



RVSC 12000 BTU DC 12V



RV AIR CONDITIONING

Mabru Rooftop Installation Manual

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www.MabruStore.com

1-888-818-2814

support@mabrumarine.com



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WHAT'S INSIDE THE BOX

MABRU 12V AC

INSTALLATION ACCESSORIES KIT:

- ☐ Extra cable with in-line 80 amp fuse for splicing or accessories
- ☐ Air conditioner trim (return vent)
- ☐ Flexible external gasket
- ☐ Mounting brackets
- ☐ Plastic bag with nuts and bolts
- ☐ Plastic bag with LED lights -cover for nuts with LED harness
- ☐ Remote wireless control (AAA batteries not included)
- ☐ Tie wraps
- ☐ Extra positioning rubber shock absorber in case you want to add more compression resistance to the compressible gasket.
- ☐ Paper template

RECOMMENDED ADDITIONAL ITEMS FOR INSTALLATION:

- Cable gland
- UV rated sealant
- Anti-rust paint
- 80 Amp High Quality Thermal Breaker

NOTE: the installation of the Mabru RVSC12DC is not intended to be installed as a DIY. We recommend installing the unit with the assistance of a qualified technician to ensure compliance with the national electrical code and thus avoid fire hazards.



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PARAMETERS

The Mabru Power Systems 12V rooftop air conditioning unit is the ideal unit for RVs, trucks, vans, buses, and motorhomes. Our unit has been designed to be low profile, efficient, and reliable.



PARAMETERS			
Rated Voltage	12V	Size (roof)	38.19L x 33.78W x 6.5H
Evaporator Air Flow	380 CFM		
BTU	12000		
Condenser Air Flow	365 CFM	Min Size Hole	14"x14" or 14 5/8" x 20 1/8"
Rated Wattage	700w	Unit Weight	83 lb
Refrigerant	R134A	Box Shipping weight	90 lb
Refrigerant charge	1.1 lb (550G)		

CURRENT CONSUMPTION AT 12V

- High speed (max 52Amp, Medium 43Amp, Low 25Amp (eco))

STANDARD INSTALLATIONS

(RECOMMENDED)

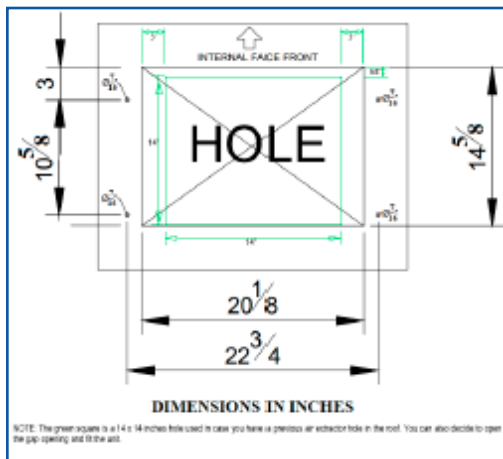
OPTION 1:

The standard procedure to install the unit is by creating a new opening using the template size:

20 ¹/₈ Inches x 14 ⁵/₈ Inches

STEPS:

1. Mark your cutout from the top of the roof.



STEPS:

2. Drill the 4 holes for the pass-thru bolts.
(For easier fit, use a unibit to oversize the holes)



3. Once the opening is cut you must smooth the edges and paint it with anti-rust paint.
4. Clean the surface thoroughly of any debris, dirt and/or grease to allow the gasket to seat properly.
5. Carefully carry the unit onto the roof of the vehicle while it is still facing up (in the box to avoid scratching) to allow access to the black plastic mounting plate (Outdoor and indoor unit separator)

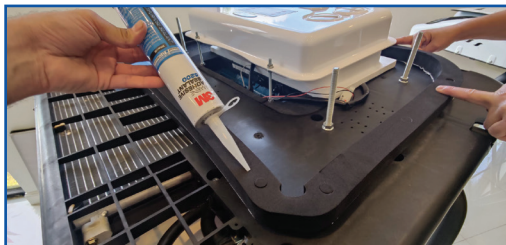
STANDARD INSTALLATIONS CONTINUED

STEPS:

6. Peel the sticker from the foam gasket gradually while sticking it on the mounting plate, making sure it's outside the (4) bolts to prevent water leaks. Manually shape it to square shape while positioning.



7. Once the gasket is positioned, we recommend adding an UV rated sealant before positioning the unit for installation.



STEPS:

8. Once the unit is seated on top of the roof, drill a hole in your selected location to pass the cables thru the roof. We recommend using a cable gland, (not included) with the same sealant used for the gasket to prevent water leaks.



