APOLLO

APOLLO Dehumidifier

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1. APOLLO DEHUMIDIFIER

1.1 Why Choose APOLLO Dehumidifier

Specifically designed

According to the characteristic, APOLLO dehumidifiers are designed with anti-corrosion consents on casing, fan motor, and streamline designed casing contribute to great moisture absorption, with ± 5% humidity control setting for thorough dehumidification.

Save money

With its high performance + smart control, APOLLO dehumidifier consume the same energy but can finish the dehumidification in short time than other dehumidifiers: it equipped with high efficient heat exchanger
(0.1mm hydrophilic aluminum foil heat exchanger) that can prevent debris from sticking to it. Moreover, it's 30% larger than usual with trapezoidal internal thread copper pipe that can help improve its performance.

Long service life

With good quality components: 12~15 years - APOLLO dehumidifier is consist of 316 stainless steel fan motor and plastic cabinet, all anti-correction and famous Panasonic R410A compressor that provides good dehumidifing operation.

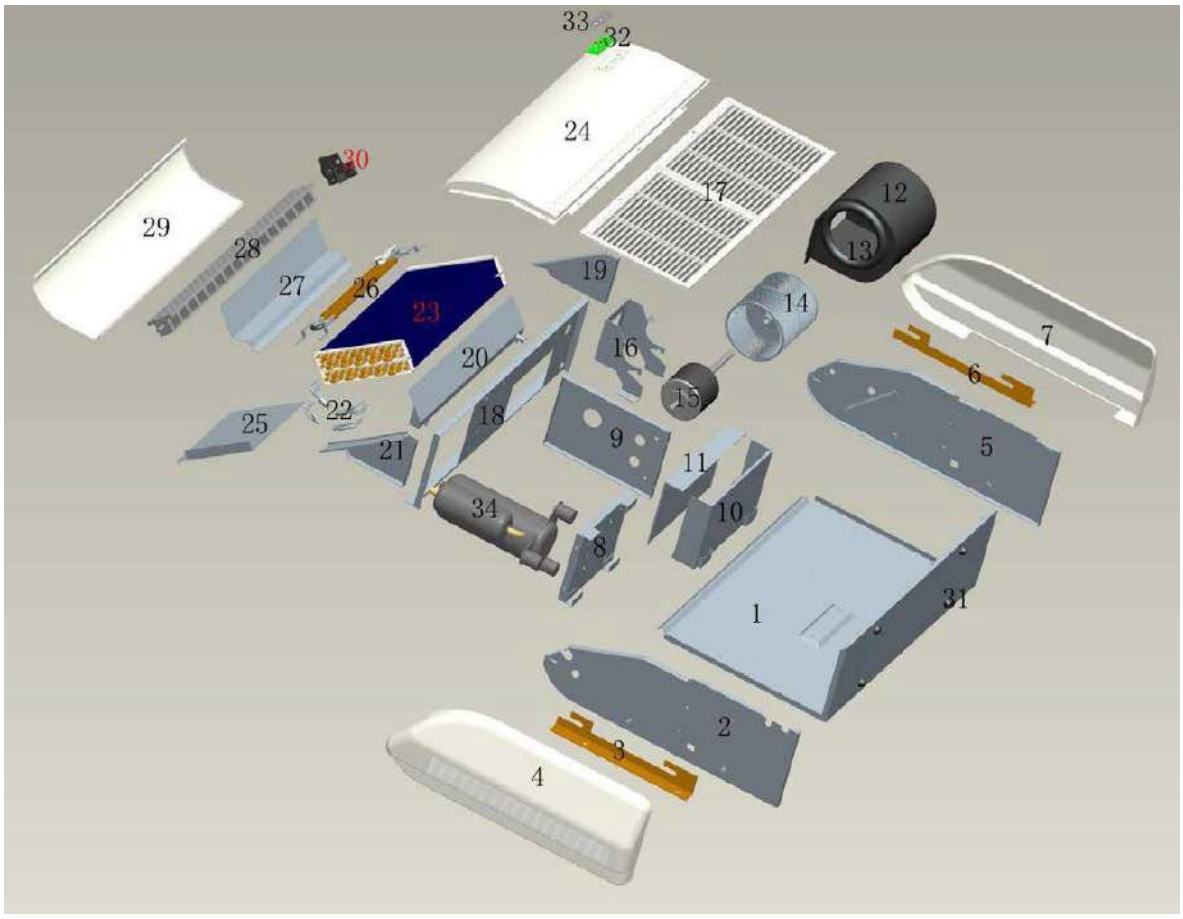
Super Quiet

APOLLO dehumidifier with thin, light, long-finned blade that can provide good swimming environment and friendly neighborhood .

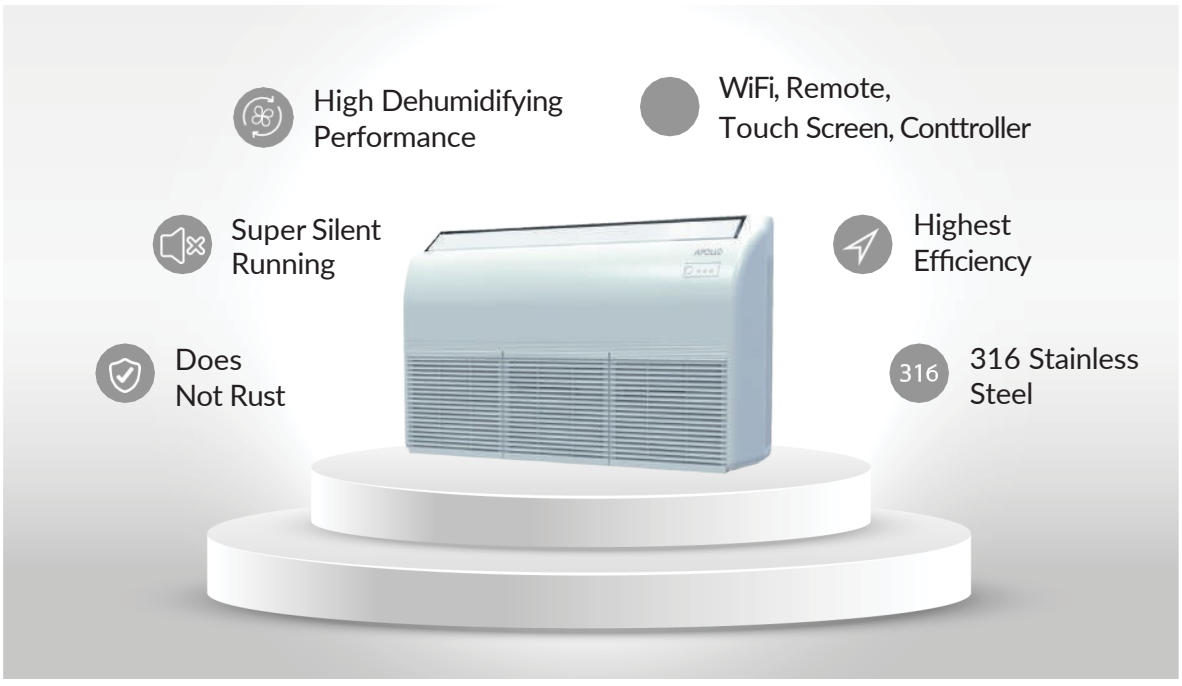
Remote control

APOLLO dehumidifier provides wired display controller + remote controller for option, more convenient and easy to control .

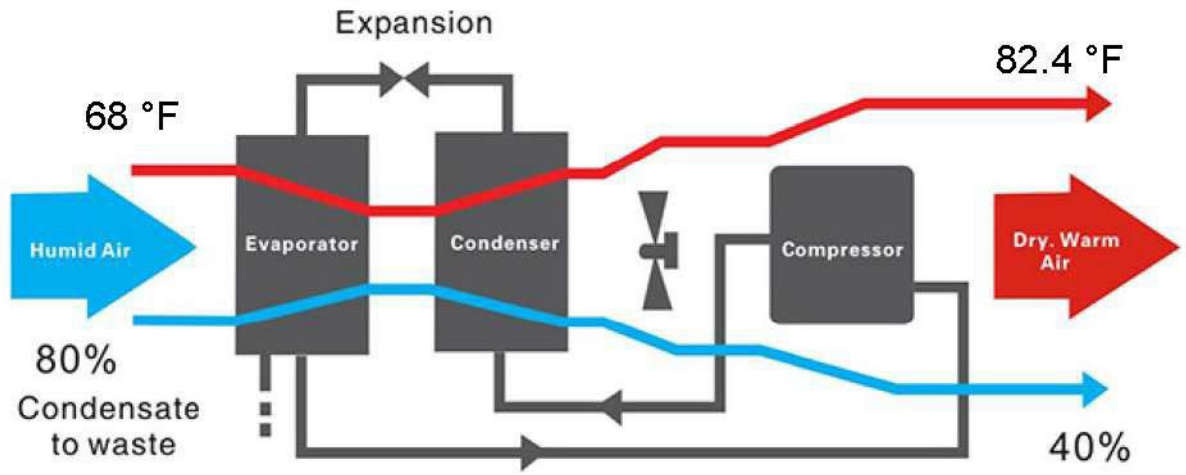
1.2 Exploded View



1.3 Product Properties



1.4 How does an APOLLO Dehumidifier works?

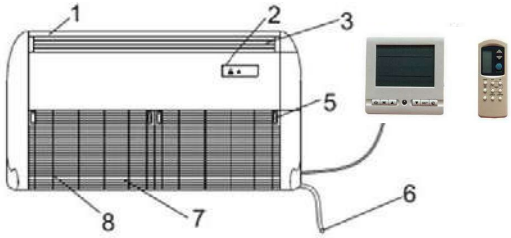


APOLLO dehumidifier is a refrigerative dehumidifier taking advantage of refrigerant circuit for dehumidification.
When the humid air is led over the evaporator, the water vapour in the air condenses into water , then the air is heated as it passes through the condensor. In refrigerant circuit, it works by letting a refrigerant evaporate at low pressure and low temperature in the evaporator and then condensing it at high pressure and high temperature in the condenser on the other side of the compressor.

