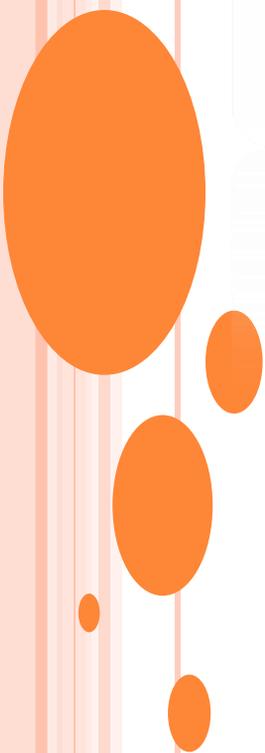
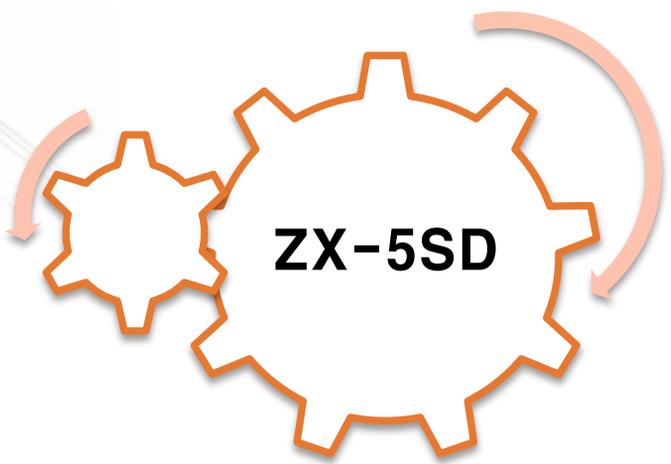


