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## 文档当前阅读人:分体机 1. Safety Considerations

#### IMPORTANT!

#### Please Read Before Starting

加密文档当前阅读人:分体机 This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system, so it operates safely and efficiently.

#### For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state, and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.



This symbol refers to a hazard or unsafe practice which can result in severe personal

前阅读人:分体机平台

injury or death.

## CAUTION

This symbol refers to a hazard or unsafe practice which can result in personal injury or

product or property damage

#### If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

#### In Case of Improper Installation

加密文档 The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

#### SPECIAL PRECAUTIONS

When Wiring

WARNING

#### ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these
- instructions when wiring. Improper connections and inadequate grounding can cause accidental injury or death.
- Ground the unit following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard. When Transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

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#### When Installing

#### In a Ceiling or Wall

Make sure the ceiling/wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.

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#### In a Room

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

#### In Moist or Uneven Locations

Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

#### In an Area with High Winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

#### In a Snowy Area (for Heat Pump-type Systems)

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Install the outdoor unit on a raised platform that is higher than drifting show. Provide snow vents

#### When Connecting Refrigerant Tubing

 $\triangle$  Use the flare method for connecting tubing.

 $\triangle$  Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak free connection.

 $\triangle$  Check carefully for leaks before starting the test run.

#### When Servicing

 $\triangle$  Turn the power OFF at the main power box (mains) before opening the unit to check or repair electrical parts and wiring.

 $\triangle$  Keep your fingers and clothing away from any moving parts.

△ Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left 前阅读人:分体机平台 inside the unit being serviced. 前阅读人:分体机平台 阅读人:分体机平台

#### Others



△ Ventilate any enclosed areas when installing or testing the refrigeration system. Escaped refrigerant gas, on contact with fire or heat, can produce dangerously toxic gas.

△ Confirm upon completing installation that no refrigerant gas is leaking. If escaped gas comes in contact with a stove, gas water heater, electric room heater or other heat source, it can produce dangerously toxic gas.

#### NOTE:

The figure, size and parameter of the product may not be identical with the service manual, please take the actual product as the standard. 读人:分体机平台

#### Precautions for using R32 refrigerant

The basic installation work procedures are the same as the conventional refrigerant (R22 or R410A). However, pay attention to the following points:

- 1. Transport of equipment containing flammable refrigerants Compliance with the transport regulations
- 2. Marking of equipment using signs Compliance with local regulations
- Disposal of equipment using flammable refrigerants Compliance with national regulations 3.
- Storage of equipment/appliances The storage of equipment should be in accordance with the 4. manufacturer's instructions.

Storage of packed (unsold) equipment Storage package protection should be constructed such that 5 mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge.

5

The maximum number of pieces of equipment permitted to be stored together will be determined by local to regulations.

6. Information on servicing

6-1 Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

6-2 Work procedure

Work shall be undertaken under a controlled procedure so as to minimize the risk of flammable gas or vapour being present while the work is being performed.

6-3 General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

6-4 Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.

Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. nonsparking, adequately sealed or intrinsically safe.

6-5 Presence of fire extinguisher

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand.

Have a dry powder or CO2 fire extinguisher adjacent to the charging area.

6-6 No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion.

All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space.

Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

6-7 Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work.

A degree of ventilation shall continue during the period that the work is carried out.

The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

6-8 Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

- The charge size is in accordance with the room size within which the refrigerant containing parts are installed;

- The ventilation machinery and outlets are operating adequately and are not obstructed;
- If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of

refrigerant;

- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected:

- Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded. Checks to electrical devices 6-9

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.

If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.

If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used.

This shall be reported to the owner of the equipment so all parties are advised. Initial safety checks shall include:

- That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;

- That there no live electrical components and wiring are exposed while charging, recovering or purging the system; 加密文档

- That there is continuity of earth bonding.

7. Repairs to sealed components

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.

If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing •分体机平台 is not altered in such a way that the level of protection is affected.

This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

Ensure that apparatus is mounted securely.

Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.

Replacement parts shall be in accordance with the manufacturer's specifications.

#### NOTE:

The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

Repair to intrinsically safe components 8.

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer.

Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

9. Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.

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The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

10.Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.

A halide torch (or any other detector using a naked flame) shall not be used.

11.Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants: - Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)

- Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.

- Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.

- Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

- If a leak is suspected, all naked flames shall be removed/ extinguished.

- If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.

- Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

12.Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used.

However, it is important that best practice is followed since flammability is a consideration.

The following procedure shall be adhered to:

Remove refrigerant;

- Purge the circuit with inert gas;
- Evacuate;
- Purge again with inert gas;
- Open the circuit by cutting or brazing

The refrigerant charge shall be recovered into the correct recovery cylinders.

The system shall be "flushed" with OFN to render the unit safe.

This process may need to be repeated several times.

Compressed air or oxygen shall not be used for this task.

加密文档当前阅读人:分体机平台 Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to

atmosphere, and finally pulling down to a vacuum.

This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the

system shall be vented down to atmospheric

pressure to enable work to take place.

This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available. 13.Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed:

- Ensure that contamination of different refrigerants does not occur when using charging equipment.

- Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.

- Cylinders shall be kept upright.
- Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigeration system.
- Prior to recharging the system it shall be pressure tested with OFN.

8

The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

14.Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail.

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It is recommended good practice that all refrigerants are recovered safely

Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential

that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically.

c) Before attempting the procedure ensure that:

;当前阅读人:分体机平台 - Mechanical handling equipment is available, if required, for handling refrigerant cylinders;

All personal protective equipment is available and being used correctly.

- The recovery process is supervised at all times by a competent person;

- Recovery equipment and cylinders conform to the appropriate standards.

e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the mark system. system.

f) Make sure that cylinder is situated on the scales before recovery takes place.

g) Start the recovery machine and operate in accordance with manufacturer's instructions.

h) Do not overfill cylinders. (No more than 80 % volume liquid charge). I) Do not exceed the maximum working pressure of the cylinder, even temporarily.

j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off. k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

15.Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed.

Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant. 16.Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.

Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).

Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

加密文档 The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants.

In addition, a set of calibrated weighing scales shall be available and in good working order.

Hoses shall be complete with leak-free disconnect couplings and in good condition.

Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

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The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged.

Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable 加密文礼 level to make certain that flammable refrigerant does not remain within the lubricant.

The evacuation process shall be carried out prior to returning the compressor to the suppliers.

Only electric heating to the compressor body shall be employed to accelerate this process.

When oil is drained from a system, it shall be carried out safely.

When moving or relocating the air conditioner, consult experienced service technicians for disconnection and reinstallation of the unit.

Do not place any other electrical products or household belongings under indoor unit or outdoor unit.

Condensation dripping from the unit might get them wet, and may cause damage or malfunction of your property.

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources(for example, open flames, an operating gas appliance or an operating electric heater).

Do not pierce or burn.

Be aware that refrigerants may not contain an odor.

To keep ventilation openings clear of obstruction.

The appliance shall be stored in a well-ventilated area where the room size

corresponds to the room area as specified for operation.

The appliance shall be stored in a room without continuously operating open flames (for example an operating gas appliance) and ignition sources (for example an operating electric heater).

Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorized their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.

Servicing shall only be performed as recommended by the equipment manufacturer.

Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

Appliance shall be installed, operated and stored in a room with a floor area larger than 10 m<sup>2</sup>.

The installation of pipe-work shall be kept to a room with a floor area larger than 10 m<sup>2</sup>.

The pipe-work shall be compliance with national gas regulations. The maximum refrigerant charge amount is 2.5 kg.

Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused 前阅读人:分体机平台 indoors, sealing parts shall be renewed.

When flared joints are reused indoors, the flare part shall be re-fabricated

The installation of pipe-work shall be kept to a minimum.

Mechanical connections shall be accessible for maintenance purposes.

The indoor unit shall only be connected to outdoor units suitable for the same refrigerant.

The unit is a partial unit air conditioner, complying with partial unit requirements of the International Standard, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements.

Explanation of symbols displayed on the indoor unit or outdoor unit.

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亚亚首		平台	亚平台	平台
本机 lanation of sy	ymbols displaye	d on the indoor unit or outdoor un	和, it.	分体机,
	WARNING	This symbol shows that this appliant refrigerant. If the refrigerant is leaked and exposi ignition source, there is a risk of fire.	sed to an external	加密
	<b>WARNING</b> 愛永海	This symbol shows that this appliand refrigerant. If the refrigerant is leaked and exposi ignition source, there is a risk of fire.	ce uses a flammable sed to an external	
AN CED	CAUTION	This symbol shows that the operation carefully.	n manual should be read	分体机平台
	CAUTION	This symbol shows that a service per handling this equipment with referent installation manual.	rsonnel should be with the second should be with the second	7).
li	CAUTION	This symbol shows that information the operating manual or installation	is available such as manual.	加密

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## 2. Product Specifications