APOLLO Dehumidifier can be installed for:

- Commercial Greenhouse
- Swimming Pools
- Spas
- Hotels and Wellnesses
- Hot tubs and Jacuzzis
- Fitness clubs
- Gyms
- Warehouses
- Drying rooms for laundry, breweries
- Military storages
- Wine cellars
- Etc.

Main Components



NO.	Name
1	Outlet air
2	Infrared receiver
3	Vane
4	Wire controller
5	Moving parts
6	Drain pipe
7	Filter
8	Air inlet grill

1.5 Features of APOLLO Dehumidifier

Simple Installation

APOLLO dehumidifiers can be installed in either floor standing or wall mounting configuration.

Quiet Operation

APOLLO dehumidifiers use a quiet rotary compressor and fan motor to ensure low noise operation.

Multiple Protections

APOLLO dehumidifier is designed with compressor protection, high/low pressure protection and delay timer protection.

Timing ON/OFF Setting

APOLLO dehumidifiers have 24 hours timing setting.

Automatic Swing Function

APOLLO dehumidifier's air outlet grill direction can swing to 60°

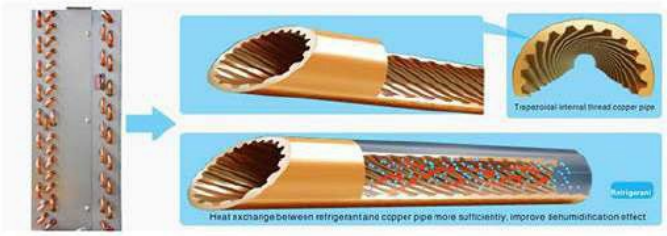
High Quality Case Material

APOLLO dehumidifier use anti-corrisive casing material and screws, not easy rusting.

Stainless Steel Fan Motor Shaft

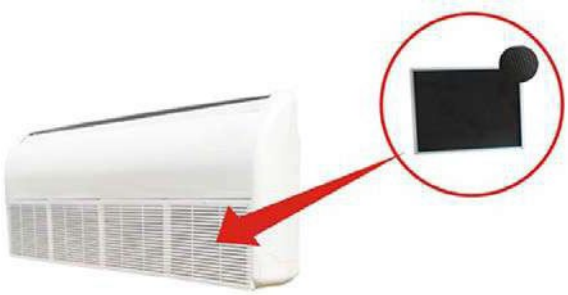
APOLLO dehumidifier use fan motor with stainless steel shaft to avoid corrosion caused by high humid surrounding.

High Efficient Heat Exchanger



APOLLO dehumidifier use hydrophilic aluminum foil heat exchanger that can prevents debrits from sticking to it and is 30% larger in size as usual to improve it's high efficiency. And it is trapezoidal internal thread copper pipe that can further improve it's performance.

Good Quality Filter



APOLLO dehumidifier is equipped with filter in grill that helps to filter dust and impurity from the air.

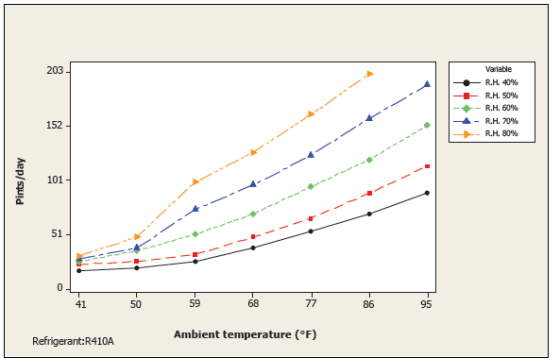
APOLLO Dehumidifier

Controller Options

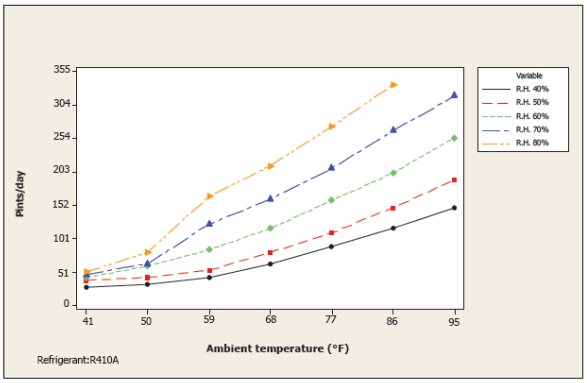
APOLLO dehumidifiers are equipped with a remote controller with up to 32 feet of range and with an optional wired controller.

COP Curve

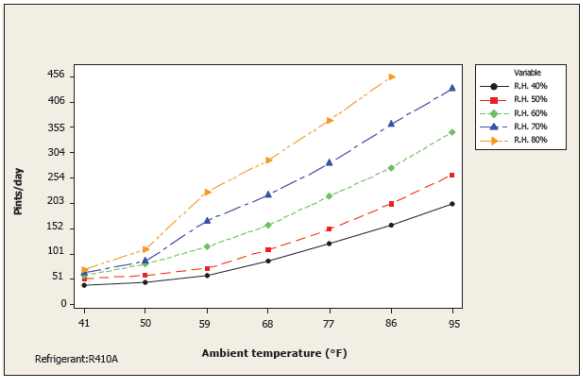
APD-020



APD-030



APD-050



2. Installation manual

2.1 Preface

2.1.1 Important Safety Instructions

- Before using this machine, please read all instructions.
- Before use, make sure the power is to meet the requirements.
- Before use, make sure the power is to meet the requirements.
- Do not use the method of pulling the power cord, unplug the dehumidifier plug.
- Not to plug in or allocated to control and stop the operation of the dehumidifier.
- In the mobile dehumidifier should be careful not to roll and damage the power cord.
- Do not put hands or rod-like objects near the unit's grill.
- Do not allow children to climb, stand or sit on the dehumidifier.
- Disconnect the dehumidifier from any power source before performing any cleaning or maintenance on the unit.
- Shall not operate in a closed confined space.
- **Please keep this manual.**

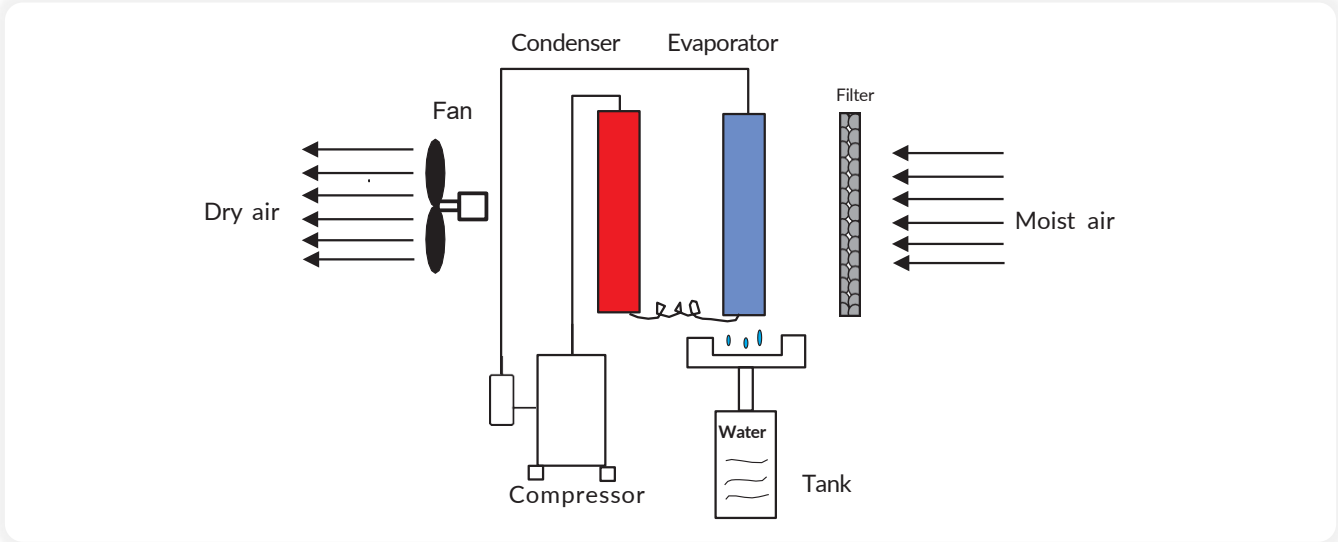
Note: We recommend that any repairs must be professional.

