

Injection Moulding Machine Controller

MPC-7.0

OPERATION MANUAL



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I. Characteristics

- § Designed and developed by Japanese technology and complying with JIS inspection standards.**
- § 800×600color LCD.**
- § Power range applied: AC110V~AC280V 50/60HZ.**
- § The light source of luminescence pipe has a high brightness with a long service life.**
- § The electronic components and production technique adopt the most advanced SMT technology with highest stability and reliability.**
- § Data can be stored for over 5 years safely.**
- § Freely choose from Chinese, English and another language for the convenience of study and operation.**
- § Intelligent fault detection and auxiliary operation instructions.**
- § Fully support the wireless network system – iChen.**

Technical data MPC-7

Power supply AC200V 50/60Hz

Display 10.4 inch TFT LCD / 800 * 600

Display backlight LED Backlight

Keyboard 73 Keys

LED Display 16 LED (Red color)

Flash memory 5MB

Internal memory 4MB (Battery backup period : 5 years or more)

Processor SH-2A (200MHz)

Interface RS-485 : 1 (For iChen)

RS-232C : 3 (1ch : std. / 2ch : option)

USB2.0 : 1 (Flash memory stick option)

Ethernet : 1 (For iChen option)

Operating system iTRON

Dimension 300 * 545 * 85mm (W*H*D)

Operating Temperature 0 ~ 60℃

Storage Temperature -25 ~ +85℃

Relative humidity 5 ~ 85% / no condensation

II. Basic Features

- **Effective storage capacity of 150 groups of forming data (like time, times, pressure, speed, stroke, metering, mould thickness, mould name, selection condition, temperature of raw materials, etc.)**
- **Detailed tips on online operation.**
- **Lock the software data by stage encryption.**
- **Mistake-proof tips when inputting data in case of unsuitable modification.**
- **Data modification can be stored in the central server online through iChen System.**
- **Most advanced SMT electric plate assembling technology with a high reliability.**
- **64 bit high speed CPU.**
- **10 sets of PID temperature control, adjustment between 30°C and 500°C with a high degree of accuracy.**
- **Cold start prevention, Auto preheat function, nozzle block alarm, resin overflow detection.**
- **High and low temperature deviation setting and temperature sensor line break detection in operation.**
- **Injection 10 stage speed, 10 stage pressure setting.**
- **Plasticization 10 stage speed, 10 stage pressure and 10 stage back pressure setting.**
- **4 sets air blowing and 6 sets of core pulling.**
- **Clamping, injection and ejector all adopt high precision optics encoder (standard) or potentiometer (optional).**
- **Storage of alarms historical records, convenient for the technique debugging and maintenance.**
- **Production quantity and batch control.**
- **Cooperate with iChen order arrangement system.**
- **Auto toggle lubrication setting, Oil starvation alarm.**
- **Figure display of operation actions, convenient for the supervision of injection moulding machine operation.**
- **Monitor of the cycle operation time, convenient for adjustment to shorten the cycle time.**
- **Injection speed and pressure standard graph and current graph comparison. Injection terminal statistics.**
- **Online monitor of the program running condition and all the status of inputs, outputs, timers and counters, convenient for debugging and maintenance.**
- **Support the monitor of 104 outputs, 104 inputs, 200 timers and 20 counters status.**
- **Free selection, duplication and erasion of mould data. The setting time can be saved by using the preset mould data inside the computer. Data can also be inputted through external SD card.**
- **Intelligent fault detection and auxiliary operation instructions.**

- Support the hot runner temperature control (60 cavity,option)
- Fully support the iChen network management system.
- Fully support the iChen Wireless Network.

III. Function Comparison

MPC-7.0 Multi-function computer is the upgraded version of MPC-6.0 computer.

The detailed comparison in function are as follows:

FUNCTION	MPC-7.0	MPC-6.0
Internal memory	4MB	2MB
Flash memory	5MB	4.256MB
Free sequential core pull	Free sequence	Fix sequence
Keylock function	Yes	Yes
Processor	SH-2A (200MHz)	SH-2 (50MHz)
Display	10.4 inch TFT LCD / 800 * 600	10.4 inch TFT LCD / 640 * 480

IV. Introduction to the Computer Panel

4.1 Computer Panel



4.2 Keys for Operation Mode Control



This keyboard is responsible for the switch of forming operation mode.

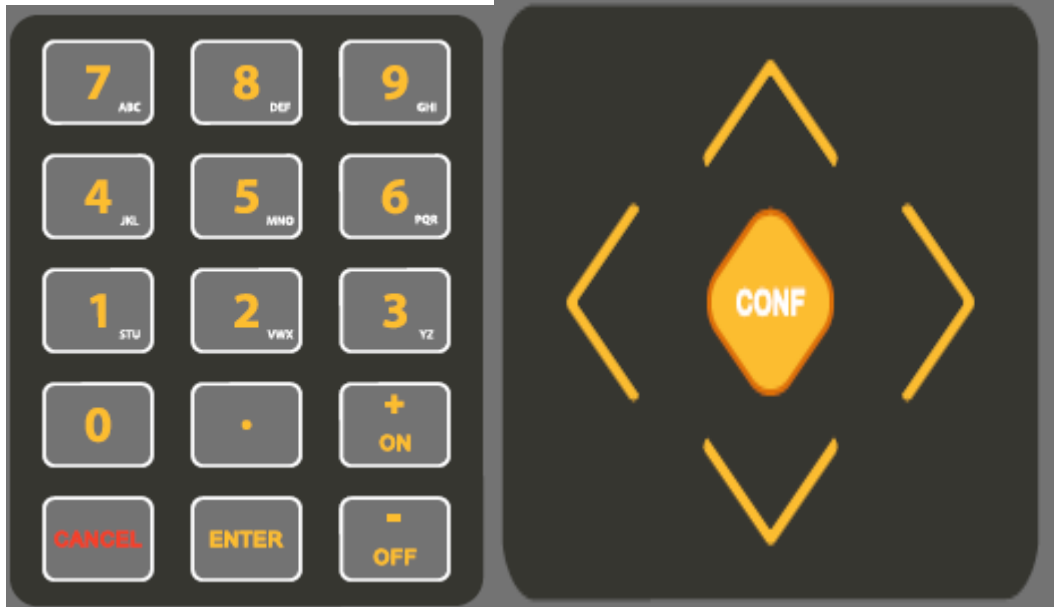
4.3 Keys for Forming Conditions Setting










This keyboard has the following functions:

- 1) Set the forming conditions like position, speed, pressure, time, counter, temperature, etc.
- 2) Change and rewrite the mould data.
- 3) According to the requirements of finished products and mould design, choose the forming functions or actions.
- 4) Under any operation interface, the cursor can be moved to the expected position for changing data.

4.4 Number Keyboard, Cursor Keys and Auxiliary Operation Function

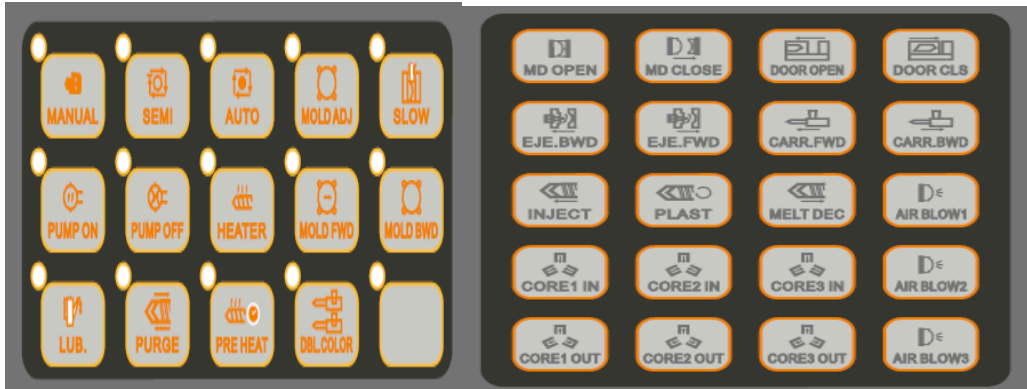


This keyboard has the following functions:

- 1) If press  +  +  at the same time, then turn on the power of the computer, the mould data and system setting inside the computer can be initialized. After hearing the alarm of a long “beep”, the initialization is completed. Release the three keys, and the operation on computer can be continued.
- 2) When operating the computer, press  and  simultaneously, the function of pageup can be realized; press  and  simultaneously, the function of pagedown can be realized.
- 3) Input the digital data required by forming conditions:
 - Speed setting ranges 00%~99%; 00% means no speed.
 - Pressure setting ranges 00% ~ 99%; 00% means no pressure.
 - Position setting ranges 0000~999.9 mm.

Time setting ranges 0~999.9 sec.
Counter setting ranges 0~65535.
Mould thickness setting ranges 0~9999.9 mm.

4.5 Keys and Instructions for Manual Operation




The keyboard for manual operation can individually operate some certain actions of entire action cycle.

4.6 Power Switch

1) Emergency Stop Button

The Emergency Stop Button  locates in the bottom-right of the computer operation panel. If press it, the power can be cut off. If restart is required, the button must be released by turning rightward.

2) Start Button

The Start Button  locates on the right under the computer operation panel. If the Emergency Stop Button has been released, the power of the machine can be switched on by pressing the Start Button. This function can effectively protect the control system.

3) A high-powered voltage regulation apparatus in the controller can bear the power supply of AC90V – AC265V 50/60HZ.

V. Operational Instructions for Computer Interfaces

5.1 Starting the Computer

Computer Startup Screen




Computer Startup Screen

Password

Please input 6 digit password.

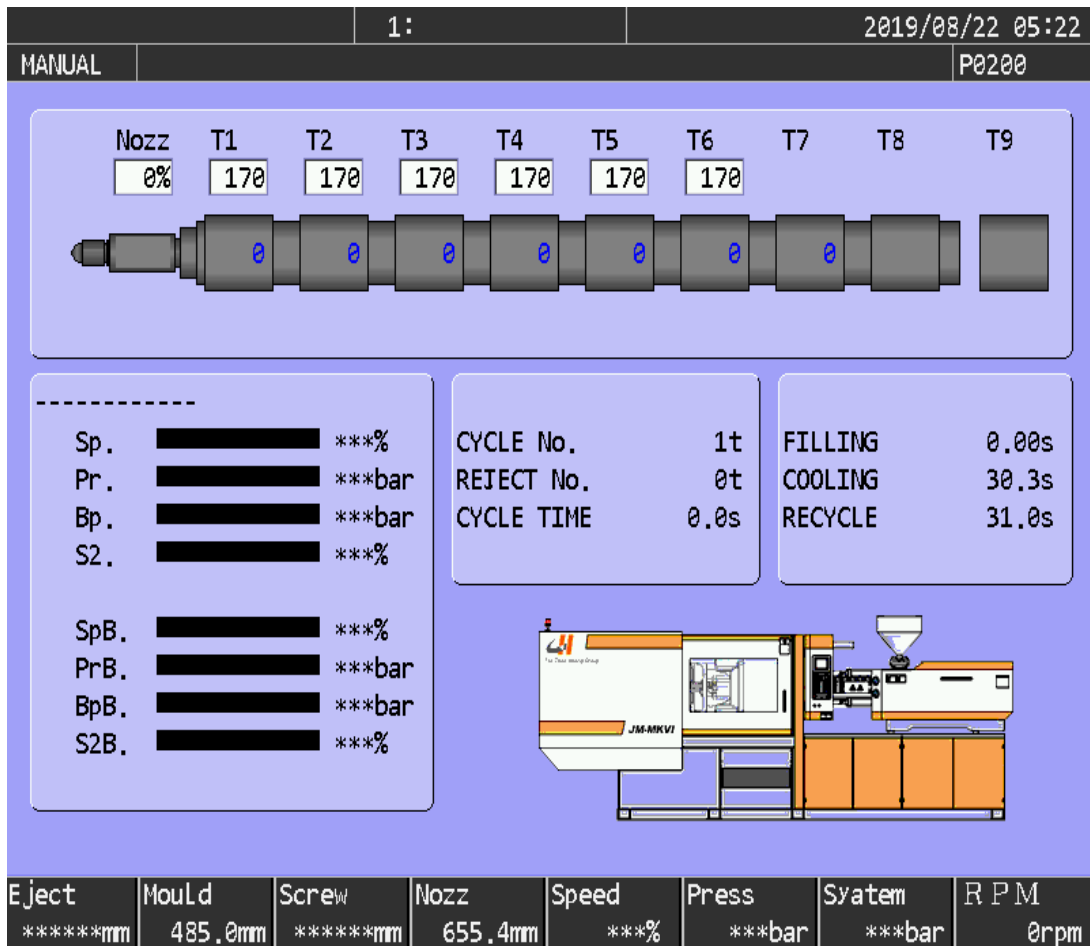
(operator, supervisor, factory)
Press any screen keys for skip.

- 1) After turning on the computer, the system is under automatic inspection. If press  , the interface (01), which shows the machine type, machine model, serial number and program, will appear. If the machine needs maintenance or technical inquiry, please inform this information to the customer service department of our company for instant service.
- 2) If no action is conducted, the system will automatically switch to the interface (02) after about 3 seconds, which reminds you to input the 6 digits password or press any screen keys for skip. The password is classified into 3 levels of authorities: Operator, Supervisor and Factory. Each password will allow you to login the corresponding level of screens without inputting the password again. It will switch into operation interface (03) automatically after 3 seconds.

5.2 Normal Operation Setting

5.2.1 Normal Operation Screen

Normal Operation Screen



The screenshot displays the following information:

- Top bar: 1: | 2019/08/22 05:22
- Mode: MANUAL | P0200
- Temperature settings: Nozz (0%), T1 (170), T2 (170), T3 (170), T4 (170), T5 (170), T6 (170), T7 (0), T8 (0), T9 (0)
- Machine diagram: JM-MKV1
- Performance metrics:


Sp.	██████████	***%	CYCLE No.	1t	FILLING	0.00s
Pr.	██████████	***bar	REJECT No.	0t	COOLING	30.3s
Bp.	██████████	***bar	CYCLE TIME	0.0s	RECYCLE	31.0s
S2.	██████████	***%				
- Bottom status bar:


Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press **MAIN** one time to display this interface (After the normal start of the system, the default is manual operation. After the start is completed, this interface will appear automatically).



To modify the set value of temperature (Nozzle, T1~T9、Oil), use  to select the temperature stage to be set, input the numerical value and

press , then the setting is complete.

This interface is used to monitor the relevant parameters of operation and each stage temperature settings of the barrel.

"Nozzle parameter": Nozzle temperature setting

"T1": Stage 1 temperature setting

"T2": Stage 2 temperature setting

"T3": Stage 3 temperature setting

"T4": Stage 4 temperature setting (depend on machine model)

"T5": Stage 5 temperature setting (depend on machine model)

"T6": Stage 6 temperature setting (depend on machine model)

"T7": Stage 7 temperature setting (depend on machine model)

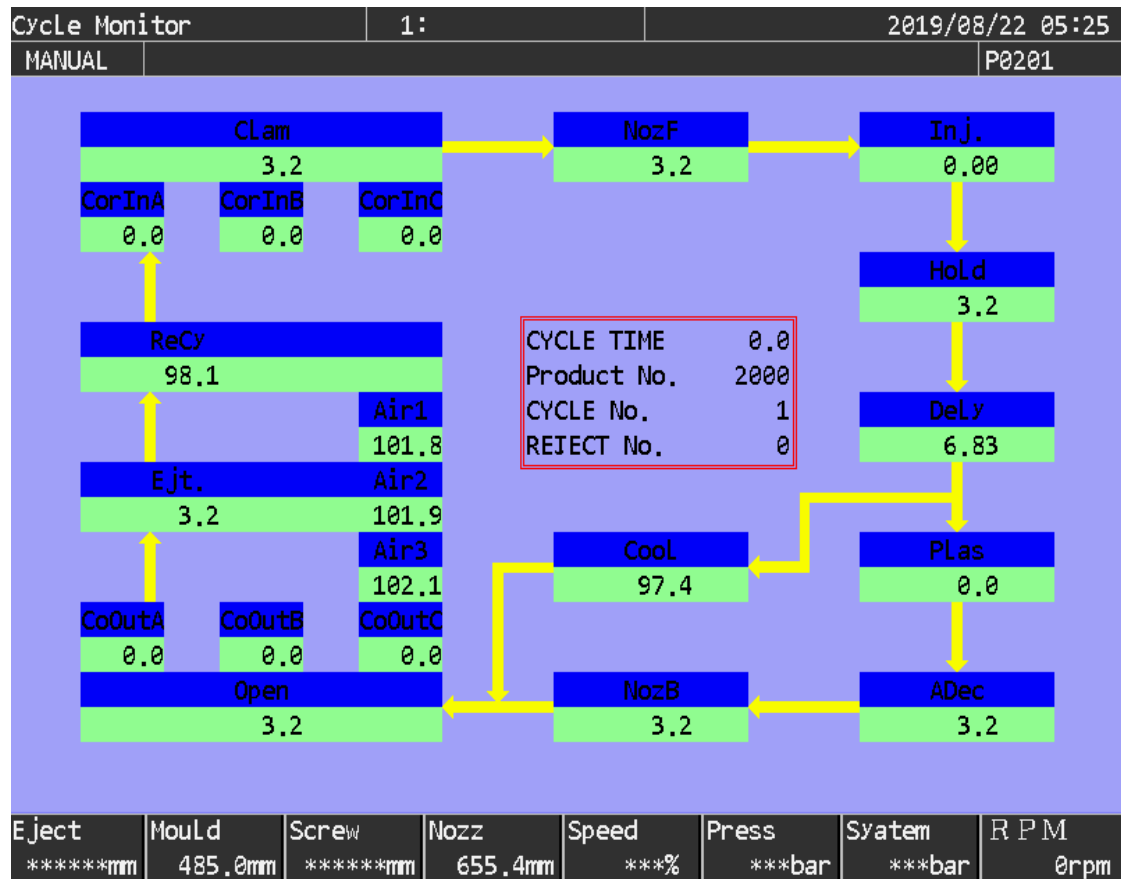
"T8": Stage 8 temperature setting (depend on machine model)

"T9": Stage 9 temperature setting (depend on machine model)

Note : T7 can be selected as oil temperature control or barrel heating control.

5.2.2 Cycle Monitor

Cycle Monitor Screen



Press **MAIN** twice to call the cycle monitor screen , which shows the entire action cycle:

Clamping —→ Carriage Forward —→ Injection —→ Pressure Holding
 —→ Delay..... —→ Ejector —→ Recycle

The numerical value of each step is the time consumption of this step. The frame in the middle of the interface shows the cycle time, product number, cycle number and rejected part number.


5.2.3 Mould Opening Setting

Mould Opening Setting Screen

Mould Open Close Setting		1:	2019/08/22 05:43				
MANUAL				P0300			
Maximum Mould 555.5mm		CYLINDER 485.00mm					
Maximum Press 175bar		Act Clamp Forc9998ton					
LOW PR.DETEC 0.0s		LP Protect		3019ton			
Slow open	Sp. 50%	Pr. 99bar	Pos. 14.00mm				
Open2							
Open3							
Fast open	50%	99bar	100.00mm				
Open end	50%	30bar	200.00mm				
H.P.OPEN END			0.00mm				
Syn. Eject			5.00mm				
Open Aux 3			0.00mm				
Open Aux 4			0.00mm				
Fast cLamp	50%	99bar	50.00mm				
CLamp2							
CLamp3							
LP CLamp	50%	40bar	10.00mm				
HP CLamp	50%	99bar	1.00mm				
Clamping Aux			0.00mm				
Clamp Aux 2			0.00mm				
Clamping Forc	0ton		0.00mm				
hydraulic							
Low Press	0ton						
Clamping Forc	0ton						
Eject	Mould	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.00mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  to call mould open close setting screen .

