Hot Air Ventilation Dryer

Models HD – M10 to HD - M1100

Instruction Manual

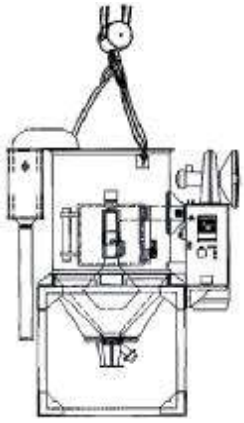
⚠WARNING

You must properly use your Hot Air Ventilation Dryer by thoroughly reading this manual.
Keep this manual near the Hot Air Ventilation Dryer so that it can be easily accessed whenever necessary.

Be sure to confirm a set value of each setting part when you install it on customer's place, and secure it so that there is no error.

[How to Move the Main Unit]

As shown below, attach a hoisting rope (with hook) to the hook-plate sling fitting on the unit. Raise and move the unit using your plant's hoist or a crane.



Caution!

Be sure to use a hoisting rope (with hook) which can withstand the mass of the unit (see **Chapter 13 Specifications**).

MATSUI

Issued in December, 2009

Introduction

Thank you for purchasing of our Hot Air Ventilation Dryer. Please read this manual carefully for proper and safe operation. This instruction manual constitutes a warranty. So, please carefully store this manual after you have read it.

1. Warranty Period

If any defect is found in our equipment under normal operating conditions, and we determine it to be a defective, we will repair it or replace the parts free of charge within the following period and terms:

1) This warranty shall remain valid for twelve (12) months from the date when the new products you purchased are delivered to you.
2) Only the following parts are subject to the warranty period of six (6) months after such delivery date.
   Electromagnetic contactors and mechanical seals
3) The warranty period for any parts replaced for repair shall be three (3) months from the date of repair.

2. Scope

This warranty shall be limited to repair of our equipment or replacement of its parts, and shall not cover any products manufactured by means of our equipment and defects in manufacturing such products.

3. Exceptions

This warranty shall not apply to the following defects:

1) Defects caused by remodeling or repair made by any party other than our company;
2) Defects resulting from natural disasters such as earthquakes, typhoons and floods, accidents and fires;
3) Defects resulting from use exceeding limitations in the specifications set forth in the instruction manuals or catalogs;
4) Defects resulting from non-performance of maintenance and inspection by not observing manual instructions.
5) Defects in the equipment caused by outside factors such as peeling of coating caused by generated gas and malfunction due to electrical noise;
6) Defects resulting from non use of genuine parts (oil, medium, filters, etc.)
7) Consumables (hoses, filters, packings, O-rings, etc.).

4. In the case where the warranty period expires

We will make repairs for value, upon request, if the performance of our equipment can be maintained by such repairs.

5. Period during which parts can be supplied

As an approximate standard, service parts for our equipment can be supplied for eight (8) years after the equipment is discontinued. However, some parts may be supplied even after the period elapses. So, please make an inquiry at our service department about the availability of service parts.

Contents

The chapters identified with the mark ⚠ contain critical information. You must carefully read and well understand them before you can start using your Hot Air Ventilation Dryer.

Chapter 1 Safety Precautions

This chapter describes the hazardous levels and their marks on the products, which call for your particular precaution in performing the operations, maintenance, and services for the safe use of the products.

⚠WARNING

In performing the operations, maintenance, and services of the products, be sure to observe the safety precaution included in this document.
We shall take no responsibility and/or liability for any injury or accident attributable to your failure in observing such precaution.

1. Hazardous Level Marks and Their Meanings

This manual uses the following convention for the hazardous level marks:

Mark	Description
⚠DANGER	Improper handling might lead to your death. This mark is followed by the information provided to avoid such result.
⚠WARNING	Improper handling might lead to your serious injury. This mark is followed by the information provided to avoid such result.
⚠CAUTION	Improper handling might lead to your slight injury or a damage on the products. This mark is followed by the information provided to avoid such result.
NOTE	This mark is followed by the information provided to call for your particular attention in the context of operation procedures and explanatory statements.
⚠	This mark is used to indicate a point to which you should pay particular attention in handling something.
※	This mark is used to indicate an exceptional condition or description in figures and tables.

2. Safety Precautions

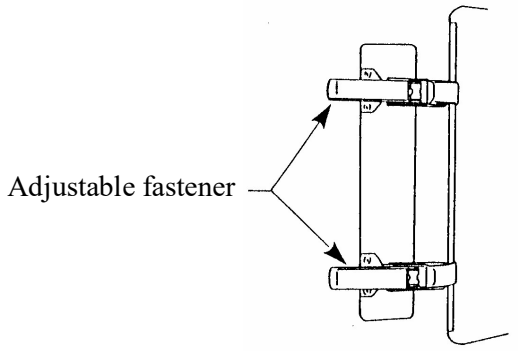
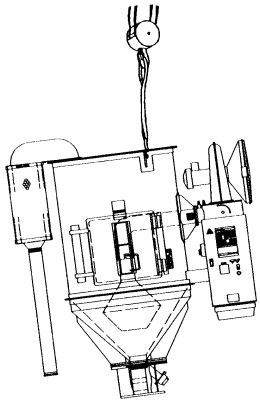
⚠ Be sure to observe the following precautions when operating this equipment. This equipment has a hot part in during operating. Therefore, don't touch the warning label part of " HOT CAUTION " with a hand.

Precaution item	Description
Surfaces temperature ⚠ DANGER	Since this equipment is made for drying purposes, the surface of the body reaches high temperatures. In particular, the surfaces of the hot air piping and the exhaust filter case reach temperatures exceeding 130℃ when the dryer is run continuously with the control temperature set to its maximum (160℃). Avoid careless proximity with the body when the equipment is in operation. Even when the equipment must be handled do to an emergency, do not touch with bare hands or allow direct contact with the skin. Before performing normal maintenance and cleaning, allow to cool naturally for at least five hours after stopping operation.
Equipment use	This equipment is designed for drying resin pellets. Drying of any other material may be the cause of equipment failure. Trouble resulting use with materials other than resin pellets is not covered by the warrantee.
	Do not use materials containing volatile component and inflammable materials. Using such materials may cause burnt down. Matsui will absolutely not take responsibility of troubles caused by evolved gas.
Using environment	●This equipment should be used indoors. ●This equipment should be used at ambient temperatures from 0 °C to 40°C and an ambient humidity of 25-85%.
Drying temperature	Set within the maximum operating temperature range as noted in the specifications. Do not use temperatures exceeding the maximum operating temperature. Otherwise, failure or an accident may result.
Precautions during operation	Do not open the vertical body, the cleaning port, or the residual resin removal port. Resin and hot air will blow out – extremely dangerous.
Opening and closing the vertical body and the cleaning port	Please incline it until being affix the hand to the vertical body soon without fail so as not to give the impact after the thing that there is no material in the inside is confirmed from the level window, and stopping slowly when opening and shutting.
Maintenance	Before performing maintenance procedures, be sure to turn the circuit breaker on the right side of the control panel to "**OFF**".

Precaution item	Description
Control panel Temperature controller	Do not apply strong shock to or spill water on control panel or temperature controller. Otherwise failure or fire may result.
	Only open the door when absolutely necessary. Otherwise, failure or accident may result.
	The door of control panel comes with a key; be careful not to lose a key.
Overheat protection device ⚠ CAUTION	This equipment is provided with a safety device (overheat protection device). When the safety device is activated, the power sources to the heater and the blower are turned off and the heater may reach very high temperatures. Before re-starting, make sure the heater has cooled sufficiently and the temperature setting is adjusted so that the overheat protection device will not be activated again. See **Chapter 3 Preparation for Operation** for details.
Warning labels Name plate	Keep legible until this equipment is disposed of.
Wiping clean	Do not wipe with petroleum solvents. Benzene, paint thinner, scouring powders, etc. will damage the surface. To clean dirty equipment, wipe with a soft cloth which has been soaked in water at 40°C and wrung out well.
Maintenance and Repair	There is high voltage, hot part in the equipment. In performs maintenance or repair after disassembles the equipment, one who doesn't have the knowledge of mechanical electricity doesn't do absolutely because there are trouble and danger. Don't do a check and replace work more absolutely except our service division or one who has the knowledge of mechanical electricity of yours.
When disposing of product and parts	When disposing of them, obeys law in the applicable use country after use in product and parts.

Chapter 2 Installation

1. Hopper Dryer Installation

Step	Item	Description
1	Checking condition of main unit	Before hoisting main unit and moving it, be sure to inspect the following. ●As shown in Figure 1, securely set the adjustable fastener HD-M10～350(adjustable fastener) , HD-M400～1100(Handle) which holds the cleaning port door of the vertical body closed.  Figure 1 (Models HD-300) ●Installing the installation base and the exhaust filter (standard accessories) in the main unit.
2	Moving the main unit	As shown in Figure 2, attach a hoisting rope (with hook) to the hook-plate sling fitting on the unit. Raise and move the unit using your plant 's hoist or a crane.  Figure 2 **⚠CAUTION** Be sure to use a hoisting rope (with hook) which can withstand the mass of the unit.
3	Fixing the main unit	The main unit should be fixed horizontally.

※ Installation of elevated platform for Hopper Dryer(HD-M10~1100)

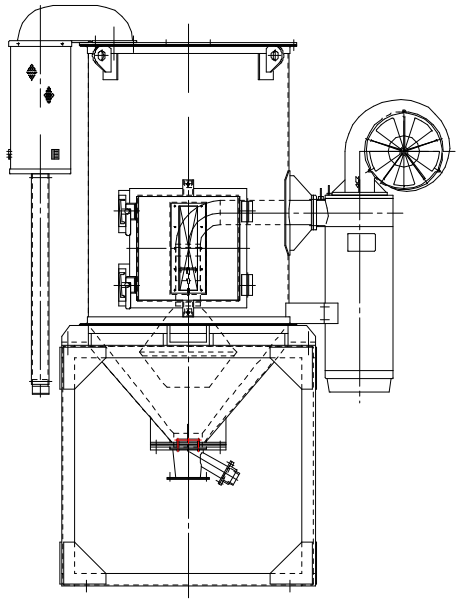
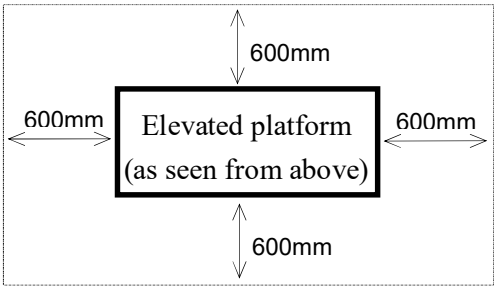


Figure 3

Step	Item	Description
1	Installation	Install on a level, stable floor. Make sure the installation location gives sufficient space to perform maintenance, as shown in Figure 4.  Figure 4
2	Fixing the main unit with anchors	As the four holes have been opened in the lower part of the frame. The main unit can be fixed with an anchors.

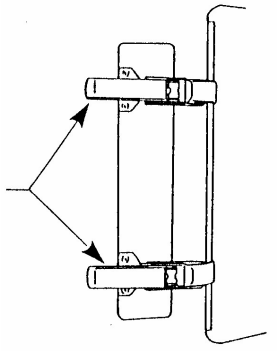
2. Power Supply Connection

Step	Item	Description
1	Connecting power supply cord	Turn OFF the plant power supply. ↓ Make sure the circuit breaker on the right side of the control panel is **OFF** and then connect the power supply cord (5m) to your plant power supply. **⚠ CAUTION** 1.Make sure the circuit breaker on the right side of the control panel is OFF before connecting the power supply cord. 2.Securely tighten the connection so that there is no looseness. Otherwise, single-phase operation or the like may result. 3. Be sure to ground the cord.
2	Check rotation direction of Blower	Turn **ON** the plant power supply. ↓ Turn **ON** the circuit breaker on the right side of the control panel. ↓ Check if rotation direction of the blower accord with direction of the arrow. ↓ If the direction is corresponding, then the phase order is correct and the power supply cord connection is complete. If the direction is not corresponding., turn **OFF** the plant power supply and reconnect the cord, switching the R-phase (red) and the T-phase (black). Turn **ON** the plant power supply and make sure the rotation direction of blower accord with direction of the arrow.

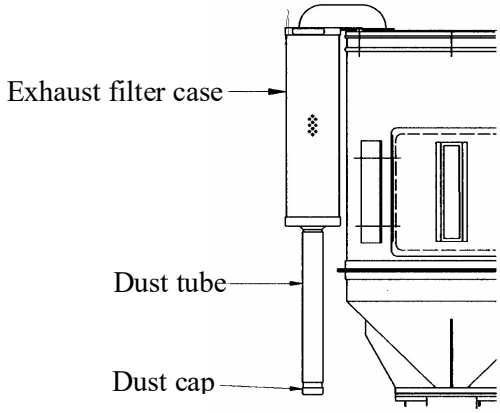
Chapter 3 Preparation for Operation

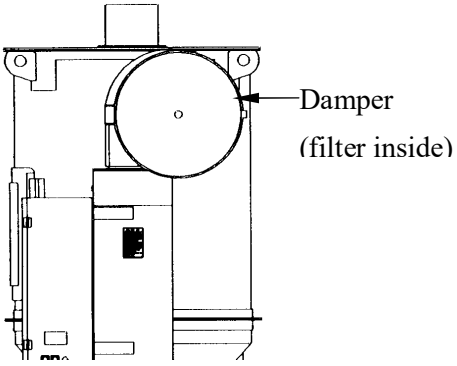
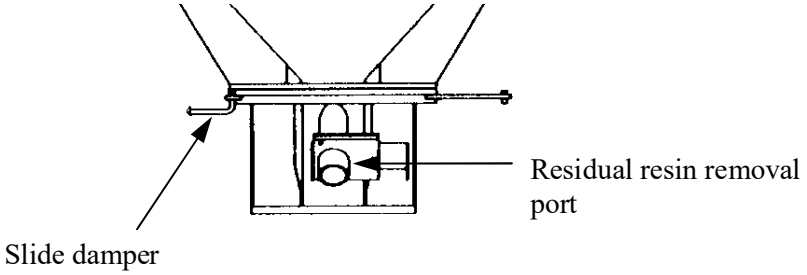
This chapter explains the items which are checked before beginning operation.

