Step by Step
Follow Up

NEXIA-SY Take-out Robot

- NEXIA-V-100SY ■ NEXIA-V-200SY
- NEXIA-V-400SY ■ NEXIA-V-600SY
- NEXIA-V-800SY ■ NEXIA-V-1300SY
- NEXIA-V-2000SY ■ NEXIA-V-2500SY
- NEXIA-V-3000SY
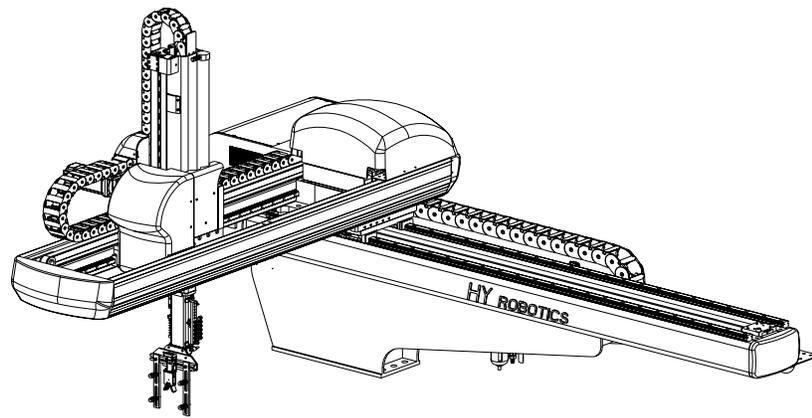
Read this manual completely prior to installing, operating or
Performing maintenance on this equipment

HYROBOTICS

3.1STEP FOR START-UP

Follow step for Auto Operation

```
        ┌─────────────────────┐
        │      Power ON        │
        └─────────────────────┘
                  │
                  ▼
        ┌─────────────────────┐
        │    Search Origin     │
        └─────────────────────┘
                  │
                  ▼
        ┌─────────────────────┐
        │        Main          │──────────────┐
        └─────────────────────┘               │
New mold          │                           │
                  ▼                            │
        ┌─────────────────────┐               │ Mold under operation
        │      Mold File       │               │
        └─────────────────────┘               │
                  │                            │
                  ▼                            │
        ┌─────────────────────┐               │
        │     Step Setting     │               │
        └─────────────────────┘               │
                  │                            │
                  ▼                            │
        ┌─────────────────────┐               │
        │      Auto Mode       │◄──────────────┘
        └─────────────────────┘
```

3.1 Start Up

- **STEP 1**

Turn On Power..

```
TP(3X)    :Ver5.xx
NAND(3X):Ver5.xx
SC(3X)   :Ver5.xx
```
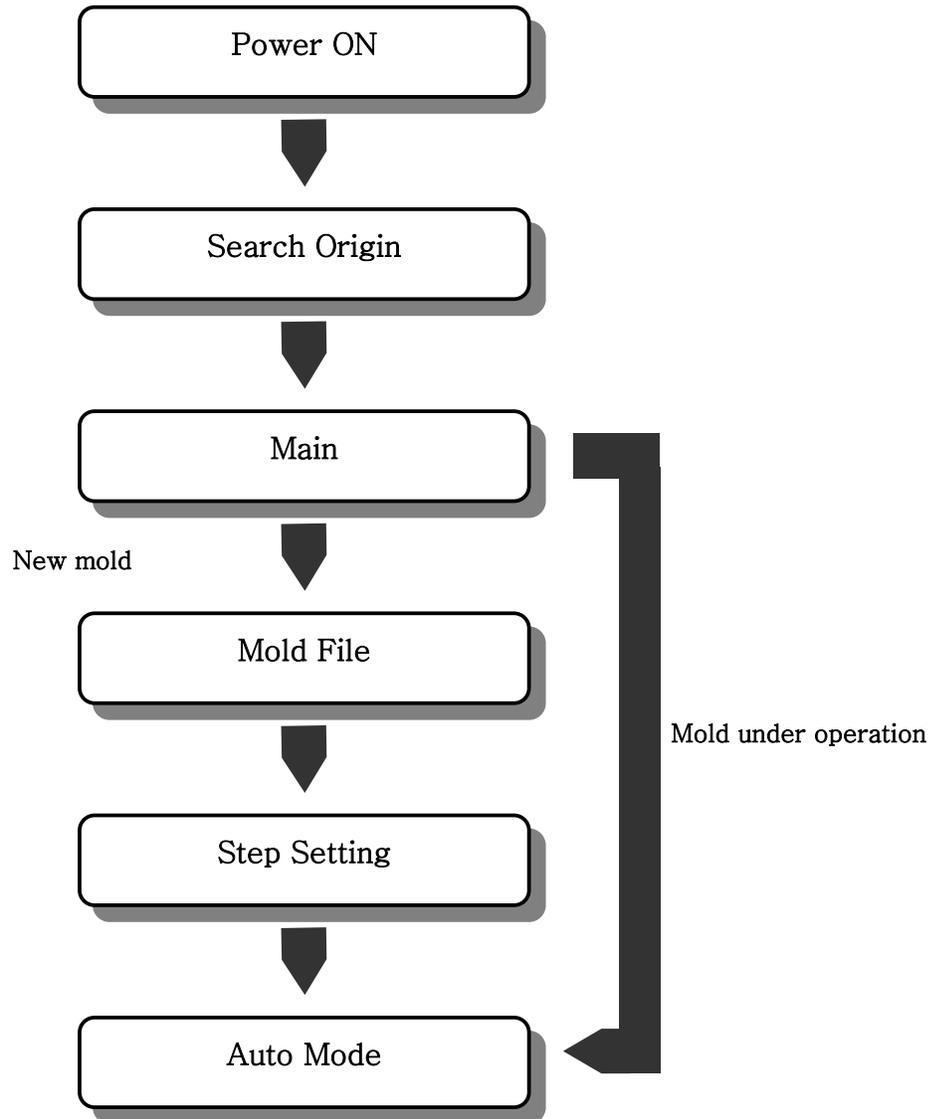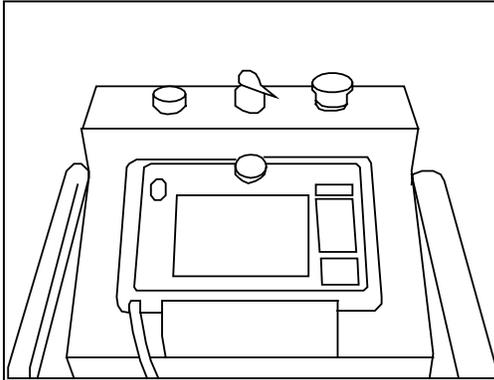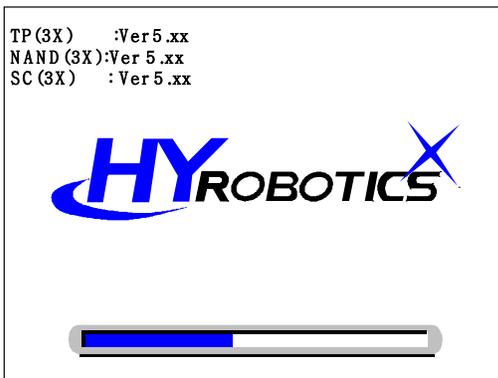
- **STEP 2**

It will display System Version. And move to origin screen.
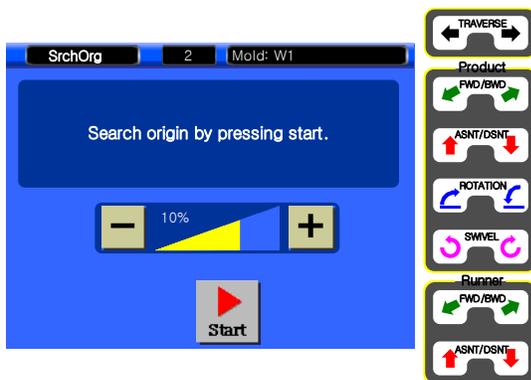
- **STEP 3**

Press ▶ Start for origin point of robot motion.

