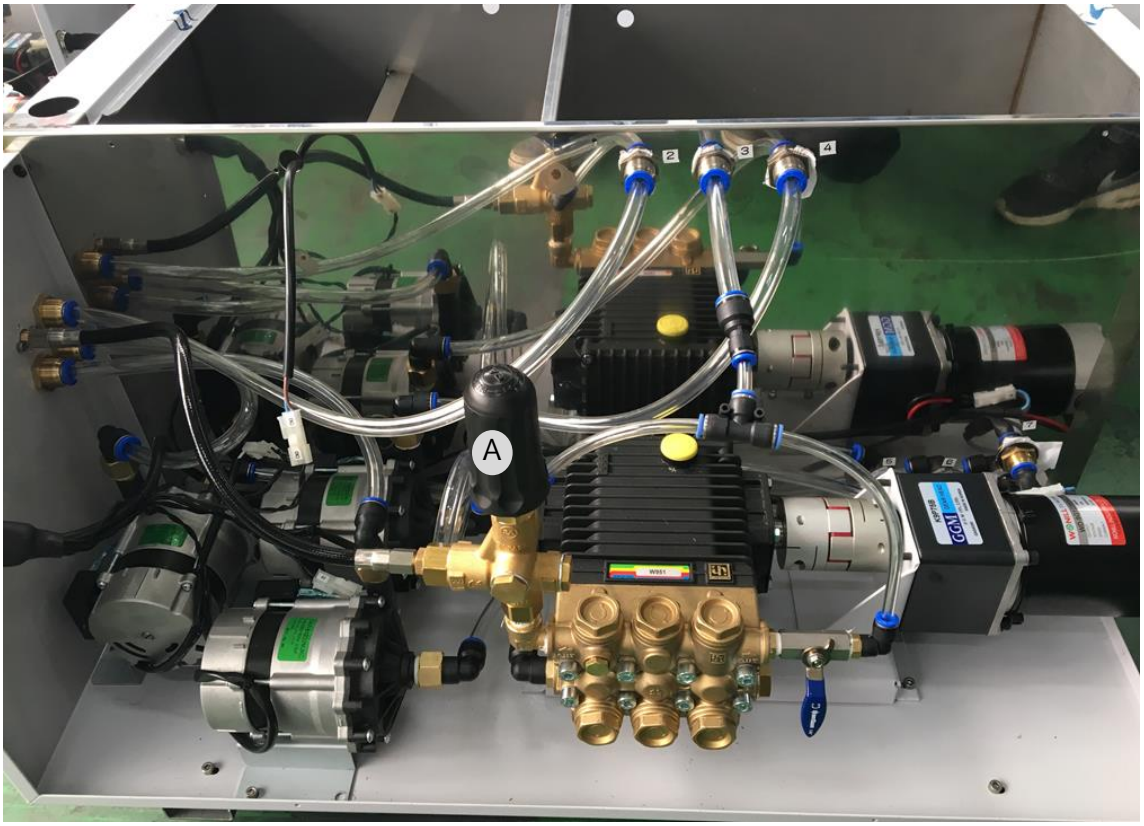






- A : FP (waste water) IN PUT
- B : ION (ion) OUT PUT
- C: WP (main pump) OUT PUT
- D: FP (waste water) OUT PUT
- E : WP (main pump) IN PUT
- F : SP (Auxiliary pump) IN PUT
- G : Ion sensor
- H : ION (ion) IN PUT
- I : HP(high pressure) – main pump INPUT
- J : ION(ion) IN PUT
- K : SP (Auxiliary pump) INPUT
- L : ION (ion) OUT PUT