2.1.2 Products

Installed dehumidifiers to reduce humidity in the air the room, so people were comfortable to live or stored items.

The company dehumidifier has beautiful shape, compact structure, easy operation, which is widely used in scientific research, health care, goods storage, underground engineering and the kitchen, swimming pool, bathroom, archives, storage places high humidity dehumidification to prevent equipment, instrumentation, telecommunications equipment, pharmaceuticals, information and other damp, rust, mildew and damage.

2.1.3 Principle



2.1.4 Principle description

The moist air from the fan and pump it into the machine, through the cooling system(compressor, evaporator, condensor) formed under the interaction of suspected frost, defrost automatically into water by heating water outflow, resulting in a dry air discharge, so the cycle to reduce indoor humidity, wet and dry space to gradually achieve effect.

2.1.5 Advantages

- **Protect your environment**

Even when you cannot see it. moisture in the form of water vapour is all around us. held in suspension in the air. The relative humidity of the air in many cases determines the extent of corrosion of certain materials. The speed at which moulds develop and the rate of increase of bacteria that cause decay. Most materials and goods are best stored under cool dry conditions.

- **A false economy**

Traditionally the problem was disguised by the use of heat or ventilation.

This process is exceptionally energy inefficient and rely on introducing outside air that is generally not suitable unless expensively heated. Drying by traditional heating involves continuously warming a stream of outside air on a constant in and out cycle.

2.2 Specification

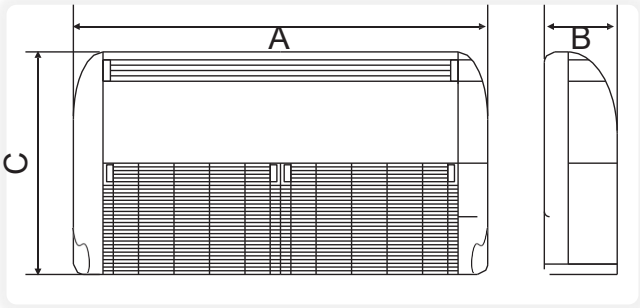
2.2.1 Product model parameters table

2.2.1.1 The parameters of ABS wall mounted series

Model		APD-020	APD-030	APD-050
Dehumidification @86°F/70%RH	pints/day	159	264	360
Heat recovered to air @ 86°F/70%RH	KBTU	10.92	17.06	27.81
sound level	dB(A)	48	50	50
Circulating air volume	CFM	354	708	1062
Heat pump power supply	V/PH/Hz	220/1/60	220/1/60	220/1/60
Heat pump power consumed	KBTU	4.44	6.82	9.96
Heat pump rated current	Amps	5.9	9.1	13.3
Heat pump starting current	Amps	25	42	63
Maximum supply fuse	Amps	18	27	39
Condensate drain , pipe size	OD (in)	3/4"	3/4"	3/4"
Operating temperature ranger	°F	41-95		
Compressor protection		3 minutes delay		
Defrost mode		Automatic		
Refrigerant		R410A		
Compressor		rotary		

2.2.2 The dimension for dehumidifier

2.2.2.1 ABS wall mounted mode

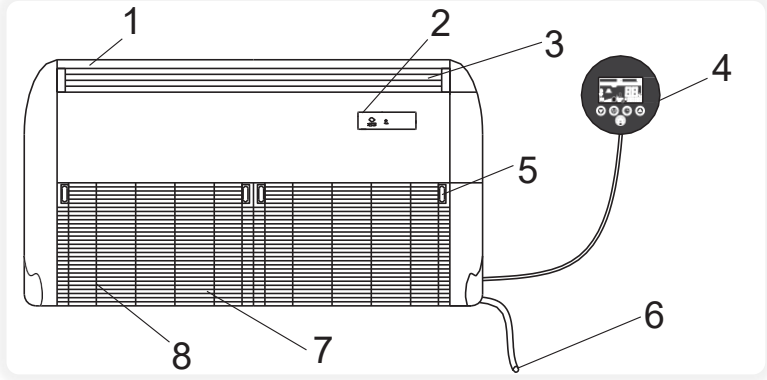


Units: inch

Size \ MDH	APD-20	APD-030	APD-050
A	35 ½	50 ¾	65 ¾
B	9 ½	9 ½	9 ½
C	26 ½	26 ½	26 ½

2.2.3 Name of each part

2.2.3.1 ABS wall mounted mode



NO	Name
1	Outlet air
2	Infrared Receiver
3	Vane
4	Wire controller
5	Moving parts
6	Drain pipe
7	Filter
8	Air inlet grill

APOLLO Dehumidifier

APD-020

APD-030

APD-050

Model		APD-020	APD-030	APD-050
Dehumidification @ 86°F	pints/day	159	264	360
Heat recovered to air @ 86°F	KBTU	10.92	17.06	27.81
Sound level	dB(A)	48	50	52
Circulating air volume	CFM	354	708	1062
Power supply	V/PH/Hz	220/1/60		
Heat pump power consumed	KBTU	4.44	6.82	9.96
Heat pump rated current	Amps	5.9	9.1	133
Heat pump starting current	Amps	42	42	63
Condensate drain size	inch	3/4	3/4	3/4
Operating temperature ranger	°F	40-100		
Compressor protection		3 minutes delay		
Defrost mode		Automatic		
Refrigerant		R410a		
Compressor		Rotary	Rotary	Rotary
Net dimension	inch	35 ⅔ x 9 ½ x 26 ½	50 ¾ x 9 ½ x 26 ½	65 ⅝ x 9 ½ x 26 ½
Packaging dimension	inch	40 x 14 ⅜ x 30 ⅛	55 x 14 ⅜ x 30 ⅛	69 ⅝ x 14 ⅜ x 30 ⅛

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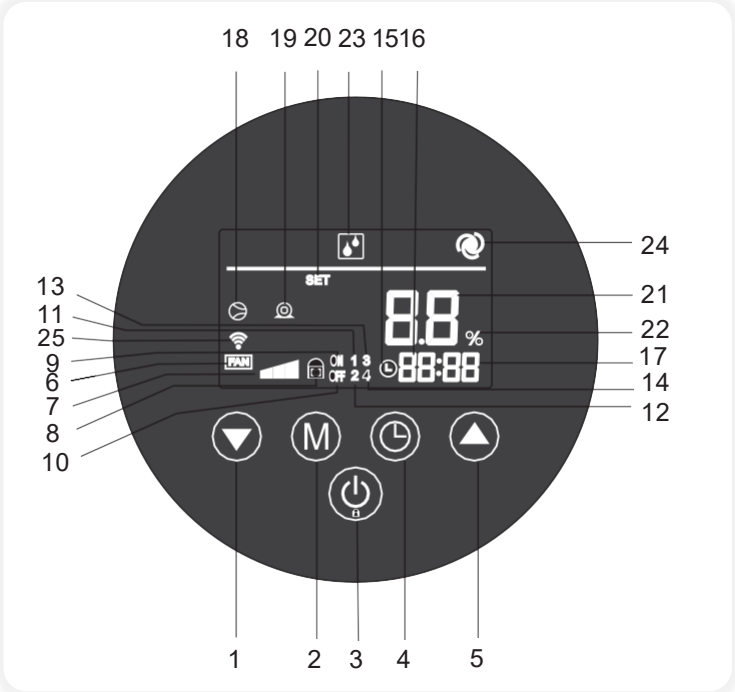
2.3 Introduction

2.3.1 Instructions of buttons and icons



Icon instruction

No.	Icon	Instruction	No.	Icon	Instruction
1	▼	Down setting button	13	3	Third stage timing switch
2	M	Function key	14	4	Fourth stage timing switch
3	⏻	Unit turn on/off button	15	🕒	Clock icon
4	🕒	Timer setting button	16	88	Hour icon
5	▲	Up setting button	17	88	Minute icon
6	FAN	Fan icon	18		Compressor icon
7		Fan speed icon	19		Circulating pump icon
8		Button lock icon	20	SET	Parameter setting icon
9	ON	Time on	21	88.8	Humidity icon
10	OFF	Time off	22	%	Percentage icon
11	1	First stage timing switch	23		Dehumidifier mode icon
12	2	Second stage timing switch	24		Air supply mode icon
			25		Wifi icon

Note: Some ICONS only appear under specific models

🕒 Timer setting button: Long press this button to enter the timing setting, timing 1, 2, 3 and 4 can be modified by ▲ and ▼ during timing setting. Short press this key to enter the screen or modifying the clock.

