



INTENSITY®

Refresh your life



VRF WATER COOLED

MDVS-252(8)W/DDN1, MDVS-280(10)W/DDN1, MDVS-335(12)W/DDN1.

Thank you very much for purchasing our air conditioner,
Before using your air conditioner, please read this manual carefully and keep it for future reference.

Caution: The manual is applicable for the cooling & heating and cooling only main unit. The cooling & heating indoor unit is applicable for the cooling & heating and the cooling only main unit; the heating capacity of the indoor unit will be effective only when the indoor unit connect to the cooling & heating main unit.

OWNER'S MANUAL



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MAN-O-VRFWC-0216

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1. IMPORTANT SAFETY INFORMATION

To prevent injury to the user or other people and property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

The safety precautions listed here are divided into two categories. In either case, important safety information is listed which must be read carefully.



WARNING

Failure to observe a warning may result in death. The appliance shall be installed in accordance with national wiring regulations.



CAUTION

Failure to observe a caution may result in injury or damage to the equipment.



WARNING

- **Ask your dealer for installation of the air conditioner.**
Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.
- **Ask your dealer for improvement, repair, and maintenance.**
Incomplete improvement, repair, and maintenance may result in a water leakage, electric shock, and fire.
- **In order to avoid electric shock, fire or injury, or if you detect any abnormality such as smell of fire, turn off the power supply and call your dealer for instructions.**
- **Never replace a fuse with that of wrong rated current or other wires when a fuse blows out.**
Use of wire or copper wire may cause the unit to break down or cause a fire.
- **Do not insert fingers, rods or other objects into the air inlet or outlet.**
When the fan is rotating at high speed, it will cause injury.
- **Never use a flammable spray such as hair spray, lacquers paint near the unit.**
It may cause a fire.
- **The appliance shall be installed in accordance with national wiring regulations**
- **Never inspect or service the unit by yourself.**
Ask a qualified service person to perform this work.

- **Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.**
- **Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.**
Contact you local government for information regarding the connection systems available.
- **If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.**
- **Keep far away from high-frequency equipment.**
- **Keep away from the following places:**
a place where it is full of oil gas; a place where salty air surrounding or near the coast (except for the models with corrosion-resistant function); a place where is caustic gas(the sulfide in hot spring). Location in the following places may cause malfunction or shorten the life span of the machine.
- **In the case of extremely strong wind, please prevent the air from flowing backwards into the Main unit.**
- **In the frequent thunderstruck place, lightningproof actions should be taken.**
- **To prevent refrigerant leak, contact your dealer.**
When the system is installed and runs in a small room, it is required to keep the concentration of the refrigerant, if by any chance coming out, below the limit. Otherwise, oxygen in the room may be affected, resulting in a serious accident.
- **The refrigerant in the air conditioner is safe and normally does not leak.**
If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in a harmful gas.
- **Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.**
Do not use the air conditioner until a service person confirms that the portion where the refrigerant leaks is repaired.



CAUTION

- **The cooling & heating indoor unit is applicable for the cooling & heating and the cooling only Main unit; the heating capacity of the indoor unit will be effective only when the indoor unit connect to the cooling & heating Main unit.**
- **Do not use the air conditioner for other purposes.**
In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art.

- **Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord.**
Otherwise, an electric shock and injury may result.
- **In order to avoid electric shock or fire, make sure that an earth leak detector is installed.**
- **Be sure the air conditioner is grounded.**
In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning conductor or telephone earth wire.
- **Do not operate the air conditioner with a wet hand.**
An electric shock may happen.
- **Do not touch the heat exchanger fins.**
These fins are sharp and could result in cutting injuries.
- **After a long use, check the unit stand and fitting for damage.**
If damaged, the unit may fall and result in injury.
- **To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the air conditioner.**
- **Arrange the drain hose to ensure smooth drainage.**
Incomplete drainage may cause wetting of the building, furniture etc.
- **Never expose little children, plants or animals directly to the air flow.**
Adverse influence to little children, animals and plants may result.
- **Notice to avoid places where operation noise may easily be spread away or be enhanced.**
- **Noise can be amplified by anything blocking the air outlet of Main unit.**
- **Choose a proper place that the noise and hot or cold wind blown out of the Main unit will not bring inconvenience to your neighbors and not affect the growth or animal or plant.**
- **Do not allow a child to mount on the Main unit or avoid placing any object on it.**
Falling or tumbling may result in injury.
- **Do not operate the air conditioner when using a room fumigation - type insecticide.**
Failure to observe could cause the chemicals to become deposited in the unit, which could endanger the health of those who are hypersensitive to chemicals.
- **Do not place appliances which produce open fire in places exposed to the air flow from the unit or under the indoor unit.**
It may cause incomplete combustion or deformation of the unit due to the heat.
- **Do not install the air conditioner at any place where flammable gas may leak out.**
If the gas leaks out and stays around the air conditioner, a fire may break out.
- **The appliance is not intended for use by young children or infirm persons without supervision.**
- **Young children should be supervised to ensure that they do not play with the appliance.**