**User Manual**



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## Equipment management

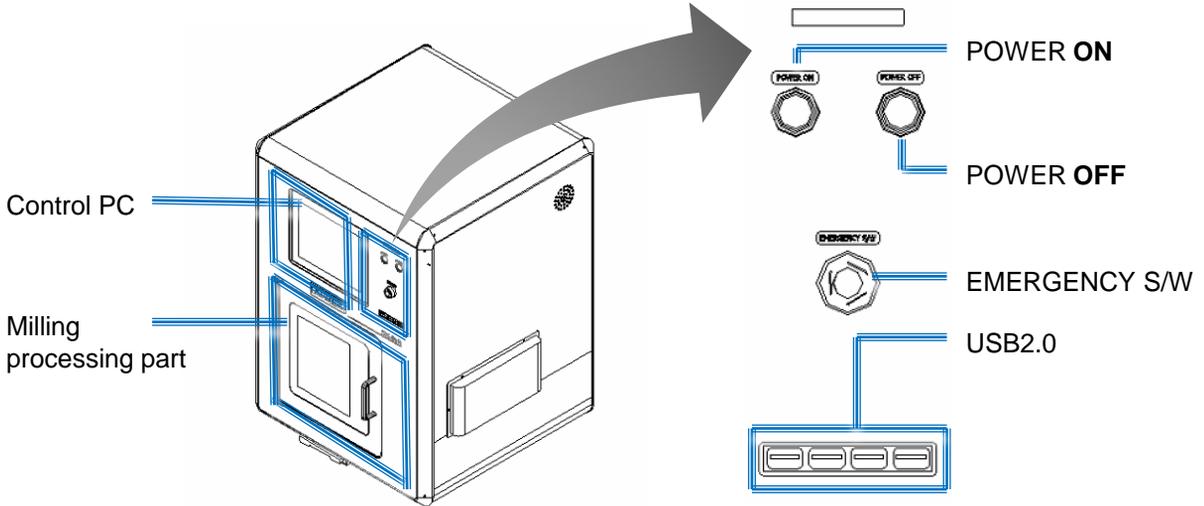
# BASIC FUNCTIONS

## PRIOR TO THE USE

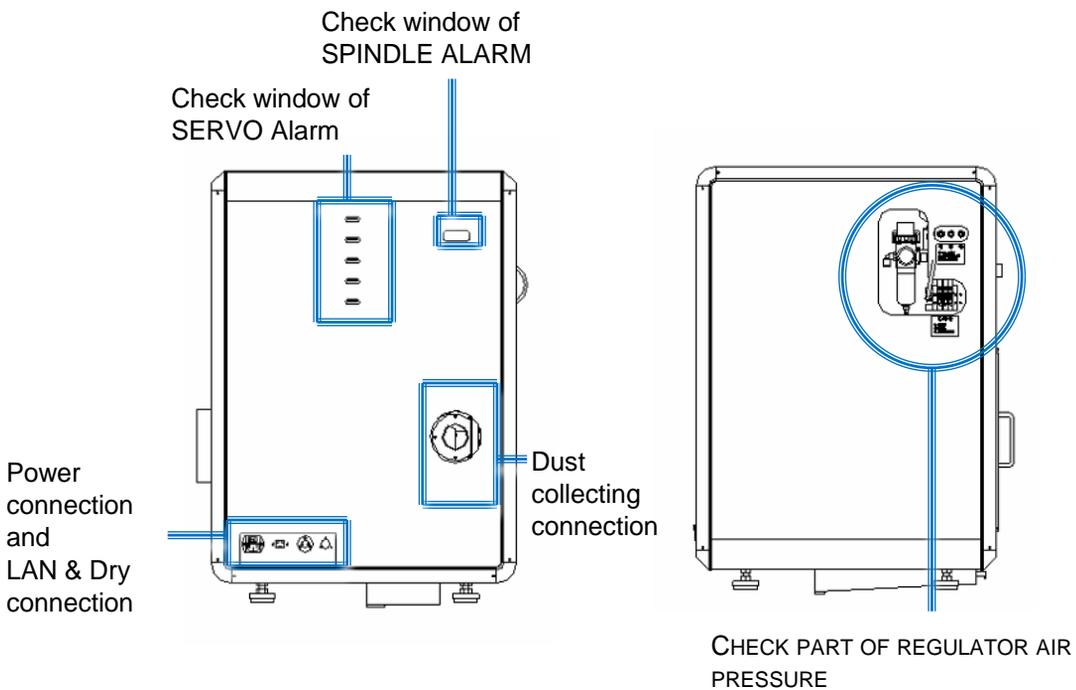
- This user manual records precautions and safe measures for your sufficient safety and precautions. Careless preparation and operation can be a cause of unexpected accidents during the operation.
- Please read all instructions and understand all details before you use the machine.
- The user manual is explained based on default setting values of the product.
- It is a program that is not provided by Manix. The warranty is not applied during the machine operation.
- Do not shock the equipment excessively.
- Check the power grounding condition and power imbalance (due to high-frequency effect) frequently.
- Make sure that the rubber feet under the table are correctly fixed to hold the equipment firmly.
- Make sure that the surrounding temperature of the installation place is maintained at 2°C to 32°C.
- Make sure that the pneumatic gauge scale of the air unit is in a range of 0.5 to 0.6MPa.
- Make sure that the parts are not damaged during cleaning and do not use an air blower.
- Be careful to avoid computer virus while using USB memory sticks or local area networks.
- PC controller should be terminated normally.
- Internal data can be damaged if PC controller is turned off abnormally or due to power outage.
- The condition of tool blade wear due to processing should be checked.