1. Inspecting the Inside of the Hopper

Step	Description
1	As shown in Figure 5, remove the adjustable fasteners HD-M10～300(Adjustable fastener) , HD-400～1100(Handle)and open the cleaning port door. Make sure the inside is free of foreign materials. Adjustable fastener  (Models HD-300) Figure 5
2	When the inspection is complete, close the cleaning port door and securely fasten the adjustable fasteners.

2. Checking the Condition of All Devices and Putting in Resin

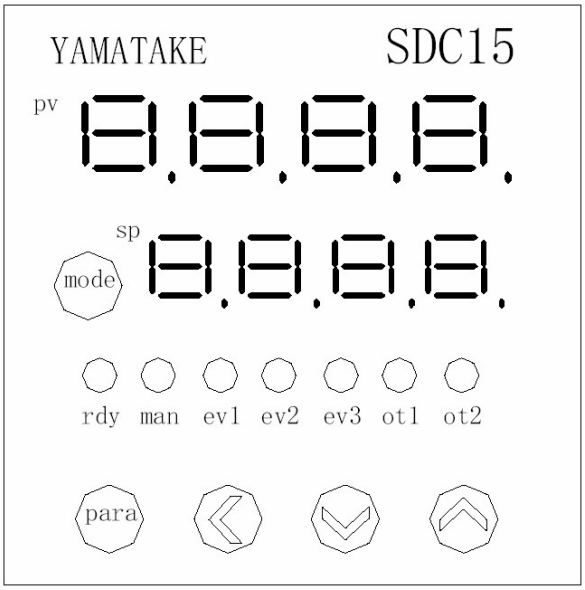
Device name	Check items
Exhaust filter case	●As shown in Figure 6, make sure there is a filter in the exhaust filter case. ●As shown in Figure 6, make sure the dust cap is securely attached.  Figure 6

Device name	Check items
Blower intake port	●Make sure the filter shown in Figure 7 is in place. ●Make sure the damper shown in Figure 7 is completely open.  Figure 7 **⚠ CAUTION** Make sure the damper is open all the way when dryer is in operation. Otherwise, insufficient air intake and excessive drying temperatures (high limit warning) may result.
Slide damper Residual resin removal port	As shown in Figure 8, make sure the slide damper and the residual resin removal port on the bottom of the hopper are securely closed. Then put resin into the hopper.  Figure 8

3. Setting the Drying Temperature

Use the knob on the panel to set the suitable temperature for resin

(1). Description of Control Panel



Nixie lights of first row: Displays PV values (current temperature,etc.)or setup items.

Nixie lights of second row: indicates SP values (set temperature,etc.) and other values of setup items.

Mode Indicator Lamps

rdy : Lights when READY (control stop)

man : Lights when MANUAL (manual mode)

ev1~ev3: Lights when event relays are ON.

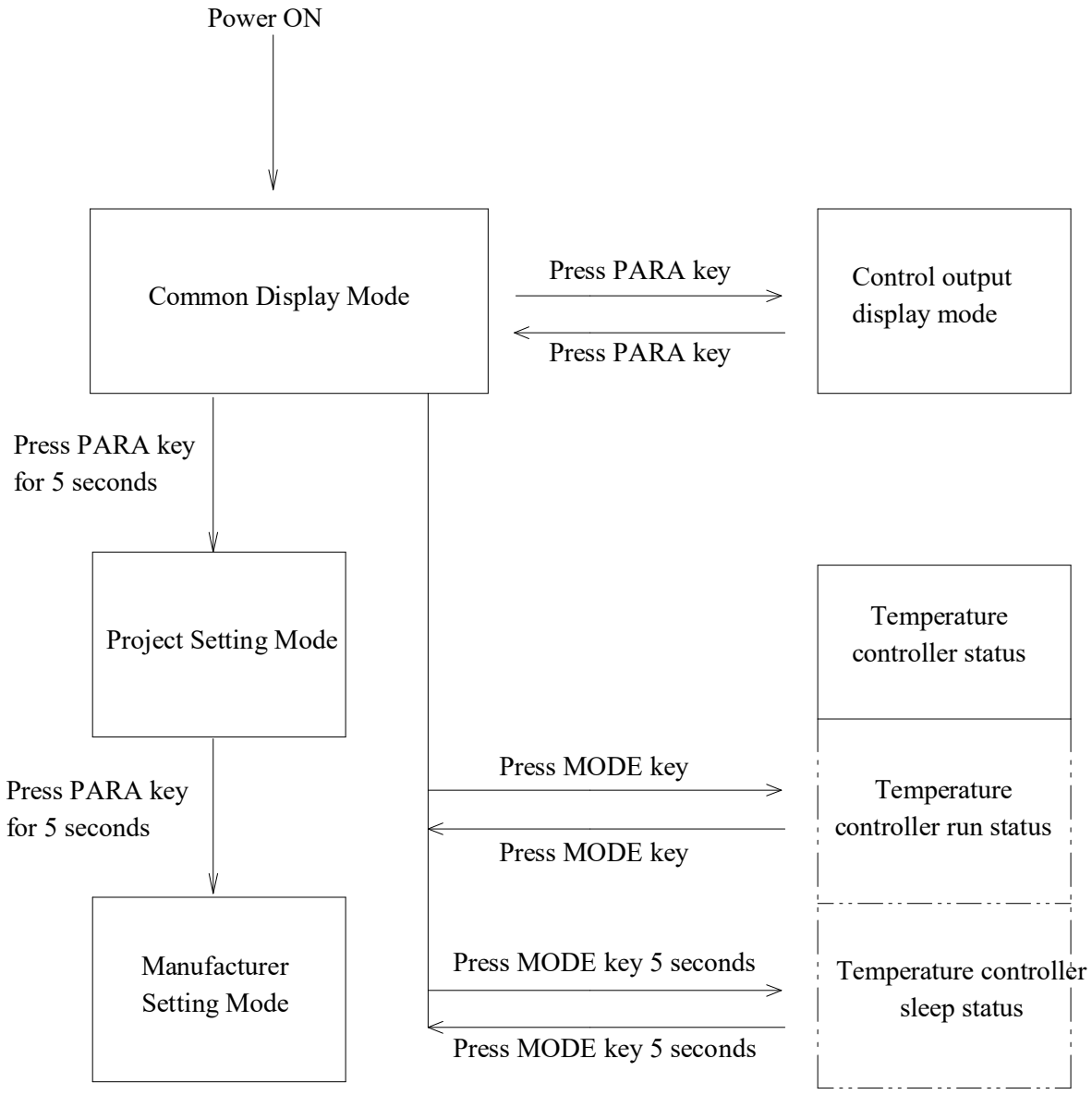
ot1~ot2: Lights when the control output is ON.

【mode】key: The operation which was set beforehand can be done by pressing the key for 5 second. The setting when shipping it is switched to RUN/READY.

【para】key: Switchs the display.

＜ ∧ ∨ keys: Used for incrementing numeric values and performing arithmetic shift operations.

(2). Operation Flow of Parameter Setting



(3). Display mode usually

Set the temperature according to the customer's requirement by adjusting ＜, ∧ and ∨keys. In case of temperature setting, the number of SP column will flash. The setting will not become valid until the number stops flashing.

Press PARA key once to make PV column display control output percent and SP column display control output value.

Press PARA key once again to return to the original display state.

(4) Controller setting

Step	Confirmation unit and checking item
Power supply ON	Make a front power breaker (V type operation handle) in "ON".
Dry temperature setting	Set the temperature according to the customer's requirement by adjusting ＜, ∧ and ∨keys. In case of temperature setting, the number of SP column will flash. The setting will not become valid until the number stops flashing. Press ＜, ∧ and ∨keys→The number of column will flash→Press ＜, ∧ keys ,change the setting value When pushing these switches, the value becomes the addition and the subtraction in order. Also, when continuing to push a switch, automatically, the value becomes an addition and a subtraction. No press ＜, ∧ keys, after the number of SP column stop flashing, setting is over. Factory setting:80℃ Standard setting value(include high temperature type):80~160℃

(5).The operation method for the auto tuning

AT column in the engineering setting model is changed from AT.OF to AT.ON ,then start to auto tuning.

If auto tuning is over, then automatically returns to usual PV status, starts to PID control by the adjustment result.

If the operation of auto tuning is stopped compulsorily ,then PID value is the same as before not be auto tuning.

(6). Manufacturer Setting Mode.

Engineer Setting Mode (In the state of common display mode, press and hold PARA key for 5 seconds to enter into this setting mode)

Symbol	Name	Setting Scope	Initial Value	Setting Value	Remarks
A--M	AUTO/MANUAL mode selection	MV,AUTO	AUTO	AUTO	
r--r	RUN/READY mode selection	RUN,rdy	RUN	RUN	
At	At STOP/START selection	At.OF,At.ON	At.OF	At.ON	
do.Lt	Release all DO latches	Lt.ON,Lt.OF	Lt.OF	Lt.OF	
C.di1	Communication DI1	d1.ON,d1.OF	d1.OF	d1.OF	
SP-1	SP-1 mode	0~999		80	
E1	Warning mode		0	10	
P-1	Proportional Band	0.1~999.9%	50	By Autotuning	
I-1	Integration time	0~9999s	120		
D-1	Derivative time	0~9999s	30		
Ctr1	Control Method Setting	0~2	1	1	
Rt.oL	Output lower limit selection mode	-10~+110%		—	
Rt.oH	Output upper limit selection mode	-10~+110%		—	
FL	PV filter	0~120"		—	
Bi	PV bias	-1999~9999u		—	
CY	Time proportional cycle	5~120"		15	
At.ty	AT mode	0~2		1	

Manufacturer Setting Mode

(In the state of engineering setting mode, press and hold PARA key for 5 seconds to enter into this setting mode)

Symbol	Name	Setting Scope	Initial Value	SettingValue	Remarks
C01	Thermocouple selection type	1~6	1	1	
C02	Temperature unit selection	0，1	0	0	
C05	Subject to the setting of C01, setting is unnecessary				
C06					
C08	Temperature setting high limit	0～1200	1200	130/160	Standard:130/ High Temperature:160
C14	Control action selection	0，1	0	0	
C26	Cooling control	0，1	0	0	
C30	LSP setting	1~4	1	1	
C72	Mode lock function	0~8	2	~~2~~ 0	Ready mode function is canceled.
C79	Configuration Function selection	0~2	0	2	
E1C1	Alarm quomodo setting	0~32	7	7	
E1C2	E1C2 setting mode		0000	0000	
E2C1	Alarm quomodo setting	0~32	—	—	
E2C2	E2C2 setting mode		—	—	
E3C1	Alarm quomodo setting	0~32	—	—	
E3C2	E3C2 setting mode		—	—	
E4C1	Alarm quomodo setting	0~32	—	—	
E4C2	E4C2 setting mode		—	—	
E5C1	Alarm quomodo setting	0~32	—	—	
E5C2	E5C2 setting mode		—	—	
DI 1.1	DI Distribution mode	0~20	0	0	
DI 2.1	DI distribution mode	0~20	0	0	
DI 3.1	DI distribution mode	0~20	0	0	
LOC	Key lock mode	0~3	0	~~0~~2	
PASS	Pass word mode	0~15	0	0	

※ When the parameter will be changed, changes the set value of LOC from“2” to“0”, the lock can be released.

4. Setting the Overheat Protection Device

For safety, the Hopper Dryer has an overheat protection device and a power supply cut-off type circuit breaker as standard equipment. If the sensor (temperature detector) reaches a temperature higher than the temperature setting of the overheat protection device, the power supplies to the heater and blower are cut off.
At the moment the power supply turns OFF, the indicators also go out.

Step	Description
1	Set the temperature setting of the overheat protection device to a value about 20˚C higher than the drying temperature (SV temperature setting). For standard specifications, set the temperature setting of the overheat protection device to 150˚C or below; for high temperature specifications, set to 180˚C or below. [Comments] The temperature controller has high and low limit alarm settings. When the high limit alarm occurs, the heater is turned OFF and, after the cooling time has elapsed, the blower is turned OFF. Operation stops. See **Chapter 7 Alarms**. (Both the high and low limits are set to 10˚C at the factory before shipping.)

NOTE

When a safety device is activated, the heater requires about one hour to cool. If the dryer is restarted before the heater has finished cooling, heat remaining in the heater may cause the overheat protection device to trip again. Take sufficient care regarding the temperature setting when re-starting.

Chapter 4 Operating Procedures

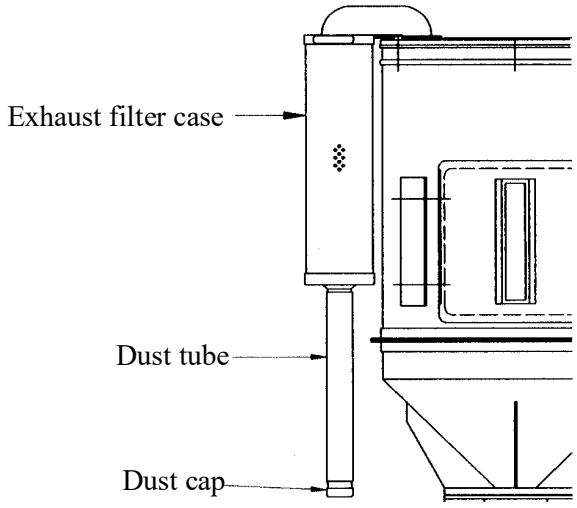
This chapter describes the steps for operating and stopping the Hot Air Ventilation Dryer.

