Installation Manual for Outdoor Unit

AWAU-YCV280-H13

AWAU-YCV400-H13

AWAU-YCV450-H13

No.0150510083

- Please read this manual carefully before using
- Keep this operation manual for future reference

splitoff.ru

Большая библиотека технической документации

https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

каталоги, инструкции, сервисные мануалы, схемы.

User Manual

Flow Logic II series adopts "simultaneous control" type, all indoors should be heating or cooling simultaneously.

To protect compressor, before startup, the unit should be electrified for over 12 hours. If the unit is not used for a long time, please cut off the power to save energy, or the unit will consume the power.

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whole model	brief model
AWAU-YCV280-H13	YCV280
AWAU-YCV400-H13	YCV400
AWAU-YCV450-H13	YCV450

The brief model is used in this manual for above models.

Operation condition:

To use the air conditioner normally, please perform as to the below conditions.

Operating Range of Air Conditioner

cooling dry	indoor	max.	DB: 32℃	WB: 23℃
		min.	DB: 18℃	WB: 14℃
	outdoor	max.	DB: 43℃	WB: 26℃
		min.	DB: -5℃	
heating	indoor	max.	DB: 27℃	
		min.	DB: 15℃	
	outdoor	max.	DB: 21℃	WB: 15.5℃
		min.	DB: -15℃	

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Safety precaution

- If the air conditioner is transferred to the others, this manual should be tranferred together.
- Before installation, please read "Safety precaution" carefully to confirm the correct installation.
- The mentioned precaustion includes "⚠WARNING" and "⚠CAUTION". The precausion caused death or heavy injury for faulty installation will be listed in "⚠WARNING". Even the cautions listed in "⚠CAUTION" also may cause serious accident. So both of them are related to the safety, and should be executed severely.
- After installation, perform a trial and confirm everything normal, then introduce the operation manual to the user. Besides, put the manual to the user and ask them to preserve it carefully.

⚠ WARNING

- The installation or the maintenance should be performed by the authorized agency. Or the non-specialized operation will cause water leakage, electric shock or fire etc accidents.
- The installation should be executed as per the manual, or the faulty installation will cause water leakage, electric shock or fire etc accidents.
- Please install the unit at the space which can bear the weight. Or the unit will drop down to cause the human injury.
- The installation should defend against the typhoon, and the earthquake etc. Abnormal installation will cause the unit fall down.
- Use the correct cable and make reliable earthing. Fix the terminal firmly and the loose connection will cause heating or fire etc accident.
- The wiring should be in shape and can not be raised. Be earthed firmly and can not be clipped by the electric box cover or the other plate. The incorrect installation will cause heating or fire.
- When setting or transferring the unit, there should not be other air into the refrigerant system except for R410A. The gas mixture will cause the abnormal high pressure which will cause break or human injury etc accidents.
- When installation, please use the accessories with the unit or the special parts, or it will cause water leakage, electric shock, fire, refrigerant leakage etc accidents.
- Don't lead the water drainage pipe into the drainage groove with the poisonous gas, such as sulphur. Or the poisonous gas will enter indoor.
- In installation or after installation, please confirm if there is refriegerant leakage, please take measures for ventilation. The refrigerant will cause poisonous gas as meeting fire.
- Don't install the unit at the place where there may be flammable gas leakage. In case the gas leaks and gather around the unit, it will cause fire.
- The drainage pipe should be installed as per the manual to confirm the fluent drainage. Also take measures for heat insulation against dew drop. Incorrect water pipe installation will cause water leakage even and make the things wet.
- For the liquid pipe and the gas pipe, take measures for heat insulation too. If there is no heat insulation, the dew drop will wet the things.
- This appliance is not intended for use by persons (including children) with reducedphysical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Safety precaution

⚠ CAUTION

- Execute earthing for the unit. But the earthing wire can not be connected to the gas pipe, water pipe, lightening rod or the telephone earthing wire. Improper earthing will cause electric shock.
- The outdoor fan can not face to the flower or the other vegetable, or the blowing gas will make the flower dried up.
- Please ensure the maintenance room, if not, it will cause the maintenance person damaged.
- When installing the unit on the roof or the other high place, to prevent the person falling down, please set the fixed ladder and the railing at the passage.
- Use the two-end spanner, and fasten the nut at proper torque. Don't fasten the nut excessively against the flared setion broken. Or it will cause refrigerant leakage and lack of oxygen.
- Take measures for heat insulation to the refrigerant pipe, or there will be water leakage or dew drop to wet the family things.
- After finishing the refrigerant pipe, make leakage test by charging the nitrogen. In case the refrigerant leaks in a small room and exceeds the limited concentration, it will cause lack of oxygen.
- Don't use the other refrigerant except for R410A. The R410A pressure is 1.6 times higher than R22 pressure. The refrigerant R410A tank is marked with pink sign.
- Against charging different refrigerant, we changed the stop valve diameter of the R410A unit. To enhance the compression consistance, we also changed the flared pipe dimension. Prepare the R410A specially tools according to the below table.

	R410A specially tool	Remarks
a	gauge manifold	range:HP＞4.5MPa,LP＞2MPa
b	charge hose	pressure:HP:5.3MPa,LP:3.5MPa
c	electronic balance for charging R410A	can not use the measurable charging tank
d	torque spanner	
e	flare tool	
f	copper pipe gauge for adjusting projecting margin	
g	vacuum pump adapter	must be with reverse stop valve
h	leakage detector	can not use freon leakage detector,but the He detector

- When charging refrigerant, the refrigerant must be taken out as liquid state from the tank.
- When installing indoor unit, outdoor, power cable and connecting wire, leave them at least 1m away from the TV set or the radio against interference for the image or the noise.
- In the room with fluorescent lamp (reverse phase or rapid start type), the remote signal may be not reach the pre-set distance. The farther that indoor is away from fluorescent lamp, the better.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation instruction

In installation, please check specially the below items:

- If the connected units quantity and the total capacity is in the allowable range?
- If the refrigerant pipe length is in the limited range?
- If the pipe size is proper? And if the pipe is installed horizontally?
- If the branch pipe is installed horinzontally or vertically?
- If the additional refrigerant is counted correctly and weighed by the standard balance?
- If there is refrigerant leakage?
- If all the indoor power supplies can be on/off simultaneously?
- If the power voltage is in compliance with the data marked on the rating label?
- If the address of indoors and outdoors has been set?

(1) Before installation

1) Before installation, check if the model, power supply, pipe, wires and parts purchased respectively are correct.
2) Check if the indoors and outdoors can be combined as the following.

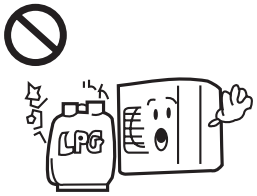
outdoor		indoor		gather pipe
capacity (100W)	combination type	indoor Qty	total indoor capacity (100W)	
280	single	16	140-364	
400	single	23	200-520	
450	single	26	225-585	
560	combination (280+280)	33	280-728	TAS20
680	combination (400+280)	39	340-884	TAS20
730	combination (450+280)	43	365-949	TAS20
800	combination (400+400)	46	400-1040	TAS20
850	combination (400+450)	50	425-1105	TAS20
900	combination (450+450)	53	450-1170	TAS20
960	combination (400+280+280)	56	480-1248	TAS30
1010	combination (450+280+280)	59	505-1313	TAS30
1080	combination (400+400+280)	63	540-1404	TAS30
1130	combination (400+280+450)	64	565-1469	TAS30
1180	combination (450+450+280)	64	590-1534	TAS30
1300	combination (400+450+450)	64	650-1690	TAS30
1350	combination (450+450+450)	64	675-1755	TAS30

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation instruction

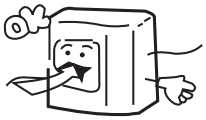
(2) Installation place selection

Air-conditioner can't be installed in the place with inflammable gas. Or it will cause fire hazard.



The unit should be installed at the place where the cold/hot air or noise will not interfere the neighbours.

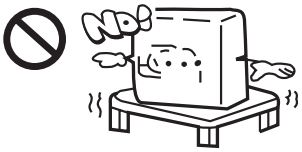
The unit should be installed at the place with good ventilation. No obstacle at the air inlet/outlet. And no strong wind blows the unit.



The installation space refers to the latter info.

- The place where the water can flow fluently.
- The place where no other heat source will affect the unit.
- Pay attention to the snow against clogging the outdoor.
- In installation, install the anti-vibration rubber between the unit and the bracket.

The unit should be installed at the strong enough place. Or it will cause vibration and noise.



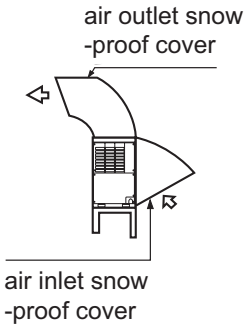
- The unit is better not be installed at the below places, or it will cause damage.
- The place where there is corrosive gas (spa area etc).

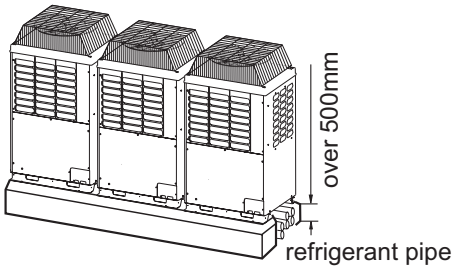
  The place blowing salty air (seaside etc).
- Exsits the strong coal smoke.
- The place with high humidity.
- The place where there is device emitting Hertzian waves.
- The place where voltage changes greatly.

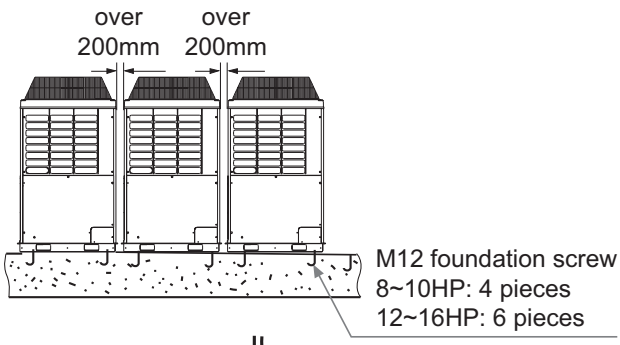
Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation instruction

Note:
1.The place where outdoor unit located must be keep out of water.
2. Install adapter to change wind direction at the gas short circuit place.
3. When installing multiple units, there should be enough air inlet place against air in short circuit.
4. In snowy area, install the unit under the bracket or the snow-proof cover against the accumulative snow on the unit.
5. Do not install the unit at the place where the flammable gas will leak.
6. Install the unit at the strong enough place.
7. Install the unit at the flat place.
8. When the refrigerant pipe is leaded out from the bottom of the unit, the below section should be a bracket with over 500mm height, see below figure.
9. When being installed at the place with strong wind, set the air outlet of the unit and the wind direction vertical. Also fix the unit with the screw.
10. When opening the electric box cover for maintenance, please fix the cover with screw firmly.

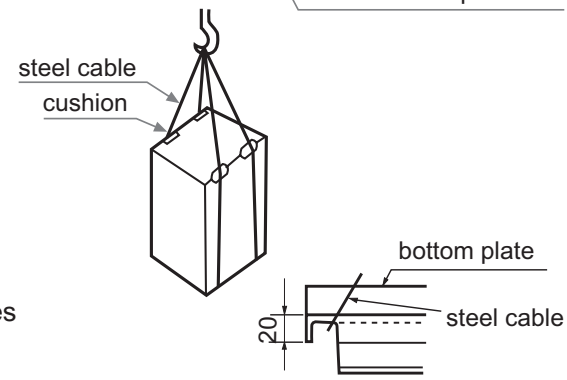




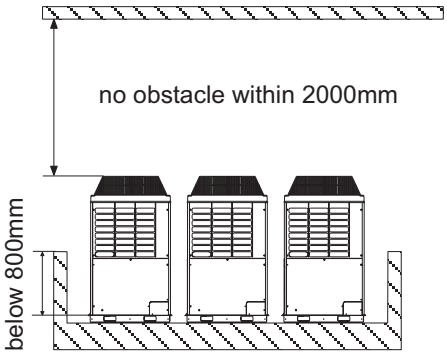


(3) Transportation

- In transportation, please don't dismantle the packaging, and move the unit to the installation location as closely as possible.
- Don't hang the unit only at two points. When hanging the unit, don't sit on the unit. The unit should be upright.
- When removing the unit with the forklift, put the fork into the special hole at bottom of the unit. When being hanged, the rope should be 4 pieces of steel cable with over 6mm diameter.
- Put the cushion at the contact section between steel cable and the unit against the distortion or damage.



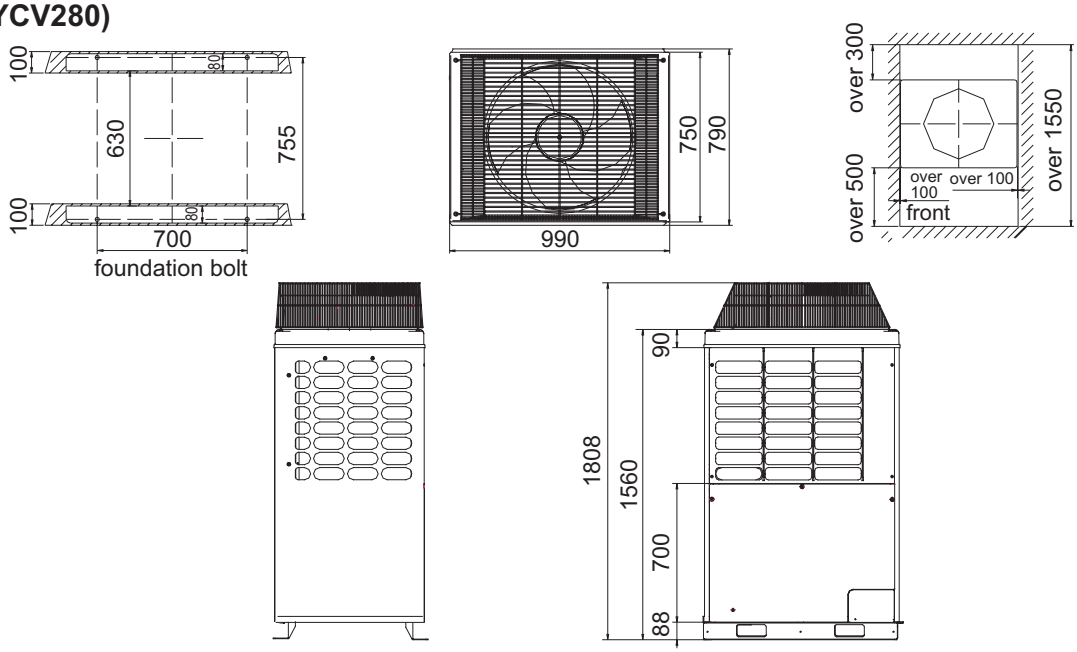
Note:
There should be no obstacles in 2000mm above the top of outdoor unit;
Obstacles around outdoor should be less than 800mm to the bottom of unit.
When multiple modules are installed, the outdoor should be in ranked as the capacity, the larger capacity is closer to the main pipe of gather pipe.