# NAMES OF THE PARTS

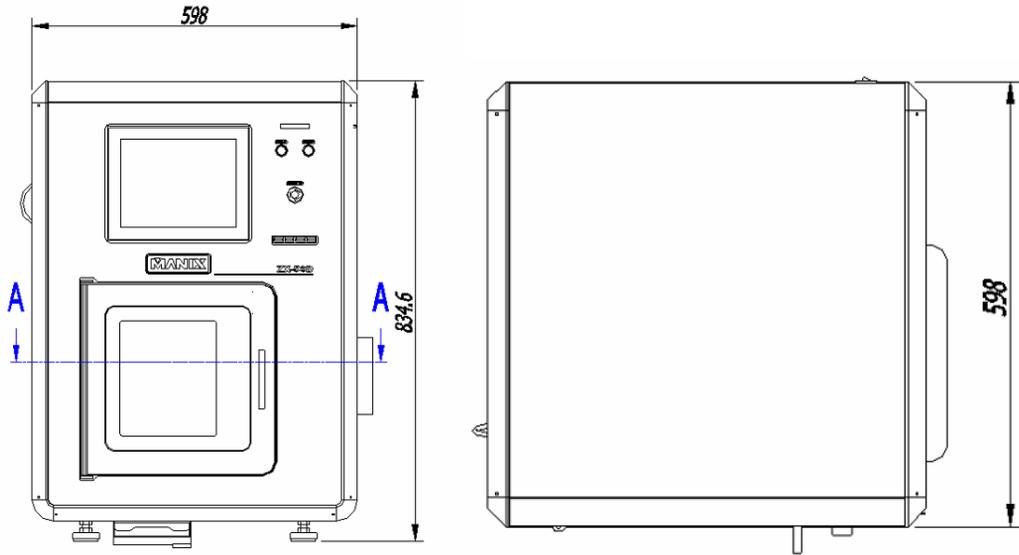
## FRONT PART



## REAR PART



# DIMENSION



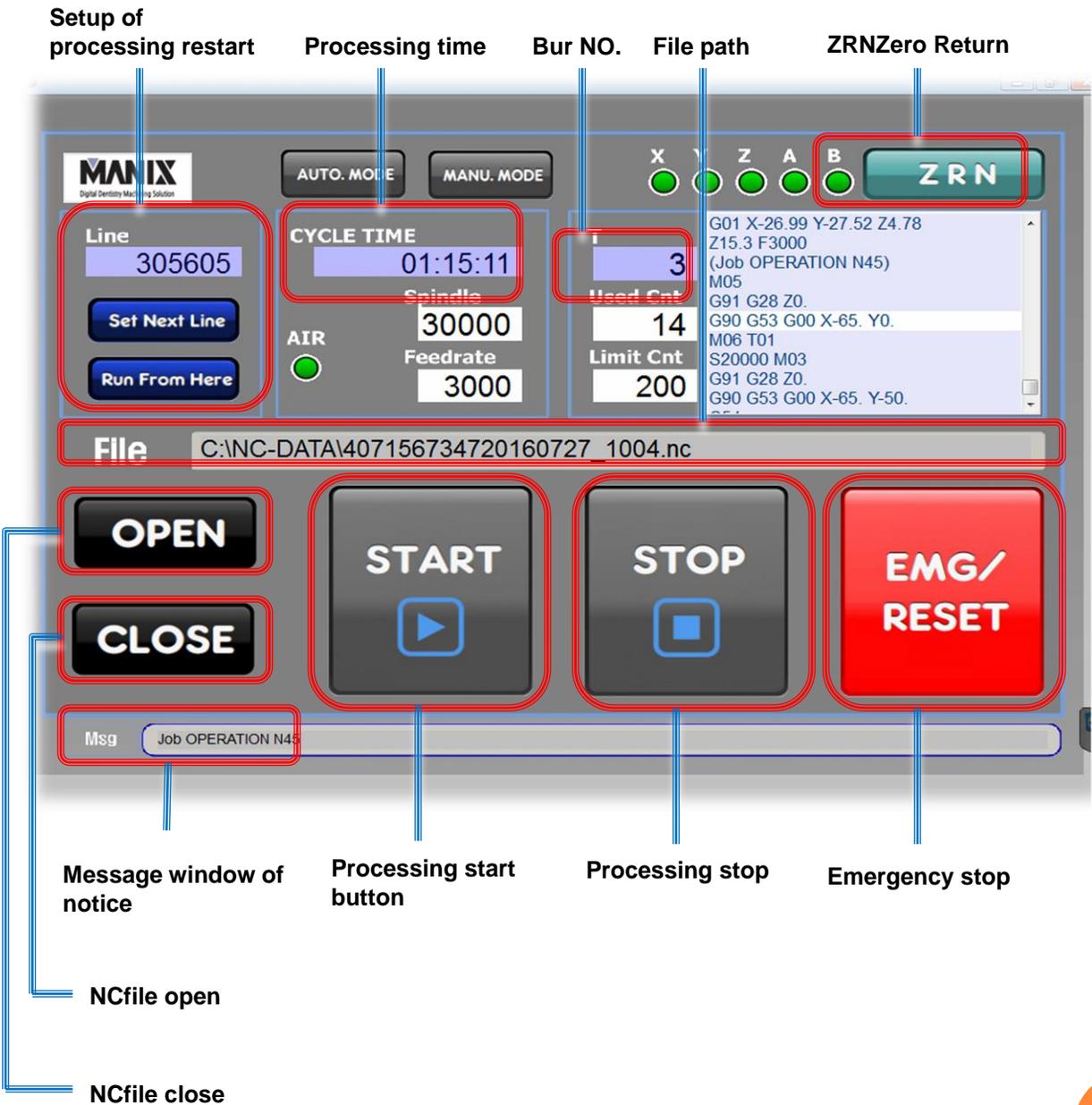
## Specification

<b>Milling type</b>	<b>· DRY type</b>
Spindle	· 30000RPM, 500W
Dimension	· 598mm x 598mm x 834.6mm
Weight	· 146kg
Tool Poket	· 8ea
Air pressure	· 0.6MPa
Power supply	· 220V 5A
Table	· Not included