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2. Proc	luct Spe	cifications	前阅读人:分析	"前阅读人"分位
Note: " ** " n	nean code of Fro	ont Panel(See in 3-1	Product Pictures).	
	<u>'</u>	TUR X		AST-240W4RDB U2
Type JP		hr	I1, H/P, INVERTER	I 1, H/P, INVERTER
Ratings		l	5000	= 100
Cooling Capa	acity	W	5300	7100
Heating Capa	acity	W	5400	7200
Rated Input-C		N.	1590	2150
Rated Input-H	leating	W	/ 1450	2100
Moisture Ren	noval	L/h	1.7	/
Air Circulation	ĥ	High m3/h	1050	1200
EER for Cool	ing	WWWAN	4.00	3.5
COP for Heat	ting <sub>云阅读</sub> /	ŴŴ	1月17-3.50	2.50
Energy Class	当当即加	Cooling	澳洲 2.5 星	3
Energy Class	XK1-	Heating	澳洲2星	2
Refrigerant		TH TE	R32	R32
Refrigerant cl	harge volume	/	1150	1400
(5M)		g		
Additional ref	. Volume	g	20	30
Indoor Unit N	oise Level	High(dB (A))	63	65
Outdoor Unit	Noise Level	dB (A)	於 65	67 DF
Power Supply	/			23
Voltage, Fred	uency, Phase	V alt	220-240V~,50Hz,1P	220-240V~,50Hz,1P
Rated Currer	<b>.</b> +	Cooling (A)	7.2 H	9.6 IKAN
Nated Cullen	n A Ste	Heating (A)	6.5 APT	9.4° 4 4
System press	sures in cooling rate	d conditions	。新闻区	前间内
Max suction p	oressure	MPa	1.6	1.6
Max discharg	e pressure	MPa MPa	4.15 H	4.15
System		JH -		
Compressor				
Compres	sor type		Rotary	Rotary
Compres	sor Model No.		KTN150D53UFZ3	KTM225D43UMT
Compres	sor MFG	v 海	GMCC	GMCC
Connecting F	Pipe Diameter 👫	<u>]</u>	All I'm '	File The and
Liquid Pipe		inch	1/4	3/8
Gas Pipe	1	inch "FA	1/2 开节	5/8
Features		: 1-MAND '	1: 1- HANU	1. MAN
Display on	Front Panel	A B	LED	A BLED
LCD Wirele	ss Remote Contro	ller	Yes	Yes
Removable	and washable Par	nel JTH	Yes A	Yes
Washable P	P Filter	加密之	Yes THE	Yes
24 Hours Tir	mer	11,	Yes	Yes
3 Speed and	d Auto Indoor Fa	n Control	Yes	Yes
Vertical Auto	Swing Louver		Yes	Yes
			100	100

12

THE A	THE A	TE	IF F
Sleep Operation	1. MARIE	Yes	Yes
Smart Function	人、江下	Yes	Yes T
Super Function	. 7	Yes	Yes
Auto Restart	一大样	Yes	Yes
Dimmer	加密人	Yes	Yes HIP
Other	)-dr v	<i>}≈′</i>	) <del>-</del> **
Net Dimensions	Indoor Unit	915×315×235	1140×315×233
WxHxD (mm)	Outdoor Unit	810x585x280	860x667x310
Not Woight (Kg)	Indoor Unit	12.5	13.5
iver weight (r.g)	Outdoor Unit	前, 134	43.5
Packing Dimensions WxHxD	Indoor Unit	1000×390×315	1195x380x310
(mm)	Outdoor Unit	940x630X385	995*420*720
Cross Weight (Kg)	Indoor Unit	14.5	16 KUP
Giuss weight (Kg)	Outdoor Unit	5 X 37 VA	47.5 47 14
1		XATA /	561125

Note:

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加密文档当 1. This table just is for reference, when relate parameters is different from actual specification, please use the parameters of the actual specification which you can get from the product manager.

"\*\*" mean code of Front Panel (relate pictures can check in content 3-1) 2、

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3. Net Dimensions (Indoor Unit) depend on the panel you used, the panel is different, the Net Dimensions will be different, but they are very close, if you need the accurate data, you can consult the product manager.

4. Packing Dimensions (Indoor Unit) depend on the panel you used, the panel is different, the Packing Dimensions will be different, but they are very close, if you need the accurate data, you can consult the product manager.

- De --加密文档当前阅读人:分体机平台 5、Gross Weight (Indoor Unit) depend on the panel you used, the panel is different, the Gross Weight will be can con 加密文档当前阅读人:分体机 you nea 加密文档当前阅读人:分体机 different, but they are very close, if you need the accurate data, you can consult the product manager.

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	THE A		THE A	J. F.	a II
	Model No.	1:15	体机	AST-12UW4RME**02	AST-09UW4RME**01
	Type	トカ	1	T1, H/P, INVERTER	T1, H/P, INVERTER
	Ratings			当前四	小当前124
	Cooling Capacity	W	KUR	3500	2500
	Heating Capacity	W	加密,	3800 加倍。	<b>3100</b>
	Rated Input-Cooling	W	<i>y</i>	900	620
	Rated Input-Heating	W		890	690
	Moisture Removal	L/h		0.9	0.9
, E	Air Circulation	High r	m3/h	620	620
小水准	EER for Cooling	W/W		3.89	4.03 CIP
frage	COP for Heating	W/W		4.27	4.49
	Energy Class	Coolir	ng da	新 3.5 星	新3星
	Energy Class	Heatir	ng HL P	新 2.5 星,机	新 2.5 星
	Refrigerant	Nº H	PP-10	# R32	R32 . 4 4
	Refrigerant charge volume	/ /-*		新闻铁	新闻铁
	(5M)	q	El El	800	44 月1 700
	Additional ref. Volume	a	The second se	20	20
	Indoor Unit Noise Level	High(		39	39
	Outdoor Unit Noise Level	dB (A	)	61	60
	Power Supply	45 (71	/		
	Voltage Frequency Phase	,	V	220-240\/~ 50Hz 1P	220-240\/~ 50Hz 1P
		. ift			28
是水中	Rated Current	TY -	Heating (A)	RE A 1	2.0
-	System pressures in cooling rate	ed condi	tions	/a <b>4.</b> I	
	Max suction pressure		MPa, THE	16	16
	Max discharge pressure	8 a .V	MPa	1.15	1.5
	System	1.4		T. ISA	TIN TH
	Compressor			山前阁区	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	Compressor		y Ki	Deterry	Deter:
	Compressor type		HITE X		
			11H	KSK89D59UEZC JJA	KSK89D59UEZC
				GMCC	GMCC
			inch	1/4	1/4
· xit	Gas Pipe	XIE	inch	3/8	3/8
	Cooling Setting Temperature Ra	ange	ر د	18-32	18-32**
	Heating Setting Temperature Ra	ange	°C	18-32	18-32
	Cooling Operating Temperature		四平月	-15-48 JT F	-15-48
	Range	1.	KAN L	- KERKAU	. L. HAV
	Heating Operating Temperature	1-7	7	国读,一月	调读人 7
	Range		°C	-10-24	4月11-24
	Features		- CR		Y HI
	Display on Front Panel		加密	LED 加倍	LED
	LCD Wireless Remote Controller	r	1-4	Yes	Yes
	Removable and washable Panel	I		Yes	Yes
	Washable PP Filter			Yes	Yes
	Od Hauna Tinaan			Vec	Yes
. K.	24 Hours Timer	A		163	

iver	Yes	Yes	
iver	Ves T		
	X117 100	Yes	
	Yes	y H前M Yes	
一大样	Yes	Yes	一丁花
加密人	Yes	Yes	密户
j-a -	Yes	Yes	
	Yes	Yes	
Indoor Unit	866×270×213	866×270×213	
Outdoor Unit	780×540×260	780×540×260	
Indoor Unit	8.5	8.5	
Outdoor Unit	28	25.5	R
Indoor Unit	940×335×265	940×335×265	
Outdoor Unit	910×600×360	910×600×360	
Indoor Unit	前阅历 11	前阅销	
Outdoor Unit	30	28	R
加密又下	加密入		蛮又小
	Indoor Unit Outdoor Unit Indoor Unit Outdoor Unit Indoor Unit Outdoor Unit Indoor Unit Outdoor Unit Outdoor Unit Outdoor Unit	Yes         Indoor Unit         866×270×213         Outdoor Unit         780×540×260         Indoor Unit         8.5         Outdoor Unit         940×335×265         Outdoor Unit         910×600×360         Indoor Unit         11         Outdoor Unit         30	Yes       Yes         Indoor Unit       866×270×213         0utdoor Unit       780×540×260         Indoor Unit       8.5         0utdoor Unit       8.5         Outdoor Unit       940×335×265         Outdoor Unit       910×600×360         Indoor Unit       910×600×360         Indoor Unit       11         11       11         0utdoor Unit       30         28       25.5

Note:

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1. This table just is for reference, when relate parameters is different from actual specification, please use the parameters of the actual specification which you can get from the product manager.

"\*\*" mean code of Front Panel (relate pictures can check in content 3-1) 2、

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3. Net Dimensions (Indoor Unit) depend on the panel you used, the panel is different, the Net Dimensions will be different, but they are very close, if you need the accurate data, you can consult the product manager.

4. Packing Dimensions (Indoor Unit) depend on the panel you used, the panel is different, the Packing Dimensions will be different, but they are very close, if you need the accurate data, you can consult the product manager.