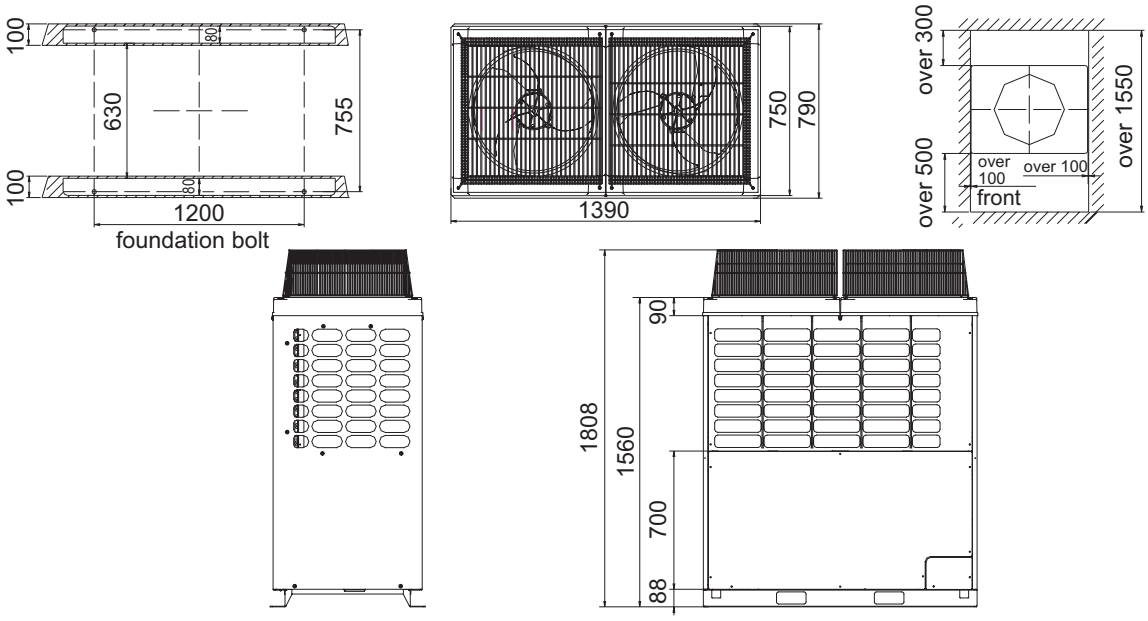
Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Exterior and installation dimensions

1. 10HP exterior and installation dimensions (YCV280)



2. 14~16HP exterior and installation dimensions (YCV400 YCV450)



Note:
The distance between two outdoor units in the same line and the distance from unit to the wall can be increased for easy maintenance and better heart exchange if there is enough space.

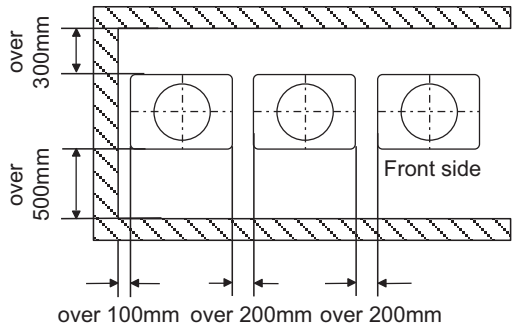
Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

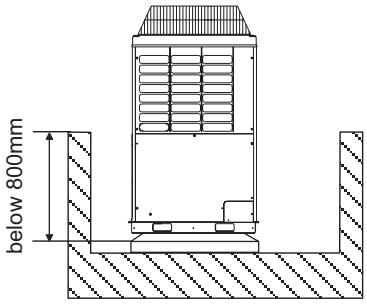
Exterior and installation dimensions

3. Combination installation dimensions

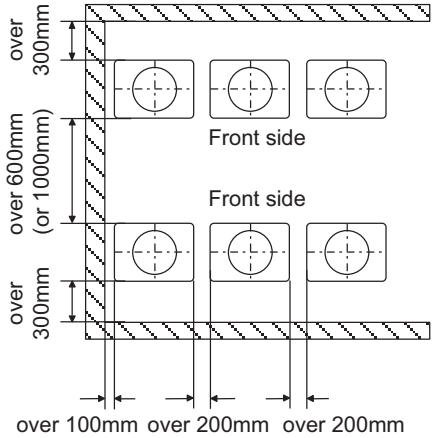
(1) When outer wall is lower than the outdoor condenser

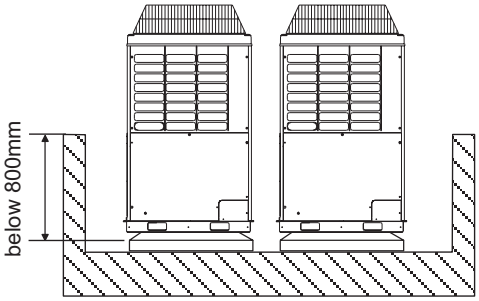
A. Sites for one-row layout



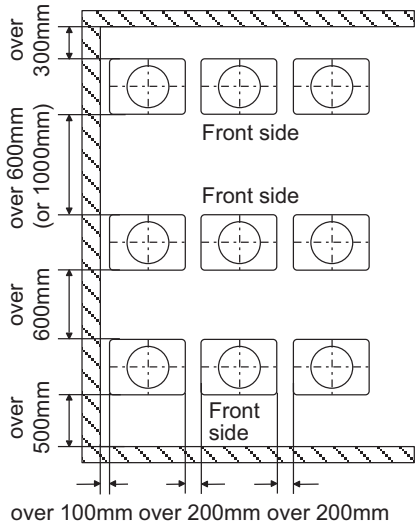


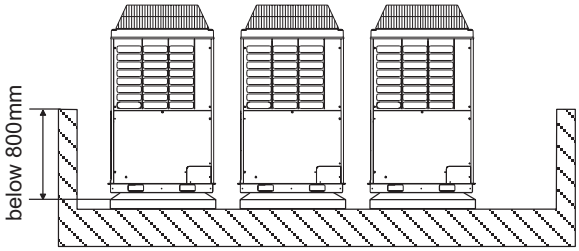
B. Sites for two-row layout





C. Sites for three-row layout





Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Exterior and installation dimensions

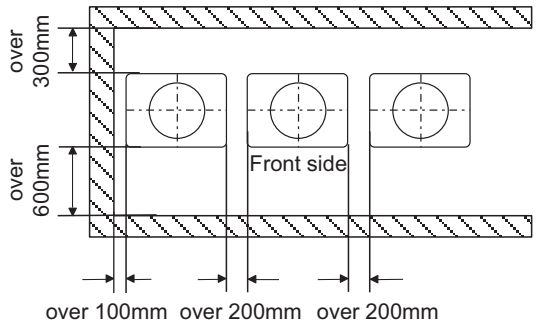
(2) Wall higher than the outdoor condenser

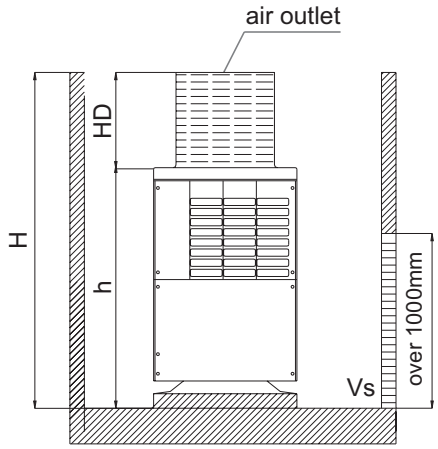
A. Place with air inlet hole

Notes:

a. Fan speed Vs at air inlet is 1.5m/s or below.

b. Air outlet height HD=H-h and below 1m.



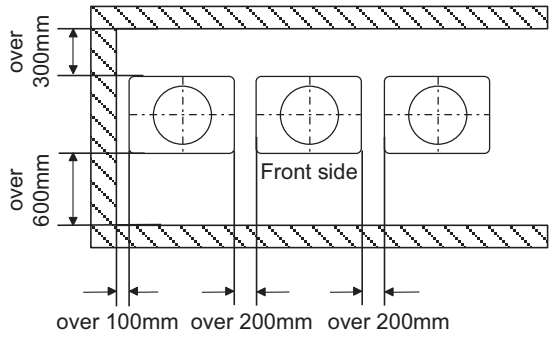


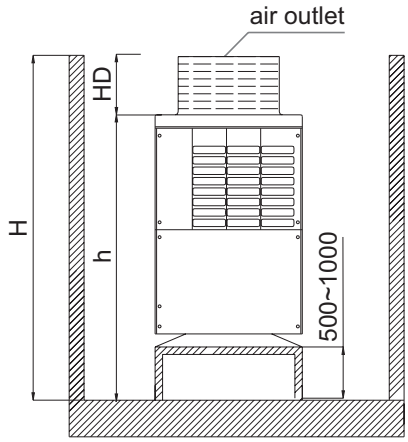
B. Place without air inlet hole

Notes:

a. Set a 500~1000mm bracket.

b. Air outlet height HD=H-h and below 1m.





Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

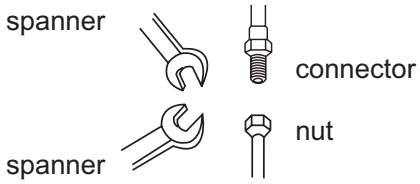
Installation procedure

A. Refrigerant pipe connection

Pipe connection method:

- To ensure the efficiency, the pipe should be as short as possible.
- Daub the refrigerant oil on the connector and the flare nut.
- When bending the pipe, the bending semi-diameter should be as large as possible against the pipe being broken or bent.
- When connecting the pipe, aim at the center to thread the nut by hand and tighten it with the double spanners.
- Fastening torque please refers to "pipe specs and fastening torque" on page 17.
- Don't let the impurity such as sand, water etc into the pipe. Antifouling measures refer to Page 10.

When fastening and loosing the nut, operate with double spanners, because only one spanner cannot execute firmly.



If threading the nut as not aiming at the center, the screw thread will be damaged, further it will cause leakage.

Cautions in piping installation:

1. When welding the pipe with hard solder, charge nitrogen into the pipe against oxidation. The pressure gauge should be set at 0.02MPa.Perform the procedure with nitrogen circulation. Otherwise, the oxide film in the pipe may clog the capillary and expansion valve resulting in accident.
2. The refrigerant pipe should be clean. If the water and the other impurity enter the pipe, charge the nitrogen to clean the pipe. The nitrogen should flow under the pressure of about 0.5Mpa and when charging the nitrogen, stop up the end of the pipe by hand to enhance the pressure in the pipe, then loose the hand (meanwhile stop up the other end).
3. The piping installation should be executed after the stop valves are closed.
4. When welding the valve and the pipe, cool down the valve with wet towel.
5. When the connection pipe and the branch pipe need to be cut down, please use the special shears and cannot use the saw.
6. When welding copper pipe, use the phosphor copper welding rod without any welding flux. (welding flux will damage the piping system. The welding flux containing chlorine will corrode pipe, especially, the welding flux with fluorin will damage refrigeration oil.)

Pipe material and specs selection

1. Please select the refrigerant pipe of the below material.
   Material: the phosphoric oxidize seamless copper pipe, model: C1220T-1/2H (diameter is over 19.05); C1220T-0(diameter is below 15.88).
2. Thickness and specs:
   Confirm the pipe thickness and specs according to the pipe selection method(the unit is with R410A, if the pipe over 19.05 is 0-type, the pressure preservation will be bad, thus it must be 1/2H type and over the min. thickness.
3. The branch pipe and the gather pipe must be from Airwell.
4. When installing the stop valve, refer to the relative operation instruction.
5. The pipe installation should be in the allowable range.
6. The installation of branch pipe and gather pipe should be performed according to the relative manual.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

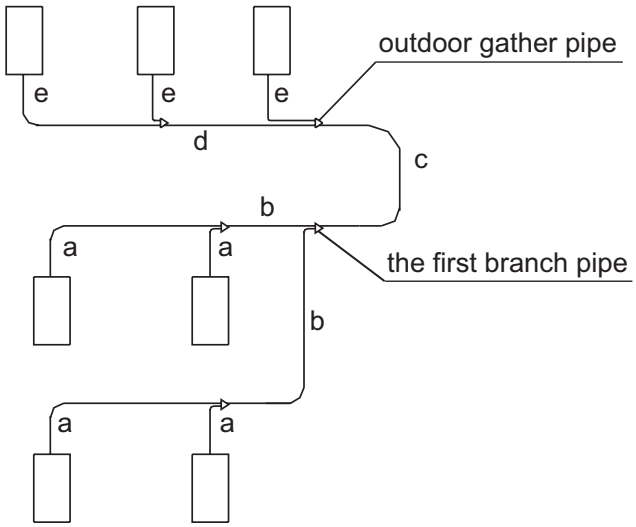
Installation procedure

Anti-fouling measures

Firstly, clean the pipe.

position	installation period	measures
outdoor	more than 1 month	flat the pipe end
	less than 1 month	flat the pipe end or seal with adhesive tape
indoor	nothing to do with period	

Pipe specification:



1. Pipe “a” diameter (between indoor and branch pipe) (depends on indoor pipe)

Indoor (x100W)	Gas pipe	Liquid pipe	Remarks
22~28	Ø9.52	Ø6.35	HAV007 HAV009 gas pipe: Ø12.7
36~56	Ø12.7	Ø6.35	HAV018 gas pipe/ liquid pipe: Ø15.88/9.52
71~140	Ø15.88	Ø9.52	

2. Pipe “b” diameter (between branch pipes)

Total indoor capacity after the branch pipe (KW)	Gas pipe	Liquid pipe
<16. 8KW	Ø15.88	Ø9.52
16. 8KW≤X<22. 4KW	Ø19.05	Ø9.52
22. 4KW≤X<33. 0KW	Ø22.22	Ø9.52
33. 0KW≤X<47. 0KW	Ø28.58	Ø12.7
47. 0KW≤X<71. 0KW	Ø28.58	Ø15.88
71. 0KW≤X<101. 0KW	Ø31.8	Ø19.05
≥101. 0KW	Ø38.1	Ø19.05

Note:
Adjust the diameter on field (changing pipe is needed)
When the latter indoor total capacity is less than 14.0kw, pipe b will use the specs as the pipe a.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

3. Pipe “c” diameter (main pipe, between outdoor gather pipe and the first branch pipe)

Outdoor capacity	Main pipe		Enlarged main pipe	
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
28.0KW	Ø22.2	Ø9.52	Ø25.4	Ø12.7
40.0KW	Ø25.4	Ø12.7	Ø28.58	Ø12.7
45.0KW	Ø28.58	Ø12.7	Ø31.8	Ø12.7
56.0KW	Ø28.58	Ø15.88	Ø31.8	Ø15.88
68.0KW	Ø28.58	Ø15.88	Ø31.8	Ø15.88
73.0KW	Ø31.8	Ø19.05	Ø38.1	Ø19.05
80.0KW	Ø31.8	Ø19.05	Ø38.1	Ø19.05
85.0KW	Ø31.8	Ø19.05	Ø38.1	Ø19.05
90.0KW	Ø31.8	Ø19.05	Ø38.1	Ø19.05
96.0KW	Ø31.8	Ø19.05	Ø38.1	Ø19.05
101.0KW	Ø38.1	Ø19.05	Ø38.1	Ø22.22
108.0KW	Ø38.1	Ø19.05	Ø38.1	Ø22.22
113.0KW	Ø38.1	Ø19.05	Ø38.1	Ø22.22
118.0KW	Ø38.1	Ø19.05	Ø38.1	Ø22.22
130.0KW	Ø38.1	Ø19.05	Ø38.1	Ø22.22
135.0KW	Ø38.1	Ø19.05	Ø38.1	Ø22.22

Note:
When the distance from outdoor to the longest indoor is over 90m, the main pipe should be the enlarged diameter.