2. PARTS NAMES

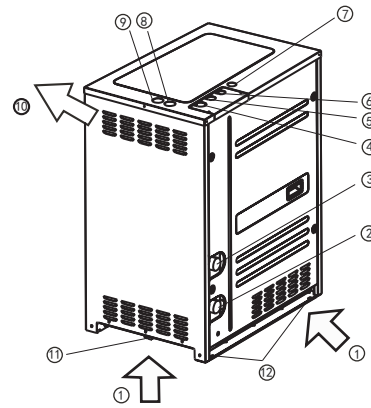


Fig.2-1

1	Air inlet (at the left, right, front and back sides)
2	Connecting port of water inlet pipe
3	Connecting port of water outlet pipe
4	Refrigerant gas pipe outlet
5	Refrigerant liquid pipe outlet
6	Refrigerant oil balancing pipe outlet (Use for parallel connection)
7	Inlet and outlet port of weak current wire
8	Inlet and outlet port of powerlines and ground wire
9	Inlet and outlet port of strong current wire
10	Air outlet (at the left, right, front and back sides)
11	Centralized drain port of main unit base (at the left and right sides)
12	Fixed foot

Explanations:

1. All the figures are for explanation only, the actual unit shall prevail.
2. The communication wires of indoor, main units and central controller, water flow switch ON/OFF signal wire and water pump controlling wire (if connected to a weak current) should connect to main unit electric control box from the inlet and outlet port of weak current wire; water pump controlling wire (if connected to a strong current) should connect to main unit electric control box from the inlet and outlet port of strong current wire.



NOTE

- All the pictures in this manual are for explanation purpose only, There may be slightly different from the air conditioner you purchased (depend on model). The actual shape shall prevail.
- To avoid danger, never put sticks or other objects into it.
- Please preheat the air conditioner for at least 12 hours before operation. Do not switchoff the power if you need to stop the unit for 24h or shorter time. (This is to heat the crank case heater to avoid the compulsive start of compressor.)
- Make sure the air inlet and outlet are not blocked, or it may degrade the performance of air conditioner or start up protector which will stop the unit from running.

3. OPERATION AND PERFORMANCE

■ Cooling and heating operation of inverter central A/C

- The indoor unit of this air conditioner can be controlled solely, and the indoor unit in the same system can not run cooling and heating at the same time.
- When the Cooling and Heating operation confront with each other, please determine the problem according to the settings of main unit Mode dial code S5.

1. When set as the Heating Priority Mode, the indoor unit on Cooling Mode would stop and there will be Standby or No Priority displayed on the control panel. Those indoor units which are running on Heating Mode will run continuously.

2. When the Cooling Priority Mode has been set, the indoor unit on Heating Mode would stop and there will be Standby or No Priority displayed on the control panel. Those indoor units which are running on Cooling Mode will run continuously;

3. When the Priority Mode has been set, the first indoor unit will work in Heating Mode that is Heating Priority, please refer to the ITEM 1 for the control logic. If the first indoor unit is work in Cooling Mode, that is the Cooling Priority Mode, please refer to the ITEM 2 for the control logic;

4. In terms of the settings only respond the Heating Mode, the indoor unit will run in Heating Mode normally, if unit be run in the Cooling Mode or air Supply Mode, the indoor unit will display Mode Conflicting;

5. In terms of the settings only respond the Cooling Mode, the indoor unit will run in Cooling Mode or air supply mode normally, if unit be run in the Heating Mode, the indoor unit will display Mode Conflicting.

■ Features of heating operation

- Warm air will not be blown out immediately at the beginning of the heating operation, after 3~5minutes (depends on the indoor and outdoor temperature), until the indoor heat exchanger become hot, then blows out warm air.
- During Fan operation, if other indoor Units are running on heating mode, the fan may stop in order to prevent sending heat wind.

■ Operation conditions

For good performance, please operate the unit under the conditions as follow.

