Dehumidifying Hot Air Dryer

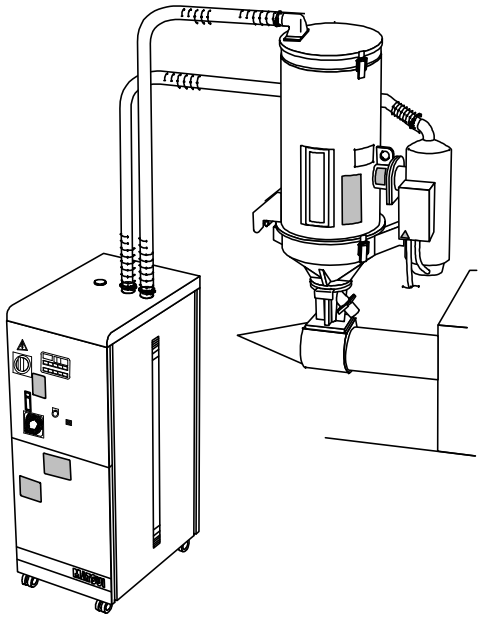
DMS2-80,120,170,240
DMZ2-40,80,120

Instruction manual

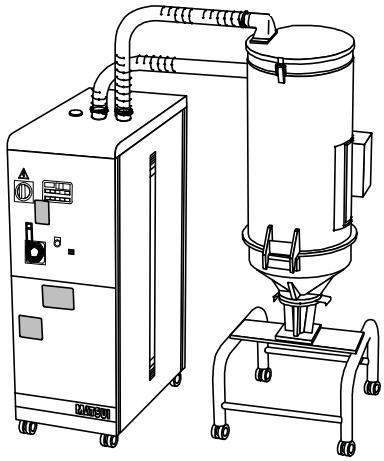
⚠ WARNING

Thank you very much for purchasing the product.
Read the manual carefully and operate the device properly.
In addition, when operate the device, please keep the manual near the device for reference when 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.



Separable type



Integrated type

MATSUI

Issued in September. 2010

CONTENTS

⚠ The item should put on the important position, so please read the manual carefully and understand it thoroughly before the installation.

Page

Page

INTRODUCTION

1.The product

The manual introduces how to properly operate Dehumidifying Hot Air Dryer and the maintenance as well as the inspection measures.

2. The readers

The customers who whether use Dehumidifying Hot Air Dryer by MATSUI Company for the first time or have the experience to use the product all should read the manual carefully.

3. Maintenance

The product is created by integrate the designing and the manufacturing techniques of both the limited company and the MATSUI factory. If the product has problems, with the identification of our company the problem part can be repaired or replaced according to the conditions below.

1） The range of the maintenance

The maintenance ranges are reparation and the replacement of the spare parts. The problems on goods produced by the machines or devices of our company and the production are without the maintenance ranges. Under the normal operating conditions, if the machine or the device has malfunctions obviously due to the designing and the producing defects, our company will repair the problem unit without any charges on spare parts and reparation within the indicated period.

1)-A. The range to deliver goods is confined in China.

1)-B. The defect spare parts should be given back to our company.

1)-C. The maintenance period is within (12) twelve months from the day to purchase our products.

1)-D. The maintenance period of the parts below is within (12) twelve months from the purchasing day.

1.Electrical devices and the spare parts 2. Sealing material 3.bearing 4.Waterial level gauge

2） Without the range of maintenance

2)-A. Without the range of maintenance

1.The malfunction resulted in the environmental change.

2.The damage brought out by the defect of rendering product.

3.The breakage due to the time change.

4.The function without impacts on the quality.

5.The malfunction caused by your renovation on the product.

6.Light, fuse, consumables

2)-B. The company takes no responsibility on the damage or malfunction caused by the accidents below.

1. The natural calamity including Earthquake, typhoon, flood, fire disaster.
2. The breakage caused by using outside the general installation sites.
3. The breakage caused intentionally or unintentionally by not observing the manual's instruction on the operation and maintenance inspection.
4. The malfunction caused by the incomplete or incorrect maintenance or fitting.
5. The malfunction caused by the portage, moving installation in your company after taking the delivering.

Chapter 1 Safety Precautions

 Using the device please must observe the notice items.

Notice items	Notice content
The application of the device	The device is a dehumidifying unit that only the resin pill is available. Other materials will cause the malfunction of the device. As the malfunction caused by the materials except the resin pill is not within the maintenance range, please contact us before using other materials.
	Please do not use the volatile and the flammable materials. Or the fire disaster may happen. In addition, our company takes no responsibility of the malfunction caused by the gas volatility.
The operating conditions	Operating the device in the room. Operating in the environment within the temperature 0℃ to 40℃
Dying temperature	Setting the temperature suitable to use the resin pill and within the temperature range indicated by the manual. Never operate the device outside the temperature range. Or accidents and malfunction may occur.
The notice items in operation	After the specified drying time, please provide the raw material for the device.
	During the operation, do not open straight shrunk, the cleaning vent and the takeoff exit for the remaining materials. Dangerous if the material or hot wind is blew out.
	During the operation, do not open the door of the control board.
Control board Temperature regulator	Do not impinge heavily or sprinkle water on the device. Or the malfunction and fire disaster may occur.
	If unnecessary, do not open the door. Or the malfunction and the accident may occur.
Maintenance inspection	Before the maintenance inspection, the key “off” of the power breaker in the control panel should be pressed to cut off the power.
	When machine operates with pneumatic engine, the pneumatic engine should stop working and remove the remaining air pressure for the inspection.
	In a spell after the device stops running, the high temperature remains. So please carry out the inspection after the device cools off. (5 hours for natural cooling). Although the exterior of the device has cooled off, the interior and the drying material may still be in high temperature, so pay thousands close of attentions.

Notice items	Notice contents
Maintenance inspection	Do not stand or seat on the device. Do not put your legs on it. Do not take the device as the footstool or climbing tool.
	In order to keep the functions; it is necessary to clean the filters. Please clean them regularly and do not operate the device if the filters are not clean.
	During the operation, do not dismantle and clean the filters. Or the malfunction and the accidents may occur. In addition, the filters must be installed properly.
The reconstruction of the device	Do not reconstruct the device. Or it will become the cause of the malfunction and accidents. The malfunction caused by the reconstruction is on your responsibility.
Warning signs Device's brand	Before the abandonment, please keep the signs and brand recognizable.
Cleaning	Please do not use the oil solvent to clean the device. The gasoline, rarefying dosage and the tooth powder will damage the exterior of the device. When the device become dirty, dampen the soft cloth into the water under 40℃ and wring it for the cleaning.
Maintenance and reparation	Please do not carry out the maintenance and reparations that are not mentioned in the manual because of the accompanying malfunction and danger. Please contact SDI of our company (on the two sides of the paper) when you need help with the maintenance and reparation.

Chapter 2 Explanation Equipment

1.The summarization of the installation

The device is a drying machine with the resin pill as the drying material.

The device uses the sorbent to dehumidify the air and then sends the dried air into the funnel to dry the resin.

Because the moisture in the air is dehumidified by the sorbent ,the stable drying condition is obtained.

In addition, thanks to the low dew point and less moisture in the air, the moisture in the material can be dehumidified quickly.

As the device recycles the dried air discharged from the drying funnel and the discharged air is not exhausted out of the system, do off flavor and a great amount of heart wind are discharged and the electric consumption is little.

2. Equipment Composition

The device consists of the recorded machines and apparatuses. Please refer to the types of this item and device brand to Confirm that type you want to purchase.

< Type example >

DMS2-80①-25②-③

- ② → Drying filter capacity
- ① → Classifying mark of the dehumidification unit

① Technical criterion of drying temperature<the set upper limit of the drying temperature>

Mark	Drying temperature	The set value of upper limit
No mark	Standard type	130℃
H	High temperature type	180℃

② The structure of the drying funnel

Mark	The structure of the drying funnel
No mark	Signal (one scale type)
D	Incubation type (two scale type)

③ Setting ways of the drying funnel

Mark	Setting ways
No mark	Direct installation of shaping machine (separable type)
V	Pallet of the drying funnel (pallet type)

【Notice!】

The cyclic from of the dehumidifying air is only the setting of cyclic description (Half-circulation and a one path cannot be set up.)

3.The check and receiving of the goods

Please check if the machine parts you want to purchase complete

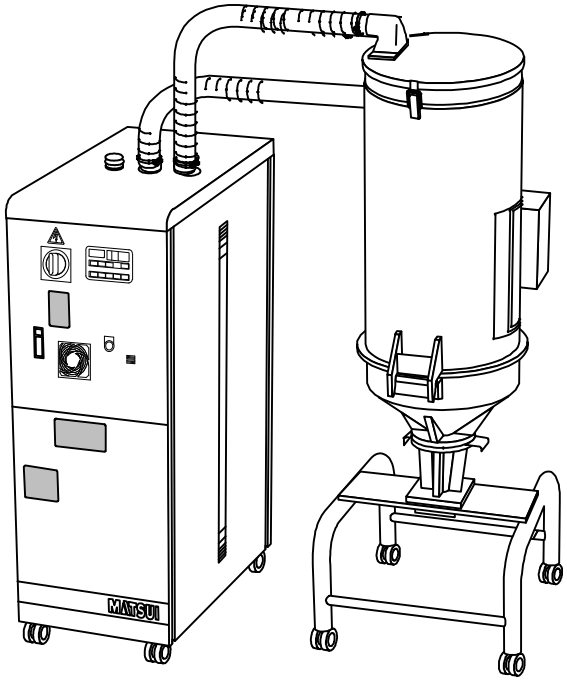
— Organic whole dehumidifier (organic whole pallet type) —

The title of the machine

The sate of goods arrival

On the occasion of recycling

※the main body of the device
dehumidifying unit
drying funnel
common use pallet
connecting hose.



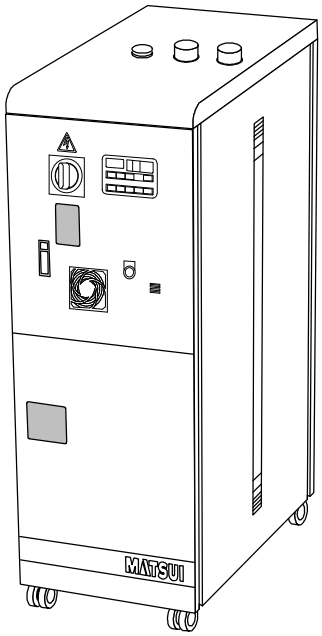
Picture 1
※DMS2-80-25 type

Occasions of direct installation of the drying funnel forming machine(separable)

Title of the machine　　The state of goods arrival

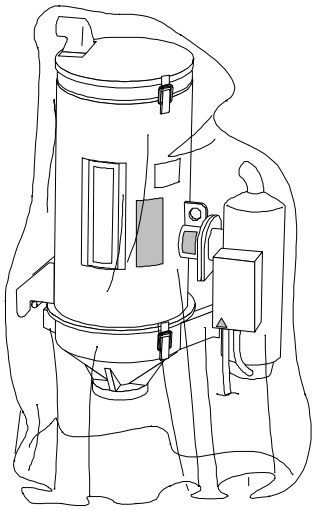
On the occasion of recycling specification

○Dehumidifying



Picture 2
The picture shows DMS2-80 type

○Drying funnel

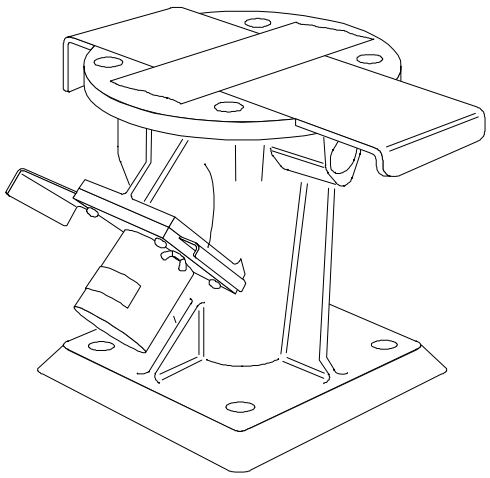


Picture 3
The picture show HD-25 type
※Hold in the ethylene resin bag

The title of the machine

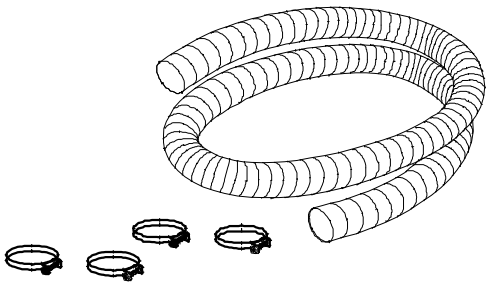
○Input and output stand
○4 capped bolts(forming machine for input and output)
○4 bolts with 6 angles
○4 screw caps with 6 angles
○4 flat brushes
(those above are used to fix drying funnel and output stand)

The state of goods arrival



Picture 4
The picture show HD-25～100type
On occasion of base-connected installation, the input and output stand receives goods in the state of whole set.

○Accessory
○Cooling water tube (rubber tube) ……φ10×5m×2root
○Connecting hose (heat resistant hose) ……5m×2root
○Hose strap……4pieces
※On the occasion of DMS2-170,240,DMZ2-80,120
Connecting hose (heat resistant hose)……2m×2root
Hose strap……4pieces
(Connecting hose and Hose strap are option parts.)

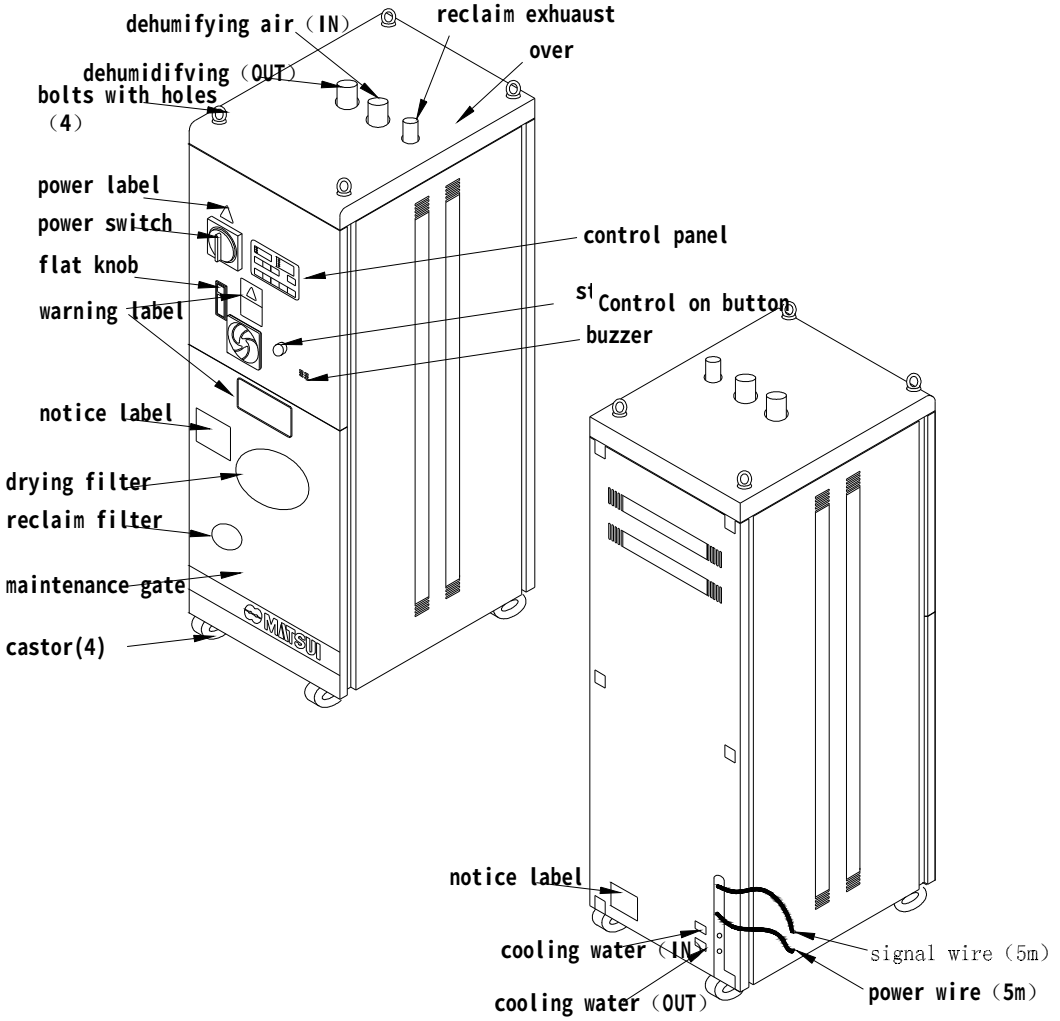


Picture5
※Hold in two bags。
※The connecting hose is the exhaust of the dehumidifying unit, and is the drying funnel is exhaust and air intake pipe connecter with IN,OUT.

