MICROTEC

APEX QUICK GUIDE

XM-15

APEX M15 15-Station Fully Automatic Mug Press

One picture per step. Follow the steps in order.



! Safety first

The mug heating pads get very hot

Up to 400°F. Never touch them. Keep children and pets away.

Keep the doors closed while it runs

The gripper moves fast inside. Never reach in while the machine is running.

Reaching in? Stop the machine first

Press an EMERGENCY STOP button before you open a door or clear a mug.

220V single-phase power — electrician only

Must be grounded: less than 4 ohms, ground wire thicker than 4 mm², no longer than 65 ft (20 m).

Indoors, dry, level floor

41–104°F, humidity 30–90%. Away from water, heavy dust and anything that can burn.

Emergency? Press a red **EMERGENCY STOP** button — on the control box or at the front of the machine. Heating stops on all stations and the machine goes to Manual mode. When it is safe: twist the button to release it, then hold **Homing** on the screen.

1 Set up



1. Pick a level, solid spot

About 69″ × 50″ × 68″ (1761 × 1282 × 1728 mm). Leave room to open the doors.



2. Have an electrician connect the power cord

The power cord comes out at the bottom of the left cabinet. It needs 220V single-phase, 28 A, 60 Hz and a good ground. Only an electrician should wire it.



3. Connect the compressed air hose

Connect your compressor hose to the machine's air inlet. The air goes first to the main air regulator (filter with a gauge, shown). Without air the gripper and mug pads cannot work.



4. Set the main air to 5–7 bar

That is about 73–100 psi on the main regulator gauge. Clockwise ↻ = more pressure, counter-clockwise ↺ = less. If the knob won't turn, pull it up first; push it down to lock.



5. Set the gripper regulator

The gripper has its own small regulator with a gauge. Set it to 0.05 bar. Clockwise ↻ = more pressure, counter-clockwise ↺ = less. Turn a little at a time and watch the gauge.



6. Turn on the main breaker

On the side panel of the machine. Check first: power cord wired and air hose connected.



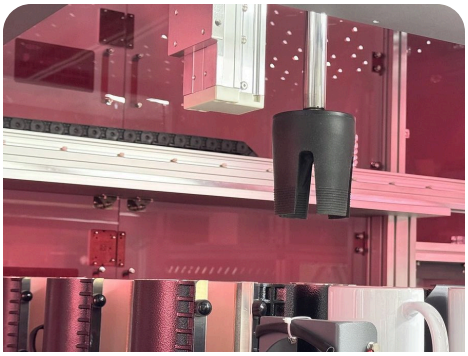
7. Turn on POWER at the control box

The screen lights up.



8. In Manual mode, hold Homing

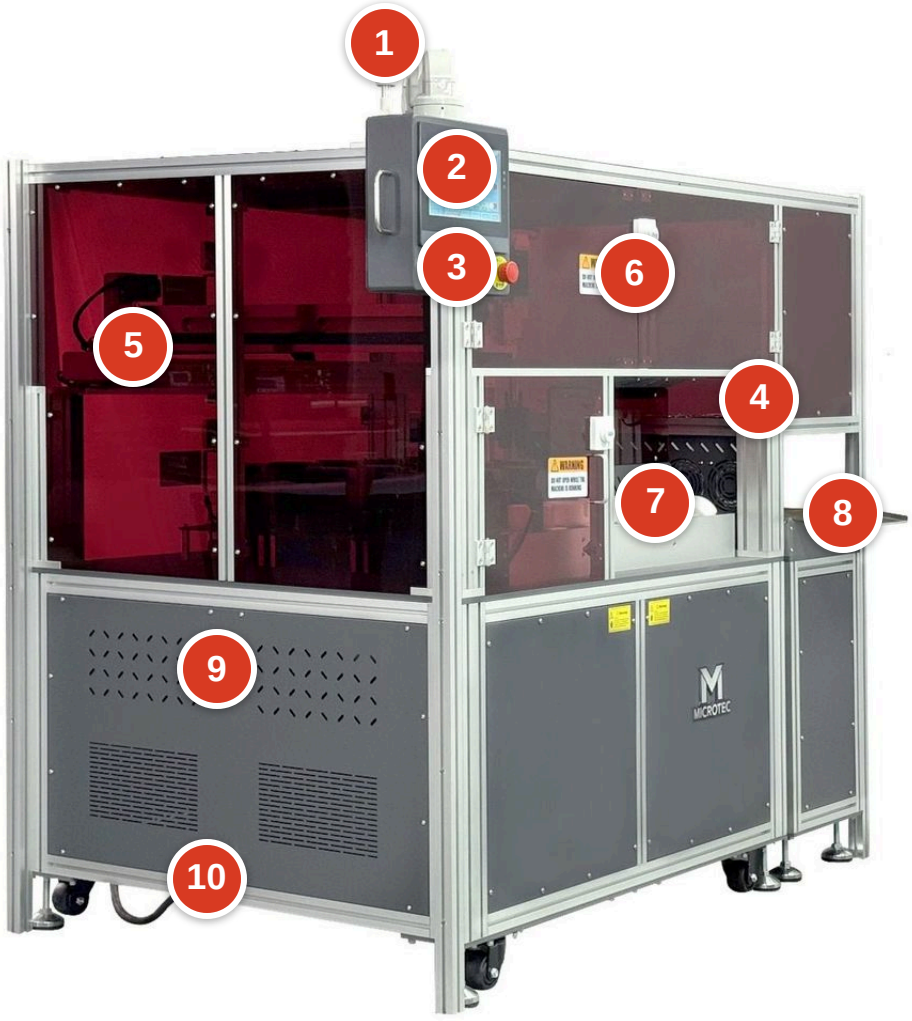
The gripper goes back to its home position. Do this at first start-up and after an emergency stop.