Use  to select the parameters to be set, input the numerical value and



press , then the setting is complete.

B1 to B5、 C1 to C5、 D1 to D5 are the opening speed, pressure and position setting.

E1 to E5、 F1 to F5、 G1 to G5 are the clamping speed, pressure and position setting.

D6 is open end position for high pressure cylinder in two platen machine

D7 is the synchronise open position , mainly use for starting ejecting for parallel motion.

Low PR detect use in machine with mold low pressure protection sensor, when the sensor detect higher than this setting, it alarms and stop production.

G5 is the clamping end position.

F6 is use for two platen machine, setting the pressure switching from low to high pressure .

F8 use for two platen machine, setting the pressure of clamping end.



“clamping force” is use to display the clamping force and correspond pulse position for automatic force adjustment.

5.2.4 Injection Setting

Injection Setting Screen

Injection Setting		1:	2019/08/22 05:51																																																																																																		
MANUAL				P0400																																																																																																	
Max. Stroke	240.0mm	FILLING	0.00s	Cushion End 0.0mm																																																																																																	
INJECT TIME	10.14s	Hold Change	Position	Inject Press 3bar																																																																																																	
<table border="1"> <thead> <tr> <th></th> <th>Sp.</th> <th>Pr.</th> <th>Time</th> </tr> </thead> <tbody> <tr><td>Hold1</td><td>50%</td><td>30bar</td><td>101.5s</td></tr> <tr><td>Hold2</td><td>50%</td><td>30bar</td><td>101.6s</td></tr> <tr><td>Hold3</td><td>0%</td><td>30bar</td><td>101.7s</td></tr> <tr><td>Hold4</td><td>0%</td><td>30bar</td><td>101.8s</td></tr> <tr><td>Hold5</td><td>0%</td><td>30bar</td><td>101.9s</td></tr> <tr><td>Hold6</td><td>0%</td><td>30bar</td><td>108.0s</td></tr> <tr><td>Hold7</td><td>0%</td><td>30bar</td><td>108.1s</td></tr> <tr><td>Hold8</td><td>0%</td><td>30bar</td><td>108.2s</td></tr> <tr><td>Hold9</td><td></td><td></td><td></td></tr> <tr><td>Hold10</td><td></td><td></td><td></td></tr> </tbody> </table>		Sp.	Pr.	Time	Hold1	50%	30bar	101.5s	Hold2	50%	30bar	101.6s	Hold3	0%	30bar	101.7s	Hold4	0%	30bar	101.8s	Hold5	0%	30bar	101.9s	Hold6	0%	30bar	108.0s	Hold7	0%	30bar	108.1s	Hold8	0%	30bar	108.2s	Hold9				Hold10				<table border="1"> <thead> <tr> <th></th> <th>Sp.</th> <th>Pr.</th> <th>Pos.</th> </tr> </thead> <tbody> <tr><td>Inject1</td><td>50%</td><td>30bar</td><td>100.0mm</td></tr> <tr><td>Inject2</td><td>50%</td><td>30bar</td><td>80.0mm</td></tr> <tr><td>Inject3</td><td>50%</td><td>30bar</td><td>60.0mm</td></tr> <tr><td>Inject4</td><td>50%</td><td>30bar</td><td>1.0mm</td></tr> <tr><td>Inject5</td><td>50%</td><td>30bar</td><td>0.0mm</td></tr> <tr><td>Inject6</td><td>50%</td><td>30bar</td><td>0.0mm</td></tr> <tr><td>Inject7</td><td>50%</td><td>30bar</td><td>0.0mm</td></tr> <tr><td>Inject8</td><td>50%</td><td>30bar</td><td>0.0mm</td></tr> <tr><td>Inject9</td><td></td><td></td><td></td></tr> <tr><td>Inject10</td><td></td><td></td><td></td></tr> <tr><td>Hold Pre.POS</td><td></td><td></td><td>0.0mm</td></tr> <tr><td>Leakage POS</td><td></td><td></td><td>0.0mm</td></tr> <tr><td>INT AUX</td><td></td><td></td><td>0.0mm</td></tr> </tbody> </table>		Sp.	Pr.	Pos.	Inject1	50%	30bar	100.0mm	Inject2	50%	30bar	80.0mm	Inject3	50%	30bar	60.0mm	Inject4	50%	30bar	1.0mm	Inject5	50%	30bar	0.0mm	Inject6	50%	30bar	0.0mm	Inject7	50%	30bar	0.0mm	Inject8	50%	30bar	0.0mm	Inject9				Inject10				Hold Pre.POS			0.0mm	Leakage POS			0.0mm	INT AUX			0.0mm
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*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm																																																																																														

Press  to call the injection setting screen .

Use  to select the parameters to be set, input the numerical value and press , then the setting is complete.

Holding pressure can be switching either by (position 、 timer、 pressure) . Injection processing parameters including

speed pressure and position, holding pressure switching position and overflow position setting.

5.2.5 Sequential Injection Control Setting

Sequential Injection Control Setting Screen

Sequential Injection		1:	2019/08/22 05:54				
MANUAL							P0401
SEQ.INJECT. <input type="checkbox"/>		SWITCHING	Position		Gate1 Minimum	9.9mm	
	ON Pos.	OFF Pos.	DELAY	Time	DELAY	Time	
GateValve1	10.0mm	30.0mm				<input type="checkbox"/>	
GateValve2	11.0mm	31.0mm				<input type="checkbox"/>	
GateValve3	12.0mm	32.0mm				<input type="checkbox"/>	
GateValve4	13.0mm	33.0mm				<input type="checkbox"/>	
GateValve5	14.0mm	34.0mm				<input type="checkbox"/>	
GateValve6	15.0mm	35.0mm				<input type="checkbox"/>	
GateValve7	16.0mm	36.0mm				<input type="checkbox"/>	
GateValve8	17.0mm	37.0mm				<input type="checkbox"/>	
GateValve9	18.0mm	38.0mm				<input type="checkbox"/>	
GateValve10	19.0mm	39.0mm				<input type="checkbox"/>	
Eject	Mould	Screw	Nozz	Speed	Press	System	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  two times to call the sequential injection control setting screen .



Use  to select the parameters to be set, input the numerical

value and press , then the setting is complete.

This interface is used to control the injection sequence of each mould

cavity (position and time control). (Optional function)

cavity (position and time control). (Optional function)cavity (position and

5.2.6 Automatic Purge Setting

Automatic Purge Setting Screen

Auto Purge Setting		1:	2019/08/22 05:57	
MANUAL				P0404
Gas	<input type="checkbox"/> OFF			
Pos	<input type="text" value="0.0mm"/>			
DELAY	<input type="text" value="110.4s"/>			
EXTRUSION		<input type="checkbox"/> OFF		
Sp.	<input type="text" value="27%"/>	Pr.	<input type="text" value="29bar"/>	Time
			<input type="text" value="110.0s"/>	
PURGE		<input type="text" value="2003t"/>		
	Sp.	Pr.	Bp.	Time
Plast	<input type="text" value="38%"/>	<input type="text" value="30bar"/>	<input type="text" value="0bar"/>	<input type="text" value="102.0s"/>
Inject	<input type="text" value="39%"/>	<input type="text" value="30bar"/>		<input type="text" value="0.0mm"/>
Decomp	<input type="text" value="40%"/>	<input type="text" value="30bar"/>		<input type="text" value="9.9mm"/>
Eject	MouLd	Screw	Nozz	Speed
*****mm	485.0mm	*****mm	655.4mm	***%
Press	Syatem	R P M		
***bar	***bar	0rpm		



Press  three times to call the automatic purge setting screen .



Use  to select the parameters to be set, input the numerical

value and press , then the setting is complete.



To choose the mode, use  to find the parameters to be

selected, and use  or  to select. “ON” as use ,

“OFF” as not use.

A is injection position start point for gas assist function.

A1、A2、A3 are the speed, pressure and timer for the fuction of instrusion by plasticization.

This fuction provide pushing melt material to the mold before injection for big volume product.

The function of automatic purge is used when changing plastics and offers the setting of relevant parameters during the purge. The purge times is the number that the plastics being injected from the barrel. (Optional function)

5.2.7 Plasticization/Decompression Setting

Plasticization/Decompression Setting Screen


Plast/Decomp Setting		Mold Name:	No.: 1	2009-3-17 15:05	
MANUAL		P010			
MAX. Stroke	240mm	PLAST	0.00s	Screw End	0.0mm
	Sp.	Pr.	Bp.	Pos.	
PLAST1	A1 %	B1 bar	C1 bar	D1 mm	PLAST DLY. E s
PLAST2	A2 %	B2 bar	C2 bar	D2 mm	
PLAST3	A3 %	B3 bar	C3 bar	D3 mm	
PLAST4	A4 %	B4 bar	C4 bar	D4 mm	
PLAST5	A5 %	B5 bar	C5 bar	D5 mm	
PLAST6	A6 %	B6 bar	C6 bar	D6 mm	
PLAST7	A7 %	B7 bar	C7 bar	D7 mm	
PLAST8	A8 %	B8 bar	C8 bar	D8 mm	
PLAST9	A9 %	B9 bar	C9 bar	D9 mm	
PLAST10	A10 %	B10 bar	C10 bar	D10 mm	
Decomp Aft	F1 %	F2 bar	F3 mm	Decomp Bef	OFF
	0000.0 mm	PPPP.P mm	0000.0 mm	SSS	Kg/cm ³



Press  to call the plasticization/decompression setting screen .



Use  to select the parameters to be set, input the numerical

value and press , then the setting is complete.

Melt Decompression before plasticization function can be selected and have independ F1 & F2 & F3 for speed , pressure and position setting.

5.2.8 Ejector Setting/ Air blow setting

Ejector Setting Screen

Air Setting		1:	2019/08/22 06:01				
MANUAL			P0502				
Air1	After open	Air2	Not use				
Air1 Start Position	5.0mm	Air2 Start Position	9.9mm				
AIR 1 DELAY	105.6s	AIR 2 DELAY	105.7s				
AIR 1 TIMER	105.0s	AIR 2 TIMER	105.1s				
Air3	Not use	Air4	Not use				
Air3 Start Position	4.0mm	Air4 Start Position	400.0mm				
AIR 3 DELAY	105.2s	AIR 4 DELAY	110.1s				
AIR 3 TIMER	105.3s	AIR 4 TIMER	110.2s				
Air5	Before open	Air6	After eject				
Air5 Start Position	41.0mm	Air6 Start Position	42.0mm				
AIR 5 DELAY	112.6s	AIR 6 DELAY	112.8s				
AIR 5 TIMER	112.7s	AIR 6 TIMER	112.9s				
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  to call the ejector setting screen .



Use  to select the parameters to be set, input the numerical



value and press , then the setting is complete.



To choose the mode, use  to find the parameters to be selected,

and use  or  to select.

The interface is used to set the parameters of speed, pressure and position in each stage of ejector and other advanced parameters, including 3 kinds of ejector modes (Not Use, Stop and Multi), auxiliary ejector, ejector pause, eject number and vibration ejector.

The lower part of screen consist of data setting for four sets of airblow functions. Including : selection of start point (open position、after open end 、 before open、 after ejecting、 not use mode. Action delay and action time can be adjusted for the air blow duration.

5.2.9 Carriage Setting

Carriage Setting Screen

Carriage Setting		1:		2019/08/22 06:52			
MANUAL						P1900	
Max. Stroke	300.0mm			Actual Pos.	655.4mm		
Carr Control	OFF position						
	Sp.	Pr.	Pos.	Time			
Carr Fast	0%	30bar		103.2s			
Carr Slow	0%	30bar					
	Sp.	Pr.	Pos.	Time			
Carr Back	0%	30bar		103.3s			
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  to call the carriage setting screen .



Use  to select the parameters to be set, input the numerical

value and press , then the setting is complete.

This screen is for setting parameters for nozzle unit including nozzle forward and backward speed, pressure, position.

If the carriage control by position is ON, position data are shown. In order to have this function, carriage linear sensor must be mounted.

5.2.10 Core Pulling Setting


Core Pulling 1 Setting Screen

Core Setting		1:		2019/08/22 07:16			
MANUAL				P2500			
Core 1	CoreInLimit	100.0mm		CoreOutLimit	110.0mm		
Core In Cycle	Timer			Core Out Cycle	Timer		
Core In Mode	Not Use			Core Out Mode	Not Use		
Core In	Sp.	Pr.	Time	Core Out	Sp.	Pr.	Time
	0%	30bar	102.2s		0%	30bar	102.3s
Core In DLY	113.8s			Core Out DLY	113.9s		
Core 2	CoreInLimit	120.0mm		CoreOutLimit	130.0mm		
Core In Cycle	Timer			Core Out Cycle	Timer		
Core In Mode	Not Use			Core Out Mode	Not Use		
Core In	Sp.	Pr.	Time	Core Out	Sp.	Pr.	Time
	0%	30bar	102.4s		0%	30bar	102.5s
Core In DLY	125.2s			Core Out DLY	125.3s		
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm

Core Pulling 2 Setting Screen

Core Setting	Mold Name:	No.: 1	2009-3-17 15:02
MANUAL	P015		
Core D Setting		Core In/Out One Cycle	
Core In mode		Core Out Mode	
Sp.	Pr.	Time	Sp.
Core In A1 %	A2 bar	A3 s	Core Out A4 %
			A5 bar
			A6 s
Core E Setting		Coer In/Out One Cycle	
Core In mode		Core Out Mode	
Sp.	Pr.	Time	Sp.
Core In B1 %	B2 bar	B3 s	Core Out B4 %
			B5 bar
			B6 s
Core F Setting		Coer In/Out One Cycle	
Core In mode		Core Out Mode	
Sp.	Pr.	Time	Sp.
Core In C1 %	C2 bar	C3 s	Core Out C4 %
			C5 bar
			C6 s
0000.0 mm		PPPP.P mm	
0000.0 mm		SSS Kg/cm ²	



Press  one time or two times, then the core pulling 1 setting screen (15) or core pulling 2 setting screen will appear.



Use  to select the parameters to be set, input the numerical



value and press , then the setting is complete.



To choose the mode, use  to find the parameters to be selected,



and use  or  to select.

Core is the action of pulling and inserting cores, that is, during mould clamping, use the oil cylinder to insert the core into the mould for injection; while during mould opening, pull back the core to the original position. This function mostly applies to moulds whose finished products are hollow.

Unscrewing is the revolving positioning control on the finished products with unscrewing by the oil hydraulic motor.

Please check if the machine has relevant configurations before using the functions above.


Setting of Core/Unscrewing: Computer can offer at most 6 groups of Core/Unscrewing control, subject to the configuration of the machine. Each Core/Unscrewing can individually set the pressure, speed and action time according to requirements.

Note: In the automatic mode, the injection and core are approaching at the same time in case that the core will contract due to injection, so the Core and Unscrewing cannot be used simultaneously. When using the function of unscrewing, the mode of Core In/Out One Cycle shall be selected as Timer.

5.2.11 Core pull sequence Setting





Press  key three times, the above screen are displayed, This screen is for freely core pull sequence setting.

If sequence core pull was OFF, six core in sequence will be A→B→C→D→E→F, six core out sequence will be F→E→D→C→B→A (for six core pull setting with same mode) .

If sequence core pull was ON, core pull can be at any sequence A, B, C, D, E, F, setting “0” mean no core pull action, For example of setting : 2, 3, 4, 6, 5, 1, it mean six core in sequence will be : F→A→B→C→E→D, six core out sequence are reverse, it will be D→E→C→B→A→F.

Note. The sequence number for A, B, C, D, E, F do not allow setting same number (except 0, it mean not use) .

5.2.12 Timer /counter Setting

Timer Setting Screen

Timer Setting		1:	2019/08/22 06:03	
MANUAL			P0600	
PLAST DLY.	10.05	0.00	CYCLE No.	2000 1
COOLING	100.6	82.7	REJECT No.	2001 0
RECYCLE	101.3	83.4	PRODUCT TIME	200.2 0.1
MELT BEF PLA	103.4	85.5	LUB.2 CYCLE	2007 *****
CYCLE TIMER	1035	1018	CYCLE MONIT	2008 *****
EJE OUT DLY	10.36	0.00	FORCE BWD	0 *****
LOW PR.DETEC	10.37	0.00	FORCE FWD	2010 *****
HP CHARGE DL	10.38	0.00	GATE CORE	2011 *****
HP END DELAY	10.39	0.00	UNSCREW IN C	2012 *****
CLAMP END DL	10.40	0.00	UNSCREW OT C	2013 *****
VIB EJECT	10.41	0.00		
CARR.BWD DLY	104.2	86.3		
CARR.END DLY	10.43	0.00		
PURGE BUFFER	104.4	86.5		
DR OPEN SLOW	10.45	0.00		
DOOR OPEN	10.46	0.00		

Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  one time to call the timer setting screen .



Use  to select the parameters be set, input the numerical value



and press , then the setting is complete.



This interface is used to set the parameters of relevant timers inside the controller (including the following time relay: plasticizing delay, cooling time, recycle, decompression before plasticizing, cycle alarm, eject out delay, low pressure clamping detection, high pressure charge delay, high pressure end delay, clamping end delay, vibration ejection, carriage backward delay, carriage end delay, purge buffer, slow door open and door open time).

Counter Setting Screen

Counter Monitor		1:		2019/08/22 06:25	
MANUAL				P1100	
	Set.	Act.		Set.	Act.
CT00 CYCLE No.	2000	1	CT15 VIB.EJT.No.B	2015	*****
CT01 REJECT No.	2001	0	CT16 LUB.1 COUNT	2016	*****
CT02 PRODUCT TIME	200.2	0.1	CT17 LUB.2 COUNT	2017	*****
CT03 PURGE	2003	*****	CT18 GATE AUTO	2018	*****
CT04 EJECT No.	2004	*****	CT19 PURGE B	2019	*****
CT05 VIB.EJT.No.	2005	*****	CT20 LUB.3 CYCLE	2020	*****
CT06 LUB.1 CYCLE	2006	*****	CT21 LUB.3 COUNT	2021	*****
CT07 LUB.2 CYCLE	2007	*****	CT22 LUB1 STAGE1	2022	*****
CT08 CYCLE MONIT	2008	*****	CT23 LUB1 CYCLE1	2023	*****
CT09 FORCE BWD	0	*****	CT24 LUB1 COUNT1	2024	*****
CT10 FORCE FWD	2010	*****	CT25 LUB1 STAGE2	2025	*****
CT11 GATE CORE	2011	*****	CT26 LUB1 CYCLE2	2026	*****
CT12 UNSCREW IN C	2012	*****	CT27 LUB1 COUNT2	2027	*****
CT13 UNSCREW OT C	2013	*****	CT28 CT28	2028	*****
CT14 EJECT No. B	2014	*****	CT29 CyLinder exh	2029	*****

Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	RPM
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm

Press , then the counter setting screen will appear.