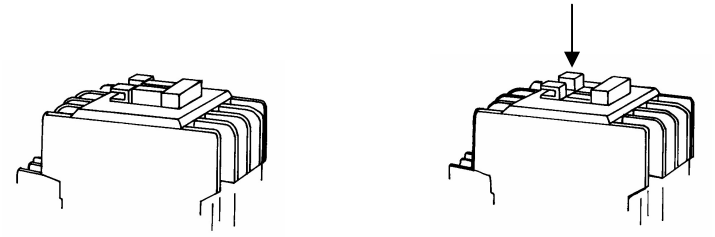
Ste	Item	Description
1	Power ON	Turn **ON** the circuit breaker on the right side of the control panel.
2	Operation start	① HD-M10～200，Turn **ON** the power supply, operation begins. ② Above HD-M250, Push the start button on the setting panel, operation begins. ↓ During operation, the temperature of the hot air used for drying is displayed on the PV indicator. ☐ BLOWER and ☐ HEATER are lit.
3	Operation stop	① HD-M10～200, Turn OFF the power supply, operation stops. ② Above HD-M250, Push the stop button on the setting panel again; operation stops. ↓ The heater turns **OFF**, and 120 seconds later, the blower stops. (This stop operation serves to remove heat remaining in the heater.) The ☐ HEATER indicator goes out and 120 seconds later the ☐ BLOWER indicator goes out.
4	Power OFF	Turn **OFF** the circuit breaker on the right side of the control panel. **NOTE** After the stop procedure in Step 3 is performed, do not turn OFF the circuit breaker until the blower stops. If the blower is stopped prematurely, excess heat will remain in the heater.

Chapter 5 Maintenance

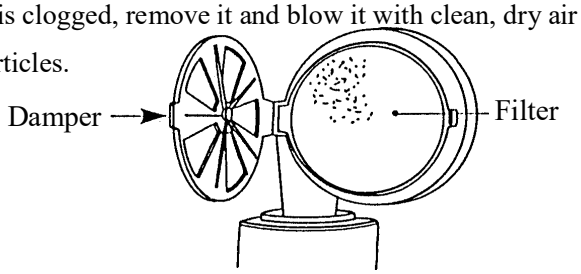
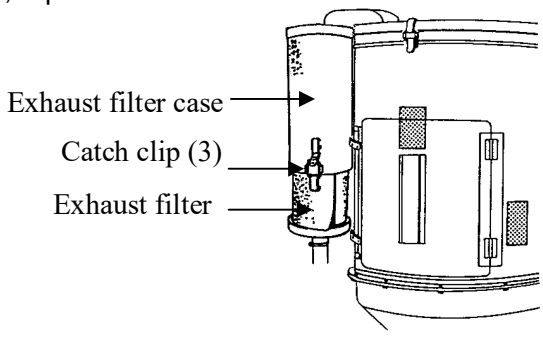
This chapter describes the possible causes of troubles you may encounter and the actions to be taken against them.

1. Daily Maintenance

Maintenance item	Description
Discharge of dust from dust tube	Discharge the dust that has clogged in the dust tube shown in Figure 10. Remove the dust cap on the bottom of the dust tube and discharge the dust. **NOTE** After discharging, be sure to refasten the dust cap securely.  Figure 10 **⚠WARNING** During continuous operation, the surface of the exhaust filter case reaches high temperatures (exceeding 130°C). Avoid direct contact with the skin.

Maintenance item	Description
Check of the electromagnetic contact unit (heater relay) ※Confirms the condition (deposit) of breaker points.	When the breaker points does deposit, it causes fire occurrence and becomes an terrible dangerous condition. If the electromagnetic contact unit becomes the condition of figure 9.1, quickly, replaced to new parts. And, until the parts replace completes, don't start the unit ever. Figure 9.1 The condition as the center section was hollow when the unit stops.  Normal condition　　Abnormal deposit condition **NOTE** 1. The form sometimes differs on the model. 2. The above figure is the figure condition that saw the electromagnetic contact unit from diagonal front. 3. Even if there is not abnormal, the switching times of the breaker points replace at 1,000,000 times or within1 year of using term.

2. Weekly Maintenance

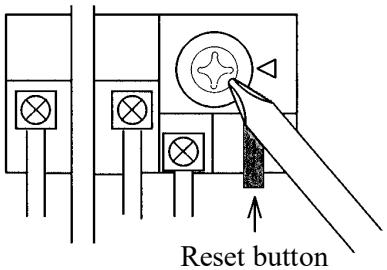
Maintenance item	Description
Blower intake filter	As shown in Figure 11, open the damper of the blower intake port and make sure the filter is not clogged. If the filter is clogged, remove it and blow it with clean, dry air to remove clinging particles.  Figure 11 **NOTE** 1.Do not remove the metal screen on the inside. 2.When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter.
Exhaust filter inside the exhaust filter case	As shown in Figure 12, undo the catch clips (3) on the bottom of the exhaust filter case and remove the exhaust filter. Blow the exhaust filter with clean, dry air to remove clinging particles. **NOTE** When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter.  Figure 12 After cleaning, roll the exhaust filter into a cylindrical shape and insert it into the exhaust filter case without wrinkling it.

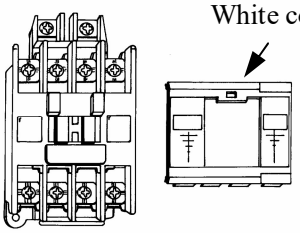
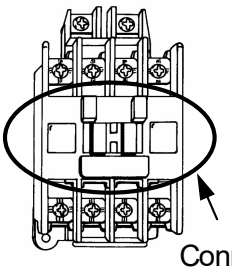
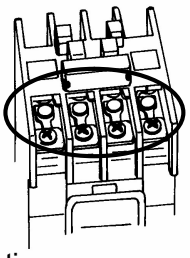
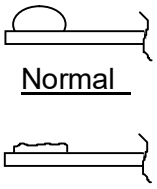
3. Monthly Maintenance

Maintenance item	Description
Screwing Down of Terminal	Please confirm if the wiring connection of the electrical apparatuses inside the electric-controlled box and the device is loose, screw down it if it is loose. ⚠ CAUTION Be sure to perform item-by-item checking after stopping the device and cutting off the power supply.

4. Maintenance and exchange of electric consumables

Check the function of all protection devices for every three months.
If there is any device that does not operate properly, do not operate the equipment. Contact the nearest our service division. (see back page). DO NOT operate this equipment when a protection device is malfunctioning. Otherwise, equipment failure or an accident may result.

Maintenance item	Description
Trip function of thermal relay for blower	Perform a test run. ↓ Open the door of the control panel and measure the current using an ammeter (clamp meter). Meanwhile, turn the adjustment screw clockwise as shown in Figure 18 and gradually lower the setting value of the thermal relay.  Figure 13 ↓ Confirm that the thermal relay trips. When the thermal relay trips, the ☐ ALARM indicator on the setting panel will flash. After confirmation, return the setting of the thermal relay to its original value and push the reset button. Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our service division (see back cover) for maintenance work.

Maintenance item	Description
Checking for electromagnetic contractor(MC-1,2) ※Check of condition of connecting point (abrasion)	Open the control panel of the unit after turning OFF the control panel [ON/OFF] switch and shutting down the power breaker. ⇓ Replace white cover of Electromagnetic contractor (Figure 4.1B). You can replace the cover easily by pulling it toward you. Figure 4.1B White cover  **NOTE** Some types of the unit do not have white covers. ⇓ Connecting point of the electromagnetic contractor is inside the component shown in Fig.4.2. Light one side of the terminal connecting section on the skew by a flashlight or like and check the condition of the point (Fig. 4.3). Replace immediately when it has discolored into blackish, and has abrasion like Fig. 4.4. Figure 4.2  Connecting section is inside Figure 4.3 Skew view of terminal connecting section  Figure 4.4 Conditions of connecting  Normal Abnormal (abrasion) The upper figures are side views of the connecting points. ※Please cut off the power switch of the machine before exchanges work. ※The exchange time (longevity) of the electromagnetic contactor shortens when using it at the high temperature.

Chapter 6 Alarms

If an alarm (protection device) occurs, the ALARM indicator flashes to indicate a system malfunction.
Before inspecting or repairing the cause of the malfunction, be sure to turn OFF the circuit breaker on the right side of the control panel.
Please restart after completing the restoration.

1. Overload for blower

Occurs with the blower overloads and the thermal relay inside the control panel trips.

Operation stops automatically.

Cause	Solution
Filter jam	Clear the filter
Single-phase operation	Remove the cause
Blower malfunction	Change
Motor relay	Change
Wrong setting for thermorelay	Reset

[The device returns after corrects the cause of the malfunction.]

Open the door of the control panel and push the reset button of the thermal relay.

Close the door of the control panel and turn **ON** the circuit breaker on the right side of the control panel.

2. Upper limit for Temperature

Occurs when the temperature of the hot air used for drying exceeds the sum of drying temperature setting and the high limit temperature.

Cause	Solution
Sensor malfunction	Change
Rhermorelay malfunction	Change
Blower malfunction	Change
Blower relay malfunction	Change
Wrong temperature setting	Reset

Chapter 7 Troubleshooting

This chapter describes the possible causes of troubles you may encounter and the actions to be taken against them. Check the following troubleshooting table before requesting our service. When a problem cannot be solved even after taking the actions described here, contact the nearest our service division. (see back page) and request service.

⚠WARNING

Before investigating a problem, be sure to stop operation by pushing the stop switch on the temperature controller setting panel (120 seconds later both ☐ BLOWER and ☐ HEATER go out.) Then turn OFF both the circuit breaker on the right side of the control panel and the plant power supply.

A blower overload occurs and the thermal relay trips		
Check point	Action	Remarks
Remove the exhaust filter from the exhaust filter case and check to make sure it is not clogged.	Blow clean, dry air on the inside of the exhaust filter and remove clinging particles.	When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter. Consult us regarding the purchase and type of exhaust filter.
Open the damper of the blower intake port and check to make sure the filter is not clogged.	Remove the filter and blow it with clean, dry air to remove clinging particles.	When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter. Consult us regarding the type of exhaust filter and how to purchase one.
Check to make sure the damper of the blower intake port is fully open.	Open the damper fully.	
The blower itself may be malfunctioning. Check to make sure the blower starts up normally.	Replace the blower.	Consult us regarding the type of blower and how to replace it.

A blower overload occurs and the thermal relay trips		
Check point	Action	Remarks
Check to make sure the terminal connections for the power cord and the blower cord are secure.	Tighten the terminals securely.	Be sure to turn **OFF** the plant power supply before working.
Open the door of the control panel and check to make sure the electromagnetic switch (MS-1) is operating properly.	Replace the electromagnetic switch (MS-1).	Switching endurance: 1 million times or 1 year Consult us regarding the type of switch and how to replace it. **Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**
Open the door of the control panel and check to make sure the thermal relay is set to the rated value.	Set the thermal relay to the rated value.	Be sure to turn **OFF** the plant power supply before working.

A high limit or a low limit alarm occurs for the hot air temperature		
Check point	Action	Remarks
Open the door of the control panel and check to make sure the electromagnetic contactor (MC-1) is operating properly.	Replace the electromagnetic switch (MC-1).	Switching endurance: 1 million times or 1 year Consult us regarding the type of contactor and how to replace it. **Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**

A high limit or a low limit alarm occurs for the hot air temperature		
Check point	Action	Remarks
Open the door of the control panel and check to make sure the electromagnetic switch (MS-1) is operating properly.	Replace the electromagnetic switch (MS-1).	Switching endurance: 1 million times or 1 year Consult us regarding the type of switch and how to replace it. **Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**
Remove the exhaust filter from the exhaust filter case and check to make sure it is not clogged.	Blow clean, dry air on the inside of the exhaust filter and remove clinging particles.	When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter. Consult us regarding the purchase and type of exhaust filter.
Open the damper of the blower intake port and check to make sure the filter is not clogged.	Remove the filter and blow it with clean, dry air to remove clinging particles.	When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter. Consult us regarding the type of exhaust filter and how to purchase one.
During operation, look at the PV indicator and check to make sure the temperature control is stable.	Perform AT (auto tuning).	See **Chapter 3 Preparation for Operation, 11 page** for a description of the procedure.
Check to make sure the high or low temperature limit is set to 10˚C.	Set the high and low temperature limits to 10˚C.	See **Chapter 3 Preparation for Operation, 11 page** for a description of the procedures for checking and setting the temperature limits.

Nothing appears on the PV and SV indicators even though the circuit breaker for the plant power is ON		
Check point	Action	Remarks
Check to make sure the circuit breaker on the right side of the control panel is **ON**.	Turn **ON** the circuit breaker.	If the circuit breaker does not open and close properly, replace the circuit breaker. Consult us regarding the type of circuit breaker and how to replace it. **Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**
Open the door of the control panel and then open the fuse cover on the back of the temperature controller. Check to make sure no glass tube fuses are bad.	Replace the glass tube fuses. Check to make sure the power circuit is not shorted.	Be sure to turn **OFF** the plant power supply and the circuit breaker on the right side of the control panel before investigating or replacing the fuse. Consult us regarding the type of fuse and how to replace it. **Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**

The blower does not run		
Check point	Action	Remarks
Check to make sure the PV indicator and the SV indicator on the temperature controller setting panel is operating. (Make sure the system is not in stop mode or start-timer mode.)	Turn **ON** the plant power supply and the circuit breaker on the right side of the control panel.	If nothing appears on the indicators after the action described to the left is performed, perform the procedures described **Page 22, Nothing appears on the PV and SV indicators even though the circuit breaker for the plant power is ON**.
Check to make sure the terminal connections for the power cord and the blower cord are secure.	Tighten the terminals securely.	Be sure to turn **OFF** the plant power supply before working.
Open the door of the control panel and check to make sure the electromagnetic switch (MS-1) is operating properly.	Replace the electromagnetic switch (MS-1).	Switching endurance: 1 million times or 1 year Consult us regarding the type of switch and how to replace it. **Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**
Check to make sure the ☐ ALARM indicator on the temperature controller setting panel is not lit.	After correcting the cause of the blower overload, open the door of the control panel and push the reset button of the thermal relay.	See **Page 20, A blower overload occurs and the thermal relay trips** regarding possible causes of the blower overload.

The airflow of the blower is low		
Check point	Action	Remarks
Open the damper of the blower intake port and check to make sure the filter is not clogged.	Remove the filter and blow it with clean, dry air to remove clinging particles.	When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter. Consult us regarding the type of exhaust filter and how to purchase one.
Check to make sure the damper of the blower intake port is fully open.	Open the damper fully.	