4. The titles of the parts

<The main body of the dehumidify unit>

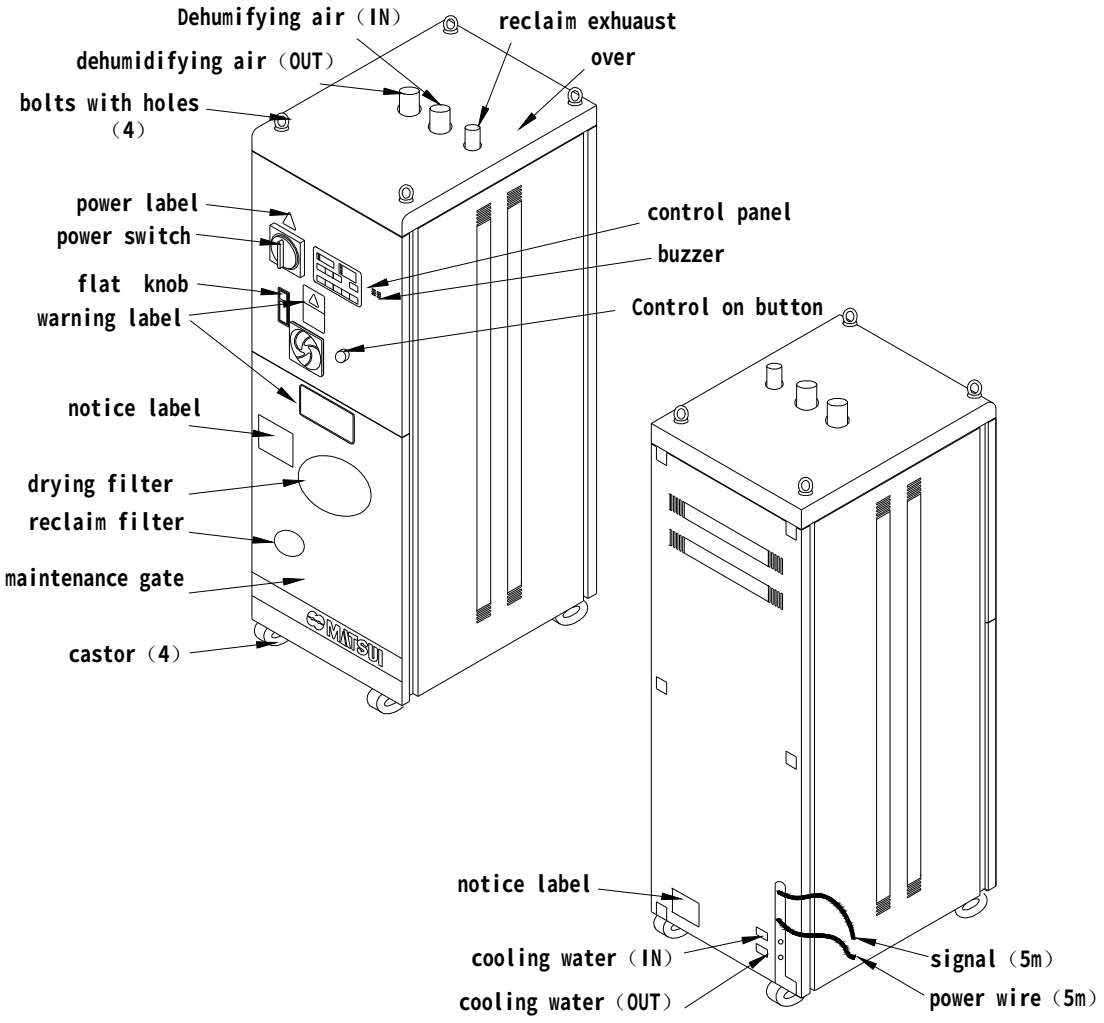
— DMS2－80,120/DMZ2-40 —



Picture 6

<The main body of the dehumidify unit>

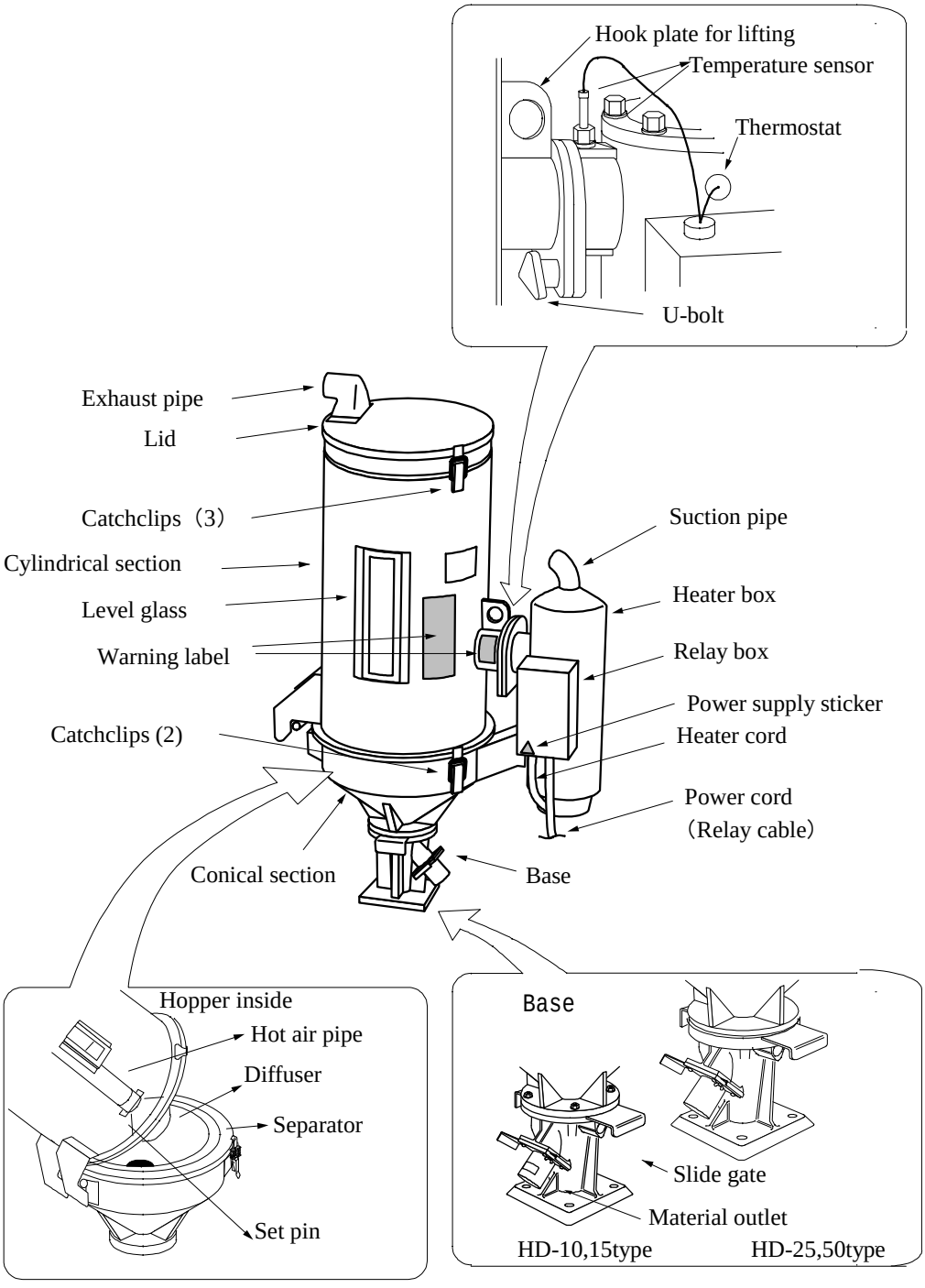
— DMS2-170,240/DMZ2-80,120 —



Picture 7

<Drying hopper>

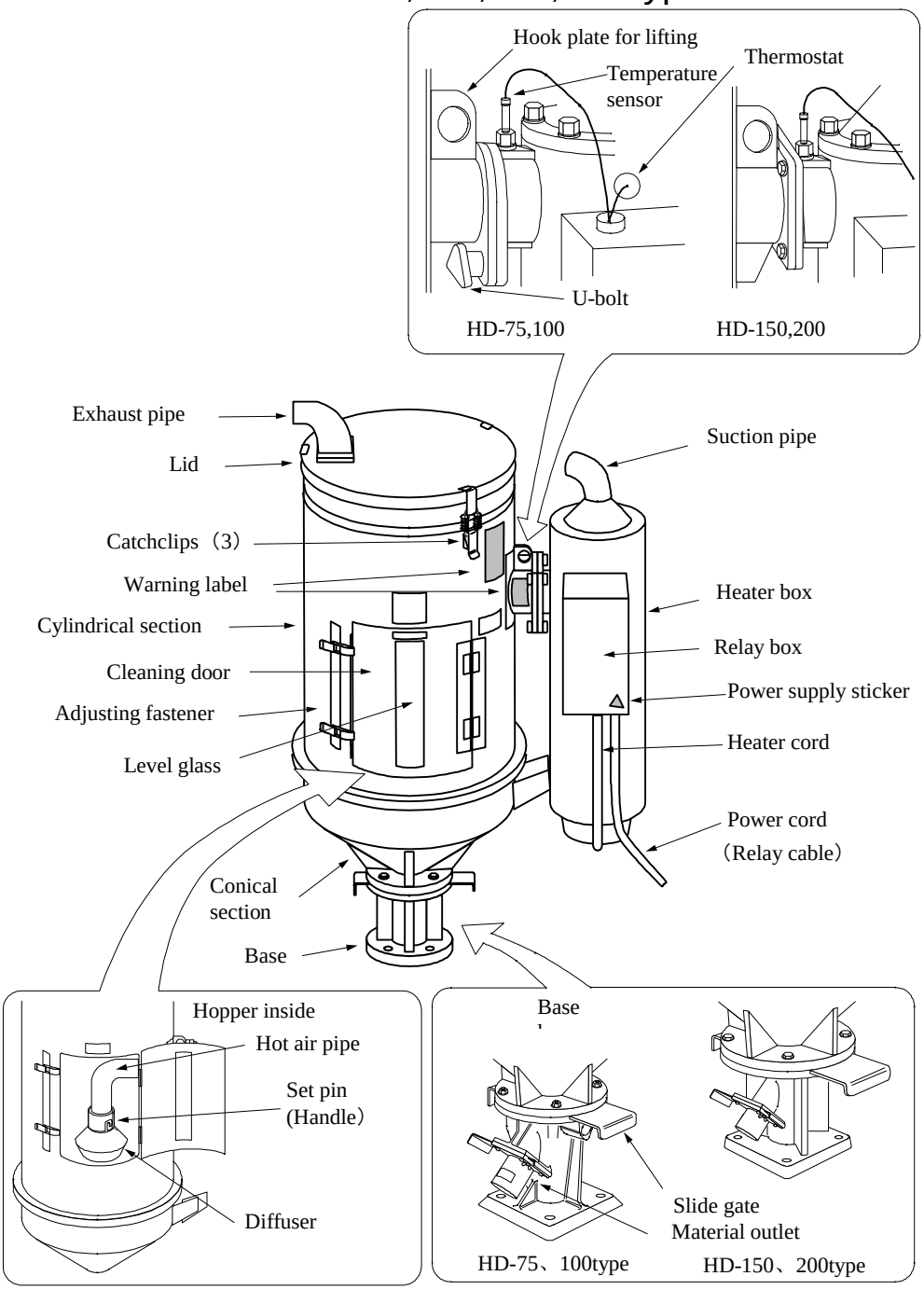
—— HD-10,15,25,50 type ——



Picture 8

<Drying hopper>

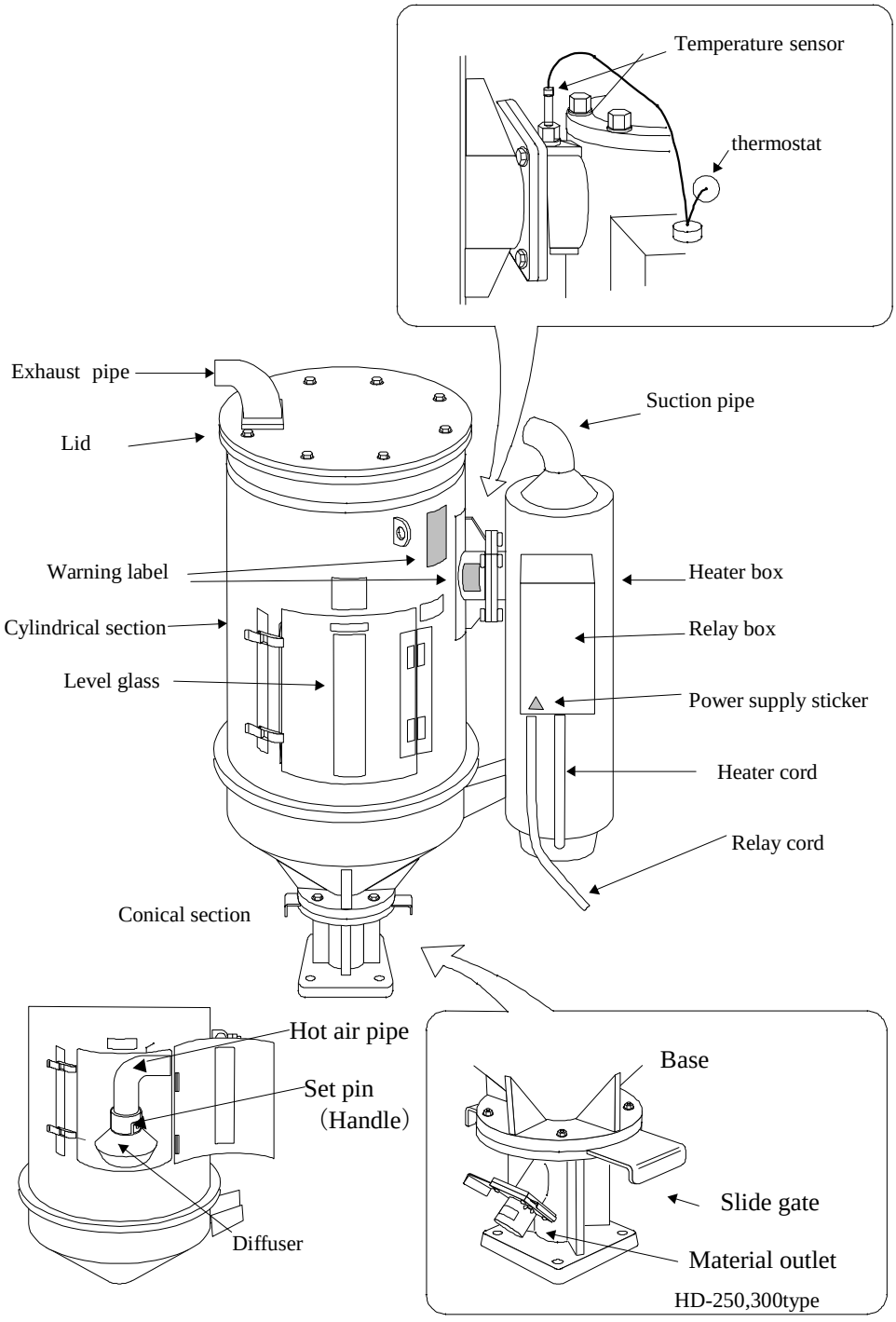
— HD-75,100,150,200 type —



Picture 9

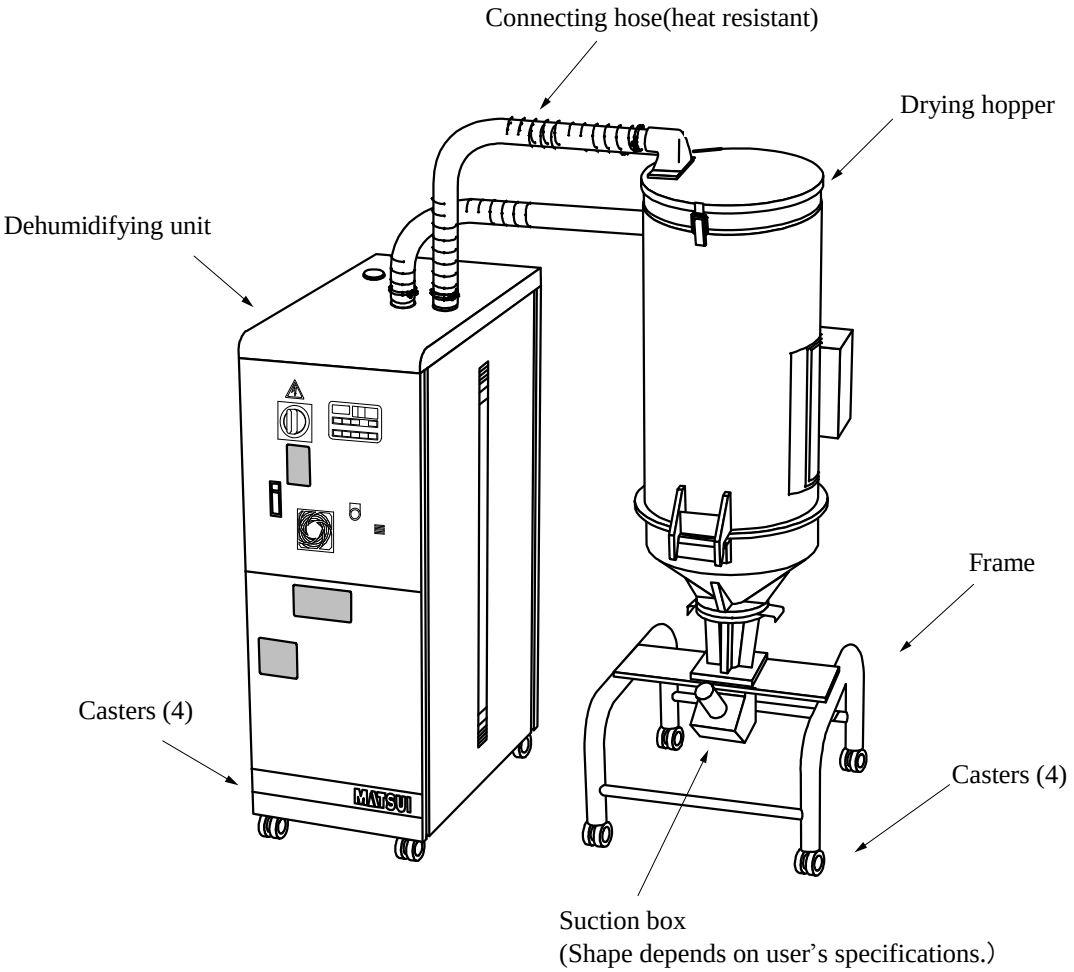
<Drying hopper>

— HD-250,300 type —



Picture 10

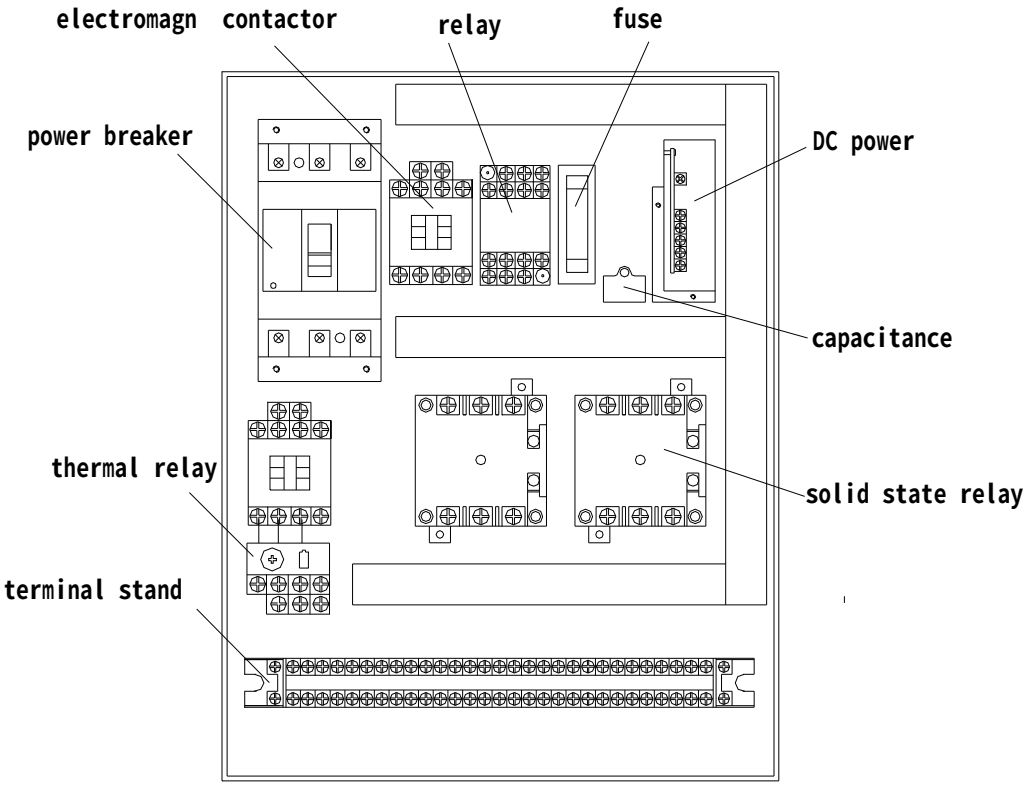
<Dehumidifier>



Picture 11

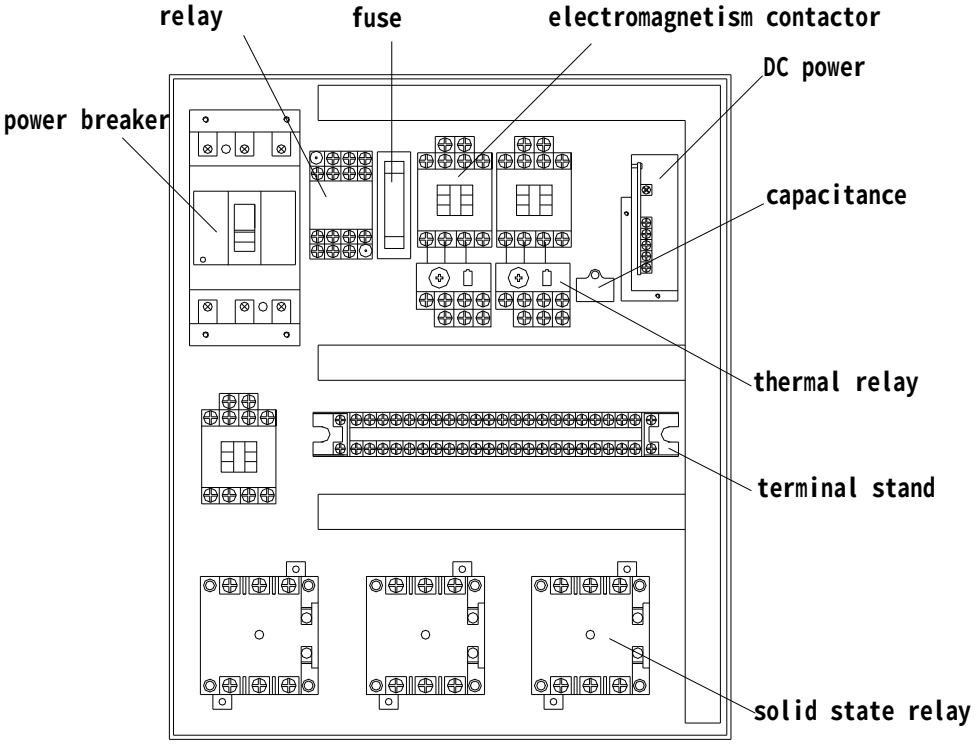
<The interior of the control panel>

1. DMS2-80,120/DMZ2-40



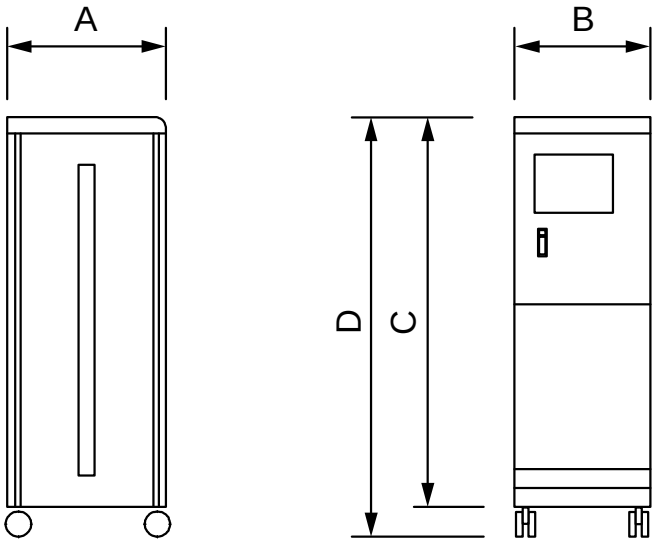
Picture 12

2. DMS2-170,240 /DMZ2-80,120

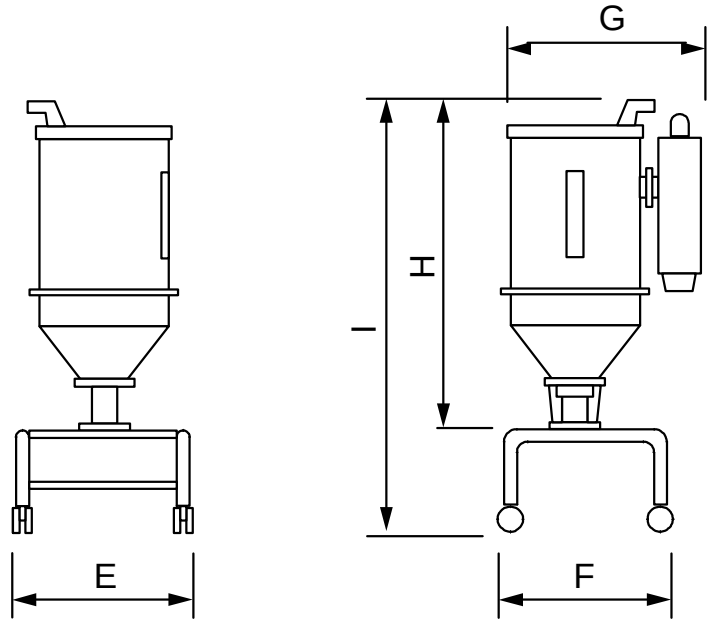


Picture 13

5. Outer dimensions (mm)



Dehumidifying unit



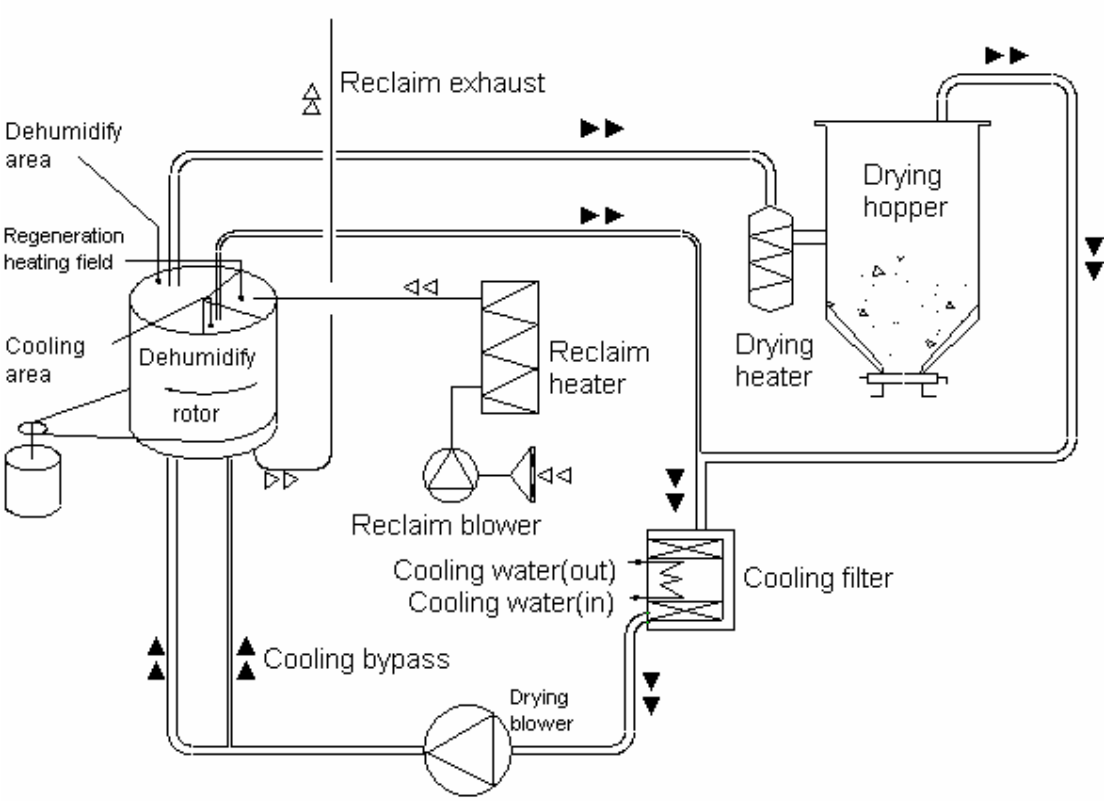
Drying hopper

Picture 14

	Type	E	F	I	D	B	C	A	H	G
Dehumidify unit	DMS2-80,120/DMZ2-40	—	—	—	1410	440	1292	570	—	—
	DMS2-170,240/DMZ2-80,120				1410	500	1292	704		
Drying hopper	HD-10								790	562
	HD-15								890	562
	HD-25								1017	696
	HD-50								1267	696
	HD-75								1235	816
	HD-100	—	—	—	—	—	—	—	1435	816
	HD-150								1545	1044
	HD-200								1775	1044
	HD-250								1785	1260
	HD-300								1945	1260
Stand type	DMZ2-40+HD-10	500	650	1206	—	—	—	—	—	—
	DMZ2-40+HD-15	500	650	1306	—	—	—	—	—	—
	DMS2-80/DMZ2-80+HD-25	600	800	1535	—	—	—	—	—	—
	DMS2-80/DMZ2-80+HD-50	600	800	1785	—	—	—	—	—	—
	DMS2-120/DMZ2-120+HD-75	600	950	1655	—	—	—	—	—	—
	DMS2-120/DMZ2-120+HD-100	600	950	1855	—	—	—	—	—	—
	DMS2-170-150	750	1100	1990	—	—	—	—	—	—
	DMS2-170-200	750	1100	2220				—	—	—
	DMS2-240-250	860	1250	2260				—	—	—
	DMS2-240-300	860	1250	2420				—	—	—

6. Composition Flow Chart

Basic composition flow chart for DMZ2 model is shown in following Figure 15.

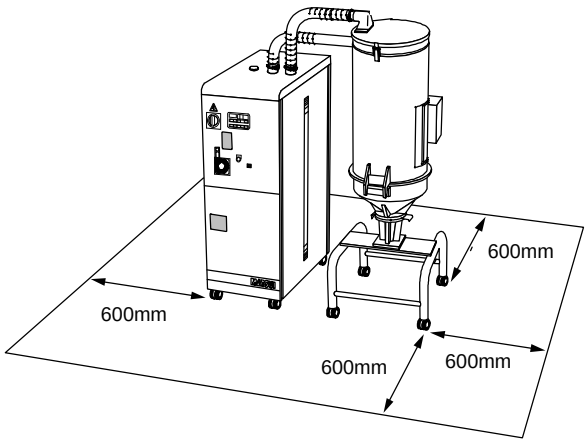
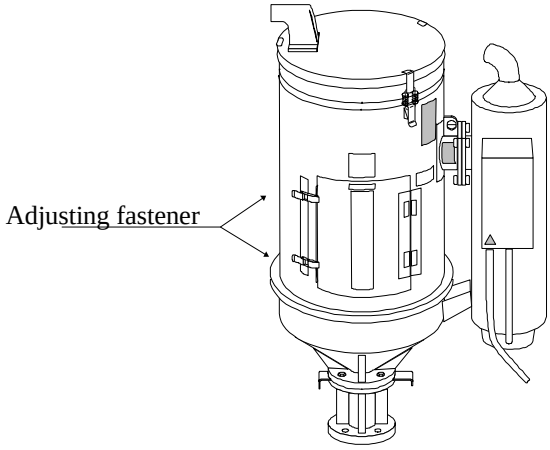


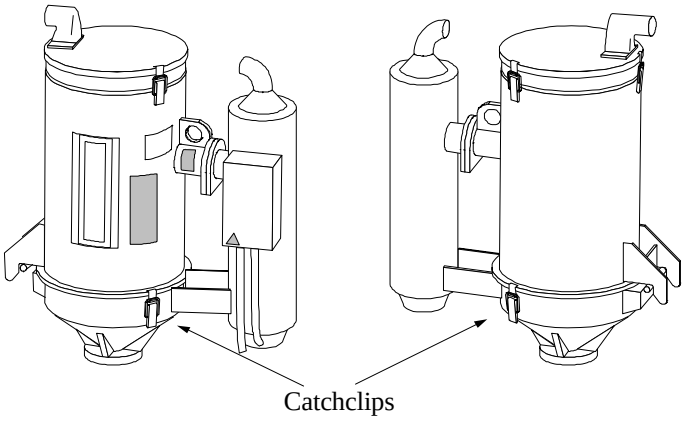
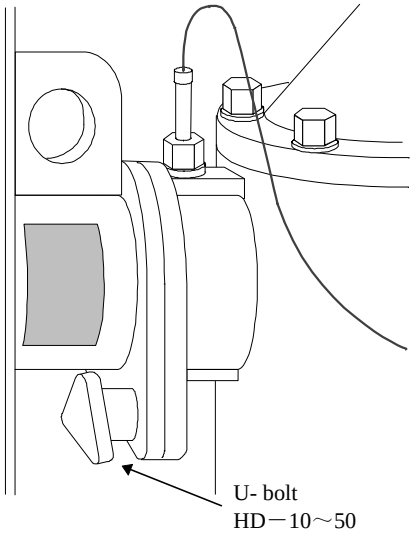
Picture 15

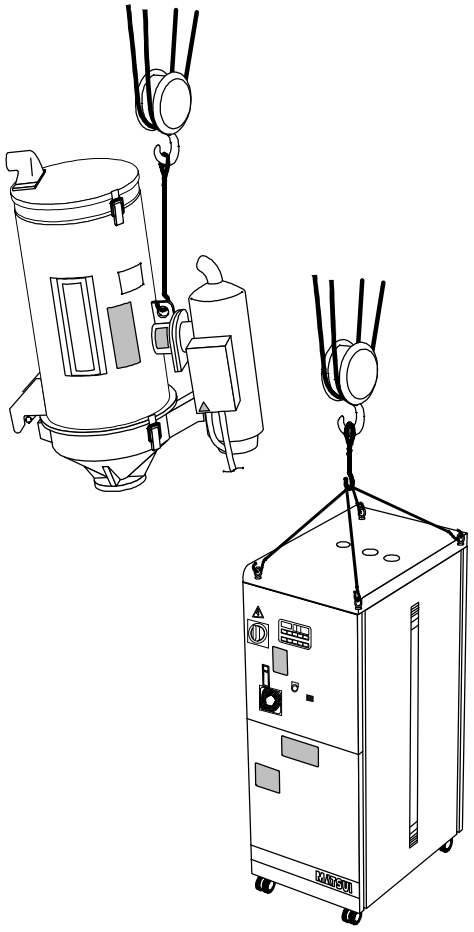