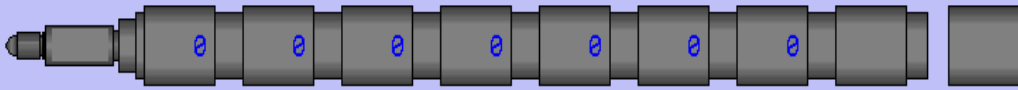
Use  to select the parameters to be set, input the numerical value and press , then the setting is complete.

This interface can be used to set the parameters of relevant counters inside the controller (including the following counter relay: cycle number, rejected part number, production time, grease cycle, cycle monitor, force backward, force forward, auxiliary 11, unscrew in C count and unscrew out C count).

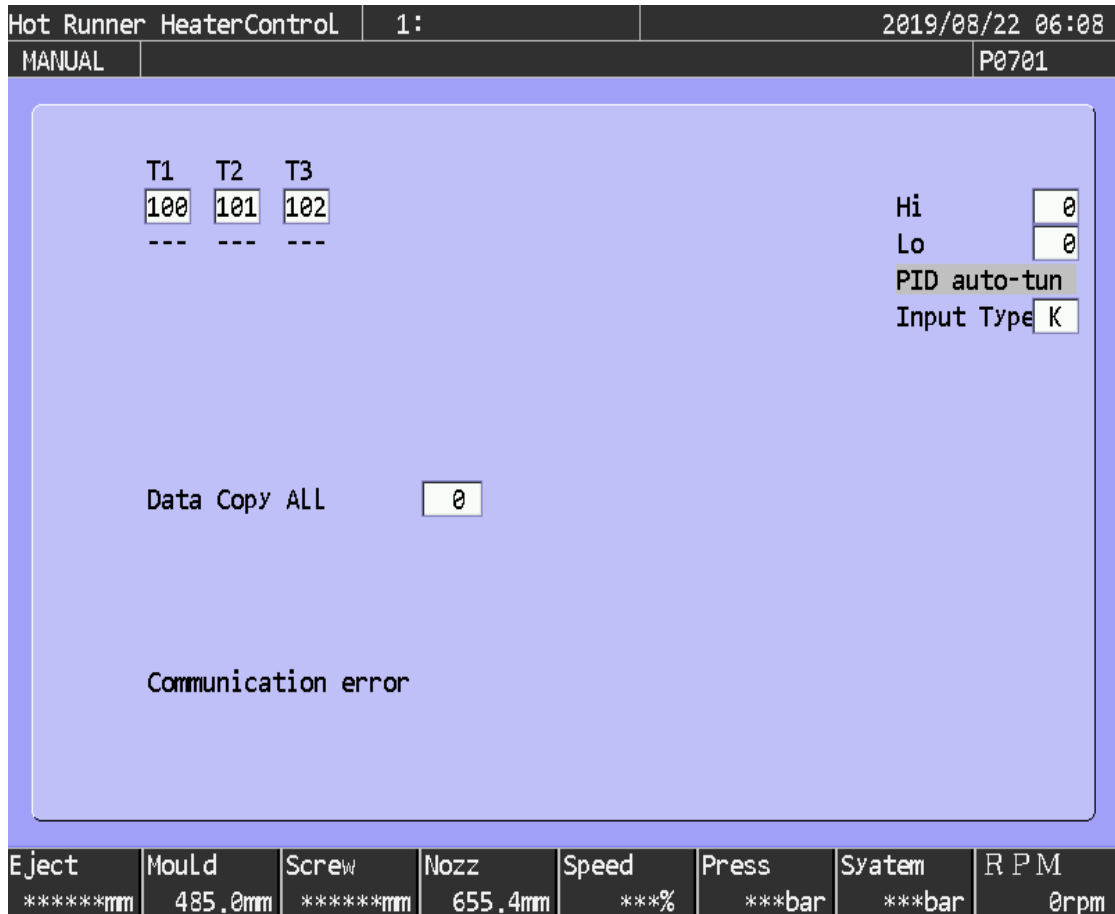
5.2.13 Temperature Deviation Alarm Setting

Temperature Deviation Alarm Setting Screen

Temperature		1:		2019/08/22 06:05					
MANUAL								P0700	

Nozz	T1	T2	T3	T4	T5	T6	T7	T8	T9
0%	170	170	170	170	170	170			
									
+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	+ 0	+ 0
- 10	- 10	- 10	- 10	- 10	- 10	- 10	- 10	- 0	- 0
CoolingStart	201	202	203	204	205	206	207	208	209
Preheat	0%						Preheat&Pump off		113.7min
cold start pro	106.9min								
Mode	SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.		
Start	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Eject	Mould	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm




Press , then the temperature deviation alarm setting screen will appear.



Use  to select the parameters to be set, input the numerical



value and press , then the setting is complete.

This interface is used to control the temperature of each stage of the barrel. The “A” values are the set temperature of each stage, generally working in combination with parameter “B”, “C” (if A=200, B=10, C=10, thus the temperature is controlled between “A - C” and “A + B”, that is 190⁰C~210⁰C).

Alarm will ring if the temperature exceeds the range: “AL03: Barrel Temperature Not Reach” or “AL43: Barrel Temperature Too High”.

Preheat Function: control the current temperature of each stage of barrel as $A \times (1 - D\%)$.

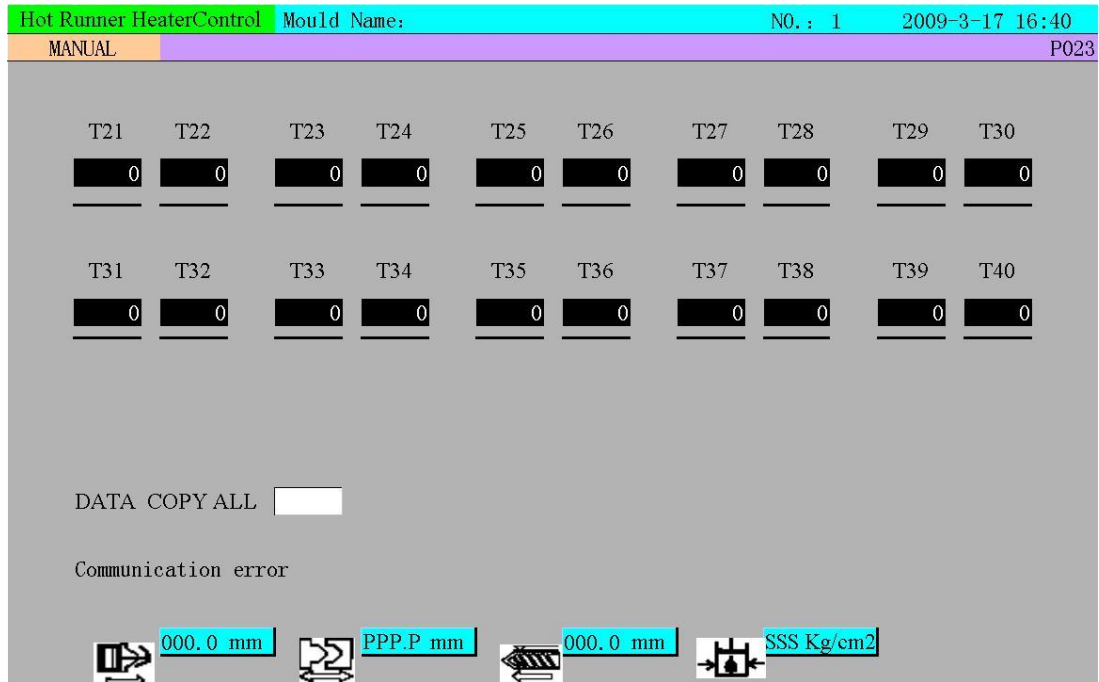
Monday to Sunday “ON”、“”、“OFF” are use for select the preheat schedule timer, “F” is the preheat starting time each weekday.


Blue figures display on the barrel diagram are the actual temperature for each channel.



Hot runner Setting Screen

Hot Runner HeaterControl		Mould Name:		No. : 1		2009-3-17 16:39				
MANUAL										P022
T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	
0	0	0	0	0	0	0	0	0	0	
T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	
0	0	0	0	0	0	0	0	0	0	
DATA COPY ALL <input type="checkbox"/>										
Communication error										
	000.0 mm		PPP.P mm		000.0 mm		SSS Kg/cm2			

Hot runner Setting Screen



Press  2, 3 or 4 times, then the heat channel setting screen will appear separately.

Use  to select the parameters to be set, input the numerical value and press , then the setting is complete.

This interface can realize the independent control of the temperature of each mould heat channel, making the temperature control more flexible and accurate (optional function).

Hot runner temperature control consist of three screens up to 60 channels setting. This function must use Chen Hsong approved type temperature control module (Yudian or Shinko).

5.2.14 Function Setting

Function Setting Screen

Function Setting		1:	2019/03/22 06:11				
MANUAL			P0800				
Boost	OFF	Robot ON	OFF	DR OPEN TIME	OFF		
SPRING MOULD	OFF	NOZ BLK	OFF	Oil Preheat	OFF		
Acc Inject	OFF	NozLeak ALrm	OFF	NOZZLE TURN	OFF		
MD BEF	OFF	No Mat ALrm	OFF	HYD MD ADJ	OFF		
Boost Inject	OFF	Auto Color	OFF	Quality Cont	OFF		
Boost Plast	OFF	SPECIAL EJT	OFF	TBfwd Aft Ej	OFF		
HOLD CORE IN	OFF	EJECT PLATE	OFF	TieBar Test	OFF		
Hyd.Nozz.ON	OFF	SPECIAL CORE	OFF	TBbwd Bef CL	OFF		
Photo Eye ON	OFF	AUTO PURGE	OFF	SEQ CORE	OFF		
CoreP ReLeas	OFF	HydGateValve	OFF	VariablePump	OFF		
HotRunner PW	OFF	Power Mmonit	OFF	MF144	OFF		
Mould Eject	OFF	HeaterMmonit	OFF	MF145	OFF		
Auto Door	OFF	TwiceMDClose	OFF	MF146	OFF		
Ass.Injdevic	OFF	MF140	OFF	HP holding	OFF		
MouldMonitor	OFF	MF141	OFF	MDthkCalcuLa	OFF		
CLamperMonit	OFF	MF142	OFF	TB No Sensor	OFF		
Auto Stop	Not Use						
Syn Action	Not Use						
Eject	Mould	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  then the function setting screen will appear.



Use  to move the cursor to the function to be set, press 



to select "ON"; press  to select "OFF", then the setting is complete.



1) Auto Stop: use  or  to select the following four modes, which are used with forming numbers, production batch setting and fault stop.

(i) Not Use not using automatic stop function

(ii) Pump stop pump only when automatic stop is activate

(iii) Heater stop heating only when automatic stop is activate

(iv) Pump&Heater stop heating and pump when automatic stop is activate

2) Synchronise Action:

(i) Eject: When choosing Eject, the mould opening and ejection can be processed at the same time, and the position of mould opening when the ejection is started can be set.

(ii) Plast: When choosing Plast, the mould opening and ejection can be processed while plasticizing.

(iii)Core: When choosing Core, the action of core inserting and pulling can be processed while mould opening and clamping.

(iv)Not Use

(3) Accumlator Injection: When choosing “ON”, the accumulator injection device can be used (User has to order this device separately)

(4) Nozzle Leakage Alarm: When choosing “ON”, alarm will occur if the nozzle in leaks (optional device)..

(5) No Material Alarm: When choosing “ON”, alarm will ring if there is no material in the hopper; when choosing “OFF”, no alarm will be given even if the plasticizing is not completed when the cooling time ends.

(6) Nozzle block alarm: Under automatic operation, when injection holding was end but the injection position still not yet reach injection stage II position, it is regard as nozzle block, it will alarm and stop recycle。

(7) core pull holding: keep core pull action during injection, in order to prevent the retraction of cores。

(8) Photo sensor: monitoring of dropping product by photo sensor. If there are no dropping product were detected by photo

sensor after cycle end, it will regard as product drop out failure. Alarm comes out and stop recycle.

(9) Hydraulic shut-off nozzle: (optional devices) 。

(10) ejector plate return confirmation: It is used for confirming the retract of ejector plate. If this function is selected, clamping is not allowed when confirmation switch is not ON.








5.2.15 Mould Data Selection

Mould Data Selection Screen

Mould Select		1:	2019/08/22 06:13				
MANUAL						P0900	
001	007	013					
002	008	014					
003	009	015					
004	010	016					
005	011	017					
006	012	018					
No. search	<input type="text" value="1"/>	MoLdName	<input type="text"/>	Name search	<input type="text"/>		
Mould Copy	<input type="text" value="1"/>	→	<input type="text" value="1"/>				
Mould Sel	<input type="text" value="1"/>						
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



The procedure of mould data operation:


- 1) Move the cursor to the position of mould number A1, input the number and press , thus complete the setting of mould number.
- 2) Use  to move the cursor to the position of B1, input the letters or digits use  to input the next letter. Then press  to complete the setting of mould data remark.
- 3) If changing the mould number 01 to 02 is required, move the cursor to the position of mould selection A3, input 02 and press . For confirmation, press ; or else press .


150 groups of mould data memory are available, of which, mould data No. 1 to No.99 are standard data module, and No. 101 to No.150 are easy operation module (some of which can only be altered by mould data 100). Failure to alter the data means no duplication can be realized, so do make free with the mould data 100.

Mold data setting screen 2:

This screen is for upload and download of mold data between MPC-7.0 controller and SD card memory device (SD memory card and SD card reading device is provided as option) .



After connecting SD memory card and memory card reading device(screen with“**No Device**”will be disappear), setting downloading mold number at A2 position ,

press  key to downloading data to SD memory card device, the LED indicator will be flashing until downloading process are finished. At A3 position, set the uploading mold

number, then press  key to upload the mold number data from SD memory card to MPC-7.0 controller, the LED indicator will be flashing during uploading, data transfer will be stopped if the LED light off.

Backup of mold data in FRAM:

FRAM is a new memory device on the CPU board of **MPC-7.0** controller, it can be used for backup of mold data and machine parameters when the battery is in failure .

(1) Move cursor to “backup” position, press  key, “backup” will be displayed with “? ”, then press  key to complete the mold data backup process, Mold set data number 1 to 10 will be saved in the FRAM.

(2) Move cursor to select “recover” , and then press confirm key to recover the Mold set data number 1 to 10 saved in the FRAM.

5.2.16 Statistic Value

Quality Statistics Screen 1

Statistic		1:		2019/08/22 07:27					
MANUAL								P2700	
<input type="button" value="RESET"/> <input type="button" value="SD:OFF"/>									
	Target	Toler.		Curr.	Prev.				
Cycle No.				1	1	1			
Open Time	0.0	± 0.0	OFF	101.1	17.3	18.4	101.1	0.0	24.3
Clamp Time	0.0	± 0.0	OFF	100.1	17.3	18.4	100.1	0.0	24.2
Inject Time	0.00	± 0.00	OFF	0.00	0.00	0.00	0.00	0.00	0.00
Plast Time	0.0	± 0.0	OFF	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Time	0.0	± 0.0	OFF	0.0	0.0	0.0	1.0	0.0	0.0
Hold Pos	0.0	± 0.0	OFF	0.0	0.0	0.0	0.0	0.0	0.0
Inject End	0.0	± 0.0	OFF	0.0	0.0	0.0	0.0	0.0	0.0
Plast End	0.0	± 0.0	OFF	*****	*****	*****	*****	*****	*****
Open Pos	0.0	± 0.0	OFF	485.0	485.0	485.0	485.0	485.0	485.0
MAX INJ SP.	0.0	± 0.0	OFF	0.0	0.0	0.0	0.0	0.0	0.0
MAX RPM	0	± 0	OFF	0	0	0	0	0	0
Quality				OK	OK	OK			
Product Ti 0.1 Product 1 Defect 0 (0.0%)									
Eject	Mould	Screw	Nozz	Speed	Press	System	R P M		
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm		

Statistic		1:		2019/08/22 07:29									
MANUAL												P2701	
Cycle Cnt	Open Time	Clamp Time	Inj Time	PLast Time	Cycle Time	HoLd Pos	Inject Pos	PLast Pos	Open Pos	InjMax Speed	Max Rpm		
1	46.3	46.3	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	101.1	100.1	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	17.3	17.3	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	18.4	18.4	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	97.9	97.9	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	1.4	1.4	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	10.3	10.3	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	9.3	9.3	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	14.3	14.3	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	101.1	100.1	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	13.2	13.2	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	8.1	8.1	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
1	101.1	100.1	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0	OK	
Ave.	24.7	24.6	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0		
Max.	101.1	100.1	0.00	0.0	1.0	0.0	0.0	*****	485.0	0.0	0		
Min.	0.0	0.0	0.00	0.0	0.0	0.0	0.0	*****	485.0	0.0	0		
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M						
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm						



Press **STATIST** to call the quality statistics screen.






Use **Navigation Arrow** to select the parameters to be set, input the numerical







value and press **ENTER**, then the setting is complete.


This screen is for monitoring of quality data. If it is setting with "ON", it is judge to be defective product if data are out of tolerance.

Use  key to move the setting of “production time” , the press  key, with display of “?” , then press  key to reset the production time to zero, this is an accumulating production timer.

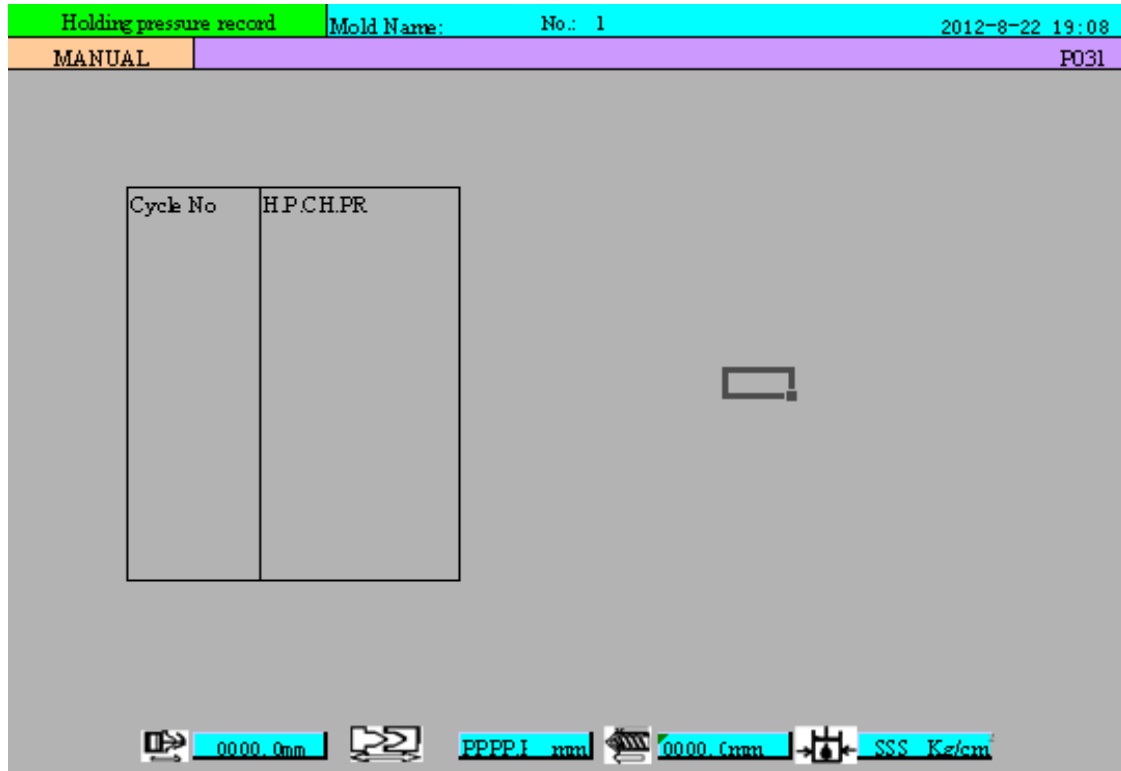
use  key to move “production counter” , press  key, with display of “?” , then press  key to rest the production counyer to zero, this is an accumulating production counter.