9. Check the gripper is empty

If a mug is still in it, take it out in Manual mode.

2 Know your machine



1 Status light
Green = Auto running. Off = standby or Manual. Red = emergency stop or alarm.

2 Touch screen
Set temperature and time, run the machine.

3 POWER key · START · STOP · EMERGENCY STOP
The buttons under the screen.

4 Front emergency stop
Second emergency stop button.

5 Gripper (inside)
Picks up, moves and places the mugs.

6 Guard doors
Do not open while the machine is running.

7 Mug infeed belt
Put blank mugs in the molds here.

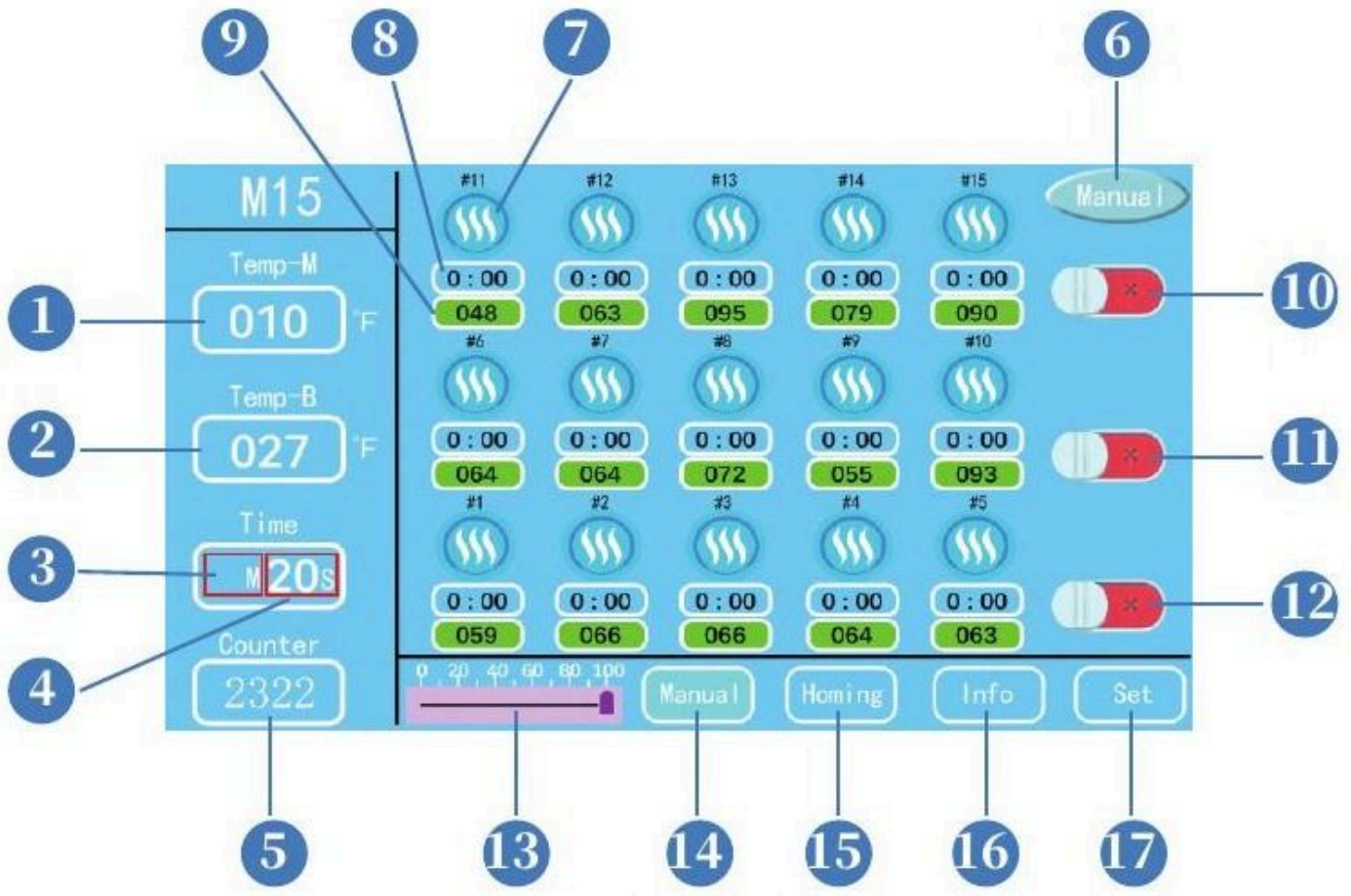
8 Mug discharge belt
Finished mugs come out here after cooling.

9 **Main power breaker**
Main power ON / OFF for the whole machine.

10 **Power cord**
Main power to the machine.

> ⚠ **Light turns red?** An emergency stop is pressed or there is an alarm. Tap **Info** on the screen and follow the message.

3 Touch screen



1 **Temp-M (mug temperature)**
120–400°F. Best for pad life: 356–380°F.

2 **Temp-B (bottom preheat)**
Bottom preheat temperature for all 15 stations.

3 **Time — minutes**
0–9 minutes.

4 **Time — seconds**
0–59 seconds.

5 **Counter**
Mugs made this run. Hold 2 sec to reset.