# EQUIPMENT OPERATION

## CONTROLLER SCREEN LAYOUT

### AUTO.MODE



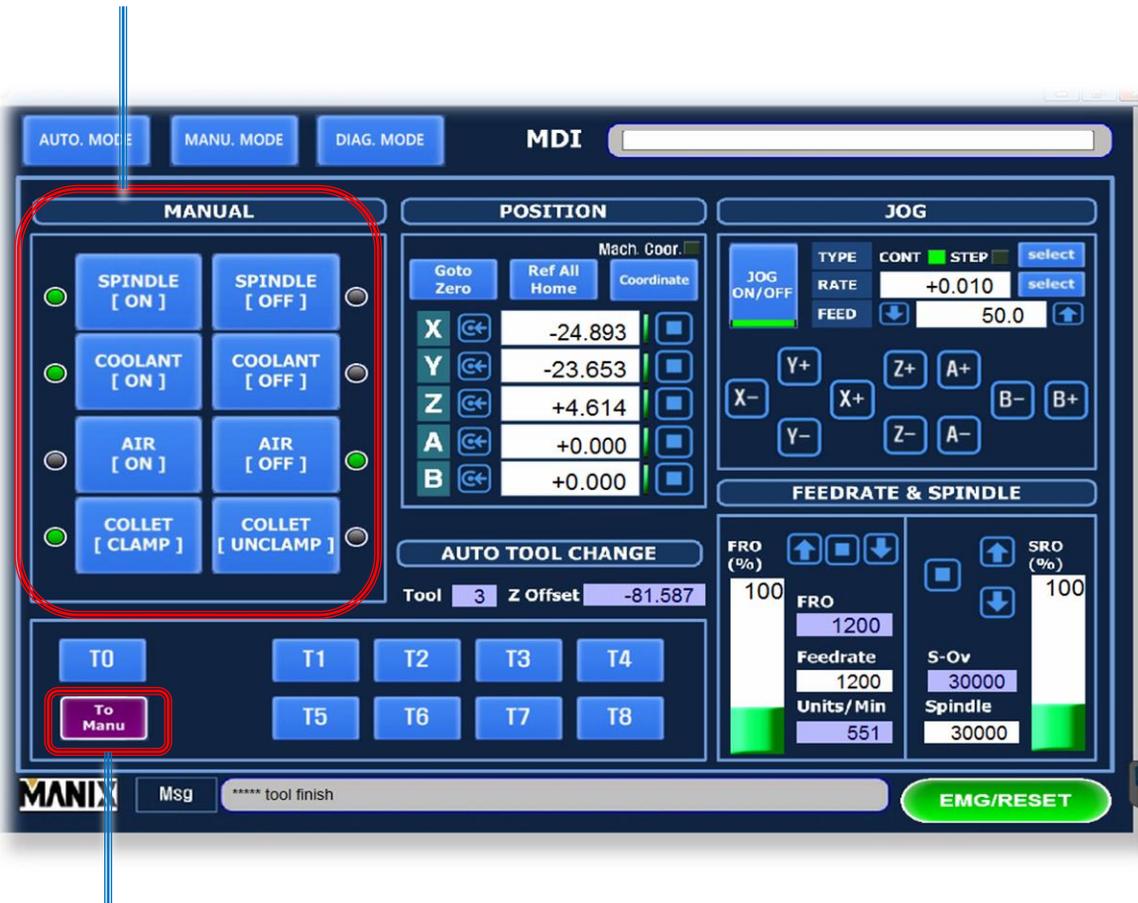
# CONTROLLER SCREEN LAYOUT

## MENU.MODE

(DISPLAYED UPON THE MENU MODE BUTTON INPUT BESIDES THE LOGO)

Equipment manual operation

(Spindle rotation, Dust collecting ON&OFF , Spindle bur manual operation)



Reset of Tool No.

## CHECK AGAIN PRIOR TO START

- Check whether air pressure is 0.6Mpa or higher.
- Check whether blade wearing is not found in the tool(Bur) .
  - Check whether number is positioned at the right location.
- Check whether the material is fastened safely.
- Check whether the material is selected according to the design.
- Check the NC-DATA file name.
- **Check whether T No. is matched with the current spindle connected bur.**