Quality Statistics Screen 2

Statistic		Mould Name:		NO. :		1		2012-8-22 10:49		P030		
MANUAL												
Cycle Cnt.	Open Time	Clamp Time	Inj. Time	Plast Time	Cycle Time	Hold POS.	Inject POS.	Plast POS.	Open POS.	InjMAX Speed	MAX RPM	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
0	0	0	0	0	0	0	0	0	0	0	0	OK
Ave.	0	0	0	0	0	0	0	0	0	0	0	OK
Max.	0	0	0	0	0	0	0	0	0	0	0	OK
Min.	0	0	0	0	0	0	0	0	0	0	0	OK
	0000.0 mm			0000.0 mm			0000.0 mm			0000.0 Kg/cm2		

press  key twice, more quality data are displayed, this historical data can be upto display 512 sets, new quality data will be overwrite the the earliest data.

Holding pressure recod screen



By pressing  three times, actual injection holding pressure will be displayed, the historical data can be up to 512 cycle. This quality data is provided only when the option of injection pressure sensor was mounted.

5.2.17 Timer Monitor

Timer Monitor Screen




Timer Monitor		1:		2019/08/22 06:16			
MANUAL				P1000			
	Set.	Act.		Set.	Act.		
TM000	CYCLE TIME	100.0	0.0	TM017	HOLD3 TIME	101.7	101.7
TM001	CLAMP TIME	100.1	100.1	TM018	HOLD4 TIME	101.8	101.8
TM002	CARR. FWD.	100.2	100.2	TM019	HOLD5 TIME	101.9	101.9
TM003	FILLING	10.03	0.00	TM020	PURGE PLAST	102.0	0.0
TM004	HOLD TIME	100.4	100.4	TM021	EJECT PAUSE	102.1	0.0
TM005	PLAST DLY.	10.05	0.00	TM022	CORE 1 IN	102.2	0.0
TM006	COOLING	100.6	0.0	TM023	CORE 1 OUT	102.3	0.0
TM007	BEFORE DECOM	100.7	100.7	TM024	CORE 2 IN	102.4	0.0
TM008	PLAST	100.8	0.0	TM025	CORE 2 OUT	102.5	0.0
TM009	AFTER DECOMP	100.9	100.9	TM026	CORE 3 IN	102.6	0.0
TM010	CARR BWD	101.0	101.0	TM027	CORE 3 OUT	102.7	0.0
TM011	MD OPEN	101.1	101.1	TM028	CORE 4 IN	102.8	0.0
TM012	EJECT TIME	101.2	101.2	TM029	CORE 4 OUT	102.9	0.0
TM013	RECYCLE	101.3	0.0	TM030	LUB.1 TIMER	103.0	0.0
TM014	INJECT TIME	10.14	0.00	TM031	LUB. ALARM	103.1	0.0
TM015	HOLD1 TIME	101.5	101.5	TM032	CARR. FAST	103.2	0.0
TM016	HOLD2 TIME	101.6	101.6	TM033	CARR. BACK	103.3	0.0

Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



press  key once to display the timer monitoring screen.

This screen can be used for monitoring the timers. When

pressing both  +  (or ), six monitor screen can be seen.

The six screen consist of totally 200 timers (from TM00 to TM199) .

5.2.18 Counter Monitor

Counter Monitor Screen

Counter Monitor		1:		2019/08/22 06:25			
MANUAL				P1100			
	Set.	Act.		Set.	Act.		
CT00 CYCLE No.	2000	1	CT15 VIB.EJT.No.B	2015	*****		
CT01 REJECT No.	2001	0	CT16 LUB.1 COUNT	2016	*****		
CT02 PRODUCT TIME	200.2	0.1	CT17 LUB.2 COUNT	2017	*****		
CT03 PURGE	2003	*****	CT18 GATE AUTO	2018	*****		
CT04 EJECT No.	2004	*****	CT19 PURGE B	2019	*****		
CT05 VIB.EJT.No.	2005	*****	CT20 LUB.3 CYCLE	2020	*****		
CT06 LUB.1 CYCLE	2006	*****	CT21 LUB.3 COUNT	2021	*****		
CT07 LUB.2 CYCLE	2007	*****	CT22 LUB1 STAGE1	2022	*****		
CT08 CYCLE MONIT	2008	*****	CT23 LUB1 CYCLE1	2023	*****		
CT09 FORCE BWD	0	*****	CT24 LUB1 COUNT1	2024	*****		
CT10 FORCE FWD	2010	*****	CT25 LUB1 STAGE2	2025	*****		
CT11 GATE CORE	2011	*****	CT26 LUB1 CYCLE2	2026	*****		
CT12 UNSCREW IN C	2012	*****	CT27 LUB1 COUNT2	2027	*****		
CT13 UNSCREW OT C	2013	*****	CT28 CT28	2028	*****		
CT14 EJECT No. B	2014	*****	CT29 CyLinder exh	2029	*****		
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm

press  key twice, counter monitoring screen is displayed.

This screen is to monitor counter data.

5.2.19 Input Monitor

Input Monitor Screen

Input Monitor		1:	2019/08/22 06:27				
MANUAL							P1200
<input type="radio"/> EI000FRONT DOOR <input type="radio"/> EI016MD. ADJ. 0/L <input type="radio"/> EI032MOTOR RUNED <input type="radio"/> EI044ROBOT EMG 2 <input type="radio"/> EI001REAR DOOR <input type="radio"/> EI017PUMP 0/L <input type="radio"/> EI033SLV.PUMP RUN <input type="radio"/> EI045ROBOT OFF <input type="radio"/> EI002SAFETY DR LS <input type="radio"/> EI018ADI 1 FWD LS <input type="radio"/> EI034CORE D IN <input type="radio"/> EI046EN CORE A IN <input type="radio"/> EI003CARRIAGE LS <input type="radio"/> EI019ADI 1 BWD LS <input type="radio"/> EI035CORE D OUT <input type="radio"/> EI047EN CORE A OT <input type="radio"/> EI004CORE B IN <input type="radio"/> EI020MD ADJ COUNT <input type="radio"/> EI036CORE E IN LS <input type="radio"/> EI048EN CORE B IN <input type="radio"/> EI005CORE B OUT <input type="radio"/> EI021LUB. LEVEL <input type="radio"/> EI037CORE E OUT L <input type="radio"/> EI049EN CORE B OT <input type="radio"/> EI006UNSCR C CNT <input type="radio"/> EI022LUB. PRESS <input type="radio"/> EI038DOOR CRASH <input type="radio"/> EI050GREASE PR. <input type="radio"/> EI007NOZZLE GUARD <input type="radio"/> EI023CORE C IN <input type="radio"/> EI039OIL LEVEL <input type="radio"/> EI051OPEN LIMIT <input type="radio"/> EI008CORE A IN <input type="radio"/> EI024CORE C OUT <input type="radio"/> EI040AUX/DOOR CLS <input type="radio"/> EI052CLAMP LIMIT <input type="radio"/> EI009CORE A OUT <input type="radio"/> EI025FILTER <input type="radio"/> EI041REAR DOOR 2 <input type="radio"/> EI053FOOT PLATE <input type="radio"/> EI010PHOTO EYE <input type="radio"/> EI026AUX/DR OPEN <input type="radio"/> EI042EJE BWD ENA. <input type="radio"/> EI054CORE F IN LS <input type="radio"/> EI011ACC END <input type="radio"/> EI027DOOR OPENED <input type="radio"/> EI043ROBOT EMSTOP <input type="radio"/> EI055CORE F OUT L <input type="radio"/> EI012MD AREA FREE <input type="radio"/> EI028DR CLS SLOW <input type="radio"/> EI013EJE FWD ENA. <input type="radio"/> EI029CLAMP PRESET <input type="radio"/> EI014MD CLOSE ENA <input type="radio"/> EI030EJECT PRESET <input type="radio"/> EI015EJECT PLATE <input type="radio"/> EI031INJ. PRESET							
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  three times to call the input monitor screen.



Press  (or ) keys to switch the other input monitor screen.

Through inspection of the relevant inputs status, to confirm whether the input signals from the controller have been sent to the corresponding points on I/O board, and estimate the operating status of I/O board system or PCB failure.

5.2.20 Output Monitor



Output Monitor Screen

Output Monitor		1:	2019/08/22 06:28				
MANUAL				P1300			
<input type="radio"/> E000:ADJ.1 FWD	<input type="radio"/> E016:ACC CHARGE	<input type="radio"/> E032:GAS INJECTIO	<input type="radio"/> E044:AUX PUMP 2				
<input type="radio"/> E001:ADJ.1 BWD	<input type="radio"/> E017:ACC INJECT	<input type="radio"/> E033:DR SLOWDOWN	<input type="radio"/> E045:CORE F IN				
<input type="radio"/> E002:MD CLOSE	<input type="radio"/> E018:AIR 2	<input type="radio"/> E034:BRAKE RELEAS	<input type="radio"/> E046:CORE F OT				
<input type="radio"/> E003:CARRIAGE FWD	<input type="radio"/> E019:AIR 1	<input type="radio"/> E035:CORE D IN	<input type="radio"/> E047:COOL WATER				
<input type="radio"/> E004:INJECTION	<input type="radio"/> E020:MOLD OPEN BP	<input type="radio"/> E036:CORE D OT	<input type="radio"/> E048:REJECT				
<input type="radio"/> E005:PLAST.	<input type="radio"/> E021:BOOST/LOW PR	<input type="radio"/> E037:CORE E IN	<input type="radio"/> E049:MOLD CLOSED				
<input type="radio"/> E006:MELT DECOMPR	<input type="radio"/> E022:LOW PR CLAMP	<input type="radio"/> E038:CORE E OT	<input type="radio"/> E050:EJE FWD END				
<input type="radio"/> E007:CARRIAGE BWD	<input type="radio"/> E023:AUX/AIR 3	<input type="radio"/> E039:SMALL PUMP	<input type="radio"/> E051:EJE BWD END				
<input type="radio"/> E008:MD OPEN	<input type="radio"/> E024:DOOR OPEN	<input type="radio"/> E040:CARRIAGE IN	<input type="radio"/> E052:CORE A FWD				
<input type="radio"/> E009:EJT. FWD	<input type="radio"/> E025:DOOR CLOSE	<input type="radio"/> E041:CARRIAGE OUT	<input type="radio"/> E053:CORE A BWD				
<input type="radio"/> E010:EJT. BWD	<input type="radio"/> E026:FAST OPEN	<input type="radio"/> E042:MOLD OP/CL	<input type="radio"/> E054:CORE B FWD				
<input type="radio"/> E011:BOOST CLAMP	<input type="radio"/> E027:AUTO MODE	<input type="radio"/> E043:AUX PUMP 1	<input type="radio"/> E055:CORE B BWD				
<input type="radio"/> E012:CORE A IN	<input type="radio"/> E028:MD OPEN END						
<input type="radio"/> E013:CORE A OT	<input type="radio"/> E029:DR CLOSED						
<input type="radio"/> E014:CORE B IN	<input checked="" type="radio"/> E030:CORE C IN						
<input type="radio"/> E015:CORE B OT	<input type="radio"/> E031:CORE C OT						
Eject	Mould	Screw	Nozz	Speed	Press	Syatem	RPM
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  four times to call the output monitor screen.

In this interface, the setting and operation status of outputs can be monitored, in case of monitoring other outputs status, simultaneously

press  (or ) keys to switch among the page .

Through inspection of the relevant outputs status, to confirm whether

the output signals from the controller have been sent to the corresponding points on I/O board, and estimate the operating status of I/O board system or PCB failure.

5.2.21 Relay Monitor

EI Relay Monitor Screen

ReLay Monitor		1:		2019/08/22 06:31			
MANUAL				P1400			
<pre> 01234 56789 01234 56789 EI000 EI020 EI040 EI060 EI080 EI100 EI120 </pre>							
Eject	MouLd	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  five times to call the relay monitor screen.

In this interface, internal relays status can be monitored, in case of

monitoring other relays status, press  (or ) keys to switch among relay monitor interfaces.

These interfaces are used to confirm whether the signal receiving and sending function of controller internal relays is in normal condition, in case of failure during the machine operating, troubleshooting can be found through these interfaces(in which, @ means operating, • means not operating).

5.2.22 Program Monitor

Program Monitor Screen

Ladder Monitor	1:	2019/08/22 06:32
MANUAL		P1500

EI

```


00000 LD KY035 .
00001 STG A2001 .
00002 STG AB001 .
00003 STG AM001 .
00004 STG AI001 .
00005 STG AE001 .
00006 STG AP001 .
00007 LD KY019 .
00008 STG OT001 .
00009 LD KY020 .
00010 STG OT002 .
00011 LD KY000 .
00012 RMP S1015 .


```



Eject	Mould	Screw	Nozz	Speed	Press	Syatem	RPM
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm

Press  six times, or press , it will show program monitor screen.

"EI": Input position of internal relay types, press  or  key

to switch internal relay types, then press  key to confirm.

"0": Input position of internal relay serial number, input the serial number, and then press  key to confirm.

"Search": While moving the cursor to this position, press  key once, one required relay that internal program used can be found immediately, press  key again, and a second relay that internal program used can be found.

5.2.23 Injection End Position

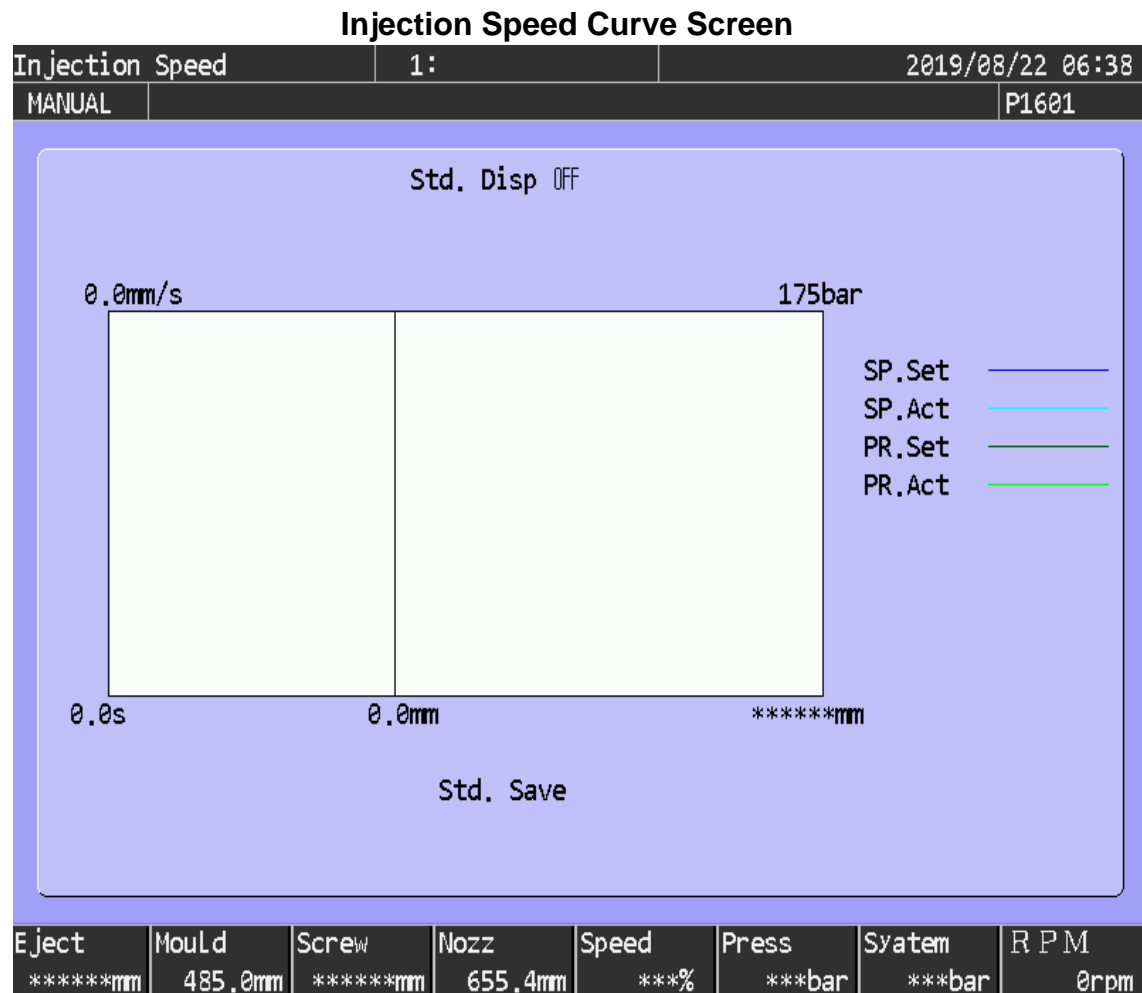
Injection End Position Screen

Injection End Position	1:	2019/08/22 06:35																																																								
MANUAL			P1600																																																							
<p>Average: 0.0mm</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr> <th>1-10</th> <th>11-20</th> <th>21-30</th> <th>31-40</th> <th>41-50</th> </tr> </thead> <tbody> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> <tr><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td><td>0.0mm</td></tr> </tbody> </table>				1-10	11-20	21-30	31-40	41-50	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm
1-10	11-20	21-30	31-40	41-50																																																						
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Eject	Mould	Screw	Nozz	Speed	Press	Syatem	R P M																																																			
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm																																																			




Press **GRAPH** once to call the injection end position screen. This interface displays the injection end positions and the average values of 50 products produced.

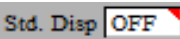


5.2.24 Injection Speed Curve

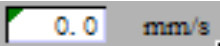


Press  twice to call the injection speed curve screen.