6 **Mode display**
Flashes Manual or Auto.

7 **Heating icon**
Red = heating. In Manual, tap to test that pad opening and closing.

8 **Countdown**
Time left on each station.

9 **Actual temperature**
Turns green when it reaches the set temperature.

10 **Heat switch — stations 11–15**
Top row ON / OFF.

11 **Heat switch — stations 6–10**
Middle row ON / OFF.

12 **Heat switch — stations 1–5**
Bottom row ON / OFF.

13 **Speed slider**
How fast the gripper moves.

14 **Manual / Auto**
Tap to switch modes.

15 **Homing**
Hold to send the gripper home.

16 **Info**
Shows alarms and how to clear them.

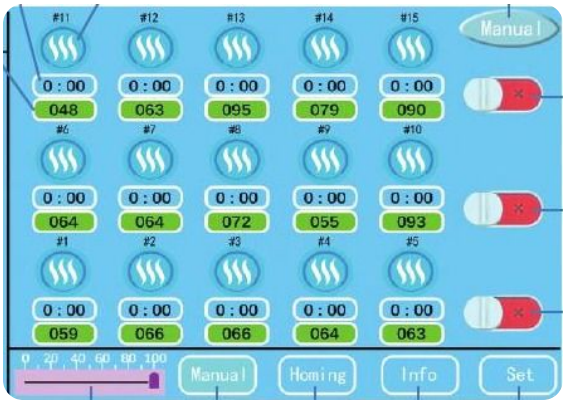
17 **Set**
Opens the settings page. Manual mode only.

Common jobs



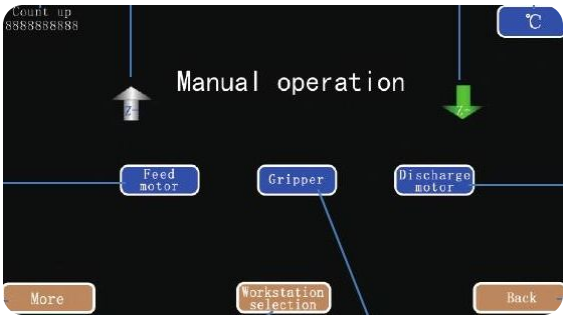
1. Set temperature and time

Tap **Temp-M** and enter the temperature. Tap the minutes box, then the seconds box, and enter the time.



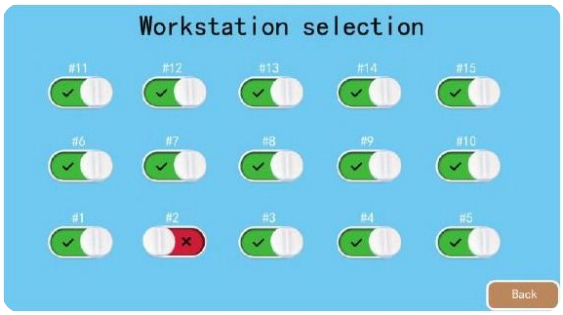
2. Turn on heat for the rows you use

Tap the switches on the right. Wait until the temperatures turn green.



3. Settings page (Manual mode)

Tap **Set**. Here you can move the gripper up / down, open / close it, run the feed or discharge belt, and switch °C / °F.



4. Turn off a station that has a problem

Set → **Workstation selection**. Switch that station OFF, then tap **Back**. The others keep working.

> ⚠ **More** (engineer pages: axis setup, PID, temperature correction) changes how the machine moves. Use it only with our technician on the phone.

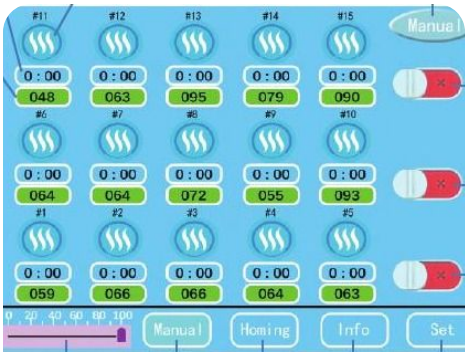
Quick reference

I WANT TO…	DO THIS
Start automatic running	Screen on **Auto** → green **START**

I WANT TO…	DO THIS
Stop at the end of work	Hold red **STOP**
Reset the counter	Hold **Counter** 2 sec
Read an alarm	Tap **Info**
Change °F / °C	**Set** → **°C**

Ranges: temperature 120–400°F · time 0–9 min 59 sec.

4 Run automatic production



1. Turn on heat and wait for green

At least one row must be on. Wait until the temperatures turn green.



2. Put mugs in the molds on the infeed belt

Mugs with the transfer already wrapped on, ready to press.



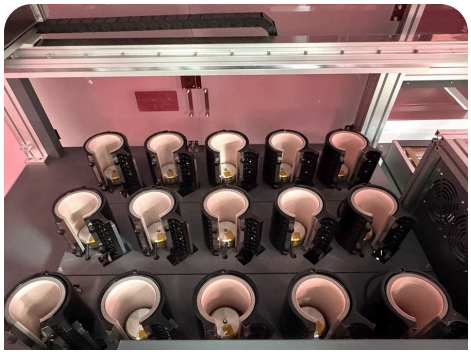
3. Select Auto on the screen

The mode display flashes Auto.



4. Close the doors, press green START

The light turns green and the machine runs by itself.



5. The gripper loads the 15 heat pads

Each station counts down, then the mug moves to the discharge belt to cool.



6. Take the finished mugs off the discharge belt

Peel the transfer as your paper supplier says.