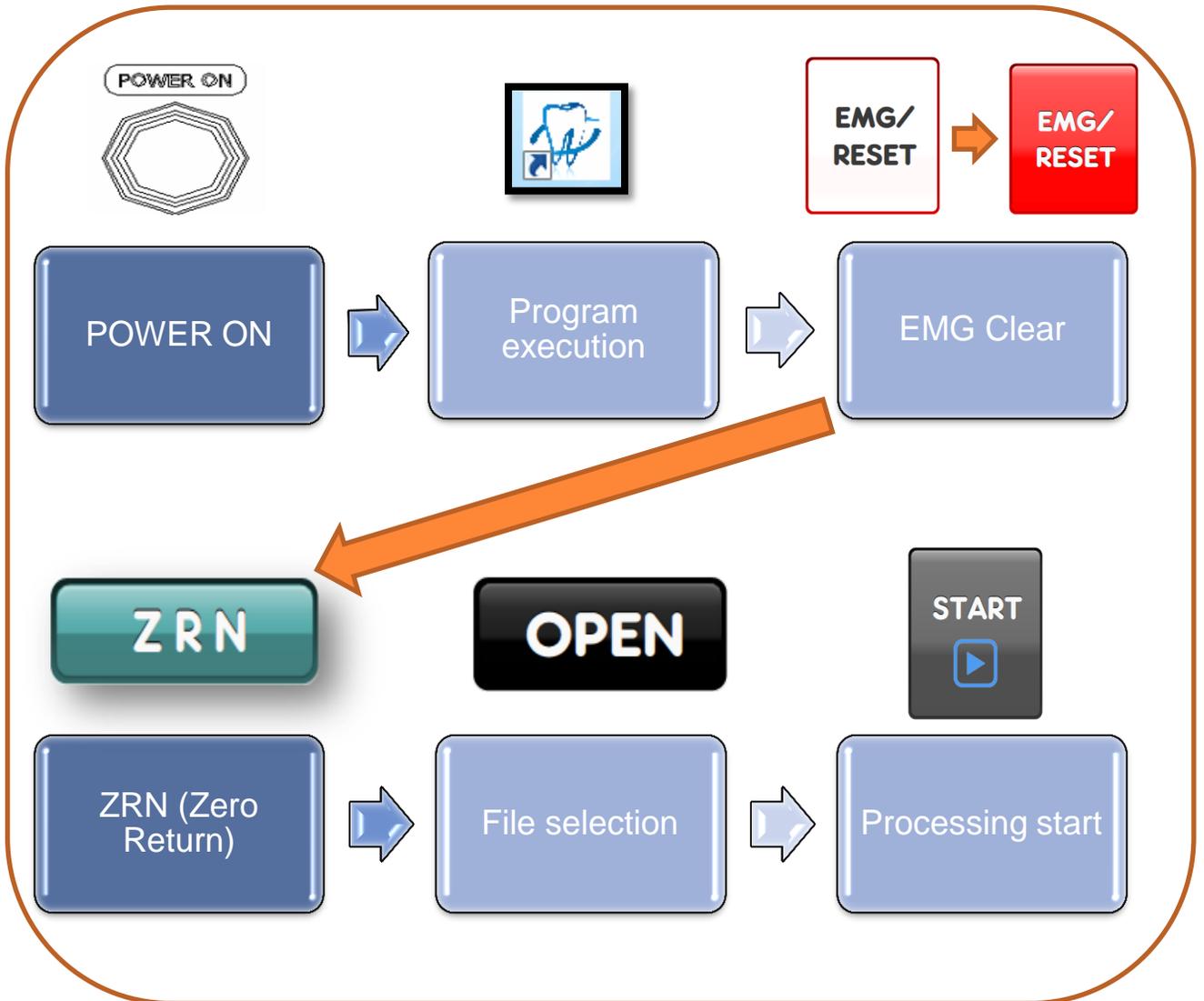
## CHECK AGAIN AFTER START

- Check whether spindle is rotated.
- Check whether processing is started with right tool (bur) .
- Check whether it is moved to the CAM setup calculated position.
- Check whether dust collector and cooling water are operated normally.