5、Gross Weight (Indoor Unit) depend on the panel you used, the panel is different, the Gross Weight will be different, but they are very close, if you need the accurate data, you can consult the product manager. 加密文档当前 加密文档当前修 加密文档当前

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# 3.1 Product Picture and Drawing HAME 加密文档当前说

## 3-1. Product Pictures

#### Indoor units:





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#### **Remote controller:**





Installation plate 黎水海 调读人:分体机平台 调读人:分体机平台  $\Box$ 

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	25 11/24	247 1424		25 1964	
Model	出当即下	<b>W</b> (mm)	H (mm)	D (mm)	]
Ť.	AST-24UW4RBBDJ03	1087	315	229	, ANT
1	AST-18UW4RXADJ02	915	315	229	THE
	AST-12UW4RMEDJ02	815	270	210	1
	AST-09UW4RMEDJ01	815	270	210	
La.	AST-24UW4RBBTU03	1141	315	233	
BF .	AST-18UW4RXATU02	969 舰水准	315	2 <b>3</b> 3	
	AST-12UW4RMETU02	866	270	213	
	A\$T-09UW4RMETU01	866	270	213	亚台
人林和	No. MARLIT		NATION	1. NAT	
カ	调读人力	调读人	71	调读人 7	]
	245年1月17日	いい当前した。	NK 24	<u>I</u> IV-	1
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					1
		1	1	1	1

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Am	x Nº A	Th		x Nº	4 h		K Nº H	TM .	_
Model	以前阅读	L1	L2	L3×	L4	L5	L6×	L7	
	WH HAN	(mṃ)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	14
AST-2	4UW4RBB**03	542	341	935	878	1310	667	368	5 JA
AST-1	8UW4RXA**02	510	310	886	810	280	585	338	4
AST-1	2UW4RME**02	530	290	856	780	260	538	317	
AST-0	9UW4RME**01	530	290	856	780	260	538	317	
<i>p</i>	· · ·								
<u>F</u>	迎水海			和水池			视水海		
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## 4. Installation Instruction



To prevent abnormal heat generation and the possibility of fire, do not place obstacles, enclosures and grilles in front of or surrounding the air conditioner in a way that may clock air flow. And, more than 1 meter away from any antenna or power lines or connecting wires used for TV, radio, telephone, security system, or intercom. Electrical noise from any of these

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sources may affect operation.

### 4-1. Installation Place and Condition

#### Indoor unit

#### Avoid:

- $\triangle$  direct sunlight.
- 当当前阅读人:分体机平台  $\triangle$  nearby heat sources that may affect performance of the unit.
- $\triangle$  areas where leakage of flammable gas may be expected.
- $\triangle$  places where large amounts of oil mist exist.

#### Do:

- $\triangle$  Select an appropriate position from which every corner of the room can be uniformly cooled.
- $\triangle$  Select a location that will hold the weight of the unit.
- △ Select a location where tubing and drain hose have the shortest run to the outside. (See a)
- △ Allow room for operation and maintenance as well as unrestricted air flow around the unit. (See b)
- △ Install the unit within the maximum elevation difference (H) above or below the outdoor unit and within a total

tubing length (L) from the outdoor unit as detailed (See table 1 and c)



#### table 1

Capacity	Pipe Size		Standard	Max. Elevation	Max.Length	Additional
(Btu/h)		林机	Length (m)	B (m)	A (m)	Refrigerant (g/m)
分析	GAS	LIQUID	3.6	读人:分析	S	读人:分析
54~144	3/8"(Ø9.52)	1/4"(Ø6.35)	5.4前阳	5	15,前历	20
JK~14K	1/2"(Ø12.7)	1/4"(Ø6.35)	115	5	115	20
加密	1/2"(Ø12.7)	1/4"(Ø6.35)	至 5	5 HI	30	20 加管
18k~28k	5/8"(Ø15.88)	1/4"(Ø6.35)	5	5	30	20
	5/8"(Ø15.88)	3/8"(Ø9.52)	5	5	30	30
.30k~38k	5/8"(Ø15.88)	3/8"(Ø9.52)	5	5	30	30
BOOK OOK	3/4"(Ø19.05)	3/8"(Ø9.52)	5	<b>长</b> 酒5	30	40 K
	Ť,	franst / A Same	20	1/2 / -		Nor 1 -

\* If total tubing length becomes 5 to 15 m (max.), charge additional refrigerant as the table1 for reference. And 加密文档当前阅 加密文档当前日 no additional compressor oil is necessary.

#### Outdoor unit

#### Avoid:

 $\triangle$  Heat sources, exhaust fans, etc.

△ Damp, humid or uneven locations.

#### DO:

 $\triangle$  Choose a place as cool as possible.

 $\triangle$  Choose a place that is well ventilated.

△ Allow enough room around the unit for air intake or exhaust and possible maintenance. (see a1, b1 & c1) △ Provide a solid base (level concrete pad, concrete block, 10 × 40 cm beams or equal), a minimum of 10 cm  $\triangle$  If the installation bag has rubber pads, it is strongly recommended for use to reduce vibration and noise.  $\triangle$  Use lug bolts or equal to bolt down unit, reducing vibration and noise.



形平台	如平台		. HI F	台
Capacity	IN IF Powe	er cord ,函读	Power col	nnecting cord
(Btu/h)	Туре	Normal cross - sectional area	Туре	Normal cross - sectional area
EL 12K	H07RN-F	0.75~1.5mm <sup>2</sup> X3	H05RN-F	0.75mm <sup>2</sup> X4
5K~13K	H07RN-F	0.75~1.5mm <sup>2</sup> X3	H07RN-F	0.75~1.5mm <sup>2</sup> X5
	H05VV-F	0.75~1.5mm <sup>2</sup> X3	H07RN-F	0.75~1.5mm <sup>2</sup> X4
5K*~13K*	IS:694	0.75~1.5mm <sup>2</sup> X3	IS:9968	0.75~1.5mm <sup>2</sup> X4
1116~191	H07RN-F	1.5mm²X3 般	H05RN-F	0.75mm <sup>2</sup> X4
IAIX- TOK	H07RN-F	1.5mm <sup>2</sup> X3	H07RN-F	1.5mm <sup>2</sup> X5
正平台	H05VV-F	1.5/2.5mm <sup>2</sup> X3	H07RN-F	1.5/2.5mm <sup>2</sup> X4
4K*~18K*	IS:694	1.5/2.5mm <sup>2</sup> X3	IS:9968	1.5/2.5mm <sup>2</sup> X4
业准	H07RN-F	2.5mm <sup>2</sup> X3	H05RN-F	0.75mm <sup>2</sup> X4
21K~36K	H07RN-F	2.5mm <sup>2</sup> X3	H07RN-F	1.0mm <sup>2</sup> X4
加拉	H07RN-F	2.5mm <sup>2</sup> X3	H07RN-F	2.5mm <sup>2</sup> X5
21K*~30K*	H05VV-F	2.5mm <sup>2</sup> X3	H07RN-F	2.5mm <sup>2</sup> X4
40.7	IS:694	2.5mm <sup>2</sup> X3	IS:9968	2.5mm <sup>2</sup> X4
21K**~24K**	H05VV-F	1.5mm <sup>2</sup> X3	H07RN-F	1.5mm <sup>2</sup> X4 <sub>化</sub> 海

## NOTE:

2.K\*\* indicates indoor power supply of this model comes from indoor unit. plug.

3.For 14K\*~18K\* models under Tropical(T3) Climate condition, the normal cross-section area of Power cord and Power connecting cord is 2.5mm<sup>2</sup>×4. Attention:

The plug must be accessible even after the installation of the appliance in case there is a model. appliance in case there is a need to disconnect it. If not #1 加密文档当前阅读人:分体机平台 possible, connect appliance to a double-pole switching device with contact separation of at least 3 mm placed in an accessible position even after installation. 加密文档当前问 加密文档当前

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4-2. Electric Wiring Diagram	四旗人:分体机	河谋人:分体机
Model 账当前 <sup>KG M</sup>	Indoor Unit DIAGRAM	Outdoor Unit DIAGRAM
AST-24UW4RBB**03	2086708	1975769
AST-18UW4RXA**02	2086708	<sup>µ</sup> 2178681
AST-12UW4RME**02	2086708	2178681
AST-09UW4RME**01	2086708	2178681
Note: " ** " mean code of Front Panel.	操水的	爱水平

#### Indoor Unit:



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NOTE: In different models, the throttle assembly may be Capillary or Electronic expansion valve.

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## 4-4. Air Purging and Leakage Test

卖人:什体机 读人:分体机 1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves 加密文档当 must be tightly shut).

2. Connect joint of charging hose to vacuum pump.

3. Fully open the handle of Lo manifold valve.

4. Open the vacuum pump to evacuate. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside. (If noise of vacuum pump has been changed, the reading of multimeter is 0) Then tighten the nut.

5. Keep evacuating for more than 15mins and make sure the reading of multi-meter is -1.0 X105 pa (-76cmHg).

6. Check the vacuum with the gage manifold valve, then close the gage manifold valve, and stop the vacuum pump.

是人·分体机平台 7. Leave it for one or two minutes. Make sure the pointer of the gage manifold valve remains in the same position.

8. Remove the gage manifold valve quickly from the service port of the stop valve.

加密文档当 After refrigerant pipes are connected and evacuated, fully open all stop valves on gas and liquid pipe sides.

9. Opening without fully opening lowers the performance and cause dangerous.

10. Tighten the cap to the service port to obtain the initial status.

11. Retighten the cap

12. Leak test



## 4-5. Test Running

<b>4</b> - △	-5. Test Running Check after Installation	前阅读人:分性的
Γ	Items to be checked	Possible malfunction
	Has it been fixed firmly?	The unit may drop, shake or emit noise.
	Have you done the refrigerant leakage test?	It may cause insufficient cooling(heating)capacity
	Is heat insulation sufficient?	It may cause condensation and dripping.
BF	Is water drainage satisfactory?	It may cause condensation and dripping.
	Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the product.
ÿ	Is the electric wiring and piping connection installed correctly and securely?	It may cause electric malfunction or damage the part.
	Has the unit been connected to a secure earth connection?	It may cause electrical leakage.
	Is the power cord specified?	It may cause electric malfunction or damage the part.
	Are the inlet and outlet openings blocked?	It may cause insufficient cooling(heating)capacity.
	Is the length of connection pipes and refrigerant capacity been recorded?	The refrigerant capacity is not accurate.