7. To finish: hold the red STOP button

It stops taking new mugs, finishes the ones inside, turns the heat off and goes to Manual.

⚠ STOP is the normal way to finish. EMERGENCY STOP is only for danger — it cuts the heat on all stations at once.

5 If something is wrong

No power

1. Check the main breaker has not tripped.
2. Check the POWER key switch.

Auto won't start

1. Is Auto selected on the screen?
2. Hold Homing in Manual mode.
3. At least one heat row on and green?
4. Emergency stop released?
5. Tap Info and clear all alarms.

Crash / anti-collision alarm

1. Check the air pressure is 5–7 bar.
2. Still alarms? Call us.

Temperature alarm on a station

1. Turn that station OFF in Workstation selection and keep working.
2. Call us to check its sensor or heat pad.

Temperature on screen doesn't match a thermometer

1. This is fixed with temperature correction.
2. Call us — we will guide you.

Specifications

	XM-15
Stations	15
Power	220V single-phase · 6 kW · 28 A · 60 Hz
Air	5–7 bar (73–100 psi)
Temperature	120–400°F (356–380°F recommended)
Timer	0–9 min 59 s
Controller	PLC (XD5-60T6-E + SK-102QT)
Size	1761 × 1282 × 1728 mm
Working room	41–104°F · 30–90% RH

Still stuck? Call us.