9. From inside the vehicle, you will have the unit in position and ready to install the mounting brackets provided. If necessary, adjust the brackets to distribute the load on the roof surface.



Don't exceed more than 15Nm torque.

STANDARD INSTALLATIONS CONTINUED

STEPS:

10. Take the return grille and connect the wire harnesses between the LED lights. Once the cables are in place, tighten the nuts to hold and adjust panel



11. Finish the installation by plugging in the LED lights and clip them over the mounting nuts.



12. To complete your installation, connect the Mabru air conditioner to a 12V power supply - 12V house battery bank and enjoy.

PLEASE NOTE:

CABLE WILL NEED ADDITIONAL HOLE, CANNOT BE PASSED THROUGH AC



CUSTOMIZED INSTALLATION INSTRUCTIONS

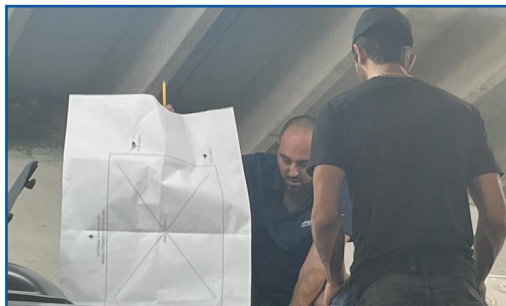
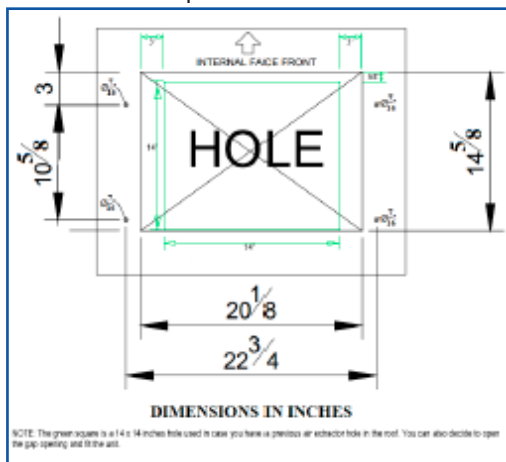
NOTE: PROFESSIONAL INSTALLATION RECOMMENDED

OPTION 2:

Using a pre-existing 14x14 inches opening OR creating a New 14x14 inches opening using the template provided.

STEPS:

1. Place the template over the pre-existing 14x14 hole to determine screw hole placement.



CUSTOMIZED INSTALLATION INSTRUCTIONS CONT'D

STEPS:

2. Drill the 4 holes for the pass-thru bolts.
(For easier fit, use a unibit to oversize the holes)



3. Once the opening is cut you must smooth the edges and paint it with anti-rust paint.



STEPS:

4. Clean the surface thoroughly of any debris, dirt and/or grease to allow the gasket to seat properly.
5. Carefully carry the unit onto the roof of the vehicle while still facing up (in the box to avoid scratching) to allow access to the black plastic mounting plate (Outdoor and indoor unit separator)
6. Unscrew the white plastic vent face by removing the (4) adjustable nuts.

IMPORTANT: Make sure not to pull the wires from the back of the control panel. If you are not careful, you could disconnect some of the wires and the sealed circuit board compartment is not easily accessible. It is highly recommended to use enough temporary tape to keep it taut while handling the face while hanging.

NOTE: This is not a standard installation procedure, so we recommend being careful when fitting the unit into a 14x14 hole.

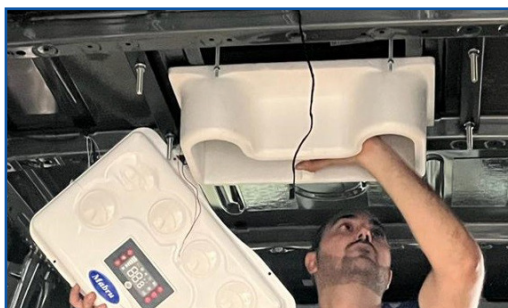
CUSTOMIZED INSTALLATION INSTRUCTIONS CONT'D

STEPS:

7. Take out the remaining 2 nuts holding the styrofoam plenum in order to pull it out and make any necessary cuts to mold it to size.



8. From inside the vehicle, lay the styrofoam against the ceiling and mark the cutouts in the styrofoam plenum needed to fit the area you are trying to fit. (You may encounter some obstructions, such as roof rails.) Bear in mind that the styrofoam plenum will be seated against the internal roof of the vehicle rather than against the external unit as it would be in a standard installation. This may require cutting down the plenum so that the vent cover reaches the mounting bolts.



