Cooling Machine

Operation Instructions

Preface

We are very grateful to your trust and care! For you to know more about the characteristics and functions of the operation, repair, maintenance and consumables, we issued this Operation Instructions to help you to operate the machine smoothly in the future work. If any words failed to express the meaning or did not read smoothly, we hope you will not stint your criticism, we will sincerely accept and improve it.

Contents

1. **Precautions**

1) Operation precautions:

- Please thoroughly read this Operation Instructions before operating the machine.
- No sundries on the conveyor.
- In order to avoiding personnel injury or machine damage, please do not get into the mechanical movement range when the machine running.
- Please do not adjust the devices inside the control cabinet randomly.
- Please do not touch the high temperature or electrical installations.

2) Use precautions:

- Please shut down the power before cleaning, maintenance or repair.
- After removed failures, please operate according to the procedure one by one, to ensure the machine run normally.
- Please adjust the temperature regulator to +5℃~－8℃ while running, do remember not lower than－8℃。
- Please clean the freezer inside and cooling fins every 3 months.
- Please clean the cooling fins up and down while cleaning, do remember not clean it left and right.

2. Mechanical Applications

JHA-008 is a cooling machine with the functions below:

- Tunnel-type conveyor belt transmit, 7.5P cooling power.
- Conveyor speed can be adjusted.

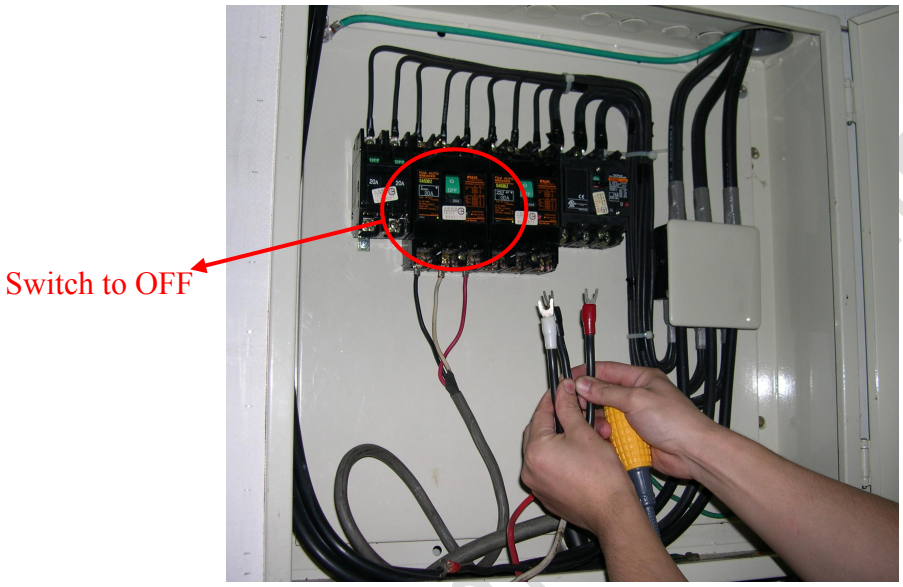
3. Specifications

	Specification	**Size**
1	Dimension	360×92×133cm(L×W×H)
2	Power Supply	AC380V，3ψ，50/60HZ

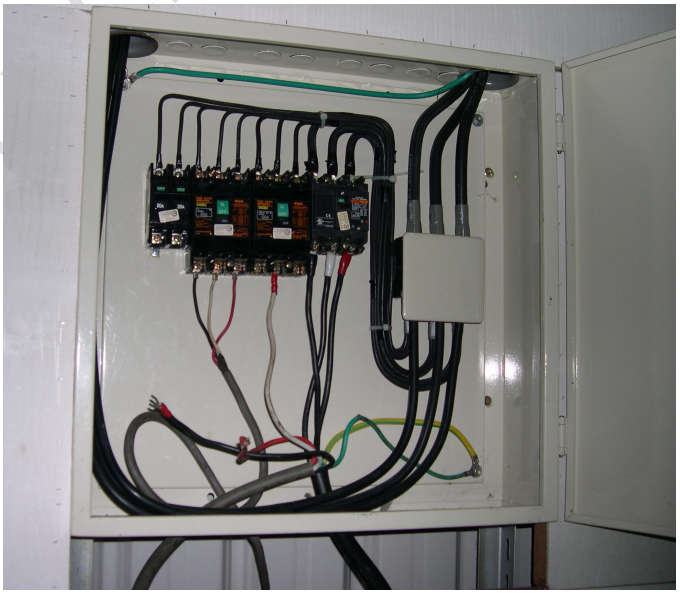
4. Installation Methods

Before running the machine, power supply must be connected well and adjust to standard, then start up the machine. Wiring method as follows:

1) Firstly the switch of electric cabinet should be switched to OFF.