Phone

(714) 261-9498

Mon–Fri · 7:30 am – 5:00 pm Pacific

Email

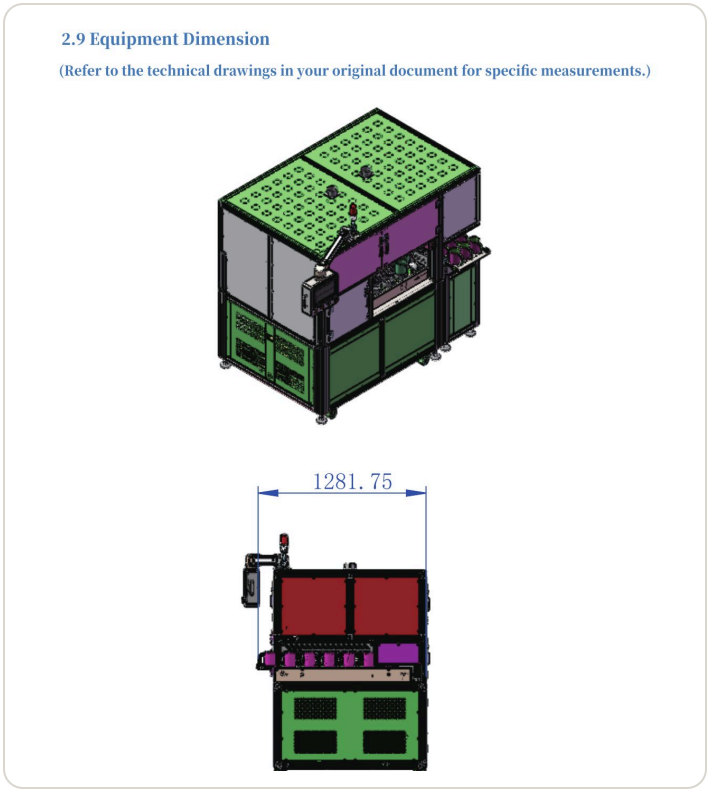
sales@microtecusa.com

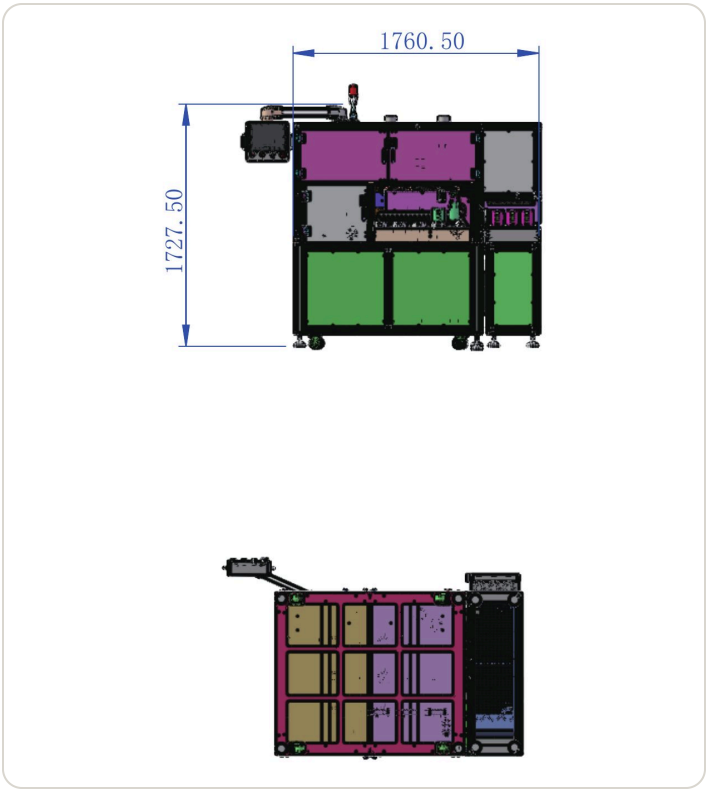
Free lifetime tech support

Dimensions & diagrams

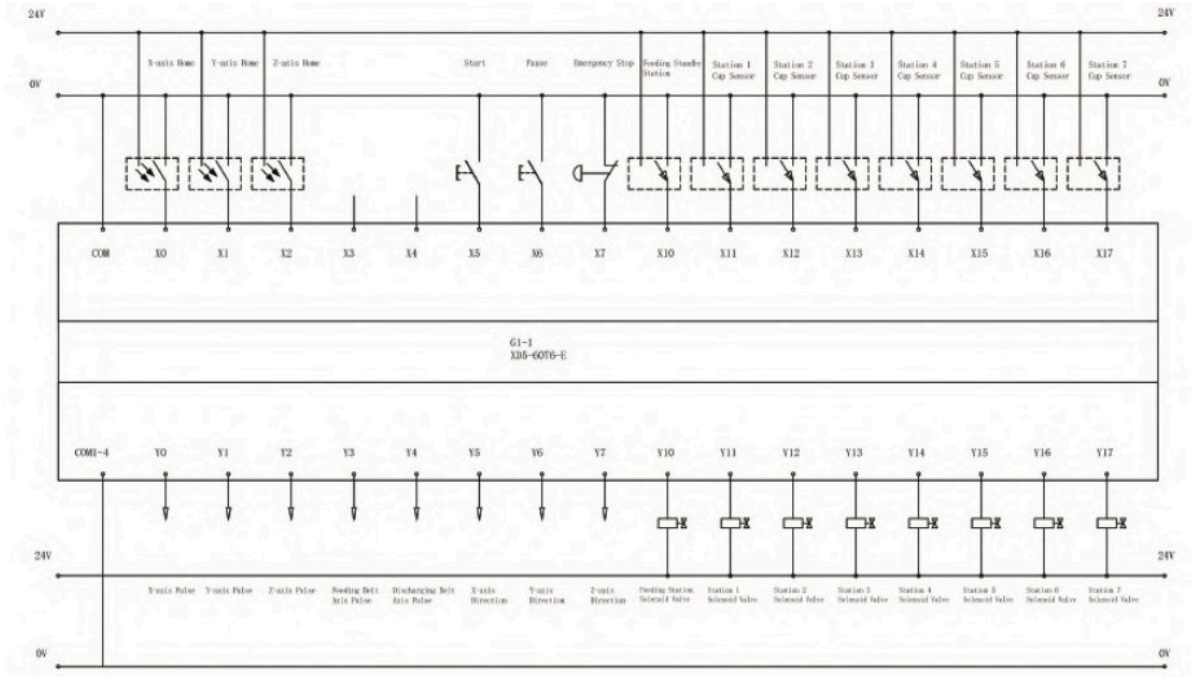
For service technicians. **Unplug the machine** and **disconnect the air** before opening any cover.

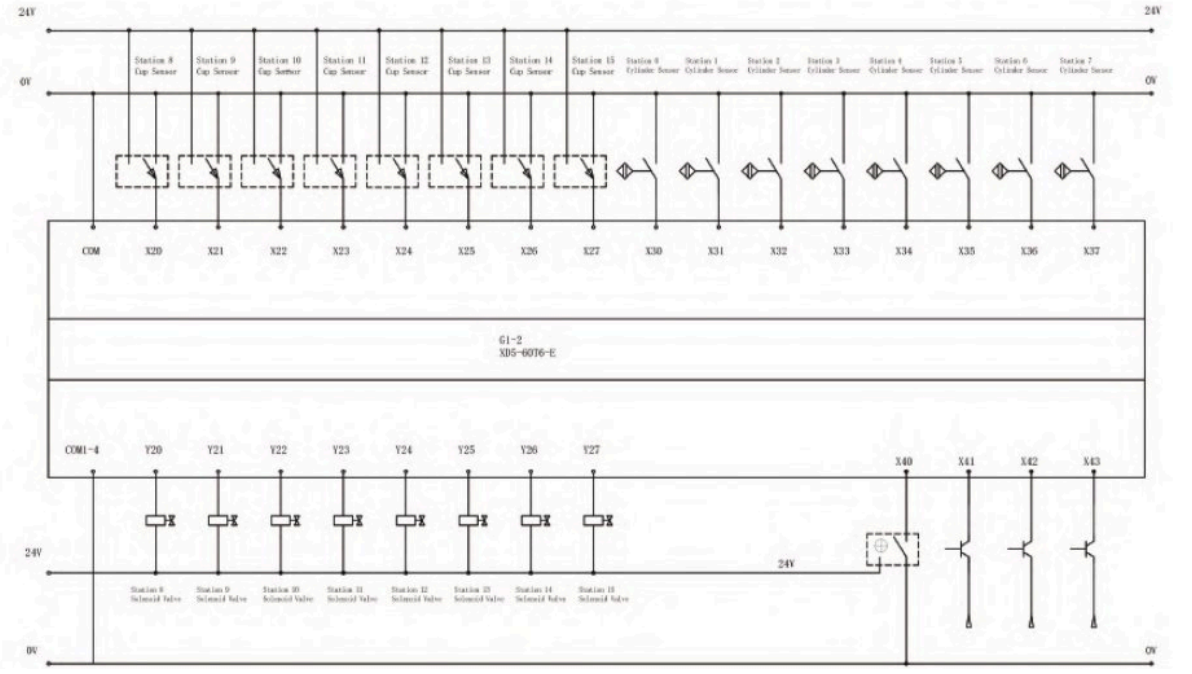
Dimensions (mm)