Chapter 3 Installation

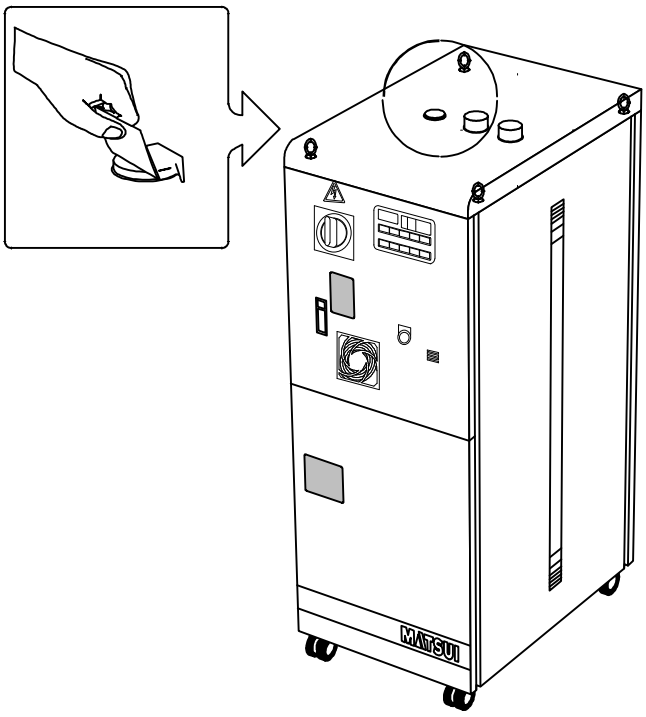
1.The installation of the device

(1)Dehumidifying unit drying funnel integrated stand type (Integrated dehumidifier)

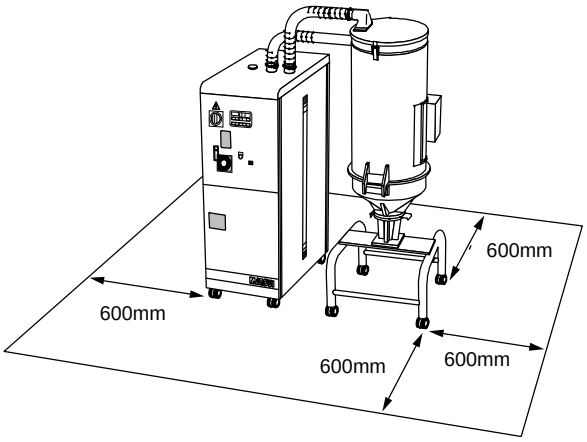
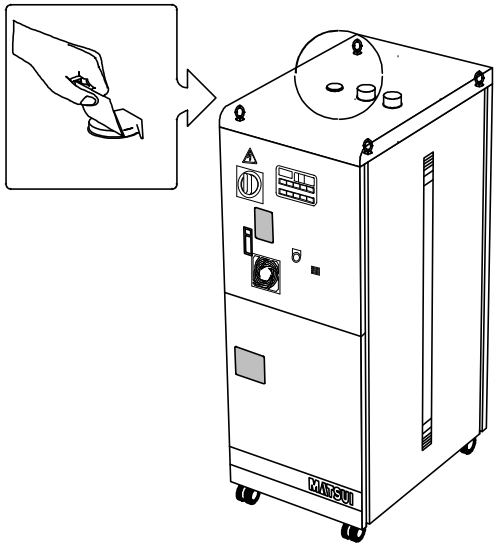
Step	Item	Task
1	Installation	·Install on the levelly stable floor. As shown in figure16, make sure the installation location gives space to perform maintenance.  Picture 16
2	The confirmation of the device state	Shows as picture 17, checking the adjusting fastener(2 piece) on the cleaning door of the drying hopper cylindrical section and the knob(1piece) are in whole set. (Only for HD-75～300)  Picture 17

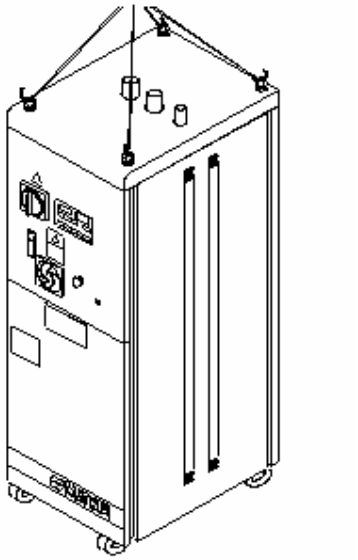
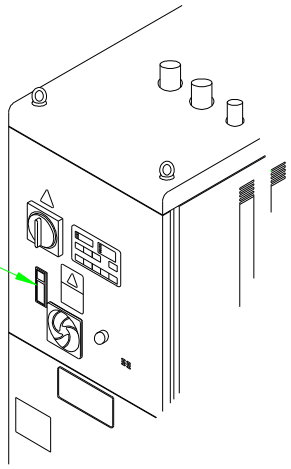
Step	Item	Task
2	The confirmation of the device state	Please check before the main body of the integrated dehumidifier is lifted. • Please make sure that no drying material is in the drying hopper. • Make sure if, shown as picture18, the catchclips(2piece) connected with the cylindrical section and conical section of drying hopper are whole sets. • (Only for HD-10～50 type)  Picture 18 Shows as picture 19, Please make sure that U-bolt of connected with the cylindrical section of the drying hopper and hot air pipe are fastened. (Only for HD-10～50 type)  Picture 19

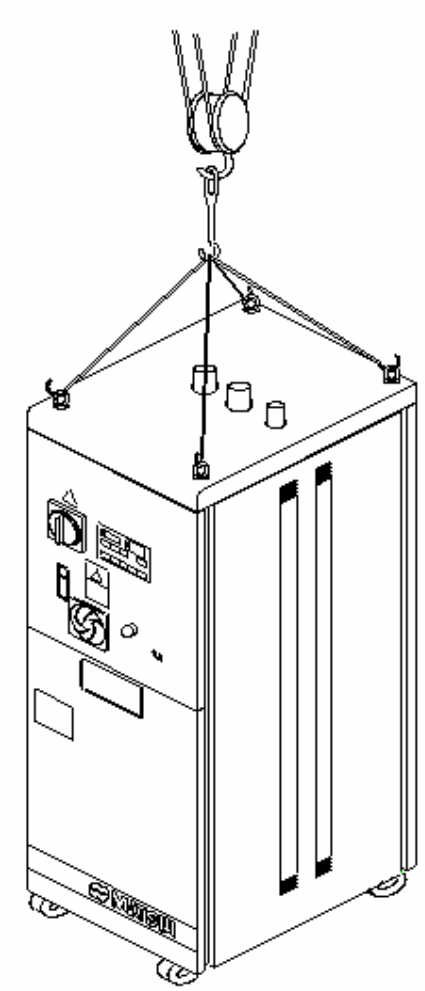
Step	Item	Task
3	Moving the equipment	When lifting and moving dehumidifying dryer main body as shown in Figure, be sure that eyebolts (4 pieces) fixed on the top are securely screwed and then hook load lifting rope (with hooks) on them and lift and move dehumidifying dryer with using hoist at your company. <Only for DMS2-80,120/DMZ2-40type>  Picture 20

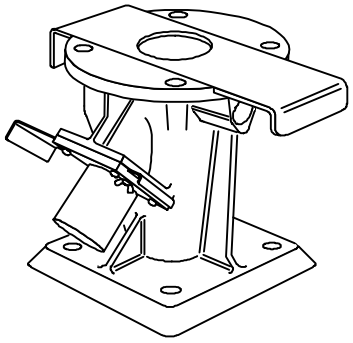
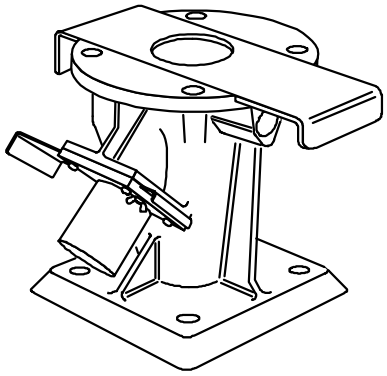
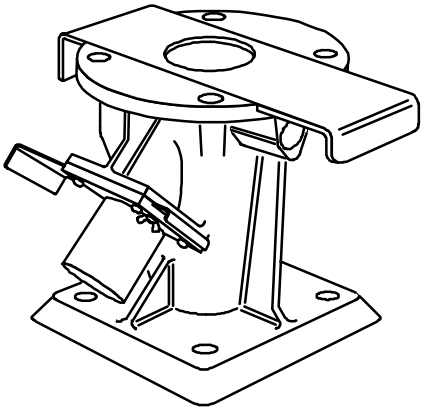
Step	Item	Task
4	Confirming dehumidifying unit condition	Remove adhesive tape covering regeneration exhaust port as shown in Figure.  Picture 21

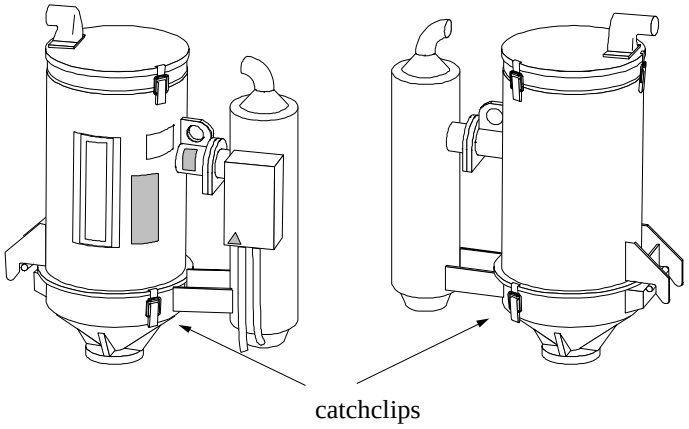
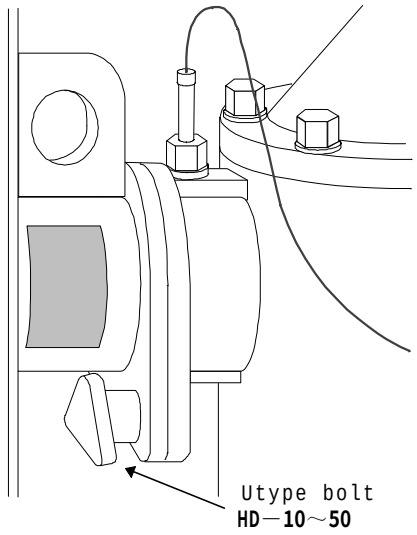
(2) Dehumidifying unit drying funnel separable type.