Ⓜ Function key: Short press this button to check the unit operation status. Long press this button to enter the user parameter modification interface.

▲ Up setting button: Short press this key to increase the current setting value. When the unit is on, long press this key to change the current operating mode.

▼ Down setting button: Short press this key to decrease the current setting value.

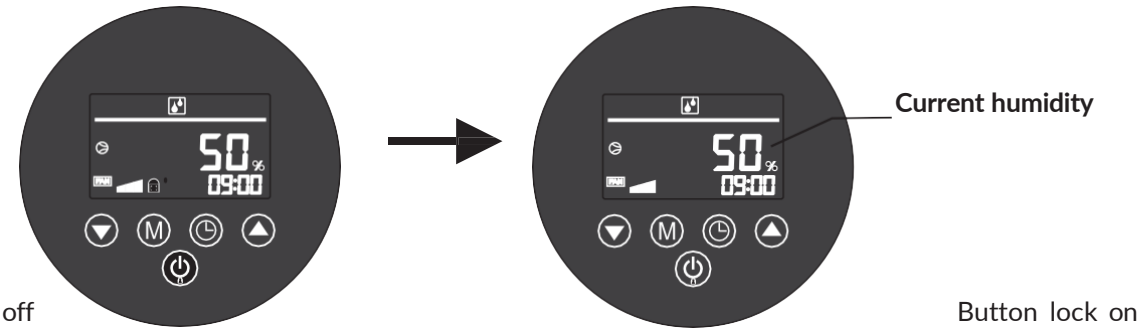
⏻ Unit turn on/off button: long press this button to turn on or off the unit under normal conditions.

When the keyboard is locked, long press this key to release it.

2.3.2 Operation of wire controller

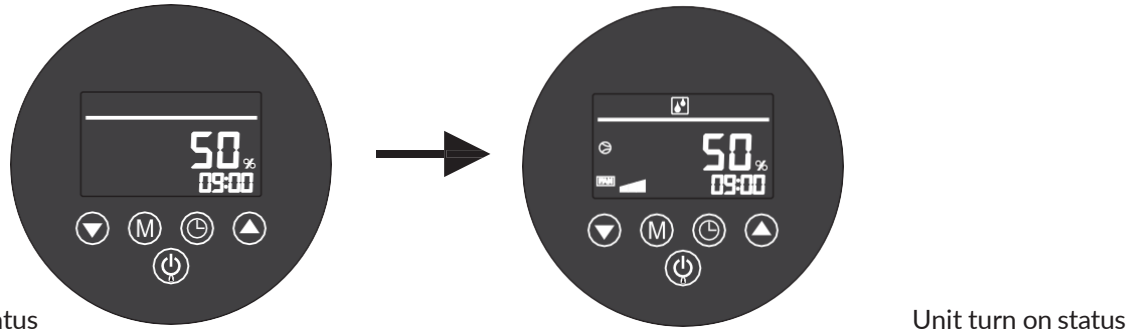
2.3.2.1 Button lock icon

If you do not operate the wire controller within one minute, it will automatically open the button lock. You can long press for 3 seconds to unlock it. Long press for 3 seconds, you can open the button lock again.



2.3.2.2 Unit turn on/off button

In the standby status, long press to turn on the unit. At this time, the current mode will be displayed on the wire controller, and the unit will run this mode. Long press again, you can turn off the unit.

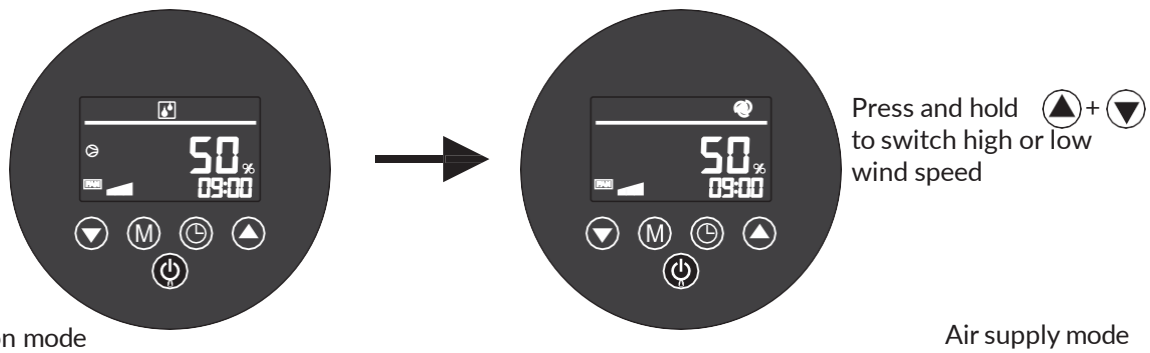


2.3.2.3 Timer setting button

In the main interface, press and hold for 5 seconds, the clock icon will flash, then short press the hour icon will flash, press or to adjust hour. After adjusting the hours, short press the minute icon will flash, press or to adjust minute. After that, short press , you can complete the time setting.

2.3.2.4 Change the current operating mode

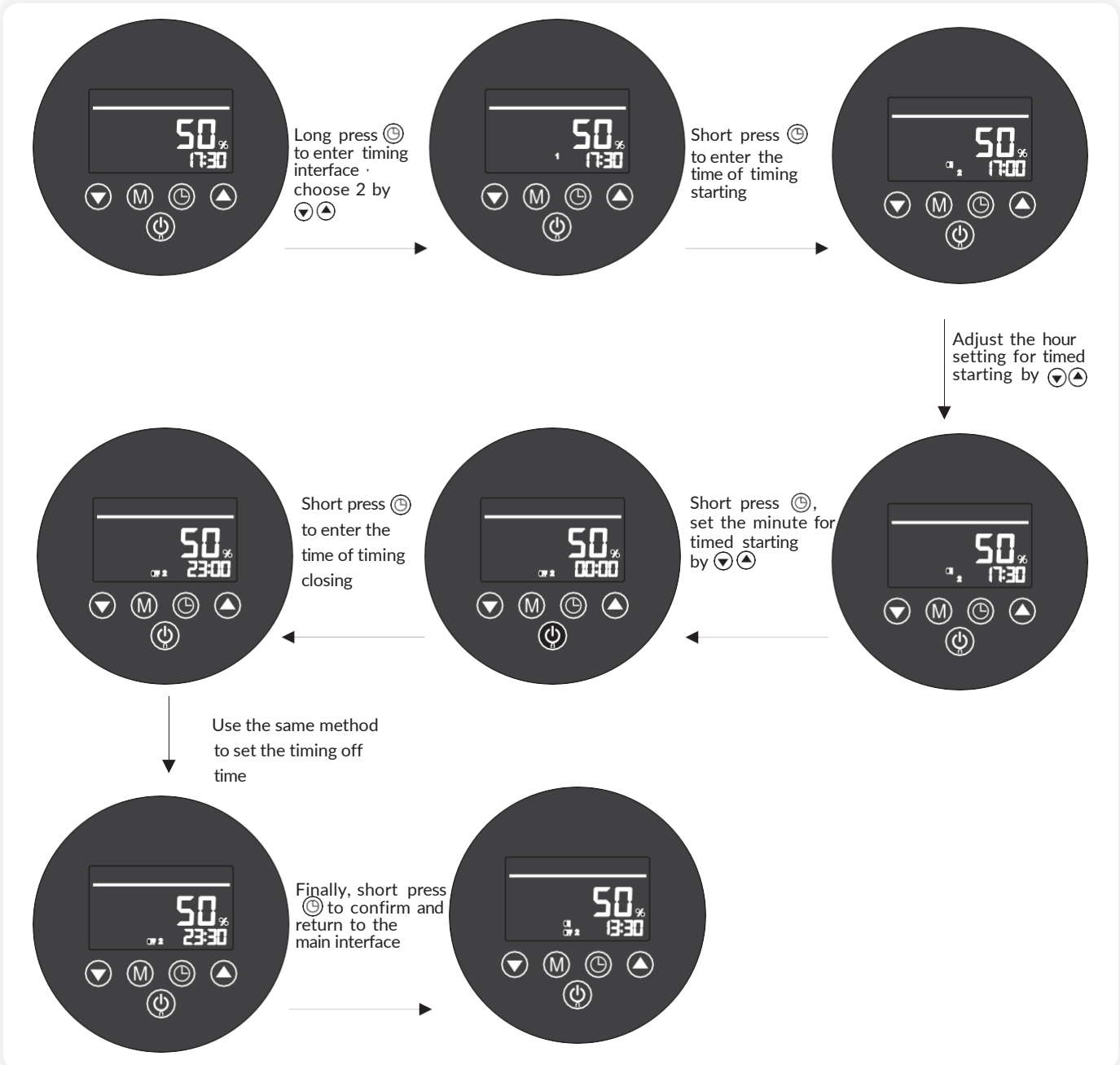
When the unit is on, long press in the interface to change the current operating mode. The meanings of the numbers on the left and right in the interface vary according to different modes. For details, please see the following figure.