Table.3-1

Working condition	Cooling	Heating
Main unit ambient temp.	0°C~40°C	
Main unit ambient humidity	Below 80%	
Indoor temperature	17°C~32°C	15°C~30°C
Main unit water inlet temp.	7°C~45°C	
Main unit water inlet flow	8HP:2.7~8.1m³/h ; 10HP:3~9m³/h; 12HP:3.6~10.8m³/h	



NOTE

Protective device may start if running the unit outside the above condition, which will prevent the unit from operation.

■ Protection Device

- This protection device will stop the unit automatically in case the air conditioner is on forced running mode. When protection device is activated, running indicator light is lightened and query light flashes. Protection device may start under the following circumstances:

■ cooling operation:

- The air inlet or air outlet of main unit is blocked.
- Strong wind is continuously blowing to the air outlet of the main unit.

■ heating operation:

- Too much dust and rubbish adhere to the dust filter in the indoor unit

■ Power cut

- If power is cut during operation, stop all the operation immediately.
- Power on again. The operation indicator on the wire controller flashes.
- Push the ON/OFF button again if you want to restart the unit.

■ Mishandling in operation

In case of mishandling caused by lighting or mobile wireless, please switch off the manual power off the manual power. Push ON/OFF again when restarting.

■ Heating capacity

- The heating process is :absorb heat from outdoor, while expel heat to indoor by heat pump. Once the outdoor temperature drop down, heating capacity is degraded correspondingly.
- It is command to equip with other warming facility, when outdoor temperature is low.
- It is better to equip with additional purchase indoor auxiliary heating device in paramos area where is in particularly low outdoor temperature.(See Indoor Unit Operation Manual for detail information)



NOTE

Please switch off the power when protection device starts. Do not restart until the problems are solved.

4. TROUBLES AND CAUSES



CAUTION

- In case the following malfunctions, please switch off the power and contact the local dealer. Incorrect ON/OFF operation
- Fuse or leakage protector is frequently broken.
- Foreign matter or water falls in the unit.

	Troubles	Causes
Not malfunction	Main unit <ul style="list-style-type: none"> • White mist or water • The sound of “hiss” 	<ul style="list-style-type: none"> • FAN function stop automatically to defrost. It is the start and stop sound of the solenoid valve • At the beginning and the end of the running process, sounds like water flow in valve occurs, which will be amplified in 3~15 minutes, this is caused by dehumidifying process of refrigerant current. • Slight hiss is caused by heat exchanger as temperature changes. • Pieces of the wall, carpet, furniture, cloth, cigarette, cosmetics are adhere to the unit. • Switch on the power after the power cut. • Other equipment preheating process stops cooling operation. • The operator sets an opposite mode against the fixed cooling and heating mode. • FAN mode stops to avoid cold air blown out. • The master unit with slave units for different purposes, when abnormal accident happen, the director will illustrate.
	Indoor unit <ul style="list-style-type: none"> • Bad odor • Operation lamp flashes • No priority of Standby on panel is lightened 	
Check it again	<ul style="list-style-type: none"> • Start or stop operation automatically 	<ul style="list-style-type: none"> • Wrong operation on timer.
	<ul style="list-style-type: none"> • No operation 	<ul style="list-style-type: none"> • Whether the power is cut. • Whether manual power switch is turned on. • Whether the fuse is melted. • Whether the protection device works. (operation lamp is lightened) • Whether it is the time set.
	<ul style="list-style-type: none"> • Insufficient cooling • Insufficient heating 	<ul style="list-style-type: none"> • Whether the inlet and outlet of Main unit is blocked. • Whether the door and window are open. • Whether the air filter is blocked by dust. • Whether the air deflector is in the right place • Whether fan speed is slight or whether it is in FAN mode. • Whether the temperature is set properly. • Whether setting COOL and HEAT simultaneously. (Indicator light Standby or No Priority on panel is lightened)