# PROCESSING START



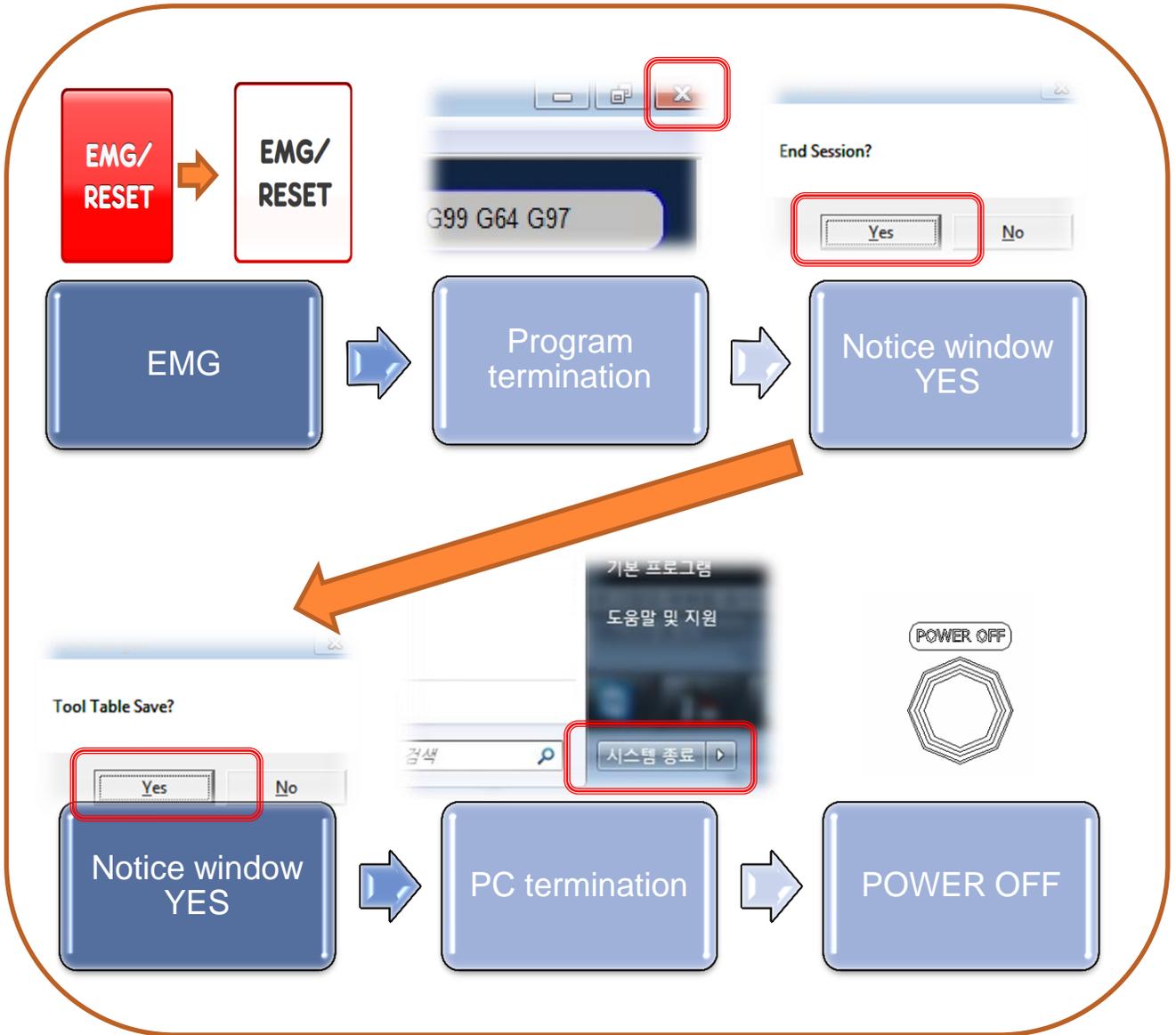
PROCESSING PROGRESS IS IMPORTANT ACCORDING TO THE ORDER.