SrchOrg   2   Mold: W1

Search origin by pressing start.

− 10% +

▶ Start

TRAVERSE
Product
FWD/BWD
ASNT/DSNT
ROTATION
SWIVEL
Runner
FWD/BWD
ASNT/DSNT

⚠ **DANGER**   Before move to Origin, make sure the robot arm is in safe location. If robot arm is not if safe location, move robot arm manually to safe location with manual button.

| SrchOrg | 2 | Mold: W1 |

Searching Org ...

10%

STOP

● **STEP 4**

In case origin searching is completed, move to Main screen.

(Press [STOP] and Robot stop)

| Main | 1 | Mold: Default |

Set
RjctPos Sampling EOATPos

Maintenance
T/S

AlarmOn SysTime CModeOff

ErList

OFF RetOrg

Manual MoldFile Auto
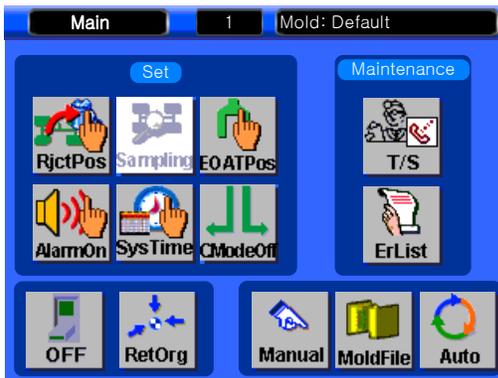
● **STEP 5**

(In case there is mold operated before)

Press [Auto] and move to Auto Mode Screen.

| Auto | 12 | Mold: REZZO1 |

Target : 1 0 0 0 0
Current : 1 0 0 0 0
1 CYCLE: 1 5 .0
TkTime : 5 .0
1DayCount:5 7 6 0

NO STEP
0 Home
1 WaitPos
2 TkPos
3 AscPos
4 RelPos

RelStatus 1 Layer

I/O View

AlarmOn ErList

Start 1Cycle RjctPos SampPos StepSet EndWork

● **STEP 6**

Press [Start] and start Auto Operation

3.2 Stop Operation

- **STEP 1**

In order to stop Automatic operation before completing

object quantity, press .

When the step under progress is completed, robot stops

temporarily

 is switched to .
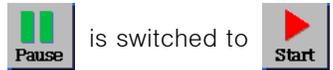
- **STEP 2**

Press and move to Main Screen.
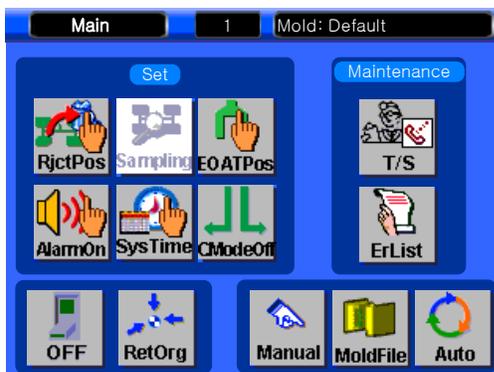
- **STEP 3**

In order to turn off servo drive, press .

⚠ **WARNING**   Turn Off Handy Controller, Power off Molding Machine.
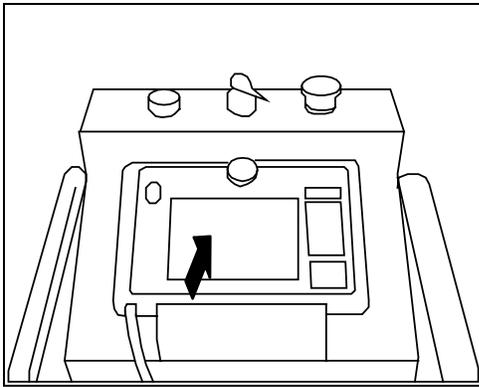
- **STEP 4**

Turn Off Power.
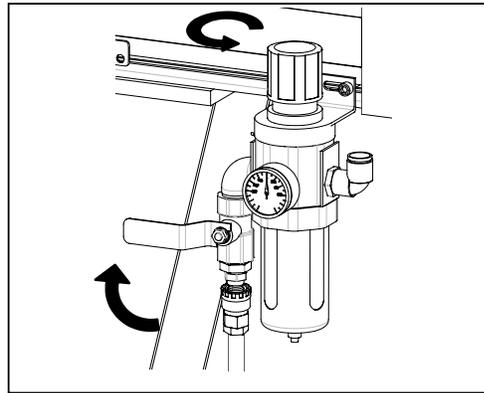
- **STEP 5**

Disconnect Air Pressure.

3.4 Emergency Stop (EMO Stop)

Press EMO button in any dangerous situation (Protect People, Robot, Mold Etc)
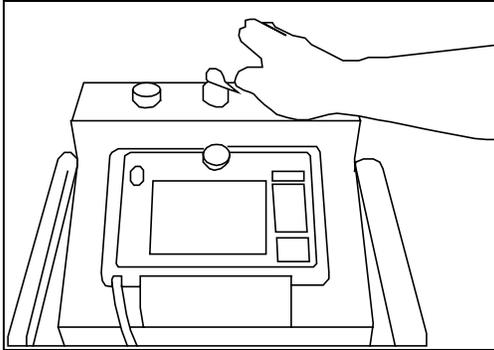
[Emergency power interception button]

● **STEP 1**

In case emergency power interception button is pressed, power of robot is turned off to stop.
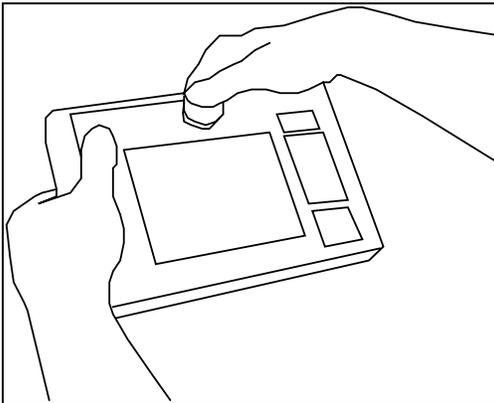
[Emergency system stop button]

In case emergency system stop button is pressed, system power(servo driver) is turned off to stop.

Simultaneously, error message window appears on remote controller.

3.5 Restoring Emergency Stop

⚠ **WARNING**   Eliminate Emergency Environment before restoring ROBOT EMO button.