2.3.2.S Timing setting

Long press ⏲, 1 will flash, you can press ▼ or ▲ to choose 1, 2, 3, 4. 1 is the first timing on/off, 2 is the second timing on/off, when the icon flashes, it means you have selected it. Short press ⏲, ON and Hour icon flash, press ▲ or ▼ to adjust the hour setting for timing starting, then short press ⏲, the minute icon will flash, press ▲ or ▼ to adjust the minute setting for timing starting. After that, short press ⏲, ON and Hour icon will flash, press ▲ or ▼ to adjust the hour setting for timing closing, then short press ⏲, the minute icon will flash, press ▲ or ▼ to adjust the minute setting for timing closing. After that, short press ⏲, you will see ON and OFF are flashing, which means that a set of timing has been set. Then you can press ▲ or ▼ to select and set other timing stage. If you don't have to set it, press ⏻ to exit.

Eg: Set the second stage timing on/off, the unit is started at 17:30 p.m. and closed at 23:30 p.m.

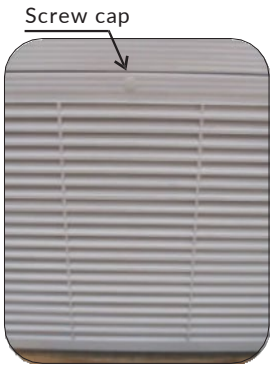


2.3.2.6 Cancel timing setting

After entering the timing setting, select the stage to cancel, long press ⏲ for 5 seconds to cancel timing setting.

2.4 Installation

2.4.1 Plastic shell dismantling for ABS wall mounted mode



Step one:
Unplug the screw cap on the grill

Step two:
Use a Phillips screwdriver to twist the screw

Step three:
pull down the left and right buckle on the grille

Step four:
Open up the grille

Step five:
Use a Phillips screwdriver to twist the screw

Step Six:
Move up the right side of the plate

Step Seven:
Move left the right side of the plate

Step Eight:
Remove the right side of the plate

Note: Do not use excessive force to damage the retaining buckle during the disassembly process.

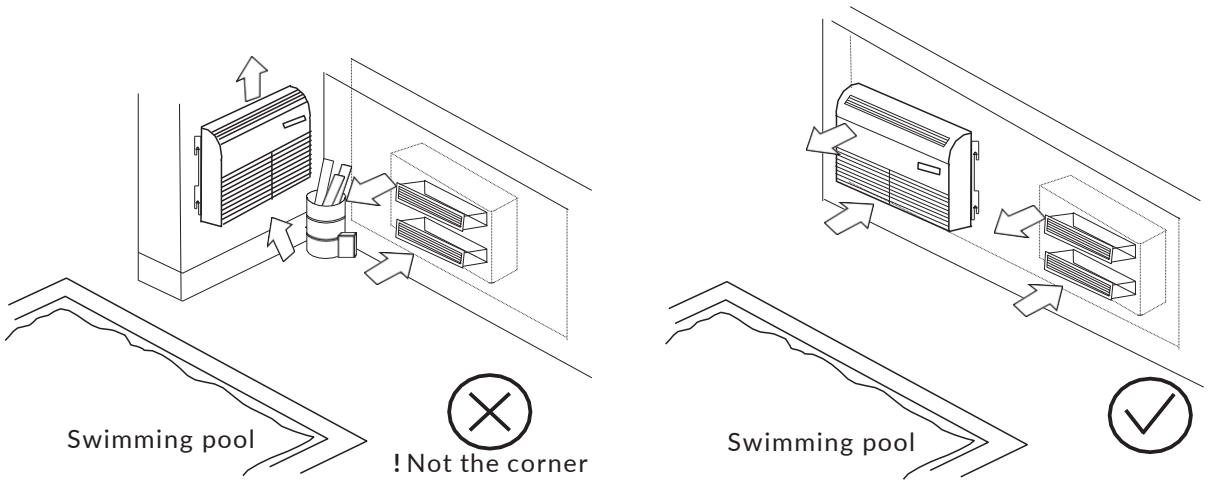
2.4.2 The requirement of installation place

2.4.2.1 To get enough air for ventilation of the unit, the installation position should be with good ventilation.
2.4.2.2 The installation position can hold the outdoor unit without noise and shake.
2.4.2.3 No sunlight to the unit. Set an awning if necessary.
2.4.2.4 The water from rain and defrosting can be discharged in the installation position.
2.4.2.5 The unit will not be covered by snow in the installation position.
2.4.2.6 The discharged air will not face strong air in the installation position.
2.4.2.7 Assure the noise caused by the unit ventilation and operation will not affect the neighbour.
2.4.2.8 The installation position will not be affected by garbage, oil and mist.
2.4.2.9 The unit will be damaged under the condition with oil{engine oil), salt{sea area) and sulfide air {near thermal spring and refining factory).

2.4.3 Installation requirement

2.4.3.1 The unit can be installed in the balcony, roof, floor or any other convenient place and reliable load-bearing.
2.4.3.2 Airiness place.
2.4.3.3 No heat radiation or other heat source place
2.4.3.4 Should be set up shed against the snow in winter.
2.4.3.5 Barrier-free at the air inlet or outlet place.

2.4.3.6 Outlet against strong winds blowing place.
2.4.3.7 There should be drainage channels around the machine in order to rule out the condensate.
2.4.3.8 Control Panel, do not install in the bathroom, so as not to affect the unit work by wet.
2.4.3.9 Should leave enough space around the machine. As shown below.



2.4.3.10 Open the front grille plastic case, you can see the plastic plate around the screw, open the screw only after about two plastic plates can be opened. Before the initial installation, containing the product accessories. Please remove the attachment.

Warning Unit installation, does not allow the right tilt, equipped with side outlet is slightly lower, so the unit can be conducive to the normal drainage.

2.4.4 Electrical wiring

2.4.4.1 The unit should use dedicated power supply, power supply voltage line corresponding with rated voltage.

2.4.4.2 The unit power cable must use copper cable, the cable diameter must ensure that the unit's maximum starting current requirements.

2.4.4.3 The unit power supply circuit must have a grounding wire, which should connect with a reliable external ground wire, and the external ground wire is effective.

2.4.4.4 Wiring construction must be installed by professional technicians refer to circuit diagram.

2.4.4.5 Power lines and signal line layout should be neat, rational, strong and weak lines separate and can not interfere with each other, while not contacted with the connecting pipe and the valve body.

2.4.4.6 When power lines and control lines parallel, the wires were placed in each tube, also eave appropriate distance between the lines.

2.4.4.7 Unit electric wire connection: take the unit power line, remote control three core lines, electric heater power line, solar circulated water pump control power line, water tank temperature sensing line, solar collector temperature sensor line, terminal equipments connect to unit lines, through the unit wiring hole set into the electrical box, connect to the appropriate terminals according to wiring diagram, and fix it by the pressure line of board in the electrical box.

2.4.4.8 The unit input power wire select diagram.

Model	Host Power	Line	Neutral	Ground	Max.line length (ft)	Signal line	Tem. sensor assistance line	Max.line length (ft)
APD-020	220V/1PH/60Hz	14 AWG	14 AWG	14 AWG	100	22 AWG	22 AWG	200
APD-030	220V/1PH/60Hz	14 AWG	14 AWG	14 AWG	100	22 AWG	22 AWG	200
APD-050	220V/1PH/60Hz	12 AWG	12 AWG	12 AWG	100	22 AWG	22 AWG	200

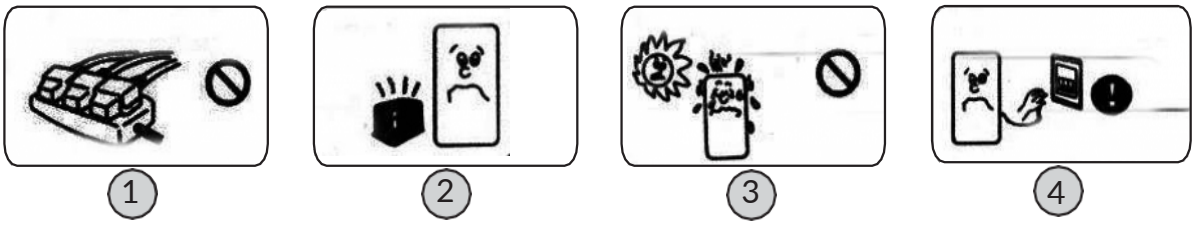
Note:

1. Use PVC insulated copper wire for above wiring.

2. For installation requires, the line is longer than the maximum line length, please contact the company.

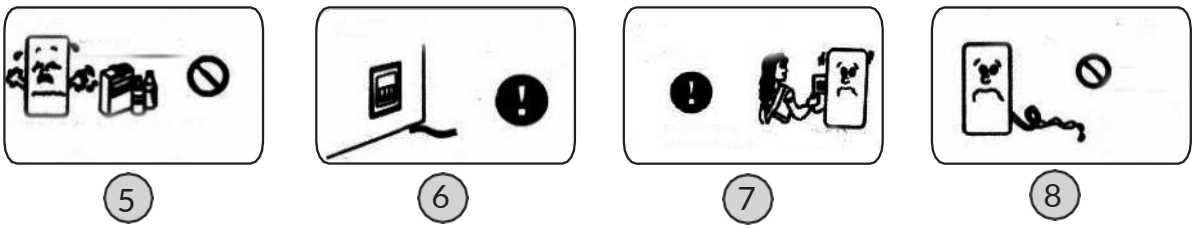
2.5 Safe use and maintain attention

2.5.1 Safe use



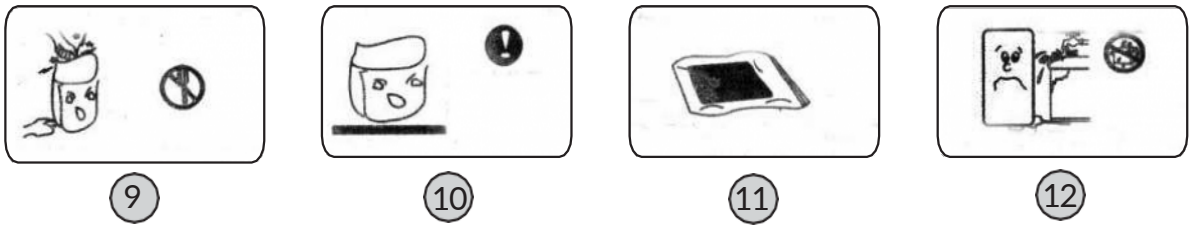
1 2 3 4

1. Do not use relays, extension cords or adapters to connect the machine, otherwise it will result in fire, electric shock over heating.
2. Do not place the unit near stoves, heaters or other heating equipment.
3. Do not subject to direct sunlight or exposed to the elements of the local use of dehumidifiers. The machine for indoor use only.
4. If you notice a problem (such as a burning smell) turn off the machine and unplug it from the power immediately



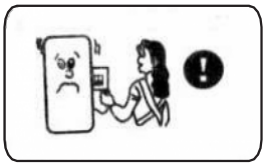
5 6 7 8

5. Do not place vulnerable to chemicals affecting the use dehumidifiers into the atmosphere of drugs or solvents may cause local adverse effects, and use the tank water leakage occurred.
6. Unplug the unit before a long period of no use.
7. Cleaning the machine, please stop and pulled out the power plug, otherwise easily lead to personal injury.
8. Continuous drainage, please put away pipes to the drainage flow. If the water temperatures may freeze around, you can not be continuous drainage.



9 10 11 12

9. Please do not repair, unweave or modify the machine, otherwise lead to a fire or electric shock.
10. Please place the unit on firm premises, if the machine overturned, the water tank would leak and damage the surrounding materials, thus resulting in fire or electric shock due to leakage.
11. Skill to extend the life of air purification filters, if not used in a long time, put it into a plastic bag, sealed.
12. Do not use of dehumidifiers exposed to water. This unit may leakage when watered, causing fire or electric shock.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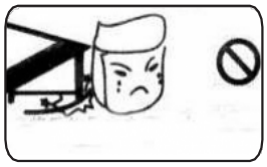
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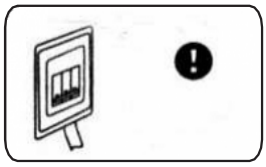
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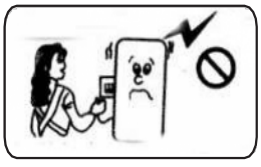

16

13 Please use the appropriate power switch, or else cause fire or electric shock.

14 Do not damage or change the power cord. Do not place heavy objects on the power cord, heating or force the cord, or else damage the power cord result in fire or electric shock.

15 Power cord securely connected to the power switch on, if the power cord loose; there is risk of electric shock.

16 Do not unplug the power cord to stop the dehumidifier to run; otherwise will cause a fire or electric shock.

2.5.2 Maintenance Notes

2.5.2.1 When moving, do not tilt the body over 113 °F to prevent damage to the compressor.

2.5.2.2 When dehumidifier work, the heat generated by compressor operation, room temperature will rise 34~37°F, this is normal phenomenon, ease of use.

2.5.2.3 If the setting humidity higher than the real humidity ,the dehumidifier will not work.

2.5.2.4 When dehumidification, compressor began to work, fan and compressor will run at least 3 minutes to stop work; Compressor must go through three minutes to start working after stopping working.

2.5.2.5 If at lower temperatures, the unit will judge the system temperatures automatically to achieve automatic defrost purpose; When defrosting defrost working compressor.

2.5.2.6 system possesses automatic memory function, when all the mode setting the system meet power failure a or suddenly meet without tight slide in power, the system can automatically stored before the operation state, in the next time in power system will automatically enter before operating mode.

2.5.2.7 If long time without using the dehumidifier, remove power wire or power down.

2.5.2.8 Inlet and outlet must leave at least 4 inches from the wall, so as not to affect the dehumidification effect.

2.5.2.9 Air filter accumulation dust, this will affect the dehumidifier effect, even failure,must be regularly cleaned at least once a month, if the environment more dust, it is recommended that a weekly or even daily cleaning, pull down the front panel ,clean the filter, tapping or vacuuming to remove dust on the filter when cleaning,or wash filter in the warm water (=104 ° and add some neutral detergent), rinse with water and dry, can not be directly exposed to the sun or broiled, prevent deformation.

Failure phenomenon	Analysis	Troubleshooting
Dehumidifier not run	1. Power failure 2. Power switch is not turned 3. Power cables are not connected Fuse blows	1. Restoration of electricity 2. Restore power 3. Plug the power cord Replace the fuse
Dehumidification little effect	1. Air filter fouling 2. Doors and windows open 3. Refrigerant leak.	1. Clean the filter 2. Removal of obstructions 3. Close doors and windows 4. Contact with the agent or factory repair

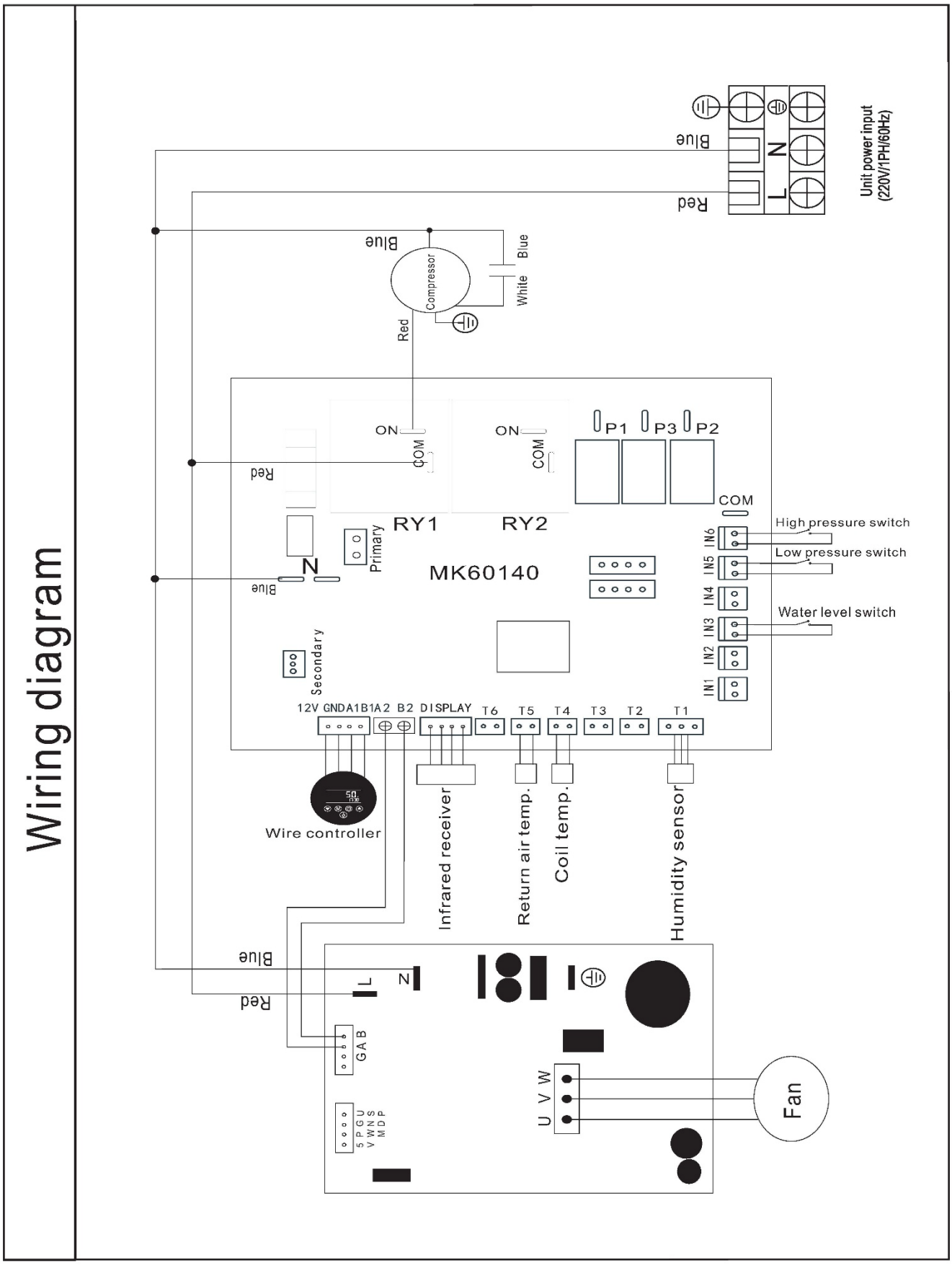
Leakage	1. Tilt the machine 2. Outlet pipe plug	1. Adjust the machine level 2. Remove the pane to remove tube booty
Abnormal noise	1. Place the machine is not smooth 2. Filter is blocked	1. Reposition the machine steady 2. Clean the air filter