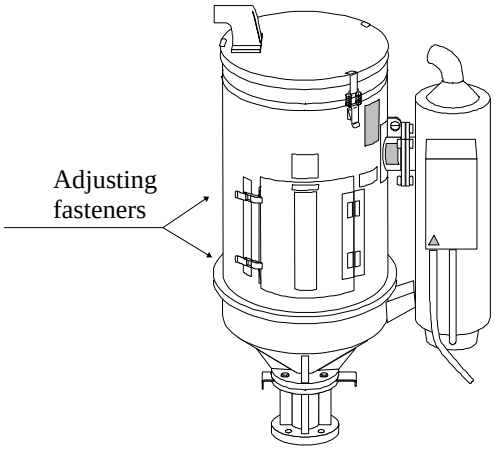
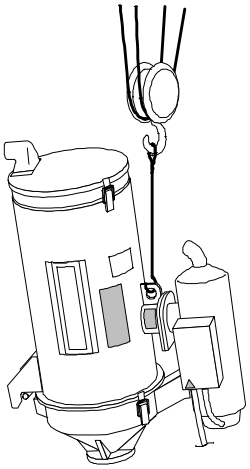
Step	Item	Task
1	Installation	Install on the levelly stable floor. As shown in figure22, make sure the installation location gives space to perform maintenance.  Picture 22
2	Confirming dehumidifying unit condition	Remove adhesive tape covering regeneration exhaust port as shown in Figure.  Picture 23 ※Because of the difference of machine types and the positions of the reclaim exhausts, please confirm type of the device main body.

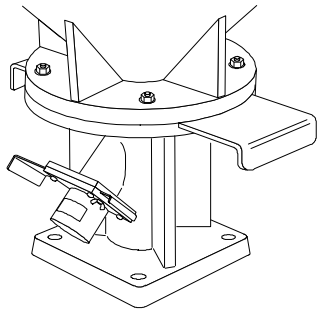
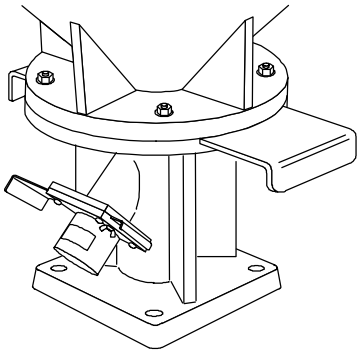
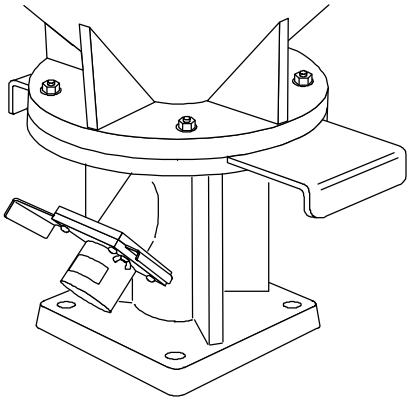
Step	Item	Task
2	Confirming dehumidifying unit condition	Please check the following units before lift and move the dehumidifying unit main body. Please make sure that eyebolts (4 pieces) on the device are fastened as picture 24 shows. Bolts with holes (4 pieces)  Picture 24 Make sure that the flat knob on the control board is installed. As picture 25 shows. Flat knob (with lock) 

Step	Item	Task
3	Moving the dehumidifying units	When lifting and moving dehumidifying dryer main body as shown in Figure, be sure that hook load lifting rope (with hooks) to fasten the eyebolts (4 pieces)of the dehumidifying unit main body and lift and move dehumidifying dryer with using hoist at your company.  Picture 26 【Notice!】Please use the lifting rope(with hook)that can support the weight of the device.

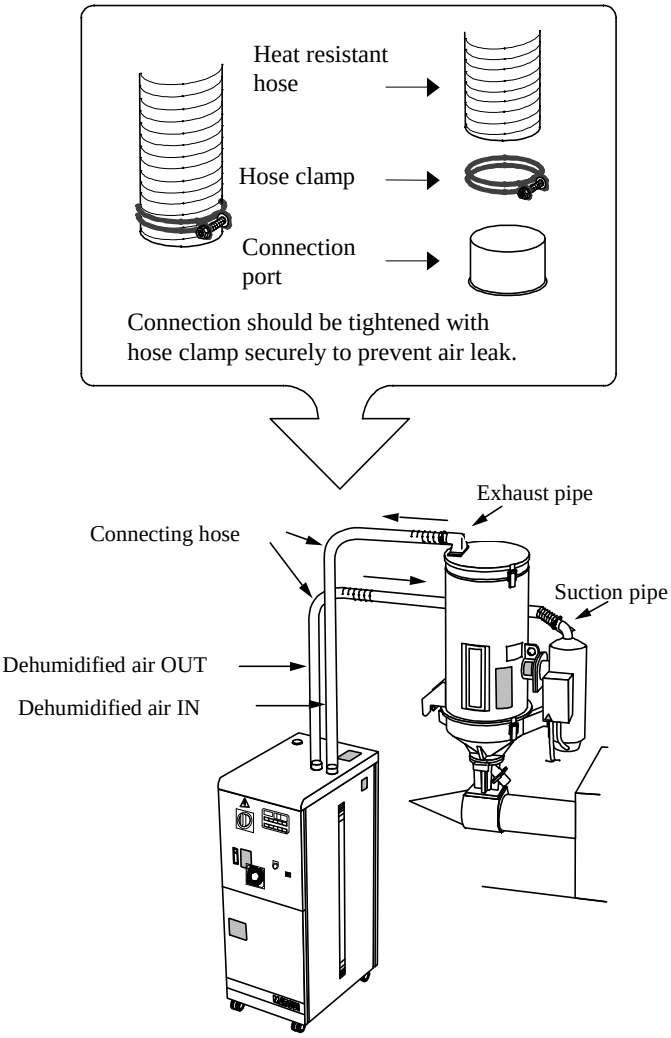
Step	Item	Task
4	Installing drying hopper base	Install the base to fitting position on molder as shown in Figure. Fix it securely with 4 bolts. HD-10,15 type base  HD-25～100 type base  HD-150～300 type base  picture 27 ※After installing it, remove adhesive tape fixing slide gate.

Step	Item	Task
5	Confirming drying hopper condition	Please check before lifting and moving dehumidifying dryer main body. • Please make sure that no drying material is in the drying hopper. • Be sure that catchclips (2 pieces) fastening drying hopper cylindrical section and base are securely set as shown in Figure28. (Only for HD-10～50 type)  Picture 28 • Be sure that U-bolt of connect with the drying hopper cylindrical section and hot air pipe are securely set as shown in Figure29. (Only for HD-10～50 type)  Picture 29

Step	Item	Task
5	Confirming drying hopper condition	Be sure that adjusting fasteners (2 pieces) or handle (1 piece) fastening cleaning door of drying hopper cylindrical section are securely set as shown in Figure. (Only for HD-75～300)  Picture 30
6	Moving the drying hopper	As picture 31 shows, be sure that hook load lifting rope (with hooks) to fasten the hook board and lift and move drying hopper to base with using hoist at your company.  Picture 31 【Notice！】Use the lifting rope (with hooks) which can endure the weight of the device. Because the position of using hooks is subject to the size of the drying hopper, please confirm the type of your device.

Step	Item	Task
7	Installing drying hopper	Install the main body to the base as shown in Figure. 【Caution！】 ・Before installing main body, be sure that slide gate of the base is securely set. ・Fix the body with 4 bolts securely. HD-10, 15 type base  HD-25～100 type base  HD－150～300 type base  Picture 32

Step	Item	Task
8	Connecting the hose for connecting dehumidifying unit and drying hopper	※In case of circulation specifications, connect dehumidifying unit and drying hopper with connecting hose (heat resisting hose) as shown in Figure.



Picture 33

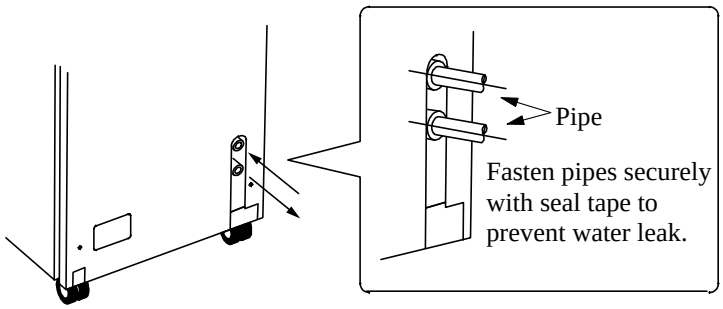
※Connecting method

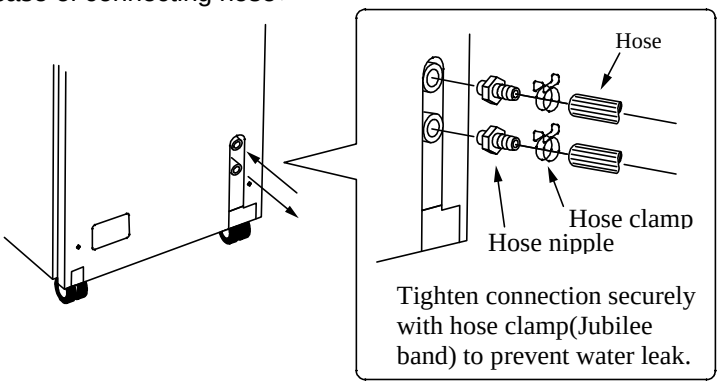
Dehumidified air OUT ⟷ Suction pipe at heater box to

Dehumidified air IN ⟷ Exhaust pipe at lid

【Caution！】Position of IN and OUT sides of dry air hose is different depending on machine types. Confirm the label on the body side to connect hose correctly.

(3) The common items of the integrated stand type and the separable type.

<table>
<tr><th>Step</th><th>Item</th><th>Task</th></tr>
<tr><td>9</td><td>Connecting water supply and drain hoses or pipes to dehumidifying unit</td><td>
Connect pipe or hose to water supply and drain ports of dehumidifying unit as shown in Figure.
＜In case of connecting pipe＞


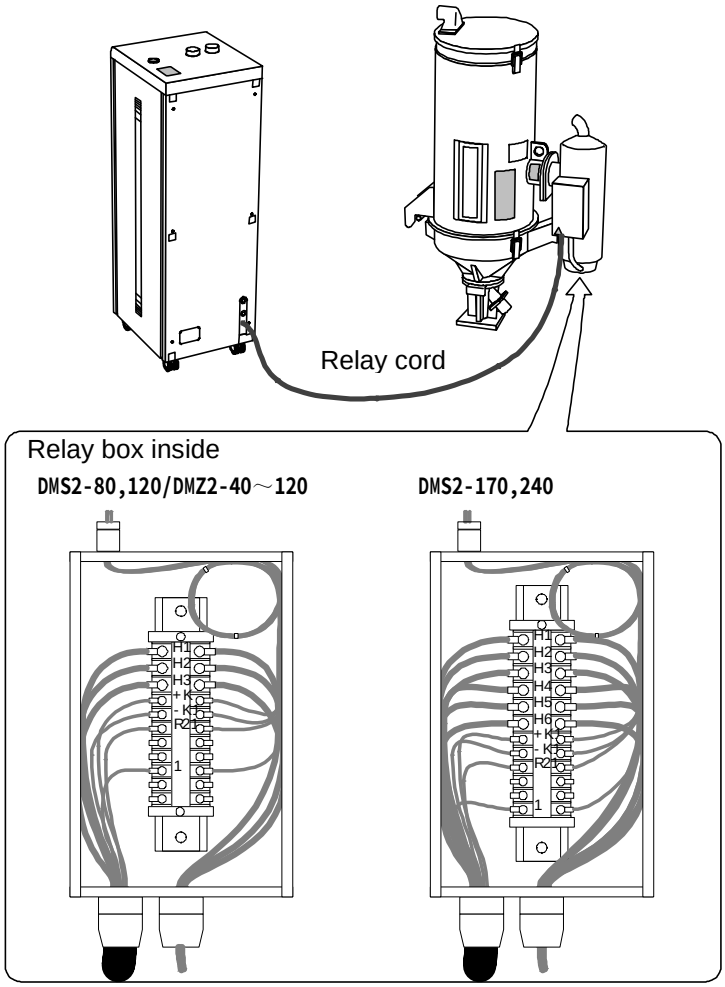
＜In case of connecting hose＞


Picture 34

※Hose, hose clamp and hose nipple are sold separately from main body.
Connecting diameter :
<table>
<tr><td rowspan="2">Type</td><td colspan="4">DMS2</td><td colspan="3">DMZ2</td></tr>
<tr><td>80</td><td>120</td><td>170</td><td>240</td><td>40</td><td>80</td><td>120</td></tr>
<tr><td>Diameter</td><td colspan="7">3/8B</td></tr>
</table>
</td></tr>
</table>

2. The connection of the power supply

Step	Item	Task
1	Connecting relay cord	Connect relay cord of dehumidifying unit to relay box of drying hopper side. (Only for dehumidifying unit ,drying hopper separable type)



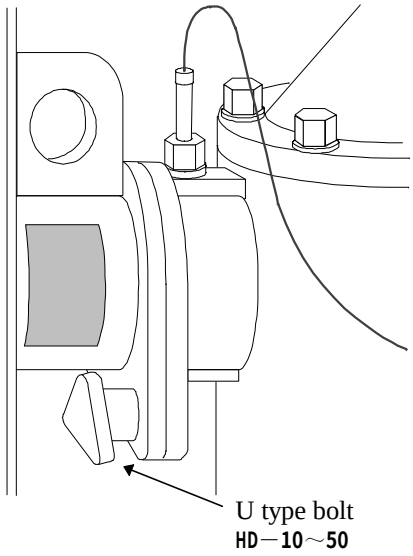
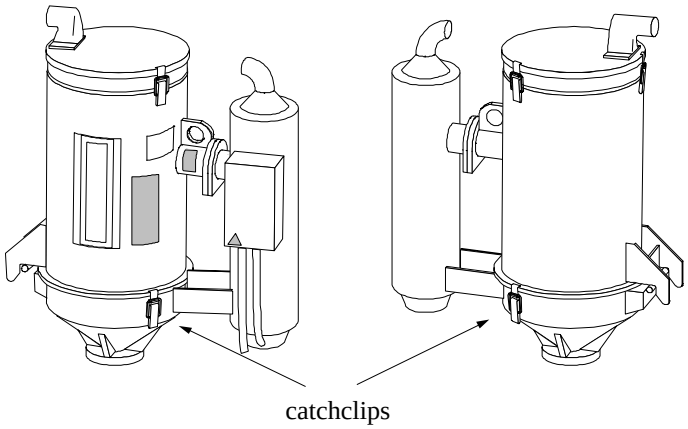
Picture 35

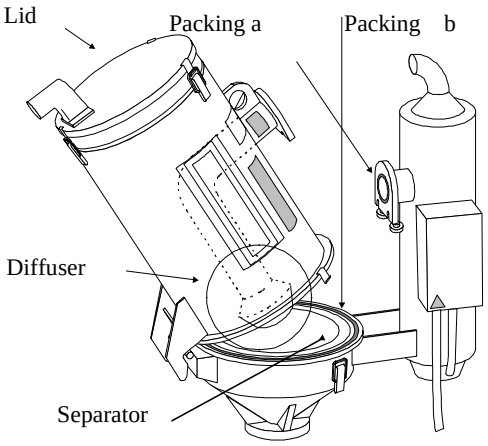
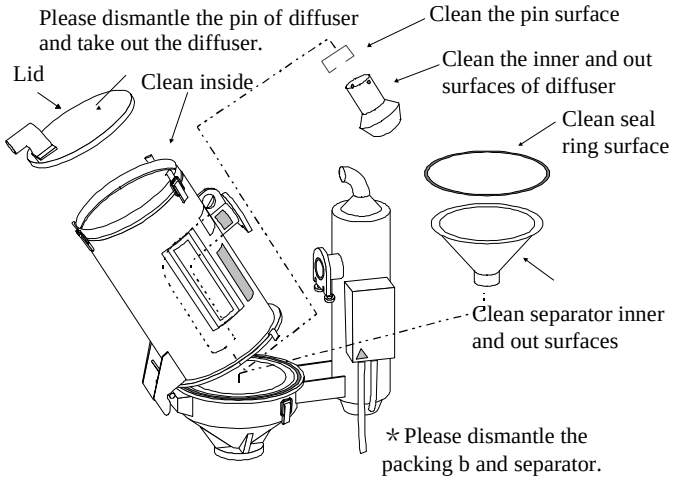
【Caution！】Be sure that it is fixed securely with machine screws and connected without looseness to each terminal inside relay box.

Step	Item	Task
2	Connecting power cord	Make sure that power breaker on control panel is turned “OFF” and then connect power cord (5m) to power supply of the equipment at your company. Power cord ··· R phase····· Red S phase····· White ···For primary power supply T phase····· Black E····· Green·····For grounding (earth) 【Caution!】 ·Power breaker on control panel must be turned “OFF” before connecting power cord. ·Fasten the connection securely and make sure that there is no looseness. ·Be sure to connect the grounding. ·Power supply should be set securely to tap with grounding terminal.