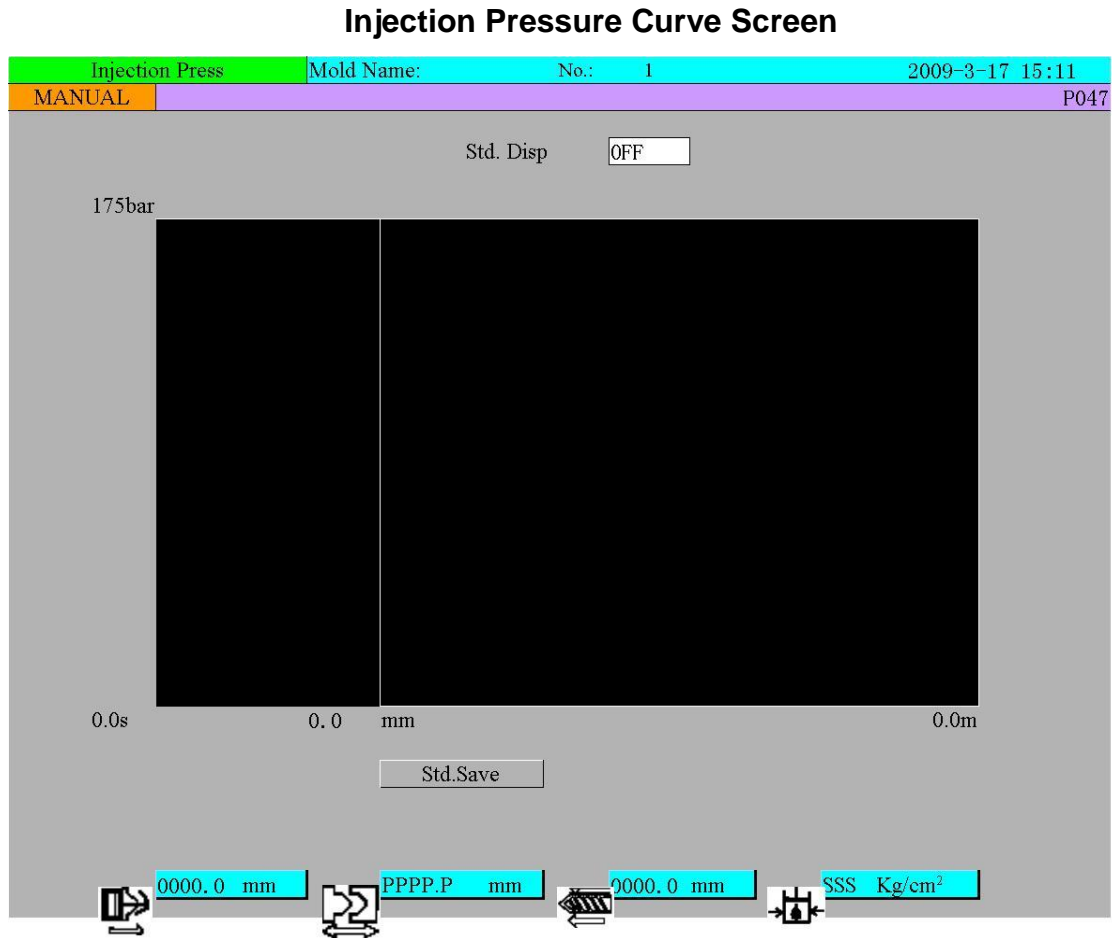
Press , move the cursor Std. Save position,


press  key to save the previous curve as standard curve for comparison.



Move cursor to  position, press  or  key to select the display of standard curve, if it is “ON”, the standard curve will be display and compared with every new injection curve in e each cycle.



Move cursor to , for setting the maximum injection speed. **If the maximum 99 % injection speed just overlap the top of the graph, the maximum speed setting is correct. If not adjust the maximum injection speed.**

5.2.25 Injection Pressure Curve





Press  three times to call the injection pressure curve screen.

use  key, to move the cursor to Std. Save position,
press  key to save the current injection pressure curve as
standard curve for comparison in the next cycle.

Move the cursor to Std. Disp OFF position,
press  or  key to select the display of standard curve. The

standard curve will be used for comparison with the curve in the next cycle.

Move cursor to **Std. Disp OFF** position, press  or  to select the display of standard curve.

5.2.26 Help

Help Screen

Help	1:	2019/08/22 06:41
MANUAL		P1700

Fun.Int.

Automatic stop selection




Select four mode machine stop automatically when cycle count is over

Eject	Mould	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm

Press  once to call the help screen.





Press  开/ON or  关/OFF, to select help types.


Help types include Function Introduction, Data Introduction, Alarm and Maintenance.



Press  key, move the cursor from the main catalogue to the sub-catalogue, then press  开/ON or  关/OFF key, to check the detailed description of help content.

5.2.27 System Time and Language Setting

System Time and Language Setting Screen

		Mold Name:	No. : 1	2009-3-17 16:43			
MANUAL				P065			
Language	English						
Date	0000/00/00	SUN.					
Time	00:00						
	Set						
	0000.0 mm		PPPP.P mm		0000.0 mm		SSS Kg/cm ²

Press  + , then press supervisor password, then press  +  (or ) to turn over the page, call the system time and language setting screen.

Press  to move the cursor to the items to be set, input corresponding value, then press  key, to complete the setting (in which, date format: yyyy/mm/dd, time format: hh:mm).

To change system language, press  or  key, switch among English, Chinese and the third language.

5.2.28 Action Stroke Stage Number Selection

Action Stroke Stage Number Selection Screen

MANUAL		MoldName:	NO.:	2012-8-23 11:37
		P060		
DatalockPass	456789.0			
DatalockTime	0s	(0:OFF)		
Open Number	5			
Clamp Number	5			
Inject Number	6			
Hold Number	5			
Plast Number	3			
BInject Number				
BHold Number				
BPlast Number				





	0000.0	mm		PPPP.P	mm		0000.0	mm		SSS	Kz/cm
---	--------	----	---	--------	----	---	--------	----	--	-----	-------



Press  + , input supervisor password, setting

necessary number of stages need for processing.

In which: "A1"~"A5" are respective the stage numbers setting value of mould opening, mould clamping, injection, pressure holding and plasticizing.

Data setting locking function



Press  key, move cursor to `DataLockpass` , input password, then press  key, password can be 1 to 6 digits, move cursor to `DataLockTime` , setting the data locking delay timer (0 setting mean not using locking function). For examples of 10

seconds, press  key to complete the setting, the press  key to quit the screen。 If there is no operation on the data keys for 10 seconds. The data keys will be locked.

数字键盘



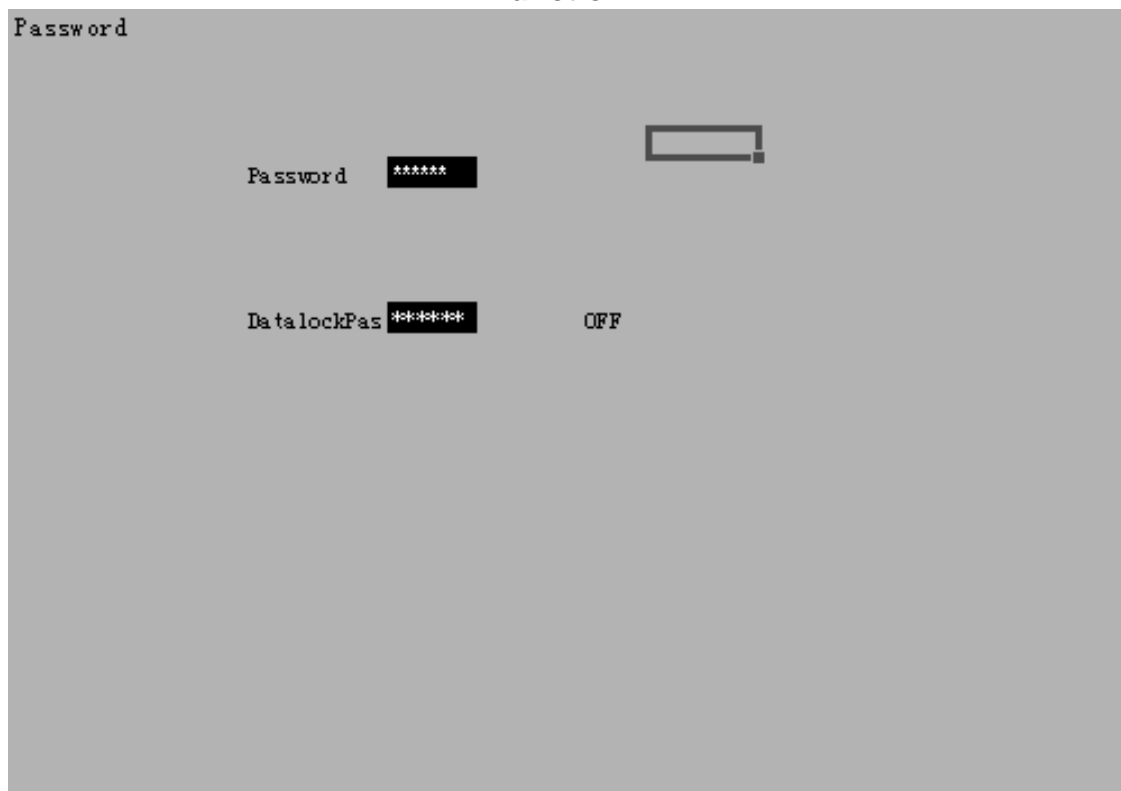
To release the locking of data key

To release the locking of data key, press  + , screen comes out as shown below, inputting the keylock password , then

press  key, “ON” will be changed to “OFF” it mean it is unlocked.

If the keylock password was forgot, it is necessary to input the supervisory password; or set `DataLockTime 0s` to “0” , the


press  key to unlock the function



5.2.29 Ramp Setting


Ramp Setting Screen

Ramp Setting	Mould Name:	NO. :1	2009-3-17 16:17	
MANUAL	P058			
	SP RAMP	PR RAMP	BP RAMP	SP2 RAMP
CLAMP	S11 A1	PR1 B1	BP1 C1	S21 D1
OPEN	S12 A2	PR2 B2	BP2 C2	S22 D2
INJ/PLAST	S13 A3	PR3 B3	BP3 C3	S23 D3
EJECT	S14 A4	PR4 B4	BP4 C4	S24 D4
	S15 A5	PR5 B5	BP5 C5	S25 D5



Control panel showing four input fields with icons: a ramp icon, a pressure icon, a ramp icon, and a pressure icon. Each field contains the value "0000.0 mm" or "SSSS Kg/cm²".

Press  +  to call the ramp setting screen.

Press  to choose slope, and input corresponding slope, then

press  to complete the setting.

In which: "S", "PR", "BP" are respective abbreviation of Speed, Press and Back Press.

S11: Speed slope of fast mould clamping and low pressure mould clamping;

S12: Speed slope of mould opening;

S13: Speed slope of injection and plasticizing;

S14: Speed slope of melt decompression;

S15: Speed slope of mould clamping while adjusting mould clamping force;

PR1: Pressure slope of fast mould clamping;

- PR2: Pressure slope of mould opening;
- PR3: Pressure slope of injection and plasticizing;
- PR4: Pressure slope of melt decompression;
- PR5: Pressure slope of mould clamping while adjusting mould clamping force.

5.2.30 Speed 1 Output Setting

Speed 1 Output Setting Screen



Speed1 Output Setting		Mold Name:		NO.: 1		2009-3-17 16:18		
MANUAL								P059
A	RMP	B	Bar					
0Volt	0							
0%	0	30%	300	60%	600	90%	900	
5%	50	35%	350	65%	650	95%	950	
10%	100	40%	400	70%	700	99%	1000	
15%	150	45%	450	75%	750	0%	0	
20%	200	50%	500	80%	800	0%	0	
25%	250	55%	550	85%	850	0%	0	
SL049	10%	SL140	18%	SL148	26%	SL156	34%	
SL050	11%	SL141	19%	SL149	27%	SL157	35%	
SL051	12%	SL142	20%	SL150	28%	SL158	36%	
SL052	13%	SL143	21%	SL151	29%	SL159	37%	
SL053	14%	SL144	22%	SL152	30%	SL160	38%	
SL054	15%	SL145	23%	SL153	31%	SL161	39%	
SL055	16%	SL146	24%	SL154	32%	SL162	40%	
SL056	17%	SL147	25%	SL155	33%	SL163	41%	


0000.0 mm



0000.0 mm


0000.0 mm


SSS Kg/cm²

Press  +  to call the speed 1 output setting screen.

Press  to choose the speed, and input corresponding speed,

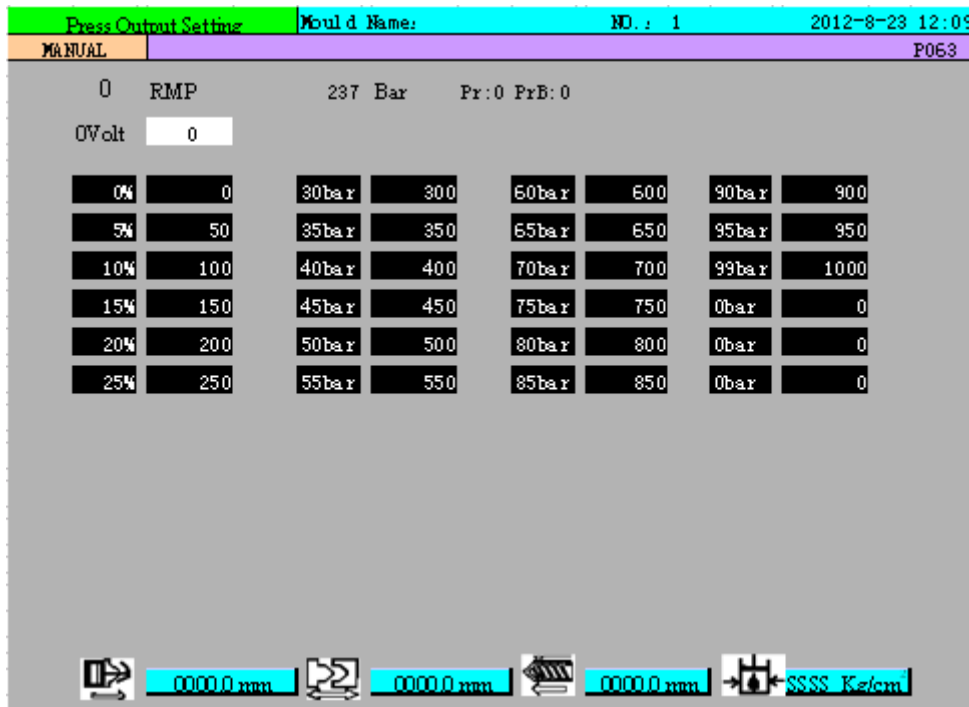
then press  key, to complete the setting.



Note: As the speed percentage increasing, the corresponding analog value of speed output will also increase, decreasing is not allowed, otherwise, the output speed signal will be in disturbance, which causes the machine instable.

(The analog voltage output range is 0~10V,current range is 0~0.8A).

5.2.31 Pressure Output Setting

Pressure Output Setting Screen



Press  +  three times to call the pressure output setting screen.

Press  to choose pressure, and input the corresponding

pressure, then press , to complete the setting.

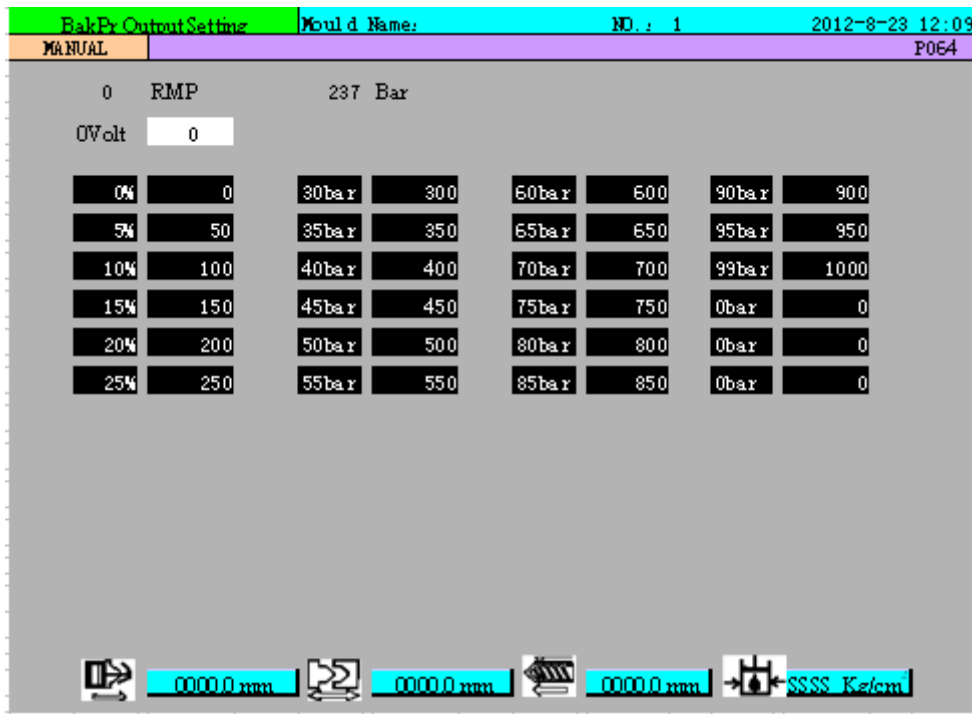
In which, four groups and two rows respective are: pressure percentage and pressure output analog value.



Note: As the pressure percentage increasing, the corresponding analog value of pressure output will also increase, decreasing is not allowed, otherwise, the output pressure signal will be in disturbance, which causes the machine instable.



(The analog voltage output range is 0~10V,current range is 0~0.8A).

5.2.32 Back Pressure Output Setting

Back Pressure Output Setting Screen



Press  +  four times to call the back pressure output setting screen .

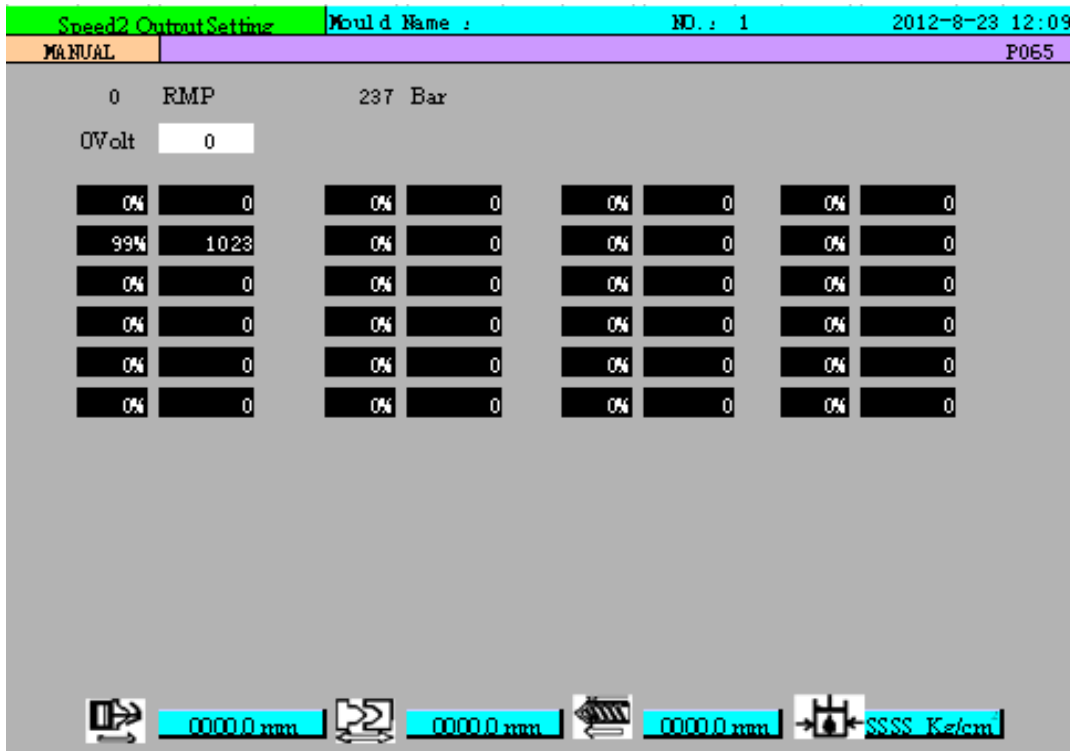
Press  to choose back pressure, and input the corresponding value, then press , to complete the setting.