Drying temperature fluctuations are excessive		
Check point	Action	Remarks
Remove the exhaust filter from the exhaust filter case and check to make sure it is not clogged.	Blow clean, dry air on the inside of the exhaust filter and remove clinging particles.	When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter. Consult us regarding the purchase and type of exhaust filter.
Open the damper of the blower intake port and check to make sure the filter is not clogged.	Remove the filter and blow it with clean, dry air to remove clinging particles.	When the filter is badly deteriorated or when clinging particles cannot be removed, replace the filter. Consult us regarding the type of exhaust filter and how to purchase one.
Check to make sure the damper of the blower intake port is fully open.	Open the damper fully.	
The temperature is not stable.	Perform auto tuning.	See **Chapter 3 Preparation for Operation, 11 page** for a description of the procedure.
Check to make sure the sensor is not broken.	Replace the sensor.	Consult us regarding the type of sensor and how to replace it.

The drying temperature will not rise or will not fall		
Check point	Action	Remarks
Open the door of the control panel and check to make sure the electromagnetic contactor (MC-1,2) is operating properly.	Replace the electromagnetic contactor (MC-1,2).	Switching endurance: 1 million times or 1 year Consult us regarding the type of switch and how to replace it. **Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**
Check to make sure the sensor is not accurately connect or broken.	Open the door of the control panel and connect the temperature detector cords or replace the temperature detector.	Consult us regarding the type of temperature detector and how to replace it.

The power supply circuit breaker trips		
Check point	Action	Remarks
Check to make sure the power circuit is not shorted.	Correct the short.	**Electrical work performed by persons without sufficient electrical knowledge can result in equipment failure or a dangerous situation. Request our services for maintenance work.**
Check to make sure the safety device (overheat protection device) set to the normal setting.	Set the overheat protection device to the normal setting value.	See **Chapter 3 Preparation Operation, Setting the overheat protection device** for a description of how to set the temperature.
Check to make sure the safety device (overheat protection device) is not malfunctioning.	If malfunctioning, replace the safety device.	Contact us regarding the type of safety device and how to replace it.

Chapter 8 Technical Manual

1. When using

If the temperature can not be reached, lower a little (not too much) the air controller of the blower The maximum temperature for use with full material in is 20℃ in the outside. When the outside temperature is lower than 20℃, using temperature can not be reached. In this case, improve the capacity of the heater, and contact the nearest Business Office.

2. Condition for drying resin

Items of resin	Drying temperature (℃)	Drying hour (h)
Polyethylene	70	2
Polyurethane	120	3-4
ABS	80	3-4
AS	80	3
Acrylic acid	80	3
Acetyl cellulose	80	2-6
Nylon	80	6-10
Aldehyde resin	80	3-4
PBT	130	4-5

3. About influence of gas that occurs from the resin

○The information on influence of gas that occurs from the resin

The unit sometimes can not function normally with influence of gas that occurs from the resin.
As for the resin that has this possibility, the compatible to suppress influence of gas becomes necessary.
There are methods of non-paint specification and special exhaust (exhaust cyclone) etc. in compatible method. However, the method must be chosen by the dry material.
Also, there is not the complete measure to all resins in the present.
Therefore, depending on the using resin, the constant regular maintenance and the parts replace of consumables become necessary.
When the following phenomenon is confirmed in during use, there is possibility that the unit undergoes influence by gas. In such case, please consult to us.

1) In case of the liquid of oily oozes from the exhaust filter box, the pipe connection part and the dry hopper etc, and the paint breakaway.
2) The inside of exhaust filter case, filter and dust tube etc is discolored.
3) The thin smoke occurs from the exhaust filter.
4) Oil dirties the whole unit.
5) Oil adheres to the floor.

○As for the resin that influence of gas is estimated, refer to the list of next page.

○The resin list which needs the unit measure that the influence of gas is estimated

The resin that gas compatible column in the table had ○ mark needs compatible.

× mark is unnecessary but depending on kind of the compounding material, it has possibility that the compatible becomes necessary.

(Research in 2002)

Resin name	Necessity of gas compatible	Resin name	Necessity of gas compatible	Resin name	Necessity of gas compatible
ABS	×	PAR		PPO	×
ABS+PBT		PBT	○	PPS	○
APEL		PBT+PC		PSF	
A-PET		PBT+PET		PTFE	
AS	×	PC	×	PU	○
BTP		PC+ABS		PUR	
CA		PC+PET		PVC Special grade	○
CAB		PCT+PET		SPS	
CAP		PCTFE		TPE	
CN		PC Optical grade	×	TPO	
COP		PDAP		TPX	
CP		PEEK		Reinforcement PET	○
DL		PEI		Flame resisting ABS	○
EC		PES			
EVA		PETG			
EVOH		PET Bottle grade	×		
LCP		PET Fiber grade	×		
MTPA		PFA			
PA+POM		PMMA	×		
PA+Carbon fiber		PMMA Optical	×		
PA6,66	×	POAM			
PA6,66+G	○	POLYSUL			
PA612		POM	×		
PAMXD6		PP+Filler	○		
PAN		PPE			

4. The relation between dew point and dryness under the fresh air condition

The dry air dew point changes in the fresh air-condition (dew point and humidity).

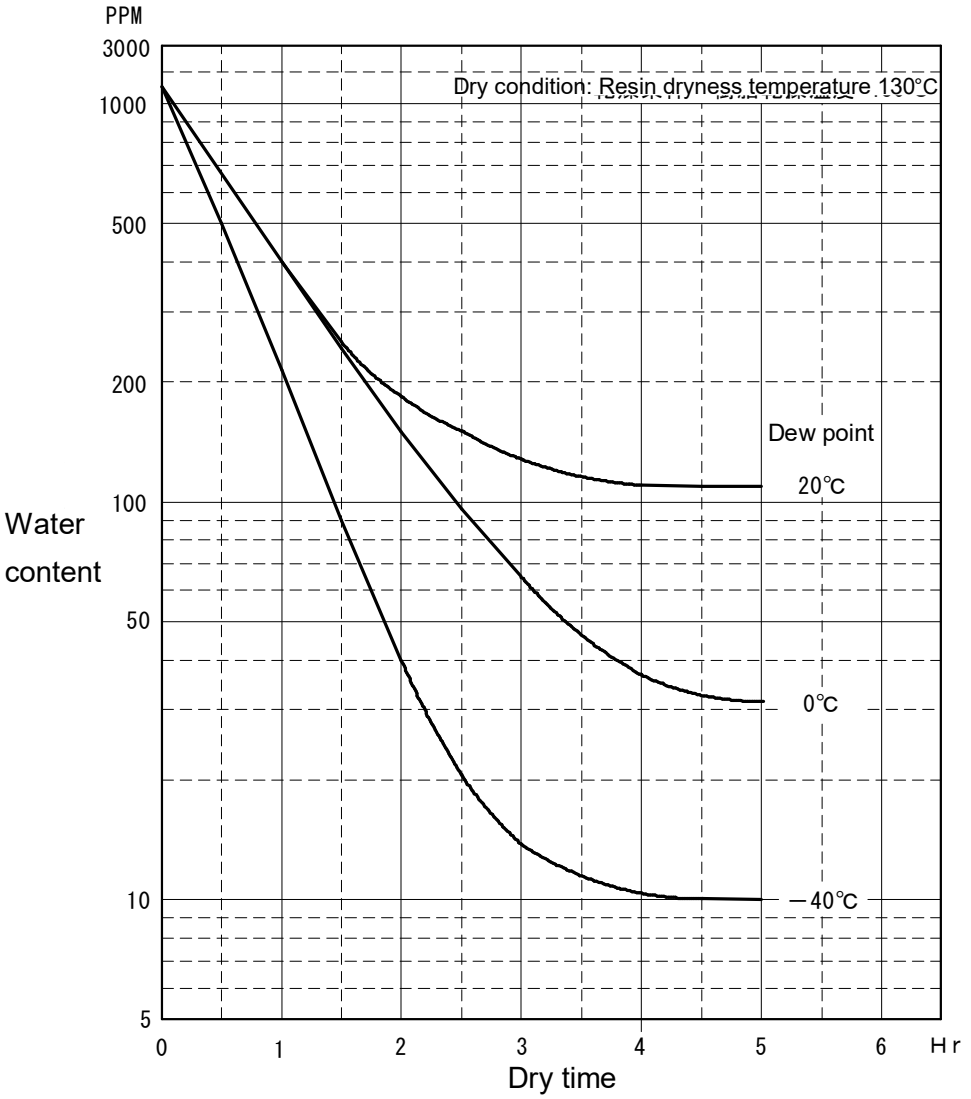
Be careful because doesn't down to fix moisture content when the dry air dew point becomes wrong.

The following graph shows the change of dry air dew point and dry curve in under our dry unit.

NOTE

The dew point sometimes becomes 25˚C in the fresh air condition (specifically the rainy season time), too.

○Dry curve by dew point changing



Chapter 9 Consumable Parts List

Code No.	Part name	Manufacturer	Model/material	Qty.	Recommended replacement frequency
	Intake filter	Matsui	Non-woven fabrics,(Drawing number:M016506)	1	1 year
14402	Exhaust filter	Matsui	Non-woven fabrics,(Drawing number:M016406)	1	1 year
	Electromagnetic switch (MS-1)	ChangShu Fuji	Reference "Part table of attached material"	1	1 year
	Electromagnetic contactor (MC-1)	ChangShu Fuji	Reference "Part table of attached material"	1	1 year
	Electromagnetic contactor (MC-2)	ChangShu Fuji	Reference "Part table of attached material"	1	1 year
	Glass tube fuse	unspecified	TFB-101N 3 A	1	6 months
	Intake filter(For the Hot-air recovery equips)	Matsui	Non-woven fabrics	1	6 months

NOTE

1. The replacement frequency varies depending on the conditions of use.

Chapter 10 Specifications

This chapter provides the physical data necessary to operate the Hot Air Ventilation Dryer.

Model H: high temperature specification			HD-M -(V)				
	No trestle type		10/15(H)	25/50(H)	75/100(H)	150/200(H)	250/300/350(H)
	Trestle type		10/15(H)-V	25/50(H)-V	75/100(H)-V	150/200(H)-V	250/300/350(H)-V
Power supply			Three-phase alternating current power supply (AC200-240V AC380-440V 50/60Hz)				
Maximum operating temperature ℃			130±5℃(Standard) 160±5℃（High temperature）				
Hopper	Load capacity kg		10/15	25/50	75/100	150/200	250/300/350
	Material		SUS304				
	Vertical body mm	Diamete	280	400	520	670	800
		Height	400/500	490/740	640/840	770/1000	920/1080/1260
Blower	Maximum air flow m3 /min	50Hz	1.6	2.2/3.5	3.8/4	8/10	12.5/15/15
	Maximum static pressure Pa	50Hz	370	370/630	630	1200	1500
	Motor W		60	60/120	120	370	550
			3-phase 2-pole				
Heater capacity Kw		Standard	1.5	3.6/4	5.4/6.3	10.8/12.4	17.1/19.8/19.8
		High tem-perature	2.1	4/5.4	6.3/7.5	12.4/17.1	19.8/24/24
Control method			PID control				
External dimensions	No trestle type	Depth	445	550	550	730	940
		Width	770	985	1175	1475	1660
		Height	780/880	745/995	1220/1420	1510/1740	1745/1905/2085
	Trestle type	Depth	505	600	550	730	940
		Width	770	985	1175	1475	1660
		Height	1250/1350	1475/1725	1695/1895	1955/2185	2160/2320/2500
Weight kg			30.5/31	50/55	70/73	155/160	250/260/270
Capacity of power breaker (A)		AC200~220V	10(10)	16(16/20)	20/32(32)	40/50(50/63)	63/80/80 (80/100/100)
		AC380~415V	5 (5)	10(10/16)	16(16)	32(32/40)	40(40/50/50)
Capacitance (Max)		KVA	1.97(2.57)	4.07/4.61 (4.47/6.01)	6.01/6.91 (6.91/8.11)	11.96/13.56 (13.56/18.26)	18.70/21.4/21.4 (21.4/25.6/25.6)

Model H: high temperature specification			HD-M -V					
		No trestle type	--	--	--	--	--	--
		Trestle type	400(H)-V	500(H)-V	600(H)-V	700(H)-V	900(H)-V	1100(H)-V
Power supply			Three-phase alternating current power supply (AC200-240V AC380-440V 50/60Hz)					
Maximum operating temperature ℃			130±5℃(Standard) 160±5℃（High tem-perature）					
Hopper	Load capacity kg		400	500	600	700	900	1100
	Material		SUS304					
	Vertical body mm	Diamete	950		1150		1300	
		Height	1100	1330	1520	1320	1640	1490
Blower	Maximum air flow m3 /min	50Hz	20/20			30		35/35
	Maximum static pressure Pa	50Hz	2100			2450		2900
	Motor W		0.75			1.5		2.2
			3-phase 2-pole					
Heater capacity Kw		Standard	25			36	45	60
		High tem-perature	36			45	60	75
Control method			PID control					
External dimensions		Depth	1923			2133	2163	2343
		Width	1200			1400		1550
		Height	2535	2770	2960	2905	3225	3175
Weight kg			590	600	610	785	800	900
Capacity of power breaker (A)		AC200~220V	100(125)			125(175)	175(225)	225(250)
		AC380~415V	50(80)			80(100)	100(125)	125(150)
Capacitance (Max)		KVA	26.6(37.61)			38.61 (47.61)	47.61 (62.61)	63.54 (75.54)

Note) Descriptions in ( ) are for high temperature specifications.

※1: The maximum operating temperatures are for conditions where the intake air temperature is 20°C and the hopper is full of resin.

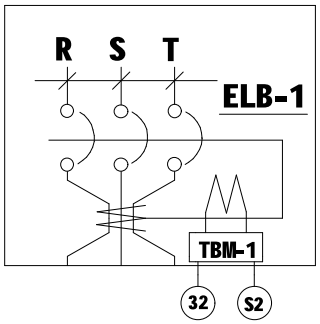
※2: The load capacity of the hopper varies depending on the method of putting in the resin. (for apparent specific gravity of 0.6)

Chapter 11 Optional Components

This chapter introduces the optional components that are available for this product.
Make sure the options you requested have been installed.