Water Tank Cleaning

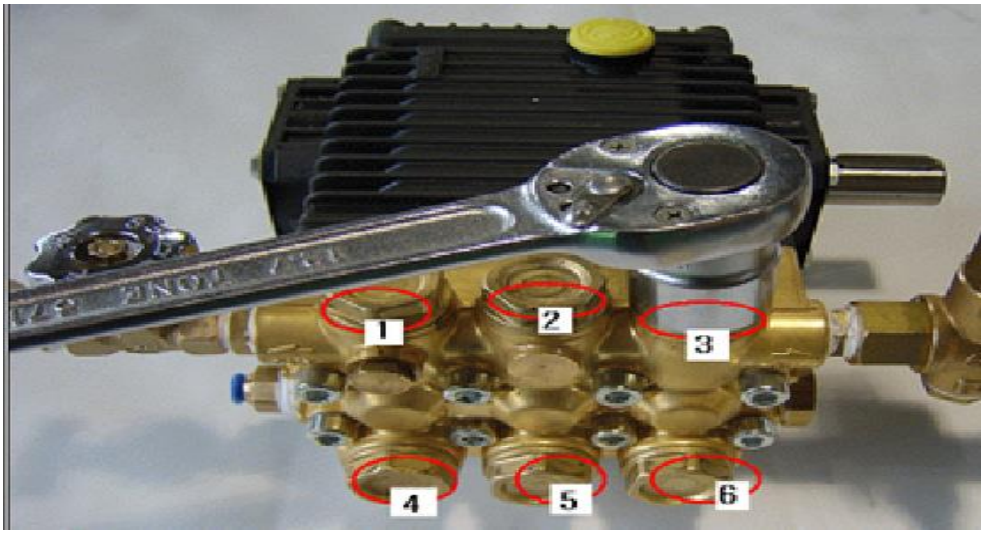


1) The figure is assembled pump completed.
2) Check the piping once more.
3) Remove the Z-axis drill chuck.
4) Power on the "Water Pump" Key High pressure pump.
5) Ⓐ Loosen the bypass valve counterclockwise.
6) Wait for about 20 seconds (until the water flows well from the top).
7) Lock the bypass valve clockwise.
8) Once all is done, start processing.

※ Note) If you need to clean the pump.
① There is a lot of noise in the pump.
② Water does not flow from the upper guide part.
③ The water pressure suddenly dropped.
※ Note) Please check the oil level once every two months.
Timely filter replacement extends the pump's life.

Water tank construction diagram

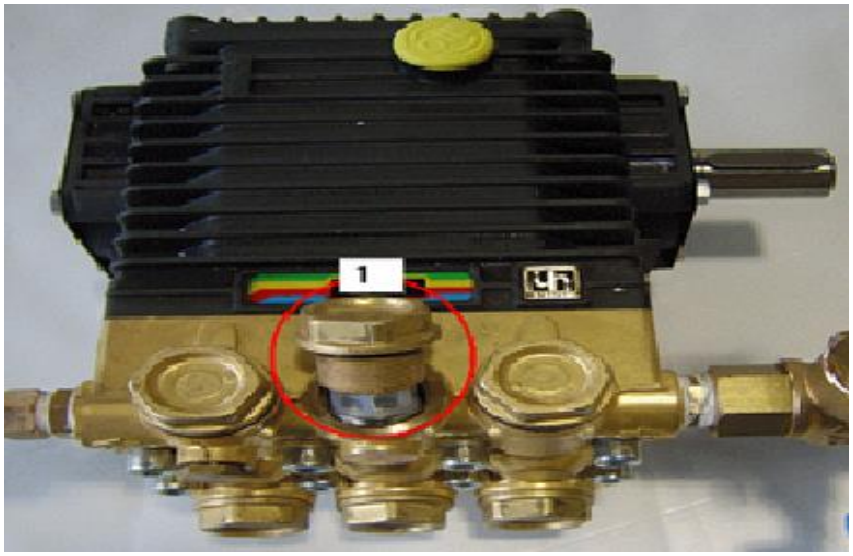
A. ION tank
B. Filter
C. Auxiliary pump
D. Main pump (High pressure pump)
E. Reducer
F. Main motor
G. Pressure adjustment valve (Discretionary operation prohibited)
H. Oil inlet
I. Air valve



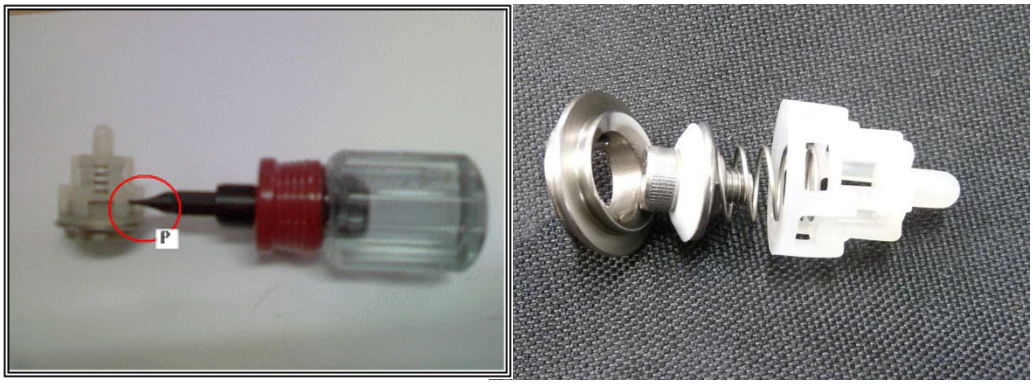
1) Unscrew bolts (piston valve) 1 ~ 6 as shown above.
※ Note) Vox (27mm) is recommended for use.
2) Loosen the bolt (piston valve) and be cautious of loss when disassembling it