[Emergency power interception button]
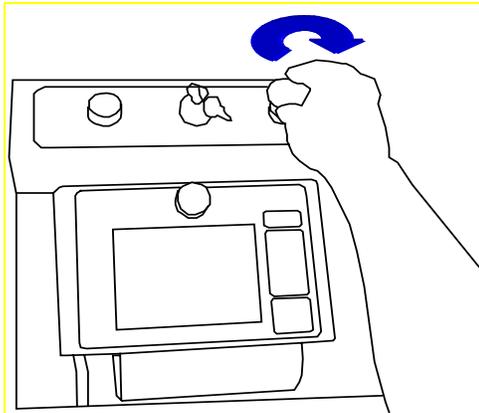
● **STEP 1**
Turn Off Power

● **STEP 2**
Cancel it by turning emergency power interception button in clockwise.

● **STEP 3**
반드시 15~20초 후, 전원스위치를 ON시켜 주십시오.

● **STEP 4**
After moving robot to safe place using manual button, return to origin point by pressing **Start**.
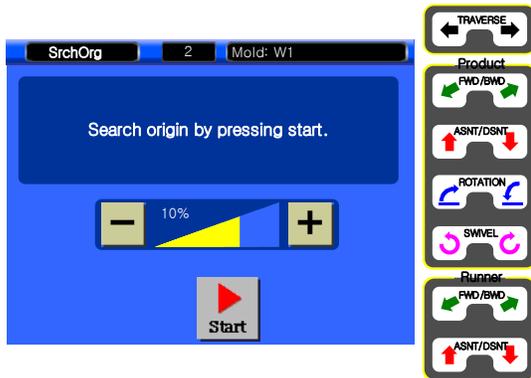
[Emergency system stop button]
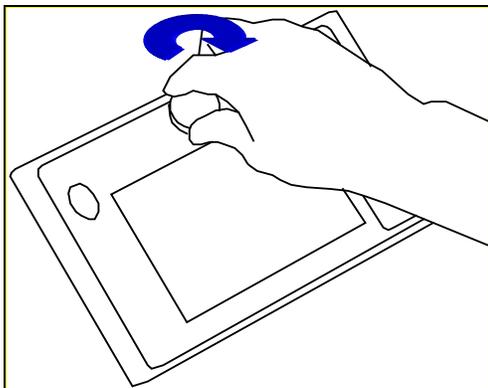
● **STEP 1**
Eliminate Emergency Stop Situation.
Rotate ROBOT EMO button to Clock Wise

SrchOrg   2   Mold: W1

Search origin by pressing start.

−   10%   +

Start

TRAVERSE

Product
FWD/BWD

ASNT/DSNT

ROTATION

SWIVEL

Runner
FWD/BWD

ASNT/DSNT
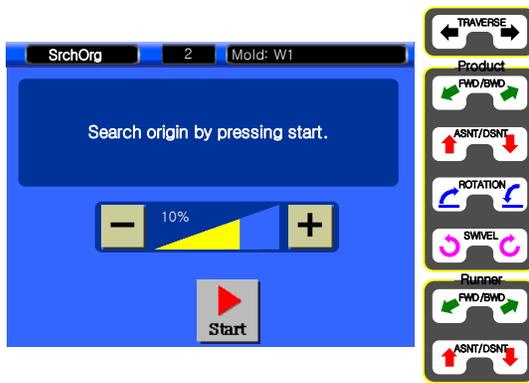
● **STEP 2**

After moving robot to safe place using manual button, return to origin point by pressing [Start].

5.Follow-up

5.1 Setup Motion
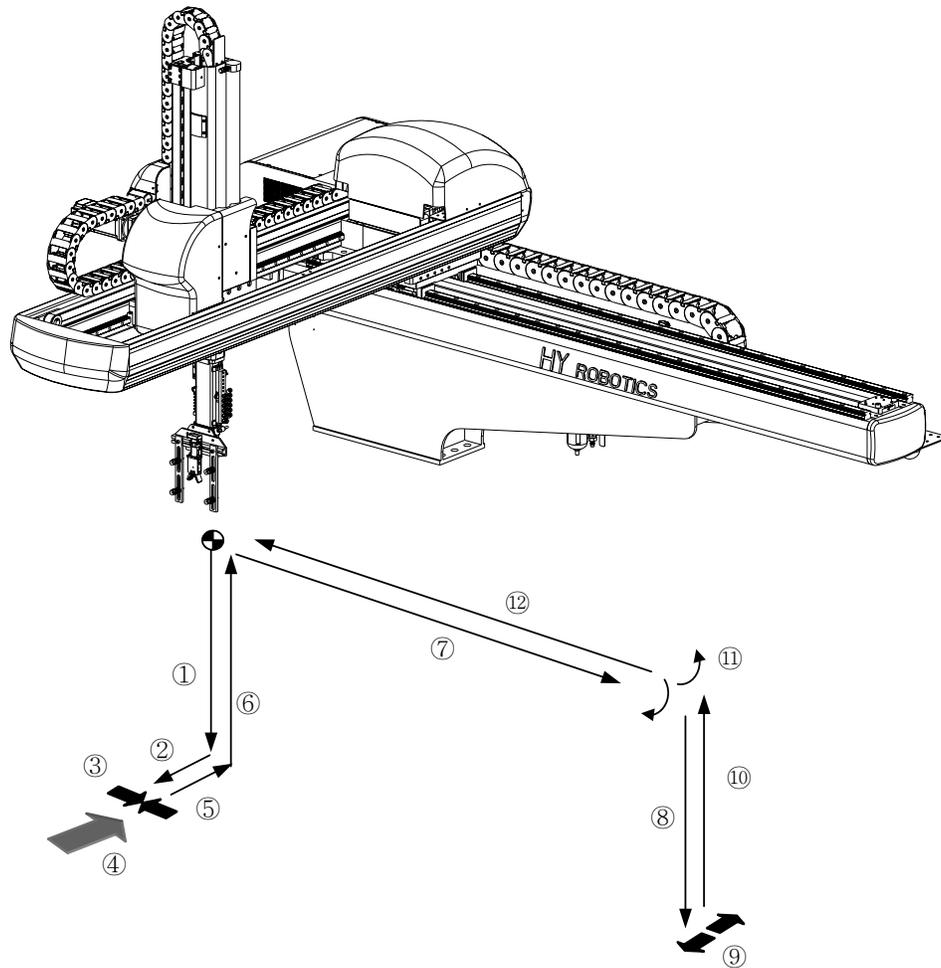
①. Waiting Position

②. Take-out Position

③. Ascent Position

④. Release Position

5.2 Start up
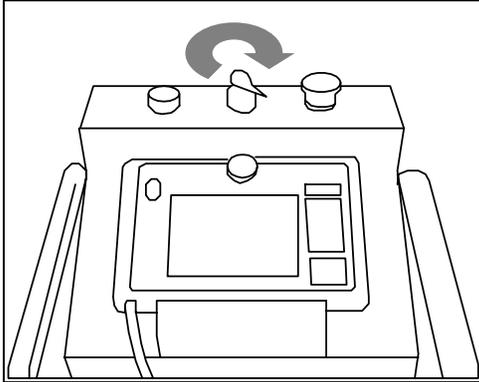
- **STEP 1**

Turn On Power.

Power lamp becomes on.


```
TP(3X)    :Ver 5.xx
NAND(3X):Ver 5.xx
SC(3X)    : Ver 5.xx
```

- **STEP 2**

Log screen appears, and loading state bar indicates data loading level.

In case loading state bar is all full, move to origin searching screen.

Loading state   bar

5.3 Searching Origin

NOTICE Confirm Robot is not interfere with any obstacle.