In which, four groups and two rows respective are: pressure percentage and pressure output analog value.

Note: As the back pressure percentage increasing, the corresponding analog value of back pressure output will also increase, decreasing is not allowed, otherwise, the output back pressure signal will be in disturbance, which causes the machine instable. (The analog voltage output range is 0~10V, current range is 0~0.8A).

5.2.33 Speed 2 output setting

Speed 2 output setting



Press  +  five times to call the speed 2 output setting screen.

Press  to choose speed, and input the corresponding speed,

then press , to complete the setting.

In which, four groups and two rows respective are: speed percentage and speed output analog value.



Note: As the speed percentage increasing, the corresponding analog value of speed output will also increase, decreasing is not allowed, otherwise, the output speed signal will be in disturbance, which causes the machine instable.

(The analog voltage output range is 0~10V, current range is 0~0.8A).

5.2.34 Speed output settingB

Speed output settingB



Press  +  key six times (supervisory password), The screen is for AUX Speed 1. This is an option and an extension AD/DA card was mounted.

use  key, to select the item to be set, input the



corresponding value, and press  to complete the setting.



In which, four groups and two rows respective are: speed percentage and speed output analog value.

Note: As the speed percentage increasing, the corresponding analog value of speed output will also increase, decreasing is not allowed, otherwise, the output speed signal will be in disturbance, which causes the machine instable.

(The analog voltage output range is 0~10V, current range is 0~0.8A).



Press  +  seven times to call the pressure 2 output setting screen.

Press  to choose pressure, and input the corresponding pressure, then press , to complete the setting. This is an option and an extension AD/DA card was mounted.



In which, four groups and two rows respective are: speed percentage and speed output analog value.



Note: As the speed percentage increasing, the corresponding analog value of speed output will also increase, decreasing is not allowed, otherwise, the output speed signal will be in disturbance, which causes the machine instable.

(The analog voltage output range is 0~10V, current range is 0~0.8A).

5.2.35BakPrOutputSettingB



Press  +  key eight times (supervisory password), The screen is for Back pressure B. This is an option and an extension AD/DA card was mounted.

use  key, to select the item to be set, input the corresponding value, and press  to complete the setting.

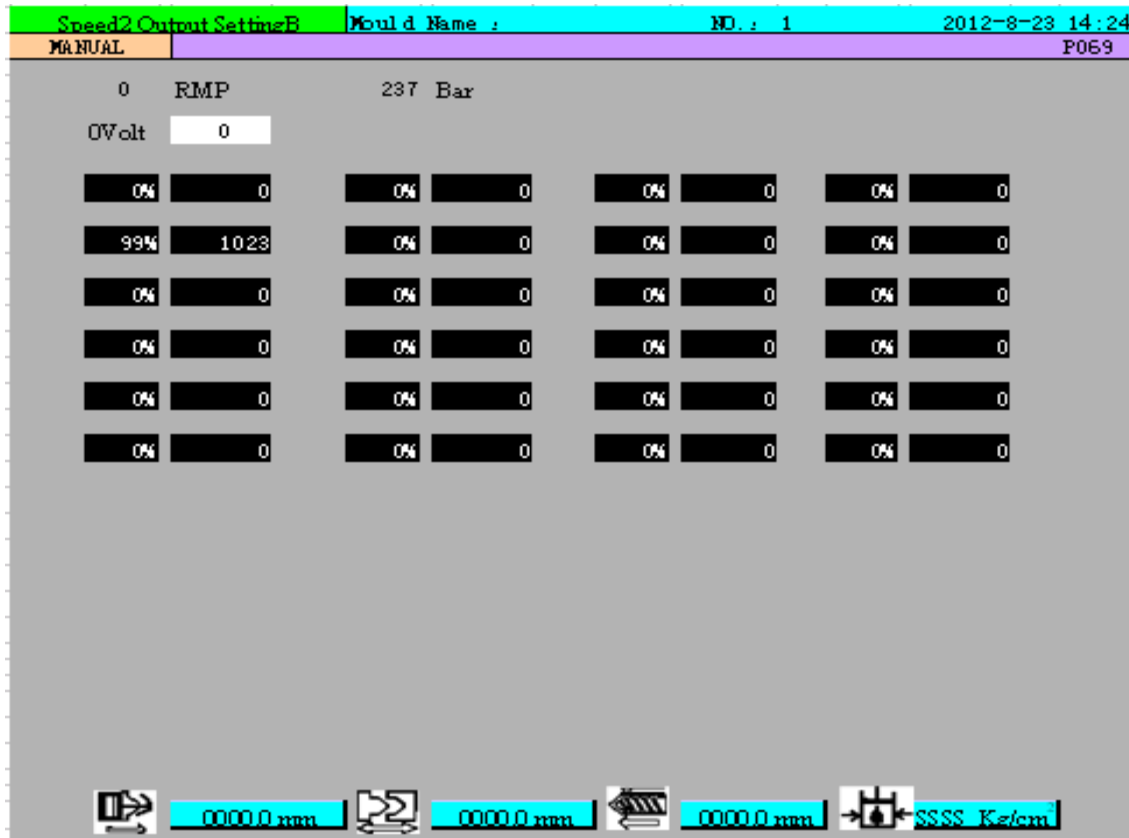
In which, four groups and two rows respective are: pressure percentage and pressure output analog value.



Note: As the speed percentage increasing, the corresponding analog value of speed output will also increase, decreasing is not allowed, otherwise, the output speed signal will be in disturbance, which causes the machine instable.

(The analog voltage output range is 0~10V, current range is 0~0.8A).

5.2.36 Speed2 Output SettingB

Speed2 Output SettingB



Press  +  key nine times (supervisory password), The screen is for Speed 2 output B. This is an option and an extension AD/DA card was mounted.

use  key, to select the item to be set, input the





corresponding value, and press  to complete the setting.



In which, four groups and two rows respective are: speed percentage and speed output analog value.



Note: As the speed percentage increasing, the corresponding analog value of speed output will also increase, decreasing is not allowed, otherwise, the output speed signal will be in disturbance, which causes the machine instable.

(The analog voltage output range is 0~10V, current range is 0~0.8A).

5.2.37 Initial Setting

Initial Setting		MoldName :		NO :		2012-8-23 14:24	
MANUAL		P070					
Thickness	A1 mm						
Clamp Force	1100ton	A2 p	2200ton	A3 p			
	Mold	Eject	Screw	Nozz	EjectB	ScrewB	
ORIGIN	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	0.0mm	
MAX	49100p	8970p	38400p	800p	7000p	36000p	
CYD LEN	2500.0mm	450.0mm	960.0mm	400.0mm	350.0mm	640.0mm	
	34338p	13985p	58770p	0p	0p	0p	
PRESET	1680p	0.7mm	56.0mm				
ORIGIN	10p	0.1mm	0.1mm				
	2500.0mm						
	2200.0mm						
 0000.0 mm		 0000.0 mm		 0000.0 mm		 SSSS K _g /cm ²	

Press  +  key ten times (supervisoy password), for setting the origin data for encoder version or potentiometer version.

Use  key, move cursor to set origin data, then press  to complete the setting.

Setting of origin data for potentiometer, move the potentiometer by hand up to the minimum position, copy the

2000P	2P	80P
-------	----	-----


actual position

data to the origin, then press  **key to complete setting.**

Again move the potentiometer by hand up to the maximum position, copy

2000P	2P	80P
-------	----	-----

actual position

data to maximum location and then press  **key to complete the setting. Cylinder length = (maximum position — minimum origin) / 10.**

Others data on the screen:

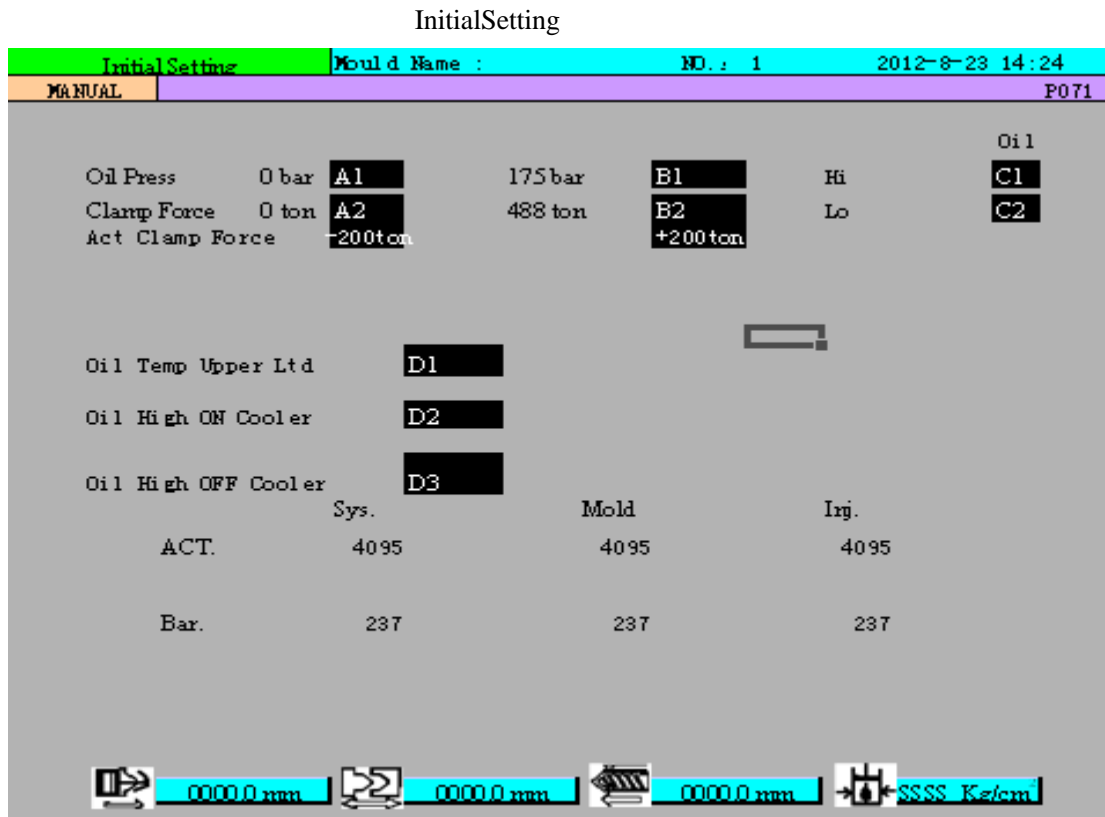
"A1": mold thickness, After clamping end, measure the current thickness of the mold and input the data.



"A2": During auto mold adjustment, the correspond position for adjusting half of maximum clamping force.

"A3": During auto mold adjustment, the correspond position for adjusting maximum clamping force.

Those data are adjusted or preset before shipment. It is recommend not to be adjusted by customer. Please consult service department.

5.2.38 Initial Setting



Press  +  key eleven times (supervisory password) , to enter this screen setting.

The lower part “Act” is the monitor pressure binary data,
“Bar” is the corresponding pressure.



this is to adjust the initial data for pressure sensor, when there is no pressure, input the correspond data at 0Bar location;

when system pressure is the maximum, input the correspond data at “Act” location.

Clamp Force 0 ton **A2** 488 ton **B2** this data is the origin

data for pressure sensor of clamping force .

Act Clamp Force n n this is to adjust the low

limit and upper limit of actual clamping force for two platen machine.

	Oil
Hi	C1
Lo	C2

is for “T7” for setting low limit and high limit of oil temperature.

Oil Temp Upper Ltd is for “T7” this is the upper limit and will cause pump stopping.,

Oil Temp ON Cooler is for“T7”the setting temperature for switching ON the cold water, **Oil low OFF Cooler** is for “T7” ,the setting temperature for switching OFF the cold water.


5.2.39 Auxiliary Speed and Pressure Setting



Auxiliary Speed and Pressure Setting Screen 1

Speed1/Press Setting		Mould Name:	NO: 1	2009-3-17 16:18
MANUAL				P065
		Speed	Press	
OT012	ORIGIN RESET	A1	B1	
OT013	NOZZLE TURN	A2	B2	
OT014	HYD NOZZLE	A3	B3	
OT015	EXTRUSION	A4	B4	
OT016	SPECIAL LP	A5	B5	
OT017	MOLD ADJ-	A6	B6	
OT018	MOLD ADJ+	A7	B7	
OT019	SPECIAL HP	A8	B8	
		0000.0 mm	0000.0 mm	SSSS Kg/cm ²

Auxiliary Speed and Pressure Setting Screen 2

Speed1/Press Setting		Mould Name :	NO. : 1	2009-3-17 16:18
MANUAL				P066
		Speed	Press	
OT020		A1	B1	
OT021		A2	B2	
OT022		A3	B3	
OT023		A4	B4	
OT024	Spring Mould	A5	B5	
Clamp Force		A6	B6	
H. P. Clamp Pr			B7	
Open Aux2		A7		
		0000.0 mm	0000.0 mm	SSSS Kg/cm ²

Press  +  8 and 9 times to call the auxiliary speed and pressure setting screen.

Press  to select the item to be set, input the corresponding value, and press  to complete the setting.

Clamping force "A6": clamping speed during automatic clamping force adjustment;

Clamping force "B6": clamping pressure during automatic clamping force adjustment;

High clamping pressure "B7": High clamping pressure setting;

Open Aux 2 "A7": setting auxiliary open position, sometimes use for position to start the back pressure control of opening.





OT012: is the pressure and speed for origin setting;



OT016: is for the low pressure and speed setting for clamping start.

OT019: use in potentiometer version with clamping end confirmation switch, this setting is for proceeding to clamping end confirmation.

5.2.40 Initial Setting2

Initial Setting2

Initial Setting		Mould Name :	MD. : 1	2012-8-23 14:50			
MANUAL		P074					
	S2		Bp				
A2001	35%	AB001	120bar				
A2002	35%	AB002	120bar				
A2003	0%	AB003	0bar				
A2004	0%	AB004	0bar				
A2005	0%	AB005	0bar				
A2006	0%	AB006	0bar				
A2007	0%	AB007	0bar				
A2008	0%	AB008	0bar				
A2009	0%	AB009	0bar				
A2010	0%	AB010	0bar				
	MDLD (SpB)	inj (PrB)	EJECT (BpB)	PLAST (S2B)			
AM001	0%	AI 001	0bar	AP 001	0%		
AM002	0.00%	AI 002	0bar	AE002	0bar	AP 002	0%
AM003	0.00%	AI 003	0bar	AE003	0bar	AP 003	0%
AM004	0.00%	AI 004	0bar	AE004	0bar	AP 004	0%
AM005	0.00%	AI 005	0bar	AE005	0bar	AP 005	0%
	 0000.0 mm	 0000.0 mm	 0000.0 mm	 SSSS Kg/cm			


Press  +  key fourteen times (supervisory password) to enter the above screen. This screen is for extra analogue output use in double color machine or two platen machine.


5.2.41 Timer Setting


Timer Setting Screen


Timer Setting	Mould Name:	NO.: 1	2009-3-17 16:18
MANUAL	P068		

MOTOR START	A1		NOZZ.CLOSE	B1
ORIGIN RESET	A2		ACC DELAY	B2
MD ADJ MON.	A3		LOW PRE.DLY	B3
ALARM ON	A4		ACTION DLY	B4
ALARM OFF	A5		DOOR MONI.	B5
OUTPUT MON.	A6		SPEC.LOW.PRE	B6
TM066	A7		MD OPEN BP	B7
GREASE TIMER	A8		NOZZ.OPEN	B8
EJE.INTERVAL	A9		INJ.CUSHION	B9
COLD START	A10		PLA.CUSHION	B10



0000.0 mm


0000.0 mm


0000.0 mm


SSSS Kg/cm²

Press  +  10 times to call the timer setting screen.

Press  to select the item to be set, input the corresponding

value, and press  to complete the setting.

In this screen:

- "A1": Setting of motor start time
- "A2": Setting of origin reset time
- "A3": Setting of mould adjustment monitor time
- "A4": Setting of alarm duration time
- "A5": Setting of alarm pause time
- "A6": Setting of action monitor time
- "A7": Auxiliary 66
- "A8": Setting of grease lubrication time
- "A9": Setting of ejector interval time
- "A10": Setting of cold start proof time



- "B1": Setting of nozzle closing time**
- "B2": Setting of nitrogen ending time**
- "B3": Setting of low pressure delay time**
- "B4": Setting of action delay time**
- "B5": Setting of safety door monitor time**
- "B6": Setting of special low pressure time**
- "B7": Setting of mould opening back pressure time**
- "B8": Setting of nozzle open time**
- "B9": Setting of injection cushion time**
- "B10": Setting of plasticizing cushion time**

5.2.42 Counter Setting

Counter Setting Screen

Counter Monitor		Mould Name:	NO. : 1	2012-8-23 15:07
MANUAL	P076			
CYCLE No.	65000	FORCE FWD	2	
REJECT No.	65000	GATE CORE	0	
PRODUCT TIME	65000	UNSCREW IN C	0	
PURGE	5	UNSCREW OUT C	0	
EJECT No.	2	EJECT NO B	0	
VIB EJT No.	2	VIB EJT NO B	0	
LUB. CYCLE	100	Lub. Counter	0	
GREASE CYCLE	300	Grease Count	2	
CYCLE MONIT	0	GATE AUTO	2	
FORCE BWD	15	PURGE B	0	

	0000.0mm		0000.0mm		0000.0mm		SSS Kg/cm ²
---	----------	---	----------	---	----------	---	------------------------





Press  +  11 times to call the counter setting screen.

Press  to select the item to be set, input the corresponding



value, and press  to complete the setting.



5.2.43 Factory Setting



Factory Setting Screen 1

Factory Setting	Mould Name:	NO. : 1	2009-3-17 16:18
MANUAL	P070		
Model: <input type="text"/>			
Serial No. : <input type="text"/>			
Date: <input type="text"/>			
	0000.0 mm		PPPP.P mm
	0000.0 mm		SSS Kg/cm ²

Factory Setting Screen 2

Factory Setting	Mould Name:	NO. : 1	2009-3-17 9:21
MANUAL	P071		
Max.Inj.Speed: <input type="text" value="A1"/>			
Start Wait: <input type="text" value="A2"/>			
Stage CL.Adj.Wait: <input type="text" value="A3"/>			
CL.Adj.Wait: <input type="text" value="A4"/>			
	0000.0 mm		PPPP.P mm
	0000.0 mm		SSS Kg/cm ²

Press  +  12 and 13 times to call the factory setting screen.

Press  to select the item to be set, input the corresponding value, and press  to complete the setting.

Factory setting screen 1 is for machine information.





Factory setting screen 2 is for exfactory machine parameters.

This two screens do not allow any changes by agents or customer.