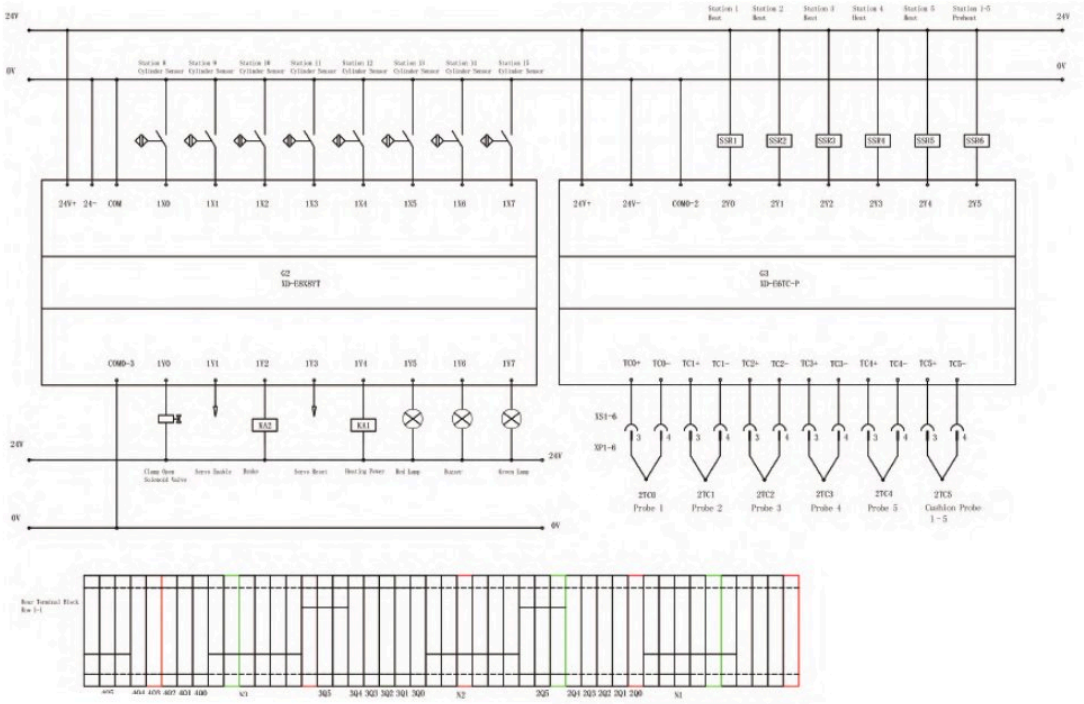


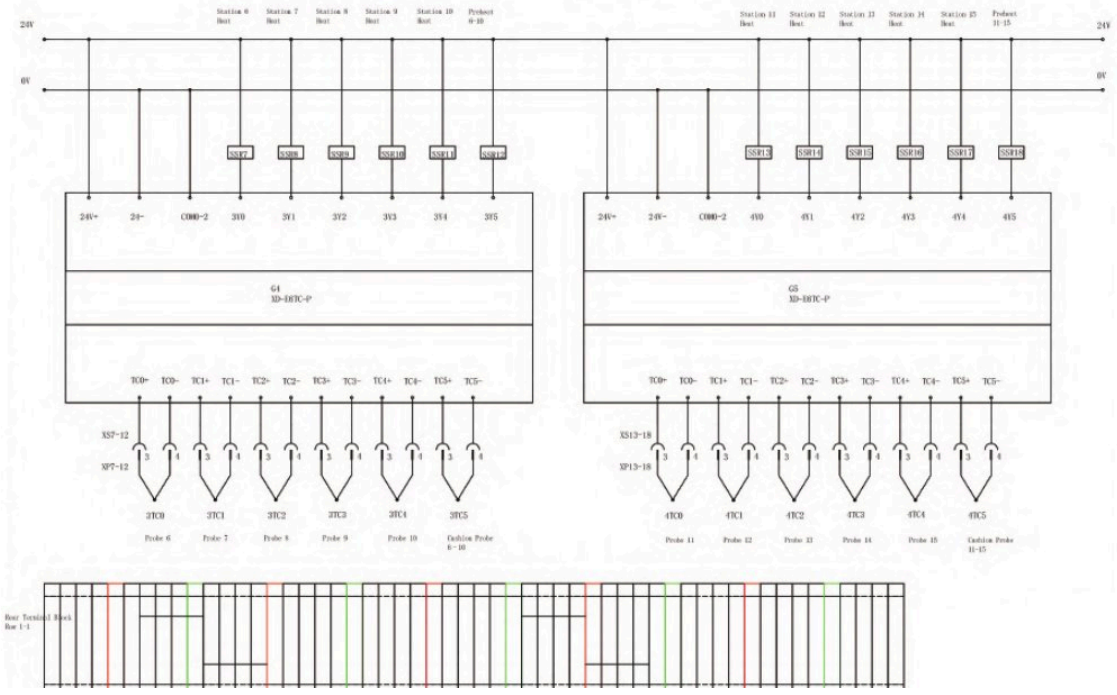


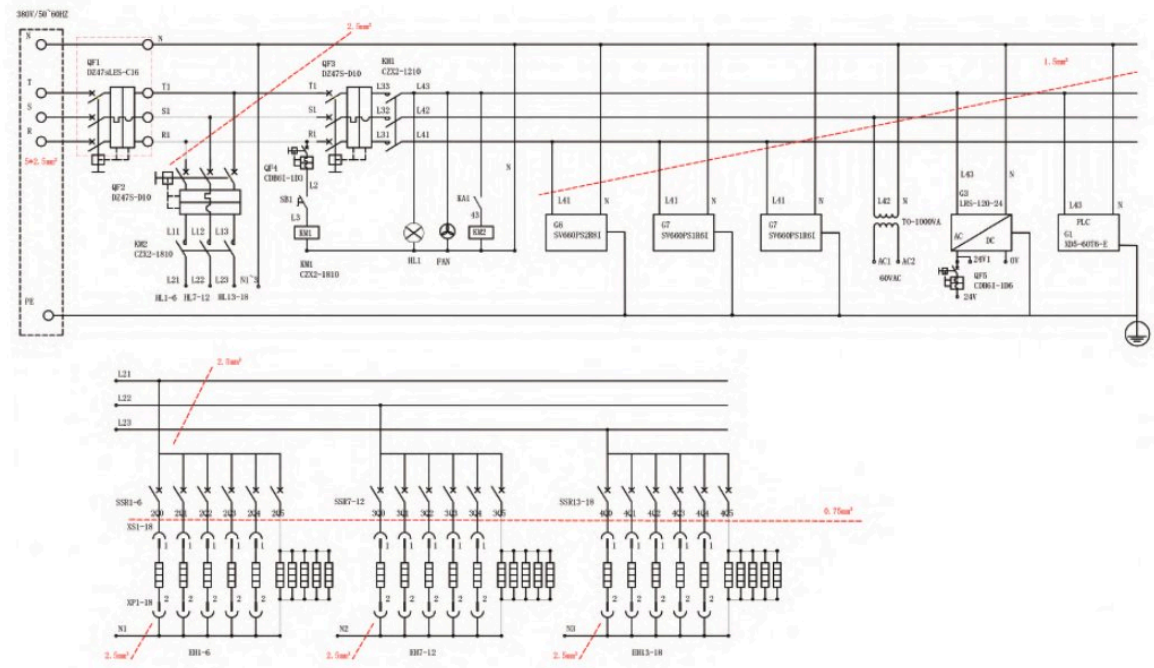
Wiring diagram

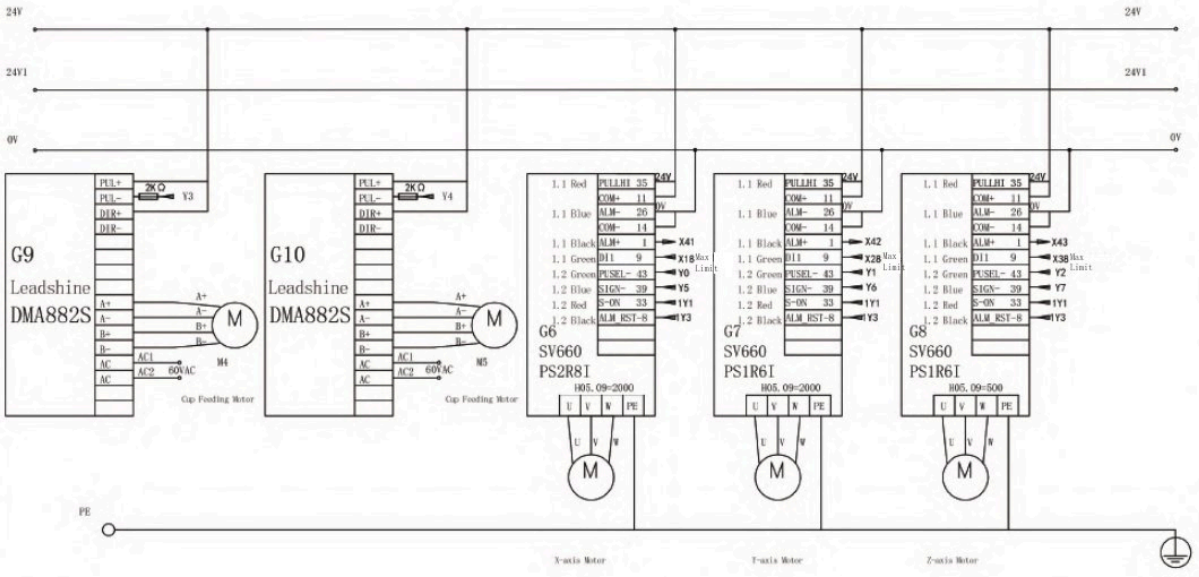





24V
0V
Station 1 Heat
Station 2 Heat
Station 3 Heat
Station 4 Heat
Station 5 Heat
Station 1-5 Preheat
SSR1
SSR2
SSR3
SSR4
SSR5
SSR6
24V+ 24- COM 1X0 1X1 1X2 1X3 1X4 1X5 1X6 1X7
G2
XD-E8S8PT
24V+ 24V- COM0-2 2Y0 2Y1 2Y2 2Y3 2Y4 2Y5
G3
XD-E8TC-P
COM0-3 1Y0 1Y1 1Y2 1Y3 1Y4 1Y5 1Y6 1Y7
KA2
KA1
TC0+ TC0- TC1+ TC1- TC2+ TC2- TC3+ TC3- TC4+ TC4- TC5+ TC5-
XS1-6
XP1-6
2TC0 Probe 1
2TC1 Probe 2
2TC2 Probe 3
2TC3 Probe 4
2TC4 Probe 5
2TC5 Cushion Probe 1-5
Rear Terminal Block Row 1-1
X1
X2
X3