Move robot arm with manual button.

| SrchOrg | 2 | Mold: W1 |

Search Org, Press "Start" Button.

10%

Start
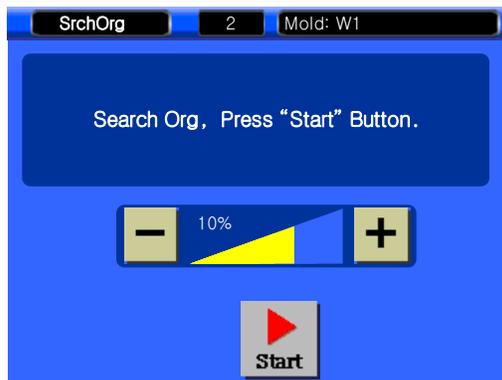
- **STEP 3**

Confirm Robot is not interfere with any obstacle and

Press [Start] to homing position

| SrchOrg | 2 | Mold: W1 |

Searching Org ...

10%

STOP

After finished homing, robot will back to main screen.

5.4 Creat New mold
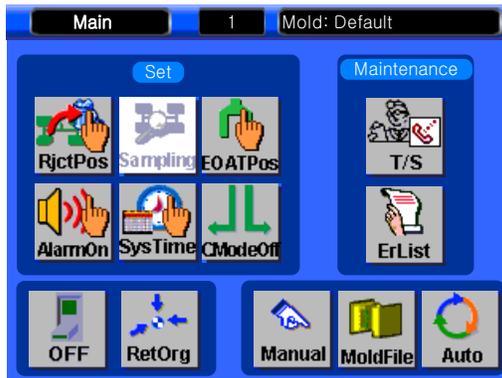
- **STEP 4**

Press to set up mold.
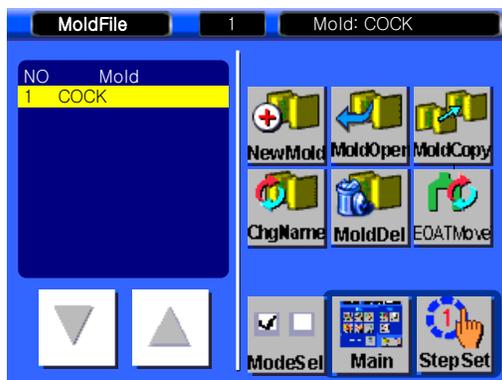
- **STEP 5**

Press to creat new mold.
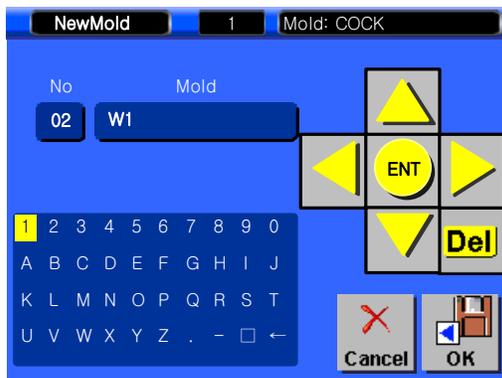
- **STEP 6**

Press   to move cursor to desired text, press to input.

Press to move back to mold manager screen.

5.5 Step Setting.

● **STEP 7**

Press [StepSet] to move to Step Setting screen.

● **STEP 8**

Press [StepFw] to Forward ［No Setting of position ］

Display if there is no information.

Non−setting of position information

Press [OK] to close.

● **STEP 9**

Cursor moved to WaitPos..

Press [StepModi] to input WaitPos (Waiting Position)

Wait Position is only can be changed Step Modification.

5.6 Setting Waiting Position

Waiting Position
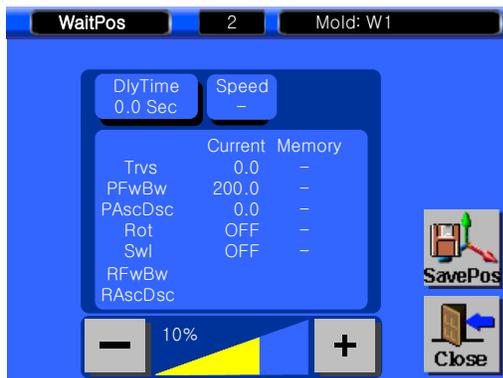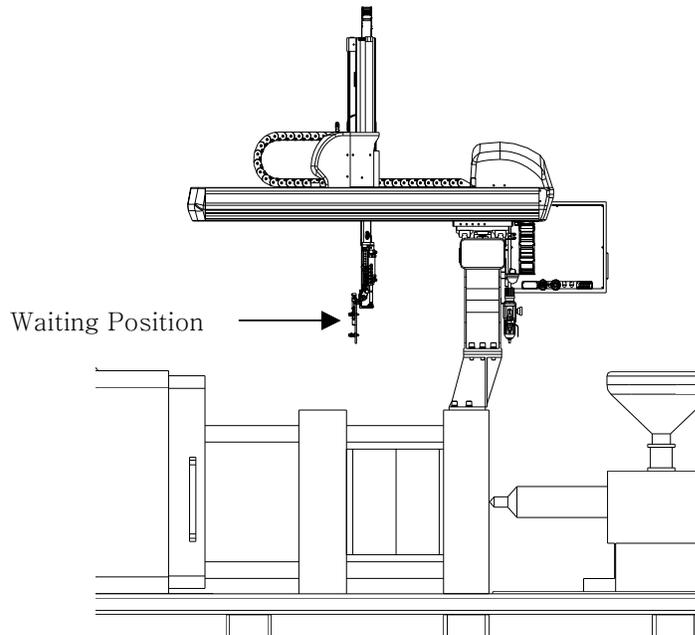
- **STEP 10**

[Delay time 0.3 Sec before move to Waiting Pos,]

Press [DlyTime 0 .0 Sec] and display numeric keypad.

(This is for delay time from last step to current step)

Press [0] [.] [3] , Press [ENT] to save and close.

● **STEP 11**

[Speed Setting 70%]

Press [Speed –] to input Speed Setting.

100% is maximum speed.

Press [7] [0] , Press [ENT] to save and close windows.
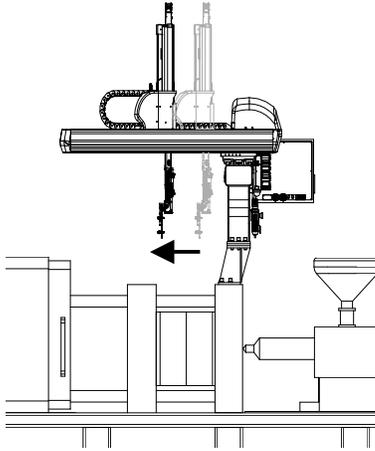
Position		
Axis	Origin	Waiting
Traverse	0 mm	0 mm
PFwBw	200 mm	250 mm
PAscDsc	0 mm	0 mm
Rot	OFF	OFF
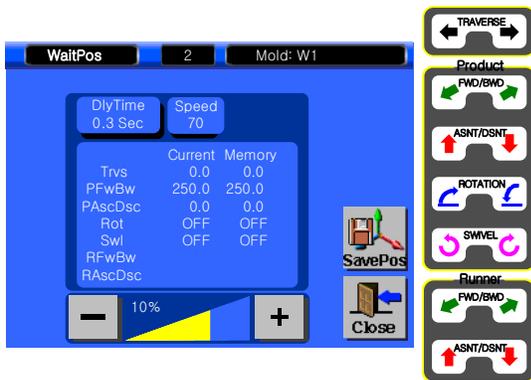
● **STEP 12**

[Setting Waiting Position to Traverse 0mm, Kick, 250 mm, Up and Down is 0 mm, Rotation OFF로 설정]
Move robot arm with manual button until you get current position as desired number and press

 to save and close.