2) Connect the power to AC380V，3ψ，50/60HZ



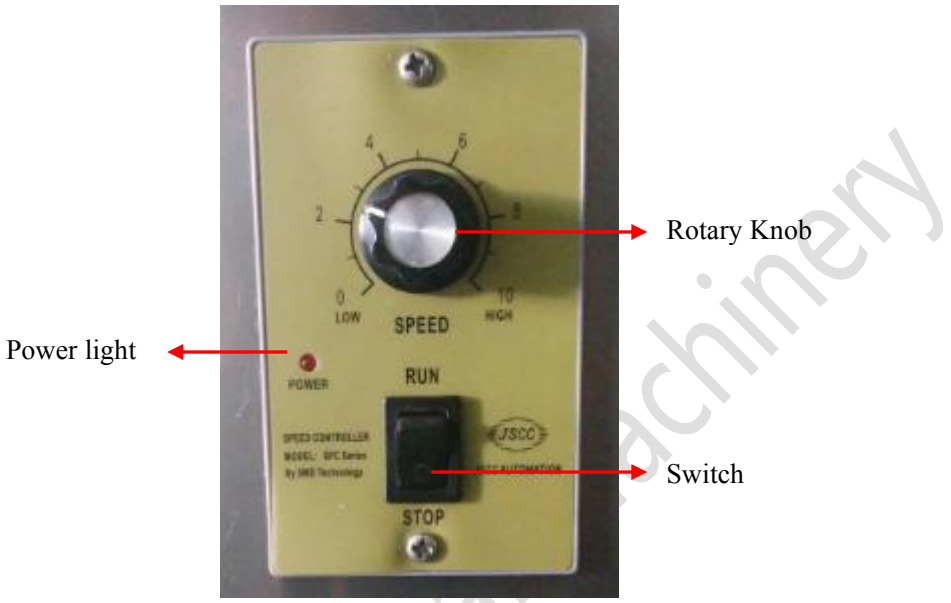
5. Mechanical Panel Operation Instructions

Before operating the machine, please thoroughly read the operation procedure of the mechanical panel as follows:

Functions			
A	Governor	B	Temperature Regulator
C	Start Switch of Temperature Control	D	Indicator Light

A. Governor:

1) For adjusting the speed of conveyor.
2) The rotary knob can be adjusted the running speed of conveyor.
3) Switch to RUN to startup the conveyor, and switch to STOP to stop it.
4) When the conveyor motor running, the power indicator light bright.



B. Temperature Regulator:

1) Panel operation:

a) Controlled temperature (cutoff temperature) regulation: Press SET key flashing to display control temperature, then press ▲ or ▼ key to change the figure and memory. Press SET key to exit regulation status and display reservoir temperature. If do not press any keys, it will return to display reservoir temperature after 6 seconds. (Controlled temperature regulation range: parameter E1~E2)

b) Manual enter/stop defrosting: Long press ❄ key for 6 seconds to get into defrosting status or stop defrosting.

c) Display defrosting detector temperature: Long press ▲ key for 6 seconds, flashing display defrosting detector temperature, and return to display reservoir temperature after 6 seconds.

d) Refrigerating light: During refrigerating, the refrigerating light bright. The light goes out on constant temperature status. During time delay, the refrigerating light flashes.

e) Defrosting light: During defrosting, the defrosting light bright. After defrosting, temperature delay display, the defrosting light flashes.

f) Parameter setting:

- Long press SET key for 6 seconds to enter parameter setting, flashing display E1 at the same time.
- Then press SET key to change parameter selection, fall into place E2, E3, E4, E5, E6, F1, F2, F3, F4, F5, C1.
- Press ▲ or ▼ key to display the numerical value of this parameter, and modify/save data.
- If do not press any keys within 6 seconds, it will return to normal operation mode.

Parameter	Function	Setting Range	Factory Defaults
E1	The lowest controlled temperature	-45℃ (-45℉) ~ Controlled temperature	-35℃ (-31℉)
E2	The highest controlled temperature	Controlled temperature ~ 45℃(120℉)	20℃ (68℉)
E3	Temperature hysteresis	1~10℃ (1~18℉)	4℃ (7℉)
E4	Delay startup time	1~10 minutes	2 minutes
E5	Reservoir temperature detector correct	-20~20℃ (-36~36℉)	0
E6	Defrosting detector correct	-20~20℃ (-36~36℉)	0
F1	Defrosting time	1~60 minutes	20 minutes
F2	Defrosting interval	0~24 hours	6 hours
F3	Defrosting termination temperature	0~40℃ (32~104℉)	8℃ (46℉)
F4	Temperature display while defrosting	0 = reservoir temperature normal display 1 = the temperature when defrosting begin	0
F5	Fan control	0 = synchronize with compressor 1 = keep running except defrosting	0
C1	Temperature Unit	℃=Celsius, ℉=Fahrenheit	℃

g) Modify the factory setting defaults: Press SET key to regulate controlled temperature. Long press SET key for 6 seconds to enter parameter setting status, after regulated parameter, long press SET key for 6 seconds, display COP, save the modified controlled temperature values and parameter values as factory setting defaults.