http://www.coreado.com

➢ Pump cleaning method



1) No. 1 above is a bolt (piston valve)



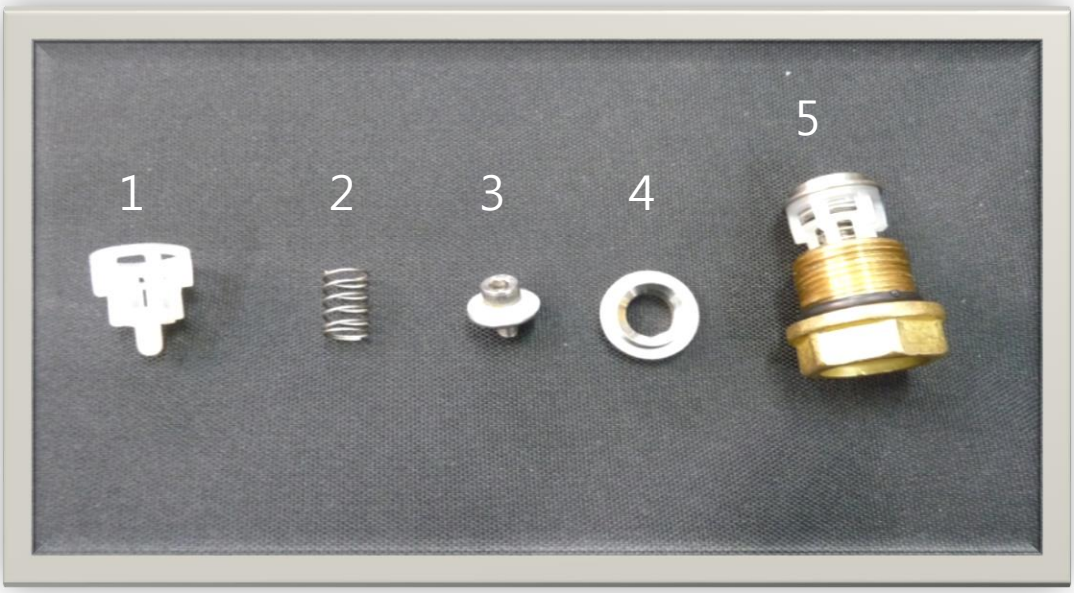
2) If you turn the "P" part slightly with a (-) screwdriver, it will be easily separated.

☞ Please pay attention to the direction of parts.

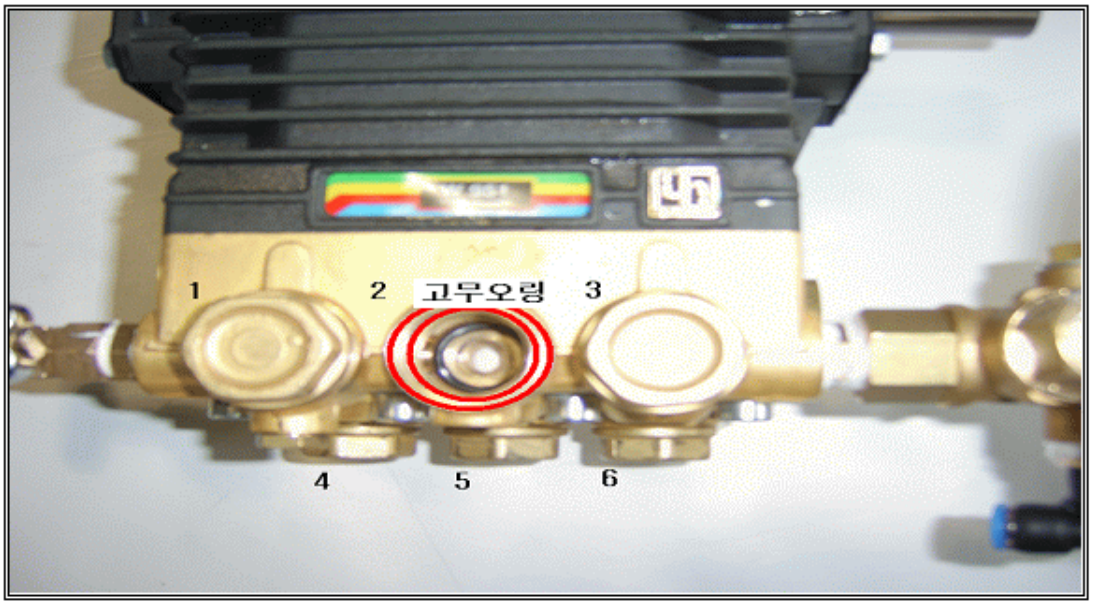
3) Clean the six piston valves thoroughly.