5.7 Take Out Position Setting

Take Out Position
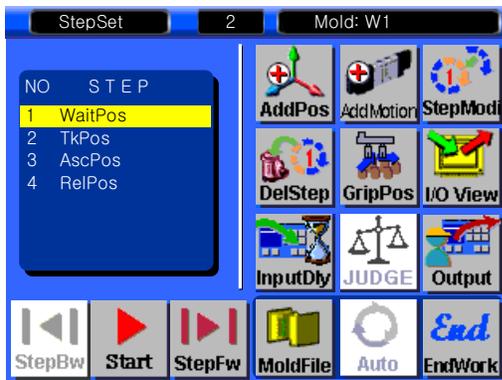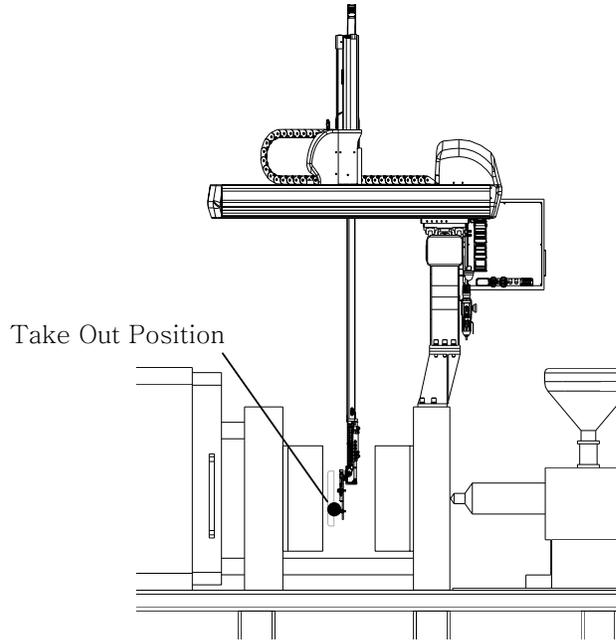
● **STEP 13**

Press [StepFw] and display Non Data Setting..

Press [OK] to close

● **STEP 14**

Step Cursor moved to TkPos

Press [StepModi] and move to set up Take out position

Take out position can be set up in Step Modification.
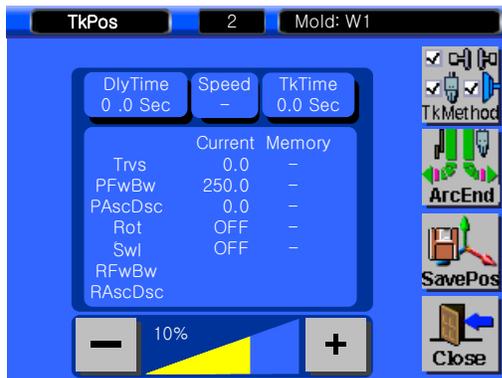
● **STEP 15**

[Set Delay Time to 0.2]

Press [DlyTime 0 .0 Sec] to have delay time after mold is open.
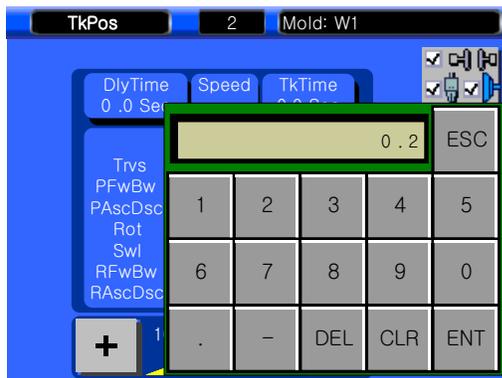
Press [0] [.] [2] and Press [ENT] to save.
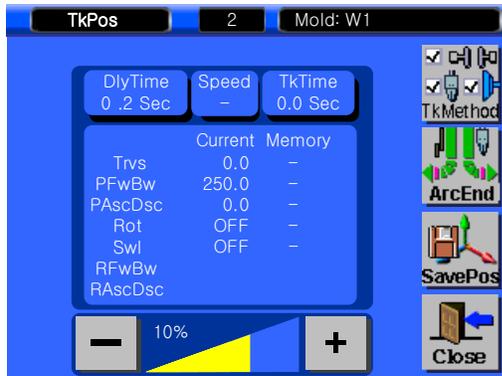
● **STEP 16**

[Speed 100%]

Press [Speed −]
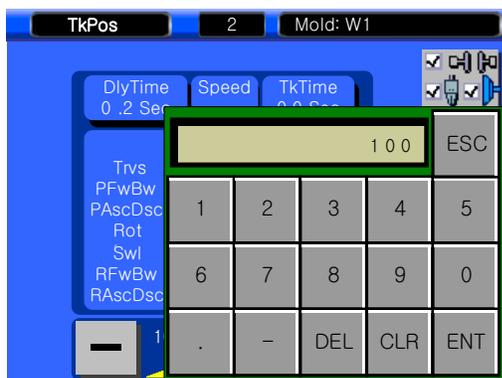
Press [1] [0] [0] to set speed 100%, Press [ENT] to save and close.

| TkPos | 2 | Mold: W1 |

DlyTime
0 .2 Sec

Speed
100

TkTime
0.0 Sec

TkMethod

	Current	Memory
Trvs	0.0	–
PFwBw	250.0	–
PAscDsc	0.0	–
Rot	OFF	–
Swl	OFF	–
RFwBw		
RAscDsc		

ArcEnd

SavePos

10%

Close

| TkPos | 2 | Mold: W1 |

DlyTime
0 .2 Sec

Speed
100

TkTime
0.0 Sec

0 . 2 | ESC

Trvs
PFwBw
PAscDsc
Rot
Swl
RFwBw
RAscDsc

1	2	3	4	5
6	7	8	9	0
.	–	DEL	CLR	ENT
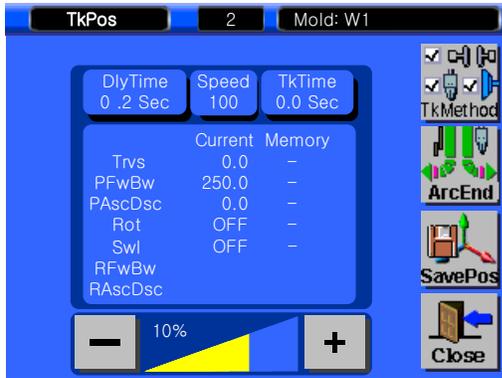
● **STEP 17**
[Take out Time Delay]