4. Pipe “d” diameter (between gather pipes)

Total outdoor capacity before the gather pipe	Liquid pipe(a,c)	Gas pipe(b,d)
~68.0KW	Ø15.88	Ø28.58
69.0~90.0KW	Ø19.05	Ø31.8

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

5. Pipe “e” diameter (between outdoor and the gather pipe)

Outdoor capacity	Gas pipe	Liquid pipe	Oil equalization pipe
10HP	Ø22.2	Ø9.52	Ø9.52
14HP	Ø25.4	Ø12.7	
16HP	Ø28.58		

Copper pipe selection:

Material	O type pipe: soft pipe				
Pipe diameter	Ø6.35	Ø9.52	Ø12.7	Ø15.88	Ø19.05
Thickness(mm)	0.8	0.8	1.0	1.0	1.1

Material	hard pipe							
Pipe diameter	Ø19.05	Ø22.2	Ø25.4	Ø28.58	Ø31.8	Ø34.9	Ø38.1	Ø41.3
Thickness(mm)	1.0	1.0	1.0	1.0	1.1	1.3	1.4	1.5

Long pipe and high drop

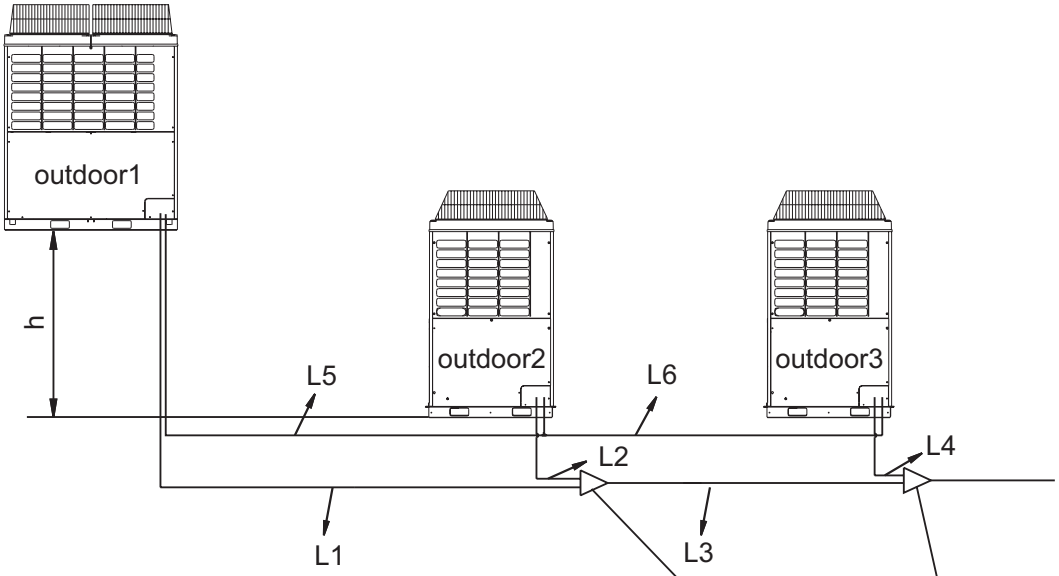
1. Applicable range

Item \ Model		All outdoors
Single way total pipe length		300m
Single way pipe length		Max.: 170m
Main pipe beween outdoor to 1st branch		Max. 130m
Pipe length between outdoors		Less than 10m to 1st branch pipe
Height difference between indoor and outdoor	Outdoor is upper	Max. 50m
	Outdoor is lower	Max. 40m
Height difference between outdoors (in the same system)		Within 5m (better be horizontal)
Max. pipe length from 1st branch pipe to indoor		Max. 40m
Height difference between indoors		Max. 15m

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

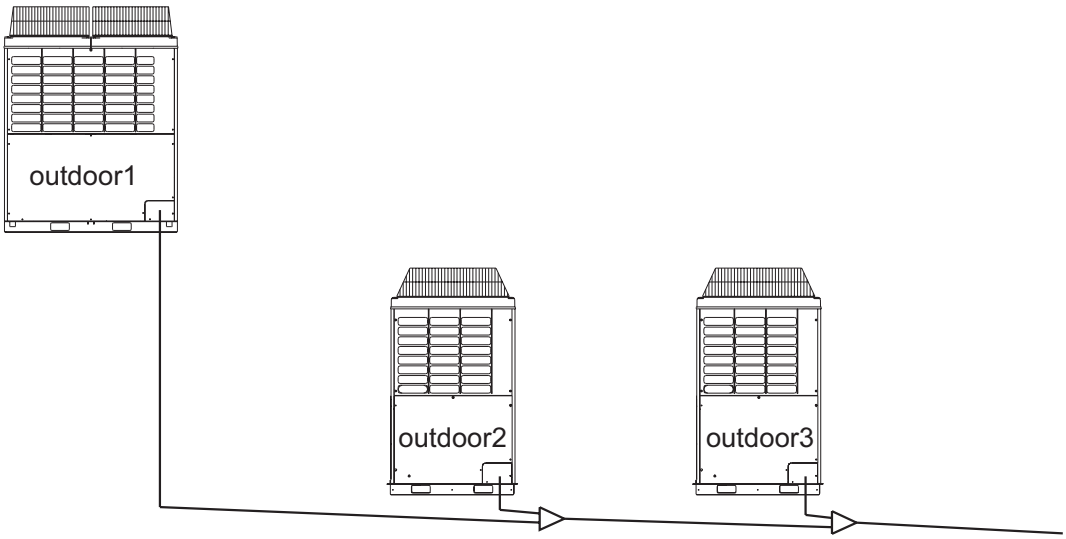
Installation procedure

2. Pipe length between outdoors



Gas/liquid pipe: L1+L3＜10m, L2+L3＜10m
Oil equalization pipe: L5+L6＜10m
Height difference between outdoors: h＜5m

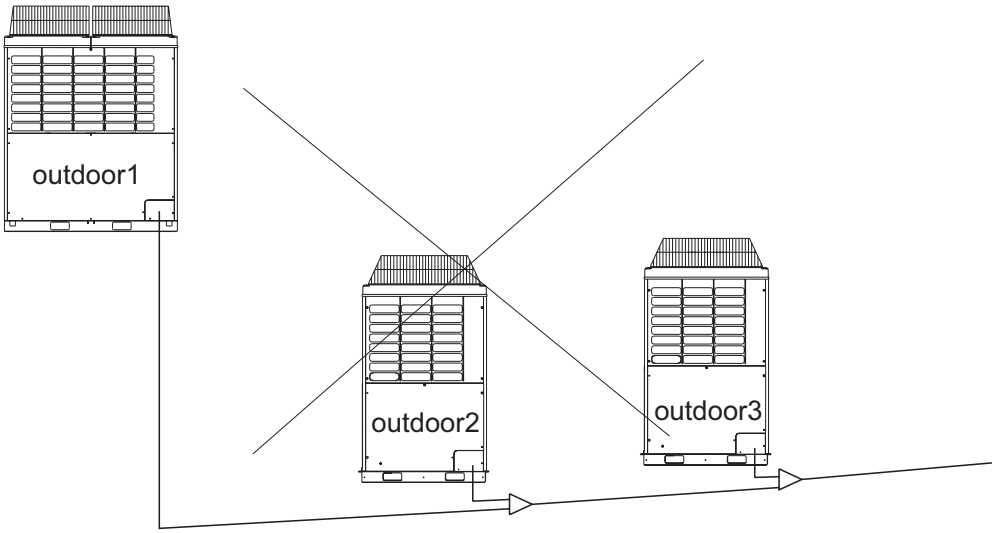
Note:
a. TAS30 includes TAS20;
b. The connection pipe among outdoors can not be higher than the stop valve position;
c. The connection pipe among outdoors should be horizontal or be in a certain angle as the below figure (less than 15degree).



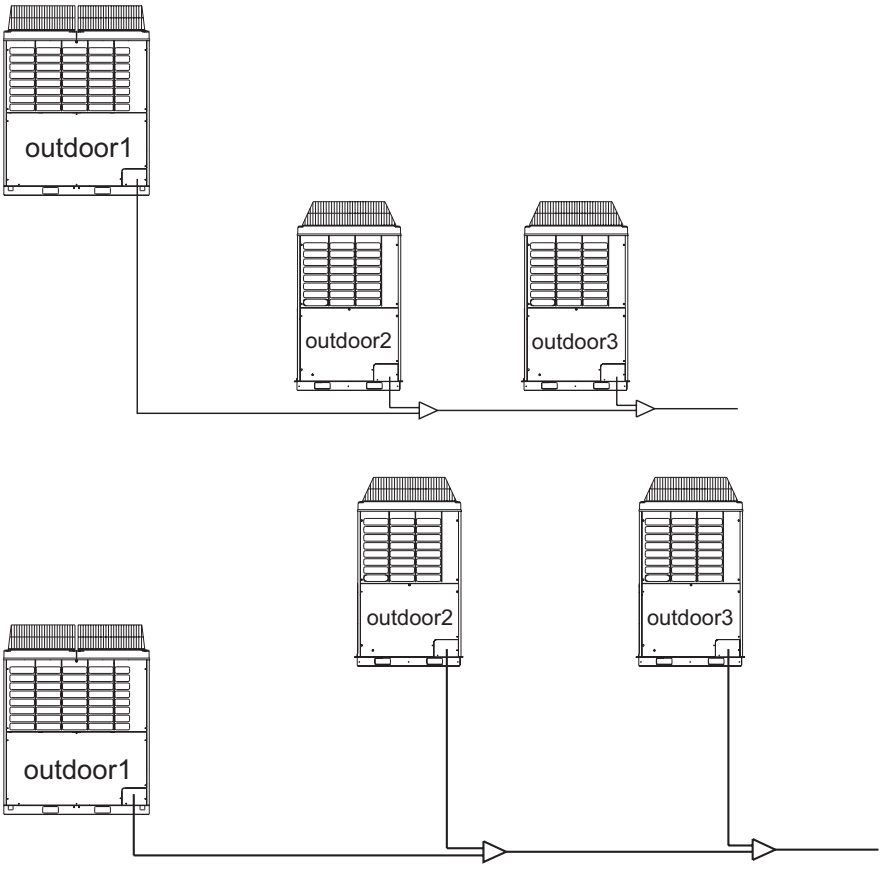
Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

Forbidden to be below angle.



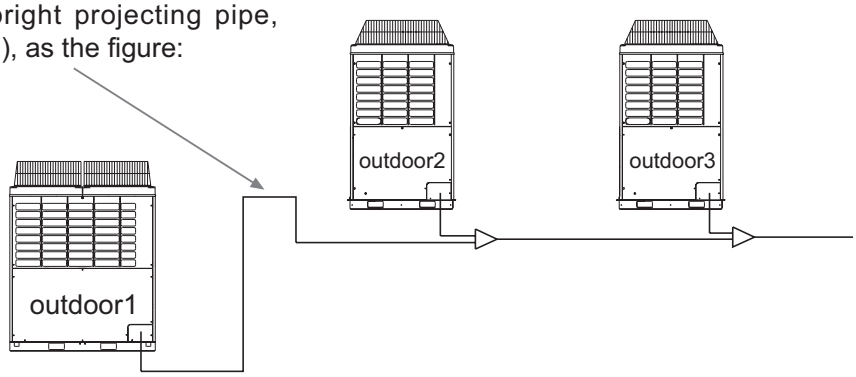
d. Installation at high difference:



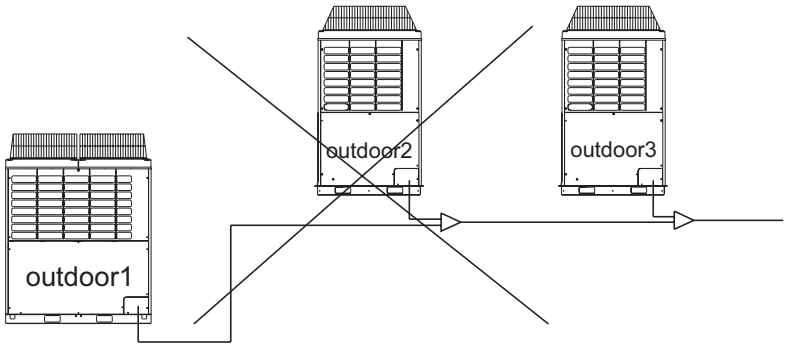
Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

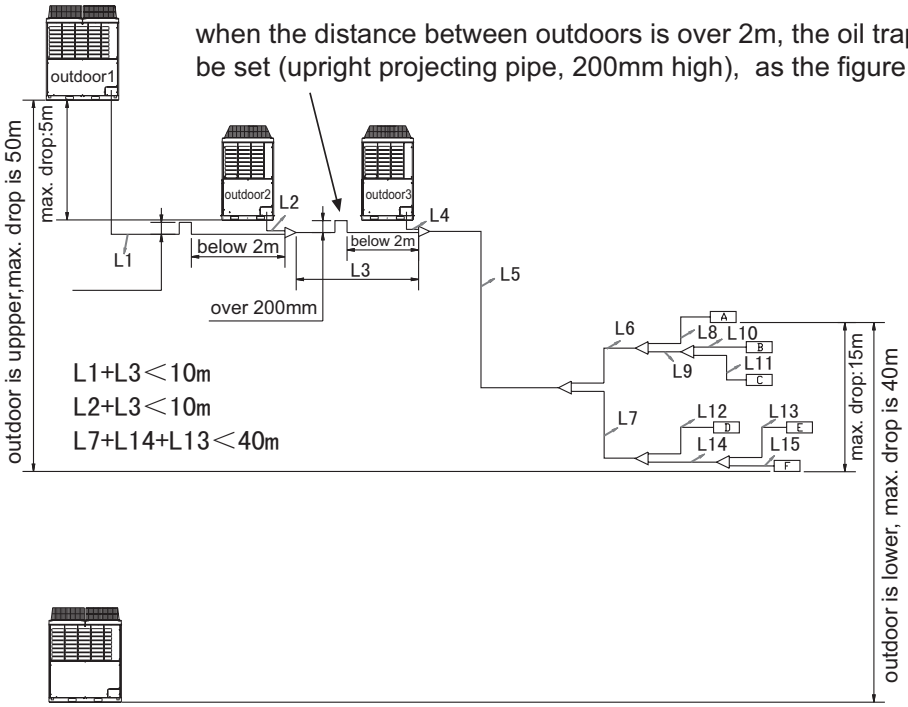
Oil trap (upright projecting pipe, 200mm high), as the figure:



Below is forbidden (compressor oil will flow into the lowest outdoor).