2.5.4 Fault code description

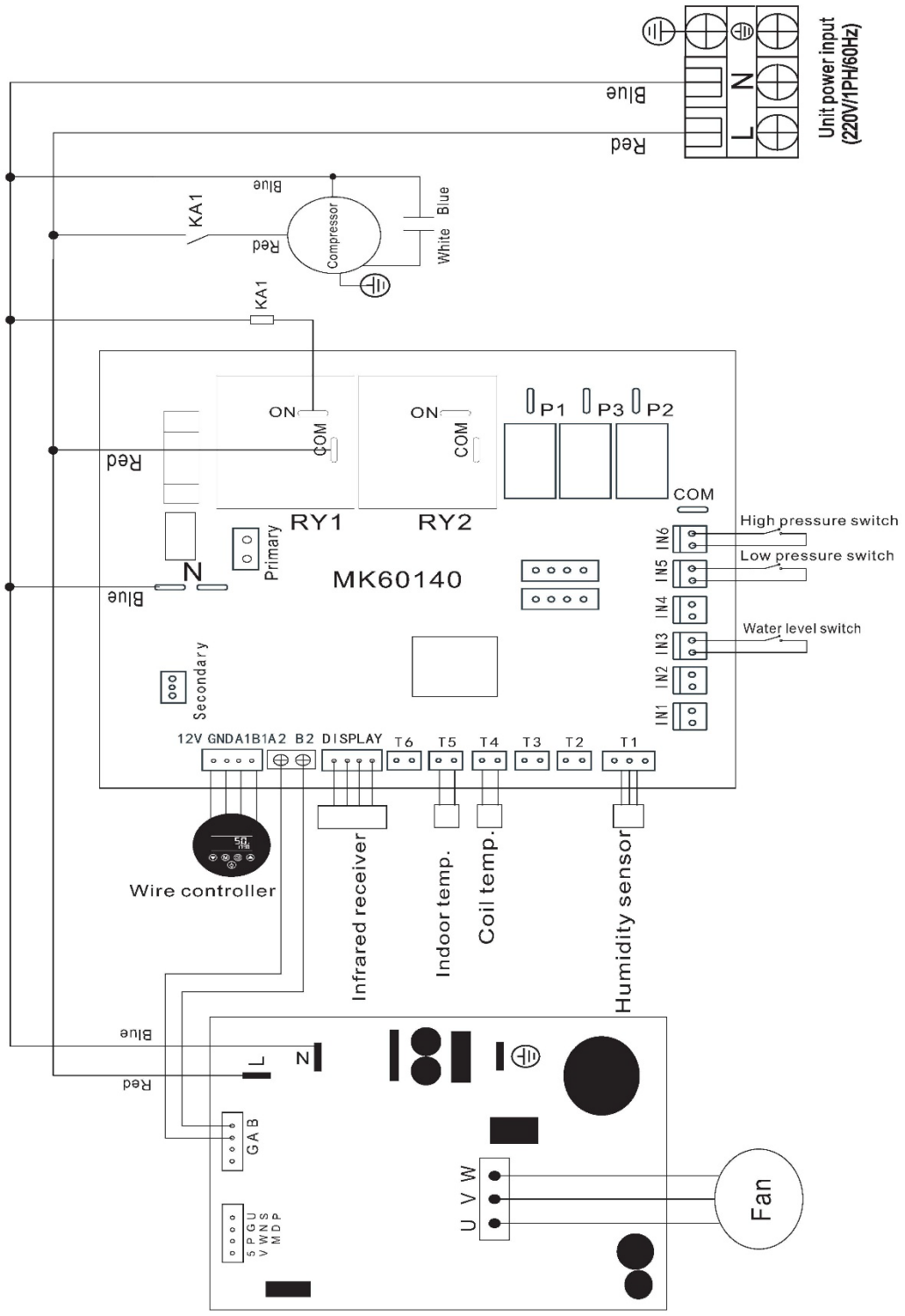
The dehumidifier automatically determine fault with features such as failure, in the humidity in the display fault code will appear.

Wire controller display	Issue	Problems Solutions
E1	Ambient temp. sensor fault	Check ambient temp. sensor connection is normal or not
E2	Coil temp. sensor fault	Check coil temp. sensor connection is normal or not
E3	Humidity sensor fault	Check humidity sensor connection is normal or not
E4	High pressure protection	1. Check high pressure switch is normal or not 2. Check whether the unit is running hot
E5	Low pressure protection	1. Check low pressure switch is nomal or not 2. Check whether the unit is lack of refrigerant
E12	DC fan fault	Check DC fan connecting wire is normal or not
E13	DC fan communication fault	Check whether the communication line between the mainboard and the fan drive board is connected normally
EE	Communication fault	Check wire controller connection is normal or not