1. Leakage breaker

By attaching a leakage breaker to the power supply circuit breaker, the equipment is protected from ground faults, overloads, and short circuits and electric shock is prevented.



OPTION1: EARTH LEAKAGE BREAKER

Signal	Name	Manufacturer	Model	
ELB-1	Leakage breaker	Mitsubishi Electric	HD-M0~1100	See "List of Parts"

※When a leakage breaker is attached, a no-fuse breaker (NFB-1) is not attached.

2. Timer

(1) Timer

The Hopper Dryer can be started or stopped based on the setting of the timer.
Refer to the Electric drawing of attached material regarding handling of the timer.

Signal	Name	Manufacturer	Model
S-1	Selector switch	Taiwan TianDe	T2SSR1B-1a1b
TR-0	Timer	Omron	H3CA-8 AC200/220V

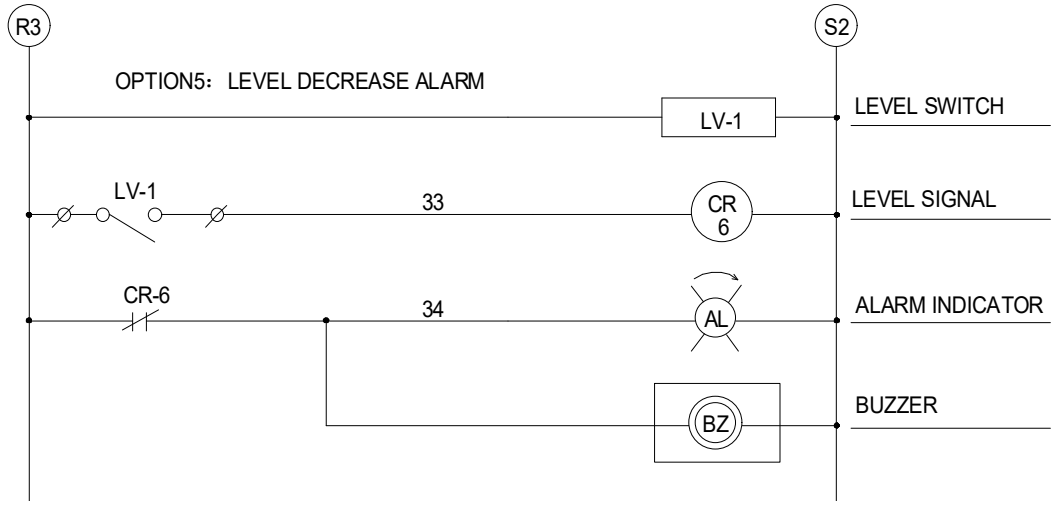
(2) Weekly timer

The Hopper Dryer can be started or stopped based on the setting of the weekly timer.
Refer to the Electric drawing of attached material regarding handling of the weekly timer.

Signal	Name	Manufacturer	Model
S-1	Selector switch	Taiwan TianDe	T2SSR1B-1a1b
TR-0	Weekly timer	Omron	H5S-WA2 AC200/220V

3. Hopper Low Limit Alarm

This alarm occurs when the resin is at or below the low limit.
When combined with the alarm indicator of Option 5 and the buzzer, the revolving light or the buzzer will sound when the low limit alarm occurs.



Signal	Name	Manufacturer	Model
LV-1	Level gauge	Taiwan FanYi	RP80BCR1
	Connector	GuangDong WeiPu	WS20 4C
CR-2	Relay	Omron	MY-2J
	Socket	Omron	PYF08A
AL	Alarm indicator	Q.Light	S100-RS AC220V
BZ	Buzzer	Taiwan TianDe	TBY-302 AC220V

4. Heater Fault Detector

This alarm occurs when the heater is disconnected.
When combined with the alarm indicator of Option 6 and the buzzer, the revolving light or the buzzer will sound when the low limit alarm occurs.
Refer to the Electric drawing and Part table of attached material regarding models and handling of option parts.

5. Energy save device

This device decrease the operation time of the heater and saves the waste electrical energy by recycle the hot wind exhausted from a dry hopper.

（1）Selection of the device: The energy save device of corresponding is selected according to the kind of the dry material.

When the dry material is a new material,select the drying return pipe hot-air recovery equips. (fig 1)

When the dry material contains the material that can be reused (There is a lot of dust), the hot-air recovery equips with cyclonic is selected.（fig 2.）

（2）Maintenance of the device: It is recommended to sweep the dust adhering to the filter in the hot-air recovery equips once a week and change the filter every half year.

Fig 1：Drying return pipe hot-air recovery equips

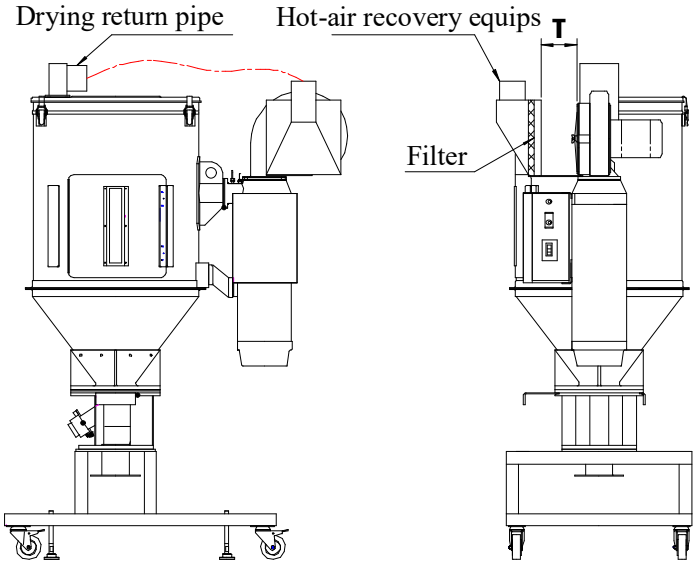
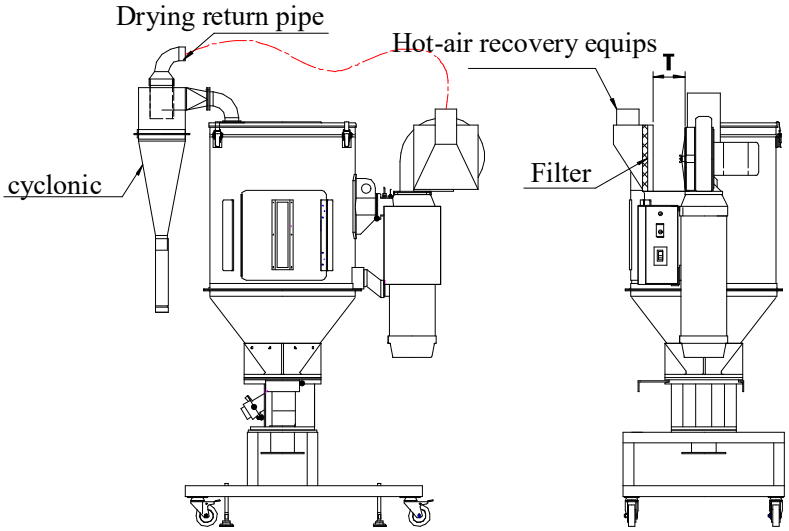
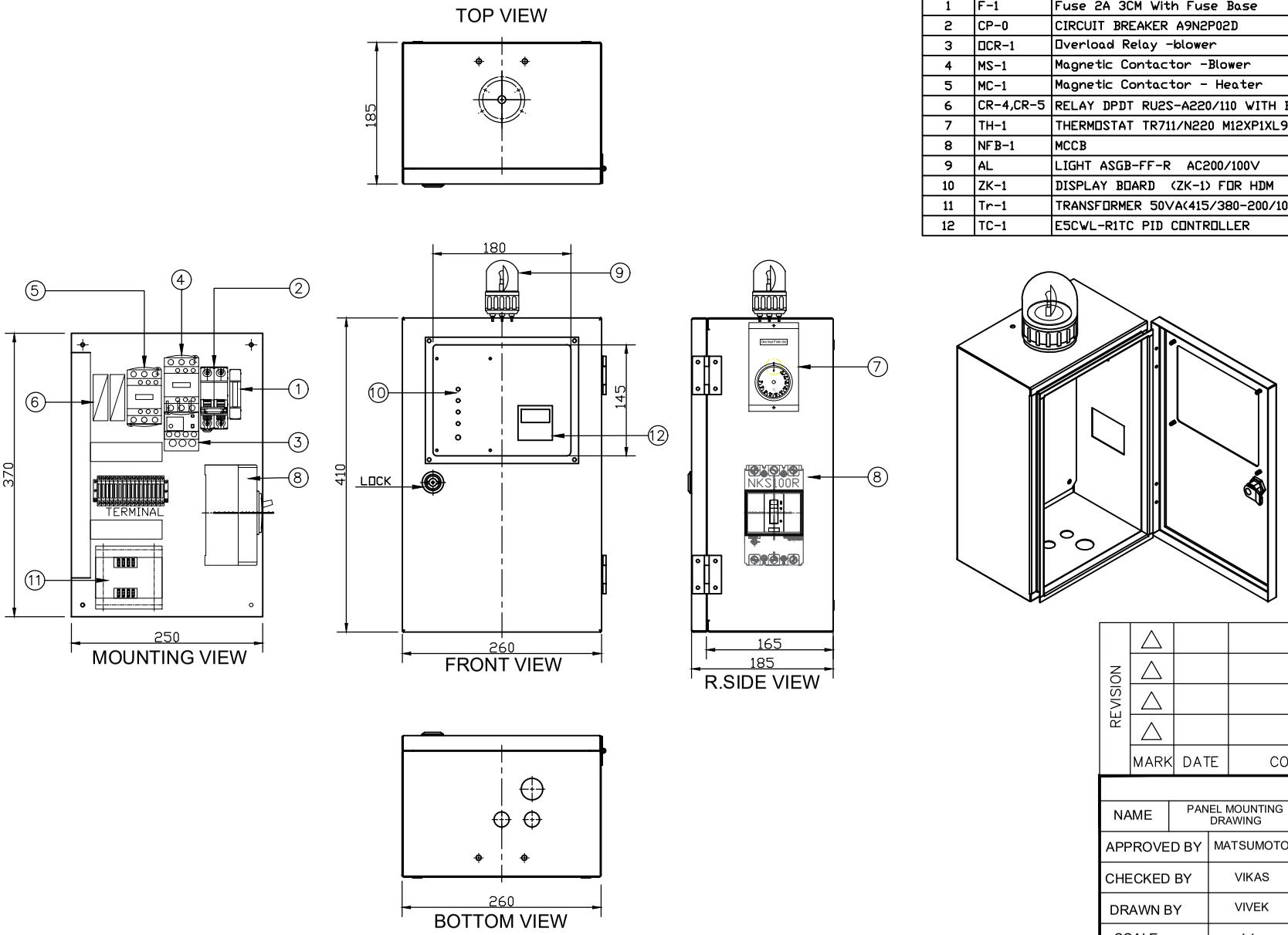


Fig2：Hot-air recovery equips with cyclonic



HDI-10-200				
Sr. No.	ITEM NAME	DESCRIPTION	MAKE	BOM QTY
1	F-1	Fuse 2A 3CM With Fuse Base	MATSUI	1
2	CP-0	CIRCUIT BREAKER A9N2P02D	SCHNEIDER	1
3	□CR-1	□verload Relay -blower	SCHNEIDER	1
4	MS-1	Magnetic Contactor -Blower	SCHNEIDER	1
5	MC-1	Magnetic Contactor - Heater	SCHNEIDER	1
6	CR-4,CR-5	RELAY DPDT RU2S-A220/110 WITH BASE	IDEC	2
7	TH-1	THERM□STAT TR711/N220 M12XP1XL900	MATSUI	1
8	NFB-1	MCCB	SCHNEIDER	1
9	AL	LIGHT ASGB-FF-R AC200/100V	MEANICS	1
10	ZK-1	DISPLAY B□ARD (ZK-1) F□R HDM	MATSUI	1
11	Tr-1	TRANSF□RMER 50VA(415/380-200/100V)	DELTA	1
12	TC-1	E5CWL-R1TC PID C□NTR□LLER	□MR□N	1



STANDARD

REVISION	MARK	DATE	CONTENTS	CHKD	APPD
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NAME	PANEL MOUNTING DRAWING	FORM	HDI-10~200
APPROVED BY	MATSUMOTO	CODE No.	--
CHECKED BY	VIKAS	DATE	21\02\2020
DRAWN BY	VIVEK	UNIT mm	PLANE TRIGNOMETRY
SCALE	1:1	DWG. NO.	INA000925

MATSUI TECHNOLOGIES INDIA LIMITED

ELECTRICAL SPECIFICATION SHEET - HOT AIR DRYER					
MODEL	POWER (V) 50/60Hz	HEATER (STANDARD)	HEATER (HIGH TEMP.)	BLOWER - 3PH.	CIRCUIT BREAKER (NFB/ELB-1)
Reference.- HD(CMC)/MTIL					
HDI-10~15	AC 200V-220V AC380V-415V	1.5KW	2.1KW	60W	S-10A, H-10A S-10A, H-10A
HDI-25	AC 200V-220V AC380V-415V	3.6KW	4.05KW	60W	S-16A, H-16A S-10A, H-10A
HDI-50	AC 200V-220V AC380V-415V	4.05KW	5.4KW	120W	S-16A, H-20A S-10A, H-16A
HDI-75	AC 200V-220V AC380V-415V	5.4KW	6.3KW	120W	S-20A, H-32A S-16A, H-16A
HDI-100	AC 200V-220V AC380V-415V	6.3KW	7.5KW	120W	S-32A, H-32A S-16A, H-16A
HDI-150	AC 200V-220V AC380V-415V	10.8KW	12.4KW	370W	S-40A, H-50A S-32A, H-32A
HDI-200	AC 200V-220V AC380V-415V	12.4KW	17.1KW	370W	S-50A, H-63A S-32A, H-40A