#### **△Operation Test**

- (1)Do not switch on power before installation is finished completely. (2)Electric wiring must be connected correctly and convert
- (3)Cut-off valves of the connection pipes should be opened.

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(4)All the impurities such as scraps and thrums must be cleared from the unit.

#### 2. Operation Test Method

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(1)Switch on power and press "ON/OFF" button on the remote controller to start the operation.

(2)Press MODE button to select the COOL, HEAT (Cooling only unit is not available), FAN to check whether the operation is normal or not. 黎水海

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## 5. Function Operation

## 调读人:分体机平台 5-1. Operation Range (cooling and heating)

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分体机平台

Functio	n Operat	ion w前阅读人:	分体心。	
. Operation	Range (cool	ing and heating)	加密文档当时	ÿ
Tempe	rature	Cooling operation	Heating operation	
Indoor	Max	32℃	27℃	
temperature	Min	21℃	7℃	
outdoor	Max	43℃	ATAM PE 24°C	7
temperature سلام	前 <sup>面。</sup> Min	*noter Mark	-1,5°C	
加密文档		加密文档	加密文档	j

\*Optimum performance will be achieved within these operating temperature. If air conditioner is used outside of the above conditions, the protective device may trip and stop the appliance. \*For Tropical (T3) Climate condition models, the outdoor max temperature is 55  $\,^{\circ}C$  instead of **43** ℃

\*For some models, can keep cooling at -15  $^{\circ}$ C outdoor ambient via unique design. Normally, optimum cooling performance will be achieved above 21 °C. Please consult the merchant to get more information.

\*For some models, can keep heating at -15  $^{\circ}$ C outdoor ambient , some models heat at -20 outdoor ambient, even heat at lower outdoor ambient

The temperature of some products is allowed beyond the range. In specific situation, please consult the merchant. When relative humidity is above 80%, if the air conditioner runs in COOLING or DRY mode with door or window opened for a long time, dew may drip down from the outlet.

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#### △Function Instruction

#### 1. Major general technical parameters

1-1 Remote receiver distance (front of the air conditioner) : 8 m.

1-2 Remote receiver angle: Less than 60 degrees.

1-3 Temperature control accuracy: ±1°C.

1-4 Time error: Less than 1%.

#### 2. Functions of the controller

#### 2-1 Display panel

I. Control functions of the remote controller (See operating and installation manual)

II. Display of the indoor unit

#### Information on the screen:

#### **Displaying Scheme:**

人:分体机平台 7-segment tube: Display set temperature or indoor temperature , and display fault code in trouble indicating. An error code is displayed according to the signal from the indoor CPU. The error code will flash for 5 seconds 加密文林

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while displayed.

**Running LED:** It is on during operation. It is flashing when the unit defrost.

TIMER LED: When the timer mode works, the LED will be lighted.

Sleep LED: When the sleep mode works, the LED will be lighted, and after 10s, the LED will be off. Compressor LED: It lights up when compressor is running.

Remote control receiver: This section receives signals from the remote control.

#### 3. Control function

#### 3-1 Emergency switch

1/2 If the appliance under the Stand-by state, all the Operation Mode, Air volume, Temperature Setting, Forced Cooling function will be restored as the last time setting when you press on the "ON/OFF" button, but lost the Air flow direction setting.

If the appliance was connected to the power at first time, it would operate in the auto mode, It will keep in stand-by state if you press the "ON/OFF" button during the normal operation.

When the appliance under the Stand-by state, press and hold the emergency switch for 5 seconds, the buzzer rings for 1 times, and it will operate in cooling mode, and the indoor fan speed is set to high-speed, it running has nothing to do with the room temperature.

When press the emergency switch or receive the signal of the remote control, it will exit this mode, and it will operate with the corresponding order.

#### 3-2 Operator-machine communication

If the unit has I feel function, when the I feel function is set by the remote control, the room temperature will depend on the remote control and it will be detected by the sensor of the remote control. Normally the remote control will automatically transmits a signal at an interval of 10 minutes (only for H1 remote control, it is 9 minutes), but if the room temperature changed exceed 1°C in a short period of time, the remote control will transmits a signal within 2 minutes. If the indoor unit has not received a remote signal within 30 minutes, the room temperature will depend on the room temperature sensor of indoor unit.

#### **3-3 Timer function**

Real time of Timer setting

(1) The max Timer ranges is 24 hours.

(2) Timer ON/OFF

(3) Timer ON/OFF can be set available in turn.

- (4) The Timer accurate more than 97%
- (5) The Timer can be adjusted by 1 min increase.

(6) The appliance can be set the ON-Timer and OFF-Timer in the same time, but no any timer setting indicated.

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### 3-4 Sleep

(1)The Sleep mode can only be set during Cool, Heat and Dry mode.

(2)When the appliance run in the Sleep mode, it will stop after 8 hours operation, then it will cancel the Sleep setting. When the appliance operate under the OFF-Timer setting condition, if the OFF-Timer setting less than 8 hours, it will keep the Sleep mode till the OFF-Timer setting; if the OFF-Timer setting more than 8 hours, it will cancel the OFF-Timer setting after the Sleep mode OFF.

(3)When the Sleep mode is select with Cooling mode, if the room temperature not less than 26°C, the

setting temperature will not be adjusted, otherwise, the setting temperature will be raised by 1°C per hour, but

the max setting temperature raise is 1°C.

(4)When the Sleep mode is select with Heat mode, the setting temperature will be decreased by 1°C per

hour during the successive 3 hour, but the max setting temperature decrease is 3°C.

(5)When the appliance operate with Sleep mode, the indoor fan run in the LOW setting, and the air flow direction same as the last setting and the temperature and air flow direction can be adjusted by user. The Running indicator will be flashed 10 times per 1 Hz frequency, then all the indicators turn OFF except the Sleep light after 5 min elapse. Those indicators will be recovery when the temperature or Time setting is adjusted, after the setting, the indicators will be lit in 10 sec, then turn OFF.

#### 3-5 Automatic run (SMART) mode

When the appliance operates at the smart, the air flow direction can be adjusted.

(1) H/C appliance

a. When the setting temperature is 26°C, the appliance will be ran in the Cool if the room temperature 、分体机平台

人:开林制

exceeds 26°C.

b. When the room temperature exceeds 23°C, but below 26°C, it will be ran in the Dry mode(It will turn in 加密文档 Automatic setting After 3 min LOW air volume running.).

c. When the room temperature exceeds 21°C, but below 23°C, it will be operated in the Fan only, the air

volume is set by LOW and the fan speed can be adjusted

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d. When the room temperature is not more than 21°C, it will be operated in Heat mode, and the temperature

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is set to 22°C

(2) Cool only appliance

a. When the room temperature exceeds  $26^{\circ}$ C, it will be ran in Cool mode, and the temperature is set to 26°C.

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b. When the room temperature exceeds 23°C, but not more than 26°C, it will be operated in the Dry mode.

c. When the room temperature is not more than 23°C, it will be operated in the Fan only, the air volume is

set to LOW and the fan speed can be adjusted

After the appliance start the smart operation, the setting temperature can be adjusted 2°C or 7°C (based on

the remote mode)(the min accuracy is 1°C) up and down base on the automatic temperature setting, also the

presetting temperature of PCB circuit.

In case of the specific operation selected, it could be re-select the other modes after the compressor ceased for 5 min or the setting temperature changed.

#### 3-6 Cooling-run mode

3-6-1 Outdoor Fan

The outdoor fan's speeds except the single speed motor can be changed according to outdoor ambient ;分体机平台 temperatures.

When operating at a fixed frequency, the outdoor fan is forced to operate at the high speed. 3-6-2 Indoor fan operation

(1) When the indoor fan keep in running condition, this operation state could be controlled by the remote control with High, Median, Low and Automatic setting.

(2) When the appliance is set Automatic condition in the Cool mode for the first time, the fan speed will run at Low setting. After that, temperature and fan speed is shown as following.



When the difference between the setting temperature and the room temperature equal to  $2^{\circ}$ C or  $4^{\circ}$ C, the

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#### indoor fan speed will keep in current speed. 3-6-3 Air flow direction control

当前阅读人:分体机 当前阅读人:分体机 The louver is derived by a step motor, and it swings the horizontal louver automatically. Press the SWING button to swing or stop the louver.

During the louver swing in normal operation, the current position will be stored. When the appliance turn off and louver swing automatically to the default position, it will position at the close position plus 5°.

3-6-4 4-way valve

State: It is interrupted in cooling

Switchover: When initially powered on for cooling, the 4-way valve is interrupted immediately. When the heating is changed to the cooling, it needs an interval of 50 seconds for the 4-way valve to change 加密文档当前阅读人 加密文档当前阅读人 over from being activated to being interrupted.

#### 3-7 Heating-run mode

3-7-1 Temperature compensation

The temperature compensation is 5° in heating mode. For example, if the set temperature is 25°C by the

remote control, when the room temperature is detected with 31°C, the compressor will turn off. The main reason

is that the hot air is condensed at the top of the house.

Note: The compensation is available only if the room temperature sensor of indoor unit is used and it is not available when it is subject to the sensor on the remote control. 调读人:分体机平台 阅读人:分体机平台

3-7-2 Indoor fan motor operation

Anti-cold air system

加密文档兰 When the appliance run in Heat mode condition, the indoor fan motor operation is shown as following to prevent the cooling air come out during the appliance operation.



When the appliance turn in the anti-cold air system in the Extra-LOW (Tapped motor set in LOW, sic passim) during the compressor operation, the louver swang to the Cool air protection position, the louver recovers to the original position after the air volume change to LOW. When the room temperature reach to the setting temperature, the compressor will be turn off, and the air flow change to LOW, the louver swang to the Cool air protective position to prevent the air drop into human body directly; when the indoor pipe coil

temperature drop continuously, it will turn in the Cooling air protective system in the Extra-LOW or stop the fan motor.