3. Allowable piping length and drop between indoor and outdoor

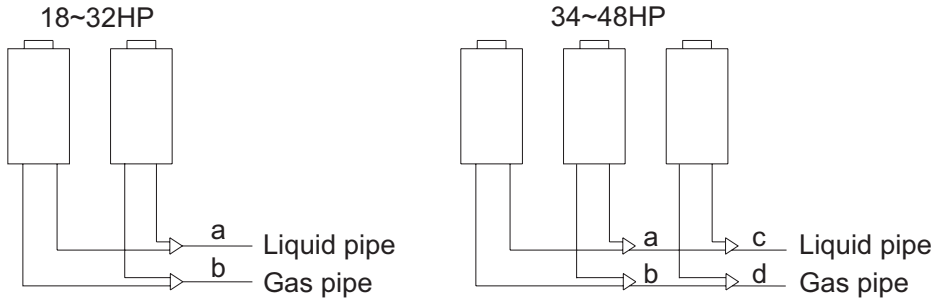


Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

	Max. length	Pipe in above figure
Single way total pipe length	300	L1+L2+ L3+ L4+ L5+ L6+ L7+L8+ L9+ L10+ L11+ L12+ L13+ L14+ L15
Single way max. pipe length	170	L1+ L3+ L5+ L7+ L14+ L13
Max. pipe length after 1st branch pipe	40	L7+L13+L14
Main pipe actual length	130	L5
Height difference between indoors	15	--
Height difference between outdoors	5	--

Outdoor pipe dimension

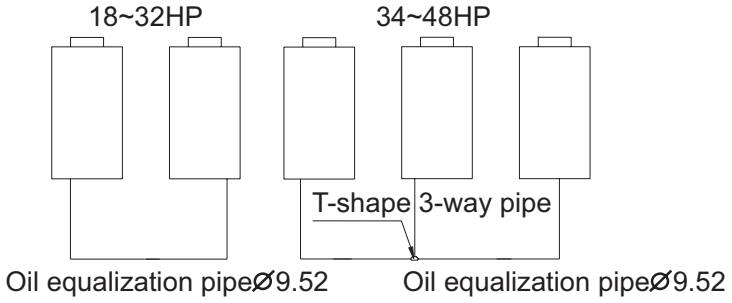


The pipe “a, b, c, d” should be confirmed as to the below table.

Total outdoor capacity before the gather pipe (KW)	Liquid pipe(a,c)	Gas pipe(b,d)
~62.0	Ø12.7	Ø28.58
62.0~96.0	Ø15.88	Ø31.8
96.0~101.0	Ø15.88	Ø38.1
over 101.0	Ø19.05	Ø38.1

Note: When the single pipe length is over 90m, the above pipe should be enlarged as the former information.

Oil equalization pipe connection



Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

Unit pipe spec and connection method (unit: mm)

A. Outdoor unit

Model	Gas pipe side		Liquid pipe side		Oil pipe side	
	Diameter	Connecting method	Diameter	Connecting method	Diameter	Connecting method
YCV280	Ø22.22	Brazing	Ø9.52	Flared joint	Ø9.52	Flared joint
YCV400	Ø25.4		Ø12.7		Ø9.52	
YCV450	Ø28.58		Ø12.7		Ø9.52	

B. Indoor unit

Model Capacity	Gas pipe side		Liquid pipe side	
	Diameter	Connecting method	Diameter	Connecting method
07	Ø9.52	Flared joint	Ø6.35	Flared joint
09	Ø9.52		Ø6.35	
12	Ø12.7		Ø6.35	
16	Ø12.7		Ø6.35	
18	Ø12.7		Ø6.35	
24	Ø15.88		Ø9.52	
28	Ø15.88		Ø9.52	
30	Ø15.88		Ø9.52	
38	Ø15.88		Ø9.52	
48	Ø15.88		Ø9.52	

HAV007, HAV009 gas pipe: Ø12.7; HAV018 gas pipe/ liquid pipe: Ø15.88/9.52

C. Pipe spec and the torque

diameter	Torque(N.m)
Ø6.35	16~20
Ø9.52	40~50
Ø12.7	
Ø15.88	90~120
Ø19.05	100~140
Ø22.22	--
Ø25.4	--
Not less than Ø28.58	--

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

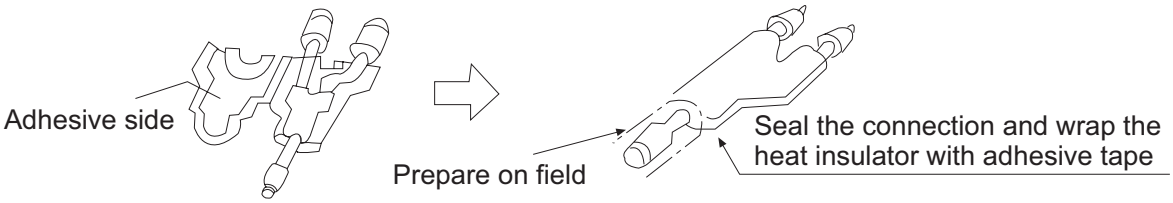
Branch pipe

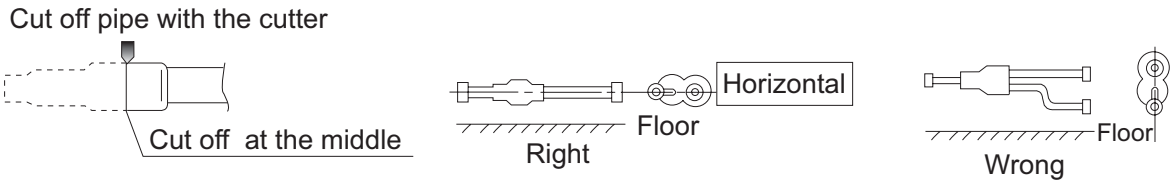
Branch pipe selection:

total indoor capacity(100W)	model(optional)
less than 335	TAU335
more than 335, less than 506	TAU506
more than 506, less than 730	TAU730
more than 730	TAU1350

Outdoor unit type
The master unit will choose the closest one to the 1st branch pipe.

Note:
1. When connecting the gather pipe and the outdoor, please pay attention to the outdoor pipe dimension.
2. When adjusting the diameter among gather pipes and among the units, please must execute at the branch pipe side.
3. Please install the gather pipe(gas/liqiud side) in horizontal or vertical direction.
4. When welding with hard solder, please must blow nitrogen. If not, a number of oxide will be produced and cause heavy damage.Besides,to prevent water and dust into the pipe, please make the brim as outer roll.





Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

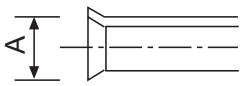
Installation procedure

Piping installation

Important

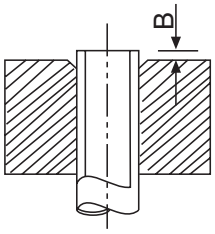
- Please don't let the pipe and the parts in the unit collide each other.
- When connecting the pipes, close the valves fully.
- Protect the pipe end against the water, impurity into the pipes (welding after being flat, or being sealed with adhesive tape).
- Bend the pipe as large semi-diameter as possible(over 4 times of the pipe diameter).
- The connection between outdoor liquid pipe and the distributing pipe is flared type. Please expand the pipe with the special tool for R410A after installing the expanding nut. But if the projecting pipe length has been adjusted with the copper pipe gauge, you can use the original tool to expand the pipe.
- Since the unit is with R410A, the expanding oil is ester oil, not the mineral oil.
- When connecting the expanding pipe, fasten the pipes with double-spanner. The torque refers to the former info.

Expanding pipe:A(mm)



pipe outer diameter	A 0 -0.4
Ø6.35	9.1
Ø9.52	13.2
Ø12.7	16.6
Ø15.88	19.7

Projecting length of pipe to be expanded:B(mm)

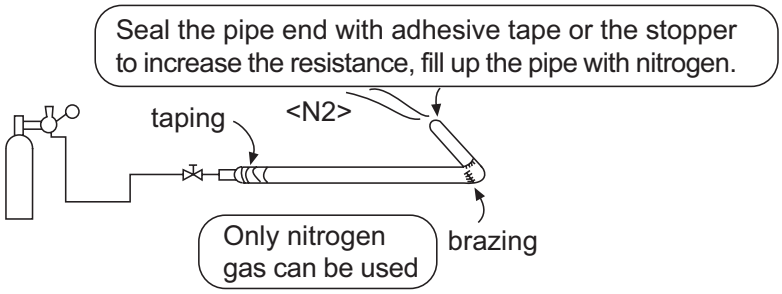


pipe outer diameter	when it is hard pipe	
	special tool for R410A	the former tool
Ø6.35	0-0.5	1.0-1.5
Ø9.52		
Ø12.7		
Ø15.88		

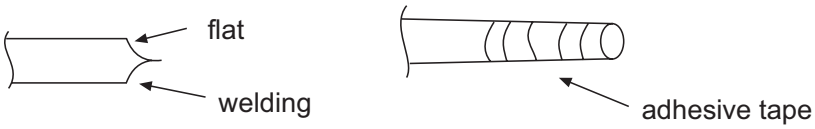
- The outdoor gas pipe and the refrigerant distributing pipe, as well the refrigerant distributing pipe and the branch pipe should be welded with hard solder.
- Weld the pipe at the same time charge the nitrogen. Or it will cause a number of impurity (a film of oxidation) to clog the capillary and the expansion valve, further cause the deadly failure.

Operation procedure

- Weld the pipe at the same time charge the nitrogen. Or it will cause a number of impurity (a film of oxidation) to clog the capillary and the expansion valve, further cause the deadly failure.



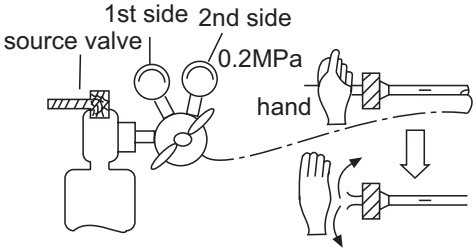
- Protect the pipe end against the water, impurity into the pipes (welding after being flat, or being sealed with adhesive tape).



Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

- The refrigerant pipe should be clean. The nitrogen should flow under the pressure of about 0.5Mpa and when charging the nitrogen, stop up the end of the pipe by hand to enhance the pressure in the pipe, then loose the hand (meanwhile stop up the other end).



- When connecting the pipes, close the valves fully.
- When welding the valve and the pipes, use the wet cloth to cool down the valve and the pipes.

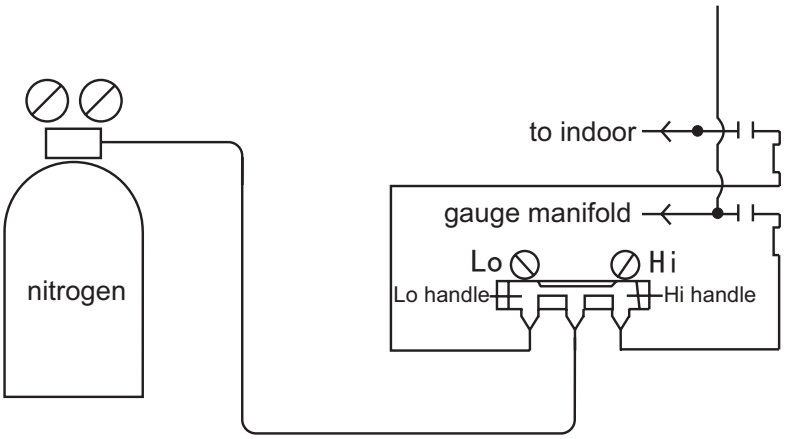
B. Leakage test

1. The outdoor unit has been executed the leakage test in the factory. The pipe should be executed leakage test individually and forbidden to test after connecting with stop valve.

2. Refer to the below figure to charge the nitrogen into the unit to take a test. Never use the chlorin, oxygen, flammable gas in the leakage test. Apply pressure both on the gas pipe and the liquid pipe.

3. Apply the pressure step by step to the target pressure.
a. Apply the pressure to 0.5MPa for more than 5 minutes, confirm if pressure goes down.
b. Apply the pressure to 1.5MPa for more than 5 minutes, confirm if pressure goes down.
c. Apply the pressure to the target pressure (4.15MPa), record the temp. and the pressure.
d. Leave it at 4.15MPa for over 1 day, if pressure does not go down, the test is passed. Meanwhile, when the temp. changes for 1degree, pressure will change 0.01MPa as well. Correct the pressure.
e. After confirmation of a~d, if pressure goes down, there is leakage. Check the brazing position, flared position by laying on the soap. modify the leakage point and take another leakage test.

4. After leakage test, must execute the evacuation.

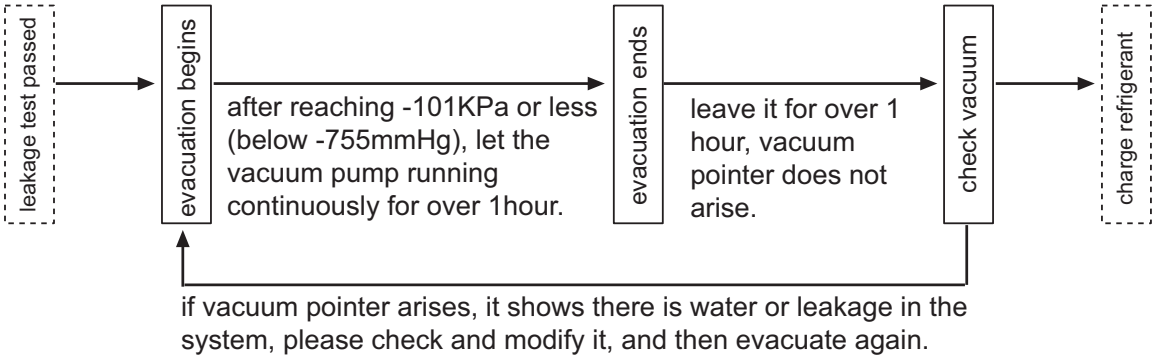


Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

C. Evacuation

Evacute at the check valve of liquid stop valve and both sides of the gas stop valve. The oil equalization pipe also must be vacuum (executed at the oil equalization pipe check valve respectively).

Operation procedure:



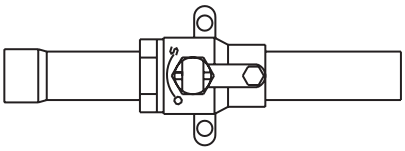
Because the unit is with refrigerant R410A, the below issues should be paid attention:

- To prevent the different oil into the pipe, please use the special tool for R410A, especially for gauge manifold and charging hose.
- To prevent the compressor oil into the refrigerant cycle, please use the anti-counter-flow adapter.
- When maintaining the outdoor, release refrigerant from check valve. When taking vacuum evacuation, set the relative dip switch, the detailed refers to Page 38.

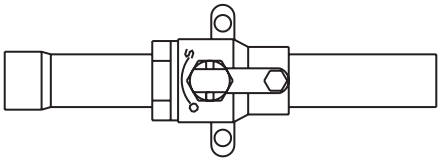
D. Check valve operation

Open/close method:(The gas pipe stop valve for YCV400, YCV450)

- Take down the valve cap, gas pipe turns to "open" state as right figure.
- Turn the liquid pipe and the oil equalization pipe with hexangular spanner until it stops. If opening the valve strongly, the valve will be damaged.
- Tighten the valve cap.