STANDARD

REVISION	MARK	DATE	CONTENTS	CHKD	APPD
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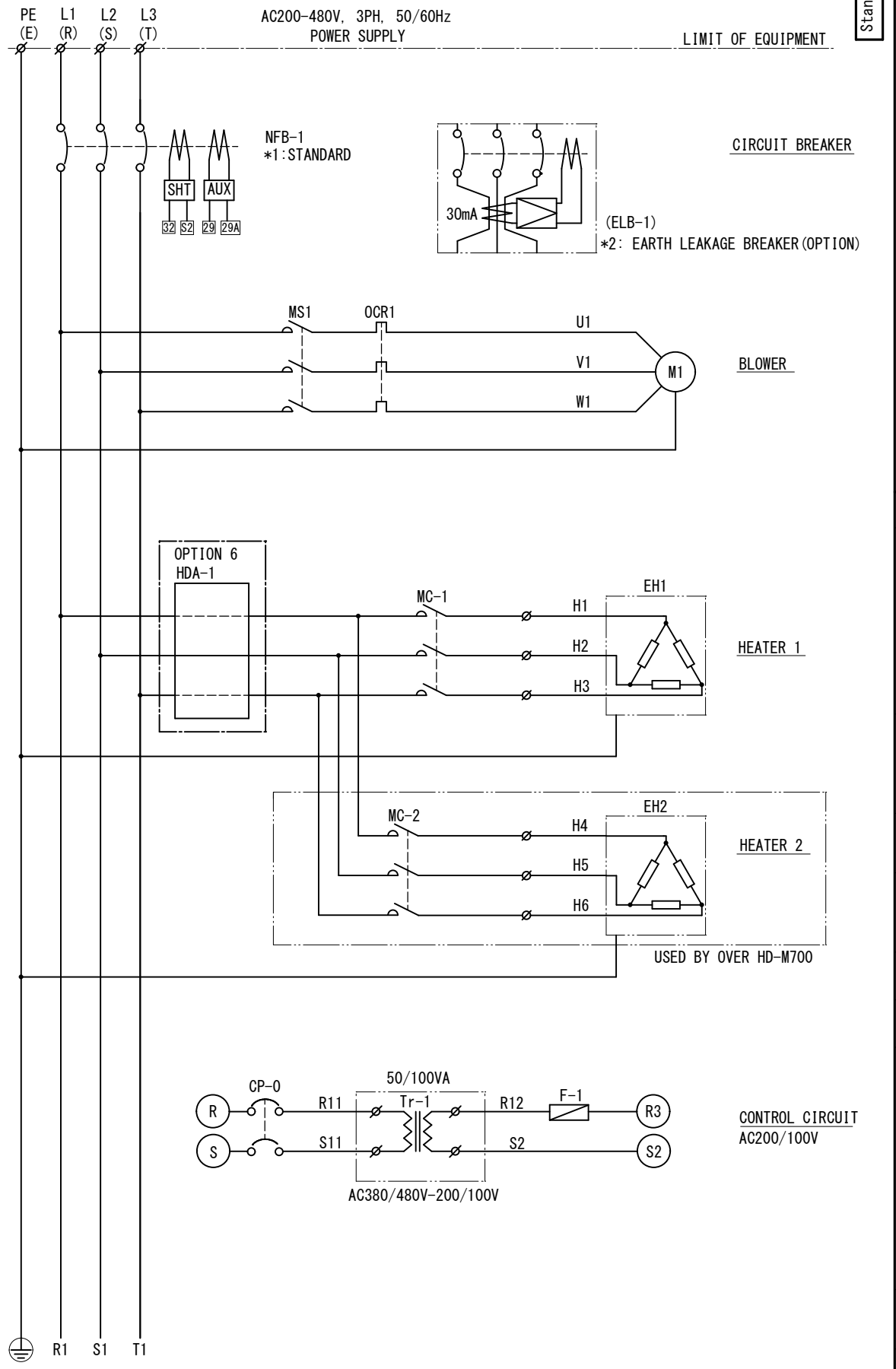
NAME	ELECTRICAL SPECIFICATION SHEET	FORM	HDI-10~200
APPROVED BY	MATSUMOTO	CODE No.	
CHECKED BY	VIKAS	DATE	20/02/2020
DRAWN BY	VIVEK	UNIT(mm)	PLANE TRIGONOMETRY
SCALE	NTS	DWG. NO.	INA000926

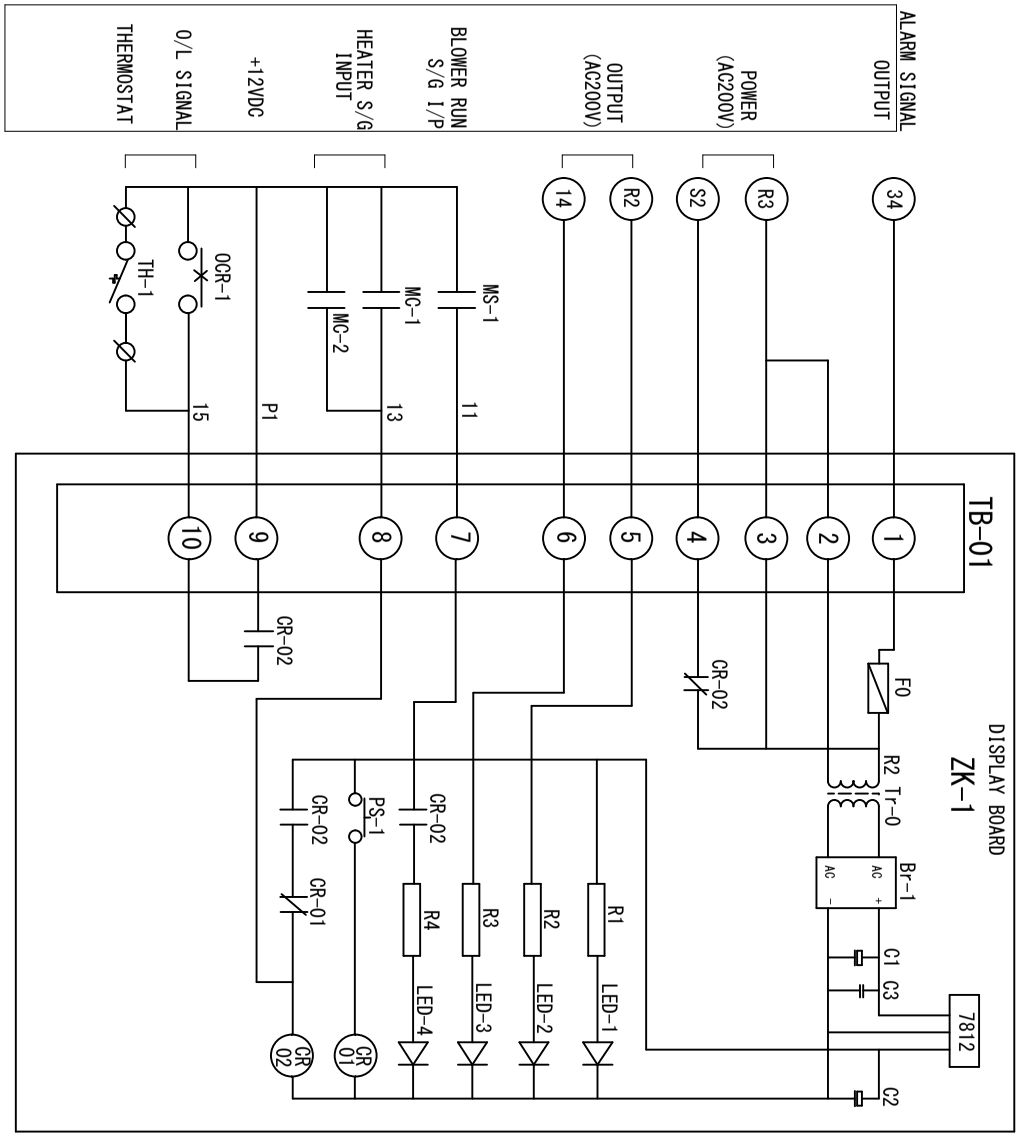
MATSUI TECHNOLOGIES INDIA LIMITED



NAME	Matsui Technology India Limited
HDI-10-1100	DWG. NO. N190823E00
POWER DIAGRAM 1	PLANE TRIGONOMETRY
FORM	DATE 23/08/2019
	UNIT mm
CODE NO.	
SCALE	
APPROVED BY	MATSUMOTO
DSGND(CHKD)BY	VIKAS
DRAWN BY	NISHA

MARK	DATE	CONTENTS	CHKD	APPD

REVISION

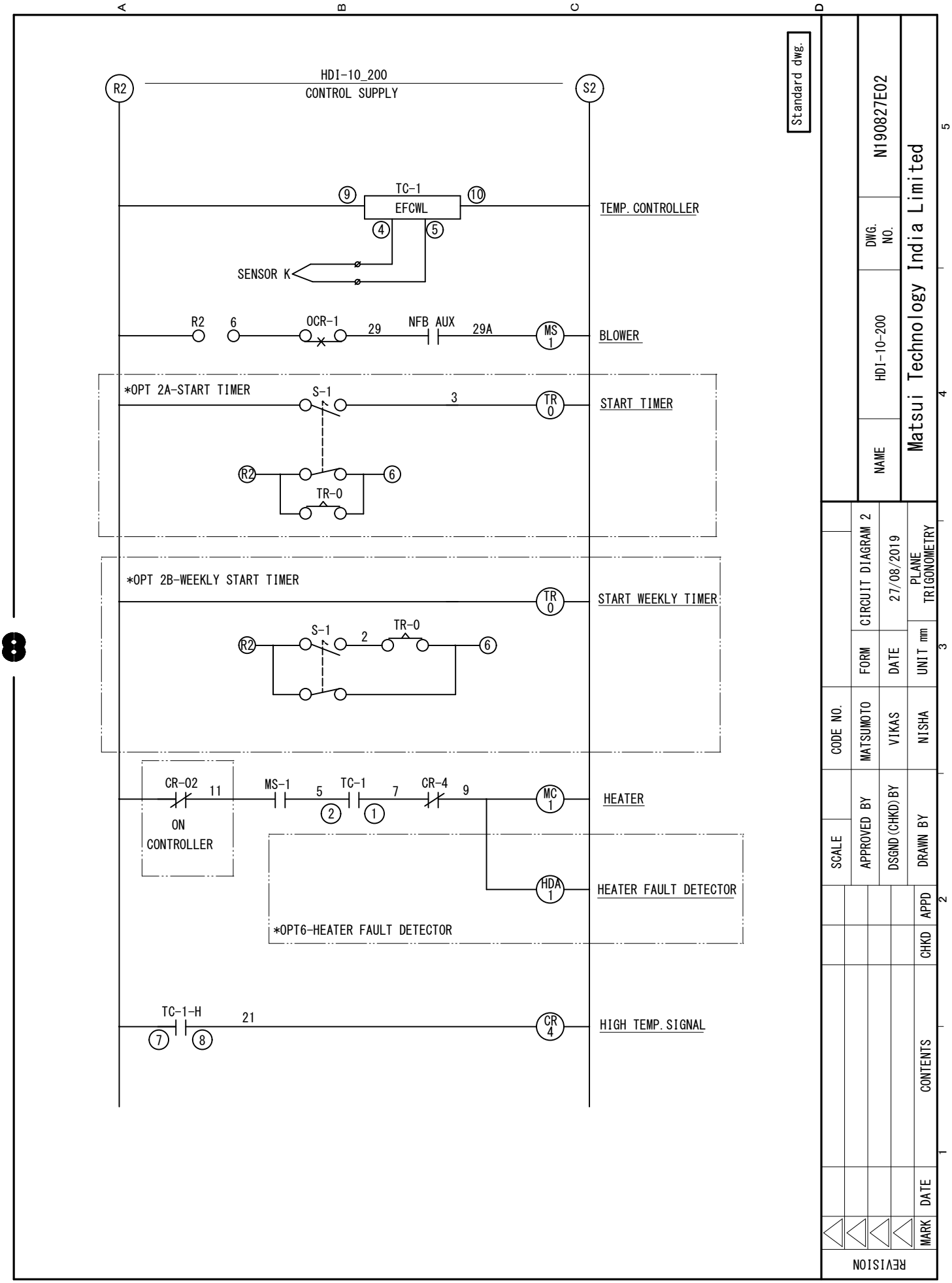


Standard dwg.