Press **TkTime 0.0 Sec** to have delay time to take out operation.
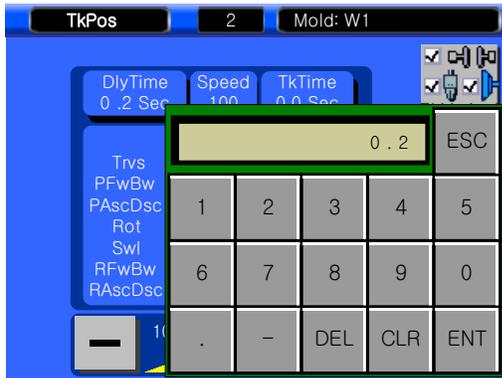
Press **0** **.** **2** , Press **ENT** to close.
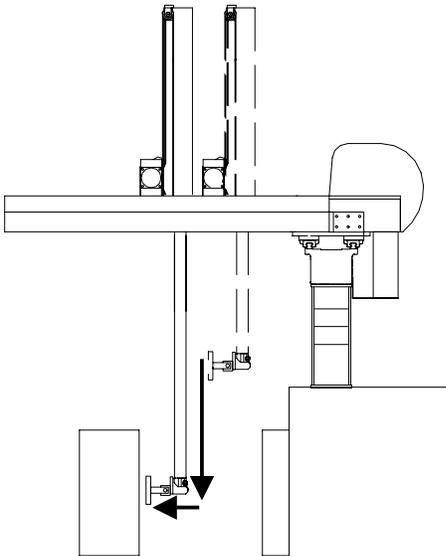
Position		
Each Axis	Waiting Position	Take out Position
Traverse	0 mm	0 mm
Kick	250 mm	400 mm
Up/Down	0 mm	1250 mm
Rotation	OFF	OFF
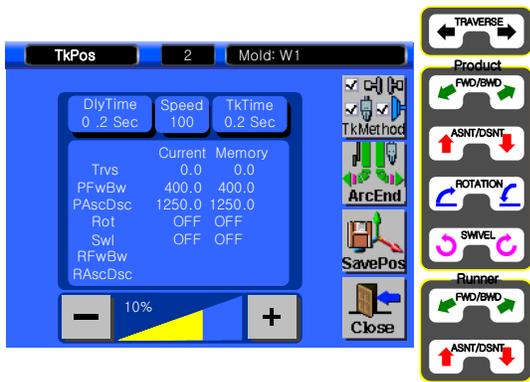
● **STEP 18**

[To set take our position for Traverse 0mm, Kick 100mm, Up/Down 1250mm, Rotation OFF]

Move robot arm with manual buttong until current position can be Traverse 0mm, Kick 100mm, Up/Down 1250mm, Rotation OFF

Press to save.
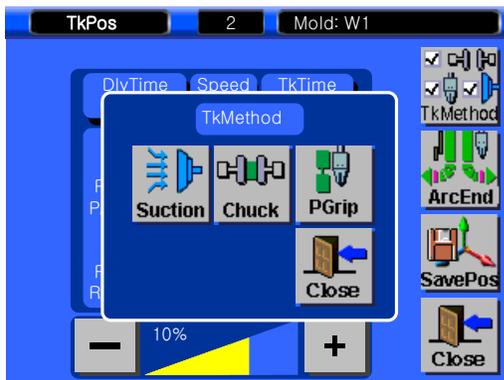
● **STEP 19**

[Take Out Method]

Press to displays take out method, press to operate suction,, press to close. Press to save.

	Take out cycle time delay time is from take out position and receive ejector forward complete signal to chuck operation.
Reference	Suction operation will be start after moving to take out position and chucking operation will be start after Take out cycle delay time complete

5.9 Ascent Position Setting (IMM Operate next cycle)

Take Out Position

Ascent Complete Position
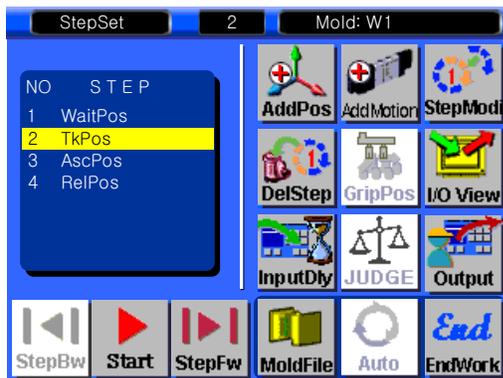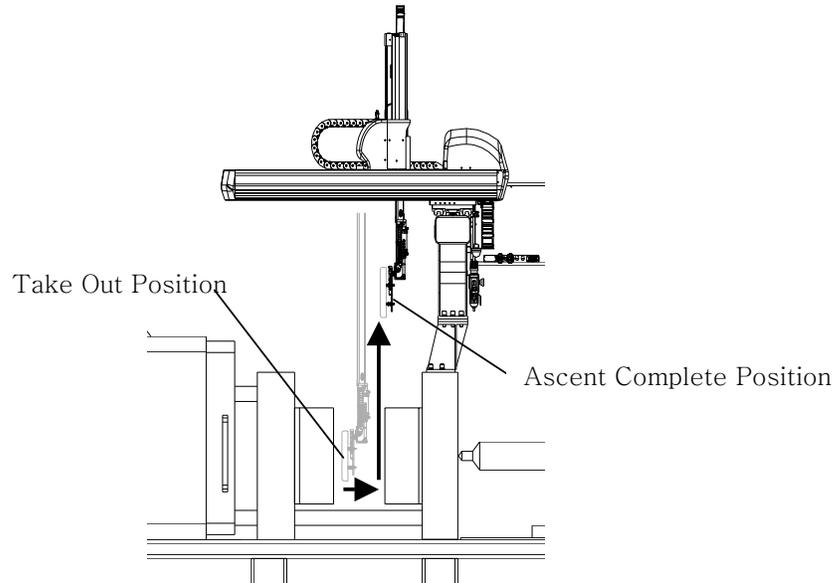
- **STEP 20**

Press , display [no setting].

Press to close.

- **STEP 21**

Cursor located on AscPos..

Press to setting Ascend Position..

AscPos can be set up only in StepMod (Step Modification)
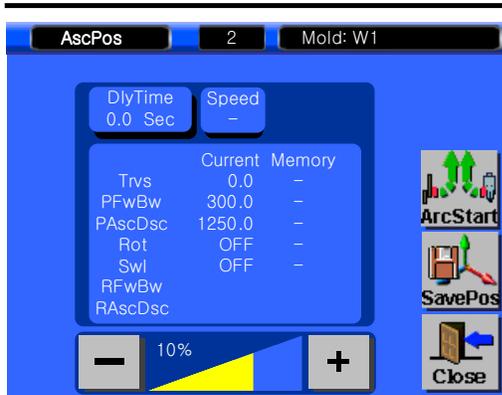
● **STEP 22**

[Delay time 0.3 Sec]

Press [DlyTime 0.0 Sec] to set delay time to up complete position.