"open"state



"close"state

Tighten torque as the table below:

Tighten torque N.m			
	shaft (valve body)	cap (cover)	T-shape nut (check joint)
for gas pipe	less than 7	less than 30	13
for liquid pipe	7.85 (MAX15.7)	29.4 (MAX39.2)	8.8 (MAX14.7)
for oil equalization pipe	4.9 (MAX11.8)	16.2 (MAX24.5)	8.8 (MAX14.7)

Note: The gas pipe stop valve for YCV280 is screw type, rotate the rod clockwise totally, the valve is close; rotate the rod counterclockwise totally, the valve is open; if the rod is not rotated clockwise totally and also not rotated counterclockwise totally, the check valves of indoor, outdoor and the stop valve are connected.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Installation procedure

E. Additional refrigerant charging

Charge the additional refrigerant as liquid state with the gauge.
If the additional refrigerant can not be charged totally when the outdoor stops, charge it at the trial mode.
If the unit runs for a long period in the state of lack of refrigerant, compressor will occur failure. (the charging must be finished within 30 minutes especially when the unit is running, menawhile charging the refrigerant).

Charging amount when out of factory excludes the refrigerant in the pipe.
The unit only is charged the standard volume of refrigerant (distributing pipe length is 0m). Additional charging amount=actual length of liquid pipe x additional amount per meter liquid pipe
Additional charging amount=L1×0.35+L2×0.25+L3×0.17+L4×0.11+L5×0.054+L6×0.022
L1: total length of 22.22 liquid pipe L2: total length of 19.05 liquid pipe
L3: total length of 15.88 liquid pipe L4: total length of 12.7 liquid pipe
L5: total length of 9.52 liquid pipe L6:total length of 6.35 liquid pipe

Refrigerant charging and additional charging

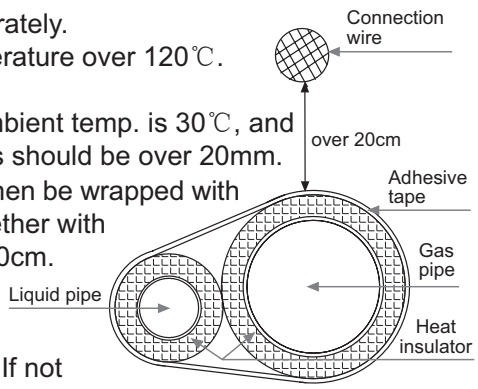
	additonal refrigerant charging per meter(kg/m)						charge when out of factory
Model	Ø22.22	Ø19.05	Ø15.88	Ø12.7	Ø9.52	Ø6.35	
YCV280	0.35	0.25	0.17	0.11	0.054	0.022	11kg
YCV400							12kg
YCV450							14.5kg

Refrigerant charging amout when out of foutory excludes that in the distributing pipe.

Note:
- To prevent the different oil into the pipe, please use the special tool for R410A, especially for gauge manifold and charging hose.
- Mark the refrigerant type in different colour on the tank. R410A is pink.
- Must not use the charging cylinder, because the R410A will change when transferring to the cylinder.
- When charging refrigerant, the refrigerant should be taken out from the tank as liquid state.
- Mark the counted refrigerant volume due to the distributing pipe length on the label.

Heat insulation

- Gas pipe and liquid pipe should be heat insulated separately.
- The material for gas pipe should endure the high temperature over 120℃. That for liquid pipe should be over 70℃.
- The material thickness should be over 10mm, when ambient temp. is 30℃, and the relative humidity is over 80%, the material thickness should be over 20mm.
- The material should cling the pipe closely without gap, then be wrapped with adhesive tape. The connection wire can not be put together with the heat insulation material and should be far at least 20cm.



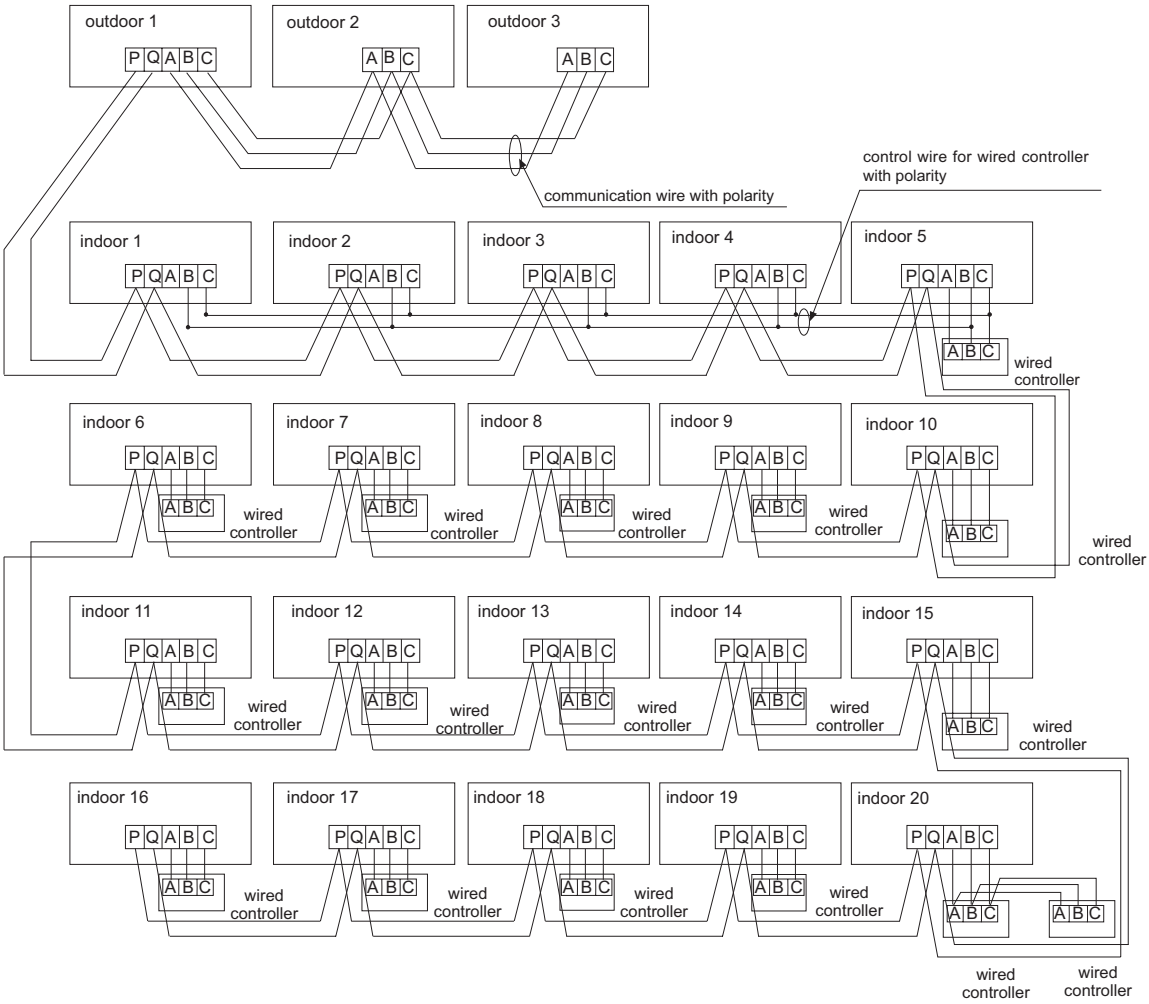
Fix the refrigerant pipe

- In operation, the pipe will vibrate and expand or shrink. If not being fixed, the refrigerant will focus on one part to cause the broken pipe.
- To prevent the central stress, fix the pipe for every 2-3m.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Electric wiring and the application

Communication wiring figure



Outdoor units are in parallel through 3 polar wires. The outdoor and all indoor units are in parallel through 2 non-polar wires.

Three wiring methods between wired controller and indoor unit:

A. 1 to multi (group control): one wired controller controls 2~16 indoors, as shown in above figure, indoor 1~indoor 5: indoor 5 is wired control master unit, the others are wired control slave units. Wired controller and the master indoor (directly connected to wired controller) is connected by 3 polar wires; the other indoors and the master indoors are connected by 2 polar wires.

B. 1 to 1 (one wired controller controls one indoor): as shown in above figure, indoor 6~ indoor 19, indoor and wired controller are connected by 3 polar wires.

C. 2 to 1 (two wired controller controls one indoor): as shown in above figure, indoor 20. Either of wired controllers can be set as master wired controller, and the other is slave wired controller. Master/slave wired controller, and master/indoor are connected by 3 polar wires.

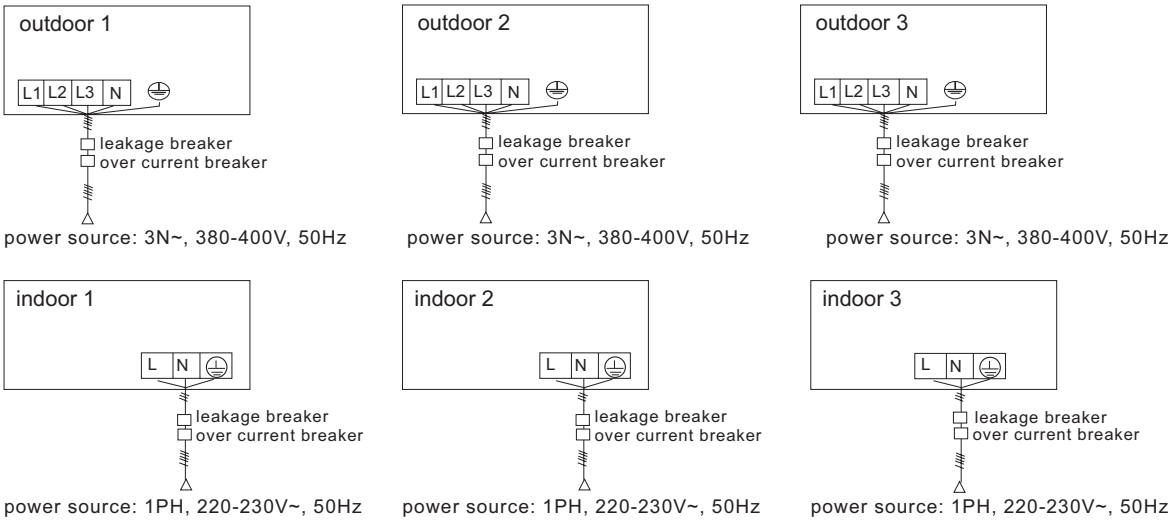
When indoor is controlled by remote controller, refer to the "wired control master unit/wired control slave unit/remote control unit table".A, B, C on signal terminal block need not wires and not connect the wired controller.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Electric wiring and the application

Power wiring figure

Please make sure that when the unit is running, the input voltage is no less than 380V;
if it is lower than 380V,the unit may run abnormal.



- Indoor and outdoor use their individual power source.
- All indoors use one power source.
- Must install the leakage breaker and the over current breaker, or electric shock will occur.

Outdoor power source and power cable

item / model		power source	power cable section (mm^2)	wire length (m)	circuit breaker (A)	rated current of residual current circuit breaker(A) leakage current (mA) response time(s)	earthing wire	
							section (mm^2)	screw
individual power	YCV280	3N~, 380-400V, 50Hz	6	60	40	40A 30mA below 0.1S	6	M5
	YCV400	3N~, 380-400V, 50Hz	10	60	60	60A 30mA below 0.1S	10	M5
	YCV450		10	60	70	70A 30mA below0.1S	10	M5

- power cable model: H07RN-F
- The diameter of earth cable cannot be smaller than power cable's.
- Power cable must be fixed firmly.
- Each outdoor must be earthed well.
- When power cable exceeds the range, thicken it appropriately.
- The temperature of refrigerant circuit will be high, please keep the power cable away from the copper tube.
- The power cable and communication cable must be placed with pipe.
  An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

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Electric wiring and the application

Indoor power source, communication wire between indoor and outdoor, among indoors

item / indoor total current (A)	power cable section (mm^2)	wire length (m)	rated current of overcurre nt breaker (A)	rated current of residual current circuit breaker(A) leakage current (mA) response time(s)	communication wire section	
					outdoor/indoor (mm^2)	indoor/indoor (mm^2)
<10	2	23	20	20A, 30mA, below 0.1s	2-core × (0.75-2.0mm^2) shielded wire	
⩾10 and <15	3.5	24	30	30A, 30mA, below 0.1s		
⩾15 and <22	5.5	27	40	40A, 30mA, below 0.1s		
⩾22 and <27	10	42	50	50A, 30mA, below 0.1s		

- Indoor power cable model: H05VV-F
- Power cable and communication wire must be fixed firmly.
- Each indoor must be earthed well.
- When power cable exceeds the range, thicken it appropriately.
- Shielded layer of communication wires must be connected together and be earthed at single point.
- Communication wire total length cannot exceed 1000m.

Communication wire for wired controller

wire length(m)	wire spec	wire length(m)	wire spec
〈100	0.3mm^2 ×(3-core) shielded wire	⩾300 and <400	1.25mm^2 ×(3-core) shielded wire
⩾100 and 〈200	0.5mm^2 × (3-core) shielded wire	⩾400 and <600	2mm^2 × (3-core) shielded wire
⩾200 and 〈300	0.75mm^2 × (3-core) shielded wire		

- Shielded layer of communication wire must be earthed at one end.
- The total length cannot exceed 600m.

Indoor central control address setting method

No.	setting type	setting method	remarks
1	Set by hand	1.SW02 on indoor PCB is ON (upper); 2. The detailed position refers to the below table.	set on field
2	Set by wired controller	1. SW02 on indoor PCB is OFF(down), set when out of factory. 2. Press "FILTER" on wired controller continuously for 10 seconds into central control setting mode, and select the indoor central control address by "TEMP+/-". 3. Temp. area indicates: system address+XX, press "TEMP+/-", the unit number will change "00~3F" (00 is No.1, 3F is No.64), and the initialization is 00. 4. After selecting the number, press "SET" to save it; if pressing other buttons or no pressing within 15 seconds, it will quit automatically and keep the former setting.	set on field

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Electric wiring and the application

Indoor central control address table (set by hand)

SW02		central control address	SW02		central control address	SW02		central control address
1	2 3 4 5 6 7 8		1	2 3 4 5 6 7 8		1	2 3 4 5 6 7 8	
1	0 0 0 0 0 0 0	1	1	0 0 1 0 1 1 0	23	1	0 1 0 1 0 1 1	44
1	0 0 0 0 0 0 1	2	1	0 0 1 0 1 1 1	24	1	0 1 0 1 1 0 0	45
1	0 0 0 0 0 1 0	3	1	0 0 1 1 0 0 0	25	1	0 1 0 1 1 0 1	46
1	0 0 0 0 0 1 1	4	1	0 0 1 1 0 0 1	26	1	0 1 0 1 1 1 0	47
1	0 0 0 0 1 0 0	5	1	0 0 1 1 0 1 0	27	1	0 1 0 1 1 1 1	48
1	0 0 0 0 1 0 1	6	1	0 0 1 1 0 1 1	28	1	0 1 1 0 0 0 0	49
1	0 0 0 0 1 1 0	7	1	0 0 1 1 1 0 0	29	1	0 1 1 0 0 0 1	50
1	0 0 0 0 1 1 1	8	1	0 0 1 1 1 0 1	30	1	0 1 1 0 0 1 0	51
1	0 0 0 1 0 0 0	9	1	0 0 1 1 1 1 0	31	1	0 1 1 0 0 1 1	52
1	0 0 0 1 0 0 1	10	1	0 0 1 1 1 1 1	32	1	0 1 1 0 1 0 0	53
1	0 0 0 1 0 1 0	11	1	0 1 0 0 0 0 0	33	1	0 1 1 0 1 0 1	54
1	0 0 0 1 0 1 1	12	1	0 1 0 0 0 0 1	34	1	0 1 1 0 1 1 0	55
1	0 0 0 1 1 0 0	13	1	0 1 0 0 0 1 0	35	1	0 1 1 0 1 1 1	56
1	0 0 0 1 1 0 1	14	1	0 1 0 0 0 1 1	36	1	0 1 1 1 0 0 0	57
1	0 0 0 1 1 1 0	15	1	0 1 0 0 1 0 0	37	1	0 1 1 1 0 0 1	58
1	0 0 0 1 1 1 1	16	1	0 1 0 0 1 0 1	38	1	0 1 1 1 0 1 0	59
1	0 0 1 0 0 0 0	17	1	0 1 0 0 1 1 0	39	1	0 1 1 1 0 1 1	60
1	0 0 1 0 0 0 1	18	1	0 1 0 0 1 1 1	40	1	0 1 1 1 1 0 0	61
1	0 0 1 0 0 1 0	19	1	0 1 0 1 0 0 0	41	1	0 1 1 1 1 0 1	62
1	0 0 1 0 0 1 1	20	1	0 1 0 1 0 0 1	42	1	0 1 1 1 1 1 0	63
1	0 0 1 0 1 0 0	21	1	0 1 0 1 0 1 0	43	1	0 1 1 1 1 1 1	64
1	0 0 1 0 1 0 1	22						

Communication address between indoor and outdoor setting by hand:
1st, 2nd bit of SW03 are ON, the latter six bits can confirm the communication address, the address setting refers to the "central control address setting table". For example, the communication address is 8, the dip switch of SW03 is 11000111.