REVISION									
MARK	DATE	CONTENTS	CHKD	APPD	SCALE		CODE NO.		
					APPROVED BY	MATSUMOTO	FORM	CIRCUIT DIAGRAM 1	
					DSGND (CHKD) BY	VIKAS	DATE	27/08/2019	
					DRAWN BY	NISHA	UNIT mm	PLANE TRIGONOMETRY	

NAME	HDI-10-1100	DWG. NO.	N190827E01

Matsui Technology India Limited


HDI-10_200
CONTROL SUPPLY
R2
S2
Standard dwg.
TC-1
EFCWL
9
10
4
5
TEMP. CONTROLLER
SENSOR K
R2
6
OCR-1
29
NFB AUX
29A
MS 1
BLOWER
*OPT 2A-START TIMER
S-1
3
TR 0
START TIMER
R2
6
TR-0
*OPT 2B-WEEKLY START TIMER
TR 0
START WEEKLY TIMER
S-1
2
TR-0
R2
6
CR-02
11
ON
CONTROLLER
MS-1
5
TC-1
7
CR-4
9
2
1
MC 1
HEATER
HDA 1
HEATER FAULT DETECTOR
*OPT6-HEATER FAULT DETECTOR
TC-1-H
21
7
8
CR 4
HIGH TEMP. SIGNAL
NAME
Matsui Technology India Limited
HDI-10-200
DWG. NO.
N190827E02
CIRCUIT DIAGRAM 2
27/08/2019
PLANE TRIGONOMETRY
FORM
DATE
UNIT mm
CODE NO.
MATSUMOTO
VIKAS
NISHA
SCALE
APPROVED BY
DSGND(CHKD)BY
DRAWN BY
APPD
CHKD
CONTENTS
DATE
MARK
REVISION
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C
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3
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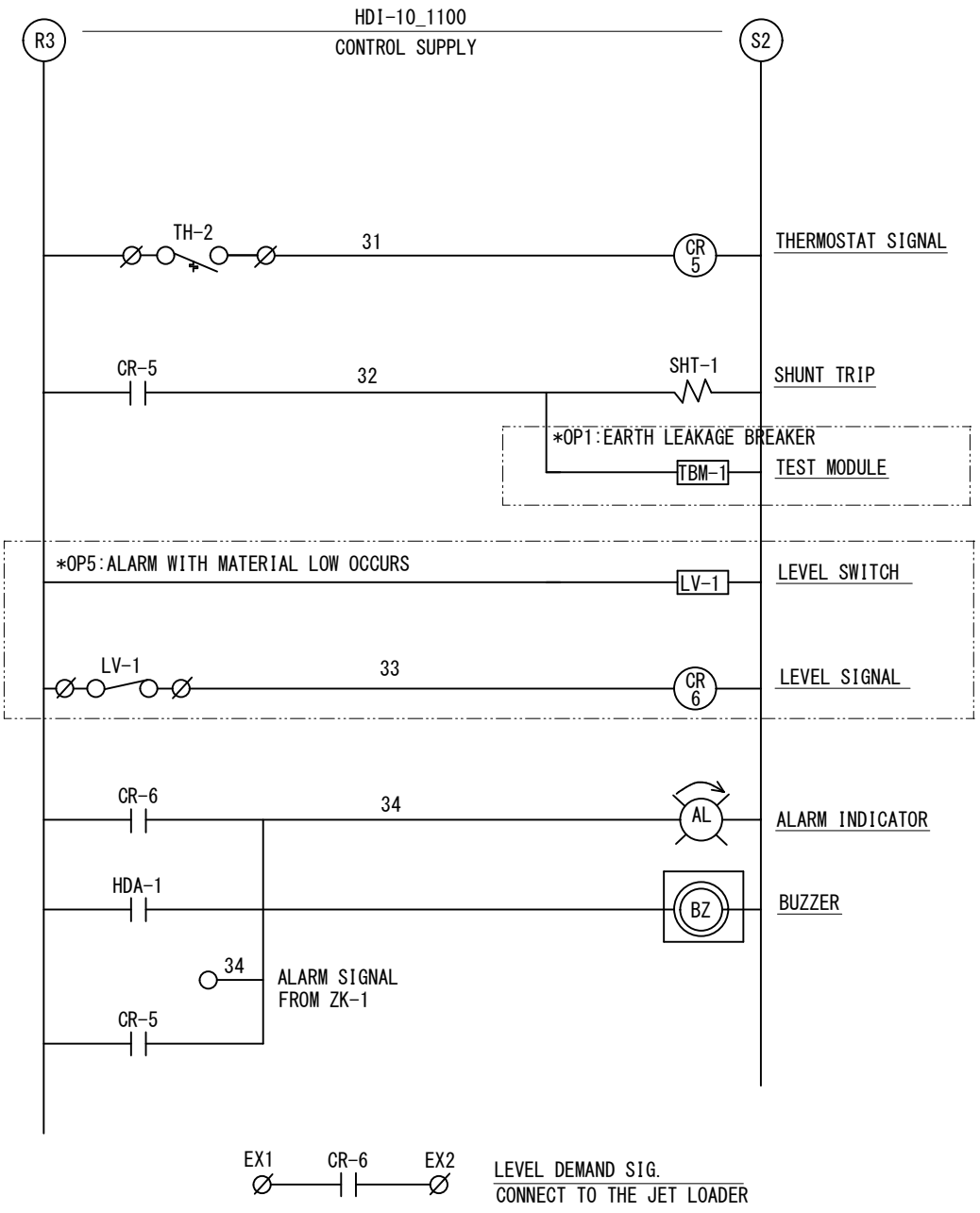
8



Standard dwg.

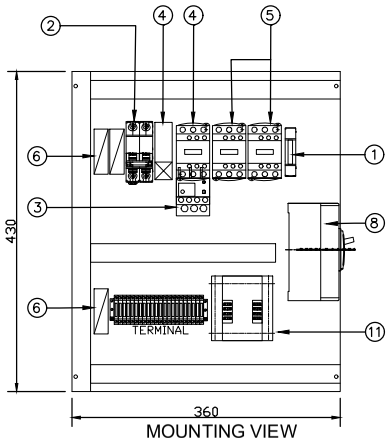
NAME	HDI-10-1100	DWG. NO.	N190827E04
Matsui Technology India Limited			

SCALE	CODE NO.	FORM	CIRCUIT DIAGRAM 3
APPROVED BY	MATSUMOTO	DATE	27/08/2019
DSGND(CHKD)BY	VIKAS	UNIT mm	PLANE TRIGONOMETRY
DRAWN BY	NISHA		

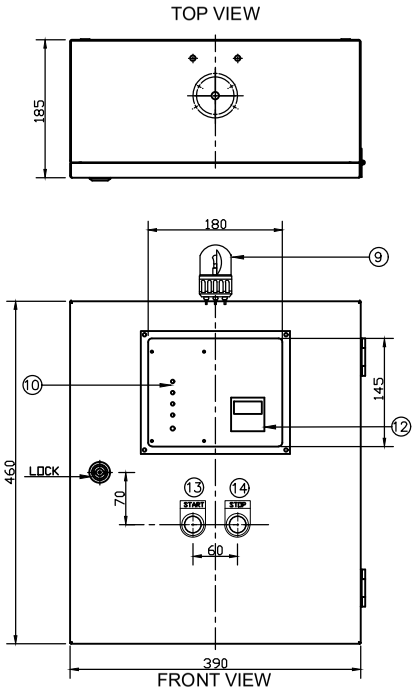
MARK	DATE	CONTENTS	CHKD	APPD

REVISION

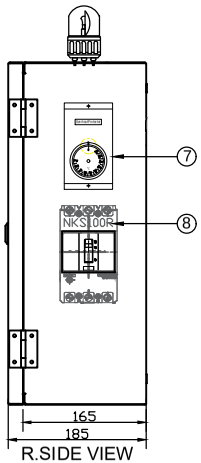
HDI-250~1100				
Sr. No.	ITEM NAME	DESCRIPTION	MAKE	BOM QTY
1	F-1	Fuse 2A 3CM With Fuse Base	MATSUI	1
2	CP-0	CIRCUIT BREAKER A9N2P02D	SCHNEIDER	1
3	□CR-1	□verload Relay -blower	SCHNEIDER	1
4	MS-1	Magnetic Contactor -Blower	SCHNEIDER	1
5	MC-1,MC-2	Magnetic Contactor - Heater	SCHNEIDER	2
6	CR-3,CR-4 ,CR-5	RELAY DPDT RU2S-A220/110 WITH BASE	IDEC	3
7	TH-1	THERM□STAT TR711/N220 M12XP1XL900	MATSUI	1
8	NFB-1	MCCB	SCHNEIDER	1
9	AL	LIGHT ASGB-FF-R AC200/100V	MEANICS	1
10	ZK-1	DISPLAY B□ARD (ZK-1) F□R HDM	MATSUI	1
11	Tr-1	TRANSF□RMER 50VA(415/380-200/100V)	DELTA	1
12	TC-1	E5CWL-R1TC PID CONTR□LLER	□MRON	1
13	PB-1	ILL. START PUSH BUTT□N	SCHNEIDER	1
14	PB-2	ST□P PUSH BUTT□N	SCHNEIDER	1



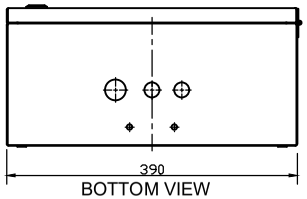
MOUNTING VIEW



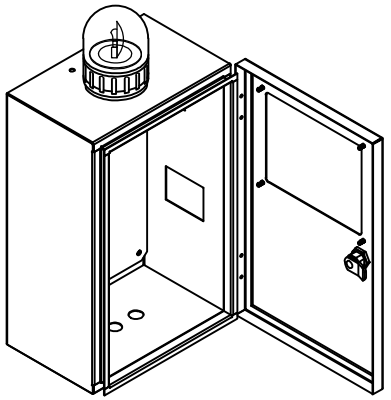
FRONT VIEW



R.SIDE VIEW



BOTTOM VIEW



STANDARD

REVISION	MARK	DATE	CONTENTS	CHKD	APPD
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	△				
	△				

NAME	PANEL MOUNTING DRAWING	FORM	HDI-250~1100
APPROVED BY	MATSUMOTO	CODE No.	--
CHECKED BY	VIKAS	DATE	27\02\2020
DRAWN BY	VIVEK	UNIT mm	PLANE TRIGNOMETRY
SCALE	1:1	DWG. NO.	INA000977

MATSUI TECHNOLOGIES INDIA LIMITED

ELECTRICAL SPECIFICATION SHEET - HOT AIR DRYER							
MODEL	POWER (V) 50/60Hz	HEATER-1 (STANDARD)	HEATER-2 (STANDARD)	HEATER-1 (HIGH TEMP.)	HEATER-2 (HIGH TEMP.)	BLOWER - 3PH.	CIRCUIT BREAKER (NFB/ELB-1)
Reference.- HD(CMC)/MTIL							
HDI-250	AC 200V-220V AC380V-415V	17.1KW		19.8KW		550W	S-63A, H-80A S-40A, H-50A
HDI-300/350	AC 200V-220V AC380V-415V	19.8KW		24KW		550W	S-80A, H-100A S-40A, H-50A
HDI-400/600	AC 200V-220V AC380V-415V	25KW		21.6KW	14.4KW	750W	S-100A,H-125A S-50A, H-80A
HDI-700	AC 200V-220V AC380V-415V	21.6KW	14.4KW	22.5KW	22.5KW	1500W	S-125A,H-175A S-80A, H-100A
HDI-900	AC 200V-220V AC380V-415V	22.5KW	22.5KW	30KW	30KW	1500W	S-175A,H-225A S-100A, H-125A
HDI-1100	AC 200V-220V AC380V-415V	30KW	30KW	36KW	36KW	2200W	S-225A,H-250A S-125A, H-150A

STANDARD

REVISION	MARK	DATE	CONTENTS	CHKD	APPD
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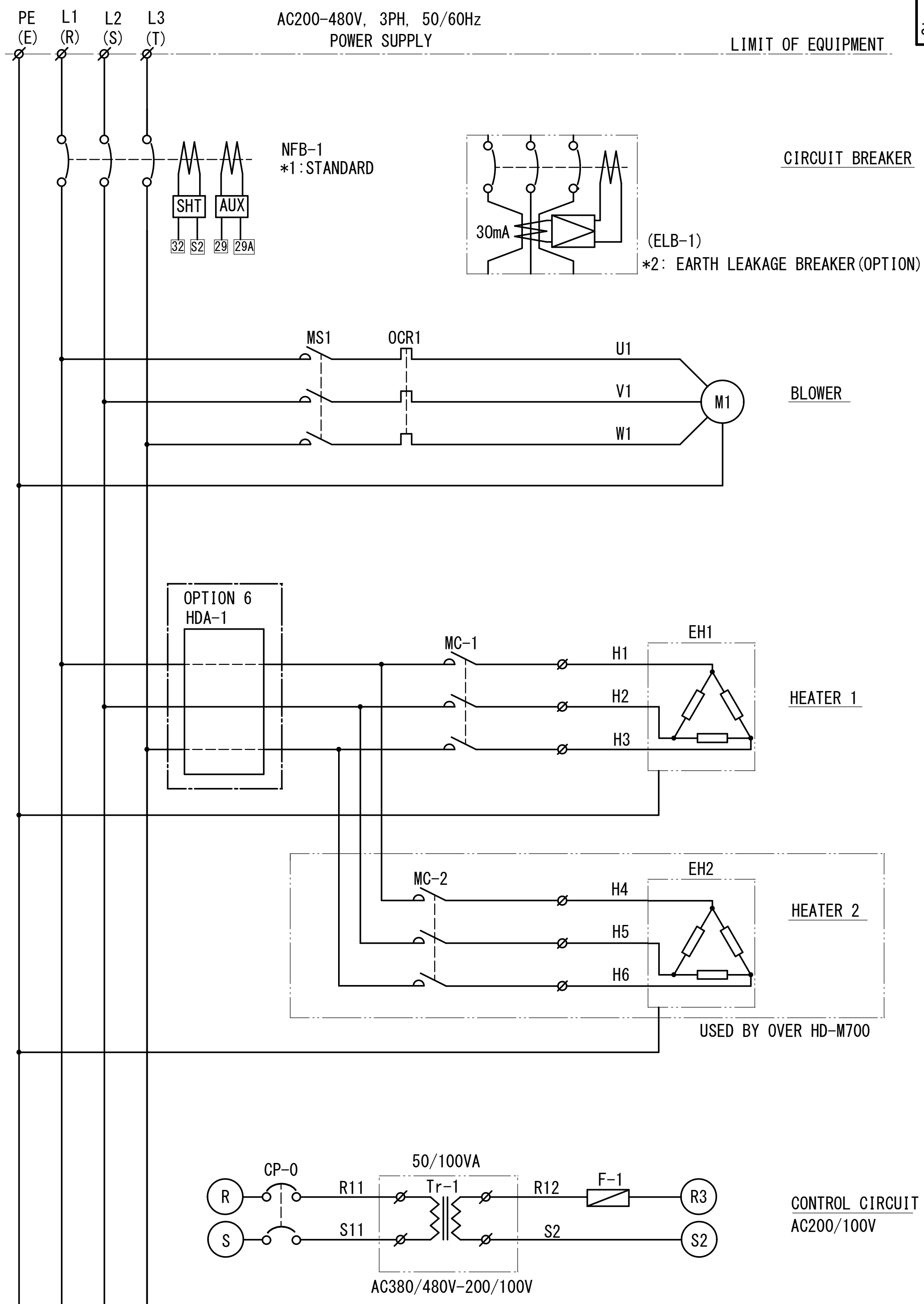
	△				
	△				