5. MALFUNCTION

Malfunction display of main unit's DSP1

Table.5-1

No.	Error code	Error or protection type	Note
1	E0	Main unit COMM. error	Only display in slave unit
2	E1	Phase protection	
3	E2	COMM.error with indoor unit	
4	E8	Main unit address error	
5	E9	Power protection	
6	H0	COMM. error between DSP and main chip	
7	H1	COMM. error between 0537 and main chip	
8	H2	QTY.of main unit decrease	Only display in master unit
9	H3	QTY.of main unit increase	Only display in master unit
10	H4	3 times of P6 protection in 60 minutes	
11	H5	3 times of P2 protection in 60 minutes	
12	H6	3 times of P4 protection in 100 minutes	
13	H7	QTY.of indoor unit decrease or increase	
14	H8	High_pressure sensor error	
15	P0	Inverter compressor top Temp.protection	
16	P1	High pressure protection	
17	P2	Low pressure protection	
18	P3	Compressor current protection	
19	P4	High discharge Temp. Protection	
20	P6	Inverter module protection	
21	L0	DC compressor module error	
22	L1	Low voltage protection of DC bus	
23	L2	High voltage protection of DC bus	
24	L3	Reserve	
25	L4	MCE error / synchronization / closed loop	
26	L5	Zero speed protection	
27	L6	Reserve	
28	L7	Phase error protection	
29	L8	The different value of previous moment minus the subsequent moment >15Hz protection	
30	L9	The setting speed minus the actual speed>15 protection	
31	C0	TSJ (water inlet temp. sensor) error	
32	C1	TSC1 (water outlet temp.sensor 1) error	
33	C2	TSC2 (water outlet temp.sensor 2) error	
34	C3	Low_pressure sensor error	
35	C4	High or low water outlet temp.	
36	C5	High or low water inlet temp.	
37	C6	Low voltage protection	
38	C7	High temp.of inverter module	
39	C8	Water flow switch open fault	
40	F0	3 times of C4 protection in 60 minutes	

If the problem still existing, please contact the sales distributor or the service center, tell us your model No. and the detail of the error.

6. CONSTRAINT COOLING AND QUERY

■ Constraint Cooling

Once pressing the constraint cooling button(see the chart on the right), all the indoor unit will be on forced cooling mode and the wind speed is HIGH.

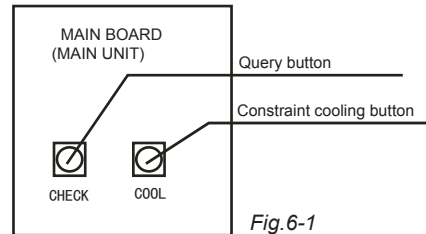


Fig.6-1

■ Query

Table 6-1

Normal display	Display content	Note
1	Main unit address	0, 1, 2, 3
2	Main unit capacity	8, 10, 12
3	Modular main unit qty.	Available for main unit
4	Total capacity of main unit	Capacity requirement
5	Total capacity requirement of indoor unit	Available for main unit
6	Total corrected capacity requirement of main unit	Available for main unit
7	Operation mode	0, 2, 3, 4
8	The actual operation capacity of this main unit	Capacity requirement
9	Water flow switch state	0-Open,1-Close
10	T2B/T2 average temp.	Actual value
11	T5 inverter module temp.	Actual value
12	T7 discharge temp. of inverter compressor	Actual value
13	TSJ water inlet temp.	Actual value
14	TSC1 water outlet temp. of upper pipe	Actual value
15	TSC2 water outlet temp. of lower pipe	Actual value
16	Current 1 of inverter compressor	Actual value
17	Current 2 of inverter compressor	Actual value
18	High pressure	Display value $\times 0.1\text{Mpa}$
19	Low pressure	Display value $\times 0.01\text{Mpa}$
20	Opening angle of EXV A	Display value $\times 8$
21	Opening angle of EXV B	Display value $\times 8$
22	Priority mode	0,1,2,3,4
23	Qty. of the communicating indoor units	Actual value
24	Qty.of installed indoor units	Actual value
25	The last time malfunction or the protective code	Without protection or error display code 00
26	— —	Check end

The display contents as followings:

- 1) Normal display :When in standby, it displays the qty. Of indoor units that can communicate with the main unit . When it is operating, it will display the rotation frequency of the compressor.
- 2) Operation mode: 0-OFF/FAN , 2-Cooling , 3-Heating , 4-Constraint cooling.
- 3) Water flow switch state: 0-Open, 1-Close.
- 4) EXV opening angle: Pulse count=display value $\times 8$.
- 5) Priority mode: 0-heating priority mode, 1-cooling priority mode , 2-open the priority mode first, 3-respond the heating mode only , 4-respond the cooling mode only.
- 6) ENC1:Main unit address setting switch, ENC2:Main unit capacity setting switch, ENC3:Main unit network address setting switch. S10, ENC: Combination setting the qty. of installed indoor units.
SW1:Query button ,SW2:constraint cooling

7. AFTERSALE SERVICE

If the air conditioner was operated abnormally, please plug off the power supply firstly, and contact with After-sales Center or Special Distributor. For detail please refer to the attached accessory Consumer Service Instruction.