The indoor fan motor is only controlled by the signal of indoor pipe coil temperature, no matter the compressor turn ON/OFF, even the appliance turn in Heat mode at first time.

The setting temperatur

MEDIAN

The setting temperature - 4°C High

The indoor fan motor will operate according to the different setting(High, Median, Low and Automatic) by the remote control, but the anti-cold air system is prior.

When the appliance run in the Heat mode with the Automatic setting at first time, the fan speed will be in the LOW setting, and the operation diagram is shown as following

Temperature rise

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When the difference between the setting temperature and the room temperature equal to 2°C or 4°C, the indoor fan speed will keep in current speed.

3-7-3 Air flow direction control

emperature

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The horizontal louver is controlled by a step motor, press the SWING button to swing or stop the louver.

During the louver run in normal operation, the current position will be stored. When the appliance turn off and louver swing automatically to the default position, it will position at the default position plus 5°. 4-3-8-4 Outdoor fan

The outdoor fan speeds except single speed motor can be changed according to outdoor ambient temperatures. 3-7-6 4-way valve

State: It is electrified in heating.

Switchover: When initially powered on for heating, the 4-way valve is activated immediately. In the change from cooling to heating, it needs an interval of 50 seconds for the 4-way valve to change over from 阅读人:分体机 being interrupted to being activated. 副读人:分体机

#### 3-8 The super function (option)

加密文档 In cooling mode, when you press the SUPER button by remote control, the unit will operate for 15 minutes with the following setting:

The set temperature is 16°C; a.

- The fan speed with highest speed; b.
- The compressor runs with high frequency. c.

3-9 Dehumidifying mode



Dehumidifying area II: The compressor stops for 5 minutes and operators for 5 minutes at the lowest frequency. 读人:分体机平台 Dehumidifying area III: The compressor stops 读人:分体机平台

#### 水机 3-10 Fan Only Mode Operation

During the appliance run in this mode, the compressor and outdoor fan stop, the indoor fan operate under 加密文档当 the pre-setting of air volume, and the louver swing, and the indoor fan speed same as the Heating Mode.

### 5-3. Special Function Instruction

Conditions of anti-freezing prohibition of frequency rising:

当前阅读人:分体机 Condition 1: in the case of anti-freezing frequency decreasing, the temperature of indoor heat exchanger rises to "anti-freezing frequency decreasing temperature".

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Condition 2: in normal operation, the temperature of indoor heat exchanger reaches "anti-freezing prohibition of frequency rising temperature".

Either of the above two conditions is met, the product will enter anti-freezing prohibition of frequency rising state. Anti-freezing prohibition of frequency rising operation: the compressor is kept at the current frequency, which may decrease according to situations while cannot rise. The outdoor fan runs.

Condition for the end of anti-freezing prohibition of frequency rising state; when the temperature of indoor heat exchanger rises to "anti-freezing releasing temperature", the state of anti-freezing prohibition of frequency rising is released.

Conditions for defrosting:

A: When the heating compressor consecutively runs for 40 minutes (EEPROM setting value at the current operating mode);

B: If the ambient temperature minus the temperature of coiled pipe is equal to or higher than six degrees centigrade (EEPROM setting value in the current operating mode)

C: If the temperature of coiled pipe is equal to or lower than minus two degrees centigrade (EEPROM setting 读人:分体机平台 value in the current operating mode);

If the above three conditions are met simultaneously, defrosting begins. Defrosting actions:

The compressor stops, and the outdoor fan stops after delay of 30 seconds; in 50 seconds the four-way 加密文档 valve is power off; and in 10 seconds the compressor starts and runs at "defrosting frequency". Conditions for ending defrosting:

Defrosting is over if either of the below conditions is met.

A: The accumulated time of defrosting is longer than 12 minutes (EEPROM setting value in the current operating mode);

B: If the temperature of coiled pipe is equal to or higher than 14 degrees centigrade (EEPROM setting value in the current operating mode);

Actions of exiting the defrosting state:

The compressor stops, and 50 seconds later the four-way valve opens, and another 10 seconds later the 加密文档当前 compressor and outdoor fan restart and begin normal operation.

## 6. Electrical Characteristics

## 6-1. Print Circuit Board (Indoor & Outdoor)

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<b>Electrical Chara</b>	cteristics	制了	
山当前阅读	"当前阅读"	当前阅读	. 1
6-1. Print Circuit Board (I	ndoor & Outdoor)	加密文档二加密	百丈栏
Model	Indoor unit	Outdoor unit	
AST-24UW4RBB**03	2157689	2127255	
AST-18UW4RXA**02	2110521	2127255	
AST-12UW4RME**02	2157689 般水形	2184842 般於料	
AST-09UW4RME**01	2157689	2184842	1>
lote: // " ** " mean code of Front Pane	树中的	机平白	Fr -
?、These colds are not spare parts	' cold, Please don't use these colds	to order spare parts.	
Model of indoor	一家文档当时	文档当时	云文栏

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## 6-3. Temperature Sensor

#### Parameter table attached:

至文档当 1. THE PARAMETER OF THE INDOOR COIL AND INDOOR ROOM SENSOR , THE PARAMETER OF THE OUTDOOR COIL AND OUTDOOR SENSOR: (R(0)=15k B(0/100)=3450)

档当前阅读人:分体机

:档当前阅读人:分体机平台

亚台

Temperature(°C)	Resistance(k)	Voltage(V)		Temperature(°C)	Resistance(k)	Voltage(V)	
-20	38.757 K	0.58143512		31 × 101	4.292	2.715076661	
-19	36.844	0.60795346		32	4.137	2.76063657	
-18	35.038	0.63530819		33	3.989	2.805589174	1.47
k-117 4	33.331	0.66352684		34 HE	3.847	2.850117358	LIFF
-16	31.719 人:分	0.69257720		35人:分件	3.711	2.894109636	
-15	30.196	0.72246147	,前傍	36	3.58	2.937788018	x 7
-14	28.755	0.75321223	Ap.	37	3.455	2.980713033	一世
-13	27.392	0.78480857		38	3.335	3.023117961	山峦又下
-12	26.103	0.81722911		39	3.219	3.065272268	JH -
-11	24.882	0.85051031		40	3.108	3.106725146	
-10	23.727	0.88458737		41	3.001	3.147759536	
-9	22.632	0.91951536		42	2.899	3.187898487	
-8	21.594	0.95527085		43 水海	2.801	3.227439565	]
-7	20.611	0.99179340		44	2.706	3.266717909	
-6	19.678	1.02913875		45	2.615	3.305249514	1.5
-5, FF	18.794	1.06721353		46	2.528	3.342947037	F
F-4	17.954	1.10609872		47	2.444	3.380169671	L '
-3	17.158	1.14565549	1	48	2.363	3.416856492	
-2	16.401	1.18599135	当前世	49	2.286 光田	3.45247766	NK 2K
-1 × 1	15.683	1.22696435		50	2,211	3.487894953	55 XA
0 11121	15	1.26865672		51	2.139	3.522585993	加密
1	14.351	1.31098658		52	2.07	3.556485356	. /
2	13.734	1.35393437		53	2.003	3.590032381	
3	13.148	1.39741342		54	1.939	3.622673675	
4	12.589	1.44157386		55 JEL	1.877	3.654865988	
5	12.058	1.48618720		56 K P	1.818	3.686036427	
6	11.553	1.53125563		57	1.76	3.717201166	
7 正台	11.071	1.57689691		58	1.705	3.747244673	亚笛
8	10.613	1.62286005		59 KKAL	1.652	3.776658768	LT.
9	10.176	1.66928515	1	60 × 1	1.6	3.805970149	
10	9.76	1.71601615	山前历	61	1.551	3.834009923	-14
11 计档	9.363	1.76311968		62	1.503	3.861880963	一世档三
12,11倍	8.985	1.81043663		63 II	1.457	3.888973616	加密之
13	8.624	1.85805887		64	1.413	3.91524643	174.
14	8.279	1.90597205		65	1.37	3.941267388	
15	7.951	1.95387327		66	1.328	3.967019291	
16	7.637	2.00204130		67	1.289	3.991234935	]
17	7.337 K	2.05033368		68 K 181	1.25	4.015748031	]

	12			12		17-3	
亚台		亚台		. <	正台		亚台
18	7.051	2.09859271		69 1KAL	1.213	4.039284017	
19	6.778	2.14682606	34	70 1. 7	1.177	4.062450215	
20	6.516	2.19524793	前例	71	1.142 当前	4.085229093	
21 7月	6.267	2.24333597		72	1.109	4.106941536	丁档
22世帝	6.028	2.29151689		73	1.076	4.12888601	加密人
23	5.8	2.33944954		74	1.045	4.149715216	12
24	5.581	2.38741691		75	1.015	4.17007359	
25	5.372	2.43506494		76	0.986	4.189944134	
26	5.172	2.48247664		77	0.957	4.210004953	
27	4.981 K 145	2.52951096		78 K H	0.93	4.228855721	
28	4.797	2.57653834		79	0.904	4.247168554	
29	4.622	2.62291710		80	0.878	4.265640683	1 A
30	4.453	2.66931854		174-4	P P	itt	LIPPI
Note: the AD va	lue in the table is ca	culated on the basis	s of the	e pull-down resistor	is 5.1K.	小龙人:分体	,
	山前阅读	.4	前说	IF.	以前	阅读	
. Phi	1"	· HH	1 1-		they are		they are