Indoor control type selection

indoor PCB	wired control master unit	wired control slave unit	remote control	remarks
CN23	short connected	disconnected	disconnected	1.The communication address between master/slave wired controller and the outdoor is different. 2. If central control is necessary, all indoor central control addresses in one group are identical, while the indoor address in different groups is different too.
CN30	short connected	short connected	disconnected	
CN21	blank	blank	to remote receiver	
SW08-[6]	ON	ON	OFF	
SW01-1 2 3 4	"0"	1~15 (different dialing setting on SW01 for the slave units in one group	"0"	
signal terminal block	A,B,C to wired controller	B,C to wired controller	A,B,C not to wired controller	

Note: In the above figure, the state in the frame is set when out of factory.

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Electric wiring and the application

Setting state and the function defination of PCB and wired controller when out of factory

item	parts		state	function
indoor PCB	dip switch	SW01-1 2 3 4	Dip switch setting refers to address setting table of wired controller.	1. When one wired controller controls one indoor, multiple wired controllers control one indoor, or indoor is controlled by remote controller, the switch needs not be changed. 2. When one wired controller controls multiple indoors, the switch of master unit is 0, while the slave units are at the position from 1 to 15.
		SW01-5 6 7 8	Set according to indoor horse power.	Set indoor horse power.
		SW02	all at "OFF"	1. When setting central controlled address by wired controller, it need not change. 2. When setting central controlled address by hand, refers to the setting table1.
		SW03	all at "OFF"	1.When setting communication address between indoor and outdoor automatically, it needs not change. 2.When setting communication address between indoor and outdoor by hand or wired controller, SW03-1 and SW03-2 are at ON, the others refer to "indoor central control address setting".
	jumper	CN23	connected	When being controlled by wired controller, it is connected; when being controlled by remote controller, it is disconnected.
		CN26	disconnected	Output in series, connected to testing device.
		CN27	disconnected	Connected after being powered on, indoor EEV opens 2 minutes fully.
		CN28	disconnected	Connected after being powered on, indoor in time shorting function
		CN29	disconnected	Connected after being powered on, indoor EEV closes 2 minutes fully.
		CN30	connected	When being controlled by wired controller, it is connected; when being controlled by remote controller, it is disconnected.
		CN31	disconnected	Indoor trial operation
	indicator	LED1	red	Indicator of communication with wired controller. Shows indoor sending signal to wired controller
		LED2	green	Indicator of communication with wired controller. Shows indoor receiving signal from wired controller
				LED1, LED2 used in combination. If communication between wired controller and indoor is normal, LED1, LED2 will flash regularly.If there is slave wired controller, FQY of LED1 of slave controller will be low.

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Electric wiring and the application

item	parts		state	function		
indoor PCB	indicator	LED3	red	Indicator of communication with outdoor. Shows indoor sending signal to outdoor		
		LED4	green	indicator of communication with outdoor. Shows indoor receiving signal to outdoor		
				LED3, LED4 used in combination. If communication between indoor and outdoor is normal, LED1, LED2 will flash regularly.FQY of red LED is lower than that of green LED.		
		LED5	failure	In normal state, it is OFF. Confirm the failure due to the indicator flashes times		
		LED6	yellow	In normal state, it is OFF. Indicate when EEV is open/close fully.		
wired controller	dip switch	SW01-1	OFF	changeover between master and slave wired controller	ON	set as slave wired controller
					OFF	set as master wired controller
		SW01-2	OFF	changeover between celsius and fahrenheit	ON	set as Fahrenheit
					OFF	set as celsius
	resistor	J03	1	selection of room temp. display	0	no room temp. display
					1	room temp. display
		J06	1	position selection of room temp. sensor	0	adopt the room temp.sensor in indoor
					1	adopt the room temp.sensor in wired controller
	diode	J07	0	auto restart selection	0	with auto restart function
					1	without auto restart function
		D1	OFF	time-shorting function	ON	indoor time shorting
					OFF	without time shorting
		D2	OFF	compulsory defrost	ON	send compulsory defrost signal to indoor
					OFF	normal state
	Only when two wired controllers control one indoor, one of the wired controllers can be set as slave wired controller.					

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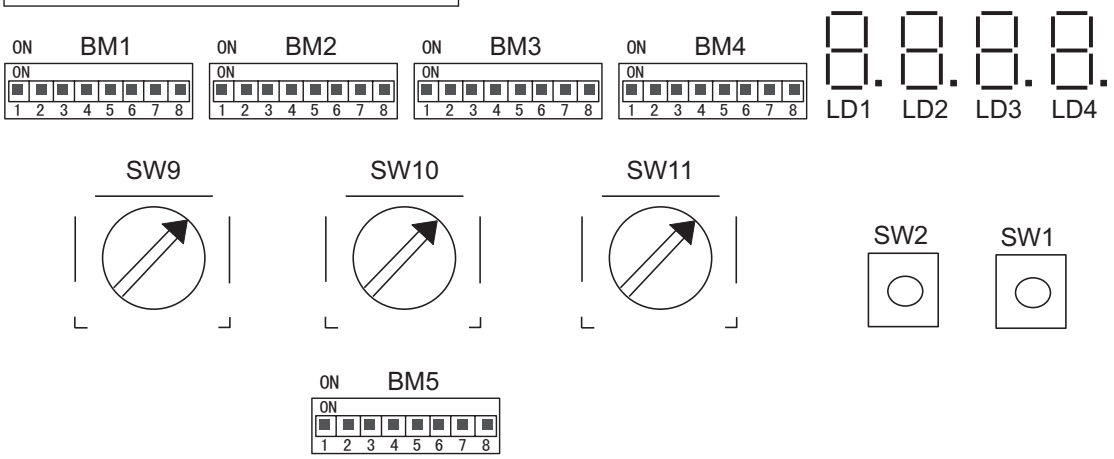
Electric wiring and the application

Wired controller address setting (SW01-1, 2, 3, 4 of master unit is at 0, while that of slave unit is at from 1 to 15).

SW01				wired controller address
1	2	3	4	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9
1	0	1	0	10
1	0	1	1	11
1	1	0	0	12
1	1	0	1	13
1	1	1	0	14
1	1	1	1	15

Herein, 1 shows ON, 0 shows OFF.

Selection switch and the display



Introduction of dip switch on outdoor connecting board:
BM1,BM2,BM3,BM4,BM5: 8-bit dip switch

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Electric wiring and the application

Identification:

- Physical master unit: by setting dip switch, the unit number is 0. It is used to communicate with indoor unit, also it is the organizer of outdoor communications as communication master unit.
- Functional master unit: the outdoor with the highest priority of running, the priority class is 0.
- Physical slave unit: by setting dip switch, the unit number is not 0.
- Functional slave unit: the outdoor without the highest priority of running, the priority class is 1~3.
- Group class setting: physical master unit setting is valid, which can be used for all the units. For example, silence, snow-proof, piping length etc setting. Set all kinds of state on the physical master unit as a representative.
- Single class setting: only be used for the single unit, instead of the whole group. For example, sensor backup running, inverter board selection etc.
- In the following table, 1 is ON, 0 is OFF.
- Dip switch definition:
  BM1, BM2 are usually set by the personnel on site; BM3, BM4 are usually used in the factory.

① BM1 introduction

BM1-1	outdoor searching after startup	0	begin to search outdoor	
		1	stop searching outdoor and lock the quantity	
BM1-2	indoor searching after startup	0	begin to search indoor	
		1	stop searching indoor and lock the quantity	
BM1-3	start up after pre-heating for 6 hours	0	allow(must be electrified for 6 hours)	Group class (physical master unit is valid)
		1	forbidden(can start up immediately)	
BM1-4	heating when outdoor temperature over 25degree	0	allow	Group class (physical master unit is valid)
		1	forbidden	
BM1-5	over match setting	0	allow	Group class (physical master unit is valid)
		1	forbidden	
BM1-6	sensor backup running	0	allow	Group class (physical master unit is valid)
		1	forbidden	
BM1-7 BM1-8	address setting	BM1-7	BM1-8	unit number
		0	0	0# (physical master unit)
		0	1	1#
		1	0	2#
		1	1	3#

Note:

1. Sensor backup running

a. when outdoor is in combination or single unit, if one outdoor occurs failure, if the unit meets the backup running condition, and set the backup running by hand, the unit will enter backup running.

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b. Backup running condition:
When system is working, the following failures will make the unit into backup running:
Cooling: 20(Tdef), 25-1(Toci1), 25-2(Toci2), 35 (4-way valve reversing)
Heating: 22-1(Ts), 32-1(Tsco), 32-2(Tliqsc)
2. Oil temperature too low protection
Before being electrified, if BM1-7 is OFF, the unit can start up only after being heating for 6 hours. On the condition that outdoor is without failure, rotary switch will count down from 6 hours (as minute); if BM1-7 is ON, the unit is allowed to start up immediately.

② BM2 introduction

BM2-1	silent operation setting	0	allow (without silent operation)		Group class (physical master unit is valid)
		1	forbidden (with silent operation)		
BM2-2	snow-proof operation setting	0	allow (without snow-proof)		Group class (physical master unit is valid)
		1	forbidden (with snow-proof)		
BM2-3 BM2-4	power consumption setting	BM2-3	BM2-4	max. capacity output	Group class (physical master unit is valid)
		0	0	100%	
		0	1	70%	
		1	0	40%	
		1	1	0%	
BM2-5 BM2-6	defrosting condition "α" selection	BM2-5	BM2-6	selection item	Group class (physical master unit is valid)
		0	0	8 (E)	
		0	1	10 (E)	
		1	0	6 (E)	
		1	1	8 (E)	
BM2-7 BM2-8	piping length selection	BM2-7	BM2-8	selection item	Group class (physical master unit is valid)
		0	0	medium piping length:cooling 7.5KG,heating 26.0KG	
		0	1	long piping length: cooling 7.0KG, heating 28.0KG	
		1	0	long piping length: cooling 7.0KG, heating 28.0KG	
		1	1	medium piping length:cooling 7.5KG, heating 26.0KG	

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Electric wiring and the application

③ BM3 introduction

BM3-1 BM3-2	outdoor model setting	BM3-1	BM3-2	outdoor model		
		0	0	Flow Logic II outdoor in combination		
		0	1	Flow Logic II outdoor single unit		
		1	0	Flow Logic II outdoor in combination		
		1	1	Flow Logic II outdoor in combination		
BM3-3	outdoor air processing	0	Flow Logic II outdoor			
		1	outdoor air processing unit			
BM3-4	inverter board selection	0	Airwell inverter board			single class
		1	APY inverter board			
BM3-5	switch over power supply of 50/60hz	0	50Hz			single class
		1	60Hz			
BM3-6 BM3-7 BM3-8	outdoor horse power setting	BM3-6	BM3-7	BM3-8	outdoor horse power	
		0	0	0	6HP	
		0	0	1	8HP(Reserved)	
		0	1	0	10HP	
		0	1	1	12HP(Reserved)	
		1	0	0	14HP	
		1	0	1	16HP	
		1	1	0	18HP(Reserved)	
		1	1	1	20HP(Reserved)	

④ BM4 introduction: no definition, pre-set

BM4-1~8	pre-set

⑤ BM5 introduction

BM5-1 ~ BM5-4	outdoor motor selection	BM5-1	BM5-2	BM5-3	BM5-4	selection item
		1	1	0	0	dual fan motor(375W)
		0	0	1	1	single fan motor(750W)
BM5-5 ~ BM5-8	inverter board selection	BM5-5	BM5-6	BM5-7	BM5-8	selection item
		1	1	0	0	APY inverter board
		0	0	1	1	Airwell inverter board

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Electric wiring and the application

Monitor code

Monitor code is as following:
Press button: SW2, SW1 are the button switch
Rotary switch: SW9, SW10, SW11, 0~15 can be set.
Display section: LD1, LD2, LD3, LD4, digital tube.

① Indoor parameter
Check the paremeters of indoor whose address is from 1 to 64.
SW11 is set from 3~15 to check indoor parameter.
SW9 and SW10 shows indoor unit number.

SW9	SW10	system address
0	0-15	1-16
1		17-32
2		33-48
3		49-64

SW11	function	digital tube LD1~4 display
3	indoor communication checking	communication available, display 1111; indoor unavailable, display ----
4	indoor abnormal	display indoor failure code; no failure, display 0
5	indoor capacity	indoor capacity, 1.5HP displays 1.5
6	indoor EEV open angle	electronic expansion valve(EEV) open angle
7	indoor ambient temp. Tai	ambient temperature -2degree displays -2
8	indoor gas pipe temp. Tc1	gas pipe temperature -2degree displays -2
9	indoor liquid pipe temp. Tc2	liquid pipe temperature -2degree displays -2
10	indoor mode	cooling: COOL; heating: HEAT, shutoff: OFF
11	indoor set temp. Tset	set temperature, 16 degree displays 16
12	indoor SCODE code	0~15
13	wrong wiring inspection	0 shows no failure, 79 shows wiring connection failure (indoor no display)
14	indoor cooling compulsorily(pre-set)	press SW2 (UP) for 2s continuously to start up; press SW1(DN) for 2s continuously to stop. If startup,the 4 LDs will flash once and display 1; if stop, the 4 LDs will flash once and display 0.
15	indoor heating compulsorily(pre-set)	press SW2 (UP) for 2s continuously to start up; press SW1(DN) for 2s continuously to stop. If startup,the 4 LDs will flash once and display 1; if stop, the 4 LDs will flash once and display 0.