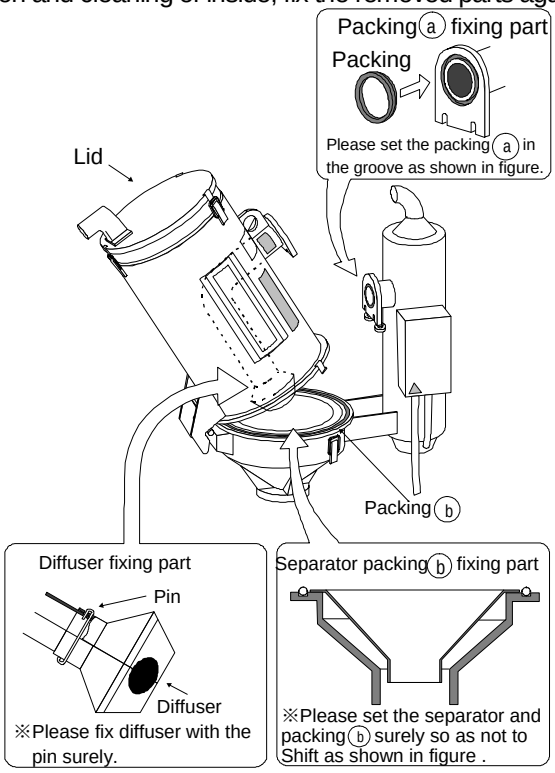
1. Inspection Inside Drying Hopper

(1)HD-10～50type

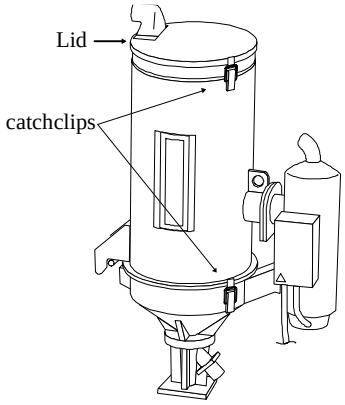
Step	Task
1	As picture 36 shows, be sure that dismantle the U-type bolt which connects the cylindrical section and hot air pipe.  Picture 36
2	As picture 37 shows, be sure that dismantle the catchclips (2 pieces) fastening drying hopper cylindrical section and base.  Picture 37

Step	Task
3.1	Hopper inside cleaning 【 Notice ！ 】Do not impose extra strength on the cylindrical section more than necessary. Open the cylindrical section and check whether there is foreign particle in.  Picture 38
3.2	For the convenience of cleaning, please take out the following extracted parts. Please clean the powder on the hopper inside surface and the parts with compressed air or gauze.  Picture 39

Step	Task
4	After inspection and cleaning of inside, fix the removed parts again
5	After assembly, close cylindrical section and according to procedure 1 or procedure 2 and set with catchclips and U-bolt surely.

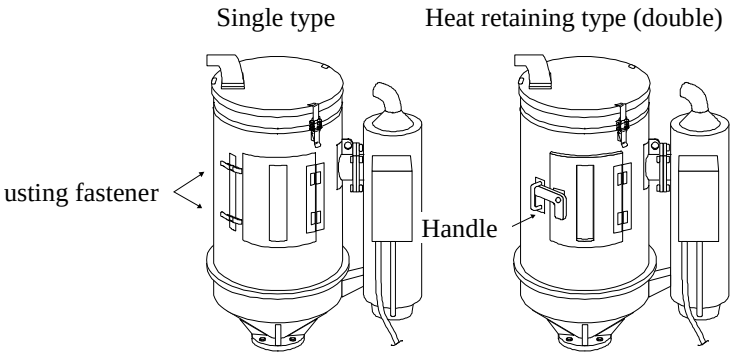
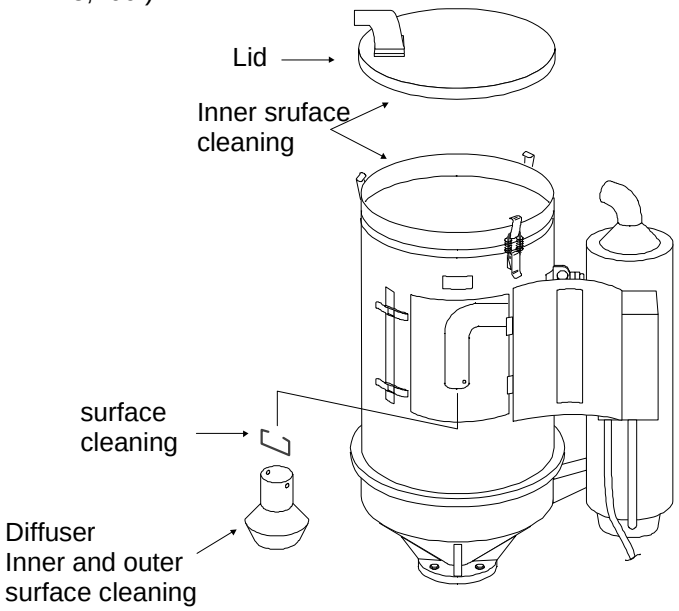


Please fix the lid surely with the catchclips (3 pieces)

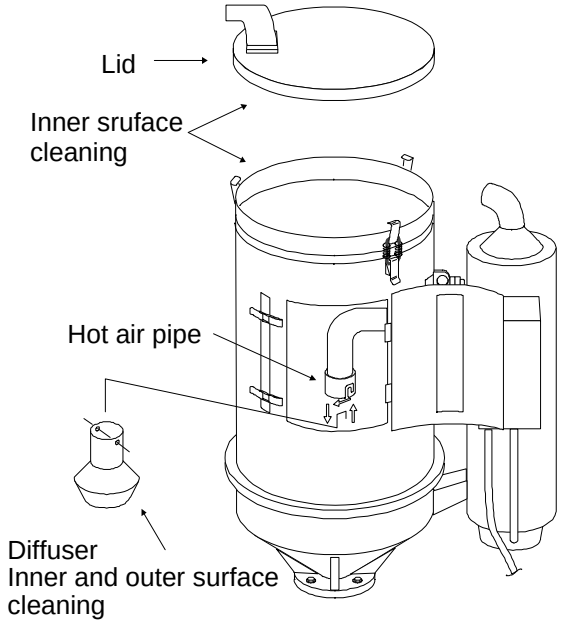


Picture 40

(2)HD-75～300 type

Step	Item
1	Remove adjusting fastener or handle shown in Figure and open cleaning door to confirm there is no foreign matter inside of it.  Picture 41
2-1	In order to keep clean, to take out parts and then clean the hopper inside and the extracted parts with compressed air or gauze. (In case of HD-75,100)  ※Remove the pin and take out the diffuser. Picture 42

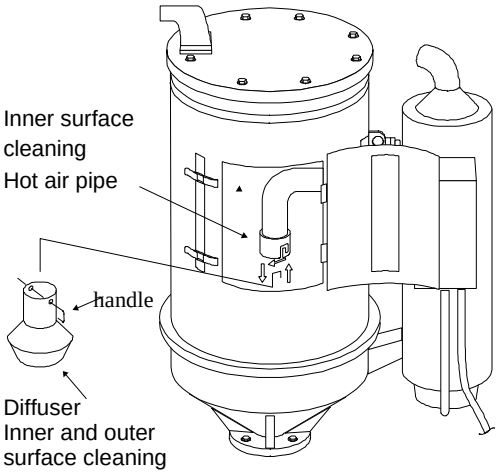
Step	Item
2-2	（In case of HD-150，200）



※Remove diffuser by moving it up and down or rotating it along groove of hot air pipe.

Picture 43

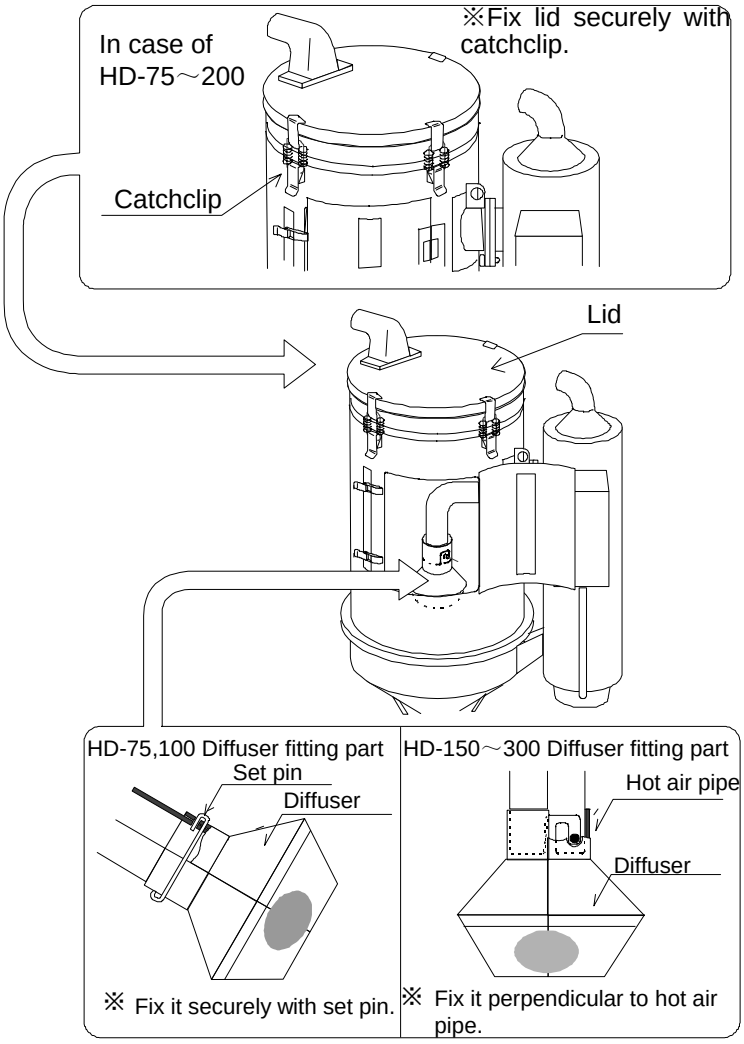
（In case of HD-250，300）



Take the handle of diffuser and remove diffuser by moving it up and down or rotaining it along the groove of hot air pipe.

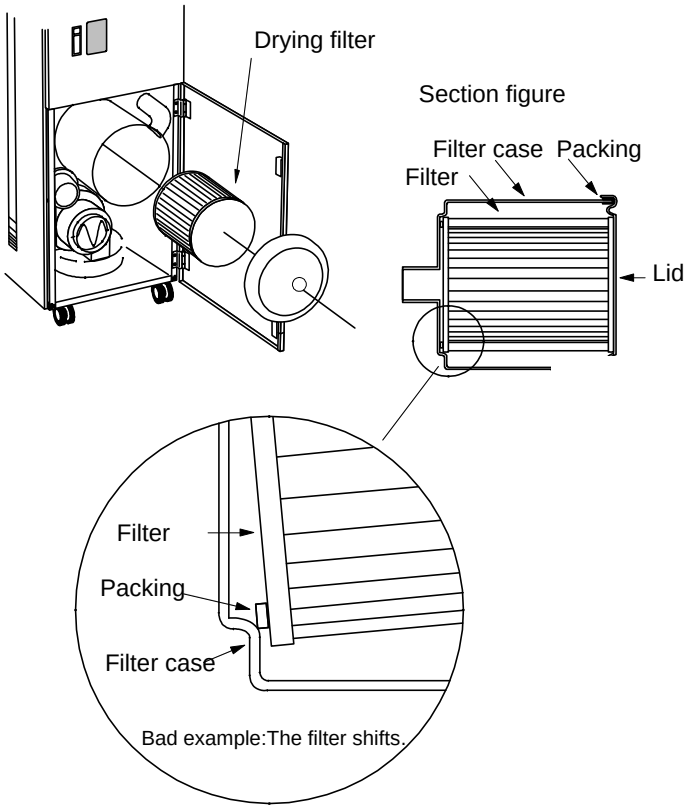
Picture 44

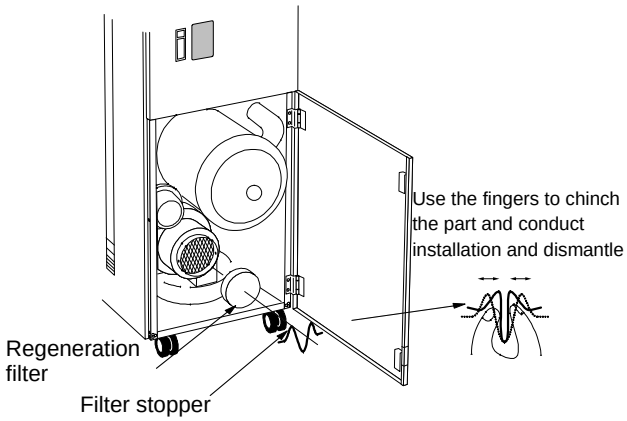
Step	Item
3	After inspection and cleaning of inside, fix the removed parts again and close cleaning door and set adjusting fastener or handle securely.

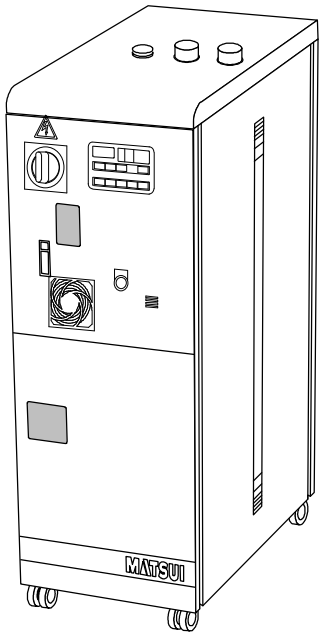
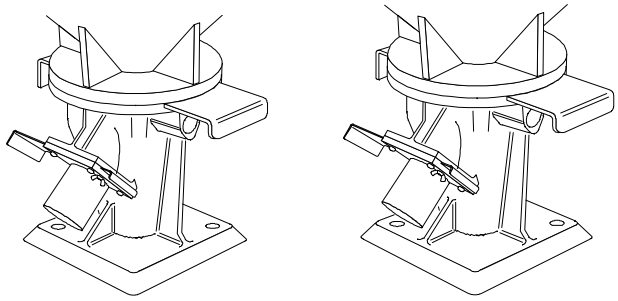


Picture 45

2. Condition Check of Each Unit and Loading of Resin

Apparatus	Machine confirmation and content
Drying filter	Please set the filter surely with catchclip.especially,make sure "A "part not to shift . Tighten up a lid fast for there not to be air leak.  Picture 46

Apparatus	Machine confirmation and content
Regeneration filter	Confirm that the filter is set surely as the figure.  Picture 47
Hose	Confirm whether or not each hose is connected as in the installation point. Specifically, confirm whether the hose clamp is tightening up surely as there are not in the air/water leakage.

Apparatus	Machine confirmation and content
Regenerative temperature setter	Regenerative temperature setter be set up at the time of shipment already.  Picture 49
Slide gate Material outlet	Be sure that slide gate and material outlet at the lower part of drying hopper are closed securely as shown in Figure 50 and then load material into drying hopper.  Picture 50

Chapter 5 Operation Procedures

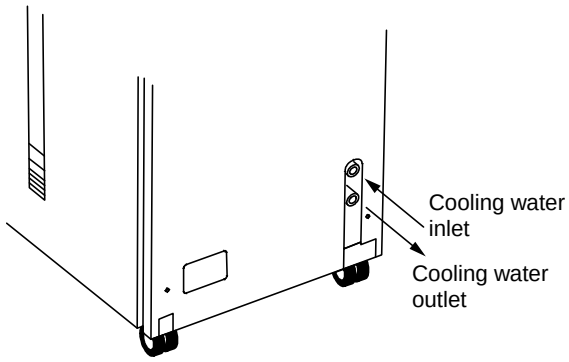
Step	Operation	Details
1	Power ON	Set the power breaker in front to “ON”.
2	Preparations for operation	Press the CONTROL ON switch in the front. The display of the controller lights up.
3	Drying start-up	When pressing Dryer switch, the『Dryer』 indicator lights up and the dry operation starts. When the start timer(dLY) is set, after the setting time, the dry operation is started. When wanting to do a dry start-up before the setting time, press Reset switch and Enter switch at the same time.
4	Drying stop	1) Press Dryer switch. The heater becomes OFF. Then, becomes the cooling operation that only the blower operating. The『Dryer』indicator changes from turn ON to blink. 2) After the cooling timer time up (10 minute), the『Dryer』indicator turns OFF and the unit stops. Except the emergency, until the『Dryer』 indicator turns OFF, don't cut off the power.
5	Power off	After ending the stop operation of procedure 7, set the front power breaker to “OFF”. ⚠ CAUTION In the stop operation of procedure 7, during blower operation, don't make a power breaker “OFF”. When setting a power breaker “OFF” during blower operation, the blower stops to direct and the unit is filled with heat in the heater part. Then, the trouble of unit and the material sometimes becomes firming cause.
6	Recovery in the power failure	During unit operation, in case of the power failure, the operation stops. In case of more than 40 msec. power failures, the unit stops. After the recovery in the power failure, confirm that problem doesn't occur with restart and restart the unit according to need.

Chapter 6 Maintenance

⚠ High Temperature Caution

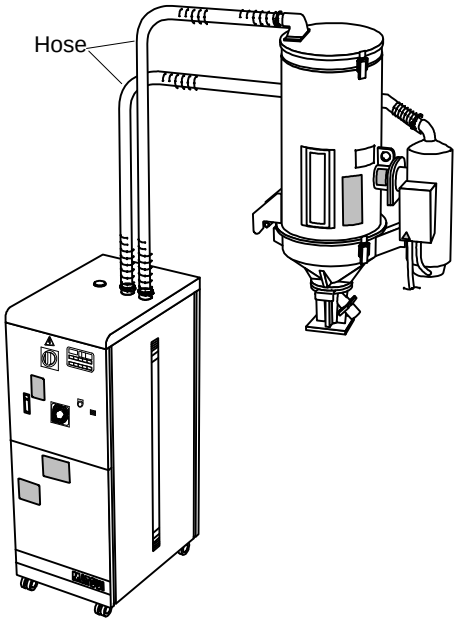
After the unit operation stops, for a while, the hot condition continues.
Wait for maintenance and inspection until the unit gets cold (5 h are a standard in the nature cooling). And, even if the outside of the unit is cold,
be careful sufficiently because the inside and the dry material sometimes are in hot condition.