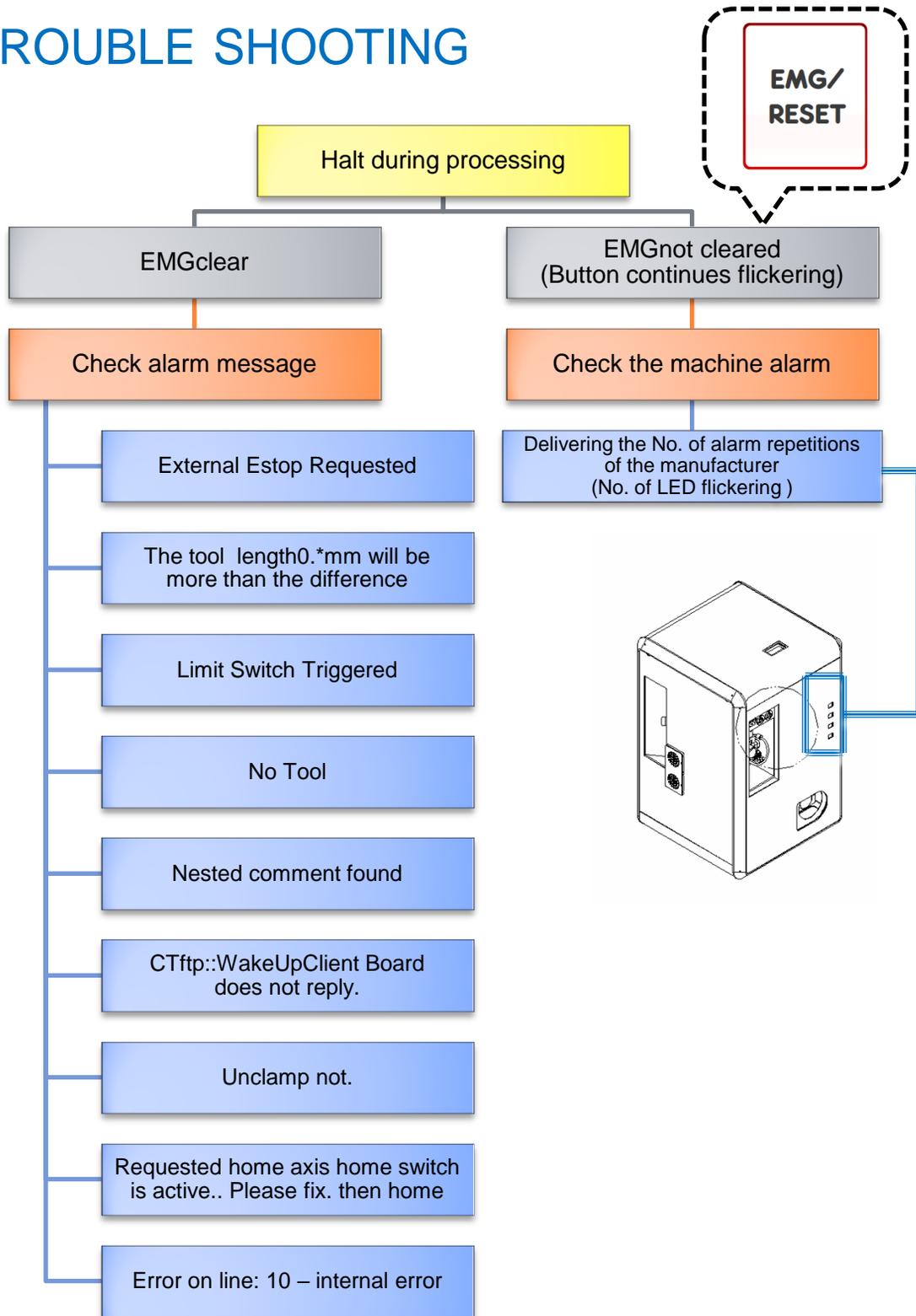
# PROCESSING TERMINATION



PROCESSING PROGRESS IS IMPORTANT  
ACCORDING TO THE ORDER.



# TROUBLE SHOOTING



# Q&A

## External Estop Requested

- **Communication is blocked while popping up alarm message if non-compliant conditions are met when PC and NC exchange data to progress processing.**
  - When EMG/RESET button is pressed.
  - Feeding which is out of the Soft limit .
    - ↳ EMG/RESET clear and connection and then fed in the opposite direction
  - Upon the alarm with other symptoms, alarm is clear and then check the symptom is reproduced after reprocessing.

The tool length0.\*mm will be more than the difference

- **Tool (Bur) length error.**
  - Check the wear condition at the bur.
    - ↳ If crack is found or coating is peeled off, bur is replaced
  - Foreign matters found in the sensors or defects are found.

## Limit Switch Triggered

- **Feed shaft OVER**
  - Arrived at the limit position of X, Y, and Z feed axes.
    - ↳ Lamp that is lit at the status in the logo-> DIAG.MODE is checked and fed in the opposite direction

# Q&A

No Tool

- **Alarm going off upon error of more than tool length error during Bur measurement(sensing).**
  - Tool breaking.
  - Despite that bur is found in the tool rest, check the collet in the main axis during alarm .
    - └ Loosening is expected at the collet that holds the tool in the spindle.
  - When no bur is found in the tool rest (fall during rotation etc..)

Nested comment found

- **Problem is found in NC DATA file.**
  - Occurred when duplicate “( )”parenthesis or special characters are included
  - The parenthesis is removed from the name and the NC file is brought from the note and the parenthesis should be removed in the name part at the upper end.

CTftp::WakeUpClient Board  
does not reply.

- **Communication is not done between MM3 program and the machine.**
  - Occurred during program execution without power applied to the machine
  - Occurred during power applied during program execution or after program execution

# Q&A

Unclamp not.

- **Occurred during bur replacement when bur is not placed in the tool rest**
  - Check whether air pressure in the compressor is within the appropriate range. Occurred when air pressure is insufficient.
  - When the tool is used excessively, that is, recommended number of milling quantities is exceeded, tool may not be removed from the spindle in the main axis due to the applied physical force.