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Electric wiring and the application

② Outdoor parameter
SW11: 0~2, show outdoor parameter
SW9 is used to select outdor unit number
For example, SW9 is set 0, that shows No.0 outdoor parameter; set as 1, that shows No.1 outdoor parameter...
(master unit can display the other outdoor parameter and indoor parameter, but the slave unit only displays itself parameter).
Start up for the first time, search slave units and display flashing 0 from left to right. If one slave unit is found, display 1, two slave units are found, display 2, and so on, the max. number is 8. After searching slave units, display outdoor failure code; if no failure, display 0. 0~3 of SW9 is used to select outdoor unit number.

SW9	SW10	SW11	function	digital tube LD1~4 display
unit No. 0-3	0	0	display outdoor failure code	failure code transmitted by outdoor bus data. If no failure, display the time as second counting down fromt the 6 hours for pre-heating
	1	0	display priority of outdoor number	display outdoor priority
	2	0	display operation mode	HEAT: heating; COOL: cooling; OFF: stop
	3	0	outdoor capacity	16.0 shows 16HP, 8.0 shows 8HP
	4	0	outdoor capacity output ratio	60 shows 60% of capacity output
	5	0	current frequency of inverter compressor	110.0 shows 110.0HZ. Press SW2(UP) for 2s continuously, display 1111, then to set: flashing and press SW2(UP) once, the frequency will go up 1Hz; press SW1(DN) once, the frequency will decrease 1Hz; 5 min later, quit the setting state automatically. Press SW1(DN) for 2s continuously, display 0000, then quit the setting state, and stop flashing. When system failures, compressor is forbidden to start up.
	6	0	speed of outdoor fan motor 1	345 shows 345rpm. Press SW2(UP) for 2s continuously, display 1111, then to set: flashing and press SW2(UP) once, the frequency will go up 1Hz; press SW1(DN) once, the frequency will decrease 1Hz; 5 min later, quit the setting state automatically. Press SW1(DN) for 2s continuously, display 0000, then quit the setting state, and stop flashing.
	7	0	speed of outdoor fan motor 2	
	8	0	outdoor solenoid valve output indication	LD1: 4WV: 1 ON 0 OFF--left side LD2: SV1: 1 ON 0 OFF LD3: SV6: 1 ON 0 OFF LD4: SV9: 1 ON 0 OFF

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Electric wiring and the application

SW9	SW10	SW11	function	digital tube LD1~4 display
	9	0	outdoor solenoid valve output indication	LD1: SV10: 1 ON 0 OFF LD2: SV11: 1 ON 0 OFF LD3: SV13i: 1 ON 0 OFF LD4: SV131: 1 ON 0 OFF
	10	0	outdoor LEVa1 valve open angle	0--500 steps. Press SW2(UP) for 2s continuously, display 1111, then to set: flashing and press SW2(UP), valve opens fully; press SW1(DN), valve closes fully; 2 min later, quit the setting state automatically. Press SW1(DN) for 2s continuously, display 0000, then quit the setting state, and stop flashing.
	11	0	outdoor LEVa2 valve open angle	
	12	0	outdoor solenoid valve output indication fixed frequency compressor output indication	LD1: SV14: 1 ON 0 OFF LD2: FAN_PTC:1 ON 0 OFF LD3: COMP1: 1 ON 0 OFF LD4: COMP2: 1 ON 0 OFF
	13	0	heater output	LD1: CHi: 1 ON 0 OFF LD2: CHa: 1 ON 0 OFF LD3: CH1: 1 ON 0 OFF LD4: CH2: 1 ON 0 OFF
	14	0	outdoor LEV b valve open angle	0--500 steps. Press SW2(UP) for 2s continuously, display 1111, then to set: flashing and press SW2(UP), valve opens fully; press SW1(DN), valve closes fully; 2 min later, quit the setting state automatically. Press SW1(DN) for 2s continuously, display 0000, then quit the setting state, and stop flashing.
	15	0	unit number address	1 shows 1# unit
	0	1	Pd pressure	10.00 shows 10.00KG
	1	1	Ps pressure	10.00 shows 10.00KG
	2	1	Tdi discharging temp.	25 shows 25degree
	3	1	Tsi suction temp.	25 shows 25degree
	4	1	Tdef defrosting temp.	25 shows 25degree
	5	1	Tao ambient temp.	25 shows 25degree
	6	1	Toilp temp.	25 shows 25degree
	7	1	Toil temp.	25 shows 25degree
	8	1	Toci1 temp.	25 shows 25degree
	9	1	Toci2 temp.	25 shows 25degree
	10	1	Tsco temp.	25 shows 25degree
	11	1	Tliqsc temp.	25 shows 25degree
	12	1	Td1 temp.	25 shows 25degree
	13	1	Tsuc temp.	25 shows 25degree

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

SW9	SW10	SW11	function	digital tube LD1~4 display
	14	1	Is current of power supply	10.2 shows 10.2A
	15	1	backup running	---- outdoor normal operation 1111 outdoor backup operation

③ Master unit information center: display parameters of the whole system

SW9	SW10	SW11	function	description
0	0	2	refrigerant type	407C stands for R407C 410A stands for R410A(default) R22 stands for R22
0	1	2	outdoor total capacity	48.0 stands for 48HP
0	2	2	outdoor QTY in one system	e.g.: 4 outdoors (including master outdoor)
0	3	2	indoor QTY in one system	e.g.: 64 indoors
0	4	2	running indoor QTY	thermostat ON indicates indoor running
0	5	2	indoor QTY whose operation modes are as the same as that of outdoor	e.g.: 13 indoors
0	6	2	pre-set	--
0	7	2	pre-set	--
0	8	2	refrigerant evacuation setting *only for outdoor evacuation. If indoor evacuation, do not set. When it finishes, cancel the setting or re-electricity.	press SW2(UP) for 2s continuously, display 1111 and start up; digital tube displays "YES", detailed response: SV9, SV10, SV11 open; LEVa1,2, LEVb open for 100pls, the other valves close compulsorily.Press SW1(DN) for 2s continuously, display 0000 and stops (setting is invalid when unit is running)
0	9	2	refrigerant charging setting *only for gas charged outdoor. If indoor is charged, do not set. When it finishes, cancel the setting or re-electricity.	press SW2(UP) for 2s continuously, display 1111 and start up; digital tube displays "YES", detailed response: LEVa1,2 open for 500pls, the other valves close compulsorily.Press SW1(DN) for 2s continuously, display 0000 and stops (setting is invalid when unit is running)

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Electric wiring and the application

SW9	SW10	SW11	function	description
0	10	2	wrong wiring inspection in cooling	press SW2(UP) for 2s continuously, display 1111 and start up; digital tube counts down judging time at second; after time arrives, display the result: "00.00" shows the result is in conformity with the actual connection; "01.05" shows one outdoor and 5 indoors are abnormal, to check the abnormal units by digital tube (indoor: X_X_13, outdoor X_0_0); Press SW1(DN) for 2s continuously, display 0000 and stops
0	11	2	wrong wiring inspection in heating	
0	12	2	indoor expansion valve open fully	press SW2(UP) for 2s continuously, display 1111 and indoor valves open fully for 2 minutes, then indoor valves close automatically.
0	13	2	all indoor units running in cooling	press SW2(UP) for 2s continuously, display 1111 and start up; Press SW1(DN) for 2s continuously, display 0000 and stops.
0	14	2	all indoor units running in heating	press SW2(UP) for 2s continuously, display 1111 and start up; Press SW1(DN) for 2s continuously, display 0000 and stops.
0	15	2	cancel all manual controls(running type)	press SW2(UP) for 2s continuously, display 1111 and start up; Press SW1(DN) for 2s continuously, display 0000 and stops.Cancel items: wrong wiring inspection in cooling/heating mode; indoor running/stop totally; compulsory operation; rated operation, etc.
15	0	2	capacity correction class	0 shows short piping length; 1 shows medium piping length; 2 shows long piping length
15	1	2	defrosting compensation α	10, 8, 6
15	2	2	set temperature in cooling	25 shows 25 degree
15	3	2	set temperature in heating	25 shows 25 degree
15	4	2	electricity limitation (allow max.output)	100 show 100% output, 0 shows no output allowed
15	5	2	over match inspection	135 stands for limitation; 0: without limitation
15	6	2	heating limit when outdoor temp.over 25degree	25 shows limitation; 0 shows no limitation
15	7	2	silent operation setting	0: without silent operation; 1: with silent operation

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

SW9	SW10	SW11	function	description
15	8	2	snow-proof operation setting	0: without snow-proof operation; 1: with snow-proof operation
15	13	2	inverter board selection	0: Airwell inverter board; 1: APY inverter board
15	14	2	outdoor model selection	01: single unit; the others are in combination
15	15	2	software version	1.0 shows Ver 1.0

(4) Outdoor valves control

SW9	SW10	SW11	function	description
6	0	2	SV1 open by hand	display current state of components; 1: open; 0: close. Press SW2(UP) for 2s continuously, display 1111 then to set and flash. Press SW2(UP) to open; press SW1 (DN) to close; 2 minutes later, quit the setting state automatically. Press SW1(DN) for 2s continuously, display 0000 then quit the set, and stop flashing(if system failures, compressor is forbidden to start up).
6	1	2	SV6 open by hand	
6	2	2	SV9 open by hand	
6	3	2	SV10 open by hand	
6	4	2	SV11 open by hand	
6	5	2	SV13i open by hand	
6	6	2	SV131 open by hand	
6	7	2	SV14 open by hand	
6	8	2	COMP1 running by hand	
6	9	2	COMP2 running by hand	
6	10	2	pre-set	--
6	11	2	pre-set	--
6	12	2	pre-set	--
6	13	2	pre-set	--
6	14	2	pre-set	--
6	15	2	cancel all the manual controls (component type)	Press SW2(UP) for 2s continuously, display 1111 then to quit. Or press SW1(DN) to 2s continuously, display 0000 then quit the set, Cancel items: movable component control by hand, such as compressor, motor, electronic expansion valve LEV, solenoid valve SV and so on (including evacuation, charging, excluding rated operation, compulsory operation, indoor run/stop etc.)

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

Failure code

Failure code description: (failure code of the whole system is showed as 8 bits, so totally 256 codes. Indoor failure code should be judged by the table and the unit number)

- Outdoor failure code exists in EEPROM, in which 5 failure codes can be kept.
- Indoor failure code exists in EEPROM, in which 5 failure codes can be kept.
- Can clear failure code by indoor or outdoor.

Failure codes are distributed as following:
0~19: indoor failure code
20~99: outdoor failure code
100~109: DC motor failure code
110~125: inverter module failure code
126~127: soft auto-check failure code

Physical master unit:
Dip switch SW9, SW10, SW11 are at 0, 0, 0, digital tube displays failure code 20~127, it is the master failure code.
Dip switch SW9, SW10, SW11 are 1, 0, 0, digital tube displays failure code 20~127, it is failure code of No. 1 slave unit.
Dip switch SW9, SW10, SW11 are 2, 0, 0, digital tube displays failure code 20~127, it is failure code of No. 2 slave unit.
Physical slave unit:
Dip switch SW9, SW10, SW11 are at 0, 0, 0, digital tube displays failure code 20~127, it is single slave unit failure code.

Outdoor failure code display principle on wired controller:
When outdoor compressor is running, indoor wired controller will display the failure code of outdoor with higher priority. When compressor stops, it displays all indoor failures. The indoor failures will be classified as below: sensor failure, inverter board failure, fan motor driving board failure, any protections etc.

Inverter outdoor unit failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
20	14	defrosting temp.sensor Tdef failure	AD value is below 11(open circuit) or over 1012(short circuit) for 60seconds, in cooling mode, if the sensor is abnormal, the unit does not deal with it, besides, in defrosting and within 3 minutes after defrosting, no alarm	resumable
21	15	ambient temp.sensor Ta failure	AD value is below 11(open circuit) or over 1012(short circuit) for 60seconds, in defrosting and within 3 minutes after defrosting, no alarm	resumable
22-0	16	suction temp.sensor Tsi failure	AD value is below 11(open circuit) or over 1012(short circuit) for 60seconds, in defrosting and within 3 minutes after defrosting, no alarm	resumable

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Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
22-1	16	suction temp.sensor Ts failure	AD value is below 11(open circuit) or over 1012(short circuit) for 60seconds, in defrosting and within 3 minutes after defrosting, no alarm	resumable
22-2	16	suction temp.sensor Tsuc failure		
23-0	17	discharging temp.sensor Tdi failure	after compressor is running for 5 minutes, AD value is below 11(open circuit) or over 1012 (short circuit) for 60seconds, in course of startup, defrosting and within 3 minutes after defrosting, no alarm	resumable
23-1	17	discharging temp.sensor Td1 failure		
23-2	17	discharging temp.sensor Td2 failure		
24-1	18	oil temp. sensor Toilp failure	AD value is below 11(open circuit) or over 1012(short circuit) for 60seconds, if Ta<=-10degree or ET<=-10degree, within 5 minutes, no alarm	resumable
24-2	18	oil temp. sensor Toil failure		
25-1	19	inlet temp.of heat exchanger Toci1 failure	AD value is below 11(open circuit) or over 1012(short circuit) for 60seconds, in cooling mode, if the sensor is abnormal, the unit does not deal with it, besides, in defrosting and within 3 minutes after defrosting, no alarm	resumable
25-2	19	inlet temp.of heat exchanger Toci2 failure		
26-0	1A	indoor communication failure	for continuous 200 cycles, can not find connected indoors	resumable
26-1	1A		for continuous 270seconds, the searched indoor quantity is less than the set quantity.	
26-2	1A		for continuous 170seconds, the searched indoor quantity is more than the set quantity.	
27	1B	oil temp. too high protection (Toil)	Toil>=120degree(E) at interval of 25msec for twice continuously, and over the set value, then stop and alarm; 3 minutes later, resume automatically. If it occurs 3 times in an hour, confirm the failure.	once confirmation, un-resumable

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
28	1C	high pressure sensor Pd failure	AD value is below 11(open circuit) or over 1012(short circuit) for 30seconds, in defrosting and within 3 minutes after defrosting, no alarm	resumable
29	1D	low pressure sensor Ps failure	AD value is below 11(open circuit) or over 1012(short circuit) for 30seconds, in defrosting and within 3 minutes after defrosting, no alarm	resumable
30-0	1E	high pressure switch HPSi failure	if disconnect for 50ms continuously, alarm. If alarm 3 times in an hour, confirm the failure	once confirmation, un-resumable
30-1	1E	high pressure switch HPS1 failure		
30-2	1E	high pressure switch HPS2 failure		
32-1	20	outlet temp. of subcooler Tsco failure	AD value is below 11(open circuit) or over 1012(short circuit) for 30seconds, in defrosting and within 3 minutes after defrosting, no alarm	resumable
32-2	20	liquid pipe SC temp.of subcooler Tliqsc failure		
33-0	21	EEPROM (AT24C04) failure	EEPROM communication failure	once confirmation, un-resumable
33-1	21		EEPROM data check failure(model code, check sum etc.)	
33-2	21		EEPROM data check failure(data beyond limit, reverse sequence etc.)	
34-0	22	discharging temp.too high protection (Tdi)	Toil>=120degree(E) at interval of 25msec for twice continuously, and over the set value, then stop and alarm; 3 minutes later, resume automatically. If it occurs 3 times in an hour, confirm the failure.	once confirmation, un-resumable
34-1	22	discharging temp.too high protection (Td1)		
34-2	22	discharging temp.too high protection (Td2)		