5.2.44 Maintenance Setting



Maintenance Setting Screen 1




MAINTENANCE REGISTER		Mould Name:	NO. : 1	2009-3-17 16:18
MANUAL		P073		
REGISTER	MAINTERNANCE CONTENT	LAST OCC DATE	INTERVAL REGISTER(H)	
1	COOLING WATER,LUB,PRES LUB	A1	B1	h
2	SATEY DOOR	A2	B2	h
3	LUB QUANTITY	A3	B3	h
4	LUB LEAKNISS	A4	B4	h
5	CHECK OIL PRE AND OIL TEMP.	A5	B5	h
6	LUB MOTION POSITION	A6	B6	h
7	LUB ROUTE LEAKNISS	A7	B7	h
8	CHECK CONTACT POINT OF SWITCH	A8	B8	h
9	CLEAN COOLER	A9	B9	h

	0000.0 mm		PPPP.P mm		0000.0 mm		SSS Kg/cm2
---	-----------	---	-----------	---	-----------	---	------------

Maintenance Setting Screen 2

REGISTER	MAINTERNANCE CONTENT	LAST OCC DATE	INTERVAL REGISTER(H)
1	Check oil quality	A1	B1 h
2	Apply grease on bu	A2	B2 h
3	LUB QUANTITY	A3	B3 h
4	Change hydraulic o	A4	B4 h
5	Check cable status	A5	B5 h
6	Check centre of no	A6	B6 h
7			
8			
9			

Press  +  15, 16 times to call the maintenance setting screen .

Press  to move the cursor to “Last Date” position, and press  key, a “?” appears after the “Last Date”, then press 

key to confirm and initialize the “Last Date” to the current date of the system, then the maintenance reminding time will be counted from current time of the system.

Set the time interval for machine maintenance reminder so that the customer could maintain the machine regularly and obtain higher production efficiency.

The 2 columns stand for: The last reminding time of the maintenance content indicated;

The reminding time interval setting of the maintenance content indicated. If it sets as “0”, there should be no maintenance reminder.

5.2,45 Initial Setting for temperature control

Initial Setting

Initial Setting Mould Name : NO. : 1 2012-8-23 15:31

MANUAL P082

NOZZ	PID	T8	OFF
T1	PID	T9	OFF
T2	PID		
T3	PID		
T4	PID		
T5	PID		
T6	PID		
T7/Oil	PID		

T8

0
0
0
0

T9







0
0
0
0

0000.0 mm

0000.0 mm

0000.0 mm

SSSS Kg/cm

press  +  key twenty two times (supervisory password) , to display the above screen . use  key to move the cursor , and then use  或  to select , press  key to complete setting . “PID” temperature control mode with auto PID , “DUTY” mean temperature control by duty % , “OFF” mean not in use , temperature channel is use as “OIL”for oil temperature control .

5.2.46 Alarm History

Alarm History Screen



Alarm History	1:	2019/08/22 07:08
MANUAL		P2100


SD: OFF



OCCUR	RECOVERY	CONTENTS
2019/08/22 07:07	2019/08/22 07:07	AL10: MD ADJ-LIMIT ALM
2019/08/22 07:07	2019/08/22 07:07	AL10: MD ADJ-LIMIT ALM
2019/08/22 07:07	2019/08/22 07:07	AL10: MD ADJ-LIMIT ALM


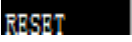



RESET

Eject	MouLd	Screw	Nozz	Speed	Press	System	RPM
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm

Press  to display the alarm history screen, and then press  to switch pages.

use  to move cursor to **SD: OFF** location,

press  key to select "ON", press  key to select "OFF", If it ON, the alarm history will be stored in SD memory card.


Move  cursor key to  location, then
press  key, then  will appear with “? ” ,
press  key, This is to reset all the alarm.

5.2.47 iChen system (network)

iChen Screen

Network	1:	2019/08/22 07:10					
MANUAL		P2200					
Job Name	Progress	1/ 2000					
Name	<input type="text" value="e"/>	Logout Mode No Order					
Job Card	<input type="text" value="Job Card"/>						
Job No.	Job Name	MoldName Progress					
Mould	<input type="text" value="Save Mold"/>	Find Mold <input type="text"/>					
MoldName	Machine	Version Date Time					
Eject	Mould	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm



Press  to call the network screen (which is only available when you have bought the iCHEN network system of Chen Hsong Group).



Press  to select the item to be set, input the corresponding



value, and press  to complete the setting.

This function is utilized in industrial automation and automatic orders scheduling and production data logging (wire and wireless), and it guarantees the safety of the technical parameters and the extension of the production scale.



In this screen: Press  or  to select the following 13 modes,

- (1) Changed (2) Suspended (3) Out of Servi (4) Waiting Mold (5) Waiting Mate (6) Change Mater (7) Replace Mold (8) Test Mold (9) Fix Mold (10) Adjust Color (11) Production (12) No Order (13) Other3.

5.2.48 Change Password





Change Password Screen



MANUAL	Mold Name:	No. : 1	2009-3-17 16:38
			P055



Old Password

New Password

Confirm

 0000.0 mm
  PPPP.P mm
  0000.0 mm
  SSS Kg/cm²

Press  +  key for over three seconds, to call the change password screen (This password is used system operator and supervisor).

Press  to select the item to be set, input the corresponding value, and press  key to complete the setting.

To facilitate the operation and management of the machine, every controller has an initial password when delivery. In this screen, it is

suggested to change the class 1 and 2 passwords immediately for better use.

Of which:

"A1": The old password to be modified

"A2": The new password to be inputted

"A3": New password input confirmation

5.2.49 Manual Lubrication Setting

Manual Lubrication Setting Screen

Lubrication		1:		2019/08/22 06:56			
MANUAL				P1901			
2025AFT							
LUB.1 CYCLE	2006t	LUB.2 CYCLE	2007t	LUB.3 CYCLE	2020t		
Next Lub.	*****	Next Lub.	*****	Next Lub.	*****		
LUB.1 TIMER	103.0s	LUB.2 TIMER	106.7s	LUB.3 TIMER	110.6s		
LUB.1 COUNT	2016t	LUB.2 COUNT	2017t	LUB.3 COUNT	2021t		
LUB.1 DISTAN	111.7s	LUB.2.DISTAN	111.8s	LUB.3 DISTAN	110.7s		
Eject	Mould	Screw	Nozz	Speed	Press	Syatem	R P M
*****mm	485.0mm	*****mm	655.4mm	***%	***bar	***bar	0rpm

Enter the supervisor password when the controller power on.



Press **CARR/LUB.** to call the manual lubrication setting screen .



Press **Navigation Key** key to select the parameters to be set, input the value



and press **ENTER** to complete the setting.

In this screen:

"A1": lubrication period, lubrication is output after numbers of mold opening。

"A2": time for lubrication output

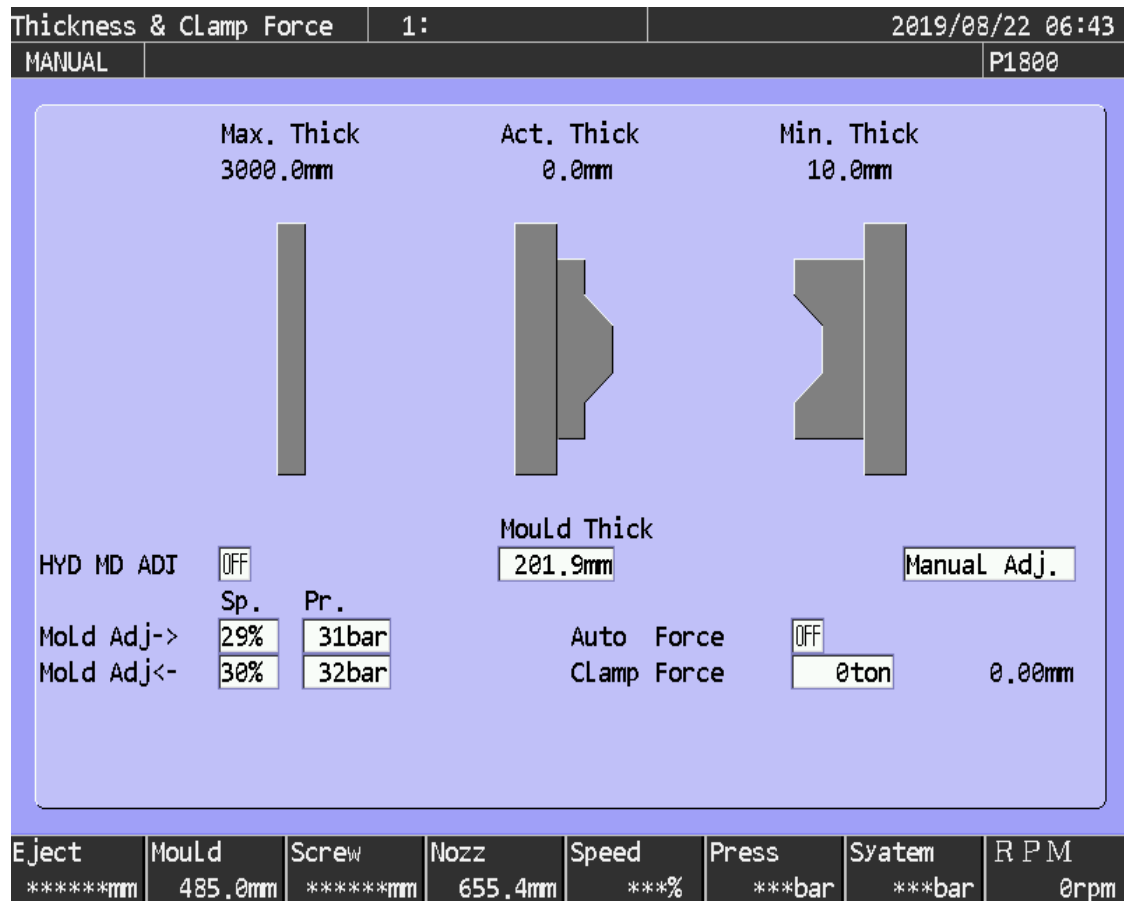
"A3": number of lubrication (use in volumetric lubrication)

"A4": time for lubrication output (use in volumetric lubrication)

"B1" to "B4" is the grease lubrication setting。

5.2.50 Mould Adjustment Setting

Mould Adjustment Setting Screen



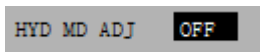
Press **MOLDADJ** to call the mould adjustment setting screen .



Press **Navigation Key** key to select the parameters to be set, input the value



and press **ENTER** to complete the setting.

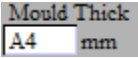

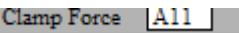
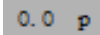


HYD MD ADJ OFF is for hydraulic mold adjustment,






press **ON** or **OFF** to select ON and OFF mode. This should be OFF when electric motor is used for mold

adjustment。 Hydraulic mold adjustmen consist of speed and pressure setting data。

 is the target mold adjustment thickness , it will sound out once the mold thickness adjustment was completed。  is the automatic clamping force adjustment. By turning ON this function, automatic clamping force adjustment will be done after mold thickness adjustment was completed。  is the position where the clamping force can be achieved by automatic clamping force adjustment,  is the point for switching high pressure clamping。

Manul mold tickness adjustment:

Press the mold ajustment function ON , then press  key to move the clamping unit forward, thickness become smaller ; Press  key , clamping unit move backward, mold thickness become bigger; press  key can exit mold adjustment immediately。

Note: Quit from mold adjustment screen will reset all the alarm and output for mold adjustment.

5.2.51 Machine Adjustment

Machine Adjustment Screen



Press  to call the machine adjustment screen .



Press  key to switch to A, input the value and press



to complete the setting.

This screen is mainly used for machine adjustment, all current actions speed of the machine will reduce the set percentage. (If the current speed is A, and the speed reduction rate is set as B%, then the current speed = A x B%).

6.1 Alarm list

Description of Computer Alarm Message

No.	Message	Description
AL000	Alarm 1	System alarm 1
AL001	Alarm 2	System alarm 2
AL002	Big Cylinder Not Located	
AL003	Barrel Temperature Not Reach	Actual barrel temperature is lower than the minus deviation of setting temperature.
AL004	Lubrication Oil Level Too Low	The oil level of lubrication oil is too low.
AL005	Low Lub Press	Lubrication pressure too low. Oil pipe break or oil pump damage.
AL006	Pump O/L Alm	Check the overload of oil pump motor.
AL007	Md Adj O/L Alm	Check the overload of mould-adjust motor.
AL008	Rear Door Alm	Close the rear safety door and check the limit switch.
AL009	Front Door Alm	Close the front safety door and check the limit switch.
AL010	Md Adj-Limit Alm	The mold thickness is less than the minimum thickness or check safety limit switch for mold-adjusting.
AL011	Md Adj+Limit Alm	The mold thickness exceeds the maximum thickness or check the safety limit switch for mold-adjusting.
AL012	Safety Door limit Error	
AL013	Safety Door Latch Error	
AL014	Grease Pressure Not Enough	
AL015	Cooling Water Not Open	
AL016	Aux	Not Used
AL017	Aux	Not Used
AL018	Aux	Not Used

AL019	Nozz Fwd LS Alm	The limit switch for carriage forward has not been triggered during automatic operation.
AL020	Nozz Guard Open	The purge guard fails to be closed during injection.
AL021	Nozz Block Alm	The nozzle is blocked by foreign matters. Check the injection position setting or nozzle.
AL022	Short Shot or Over Shot	Injection end position has gone beyond the tolerance setting. Adjust the tolerance setting or check ring.
AL023	No Material Alm	During automatic operation, plasticization time exceeds cooling time setting. Check for hopper blocking.
AL024	Cyc Completed Alm	The actual cycle counter has reached the production counter setting under automatic operation.
AL025	Cyc Time Long Al	The production cycle time exceeds the alarm setting of the cyclic time.
AL026	Md Protect Alm	There are plastics in mold or the high-press clamp position and low-press time setting are not correct.
AL027	Please Check Robot Fixture	
AL028	Take Out Failure	Photo eye is on, but no product is detected.
AL029	Photo Cut Alm	When photo cell is used for recycle, please clean off the products or foreign matters on the slide way.
AL030	Oil Temp Low Alm	The actual temp of the hydraulic oil is lower than the

		setting for the minus allowed deviation.
AL031	Oil Temp High Alm	The actual temp of the hydraulic oil is higher than the setting for the plus allowed deviation.
AL032	Core LS Alm	During automatic operation the core-pulling time exceeds the setting of the limit alarm time of the core.
AL033	Eje LS Alm	During automatic operation the ejection time exceeds the setting of the limit alarm time of the ejector.
AL034	Check Safety Valve For Door	
AL035	Acc Charge Alm	When ACC injection is ON, charging time exceeds cooling time. Please check the charging pressure switch.
AL036	Md Adj Sensor Alm	During mold-adjustment the mold adjustment sensor is found to be faulty. Please check the mold-adjustment.
AL037	Air Pressure For Robot Too Low	
AL038	Barrel Preheat	Preheat function turn ON.
AL039	Check Unscrew Counting Sensor	During automatic operation, the unscrewing time exceeds the setting of the limit alarm time.
AL040	Auto Md Thick Adj In Progress	
AL041	Auto Md Clp Force Adj In Progress	Appear when using automatic mould clamping force adjustment.
AL042	Auto Md Clp Force Complete	Appear when the automatic mould clamping force adjustment complete.
AL043	Barrel Temperature Too High	Actual barrel temperature is higher than the plus deviation of setting temperature.

AL044	Aux	Not Used
AL045	Door Limit Switch Error	Door limit switch has no signals in the setting time.
AL046	Mold Open/Close Error	During automatic operation the clamping/opening time exceeds the limit alarm time.
AL047	Product Eject Out Error	
AL048	Oil Filter Clog	Check and clean oil filter.
AL049	Robot Alarm	Check robot device.
AL050	Pump Motor Not Start	Check whether each phase voltage and 10A fuse are normal and AC 3A switch has tripped.
AL051	Mold Adjust Too Long	
AL052	Aux	Not Used
AL053	Aux	Not Used
AL054	Oil Screen Clog	Oil screen clogged while using high pressure oil filter.
AL055	Auto Mold Change	
AL056	Nut Closing Not Align	
AL057	Check Gate In/Out Limit	
AL058	Open Pressure Release Trouble	
AL059	Big Cylinder Over Travel	
AL060	Aux	Not Used
AL061	Oil Level Too Low	Check oil volume.
AL062	Mold Adjust Gear Trouble	
AL063	Mold Fitting Position Check	
AL064	Hydraulic Clamp Trouble	
AL065	Clamp Force Not Enough	
AL066	Back Pressure Too High	
AL067	Material Change In Progress	
AL068	AMC Table LS Error	
AL069	Pressure Sensor Detect Error	
AL070	Plast RPM Sensor Detect Error	
AL071	Control Cabinet Door Not Close	
AL072	Change Battery	
AL073	Auto Md Thick Adj Complete	
AL074	Injection Setting Not Good	
AL075	Aux	Not Used

AL076	Table In Rotation	
AL077	Stopper Not Return	
AL078	Auto Mold Adjust Error	
AL079	Stepper Error	
AL080	Aux	Not Used
AL081	Ejector Plate Not Return	
AL082	Safety Valve Error	
AL083	Semi/Auto Mode	
AL084	Door Latch Error	
AL085	Air Pressure Not Enough	
AL086	Aux	Not Used
AL087	Aux	Not Used
AL088	Preform Not Drop	
AL089	Aux	Not Used
AL090	Robot Safety Check Error	
AL091	Robot Not Zero Return	
AL092	Servo Control Alarm	
AL093	Open End Position Error	
AL094	Mold Not Closed	
AL095	Plasticization Not End	
AL096	Clean Up Barrel	
AL097	Adjustment !	
AL098	Gate In Not End	
AL099	Barrel Temperature Too Low	
MG01	Clamp End	In manual mode, mould clamping complete display.
MG02	Open End	In manual mode, mould opening complete display.
MG03	Open Not End	While manual mould adjustment or ejector operation, mould opening stroke does not end display.
MG04	Eject Forward End	In manual mode, ejection complete display.
MG05	Eject Backward End	In manual mode, ejector retraction complete display.
MG06	Plast End	In manual mode, plasticization complete display.


MG07	Melt End	In manual mode, melt decompression complete display.
MG08	Lub In Process	
MG09	Power Off Then On Again	
MG10	Clamp In Process	
MG11	Preheat In Process	Barrel preheat function activated.
MG12	Plast Delay	After injection, perform plasticization when delay time has reached.
MG13	Md Adj In Process	
MG14	Turn On/Off twice	
MG15	Plast In Process	


6.2 Moulding Operation Instruction


6.2.1 Setting of Temperature Control


When the power is turned on, the temperature display appears. Refer to screen. When the symbol “▲” is shown in the picture, it means that the electric heater is switched on and the temperature control key light shines.


(1) Temperature Setting of Each Stage:


For the temperature setting of Stage 1, press , set the temperature at the position of T1 on the screen and a reverse


cursor is produced. Enter the required figure and press  to input the data into the computer. Now the cursor moves to the setting of the next stage. To stop the temperature setting, press any other function key to clear the cursor.

For the temperature setting of Stage 2, except for pressing  the other steps are the same as for the temperature setting of Stage 1.

For the temperature setting of Stage 3, except for pressing  the other steps are the same as for the temperature setting of Stage 1.

For the temperature setting of Stage 4, except for pressing  the other steps are the same as for the temperature setting of Stage 1.

For the temperature setting of Stage 5, except for pressing  the other steps are the same as for the temperature setting of Stage 1.