NAME	ELECTRICAL SPECIFICATION SHEET	FORM	HDI-250~1100
APPROVED BY	MATSUMOTO	CODE No.	
CHECKED BY	VIKAS	DATE	28/02/2020
DRAWN BY	VIVEK	UNIT(mm)	PLANE TRIGONOMETRY
SCALE	NTS	DWG. NO.	INA000974

MATSUI TECHNOLOGIES INDIA LIMITED

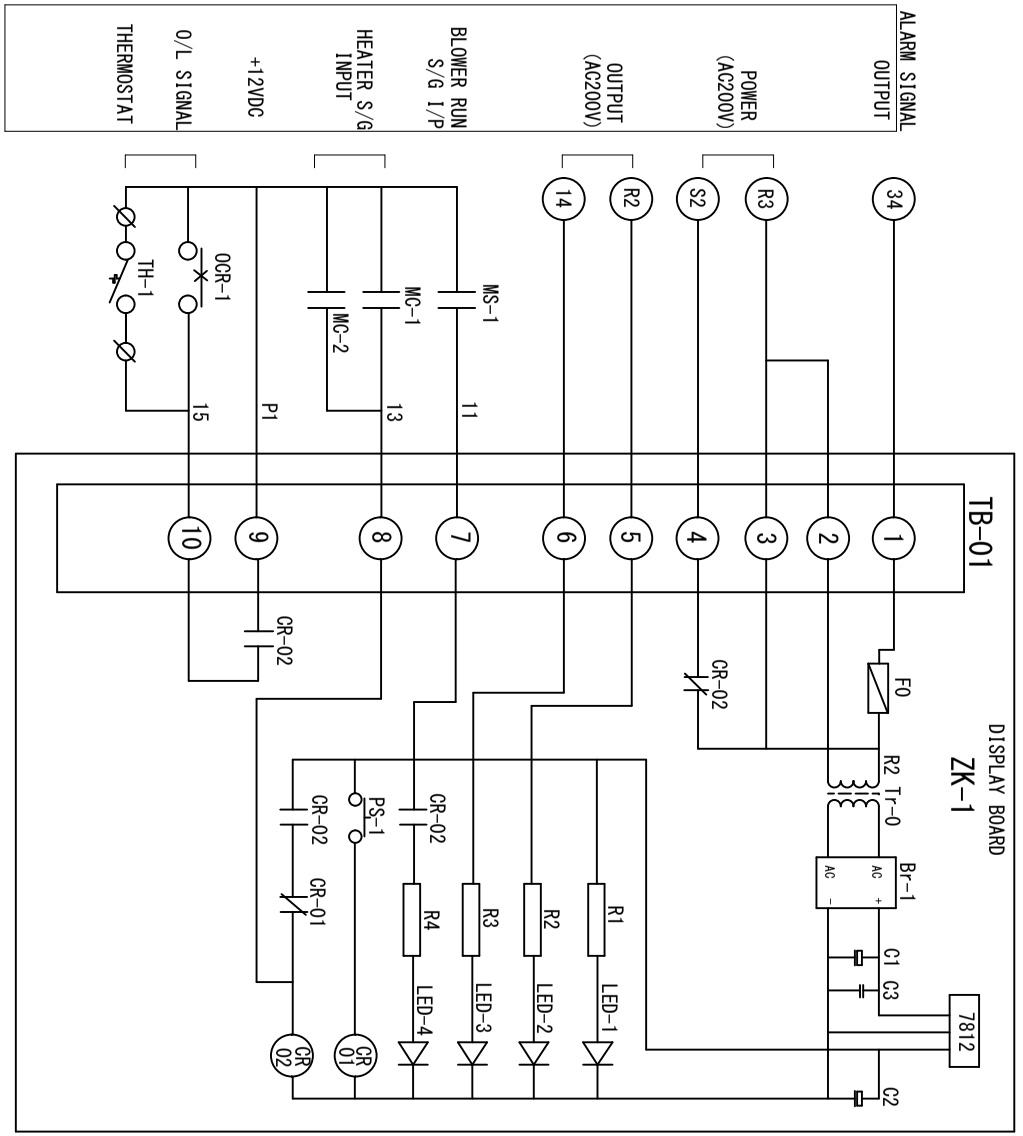
Standard dwg.



NAME	Matsui Technology India Limited
	HDI-10-1100
DWG. NO.	N190823E00
FORM	POWER DIAGRAM 1
DATE	23/08/2019
UNIT mm	PLANE TRIGONOMETRY
SCALE	
CODE NO.	
APPROVED BY	MATSUMOTO
DSGND(CHKD)BY	VIKAS
DRAWN BY	NISHA

MARK	DATE	CONTENTS	CHKD	APPD

REVISION

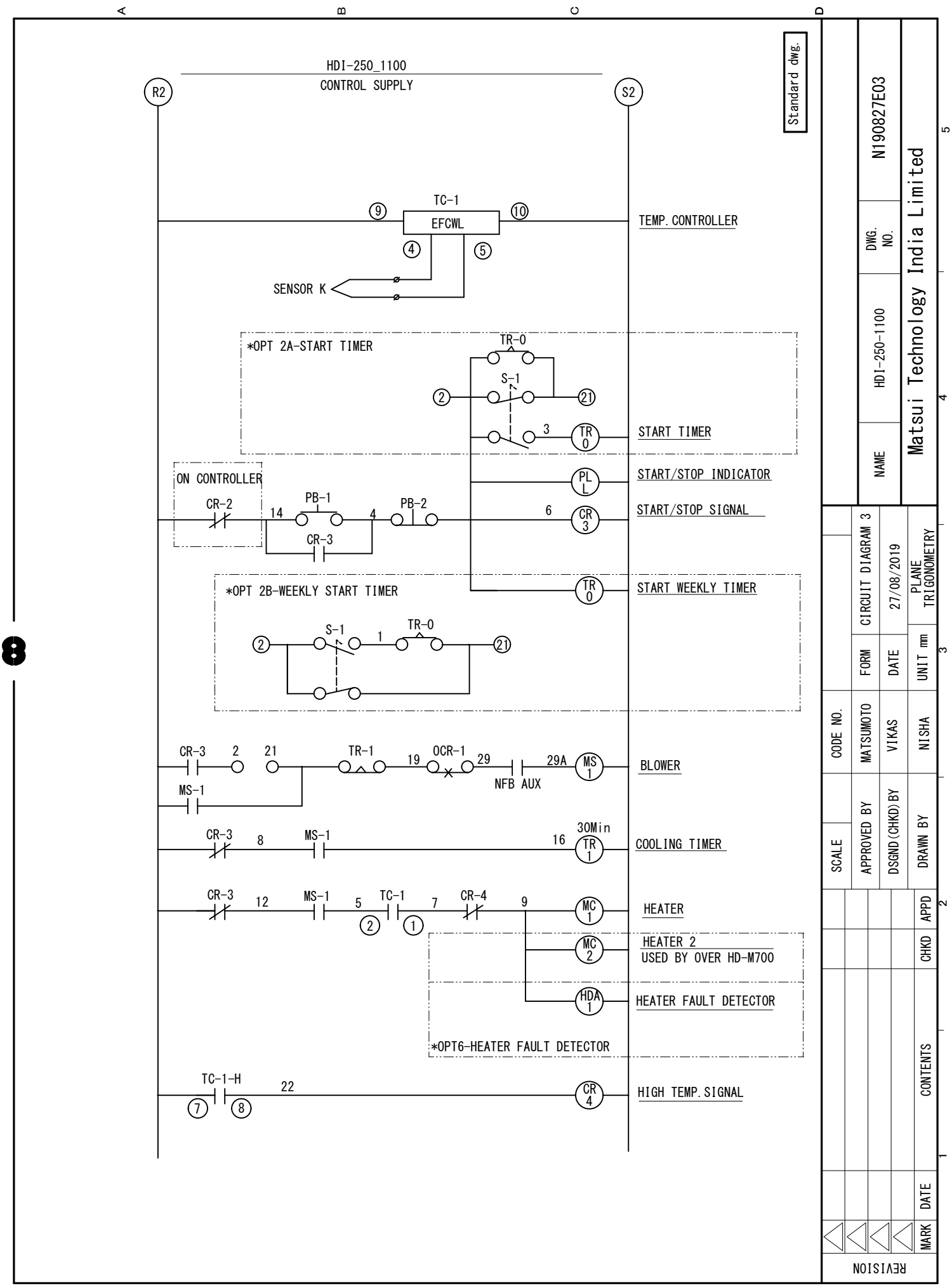


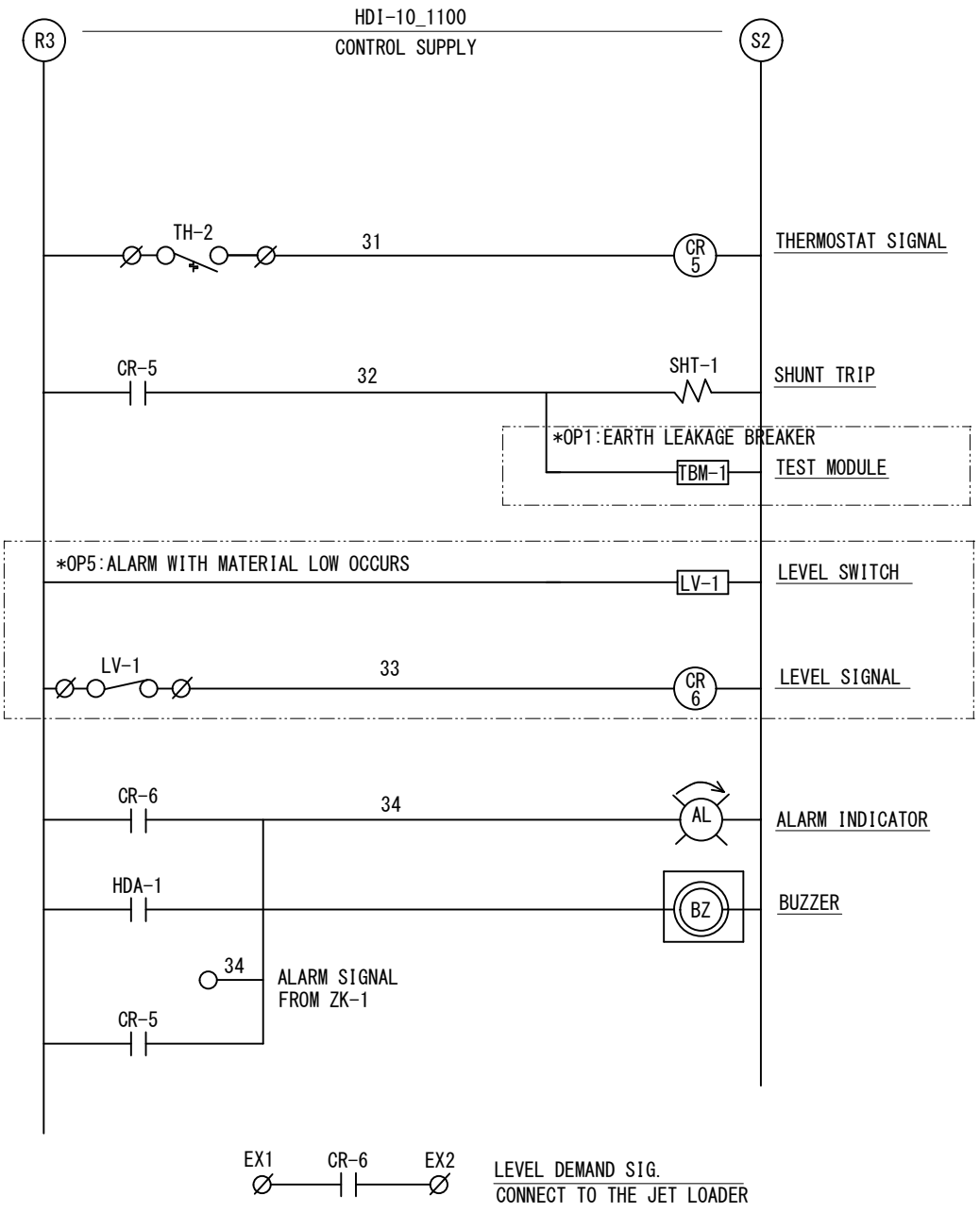
Standard dwg.

REVISION									
MARK	DATE	CONTENTS	CHKD	APPD	SCALE		CODE NO.		
					APPROVED BY	MATSUMOTO	FORM	CIRCUIT DIAGRAM 1	
					DSGND (CHKD) BY	VIKAS	DATE	27/08/2019	
					DRAWN BY	NISHA	UNIT mm	PLANE TRIGONOMETRY	

NAME	HDI-10-1100	DWG. NO.	N190827E01

Matsui Technology India Limited


HDI-250_1100
CONTROL SUPPLY
Standard dwg.
R2
S2
TC-1
EFCWL
TEMP. CONTROLLER
SENSOR K
*OPT 2A-START TIMER
TR-0
S-1
START TIMER
ON CONTROLLER
CR-2
PB-1
PB-2
CR-3
START/STOP INDICATOR
START/STOP SIGNAL
*OPT 2B-WEEKLY START TIMER
START WEEKLY TIMER
BLOWER
MS-1
NFB AUX
COOLING TIMER
30Min
HEATER
HEATER 2
USED BY OVER HD-M700
HEATER FAULT DETECTOR
*OPT6-HEATER FAULT DETECTOR
TC-1-H
HIGH TEMP. SIGNAL
Matsui Technology India Limited
N190827E03
HDI-250-1100
CIRCUIT DIAGRAM 3
27/08/2019
PLANE TRIGONOMETRY
MATSUMOTO
VIKAS
NISHA
CONTENTS
REVISION



Standard dwg.

NAME	HDI-10-1100	DWG. NO.	N190827E04
Matsui Technology India Limited			

SCALE	CODE NO.	FORM	CIRCUIT DIAGRAM 3
APPROVED BY	MATSUMOTO	DATE	27/08/2019
DSGND(CHKD)BY	VIKAS	UNIT mm	PLANE TRIGONOMETRY
DRAWN BY	NISHA		

MARK	DATE	CONTENTS	CHKD	APPD

REVISION