※ Caution) When disassembling the parts, please pay special attention to loss and damage

➢ Pump cleaning method



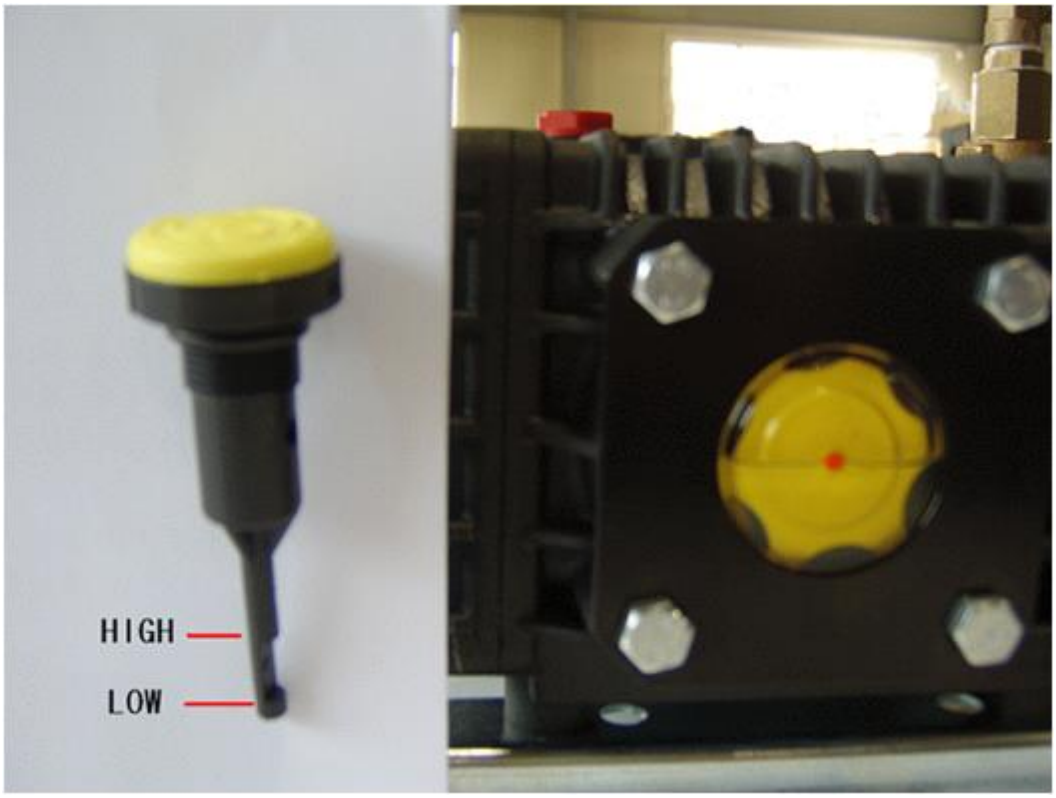
1) The above picture is attached an accessory to piston valves.
2) Assemble piston valves 1~4 sequentially.
3) "5" is a completed piston valve.



1) Clean the inside of Hole 1~6 thoroughly.
※ Caution) When cleaning inside the hole, be careful not to lose the O-ring inside.
2) Assemble the assembled bolts (piston valve) in positions 1~6.