For the temperature setting of Stage 6, except for pressing  the other steps are the same as for the temperature setting of Stage 1.

Among all the temperature stages, the settings of Stage 5 and 6 are subject to the machine type and requirements of the customer. When the machine is equipped with the oil temperature control

device, the control function will be realized via the temperature of Stage 6. The standard value is normally within the range of 35°C-40°C. TC7 relay output from the I/O board controls the opening and closing of the water gate to make the oil temperature consistent with requirements. Normally the setting of the high-temperature positive deviation of the temperature of Stage 6 is 15°C, and low-temperature negative deviation is 30°C. Thus when the setting of the standard oil temperature is 35°C, its allowable range will be 5°C-50°C. When the oil temperature goes beyond this range, an alarm will be given.

(2) Temperature Setting of the Nozzle

The temperature zone of the nozzle is a constant temperature controlled zone. It is used to achieve the constant temperature requirement of the nozzle. Its setting range is 00% to 99%. If the setting is 99%, 10-30 seconds may be set in the computer as the full-period heating time. If the setting is 20 seconds, it means 20 seconds is one cycle of the thermostatic control.

Example: Nozzle temperature setting: 60%; Constant temperature time: 20 seconds.

That is to say:

20 x 60% = 12 seconds The heater of the nozzle zone is in “ON” state

20 - 12 = 8 seconds The heater of the nozzle zone is in “OFF” state

(3) When no temperature control is applied for a certain zone, the temperature of that zone will be set to 0.


6.2.2 Setting of the Temperature Deviation (Alarm)

For the temperature deviation alarm, there are high and low temperature settings. Refer to screen (19). When either of the deviation settings is exceeded, either the high-temperature or low-temperature alarm will be shown on the screen.

High temperature deviation setting value could be +20°C~+90°C

Low temperature deviation setting value could be -20°C~-90°C


6.2.3 Setting of the Temperature Preheat Function


For the setting of temperature preheat function, press  .
Temperature preheat maintains the temperature settings of all zones at the set preheat temperature percentage.


Example: Setting: 20%; Temperature Setting 250°C
 $250^{\circ}\text{C} \times (100\% - 20\%) = 200^{\circ}\text{C}$

If the temperature drops from the set point to 200°C, the corresponding zone will be in the temperature control state.

6.2.4 Selection of Fully Automatic, Semi-Automatic or Manual Operation

(1) If manual operation is to be selected, press  . When the power is switched on, the computer will be in manual operation state automatically without the requirement of pressing the key again. Then it is required to return to manual operation after operating in any other mode or when the screen is reset, the above key shall be pressed.

(2) If semi-automatic operation is to be selected, press  and the machine will operate in semi-automatic mode. Now, the front safety door may be opened and closed every cycle to confirm the operation of the next cycle. Please note that the power supply of the oil pump will be automatically cut off when the rear safety door is opened.




(3) If fully-automatic operation is to be selected, press  and the machine will operate in fully-automatic mode. The operator may confirm the operation of the next cycle by selecting the cycle restart time, photo eye sensor or robot resetting.

Only one of the above three modes may be selected at a time. Before selection, the setting of moulding conditions shall be completed and all operating items of the cycle shall be confirmed. In case that the

LED of any of the three keys is flashing, it means the data in the computer is locked and can not be changed. As for the locking and unlocking methods, consult the professional personnel of the client's plant in charge of data modification.

6.2.5 Setting of Position, Speed and Pressure Data

- (1) Select the correct screen keys for the required operation. When the key for the required operation is pressed, the corresponding screen is shown for setting or modification at once.
- (2) For the setting of the position data, either the optical encoder parameters (p) or the stroke settings (mm) may be used for this purpose. When the stroke is set, the corresponding optical encoder figures may be automatically obtained through conversion by the computer.
- (3) When the function screen is shown and no further changes are to

be made by the operator, press  or  or  and the normal operation screen will automatically appear. In semi-automatic or fully-automatic operation, if none of the keys are pressed within 30 seconds, the monitor will return to the normal operation screen.

6.2.6 Setting of the Numerical Data for Moulding Conditions

When setting moulding conditions, it is necessary to enter the data of such items as the position, stroke, speed, pressure, timers and counters of the optical encoder. For digital input of this data, move the cursor to the position of the figures requiring change and enter the correct data. If the entered data is not correct, warnings as to the scope of the data to be entered will appear on the screen as well as new data prompts. Now the next data change can be made only after

pressing .

6.2.7 Adjustment of Proportional Numerical Control

Numerical control of the speed and pressure is achieved by the computer, which provides different current values to control the proportional pressure valve and proportional flow valve in the hydraulic circuit for different operations.

When the pressure ranges in $20\text{Kg/cm}^2 \sim 145\text{-}175\text{Kg/cm}^2$, the corresponding setting range of the working current of the proportional pressure valve is $200\text{mA} \sim 800\text{mA}$.

The setting of the working current of the proportional flow valve range is $200\text{mA} \sim 680\text{mA}$.

On the I/O board of the controller, the adjustable potentiometer PRG is for linearizing the maximum pressure output 99% and PR0G is for linearizing the zero pressure output 0%. Similarly, SPIG is for linearizing the maximum speed output 99% and SPI0G is for linearizing the zero speed output 0%.

6.2.8 Description of the Computer Internal Counters

No.	Function	Description
CT00	Cycle No.	No. of moulding setting
CT01	Reject No.	No. of rejected parts setting
CT02	Product Time	Total time required by production Unit: 0.1 hour
CT03	Purge	No. of purge setting
CT04	Eject No.	No. of ejection setting
CT05	Vibration Eject No.	Setting of No. of ejector vibration times, i.e. the back and forth vibration times of the ejector after ejection
CT06	Lubrication Cycle	Setting of No. of moulding cycles in the automatic lubrication interval
CT07	Grease Cycle	No. of grease cycle setting
CT08	Cycle Monitor	No. of cycle monitor setting
CT09	Force Backward	In use while the automatic mould clamping force adjustment
CT10	Force Forward	In use while the automatic mould clamping force adjustment
CT11	Aux 11	Reserved function
CT12	Unscrew In C	Unscrew forward revolution setting
CT13	Unscrew Out C	Unscrew backward revolution setting
CT14	Aux 14	Reserved function
CT15	Aux 15	Reserved function
CT16	Aux 16	Reserved function
CT17	Aux 17	Reserved function
CT18	Aux 18	Reserved function
CT19	Aux 19	Reserved function

6.2.9 Description of the Computer Internal Timer

No.	Function	Description
TM00	Cycle Time	Cycle time
TM01	Clamp Time	Mould clamping time
TM02	Carriage Forward	Carriage forward time
TM03	Filling	Material filling time
TM04	Hold Time	Pressure holding time
TM05	Plasticizing Delay	Under semi/fully automatic mode, the time delay interval between the end of injection and the start of next plasticizing motion
TM06	Cooling	Under auto mode, the time interval between end of injection and mould opening
TM07	Before Decompression	Pre-plasticizing decompression time
TM08	Plasticizing	Plasticizing time
TM09	After Decompression	After plasticizing decompression time
TM10	Carriage Backward	Carriage backward time
TM11	Mould Open	Mould opening time
TM12	Ejection Time	Ejection Time
TM13	Recycle	Under fully-automatic mode, the time interval between end of ejection and the start of next mould clamping
TM14	Injection Time	Total injection time, excluding the time of pressure holding
TM15	Hold 1 Time	Pressure holding stage 1 time
TM16	Hold 2 Time	Pressure holding stage 2 time
TM17	Hold 3 Time	Pressure holding stage 3 time
TM18	Hold 4 Time	Pressure holding stage 4 time
TM19	Hold 5 Time	Pressure holding stage 5 time
TM20	Purge Plasticizing	Plasticizing time during automatic purge
TM21	Ejector Pause	During automatic ejection, the time allowed for the ejector to stop at the forward position before its retraction
TM22	Core A In	Core A in time
TM23	Core A Out	Core A out time
TM24	Core B In	Core B in time
TM25	Core B Out	Core B out time

TM26	Core C In	Core C in time
TM27	Core C Out	Core C out time
TM28	Core D In	Reserved function
TM29	Core D Out	Reserved function
TM30	Lubrication Time	Lubrication oil supply time, over 10 seconds is suggested
TM31	Lubrication Alarm	Reserved function
TM32	Carriage Fast	Duration of fast carriage advance
TM33	Carriage Back	Under semi/fully automatic mode, the duration of carriage retraction. If no need to retract the carriage, set this time to 0
TM34	Melt Before Plasticizing	Reserved function
TM35	Cycle Timer	Allowable longest cycle time. Alarm if it exceeds.
TM36	Eject Out Delay	Time interval between mould opening end and next action
TM37	Low Pressure Detection	The allowed time interval between the start of low pressure clamping and the actuation of high pressure clamping
TM38	HP Charge Delay	Reserved function
TM39	High Press End Delay	Reserved function
TM40	Clamping End Delay	Time interval between clamping end and next action
TM41	Vibration Ejection	Ejector retraction position of vibration ejection
TM42	Carriage Bwd Delay	Delay of carriage retraction after melt decompression
TM43	Carriage End Delay	Reserved function
TM44	Purge Buffer	Reserved function
TM45	Door Open Slow	Reserved function
TM46	Door Open	Reserved function
TM47	Mould Adj Delay	Buffer time of change between advance and retraction of mould adjustment (the time is suggested to set over 0.3 seconds)
TM48	Clamping Interval	Buffer time of change between mould opening and clamping (the time is suggested to set over 0.1 seconds).
TM49	Fast Open Delay	Reserved function
TM50	Air 1 Timer	Duration of blowing 1

TM51	Air 2 Timer	Duration of blowing 2
TM52	Air 3 Delay	Time delay of blowing 3
TM53	Air 3 Timer	Duration of blowing 3
TM54	Force Forward	Automatic mould adjustment force forward time, which is suggested to set 2 seconds
TM55	Fore Backward	Automatic mould adjustment force backward time, which is suggested to set 0.3 seconds
TM56	Air 1 Delay	Reserved function
TM57	Air 2 Delay	Reserved function
TM58	Core F In	Reserved function
TM59	Core F Out	Reserved function
TM60	Motor Start	Motor start Y→Δ time
TM61	Origin Reset	Encoder origin reset time, which is suggested to set 3~5 seconds
TM62	Mould Adj Monitor	Mould adjustment sensor monitor time. Alarm if it exceeds
TM63	Alarm On	Alarm (buzzer and signal lamp) duration, which is suggested to set 10 seconds
TM64	Alarm Off	Alarm (buzzer and signal lamp) pause time, which is suggested to set 10 seconds
TM65	Output Monitor	Opening and clamping, eject and retraction, core pulling and inserting, carriage slow speed, injection. Alarm if time exceeds, which is suggested to set over 5 seconds.
TM66	Aux	Reserved function
TM67	Grease Timer	Reserved function
TM68	Ejection Interval	Time interval between ejector forward and ejector backward (the time is suggested to set 0.1 seconds).
TM69	Cold Start	Timing after machine starting. Injection, plasticizing and melt decompression can only be performed after the time out and the barrel temperature reaching the set value. (The time is suggested to set over 50 seconds)
TM70	Nozzle Close	Time of nozzle closing (used by the function of hydraulic nozzle closing)
TM71	Acc Delay	When using accumulator assisted injection, the accumulator discharge

		delay time during injection
TM72	Low Pressure Delay	Auxiliary oil valve open delay during low pressure clamping (low pressure/fast valve or back pressure valve)
TM73	Action Delay	Buffer time of each action (Opening and clamping, ejector retraction, core pulling and inserting, injection. The time is suggested to set 0.1 seconds.)
TM74	Door Monitor	Max. time allowed by the action of safety door. Alarm if time exceeds, which is suggested to set over 3 seconds.
TM75	Special Low Pressure	Duration of special low pressure after mould clamping starts
TM76	Mould Open Back Press	Duration of synchronous mould opening and back pressure
TM77	Nozzle Open	Action time of opening the nozzle (used by the function of hydraulic nozzle closing)
TM78	Injection Cushion	Buffer time of injection
TM79	Plasticizing Cushion	Buffer time of plasticizing
TM80	Hold 6 Time	Reserved function
TM81	Hold 7 Time	Reserved function
TM82	Hold 8 Time	Reserved function
TM83	Hold 9 Time	Reserved function
TM84	Hold 10 Time	Reserved function
TM85	Core E In	Reserved function
TM86	Core E Out	Reserved function
TM87	Teeth 1 Check	Reserved function
TM88	Teeth 2 Check	Reserved function
TM89	Teeth 3 Check	Reserved function
TM90	Teeth 4 Check	Reserved function
TM91	Mould Adj. FWD	Reserved function
TM92	Tiebar Adj. FWD	Reserved function
TM93	MD Adj. Comfirm	Reserved function
TM94	Tiebar BWD	Reserved function
TM95	Tiebar FWD Dly	Reserved function
TM96	Syn. Valve Dly	Reserved function
TM97	HP. Release	Reserved function
TM98	HP. Fast Open	Reserved function
TM99	HP. Open	Reserved function

6.2.10 Description of the Computer Inputs and Outputs

No.	Function	Description
EI00	Input Port	Front Door
EI01	Input Port	Rear Door
EI02	Input Port	Safety Door Limit Switch
EI03	Input Port	Carriage Limit Switch
EI04	Input Port	Core B In
EI05	Input Port	Core B Out
EI06	Input Port	Unscrew C Count
EI07	Input Port	Nozzle Guard
EI08	Input Port	Core A In
EI09	Input Port	Core A Out
EI10	Input Port	Photo Eye
EI11	Input Port	Accumulation End
EI12	Input Port	Mould Area Free
EI13	Input Port	Eject Forward Enabled
EI14	Input Port	Mould Close Enabled
EI15	Input Port	Eject Plate LS
EI16	Input Port	Mould Adjustment Overload
EI17	Input Port	Pump Overload
EI18	Input Port	Mold Adjustment FWD Limit Switch
EI19	Input Port	Mold Adjustment BWD Limit Switch
EI20	Input Port	Mould Adjustment Count
EI21	Input Port	Lubrication Oil Level
EI22	Input Port	Lubrication Oil Pressure
EI23	Input Port	Core C In
EI24	Input Port	Core C Out
EI25	Input Port	Filter
EI26	Input Port	Aux/Door Open Button

EI27	Input Port	Door Opened
EI28	Input Port	Door Closing Slow
EI29	Input Port	Clamping Preset
EI30	Input Port	Ejector Preset
EI31	Input Port	Injection Preset
EI32	Input Port	Motor Runned
EI33	Input Port	Auxiliary Pump Run
EI34	Input Port	Core D In LS
EI35	Input Port	Core D Out LS
EI36	Input Port	Core E In LS
EI37	Input Port	Core E Out LS
EI38	Input Port	Door Crash Protect
EI39	Input Port	Oil Level
EI40	Input Port	Aux/Door Close Button
EI41	Input Port	Rear Door 2 LS
EI42	Input Port	Ejector Backward Enabled
EI43	Input Port	Robot Emergency Stop
EI44	Input Port	Robot Emergency Stop 2
EI45	Input Port	Robot Off
EI46	Input Port	Enable Core A In
EI47	Input Port	Enable Core A Out
EI48	Input Port	Enable Core B In
EI49	Input Port	Enable Core B Out
EI50	Input Port	Grease Pressure
EI51	Input Port	Mold Open Limit
EI52	Input Port	Mold Close Limit
EI53	Input Port	Foot Plate
EI54	Input Port	Core F In LS
EI55	Input Port	Core F Out LS

No.	Function	Description
EO00	Output Port	Mold Adjustment FWD
EO01	Output Port	Mold Adjustment BWD
EO02	Output Port	Mould Close
EO03	Output Port	Carriage Forward
EO04	Output Port	Injection
EO05	Output Port	Plasticizing
EO06	Output Port	Melt Decompression
EO07	Output Port	Carriage Backward
EO08	Output Port	Mould Open
EO09	Output Port	Ejector Forward
EO10	Output Port	Ejector Backward
EO11	Output Port	Boost
EO12	Output Port	Core A In
EO13	Output Port	Core A Out
EO14	Output Port	Core B In
EO15	Output Port	Core B Out
EO16	Output Port	Accumulator Charge
EO17	Output Port	Accumulation Inject
EO18	Output Port	Air 2
EO19	Output Port	Air 1
EO20	Output Port	Mould Open Back Pressure
EO21	Output Port	Boost/Low Pressure
EO22	Output Port	Low Pressure Clamp
EO23	Output Port	Aux/Air 3
EO24	Output Port	Door Open
EO25	Output Port	Door Close
EO26	Output Port	Fast Open
EO27	Output Port	Auto Mode
EO28	Output Port	Mould Open End
EO29	Output Port	Door Closed
EO30	Output Port	Core C In
EO31	Output Port	Core C Out
EO32	Output Port	Gas Injection

E033	Output Port	Door Slowdown
E034	Output Port	Brake Release
E035	Output Port	Core D In
E036	Output Port	Core D Out
E037	Output Port	Core E In
E038	Output Port	Core E Out
E039	Output Port	Small Pump
E040	Output Port	Carriage In
E041	Output Port	Carriage Out
E042	Output Port	Mould Open/Close Aux
E043	Output Port	Auxiliary Pump 1
E044	Output Port	Auxiliary Pump 2
E045	Output Port	Core F In
E046	Output Port	Core F Out
E047	Output Port	Cooling Water
E048	Output Port	Rejected Part
E049	Output Port	Mould Closed
E050	Output Port	Ejector Forward End
E051	Output Port	Ejector Backward End
E052	Output Port	Core A Forward End
E053	Output Port	Core A Backward End
E054	Output Port	Core B Forward End
E055	Output Port	Core B Backward End

6.3 MPC-7.0 Special Screen Operation

1	Automatic Purge Setting Screen (10)	Press "INJECTION" three times
2	Carriage Setting Screen (14)	Press "CARR/LUB."
3	Temperature Deviation Alarm Setting Screen (19)	Press "TEMP."
4	Heat Channel Setting Screen (20~22)	Press "TEMP." twice
5	Function Setting Screen (23)	Press "FUNCTION"
6	Mould Data Selection Screen (24)	Press "MD DATA"
7	Quality Statistics Screen (25)	Press "STATIST"
8	Timer Monitor Screen (26-28)	Press "MONITOR"
9	Counter Monitor Screen (29)	Press "MONITOR" twice
10	Input Monitor Screen (30)	Press "MONITOR" three times
11	Output Monitor Screen (31-33)	Press "MONITOR" four times
12	Relay Monitor Screen (34~56)	Press "MONITOR" five times
13	Program Monitor Screen (57)	Press "MONITOR" six times
14	Injection Speed Curve Screen (59)	Press "GRAPH" twice
15	Injection Pressure Curve Screen (60)	Press "GRAPH" three times
16	System Time and Language Setting Screen (65)	Press "CANCEL" + "MAIN"
17	Action Stroke Stage Number Selection Screen (66)	Press "CANCEL" + "MAIN" twice
18	Factory Setting Screen (78~79)	Press "CANCEL" and "MD DATA" 12 times
19	Network Screen (83)	Press "ICHEN"
20	Manual Lubrication Setting Screen (85)	Press "CARR/LUB."
21	Machine Adjustment Screen (87)	Press "SLOW"

The End