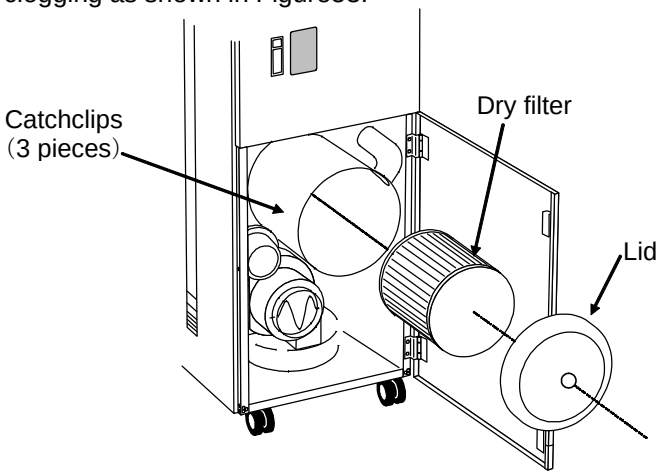
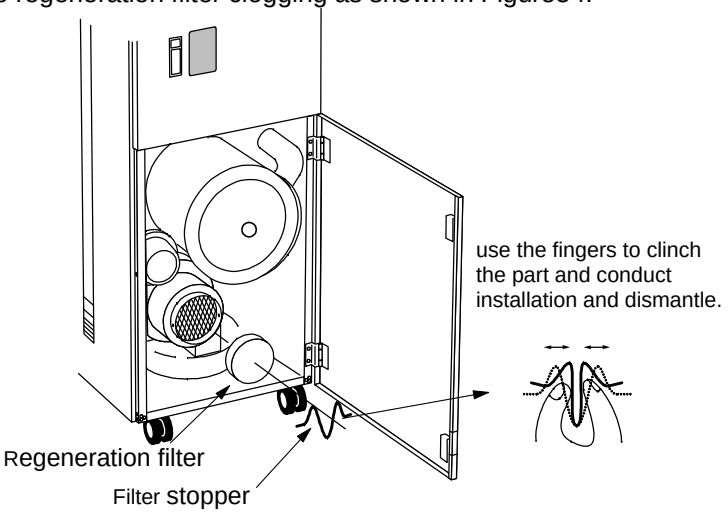
1. Daily maintenance

Maintenance item	Description
Confirmation of cooling water	Check cooling water inlet and outlet shown in Figure to see if cooling water is flowing. It is recommended to install flow meter for inspection of cooling water flow rate. 【Caution!】 If cooling water is not flowing, drying dew point temperature does not go down and causes inadequate drying. And it may not be set at low temperature.  Picture 51

Maintenance item	Description
Confirmation of temperature	Confirm whether the dry temperature and regeneration temperature are controlled at the setting temperature of controller. <Confirming method> 【In case of dry temperature】 1. After pushing the SV switch of the controller once, do the『SV』 indicator light up and confirm a setting value with dry temperature. ↓ 2. Pressing SV switch, do display the dry temperature and compare it with the setting value. ↓ 3. If the setting value is a degree as±2～3℃, the dry temperature is normal. 【In case of regeneration temperature】 1. Perform display the dry temperature on the controller indicator. ↓ 2. Press RESET and SV switches at the same time. During a switch is pushed, the actual temperature of regeneration side is displayed on the indicator. ↓ 3. If the regeneration temperature is a degree as 180～220℃, it is normal. At the temperature around, it changes in the temperature but it is not in the malfunction condition.

2. Weekly maintenance

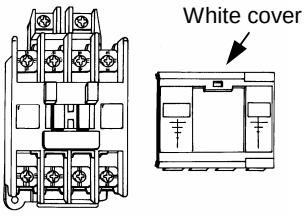
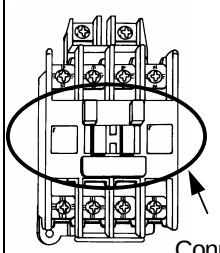
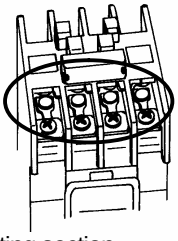
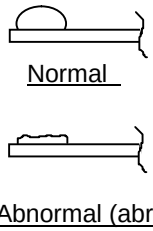
Maintenance item	Description
Removing and air leak of hose	Hose connecting dehumidifying unit and drying hopper (heat resistant hose) Check hoses between dehumidifying unit and drying hopper are not disconnected and check there is no air leak as shown in Figure.  picture 52 ※At time of the air leak, exchange to the new hose. [Example of the checking method for the air leak] In the checking method, hang a string or a thread near the hose. In the shaking condition of a string or a thread, the air leak can be confirmed.
Filter cleaning	⚠ CAUTION 1. Use a mask because the clinging particles of the filter spray the spraying clean of dry air in the air. 2. When a filter is clogged, it does the looseness of operation temperature and airflow rate. Then, be careful because it causes the fire. ※When a filter is clogged, remove a filter and blow clean dry air and remove clinging particles. ※With the around environment of the unit body, the dirty condition of filter changes. Perform the checking and cleaning. ※After check, set the filter in original condition and fasten surely. ※When the filter clogging is terrible, exchange for the new filter.

Maintenance item	Description
Filter cleaning	（Dry filter） Removing a filter case of dehumidifying unit , check and clean up the filter clogging as shown in Figure53.  picture 53 (Regeneration filter) In case of DMS2-120,170,240 Removing a filter stopper in the dehumidifying unit, check and clean up the regeneration filter clogging as shown in Figure54.  Picture 54
Cleaning of cooling water line	Clean the strainer of cooling water line of the equipment at your company. If cooling water does not run because of dust etc., drying dew point will not go down and this may cause inadequate drying. ⚠ CAUTION Strainer is not fitted to this equipment.

3.Monthly maintenance

Maintenance item	Description
Rising fastens for the terminal	Confirm the loosening of the wiring connection part of the electronics equipment inside the control panel and in the unit. And, perform the rising fastens in the connection part. ⚠ CAUTION The check is after stop the unit, always, perform after turned "OFF" the power breaker in the front.

4.Every three months maintenance

Maintenance item	Description
Checking for electromagnetic contractor(heater relay) ※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  **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 in . Figure 4.3 Skew view of terminal connecting section  Figure 4.4 Conditions of connecting  The upper figures are side views of the connecting points.

5. Every six months maintenance

Maintenance item	Description
Bolt and Nut in each unit part	Check about whether there is not loosening of bolt and Nut at each part of the unit. Then, perform rising fastens.
Rotor belt, Tension of Spring plate	Check for any cracks, broken portion and tightness on the belt and confirm the belt in case of any unusual function. Contact us for belt replacement.

6. Every six months maintenance (Pleas contact my company)

（Maintenance item）

1. Examination of the reverse check function.
2. Examination of the blower thermal relay function.
3. Examination of the cracking status of electromagnetic switch (transducer for blower motor), electromagnetic contactor (transducer for heater)
4. Examination of the thermocouple disconnection checks function.
5. Examination of the upper limit, lower limit and check function for the drying temperature.

And other corresponding inspection

Chapter 7 Alarms Function

⚠ CAUTION

Before doing the check of the malfunction cause and recovery, always perform the power breaker of control panel “OFF”.
The work with power “ON”, causes the trouble and the accident.
Don't do absolutely.

When the malfunction occurs during operation of the equipment, the protection unit operates, the alarm character is displayed in the control panel and the alarm buzzer sounds and informs the malfunction.

When pushing Reset key, the buzzer stops.

Alarm indicator	Character indicator	Malfunction contents/Interlock	Measure
Reverse phase	E1	Occurs when the connection of the power code becomes the reverse phase.	Refer to CHAPTER 3. 2. Power supply connection and perform the positive phase.
Dry blower Over load	E2	Occurs when the over-current flows through the blower and the thermal relay of the electromagnetic switch unit does the trip. The operation stops automatically.	Refer to CHAPTER 8. Troubleshooting and restore extraordinary occurrence cause. ↓ Open a control panel and press the reset button of the thermal relay. ↓ When pushing a Reset switch after cancellation of the malfunction cause, the character indicator turns off.
Convey blower Over load	E3※		
Dry temperature or regeneration temperature upper limit	E4	Occurs when the dry temperature or regeneration temperature become above the setting temperature + upper limit setting temperature. The operation stops automatically.	Refer to CHAPTER 8. Troubleshooting and restore extraordinary occurrence cause. ↓ When pushing a Reset switch after cancellation of the malfunction cause, the character indicator turns off.
Dry sensor broken	E5	When wiring for the thermocouple (CA sensor) and the thermocouple for the dryness are broken. The operation stops automatically.	Refer to CHAPTER 8. Troubleshooting and restore extraordinary occurrence cause. ↓ When pushing a Reset switch after cancellation of the malfunction cause, the character indicator turns off.

Alarm indicator	Character indicator	Malfunction contents/Interlock	Measure
Regeneration sensor broken	E6	When wiring for the thermocouple (CA sensor) and the thermocouple for the dryness are broken. The operation stops automatically.	Refer to CHAPTER 8. Troubleshooting and restore extraordinary occurrence cause. ↓ When pushing a Reset switch after cancellation of the malfunction cause, the character indicator turns off.
No.1 Convey Malfunction	E7※		
No.2 Convey Malfunction	E8※		
No.3 Convey Malfunction	E9※		
Over-temperature alarm (external signal)	E10	When the temperature within the heating case is higher than the set value of the thermostat, the faceplate will show such kind of alarm.	Refer to Chapter 8, the reasons and handle when abnormity. If need to release from the alarm in force, please press the Reset key, and the alarm display on the faceplate will disappear automatically.

※The device will not display the symbol with.

Chapter 8 Troubleshooting

【Notice!】Before check

Set the switch『Run-Stop』to『Stop』, Check after making a breaker "OFF", the confirmation in the full stop of the equipment and heating part temperature's falling to the temperature that doesn't get a burn.

Specified about the malfunction of the following of this chapter.

Of the checkpoint and disposing method specified from the next page.
Examine before the repair request.
Yet, as for the removing method of a filter, refer to CHAPTER 6. Maintenance.

If this method is still not effective, Pleas contact my company for repairing.

The dry blower does not rotate.		
Check point	Action	Remarks
Confirm whether or not the indicator of the controller lights up.	Set the primary power and the front power breaker in “ON”,and presses the CONTROL ON switch.	When the following disposal doesn't correct dispose by page 59; [The indicator with the PV value of the controller doesn't display the condition of “ON” in primary power].
Confirm whether or not the 『Dryer』 indicator of the controller lights up.	When not lighting up, press Dryer switch. When the indicator doesn't light up even if it pushes the switch, exchange a controller.	When the start timer is set, after the setting time, the dry operation is started.
Open the door of control panel and are there not dissolving and consumption of the magnet point of the electromagnetic switch unit, and At the time of power “ON”, check the opening and shutting motion for the magnet.	When the dissolving, the consumption condition, and the normal operation are impossible, exchange the electromagnetic switch unit.	Tolerance: 2.000.000 times
Confirm whether or not the malfunction character of 『E2』 isn't displayed at the controller indicator.	In the cause of the over load of blower, after repair, open the control panel door and press the reset button of thermal relay.	As for the overloaded cause of the blower, refer to page 54; [The blower does overloaded operation and the thermal relay trips].
Confirm whether or not the reverse phase of 『E1』 isn't displayed at the controller indicator.	Change the R phase (red)and T phase (black) terminals of the power cord.	Work after turning off the primary power. Also,securely tighten the connection to each terminal with screws.

The blower does overloaded operation and the thermal relay trips.		
Check point	Remedy	Note
Take out the cartridge filter out of the line filter case, and check it for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter. For purchase and type of the cartridge filter, contact your nearest MATSUI BRANCH or distributor.
Take out the regeneration filter, and check it for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter. For purchase and type of the cartridge filter, contact your nearest MATSUI BRANCH or distributor.
Open the control panel door, and check the electromagnetic switches' (MS-1～2) magnet contacts for adhesion and check to see if the magnets perform opening and closing operations when the power is on.	If any electromagnetic switch does not perform normal operations, replace it.	Durability: 2,000,000 times of opening and closing For replacement and type, contact your nearest MATSUI BRANCH or distributor Since people not having sufficient knowledge of electricity will cause failures or danger, request inspection and replacement from your nearest MATSUI BRANCH or distributor.
Open the control panel door, and check to see if the thermal relays are set at the rated values.	Set the thermal relays to the rated values. which you can refer to （The thermal setting value of every model）on page 60.	Work after turning off the primary power.

The air quantity from the blower is small.		
Check point	Action	Remarks
Take the cartridge filter out of the line filter case, and check it for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter. For purchase and type of the cartridge filter, contact your nearest MATSUI BRANCH or distributor.
Dismount the regeneration filter, and check the filter for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter. For purchase and type of the cartridge filter, contact your nearest MATSUI BRANCH or distributor.
Check the connection hoses in the dehumidifying unit and the hose connecting the dehumidifying unit, the drying hopper for breakage and check the connections for looseness.	If any hose is broken, replace it with a new hose. If any hose connection is loose, securely tighten the hose band.	If any air leak is found, stop the system and work after waiting until the heating parts cool down sufficiently.

The change of the dry temperature is large.		
Check point	Action	Remarks
Take the cartridge filter out of the line filter case, and check it for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter.
Dismount the regeneration filter, and check the filter for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter.

The drying hot air temperature upper limit, alarm occurs.		
Check point	Action	Remarks
Open the control panel door, and check the electromagnetic contactors' (MC-0) magnet contacts for adhesion and check to see if the magnets perform opening and closing operations when the power is on.	If any electromagnetic contactor does not perform normal operations, replace it.	Durability: 2,000,000 times of opening and closing For replacement, contact your nearest MATSUI BRANCH or distributor. People not having sufficient knowledge of electricity will cause failures or danger.
Open the control panel door, and check the electromagnetic switch (MS-1) magnet contacts for adhesion and check to see if the magnets perform opening and closing operations when the power is on.	If any electromagnetic switch does not perform normal operations, replace it.	Durability: 2,000,000 times of opening and closing For replacement, contact your nearest MATSUI BRANCH or distributor. People not having sufficient knowledge of electricity will cause failures or danger.
Take the cartridge filter out of the drying line filter case, and check it for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter. For purchase of the cartridge filter, contact your nearest MATSUI BRANCH or distributor.
Dismount the regeneration filter, and check the filter for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter. For purchase of the cartridge filter, contact your nearest MATSUI BRANCH or distributor.
Observe the PV value during running to check whether the temperature control stable	Here the temperature control is unstable please run AT.	Please refer to Chapter9 〖Technology manual〗on page 61 for AT operation method.

Note）Upper limit alarm and lower limit alarm are not set on the general-use-type control display.

The drying temperature does not rise or drop.		
Check point	Action	Remarks
Open the control panel door, and check the electromagnetic contactors' (MC-1~MC-4) magnet contacts for adhesion and check to see if the magnets perform opening and closing operations when the power is on.	If any electromagnetic contactor does not perform normal operations, replace it.	Durability: 2,000,000 times of opening and closing For replacement, contact your nearest MATSUI BRANCH or distributor. People not having sufficient knowledge of electricity will cause failures or danger.
Check the 〖Sensor broken〗 display on temperature regulating board is lighted on and off.	If the display is lighted on and off, confirming of the code terminal connection of thermocouple or replaces to a new sensor.	For the cord terminal connection of the temperature measuring element or replacement procedures, contact your nearest MATSUI BRANCH or distributor.
Check the connection hoses in the dehumidifying unit and the hose connecting the dehumidifying unit, the drying hopper for breakage and check the connections for looseness.	If any hose is broken, replace it with a new hose. If any hose connection is loose, securely tighten the hose band.	If any air leak is found, stop the system and work after waiting until the heating parts cool down sufficiently.
Check the cooling water flow and water volume lack.	When cooling water isn't flowing, confirm the open condition of each valve.	The air temperature that is discharged from the dehumidifying unit on operating unit becomes hot and the dry temperature sometimes can not be set to 80～90℃. In this case, always pass cooling water.

The moisture content of resin does not decrease.		
Check point	Action	Remarks
Check the cooling water flow and water volume lack.	When cooling water isn't flowing, confirm the open condition of each valve.	
Take the cartridge filter out of the line filter case, and check it for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter.
Dismount the regeneration filter, and check the filter for clogging.	If it is dirty or clogged, blow clean dry air on the inside of the cartridge filter to remove adherents.	If deterioration of the cartridge filter is too great to remove adherents, replace it with a new cartridge filter.
Check the connection hoses in the dehumidifying unit and the hose connecting the dehumidifying unit, the drying hopper for breakage and check the connections for looseness.	If any hose is broken, replace it with a new hose. If any hose connection is loose, securely tighten the hose band.	If any air leak is found, stop the system and work after waiting until the heating parts cool down sufficiently.

The indicator with the PV value of the controller doesn't display the condition of “ON” in primary power and pushes the CONTROL ON switch.		
Check point	Action	Remarks
Check whether or not the front power breaker of the control panel becomes “ON”.	When not becoming “ON”, perform the power breaker "ON" and press CONTROL ON switch once again.	
Check whether or not the circuit protector (CP-1)of the control panel does not become “OFF”.	After check of electric wiring and the part in the control panel, set to “ON”.	After setting the primary power and the front power breaker to “OFF”, check.

The power breaker trips.		
Check point	Action	Remarks
Check whether or not the circuit does not the short circuit.	Remove the short circuit.	

The overheat alarm occurs.		
Check point	Action	Remarks
Check whether or not the setting value of dry overheat setting unit. ・Setting value The dry overheat setting value: Dry temperature +20	When mistaking by the setting value, set the right value.	Check after setting a power breaker in “OFF” for the shocked prevention.
Remove the cartridge filter in the dry line filter case and check the filter stuff.	When there are dirt and stuff, blow the clean dry air into the cartridge filter and remove the clinging particles.	When the degradation of cartridge filter progresses and it isn't possible to remove clinging particles, exchange at the new cartridge filter.
Remove the regeneration filter and check the filter stuff.	When there are dirt and stuff, blow the clean dry air into the cartridge filter and remove the clinging particles.	When the degradation of filter progresses and it isn't possible to remove clinging particles, exchange at the new filter.

The thermal setting value of every model (A)

Power	Type	OCR-1	
		Setting current(A)	
		50Hz	60Hz
AC200V～ AC220V	DMS2-80	4.3～4.8	5～4.54
	DMS2-120	4.3～4.8	5～4.54
	DMS2-170	7.44～8.76	8.2～7.3
	DMS2-240	10.8～10.9	11.7～10.3
	DMZ2-40	1.72～2.41	1.93～1.93
	DMZ2-80	4.3～4.8	5～4.54
	DMZ2-120	7.44～8.76	8.2～7.3
AC380～ AC440V	DMS2-80	2.53～3.25	2.63～2.53
	DMS2-120	2.53～3.25	2.63～2.53
	DMS2-170	4.36～6	4.38～4.27
	DMS2-240	5.8～6.7	6.4～6
	DMZ2-40	1.1～1.56	1.18～1.08
	DMZ2-80	2.53～3.25	2.63～2.53
	DMZ2-120	4.36～6	4.38～4.27

Chapter 9 Technical manual

1. The shipment setting value for the controller

Note ※1 Must be set when assemble the transportation equipment. It may be ignored in standard condition.

The parameter for the user setting mode

Of pushing SV switch every, the parameter indicator switches over. But when pushing SV switch more than 5 seconds, changes to the engineering setting mode. Be careful.

Use	Character	Setting range	initial setting value
Dry temperature	SV	0～350℃	80℃
Start-up timer	DLY	0.0～99.5 hour	0.0 hour
NO.1 Convey time※1	Fd1	0～999 sec.	20 sec.
NO.2 Convey time※1	Fd2	0～999 sec.	15 sec.
NO.3 Convey time※1	Fd3	0～999 sec.	15 sec.
NO.1 Discharge time※1	dc1	0～999 sec.	25 sec.
NO.2 Discharge time※1	dc2	0～999 sec.	25 sec.
NO.3 Discharge time※1	dc3	0～999 sec.	25 sec.
NO.2 Raw material beginning time※1	bt2	0～99 sec.	8 sec.
NO.3 Raw material beginning time※1	bt3	0～99 sec.	8 sec.

The parameter for the engineering setting mode

When pushing SV switch more than 5 seconds, changes to the engineering setting mode. Of pushing SV switch every by the engineering setting mode, the character switches over.

Use	Character	Setting range	initial setting value
Upper limit temperature alarm detection delay time	ULt	0～999 sec.	5 sec.
Feed 1 Convey malfunction detection count ※1	LCt	0～999 count	50 count
Dry unit level gage malfunction count ※1	FCt	0～999 count	20 count
Feed 1 Convey malfunction detection delay time※1	1Ed	0～999 min.	120 min.
Feed 2 Convey malfunction detection delay time※1	2Ed	0～999 sec.	180 sec.
Feed 3 Convey malfunction detection delay time※1	3Ed	0～999 sec.	180 sec.
Upper limit temperature alarm (dry temperature deviation)	dUS	0～40℃	10℃
Upper limit temperature alarm (regeneration temperature deviation)	rUS	0～40℃	10℃
Dry system broken detection time (dry)	dLP	0～999 min.	0 min.
Regeneration system broken detection time (regeneration)	rLP	0～999 min.	0 min.
Feed1 Level switch demand delay ※1	L1d	0～999 sec.	3 sec.
Feed2 Level switch demand delay ※1	L2d	0～999 sec.	3 sec.
Feed3 Level switch demand delay ※1	L3d	0～999 sec.	3 sec.
Reverse phase Detection function	rst	0～1	1

2. The start-up method for the auto tuning

① During the dry unit operating, starts the auto tuning when push continuing △ and ▽ key at the same time for 2 seconds during display of the dry temperature measurement value. (During auto tuning, displays alternately at the period in 1 second in the measurement temperature and「At」)

② When the auto tuning ends, returns to usual PV display and starts PID control by the adjustment result.