#### 對前開發 当前阅读 **当前的**下 2. THE PARAMETER OF OUTDOOR COMPRESSOR TEMPERATURE SENSOR:

R(0)=187.25k B	8(0100)=3979)	加亞		加密	ţ.	口治
Temperature (°C)	Resistance(k)	Voltage(V)	Temperature (°C)	Resistance (k)	Voltage(V)	
-20	542.867	0.06185563	51	19.907	1.273074475	
-19	512.839	0.06543004	52 Kill	19.148	1.310312934	
-18	484.672	0.06917993	53	18.422	1.348029498	
-17	458.239	0.07311215	54	17.728	1.386170907	. là
-16	433.423	0.07723358	55	17.065	1.424680494	PP P
-15	410.115	0.08155140	56 J. AM	16.43	1.463624623	1
-14	388.213	0.08607312	57	15.822	1.502961719	1
-13	367.625	0.09080590	58	15.241	1.542579738	
-12 J	348.264	0.09575738	59	14.684	1.582573078	减少
-11	330.048	0.10093573	60	14.151	1.622834232	Hu
-10	312.904	0.10634837	61	13.64	1.663405088	
-9	296.761	0.11200385	62	13.151	1.704175229	
-8	281.556	0.11790981	63	12.682	1.745200698	
-7	267.227	0.12407536	64	12.233	1.78637104	
-6	253.72	0.13050821	65 F	11.802	1.827760456	
-5	240.982	0.13721739	66	11.388	1.869364416	1-
-4, 7 1	228.965	0.14421140	67	10,992	1.910971223	平台
5-3	217.624	0.15149895	68 M	10.611	1.952788467	3
-2	206.917	0.15908889	69	10.246	1.994602839	
-1	196.805	0.16699001	70	9.896	2.036415908	
0 th	187.25	0.17521257	71	9.559	2.078366648	xX
1 加密	177.957	0.18402550	72	9.236	2.120229484	口治广
2	169.186	0.19319719	73	8.925	2.162162162	1
3	160.903	0.20273937	74	8.627	2.203928178	1
4	153.179	0.21252789	75	8.341	2.245558418	]
5	145.685	0.22297275	76	8.065	2.287251934	1

ALL P P	100.000	0.0000000		77	E P P	0.000707400
<u>0</u> // <sup>2</sup>	138.696	0.23368340	_	70 5 1 1	7.540	2.328767123
7	132.086	0.24480509	24		7.546	2.369998606
8	125.833	0.25634646	BU	<u>//9</u>	7.301	2.411176512
9 JAN	119.916	0.26831655		80	7.065	2.452217815
10	114.315	0.28072493		81	6.843	2.492120501
11	109.01	0.29358432		82	6.624	2.532777116
12	103.984	0.30690352	_	83	6.414	2.573028606
13	99.222	0.32068816		84	6.212	2.612972641
14	94.708	0.33494897		85	6.017	2.652726847
15	90.427	0.34969710		86 KI	5.829	2.692216328
16	86.366	0.36494000		87?3~	5.648	2.731362468
17	82.512	0.38068793		88	5.474	2.770083102
18	78.854	0.39694585		89	5.306	2.808524698
19	75.381	0.41372093		90 1: 4W	5.144	2.846617549
20	72.082	0.43102355	汕	<b>91</b> <sup>10</sup>	4.988	2.884289108
21 (月)	68.948	0.44885674	11.	92	4.837	2.921715219
22 F. Y.	65.968	0.46723835		93	4.692	2.958579882
23 <sup>]]H</sup>	63.136	0.48615877		94	4.552	2.995066949
24	60.443	0.50562884		95	4.417	3.031113488
25	57.88	0.52566481		96	4.286	3.066931265
26	55.367	0.54691396		97	4.161	3.10190676
27	52.978	0.56877112		98 v A	4.039	3.13682074
28	50.707 J	0.59123237		99	3.922	3.171050177
29	48.547	0.61430611		100	3.776	3.214826021
30 平日	46.492	0.63799445		101	3.703	3.237170332
31	44.537	0.66229036		102	3.602	3.268602192
32	42.676	0.68720188	U	103	3.501	3.300650422
33	40.904	0.71272849	削	104	3.409	3.33039475
34 J.H.	39.217	0.73885738		105	3.317	3.360680043
35川沿	37.609	0.76561057		106	3.228	3.390506582
36	36.077	0.79296593		107	3.141	3.420179056
37	34.616	0.82093877		108	3.058	3.448975451
38	33.224	0.84949031		109	2.977	3.477549351
39	31.895	0.87866649		110 Kit	2.899	3.505516033
40	30.628 A A	0.90841082		11,10 1.1.1	2.823	3.533201704
41	29.419	0.93873381		112	2.749	3.56058226
42 JUS	28.264	0.96965549		113	2.678	3.587254695
43	27.162	1,00111890		114 IK	2.609	3.613561484
44	26.109	1.03315203		115 人 分析	2.542	3.639477628
45	25.103	1.06573050 <sub>Uz</sub>	前	116	2.477	3.664977902
46 开始	24.142	1.09883007	12	117	2.414 开始	3.6900369
47, 小密义	23.223	1.13246511		118	2.353	3.714629083
48 <sup>////</sup>	22.345	1.16658089		119	2.294	3.738728832
49	21.505	1.20120120		120	2.237	3.762310501
50	20.701	1.23631868				
		I	_			

Note: ull-down resistor is 6.8 table is calculated on 黎永海



## 7.Trouble Shooting

## 7-1. Error Code Table

# 盛又档当前阅读人:分体和广 1.Indication on the outdoor unit

加密文档当前阅读人:分体机、 加密文档当 When the unit has the following trouble and the compressor stops running, The LED of outdoor control board will show the error sequence automatically:

亚台

正台

	Error code	Outdoor Failure	LED1	LED2	LED3	the root cause my be one of the following						
	NOTE: *: L Error O code D Mark desc Mark desc N MARK O te se C te se Se C te se C te Se C te se C te te S te S te S te S te S te S te	scription: the lights flash every second for the following faults										
	A.	Normal	×	×	×							
5	体制	Outdoor coil temperature sensor in trouble	山本制	×	★ -16前阅	<ul> <li>a. the outdoor coil sensor connect loose;</li> <li>b. the outdoor coil temperature sensor is failure;</li> <li>c. the outdoor control board is failure</li> </ul>						
	加密	Compressor exhaust temperature sensor in trouble	* <sup>†</sup>	I密文栏 ×	×	<ul> <li>a. the compressor exhaust temperature sensor connect loose;</li> <li>b. the compressor exhaust temperature sensor is failure;</li> <li>c. the outdoor control board is failure</li> </ul>						
Junear	体机平。	Communication failure between the indoor unit and outdoor unit	× 并体机 <sup>注</sup>	Fix ×	o 当前说	<ul> <li>a. the communication cable connect loose;</li> <li>b. the communication cable is failure;</li> <li>c. the connection between the filter board and the outdoor control board is incorrect or loose;</li> <li>d. the connection between the filter board and the terminal is incorrect or loose;</li> <li>e. the indoor control board is failure;</li> <li>f. the PFC board is failure;</li> <li>g. the power board is failure; h. the outdoor control board is failure;</li> </ul>						
	<u> </u> ]**	Current overload protection	*	0	×	<ul> <li>a. the fan motor run abnormally;</li> <li>b. the condenser or and evaporator is dirty;</li> <li>c. the air inlet and outlet is abnormally</li> </ul>						
		Maximum current	*	0	*	<ul> <li>a. the outdoor control board is short circuit;</li> <li>b. the drive board is short circuit;</li> <li>c. the other components is short circuit</li> </ul>						
Fr -	体机平。	Communication trouble between outdoor unit and driver	×AAA	¢A ★	★ 新麗	a. the connection wires connect loose b. the outdoor board or drive board is failure;						
	加密	Outdoor EEPROM in trouble	* 1	<b>☆</b> 文栏	¥ ★	<ul> <li>a. he EEPROM chip is loose;</li> <li>b. the EEPROM chip inserted with opposite direction;</li> <li>c. the EEPROM chip is failure</li> </ul>						

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	TE	3		亚台		亚台 亚台
分	体和	Compressor exhaust temperature too high protection	×	0	查前阅	<ul> <li><b>a.</b> the compressor exhaust temperature sensor is failure;</li> <li><b>b.</b> the refrigerant of the unit is not enough</li> </ul>
	))H 6	Outdoor ambient temperature sensor in trouble	]]ĭ ★	*	×	<ul> <li>a. the outdoor ambient temperature sensor connect loose;</li> <li>b. the outdoor ambient temperature sensor is failure;</li> <li>c. the outdoor control board is failure;</li> </ul>
黎水山	The P	Compressor shell temperature too high protection	×	★ F白	0	<ul> <li><b>a.</b> the compressor exhaust temperature sensor connect loose</li> <li><b>b.</b> the refrigerant of the unit is not enough</li> </ul>
分	体加加	Anti-freeze protection with cooling or overload protection with heating in indoor unit	× m	o ·密文栏	当前说	<ul> <li>a. the indoor coil temperature sensor connect loose;</li> <li>b. the indoor coil temperature sensor is failure;</li> <li>c. the indoor control board is failure</li> <li>d. the refrigerant system is abnormal.</li> </ul>
加水海		Compressor drive in trouble	0	×	0	<ul> <li>a. the outdoor drive board is failure;</li> <li>b. the compressor is failure</li> <li>c. the outdoor control board is failure</li> </ul>
☆/> 分	体机平的	Outdoor fan motor locked rotor protection	O 方体机 <sup>5</sup>	PO	*	<ul> <li>a. the connection of the outdoor fan motor is loose;</li> <li>b. there are something block the outdoor fan;</li> <li>c. the fan motor is failure;</li> <li>d. the outdoor control board is failure</li> </ul>
	加密	Outdoor coil anti- overload protection with cooling	×	☆文栏	×	<ul> <li>a. the refrigerant is too much;</li> <li>b. the outdoor fan motor is failure;</li> <li>c. the outdoor fan is broken;</li> <li>d. the condenser is dirty;</li> <li>e. the air inlet and air outlet of the indoor unit and the outdoor unit is not normally</li> </ul>
黎永海	体机平的	IPM module protection	×	<b>o</b> A	×	<ul> <li>a. The IPM board is failure;</li> <li>b. The outdoor fan is broken;</li> <li>c. The outdoor fan motor is failure;</li> <li>d. The outdoor fan has been blocked ;</li> <li>e. The condenser is dirty;</li> <li>f. The outdoor unit has been installed without standard.</li> </ul>
	王	PFC protection	0	× Xt	×	a. the PFC is failure; b. the outdoor drive board is failure
	<i>)+</i> *	Compressor pre heating process	0	*	0	it is normal mode in cold weather
1/4		Chip in outdoor board in trouble	*	×	0	<ul><li>a. Using the wrong drive board;</li><li>b. Using the wrong compressor.</li></ul>
黎水海		黎永海		1 -	48	黎水海