h) Restore factory setting defaults: Long press ▲ and ▼ key for 6 seconds at the same time, flashing display 888, this moment, all parameters and controlled temperature restored to factory defaults. It will return to normal operation mode after 6 seconds.

i) Parameter locking: Long press ▼ key for 6 seconds, flashing display OFF, it means lock, display ON means unlock. After locking function effective, the parameter can be read only, not modify. Temperature control regulation is still effective. (Factory default is ON)

2) Function specifications:

a) Temperature control:

- After the compressor delayed time, when the reservoir temperature is greater than (controlled temperature + temperature hysteresis), the compressor will startup. Otherwise, it will stop.
- In order to protecting the compressor, each stop time must be exceed delay time (parameter E4), then to restart it.

b) Electric heating defrosting function:

- It could enter defrosting only the defrosting detector temperature less than defrosting termination temperature (parameter E3), connect heating wire.
- After worked for one defrosting interval, it will get into defrosting status automatically. If the defrosting detector temperature less than defrosting termination temperature, the defrosting light is bright, compressor stops, heating wire works, evaporator fan stops.
- When the defrosting detector temperature greater than defrosting termination temperature, or defrosting time is up, it will exit defrosting status. Heating wire stopped working, it will get into normal temperature control mode after 2 minutes of drips of water. If reservoir temperature is greater than (controlled temperature + temperature hysteresis), compressor will start up, evaporator fan will work after one minute.
- When the defrosting interval set “00”, auto defrosting function will be cancelled.

c) Locking reservoir temperature display while defrosting:
When the setting parameter F4=1, lock the temperature in the storage room during defrosting, it will display the temperature for the beginning of defrosting. After defrosting and reservoir temperature delayed 20 minutes (or reached controlled temperature), it will return to normal display. The defrosting light is flashing during delay time.

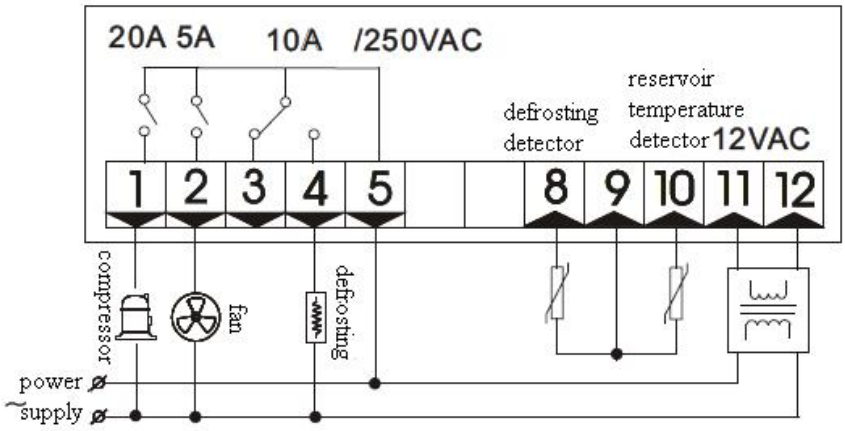
d) Abnormal working mode:

- Reservoir detector short-circuited or exceeded high temperature

limitation (greater than 66℃/150℉), display “HH”. Reservoir detector open- circuited or exceeded low temperature limitation (less than -45℃/-45℉), display “LL”. Get into timer working mode, the compressor will run 30 minutes, stop 15 minutes.

- Defrosting detector short-circuit, open-circuit or exceed limitation, defrosting termination status can be only controlled by defrosting time.

e) Wiring diagram:



C. START Switch:

After the cooling machine electrified, rotate the START switch ON, the compressor will start up after delayed a period of time, then get into temperature control mode.

D. Indicator Light:

Indicate the running status of the cooling machine.

6. Operation procedures

Step 1: Check and confirm if the power wire connected as regulation.

Step 2: Turn on the START switch on the operation panel, and adjust the temperature to a suitable temperature.

Step 3: Both openings of cooling machine must be adjusted the height, molds can pass in and out is suitable. Please do not adjust the openings too big to reduce the freezing efficiency and lose electricity.

Step 4: The molds will get into the cooling machine from the conveyor direction, and take out from another opening.

Enclosure: Electrical Control Diagram