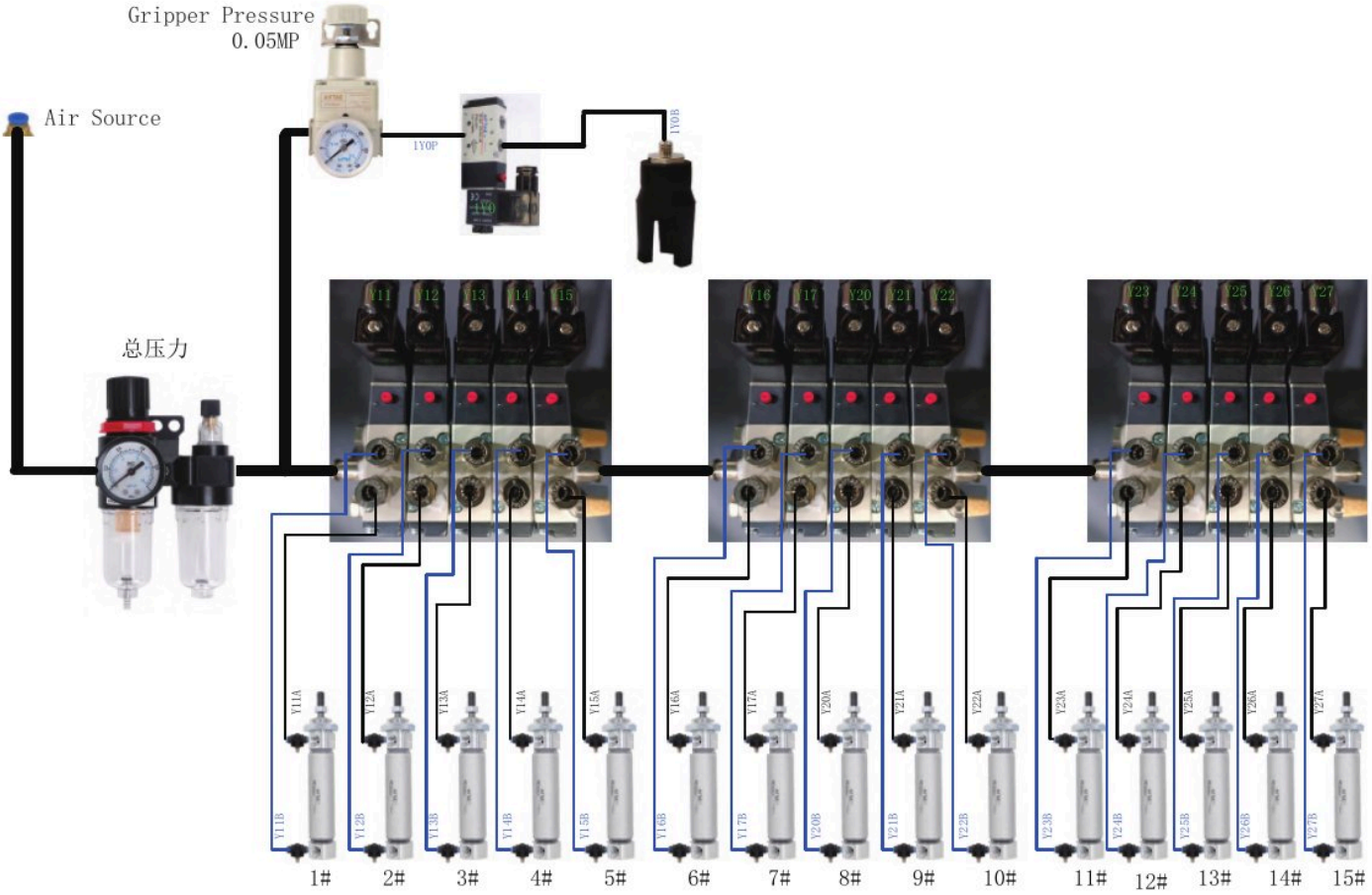

24V
0V
Station 6 Heat
Station 7 Heat
Station 8 Heat
Station 9 Heat
Station 10 Heat
Preheat 6-10
Station 11 Heat
Station 12 Heat
Station 13 Heat
Station 14 Heat
Station 15 Heat
Preheat 11-15
SSR7
SSR8
SSR9
SSR10
SSR11
SSR12
SSR13
SSR14
SSR15
SSR16
SSR17
SSR18
24V+ 24- COM0-2 3Y0 3Y1 3Y2 3Y3 3Y4 3Y5
G4
XD-E8TC-P
24V+ 24V- COM0-2 4Y0 4Y1 4Y2 4Y3 4Y4 4Y5
G5
XD-E8TC-P
TC0+ TC0- TC1+ TC1- TC2+ TC2- TC3+ TC3- TC4+ TC4- TC5+ TC5-
XS7-12
XP7-12
XS13-18
XP13-18
3TC0 Probe 6
3TC1 Probe 7
3TC2 Probe 8
3TC3 Probe 9
3TC4 Probe 10
3TC5 Cushion Probe 6-10
4TC0 Probe 11
4TC1 Probe 12
4TC2 Probe 13
4TC3 Probe 14
4TC4 Probe 15
4TC5 Cushion Probe 11-15
Rear Terminal Block Row 1-1





X-Axis Servo Pulses per Revolution: 2000 Y-Axis Servo Pulses per Revolution: 2000 Z-Axis Servo Pulses per Revolution: 2000

Air diagram


Gripper Pressure
0.05MP
Air Source
总压力
1Y0P
1Y0B
Y11
Y12
Y13
Y14
Y15
Y16
Y17
Y20
Y21
Y22
Y23
Y24
Y25
Y26
Y27
1#
2#
3#
4#
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