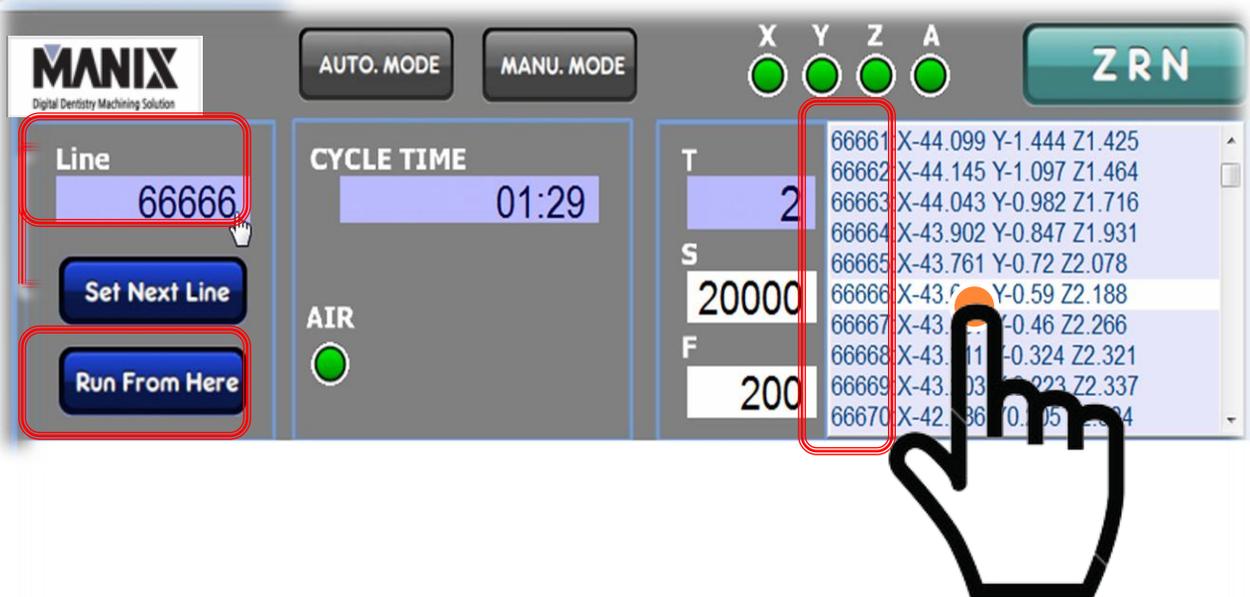
Requested home axis home switch is active.. Please fix. then home

- **Occurred when zero return ZRN is not done**
  - Zero return is done sequentially in the order of X, Y, Z, and A. If Xgreen light is lit, the Y axis is suspicious and XYZ light is lit, it means the A axis is abnormal. If the suspicious axis is moved manually in the JOG mode, alarm is clear but take care of collision. Please contact the company if operation is not familiar. .

Error on line: 10 – internal error

- **Connection to the controller is blocked.**
  - Re-connected via rebooting of machine power

# RESTART OF PROGRAM AFTER ALARM GOING OFF



Number indicated upon double click

**Program is re-run based on the line indicated by 66666 upon alarm or suspension during operation.**

1. Input the number stopped at the input tool that is created when the line is clicked.
2. Click the button **Run From Here**
3. When stopped at the corresponding position, push the **START** button
4. Click the OK button displayed at the pop-up window
5. Once simulation is done one time at the processing position, it is stopped at the upper end.
6. If the simulation position is correct, then **START**

# EQUIPMENT MANAGEMENT

- **Bur** it is used during Zir processing and consists of one set of ZX5W-Z1, Z2, and Z3 and 150 burs are recommended to be used based on single Zir material processing.
  - The recommended use amount of bur indicates a safe amount that prevents overload of the machine overall such as main axis spindle and jigs.
  - Processing that exceeds the recommended use amount of bur could induce alarms of tool length error and it is better to comply with the recommended use amount since damage is already given to the hardware after alarm going off.
  - Milling shall be done by using only burs provided by the manufacturer. If other burs are used, it can cause failures in the related parts such as spindles and warranty may not be applied.
- **Compressor** Compressor helps to maintain a pressure at 0.6MPa or higher.
  - For compressors, direct connection to the machine is recommended.
  - Oil should be removed once a week.
- **Dust collector** Dust collector should be run at all times during the running .
  - Processing without dust collector running can induce dust inflow to the front part of the machine and failures in the equipment due to the layered dusts.
  - Dust collector should be maintained at the best condition through periodical management of parts such as filters.
- **Falling dusts into the inside of the milling machine** should be cleaned regularly.
  - If dust collecting is not well done, dusts can be accumulated in the inside of the pantograph and failure can occur at the feed shaft. Thus, it should be cleaned.
  - Take care of impact on parts whose durability is somewhat fragile such as measurement sensors during cleaning .