③ The operation when doing auto tuning in the forced outage is operation that is same as (Not changed into the setting value that is P.I.D. in this case because it is the setting that is same as before auto tuning.)

※This controller doesn't display an auto tuning error. Therefore, don't to do the display and the alarm motion by a buzzer when the auto tuning error (Sensor disconnection or auto tuning time passes over 3 hours) occurs. Also, when the auto tuning error occurs once. The auto tuning can not be resumed in the power unless doing turn on again.

Chapter 10 Consumable Parts List

【Machine parts】

Title and Type		Type	
		DMZ2-40/ DMS2-80,120	DMZ2-80,120/ DMS2-170,240
Regenerative filter	PS/150 ϕ150×t10	1	1
Drying filter	DMSϕ200×250 Two sides	1	—
	DMSϕ200×350 Two sides	—	1
Rotating machine	345L100	1	—
Drive tape	367L100	—	1

【Electric parts】

Power	Type	Electromagnetism contactor			Solid state relay		
		MS-1	MS-2	MC-0	SSR-1	SSR-2	SSR-3
AC380V 50Hz	DMZ2-40	SC-03	—	SC-4-1	TSR-25DA-H	—	TSR-25DA-H
	DMS2-80/ DMZ2-80						
	DMS2-120/ DMZ2-120						
	DMS2-170	SC-0	—	SC-4-1	TSR-25DA-H	TSR-25DA-H (Only 170-H have)	TSR-25DA-H
	DMS2-240					TSR-25DA-H	
AC200V 50Hz	DMZ2-40	SC-03	—	SC-4-1	TSR-25DA-H	—	TSR-25DA-H
	DMS2-80/ DMZ2-80						
	DMS2-120/ DMZ2-120						
	DMS2-170	SC-03	—	SC-N1	TSR-25DA-H	TSR-25DA-H (Only 170-H have)	TSR-25DA-H
	DMS2-240	SC-4-1	—	SC-N2	TSR-25DA-H	TSR-25DA-H	TSR-25DA-H

Chapter 11 Specifications

1.Dehumidifying rotor specifications

Type DMS2-		80	120	170	240
Drying air average dew point	℃	-20(According the change of using condition)			
	External condition	Temperature30℃, relative humidity75%(DP+25℃), infusing external air10%			
Drying wind quantity	m^3/h	80	120	170	240
Drying temperature	℃	80～130(180)			
Drying blower	Parameter	RB40-520		RB50-520	RB60-520
	Designed wind quantity (m^3/min)	1.5		3.0	4.3
	Output of electric motor (Kw) (50/60Hz)	0.9/1.15		1.5/1.75	2.2/2.25
Regenerative blower	Parameter	170FLJ2-6AS		170FLJ2-6CS	
	Designed wind quantity(m^3/min)	0.3	0.4	0.5	0.7
	Output of electric motor (Kw) (50/60Hz)	65/60		85/110	
Regenerative heater	Content Kw (415V/380V/220V/200V)	2.16/1.83/1.83/1.5		3.39/2.91 /2.91/2.4	4.41/3.69 /3.69/3.1
Absorb tower	Appellation	Comb rotor			
	Parameter	MZC-200H20	MZC-200H30	MZC-250H20	MZC-250H30
	External diameter mm	φ200		φ250	
	Height mm	200	300	200	300
Absorb tower motor	Output of electric motor (W)	15			
	Decelerate ratio	1/1800			
Drying filter	Parameter	φ200×250		φ200×350	
	Filtering area ㎡	0.6		0.84	
Regenerative filter	Parameter	Filedon			
	Filtering area ㎡	0.015			
Diameter of Glue pipe	Drying mm	φ50		φ65	φ90
	Cooling mm	φ20			
	Regeneration mm	φ38			
Circulating Cooler	Heat transfer area ㎡	0.3		0.4	
	Cooling water temperature ℃	5～32			
	Cooling water quantity L/min	6	10	15	20
	Connecting diameter	3/8 B			

Type DMS2-			80	120	170	240
Control	Drying temperature adjustment		PID control			
	Regeneration temperature adjustment		PID control			
	Out automatic start timer		Set up times (10minute～99hour50minute)			
	Alarm protection loop		Over-temperature (drying regeneration)			
			Motor over-load (Drying)(Drying regeneration)			
			Running prevention			
			Cooling delay when stopping			
	Power supply		AC200V 50/60Hz, 220V 60Hz, 380V 50/60Hz, 415V 50/60Hz 3P			
	Operation return loop voltage 50Hz/60Hz		AC200/220V, 1 P			
	Capacity of power breaker (A)	200V～240V	20（32）	32（40）	40（50）	50（63）
		380V～415V	10（16）	16（20）	20（32）	32（40）
Compatible option			Weekly timer			
			Electricity leakage breaker			
			Dew point indicator			
			Upper limit of drying temperature alarm			
			Different voltage			
			Transport control			
Outer dimensions	W mm		440		500	
	D mm		570		704	
	H mm		1410			
Weight	kg		120	130	160	200
Capacitance (Max.)	KVA		7.36(8.96)	8.26(10.96)	11.56(15.36)	14.79(20.35)

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

Type DMZ2-		40	80	120
Drying air average dew point	℃	-40(according the change of using condition)		
	External condition	Temperature30℃, relative humidity75%(DP+25℃), infusing external air10%		
Drying wind quantity	m^3/h	40	80	120
Drying temperature	℃	80～130(180)		
Drying blower	Parameter 50/60Hz	RB30-520	RB40-520	RB50-520
	Output of electric motor Kw	0.38/0.42	0.9/1.15	1.5/1.75
Regenerative blower	Parameter 50/60Hz	170FLJ2-6AS	170FLJ2-6CS	
	Output of electric motor Kw	65/60	85/110	
Regenerative heater	Content Kw (415V/380V/220V/200V)	2.0/1.71/1.71/1.4	3.39/2.91/2.91/2.4	4.41/3.69/3.69/3.1
Absorb tower	Appellation	Comb rotor		
	Parameter	MZC-200H20	MZC-250H20	MZC-250H30
	External diameter mm	ϕ200	ϕ250	ϕ250
	Height mm	200	200	300
Drying filter	Output of electric motor (W)	15		
	Decelerate ratio	1/1800		
Regenerative filter	Parameter	ϕ200×250	ϕ200×350	
	Filtering area ㎡	0.6	0.84	
Diameter of Glue pipe	Parameter	Filedon		
	Filtering area ㎡	0.015		
	Drying mm	ϕ38	ϕ50	
	Cooling mm	ϕ20		
	Regeneration mm	ϕ38		
Cooler Circulating	Heat transfer area ㎡	0.2	0.4	
	Cooling water quantity L/min	6	15	20
	Connecting diameter	3/8 B		

Type DMZ2-			40	80	120
Control	Drying temperature adjustment		PID control		
	Regeneration temperature adjustment		PID control		
	Out automatic start timer		Set up times (10minute～99hour50minute)		
	Alarm protection loop		Over-temperature (drying regeneration)		
			Motor over-load		
			Running prevention		
			Cooling delay when stopping		
	Power supply		AC200V 50/60Hz,220V 60Hz,380V 50/60Hz,415V 50/60Hz 3P		
	Operation circuit voltage 50/60Hz		AC200/220V, 1 P		
	Capacity of power breaker (A)	200V～220V	20（20）	32（40）	40（50）
		380V～415V	10（16）	16（20）	20（32）
Compatible option			Weekly timer		
			Electricity leakage breaker		
			Dew point indicator		
			Upper limit of drying temperature alarm		
			Different voltage		
			Transport control		
Outer dimensions	W mm		440	500	
	D mm		570	704	
	H mm		1410		
Weight	kg		120	160	200
Capacitance (Max)	KVA		5.53(6.13)	8.59(10.19)	11.88(14.58)

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

2. Dying Hopper Instruction

Type		HD-10	HD-15
Drying temperature	Standard ℃	130(Max.)	
	High temperature ℃	180(Max)	
※1 Heater capacity	Standard Kw	1.5	
	High temperature Kw	2.1	
Effective volume L		18	27
Quality of material		SUS304	
Size	Width mm	606	
	Depth mm	331	
	Height mm	708	868

Type		HD-25	HD-50	HD-75	HD-100	HD-150	HD-200	HD-250	HD-300
Drying temperature	Standard℃	130(Max.)							
	High temperature ℃	180(Max.)							
Heater capacity	Standard Kw	2.4		3.3		4		6	
	High temperature Kw	4		6		7.8		12.4	
Effective volume L		54	86	125	165	245	362	419	500
Quality of material		SUS304							
Size	Width mm	775		846		1074		1233	
	Depth mm	485		605		796		1000	
	Height mm	1032	1273	1246	1446	1521	1751	1811	1971

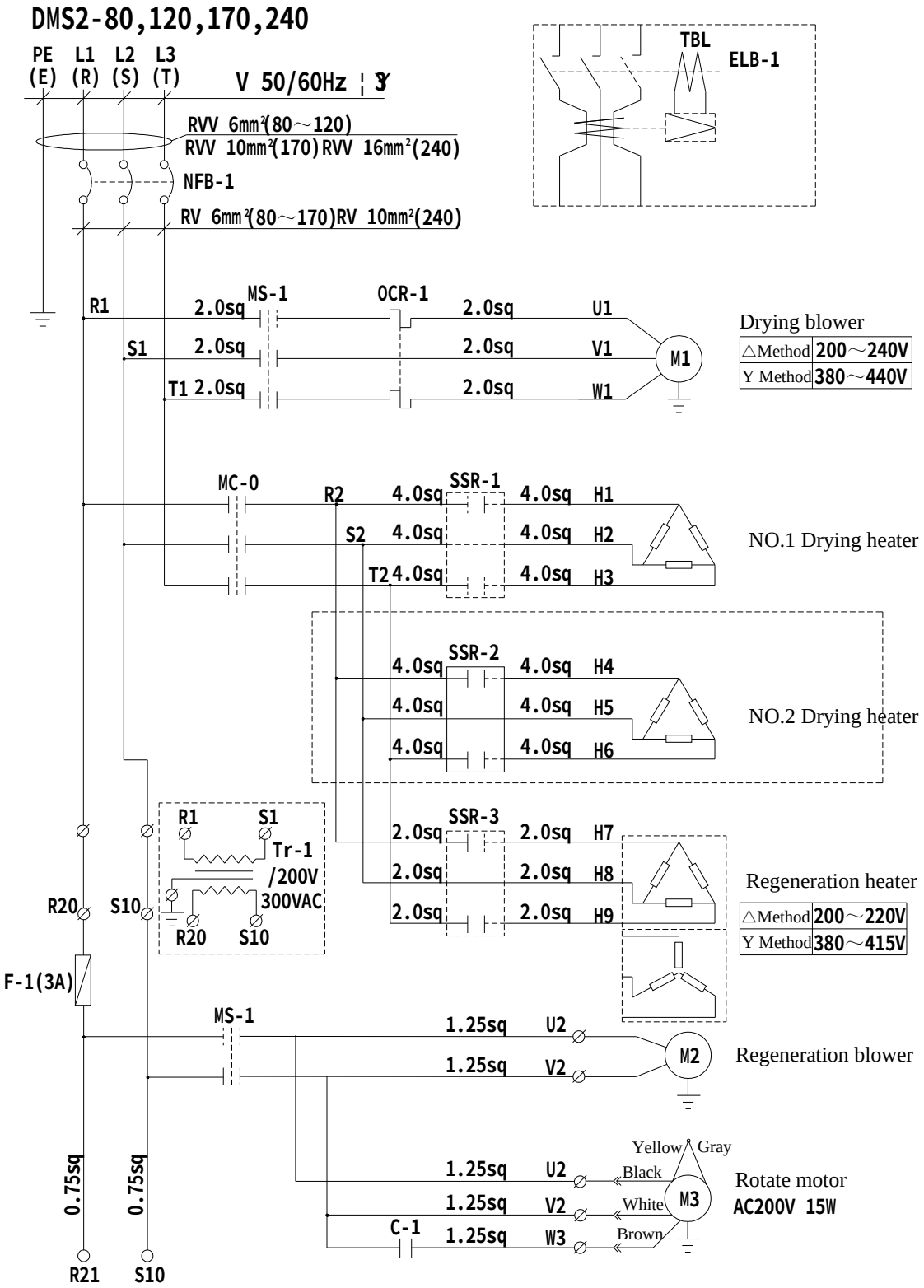
※1.Heater capacity in case of standard combination with dehumidifying unit.

Chapter 12 Optional parts

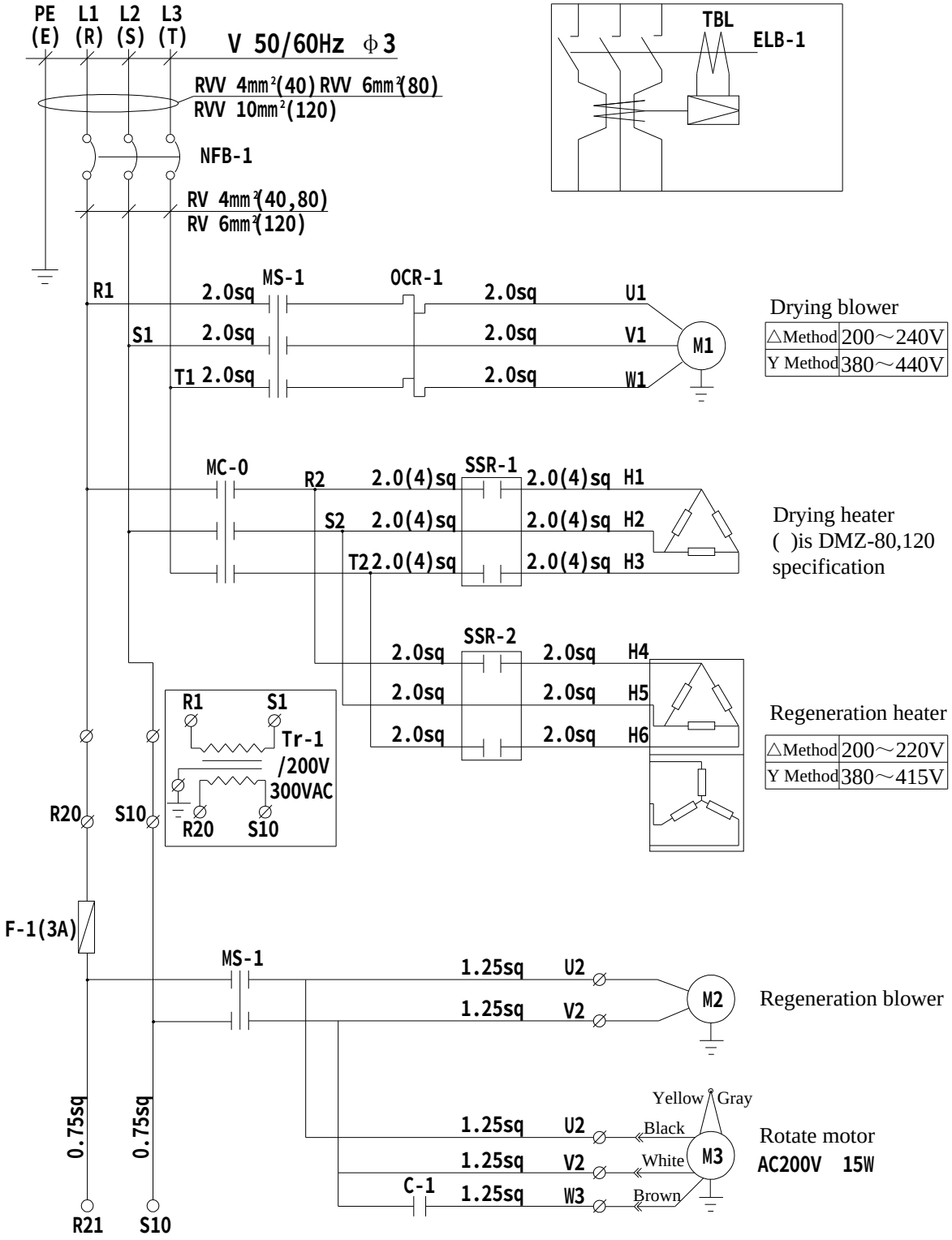
Type / Selection item	General purpose type Control panel (Standard)
Communication function (RS-232C)	—
Material-reducing alarm	○
Filter-jammed alarming	—
Resin temperature display	—
Calendar timer	○
External start signal	○
Alarm	○
Dew point gauge(-90℃~+10℃)	○