Press [0] [.] [3] and press [ENT] to save.
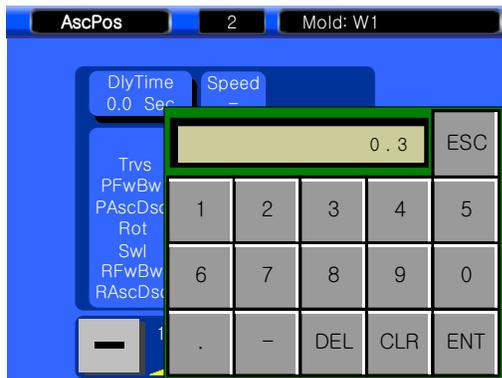
● **STEP 23**

[Speed setting 100%]

Speed setting to move up position, press [Speed –].
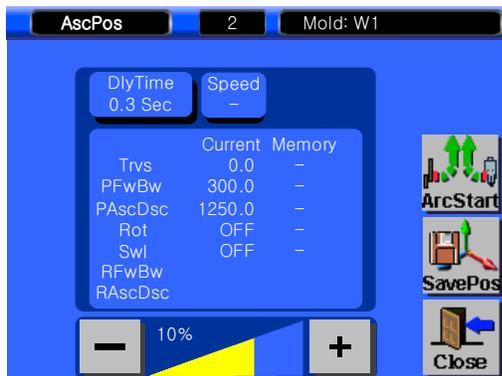
Press [1] [0] [0] and press [ENT] to save and close.
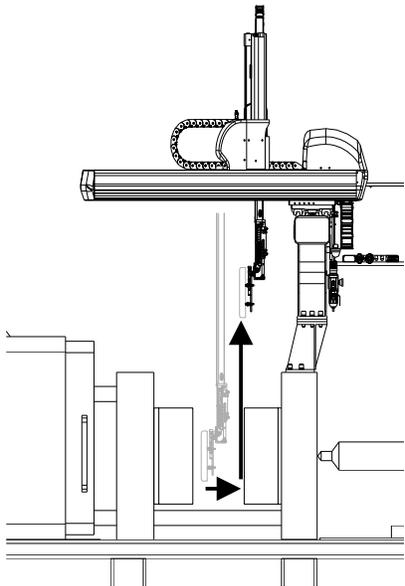
Position		
Each Axis	Take out	Ascent
Traverse	0 mm	0 mm
Kick	300 mm	200 mm
Up/Down	1250 mm	0 mm
Rotation	OFF	OFF
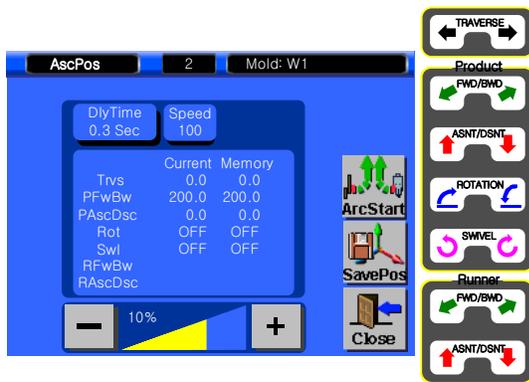
● **STEP 24**

[Set Ascent Complete position to Traverse 0mm, Kick 0mm, Up/Down 0mm, Rotation OFF]

Press manual button to Traverse 0mm, Kick 0mm, Up/Down 0mm, Rotation OFF.

Press [SavePos] to save position

Press [Close] to close.

5.10 Release Position

Release Position
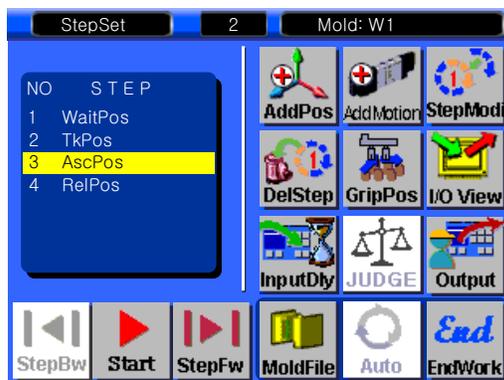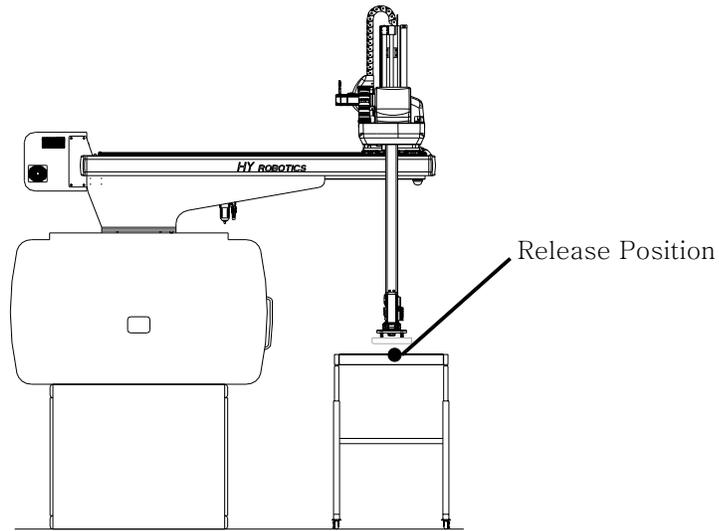
- **STEP 25**

Press [StepFw] display No Step info.

Press [OK] to close

- **STEP 26**

Step cursor is located on RelPos (Release Position).

Press [StepModi] to move to setting screen.

RelPoss can be set up only in StepMod (Step Modification)
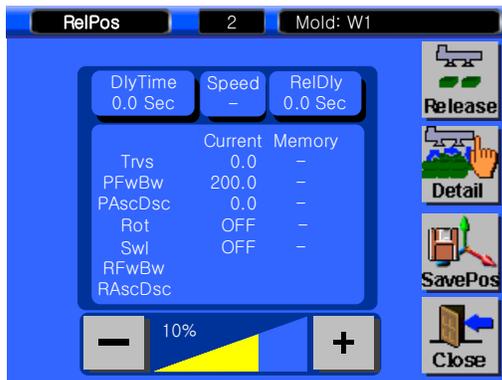
● **STEP 27**

[Delay Time 0.4 Sec]

To set delay time to move to release position, Press

| DlyTime 0 Sec | .

Press | 0 | . | 4 | and press | ENT | to save and close.
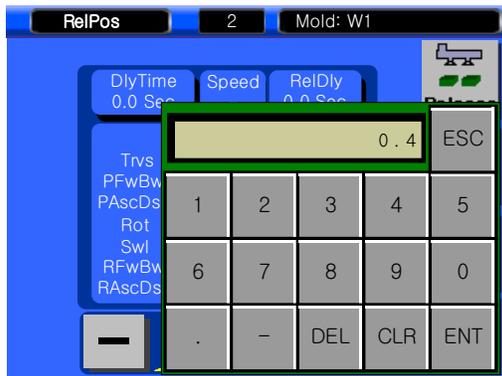
● **STEP 28**

[Speed setting with 80%]

Press | Speed – |
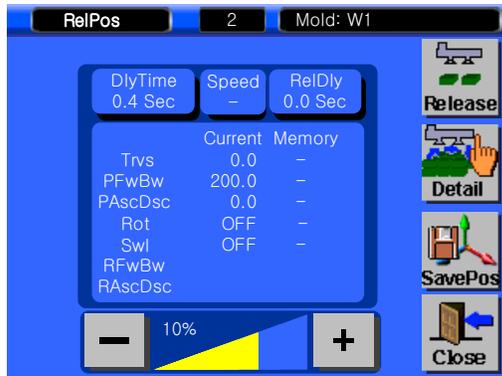
Press | 8 | 0 | and Press | ENT | to save.
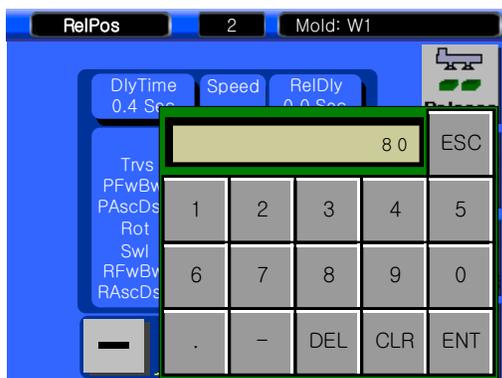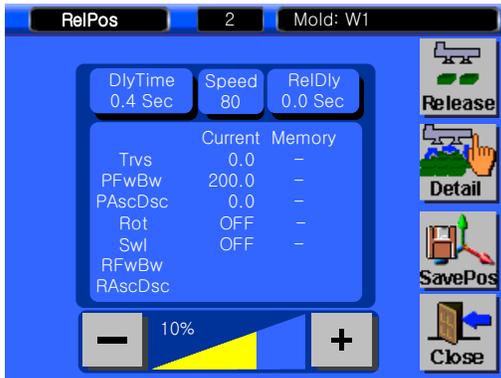
● **STEP 29**