Maintenance

➢ Pump oil check and replacement



Check and replace pump oil

1) Check whether the oil gauge is in the optimal line (LOW~HIGH midpoint)

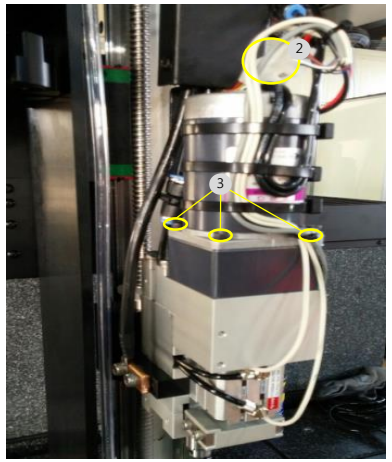
※ If the oil check position is below the optimum line, supplement it.

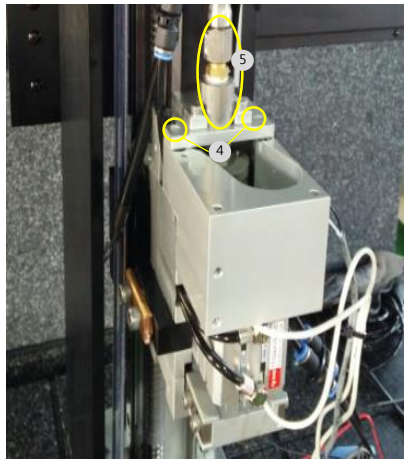
2) Refill the oil to the oil check window until 2/3.

※ Caution) ① Be sure to stop all operations to execute the oil injection.

(2) Always use engine oil (for diesel).

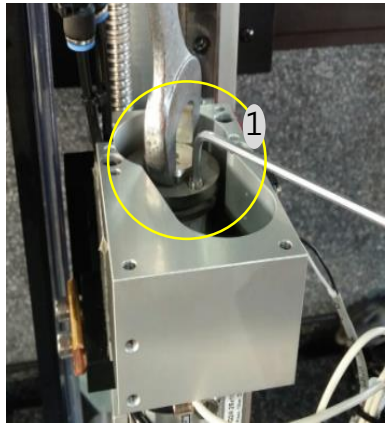
Replace Seal and Bearing

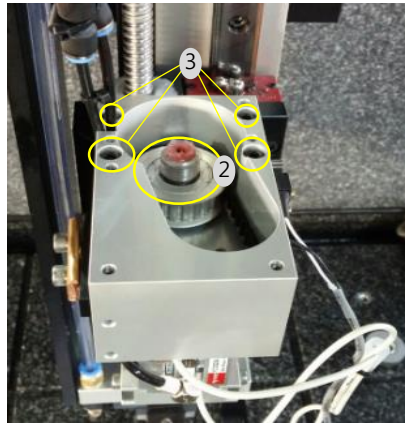




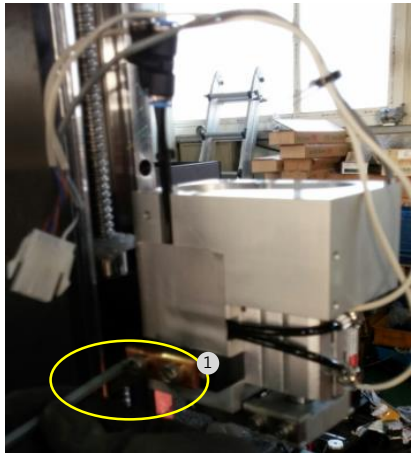
1) Remove Spindle Cover
2) Remove Connector 2pin, 6pin.
3) Remove 3 of screws

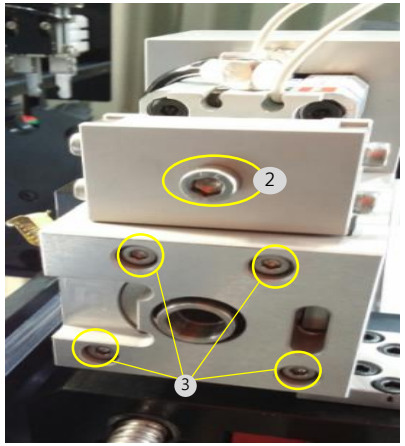
4) Remove EDM cable and WP hose
5) Move out nozzle carefully.