_	TE	1		下台		· 平台
分体		AC voltage higher or lower protection	★	*	o前	<ul> <li><b>a.</b> the supply voltage is higher or lower than normal;</li> <li><b>b.</b> the inner supply voltage of the unit is higher or lower than normal</li> </ul>
	加密	DC compressor start failure	o ti	0	×	a. the outdoor drive board is failure; b. the compressor is failure
		Outdoor ambient temperature too low protection	*	0	0	a、Outdoor ambient temperature too low
<b>K海</b>	The P	There is a leak in the product (Just suitable for some	0	★ €	*	a. K There is a leak in the indoor K b. b. There is a leak in the outdoor
12 AA	SAL N	Mark description: th	e lights	s flash e	very tw	o seconds for the following faults
71		Protection against overheated outdoor radiator	0	×	当前阅	a. Radiator sensors fail b. Detection circuit of the sensor on the control panel fails
、海	加帶	Protection of the system against too high pressure &###</td><td>الل 0</td><td>O</td><td>×</td><td>a. The pressure switch fails b. The pressure detection switch on the control panel fails c. The measured value of the system pressure exceeds the limit</td></tr><tr><td></td><td>ti. E</td><td>protection of the system abnormal</td><td>×</td><td>0</td><td>*</td><td>a. Check whether the outdoor valves are opened.</td></tr><tr><td>分体</td><td>SAL Y</td><td>protection of the AU PeakSmart function (Just suitable for AU</td><td>o O</td><td>×</td><td>★前阅</td><td>a. Check whether the Dred sing required by AU grid PeakSmart function was triggered by mistake.</td></tr><tr><td></td><td>mill</td><td>products only)</td><td></td><td>南大</td><td></td><td>IT IS X -</td></tr></tbody></table>				