[Release Delay 0.5 Sec]

To set Release Delay time , press [RelDly 0.0 Sec]
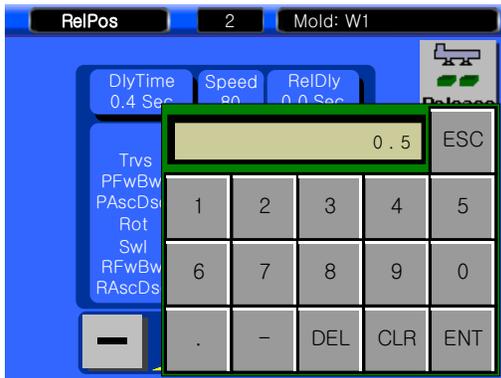
Press [0] [.] [5] and press [ENT] to save.
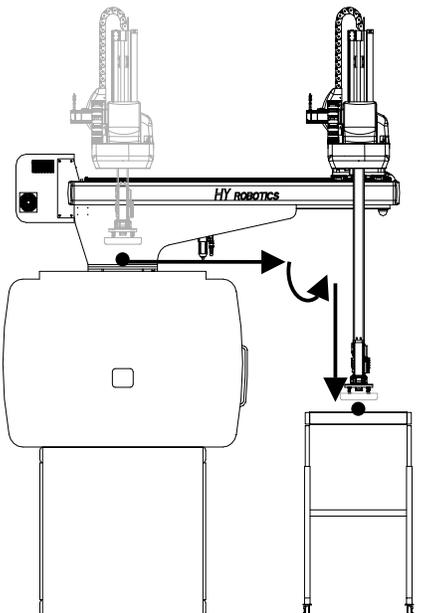
Position		
Each Axis	Ascent Position	Release position
Traverse	0 mm	1700 mm
Kick	200 mm	500 mm
Up/Down	0 mm	1100 mm
Rotation	OFF	ON
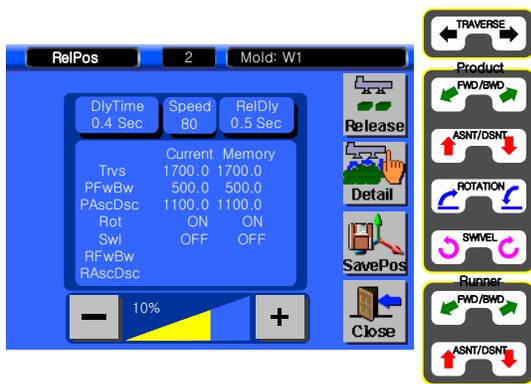
- **STEP 30**

[To set release position to Traverse 1700mm, Kick 30mm, Up/Down 1100mm, Chuck Rotation ON]

Press manual button to move robot arm to Traverse 1700mm, Kick 30mm, Chuck Rotation ON
And then move robot arm Down 1100mm

Press to save.

Press to release all position

Press .

WARNING	IN SAFETY ZONE, ROBOT ARM NEED TO UP COMPLETE TO MOVE TRAVERSE AXIS

5.11 Step Operation
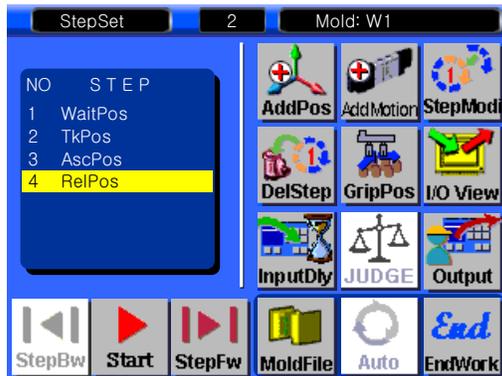
- **STEP 31**

Press to run robot go to next step.

After RelPos set up, press StepFw will finish one cycle and go back to first cycle.
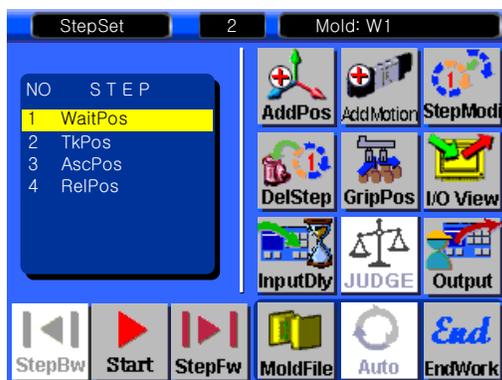
- **STEP 32**

Run Step by Ste to confirm all position and setting is right.

Press will run step with slow speed.

 will be changed to

- **STEP 32**

During Step operation

Press will stop operation

 will be changed to

Press to run in Fully Automatic Mode

 will not activate until finish the 1 step operation (after change mold, or reboot system)

5.12 Auto Runs

● **STEP 33**

To Set Target

```
Target   :      --
Current  :      --
1 CYCLE:    0.0
TkTime   :   0.0
1DayCount:  0
```
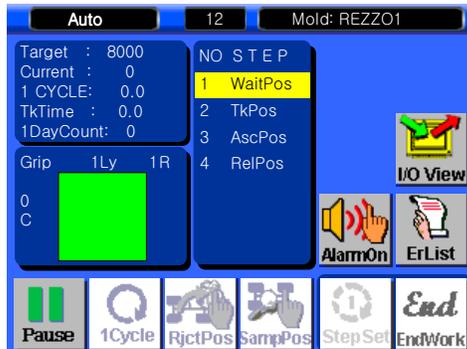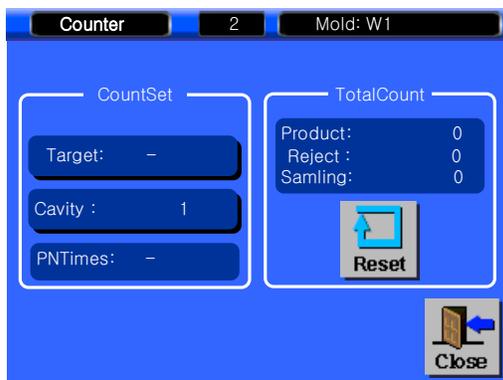
Press [image] move to setting screen.

[Set 8000]

Press **Target: –** , input 8000.

Press [Close] move back to Auto

● **STEP 34**

Press [Start] , start Automatic Operation

[Start] will be changed to [Pause]

● **STEP 40**

Press [Pause] , robot stops, [Pause] will be changed to [Start] .

Press [End EndWork] to finish Job, move to Mold Manger screen