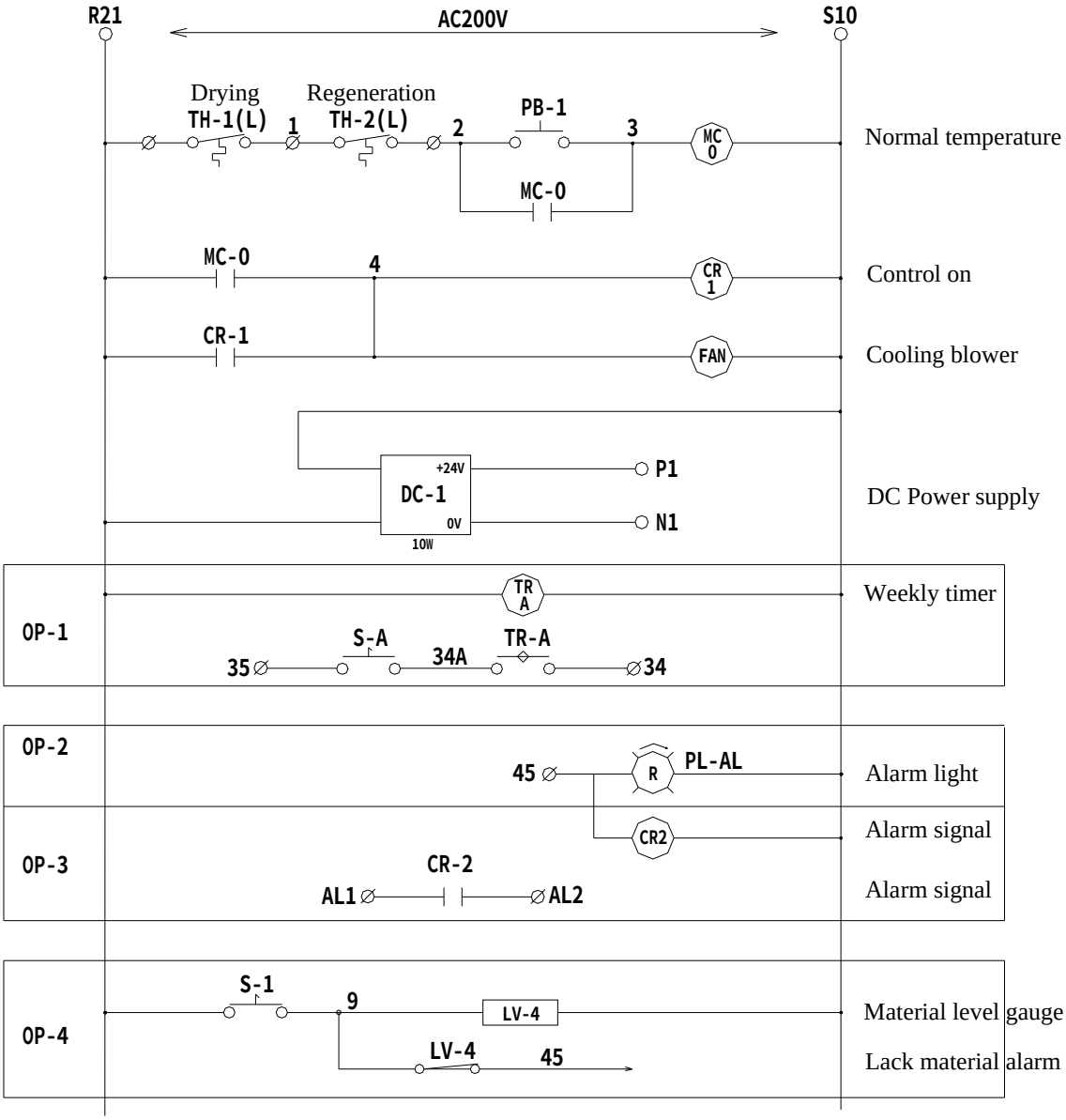
Appendix

1.Circuit diagrams



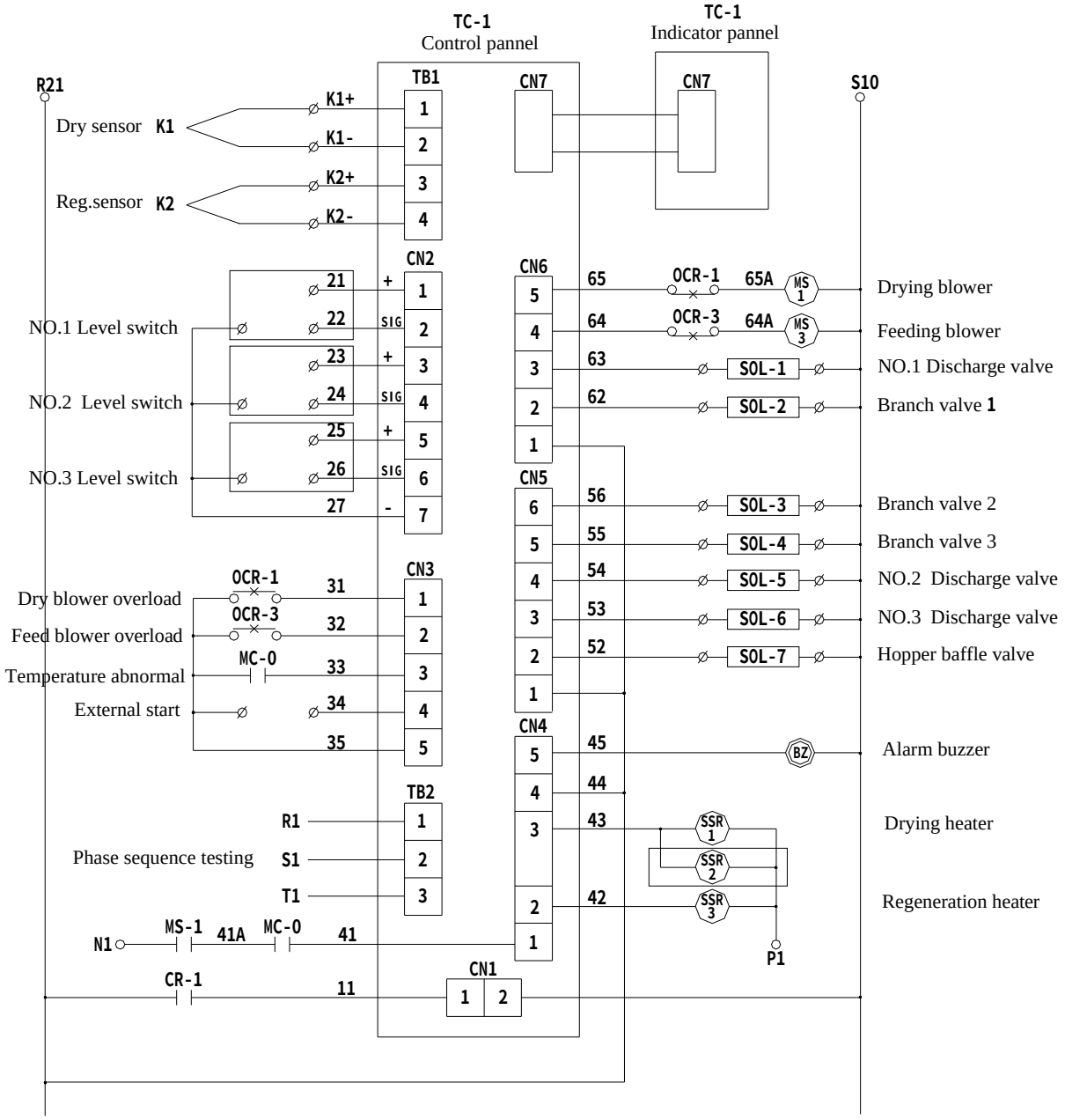
DMZ2-40,80,120





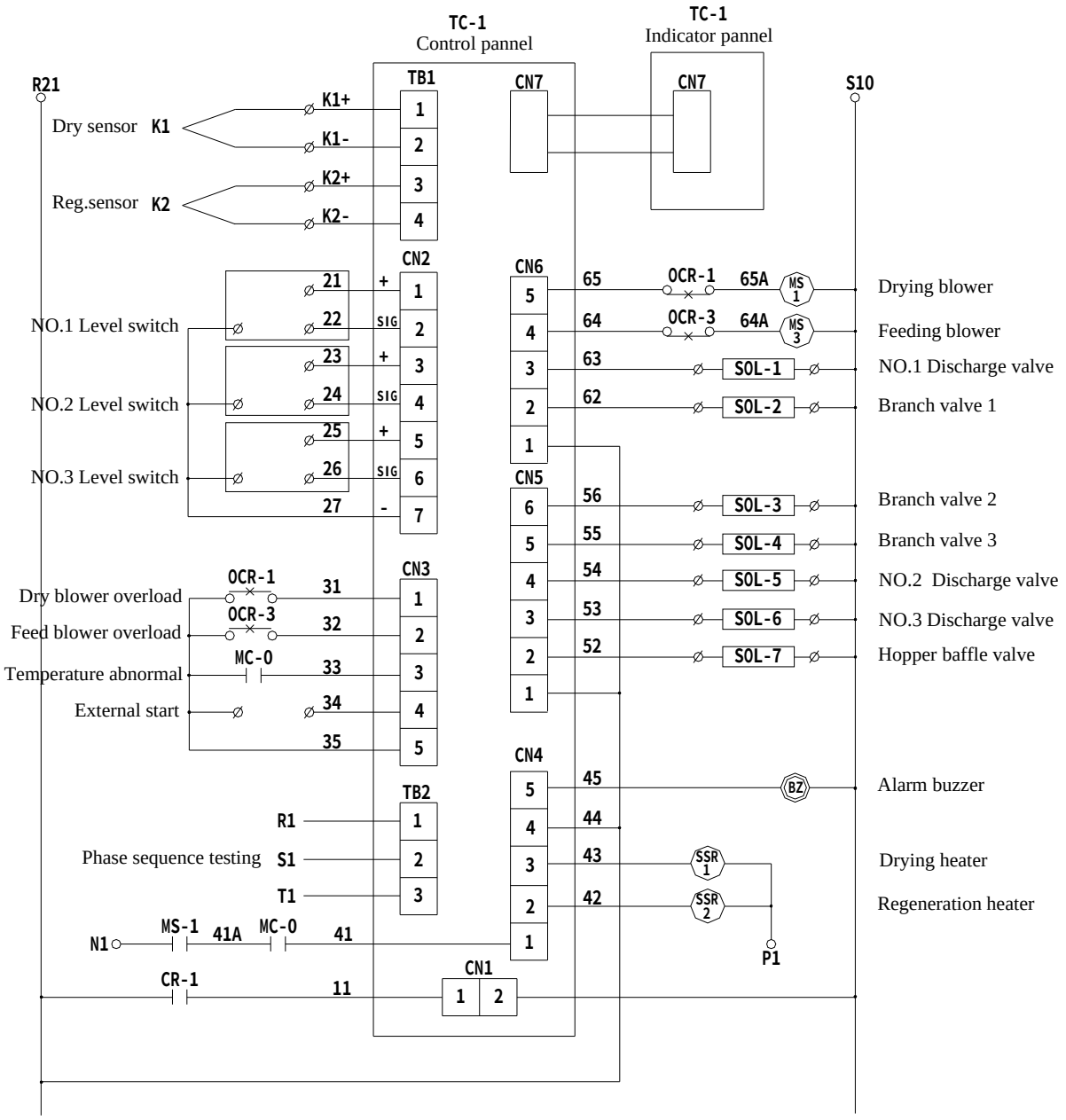
	Drying heater				Reg.heater 460V	Drying blower		Reg. blower	Rotate blower
	Standard		High temp.			50Hz	60Hz	50/60Hz	50/60Hz
	NO.1	NO.2	NO.1	NO.2					
DMS2-80	2.4	—	4.0	—	2.67	0.9	1.15	65/60(W)	15(W)
DMS2-120	3.3	—	6.0	—	2.67	0.9	1.15		
DMZ2-40	1.5	—	2.1	—	2.67	0.38	0.42		
DMS2-170	4.0	—	3.9	3.9	4.2	1.5	1.75	85/110(W)	
DMS2-240	3.0	3.0	6.2	6.2	5.49	2.2	2.25		
DMZ2-80	2.4	—	4.0	—	4.2	0.9	1.15		
DMZ2-120	3.3	—	6.0	—	5.49	1.5	1.75		

DMS2-80,120,170,240



CN1,CN4,CN5,CN6:0.5mm²
CN2,CN3:0.3mm²

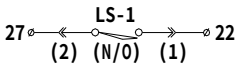
DMZ2-40,80,120



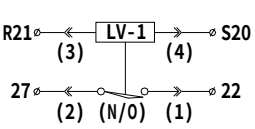
CN1,CN4,CN5,CN6:0.5mm²
CN2,CN3:0.3mm²

NO.1 Direction

Limit switch control



Level switch control



Capacity approximate switch control

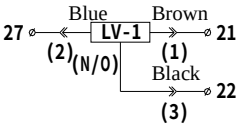
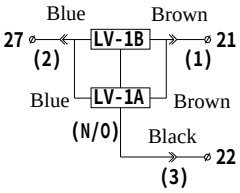
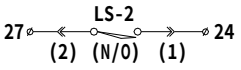


Photo electricity switch control

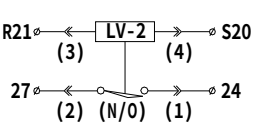


NO.2 Direction

Limit switch control



Level switch control



Capacity approximate switch control

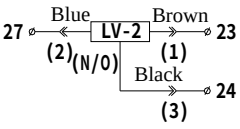
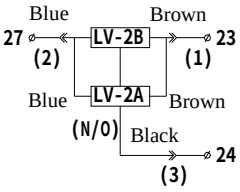
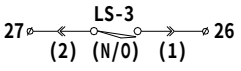


Photo electricity switch control

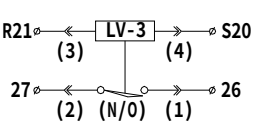


NO.3 Direction

Limit switch control



Level switch control



Capacity approximate switch control

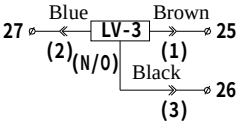
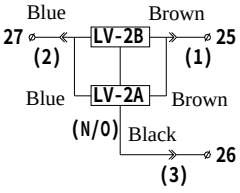
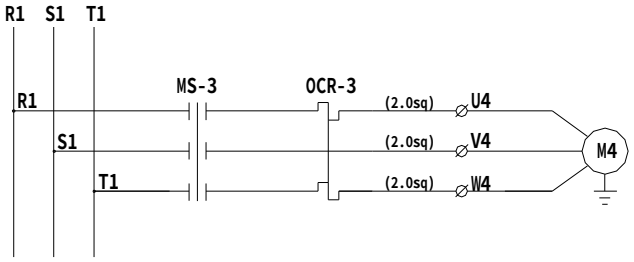


Photo electricity switch control





Feeding blower

Electric parts table

Type：DMS2-80,120,170,240 A　　Marker：50Hz/60Hz (High temperature) Φ3

NO.	Code	Name	Specifications	Number	Remark
1	NFB-1	Breaker	NF63-CW 3P 10A(16A) (80)	1	MITSUBISHI 380V/415V
			NF63-CW 3P 16A(20A) (120)		
			NF63-CW 3P 20A(32A) (170)		
			NF63-CW 3P 32A(40A) (240)		
			NF63-CW 3P 20A(32A) (80)		MITSUBISHI 200V/220V
			NF63-CW 3P 32A(40A) (120)		
			NF63-CW 3P 40A(50A) (170)		
			NF63-CW 3P 50A(63A) (240)		
2		Terminal cap	TCS-05SW3W	1	MITSUBISHI
3		V hander	V05SWEF	1	Red/Yellow for anon stop
4	MS-1	Contactor	SC-03　AC200V	1	FUJI(380V/415V)
			SC-03　AC200V (80～170)	1	FUJI 200V/220V
			SC-4-1　AC200V (240)		
5	MC-0	Contactor	SC-4-1　AC200V	1	FUJI(380V/415V)
			SC-4-1　AC200V (80,120)	1	FUJI 200V/220V
			SC-N1　AC200V (170)		
			SC-N2　AC200V (240)		
6	SSR-1	Solid relay	TSR-25DA-H+TSR-100	1	YangMing
7	SSR-2	Solid relay	TSR-25DA-H+TSR-100 (Only 170 high temp,240 have)	1	YangMing
8	SSR-3	Solid relay	TSR-25DA-H+TSR-100	1	YangMing

Type：DMS2-80,120,170,240 A　　Marker：50Hz/60Hz (High temperature) φ3

NO.	Code	Name	Specifications	Number	Remark
1	OCR-1	Thermal relay	TR-ON/3(2.2-3.4A)(80, 120)	1	FUJI 380V/415V
			TR-ON/3 (4-6A) (170)		
			TR-ON/3 (5-8A) (240)		
			TR-ON/3 (4-6A) (80,120)	1	FUJI 200V/220V
			TR-ON/3 (6-9A) (170)		
			TR-5-1N/3 (9-13A) (240)		
2	SK1	Auxiliary contact	SZ-A20	1	FUJI
3	SK2	Auxiliary contact	SZ-A40	1	FUJI (380V/415V)
			SZ-A40 (80,120)	1	FUJI 200V/220V
			SZ-A20 (170,240)		
4	F-1	Fuse	TFB101N 3A	1	Taiwan Tiande
5	CR-1	Relay	MY4J AC220V/PYF-14A	1	OMRON
6	TH-1	Over-temperature relay	TS-200S	1	SuZhou Zhihe
7	TH-2	Over-temperature relay	A255℃	1	NGT(Japan)
8	Tr-1	Transformer	JBK3-300 AC380,400,415/200V JBK3-300 AC220/200V	1	WuXi (Only 220～415V have)
9	K	Thermocouple	T-35K Type φ3.2×70（+15）×1.5A	2	Shanghai Hongduan
10	TC-1	Temperature control	G2422	1 set	TOHO Electronic
11		Metal connective terminal	BVH-21T-P1.1 (JST)	12	TOHO Electronic
		Metal connective terminal	BXH-001T-P0.6 (JST)	18	TOHO Electronic
12	FAN	Cooling blower	SJ9225HA2B AC200V	1	Shanghai KAKU
13	DC-1	DC power	RS-25-24	1	Taiwan Mingwei
14	PB-1	Button	AR22FOR-10W	1	FUJI White
15	TB-1	Line blank	NHT-1023	1	WEIZHE corporation
16	TB-2	Line blank	NHT-3003+1006	1	WEIZHE corporation
17	BZ	Buzzer	EA4202 AC200V	1	Panasonic
18		φ22.5 Brand	CONTROL ON	1	CMC

Type：DMS2-80,120,170,240 A　　Marker：50Hz/60Hz (High temperature) φ3

NO.	Code	Name	Specifications	Number	Remark
That is electric component correspond to special demand					
1	TR-1	Weekly Timer	H5S-WA2 (OMRON)	1	OP-1-1 Weekly Timer
2	S-A	Select switch	T2SSR1B-1a (TaiwanTianDe)	1	OP-1-2 Weekly Timer
3	PL-AL	Alarm indicator	S100-UA AC200V （Q.Light）	1	OP-2-1 General alarm
4	LV-4	Level	RP80BCR1 AC220V (Standard) RP84BCR1 AC220V (High Temperature)	1	OP-4 Material low alarm
5	S-1	Select switch	T2SSR1B-1a (Taiwan TianDe)	1	OP-4 Material low alarm

Type：DMZ2-40,80,120A　　Marker：　50Hz/60Hz (High temperature)　φ3

NO.	Code	Name	Specifications	Number	Remark
1	NFB-1	Breaker	NF63-CW 3P 10A(16A)(40)	1	MITSUBISHI 380V/415V
			NF63-CW 3P 16A(20A)(80)		
			NF63-CW 3P 20A(32A)(120)		
			NF63-CW 3P 20A (40)		MITSUBISHI 200V/220V
			NF63-CW 3P 32A(40A)(80)		
			NF63-CW 3P 40A(50A)(120)		
2		Terminal Cap	TCS-05SW3W	1	MITSUBISHI
3		V Operation Hander	V05SWEF	1	Red/Yellow for anon stop
4	MS-1	Contactor	SC-03 AC200V	1	FUJI
5	MC-0	Contactor	SC-4-1 AC200V	1	FUJI
6	SSR-1	Solid relay	TSR-25DA-H	1	YangMing
7	SSR-2	Solid relay	TSR-25DA-H	1	YangMing
8		Radiator	TSR-100	2	YangMing
9	OCR-1	Thermal relay	TR-ON/3(0.95-1.45A) (40)	1	FUJI 380V/415V
			TR-ON/3 (2.2-3.4A) (80)		
			TR-ON/3 (4-6A) (120)		
			TR-ON/3 (1.7-2.6A) (40)	1	FUJI 200V/220V
			TR-ON/3 (4-6A) (80)		
			TR-ON/3 (6-9A) (120)		
10	SK1	Auxiliary contact	SZ-A20	1	FUJI
11	SK2	Auxiliary contact	SZ-A40	1	FUJI
12	F-1	Fuse(Pedestal)	TFB101N 3A	1	Taiwan Tiande
13	CR-1	Relay	MY4J AC220V/PYF-14A	1	OMRON
14	TH-1	Over-temperature relay	TS-200S	1	SuZhou Zhihe
15	TH-2	Over-temperature relay	A255℃	1	NGT(Japan)
16	Tr-1	Transformer	JBK3-300 AC380,400,415/200V JBK3-300 AC220/200V	1	WuXi (Only 220～415V have)

Type：DMZ2-40,80,120A　　Marker：　50Hz/60Hz (High temperature)　φ3

NO.	Code	Name	Specifications	Number	Remark
1	K	Thermocouple	T-35K Type ϕ3.2×70（+15）×1.5A	2	Shanghai Hongduan
2	TC-1	Contactor	G2422	1set	TOHO
3		Metal connective terminal	BVH-21T-P1.1　(JST)	12	TOHO
		Metal connective terminal	BXH-001T-P0.6　(JST)	18	TOHO
4	BZ	Buzzer	EA4202　AC200V	1	Panasonic
5	PB-1	Button	AR22FOR-10W	1	FUJI　White
6	DC-1	DC power	RS-25-24	1	Taiwan Mingwei
7	FAN	Cooling blower	SJ9225HA2B　AC200V	1	Shanghai KAKU
8	TB-1	Line blank	NHT-1023	1	WEIZHE corporation
9	TB-2	Line blank	NHT-3003+1006	1	WEIZHE corporation
10		ϕ22.5 Brand	CONTROL ON	1	CMC
That is electric component correspond to special demand					
11	TR-1	Weekly timer	H5S-WA2　(OMRON)	1	OP-1-1 Weekly timer
12	S-A	Select switch	T2SSR1B-1a (Taiwan TianDe)	1	OP-1-2 Weekly timer
13	PL-AL	Alarm indicator	S100-UA　AC200V（Q.Light）	1	OP-2-1 General alarm
14	LV-4	Level	RP80BCR1 AC220V (Standard) RP84BCR1 AC220V (High Temperature)	1	OP-4 Material low alarm
15	S-1	Select switch	T2SSR1B-1a　(Taiwan TianDe)	1	OP-4 Material low alarm