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Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
35	23	4-way valve reversing failure	after 4-way valve is electrified for 3 minutes, if the below conditions can be met for continous 10 seconds, that is conversing successfully: 1. this outdoor compressor is running normally 2. Tsuc-Tdef≧10℃ or Pd-Ps≧0.6MPa Otherwise, the system alarms reversing failure.	once confirmati on, un-resumable
36	24	oil temp. too low protection (Toil)	in normal operation, if Td<CT+10℃ for continuous 5 minutes, the unit stops and alarms. 2 minutes and 50 seconds later, resume automatically. If it occurs 3 times in an hour, confirm the failure	once confirmati on, un-resumable
37	25	lack of phase of 3N power supply or wrong phase sequence	one or two phases of 3N power supply are disconnected or connected contrarily	once confirmati on, un-resumable
38	26	high pressure sensor Pd too low protection	in normal operation, Pd<1.5Mpa for continuous 5 minutes, alarm and stop. 2 minutes and 50 seconds later, resume automatically, if it occurs 3 times in an hour, confirm the failure.	once confirmati on, un-resumable
39-0	27	low pressure sensor Ps too low protection	after compressor is running (except for residual operation), if in cooling, Ps<0.10Mpa; in heating, Ps<0.05Mpa; in oil return, Ps<0.035Mpa for continuous 5 minutes, alarm and stop. 2 minutes and 50 seconds later, resume automatically, if it occurs 3 times in an hour, confirm the failure.	once confirmati on, un-resumable
39-1	27	compression ratio too high protection	after compressor is running, compression ratio ε >8. for continuous 5 minutes stop and alarm.2 minutes and 50 seconds later, resume automatically, if it occurs 3 times in an hour, confirm the failure.	once confirmati on, un-resumable
39-2	27	compression ratio too low protection	in normal operation, compression ratio ε <1. for continuous 5 minute,s stop and alarm.2 minutes and 50 seconds later, resume automatically, if it occurs 3 times in an hour, confirm the failure.	once confirmati on, un-resumable
40	28	high pressure sensor Pd too high protection	in normal operation, Pd>=4.15Mpa for continuous 50ms, alarm and stop. 2 minutes and 50 seconds later, resume automatically, if it occurs 3 times in an hour, confirm the failure.	once confirmati on, un-resumable

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
43-0	2B	discharging temp. sensor Tdi too low protection	in normal operation, if Td<CT+10* for continuous 5 minutes, the unit stops and alarms.2 minutes and 50 seconds later, resume automatically. If it occurs 3 times in an hour, confirm the failure. After fixed frequency compressor alarms, inverter compressor will continue to run. If fixed frequency compressor has been locked for 3 times, the unit will stop and alarm.	once confirmati on, un-resumable
43-1	2B	discharging temp. sensor Td1 too low protection		
43-2	2B	discharging temp. sensor Td2 too low protection		
44	2C	low pressure sensor PS too high protection	in normal operation, if Ps>1.05MPa for continuous 5 minutes, unit stops and alarms, 2 minutes and 50 senconds later, resume automatically.If it occurs 3 times in an hour, alarm and confirm the failure.	once confirmati on, un-resumable
45	2D	communicat ion among outdoors failure	no communication within 3 minutes continuously	resumable
46	2E	communicat ion with inverter board failure	no communication within 30 seconds continuously	resumable
48	30	unloading valve SV1 failure	before startup, SV1 opens for 2 minutes, if Pd-Ps>=0.2MPa, display failure code, when Pd-Ps<0.2MPa, resume.	resumable
53-1	35	current detector CT1 failure	fixed frequency compressor is OFF, if CT>=4.0(EE)3.0A for 2s(not detecting in 90s after fixed frequency compressor is from ON to OFF); fixed frequency compressor is ON, if CT<=2.0 (EE) for 2s(not detecting in 90s after fixed frequency compressor is from OFF to ON), it alarms failure of CT in short ciruit.	resumable
53-2	35	current detector CT2 failure		
64-1	40	CT1 over current	current of fixed frequency compressor is over the limitation twice at the interval of 25msecond, unit will stop, but 3 minutes later, resume to be normal automatically.If it occurs 3 times in an hour, alarm and stop. But, in 4 seconds after startup, not detect.	once confirmati on, un-resumable
64-2	40	CT2 over current		

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
67	43	communication with motor driving board failure	without communication for 4 minutes	
71-1	47	left DC motor blocked	running at speed below 20rpm for 30s, or at speed of 70% lower than the target for 2 minutes, 2 minutes and 50 seconds later after stop, resume automatically. It occurs 3 times in an hour, confirm the failure.	once confirmation, un-resumable
71-2	47	right DC motor blocked		
75-0	4B	no pressure drop between high pressure and low one	in 1 minute after inverter compressor starts up, Pd-Ps<=0.1MPa. 2 minutes and 50 seconds later after unit stops, resume automatically, if it occurs twice continuously, confirm the failure.	once confirmation, un-resumable
76-1	4C	incorrect outdoor address or capacity setting	slave unit quantity/address/horse power are not in conformance with data in EEPROM of master unit: quantity incorrect.	reset
76-2	4C		slave unit quantity/address/horse power are not in conformance with data in EEPROM of master unit: address incorrect.	
76-3	4C		slave unit quantity/address/horse power are not in conformance with data in EEPROM of master unit: horse power incorrect.	
77	4D	oil equalization protection among outdoors	ToilA - ToilB<=10degree, unit alarms and stops, not detecting in the course of startup, defrosting and oil return control, and in 10 minutes after oil return finishes. 2 minutes and 50 seconds later after unit stops, resume automatically. If it alarms twice continuously, confirm the failure.	once confirmation, un-resumable
78	4E	lack of refrigerant	compressor running in cooling mode, Ps<0.1MPa for 30 minutes; compressor running in heating mode, Tsi - ET>20; LEV will fully open for 60 minutes, the unit will output lack of refrigerant alarm, unit will not stop.	--
79	4F	incorrect wiring	30 minutes later after incorrect wiring is inspected, outdoor: if Tdi<=Tao+30K, display failure code. indoor: if in cooling, Tc2>=Tai - 20K, display failure code; in heating, Tc1<=Tai+20K, display failure code.	resumable

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
100	64	DC motor driving board IPM alarm	DC motor driving board alarms because of over current or modular temperature too high, resume automatically 2 minutes and 50 seconds later after unit stops.It occure 3 times in an hour, confirm the failure.	once confirmati on, un-resumable
101	65	DC motor driving board detecting out of control	resume automatically 2 minutes and 50 seconds later after unit stops.It occure 3 times in an hour, confirm the failure.	once confirmati on, un-resumable
102	66	DC motor driving board EEPROM faulty	resume automatically 2 minutes and 50 seconds later after unit stops.It occure 3 times in an hour, confirm the failure.	once confirmati on, un-resumable
103	67	DC motor driving board over current or current detector damaged	if current of DC motor driving board is over 5A, unit alarms. 2 minutes and 50 seconds later after unit stops, resume automatically, if it occurs three times in an hour, confirm the failure.	once confirmati on, un-resumable
104	68	voltage too low protection of DC motor driving board	if voltage of DC motor driving board is below 280V, unit alarms. 2 minutes and 50 seconds later after unit stops, resume automatically, if it occurs three times in an hour, confirm the failure.	once confirmati on, un-resumable
105	69	voltage too high protection of DC motor driving board	if voltage of DC motor driving board is over 400V, unit alarms. 2 minutes and 50 seconds later after unit stops, resume automatically, if it occurs three times in an hour, confirm the failure.	once confirmati on, un-resumable
106	6A	DC motor driving board blocked	fan motor rate can not be detected. 2 minutes and 50 seconds later after unit stops, resume automatically, if it occurs three times in an hour, confirm the failure.	once confirmati on, un-resumable
107	6B	protection of motor rate over limitation	fan motor rate is higher than 1100 for 5 seconds, unit alarms.	once confirmati on, un-resumable

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
110	6E	IPM modular protection (F0)	IPM modular over current, in short circuit, over heat, voltage too low of control circuit.	3 times in an hour, confirm failure; once confirmati on, un-resumable
111	6F	compressor out of control	in the course of compressor startup or running, the unit can not detect the rotor position, or not connecting compressor.	
112	70	radiator of transducer temp.too high	radiator temp. too high	
113	71	transducer overload	output current of transducer is too high	
114	72	voltage too low of DC bus line of transducer	voltage of power source is too low	
115	73	voltage too high of DC bus line of transducer	voltage of power source is too high	
116	74	communicat ion abnormal between transducer and control PCB	communication is disconnected	resumable
117	75	current detecting circuit abnormal of transducer	instant current of transducer is too high	3 times in an hour, confirm failure; once confirmati on, un-resumable
118	76	transducer over current (software)	compressor startup fails for 5 times continuously, or compressor is running down till stops caused by over current or over heat	
119	77	compressor startup failure	the sensor used for current detecting of transducer is abnormal, disconnected or incorrectly connection	
120	78	power supply of transducer abnormal	power supply of transducer is broken down instantly	

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

digital tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description	remarks
121	79	power supply of inverter board is abnormal	power supply of inverter board is broken down instantly	3 times in an hour, confirm failure; once confirmati on, un-resumable
122	7A	radiator temp.sensor of transducer abnormal	resistor of temp.sensor abnormal or temp.sensor disconnected	
126	7E	software abnormal	if it occurs three times in an hour, confirm the failure.	
127	7F	MCU reset abnormal	if master unit inspects that MCU of slave unit is reset, and the slave unit is running, master unit will alarm MCU reset failure, then the whole system will stop; if in heating mode, when restart up, 4-way valve will be not electrified, the whole system will execute 4-way valve reversing operation again. if it occurs three times in an hour, alarm and confirm the failure.	once confirmati on, un-resumable

When there is no failure, if the starting condition can not be met, digital tube on master unit will display stand-by code:

555.0	Standby state of capacity overmatch	when capacity is over 135% or lower than 50%, the system is standby.
555.1	Standby state of 26 degree heating mode	when it is in heating mode with ambient temperature over 26 degree, the system is standby.
555.2	Standby state of super low pressure (lack of refrigerant)	when the unit starts in cooling with Ps<0.23Mpa or heating with Ps<0.12Mpa, the system is standby.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Failure code

Indoor failure code list

indication on master unit	indication on wired controller	flash times of LED5 on indoor PCB/timer LED on remote receiver	failure code definition
01	01	1	indoor ambient temp. sensor Ta failure
02	02	2	indoor coil temp. sensor Tc1 failure
03	03	3	indoor coil temp. sensor Tc2 failure
04	04	4	indoor TES sensor failure
05	05	5	indoor EEPROM failure
06	06	6	communication between indoor and outdoor failure
07	07	7	communication between indoor and wired controller failure
08	08	8	indoor drainage failure
09	09	9	indoor repeated address
0A	0A	10	indoor repeated central control address
outdoor failure code	outdoor failure code	20	outdoor corresponding failure

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Trial operation and the performance

5-minute delay function

- If starting up the unit after being powered off, the compressor will run about 5 minutes later against being damaged.

Cooling/heating operation

- Indoor units can be controlled individually, but cannot run in cool and heat mode at the same time. If the cool mode and the heat mode are existing simultaneously, the unit set latter will be standby, and the unit set earlier will run normally.
- If the A/C manager sets the unit at cooling or heating mode fixedly, the unit can not run at the other modes.

Heating mode characteristic

- In operation if outdoor temp. arises, indoor fan motor will turn to low speed or stop.

Defrosting in heating mode

- In heating mode, outdoor defrosting will affect the heating efficiency. The unit will defrost for about 2~10 minutes automatically, at this time, the condensate will flow from outdoor, also in defrosting, the vapour will appear at outdoor, which is normal. Indoor motor will run at low speed or stop, and outdoor motor will stop.

The unit operation condition

- To use the unit properly, please operate the unit under the allowed condition range.
  If operating beyond the range, the protection device will act.
- The relative humidity should be lower than 80%. If the unit runs at the humidity over 80% for a long period, the dew on the unit will drop down and the vapour will be blowed from air outlet.

Protection device (such as high pressure switch)

- High pressure switch is the device which can stop the unit automatically when the unit runs abnormally.

  When the high pressure switch acts, the cooling/heating mode will stop but the running LED on wired controller will be light still. The wired controller will display failure code.
- When the following cases occur, the protection device will act:

  In cooling mode, air outlet and air inlet of outdoor are clogged.

  In heating mode, indoor filter is sticked with duct; indoor air outlet is clogged.

  When protection device acts, please cut off the power source and re-start up after eliminating the trouble.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Trial operation and the performance

When power is failure

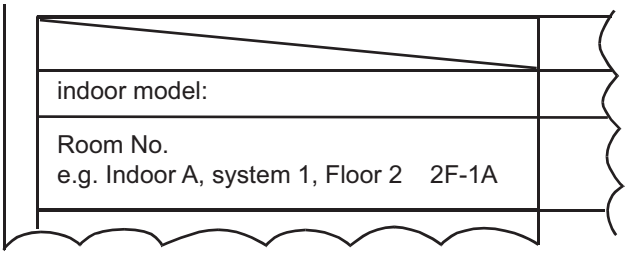
- When power is failure in running, all the operations will stop.
- After being electrified again, if with re-satrt up function, the unit can resume to the state before power off automatically; if without re-satrt up function, the unit needs to be switched on again.
- When abnormal occurs in running because of the thunder, the lightning, the interference of car or radio, etc, please cut off the power source, after eliminating the failure, press "ON/OFF" button to start up the unit.

Heating capacity

- The heating mode adopts the heat pump type that absorbs outdoor heat energy and releases into indoor. So if outdoor temperature goes down, the heating capacity will decrease.

System marks

- On the condition that multi MRV II systems are installed, in order to confirm the relationship between outdoor and indoor, please make marks on outdoor electric control box cover to indicate the connected indoor unit. As the below figure:



Trial operation

- Before trial operation:
  Before being electrified, measure the resistor between power terminal block (live wire and neutral wire) and the earthed point with a multimeter, and check if it is over 1M Ω . If not, the unit can not operate.
  To protect compressor, electrify the outdoor unit for at least 12 hours before the unit runs.If the crankcase heater is not electrified for 6 hours, the compressor will not work.
  Confirm the compressor bottom getting hot.
  Except for the condition that there is only one master unit connected (no slave unit), under the other conditions, open fully the outdoor operating valves (gas side, liquid side, oil equalization pipe). If operating the unit without opening the valves, compressor failure will occur.
  Confirm all indoor units being electrified. If not, water leakage will occur.
  Measure the system pressure with pressure gauge, at the same time, operate the unit.
- Trial operation
  In trial operation, refer to the information of performance section.
  When the unit can not start up at the room temperature, make trial operation for outdoor.

Все каталоги и инструкции здесь: https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html

Disposal

DISPOSAL:

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

It is prohibited to dispose of this appliance in domestic household waste.

For disposal there are several possibilities:

a) The municipality has established collection systems, where electronic waste can be disposed of ate least free of charge to the user.

b) When buying a new product, the retailer will take back the old product at least free of charge.

c) The manufacturer will take back the old appliance for disposal at least free of charge to user.

d) As old products contain valuable resources, they can be sold to scrap metal dealers.

Wild disposal of waste in forests and landscapes endangers your health when hazardous substances leak into the ground-water and find their way into the food chain.

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