#### When the compressor is in operation:

	Mark de	escription: ★	: LightO: F	lash ⊹: Off	; the flash cycle is 1S
	No.	LED1	LED2	LED3	Reasons for the current operating frequency of the
水海			水海		compressor is limited
NS-12	1	0	OF	0	Normal frequency rising and decreasing, no limitation
	1.	R		a ka	
4	2 AL P	×	× 、 流入·分	体机平上	Frequency decreasing or prohibition of frequency rising
	3	× 站前	R.	*	Frequency decreasing or prohibition of frequency rising
		~~~档当"		y J	caused by anti-freezing of refrigeration or anti-overload in
	103			加密人	heating 加密之
	4	*	×	*	Frequency decreasing or prohibition of frequency rising
					caused by too high compressor discharge temperature
黎水海			黎水海		要水海 骤水海
1-		1.5	6-11	1-	49

Ţ	.百		THE .	THE A	a
£ 54 AL	★ 	★ 版读人:分	体和比例	Operation at fixed frequency (in the case of capability measuring or compulsory operation at fixed frequency)	
6 111	EOT ME	×	× 加密文	Protective frequency decreasing against outdoor overload (overpower, over frequency conversion rate, over torque, detection of DC under-voltage)	
7	*	×	×	Frequency decreasing caused by indoor and outdoor communication fault	
8	×	* 黎永海	0	Frequency decreasing or prohibition of frequency rising protection against overload of outdoor coiled pipe	/>
9. HL F	×	★ 阅读人:分	茶机平台	Frequency decreasing or prohibition of frequency rising for power-saving when it is being used simultaneously with other appliances	
2.1	of the second s	y the indo	or unit:	相当100 加密文档当100 加密	ξŢ

#### 2.Indication by the indoor unit:

2.1. The 7-segment tube of the indoor display board will show the error code automatically when the unit has the following trouble:

	Error code	Content	The root cause is may be one of the following
13		the error code will display when	a.K The connection between the K
L	EA	the communication between	display board and control board is loose;
		display board and control board	b. The indoor control board is failure.
	HTLY I	have in trouble	c. The wiring of the display board is failure.
	TAT	y h & LAMAN	e L'é LAMAN

2.2. When the unit has the following trouble and the compressor stops running, press the sleep button on the remote controller for 4 times in ten seconds and the 7-segment tube of the display board will show the error code as the following, if two malfunction happened at the same time, it need press the sleep button for 4 times again, the LED will show the other error code.

Refer to the remote controller which the sleep key can set into 4 different combination ways (Hisense's new design remote controller), when using to check the error codes only takes effect for pressing the sleep key 10 times in ten seconds instead of 4 times.

	AR TKIN	AND TK-112	APL IN IS
Error code Content The root cause is may b		The root cause is may be one of the following	35- °
为他们 Normal 就通读人:分体机		和几十一 前旗读人:分体机十一	前阅读人:分体机中
1 111 <sup>9</sup>	The failure for temperature sensor of outdoor coil	<ul> <li>a. The outdoor temperature sensor loose;</li> <li>b. the outdoor temperature sensor is failure;</li> <li>c. The indoor control board is failure</li> </ul>	加辛
Compressor exhaust temperature sensor in troublea. the compressor exhaust b. the compressor exhau c. the outdoor control bo		<ul> <li>a. the compressor exhaust temperature sensor</li> <li>b. the compressor exhaust temperature sensor</li> <li>c. the outdoor control board is failure</li> </ul>	connect loose; is failure;
	黎永海	50 黎永海	黎永海

亚台	TEA TEA
5 IPM module pro	<ul> <li>a. The IPM board is failure;</li> <li>b. The outdoor fan is broken;</li> <li>c. The outdoor fan motor is failure;</li> <li>d. The outdoor fan has been blocked;</li> <li>e. The condenser is dirty;</li> <li>f. The outdoor unit has been installed without standard.</li> </ul>
6 AC voltage high lower protection	er or <b>a.</b> the supply voltage is higher or lower than normal; <b>b.</b> the inner supply voltage of the unit is higher or lower than normal
Communication 7 between the ind unit and outdoor	a. the communication cable connect loose; b. the communication cable is failure; c. the connection between the filter board and the outdoor control board is incorrect or loose; d. the connection between the filter board and the terminal is incorrect or loose; e. the indoor control board is failure; f. the PFC board is failure;
8 Current overload protection	<ul> <li>g. the power board is failure;</li> <li>h. the outdoor control board is failure.</li> <li>a. the fan motor run abnormally;</li> <li>b. the condenser and evaporator is dirty;</li> <li>c. the air inlet and outlet is abnormally</li> </ul>
9 Maximum currer protection	<ul> <li><b>a.</b> the outdoor control board is short circuit;</li> <li><b>b.</b> the drive board is short circuit;</li> <li><b>c.</b> the other components is short circuit</li> </ul>
10 Communication trouble between outdoor unit and	driver <b>a</b> . the connection wires connect loose <b>b</b> . the outdoor board or drive board is failure;
11 Outdoor EEPRC	M in <b>a.</b> the EEPROM chip is loose; <b>b.</b> the EEPROM chip inserted with opposite direction; <b>c.</b> the EEPROM chip is failure
Outdoor ambien12temperature tootoo high protecti	t low or Outdoor ambient temperature too low or too high on
13 Compressor exh 13 temperature too protection	aust higha. the compressor exhaust temperature sensor is failure;b. the refrigerant of the unit is not enough
14 temperature sen trouble	ta. the outdoor ambient temperature sensor connect loose;isor inb. the outdoor ambient temperature sensor is failure;c. the outdoor control board is failure
15 Compressor she temperature too protection	a. the compressor exhaust temperature sensor connect loose b. the refrigerant of the unit is not enough
16 With cooling or overload protect with heating in	<ul> <li>a. the indoor coil temperature sensor connect loose;</li> <li>b. the indoor coil temperature sensor is failure;</li> <li>c. the indoor control board is failure</li> <li>d. the refrigerant system is abnormal.</li> </ul>
和	水海 视水海

Ŧ	台	亚台	平台	亚台
分17	PFC protection 人・分化	<b>a.</b> the PFC is failure; <b>b.</b> the outdoor drive b	た。分析税 board is failure	必前阅读人:分体机,
18 加至	DC compressor start failure	<b>a.</b> the outdoor drive b <b>b.</b> the compressor is	ooard is failure; failure	加港文样
19	Compressor drive in trouble	<ul> <li><b>a.</b> the outdoor drive b</li> <li><b>b.</b> the compressor is a</li> <li><b>c.</b> the outdoor control</li> </ul>	oard is failure; failure I board is failure	
(海) 20	Outdoor fan motor locked rotor protection	<ul> <li>a. the connection of the connection of the connection of the context of</li></ul>	he outdoor fan motor is ig block the outdoor fan lure; I board is failure	ploose; g, 黎永语
分 <sup>体和10</sup> 21 加平	Outdoor coil anti- overload protection with cooling	<ul> <li>a. the refrigerant is to</li> <li>b. the outdoor fan mo</li> <li>c. the outdoor fan is to</li> <li>d. the condenser is di</li> <li>e. the air inlet and air is not normally</li> </ul>	oo much; otor is failure; oroken; irty; outlet of the indoor uni	当前剧族人:分体机中 t and the outdoor unit <sub>和</sub> 在文档
22	Compressor pre heating process	it is normal mode in c	cold weather	
23 TH	There is a leak in the product	a. There is a leak in th b. There is a leak in th c. There is a leak in th	e indoor e outdoor e connecting pipe	黎水海
分440-724	Chip in outdoor board in trouble	<b>a.</b> Using the wrong dr <b>b.</b> Using the wrong co	rive board; ompressor.	以前阅读人:分体机
26 JU	Overheated outdoor radiator	<b>a.</b> Radiator sensor fai <b>b.</b> Detection circuit of	ils the sensor on the cont	rol panel fails
27	Protection against too high system pressure	<ul> <li><b>a.</b> The pressure switc</li> <li><b>b.</b> The pressure detect</li> <li><b>c.</b> The measured value</li> </ul>	ch fails ction switch on the cont ue of system pressure e	trol panel fails exceeds the limit
<sup>33</sup>	The failure for temperature sensor of indoor room	<ul> <li><b>a.</b> The indoor room te</li> <li><b>b.</b> The indoor room te</li> <li><b>c.</b> The indoor control</li> </ul>	emperature sensor loos emperature sensor is fa board is failure.	e; ilure; 黎 <sup>永油</sup>
分134	The failure for temperature sensor of indoor coil temperature	<b>a.</b> The indoor coil tem <b>b.</b> The indoor coil tem <b>c.</b> The indoor control	nperature sensor loose; nperature sensor is failu board is failure.	ure; 当前阅读人:分体机平台
)]] <sup>3</sup> 6	Communication failure between the indoor unit and outdoor unit	<ul> <li>a. the communication</li> <li>b. the communication</li> <li>c. the connection between the board is incorrect or least the connection between the connection between the connection between the board between the connection between the board between the board</li></ul>	n cable connect loose; n cable is failure; ween the filter board ar oose; ween the filter board ar	nd the outdoor control
、海	如我海	incorrect or loose; <b>e.</b> the indoor control <b>b</b>	poard is failure;	an ACIE

	, TE	台	亚台	6台 亚台
~	成都		f, the PFC board is failure;	the the
h	1.1	調達人・ケリ	<b>g.</b> the power board is failure;	国旗人・分下
	当前周辺		h. the outdoor control board is failure	e. 所前网
	20	Indoor EEPROM	a. The EEPROM chip loose;	· THE
	30 111	failure	<b>b.</b> The indoor control board is failure	盛入加電人
	111		a. There are something block the inc	door fan motor;
	39	Indoor fan motor run	<b>b.</b> The fan motor cord connect loose	;
		abnormally	<b>c.</b> The fan motor is failure;	
			d. The indoor control board is failure	
	41	The failure for Indoor grounding protective	The indoor control board is failure	黎永海

The failure is detected when the temperature sensor of heater exchange broken or shorted over 5 sec. The failure is detected when each setting data is not match after the EEDBOLD 加密文档当 The failure is occur when the grounding signal is not detected after the appliance power ON. 加密文型 加密文科

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## 7-2. Test the jumper terminals

#### Note:

When the whole machine is powered up, if the external unit does not work, to rule out the communications failures, adopt screening method such as short circuit on the jumper terminals to see if the external unit can be started normally or similar method.

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人:分体机平台 There are two blue terminals on the outdoor control panel, as shown above. Application: Short out the terminals, and power up the outdoor unit, then the outdoor unit may run independently. It can be determined that there is no internal and external communication faults.

When the environment temperature is lower than 18°C, you can't run the unit under the cool mode, but if you

need run the unit at this moment, such as add the gas or do more test,

at this moment you can use this function,

Under this function, the outdoor motor and compressor will be forced to run until reaching a fixed frequency (general is 50~55Hz).

#### 7-3. Trouble Diagnosis of Protection

#### Protection diagnosis of the complete machine (all types of protection during operation, i.e. under-voltage, over-voltage and overcurrent protection)

Note: List all types of protection that may occur to the complete machine and describe the conditions and signs of the start, course and end of such protection.

Voltage protection

#### Protection against AC input over-voltage/under-voltage

#### 1.Conditions for protection against AC input over-voltage/under-voltage:

If the input AC voltage is greater than "protective over-voltage value" or less than "protective under-

voltage value" for five seconds, over-voltage/under-voltage protection tarts.

#### 2. Protection actions against AC input over-voltage/under-voltage

3. Conditions for ending AC input over-voltage/under-voltage: 4444 If the input AC voltage is lower than "the protective over-voltage value" -10V, or higher than "the protective under-voltage value" +10V, the over-voltage/under-voltage protection will be released.

#### **Current protection:**

#### 1.Protection against over-current

Conditions for over-current protection: if the current is equal to or greater than "current value for starting the refrigeration current protection (E2 value)" for six seconds, over-current protection starts.

Protection actions against over-current: indoor display screen and outdoor indicator give indications, the

compressor and outdoor fan stop, but indoor fan runs normally.

Condition for ending over-current protection: when the current drops below "current value for releasing the refrigeration current protection (E2 value)", over-current protection will be released.

#### 2. Frequency decreasing for over-current

Conditions for over-current frequency decreasing: if the current is equal to or greater than "current value for starting the refrigeration current protective frequency decreasing (E2 value)", over-current frequency decreasing starts.

Over-current frequency decreasing actions: the compressor will decrease frequency at rate of (E2 value)Hz/S. The indoor and outdoor fans run.

Conditions for ending over-current frequency decreasing: when the current drops below "current value for starting the refrigeration current protective prohibition of frequency rising (E2 value)", over-current 加密文档当前阅 under-clocking will be released.

#### 3. Prohibition of frequency increasing of compressor exhausting

Conditions for prohibition of frequency rising of compressor discharge Condition 1: in the case of frequency decreasing of compressor discharge, the discharge temperature of the compressor drops below X4°C.

#### Condition 2: in normal operation, the discharge temperature of compressor reaches X5°C. Either of the above two conditions is met, prohibition of frequency rising of compressor discharge begins.

Actions relates to prohibition of frequency rising of compressor discharge: the frequency of compressor maintains at the current level, which may decrease as the case requires while cannot rise. The indoor and outdoor fans run.

Condition for ending prohibition of frequency rising of compressor discharge: if the temperature of compressor discharge drops below X6°C, prohibition of frequency rising of compressor discharge will be released.

#### 4. Prohibition of frequency for anti-overload of outdoor coiled pipe

Condition for anti-overload prohibition of frequency of outdoor coiled pipe: in the case of anti-overload frequency decreasing of outdoor coiled pipe, anti-overload prohibition of frequency of the unit begins 2:分体机平台 when the temperature of outdoor coiled pipe drops below "the anti-overload frequency decreasing temperature of outdoor coiled pipe".

Actions relates to anti-overload prohibition of frequency of outdoor coiled pipe: the frequency of compressor maintains at the current level, which may decrease as the case requires while cannot rise. The indoor and outdoor fans run.

Condition for ending anti-overload prohibition of frequency of outdoor coiled pipe: if the temperature of outdoor coiled pipe drops below "temperature to release the anti-overload state of outdoor coiled pipe", anti-overload prohibition of frequency of outdoor coiled pipe will be released.

## 7-4. Trouble Diagnosis of Compressor

Judging the connecting terminals of inverter compressor:

前阅读人:分体机平台 It is impossible to identify terminals U, V and W of inverter compressor with multi-meter. Just connect the terminals in the same way as the original unit when replacing the compressor. A wrong connection will lead to reverse and loud noise of the compressor. Resistance of compressor coil:

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Measure the resistance between any two terminals, which are about a few Ohms, three phases having the same resistance.

#### 7-5. Trouble Diagnosis of Electric Filter Board

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Visual examination: as the circuit is simple, the connection may be checked visually to see whether THE loose or poor connection any loose or poor connection.

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Voltage test: the voltage at the input end shall be the same as the voltage at the output end. 加密文档当前陶 加密文档当前说 加密文档当前门

## 7-6. Trouble Diagnosis of Electric Communication

Step one: to determine whether the connecting cables and tether cables of indoor/outdoor units are correctly wired. If not, change wiring order and test connection. Step two: to determine whether there is loose connection. Fasten the connection in the case of loose connection.

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Step three: measure the voltage between SI and N with multi-meter and see whether the voltage fluctuates between 0V and 24V. Please directly replace indoor and outdoor control boards if there are not voltage fluctuations.

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![](_page_61_Figure_0.jpeg)

![](_page_62_Picture_0.jpeg)

![](_page_63_Figure_0.jpeg)

The Voltage protection values is different according to the model

![](_page_63_Picture_2.jpeg)

![](_page_64_Figure_0.jpeg)

![](_page_65_Picture_0.jpeg)

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![](_page_66_Figure_0.jpeg)