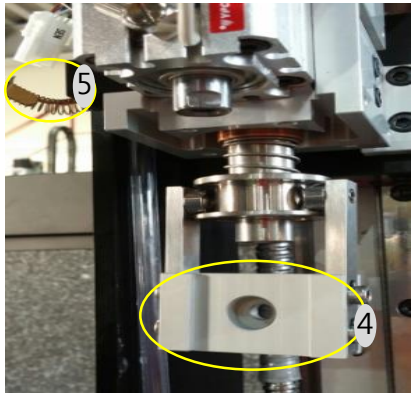


1) Hold nut by 22mm of spanner, remove screws by 3mm of wrench.
2) Remove Timing belt and Timing Pulley.
3) Remove 4 of screws by 3mm wrench





1) Remove cover of carbon brush by 5mm wrench
2) Remove screw by 5mm wrench
3) Remove 4 of screws by 3mm wrench



4) Remove the bracket
5) Remove carbon brush and move up with shaft
6) Replace bearing, 7002, 6002DD

11. Frequently Asked Questions

Is the machine strange? Please read the FAQ before inquiring with customer service.
Here is a collection of recurring explanations.
Please read them before use.
Thank you.

1. Power does not come on.
① Make sure that the input power is on (grounding must be checked).
② Check the main breaker ON.
③ Confirm the full fuse (6A). <See P. 38>

2. The computer does not boot up.
① Check the main breaker.

3. No water flows.
① Check the voltage (AC 220V) PWR1 (CN1 / 1. 4).
② PWR1 board replacement and I/O board <See P. 37>
③ If the pump runs but water does not flow
a. After removing the nitple of the pump, remove air and operate it.

4. No workpiece is coming out. There is no high pressure in the pipe.
① Make sure the water in the water tank is in the proper position.
② Check if high pressure pump motor is working.
a. When it works
=> See P. 41 for cleaning water tank.
b. If the motor does not work
=> Replace PWR1

5. Hydraulic control does not work.
① See P. 41 for cleaning main pump.

6. Z axis does not descend.
① Is the workpiece in contact with the electrode?
② Check the power status of the Z-axis motor driver. <See Page 41>

7. The spindle does not rotate.
① Check the SPINDLE timing belt (76XL). <See P. 46>
② Check and replace bearings. <See P. 46>

8. The electrode rod shakes a lot.
① Is the electrode bent?
② Is the SV value of the condition table too high?
③ Check and replace bearings. <See P. 46>

9. The W-axis does not descend.
① Is the W-axis software limit set?
② Release the W-axis software limit or modify the stored value.
<See P. 32 (W-Axis Control>
Check the W-axis drive power (LAMP)
Replace I/O BOARD

10. X and Y axes do not move.
① Check X, Y axis drive power (LAMP)

11. The water drops from the head part.
① Please check and replace rubber packing. <See P. 45>
② Check and change carbide injection nozzle. <See P. 45>

12. Keyboard and mouse do not work.
① Check the keyboard mouse connector.
② Reboot the computer.

13. Discharge voltage does not display.
① Check the fuse. <See P. 38>
② Replace PWR2 board

14. Pressing discharge raises the Z-axis.
① Check the voltage on the Volt Meter.
② Check spindle leakage.
③ Check the fuse. <See P. 38>

15. Verticality of processed hole is not achieved.
① Is the super guide the same as the electrode?
② Check the status of super guide.
Adjust the vertical direction again. <See P. 41>

16. Electrode bends during processing.
① Check that the SV value of the condition table is not too high.
② Check whether water is flowing smoothly from electrode.
③ Check spindle carbon brush's condition.
④ Check that the workpiece and table are in close contact with each other.
⑤ Check discharge cable and table are bound.

17. After the workpiece is penetrated, a lot of electrodes descend.
① Check the Z-axis's DOWN SIZE value.
② Check the Z axis's OVER SIZE value.

18. The workpiece does not penetrate.
① Check the Z-axis's DOWN SIZE value.
② Check the Z axis's OVER SIZE value.

19. Waste water
No filtering works.
① Check the filter replacement cycle and status.
② Check and clean the filter of the suction line.
③ Check the drainage of the waste water suction line (break or leak).
④ Check and clean the level sensor.
⑤ Check the operation of the filter pump.

20. ION value does not fall.
① Replace ion resin.
② Check the ion pump's operation.
③ Check and clean the ion container.
④ Clean and check the ion rod.