2.5.5 Wiring diagram

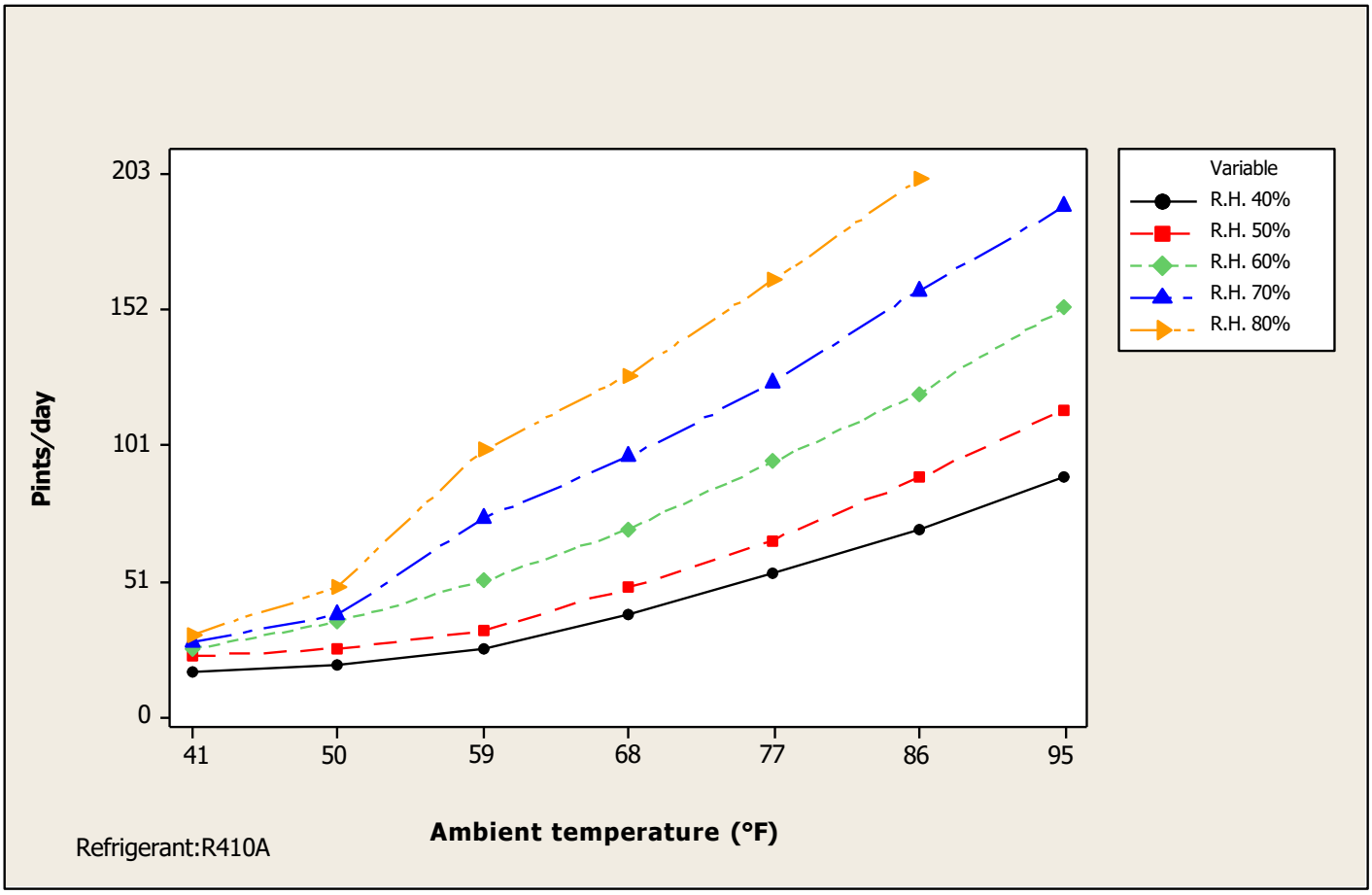


Wiring diagram

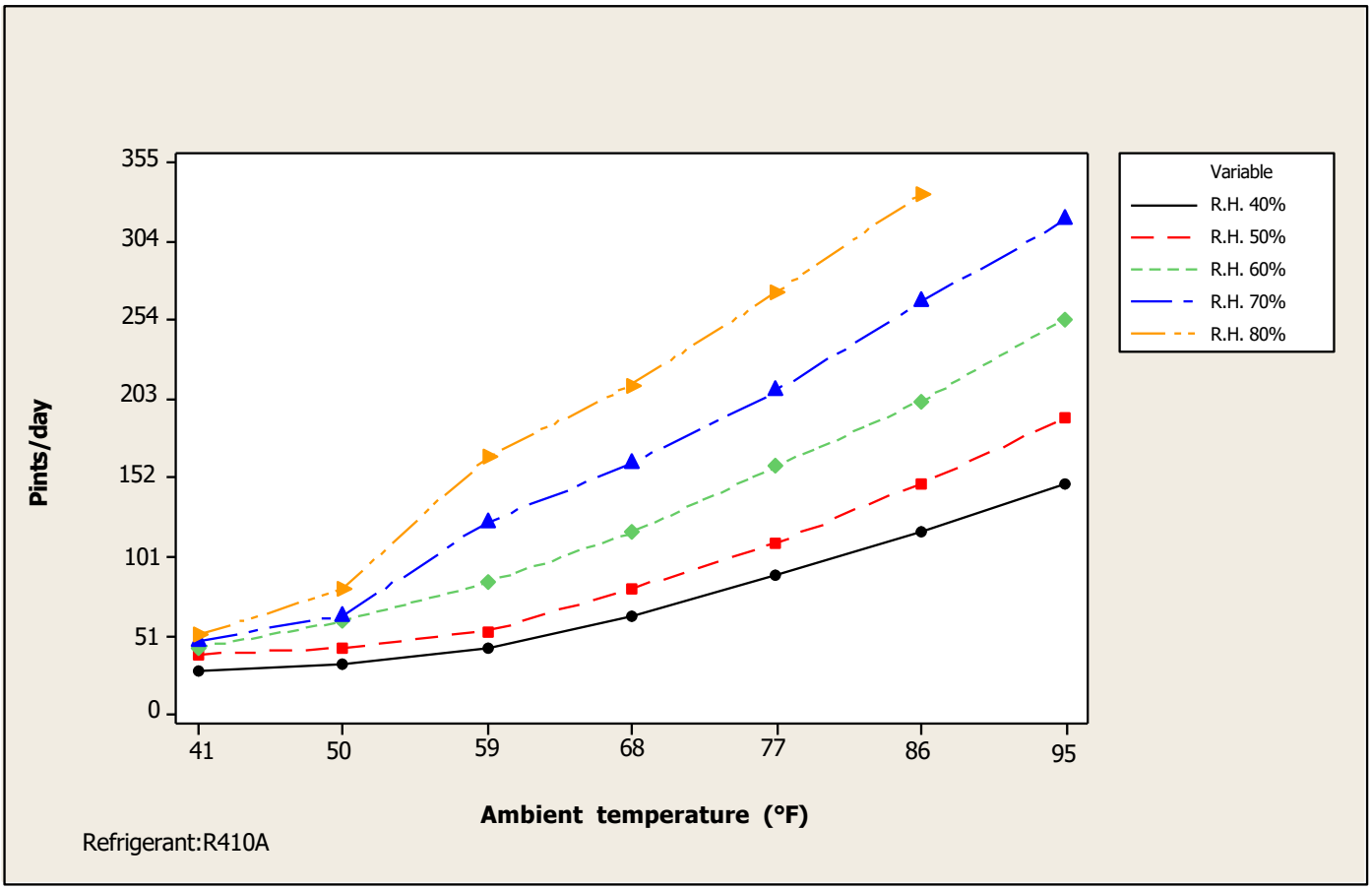


3. Performance of APOLLO Dehumidifier

3.1 APOLLO Dehumidifier: APD-020

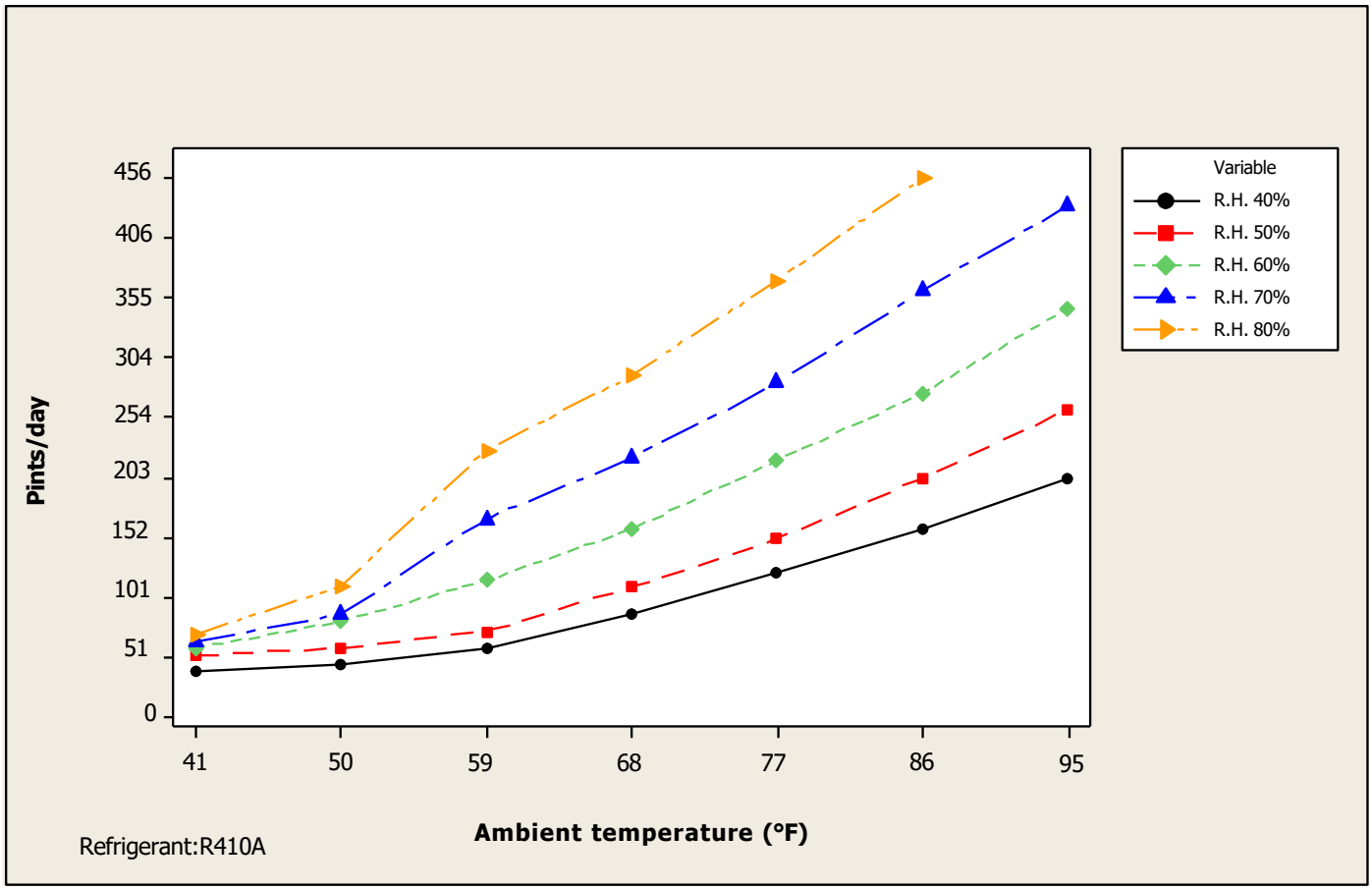


3.2 APOLLO Dehumidifier: APD-030



Refrigerant:R410A

3.3 APOLLO Dehumidifier: APD-050



Refrigerant:R410A

APOLLO

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