STEPS:

9. After modifying the styrofoam go back to the roof and peel the sticker from the foam gasket gradually while sticking it to the base of the unit, making sure it's outside the (4) bolts to prevent water leaks. Manually shape it to a square shape while positioning.



10. Once the gasket is in place, we recommend adding an UV rated sealant before positioning the unit for installation.

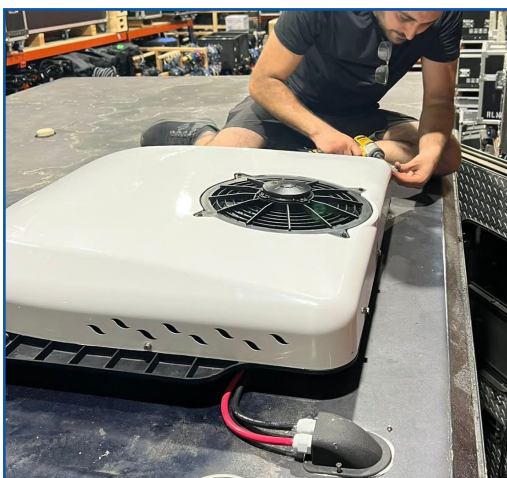


CUSTOMIZED INSTALLATION INSTRUCTIONS CONT'D

STEPS:

- 11.** Once the unit is seated on top of the roof, drill a hole in your selected location to pass the cables thru the roof.

We recommend using a cable gland (not included) with the same sealant used for the gasket to prevent water leaks.



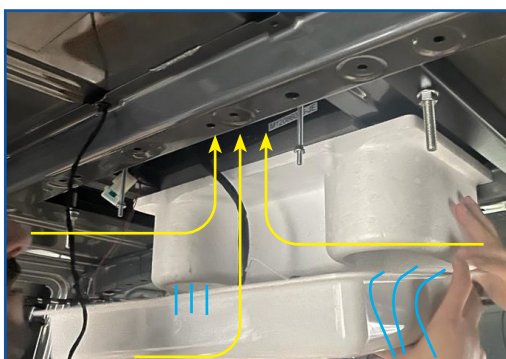
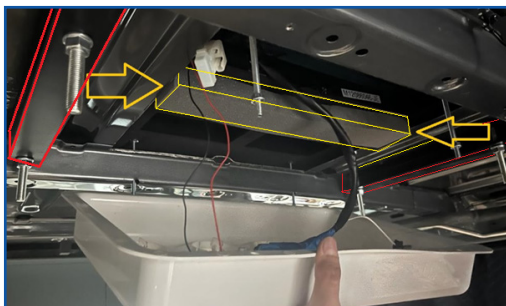
- 12.** From inside the vehicle, you will have the unit in position and ready to install the mounting brackets provided. If necessary, adjust the brackets to distribute the load on the roof surface

Don't exceed more than 15Nm torque.



STEPS:

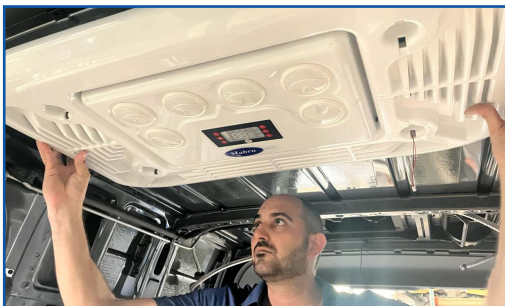
- 13.** Now it's time to position the styrofoam from the inside. Due to the non-standard unit adjustment, it will be necessary to fill the gap between the unit and the styrofoam ventilation duct. Fill in the gaps to maintain the separation between the discharge duct and the return duct. You can use insulation material, such as high-density foam, foam gasket material duct tape or similar. If this step is not followed, the machine will read an erroneous temperature by allowing cold air to pass directly to the return temperature sensor. This will cause the unit to short cycles.



CUSTOMIZED INSTALLATION INSTRUCTIONS CONT'D

STEPS:

- 14.** Take the return grille and connect the wire harnesses between the LED lights. Once the cables are in place, tighten the nuts to hold and adjust pane
- 15.** Finish the installation by plugging in the LED lights and clip them over the mounting nuts.
- 16.** Connect the Mabru air conditioner to a 12V power supply- 12V house battery bank and enjoy.



PLEASE NOTE:

CABLE WILL NEED ADDITIONAL HOLE,
CANNOT BE PASSED THROUGH AC

TROUBLESHOOTING...ERROR CODES

DIGITAL DISPLAY	FAULT DESCRIPTION	CAUSE
E2	Outside Fan Failure Condenser Air Restriction High Pressure	Check to see if pressure is too high and if the fan is running
E3	Insufficient power or High Pressure	Battery wires not adequate for this unit
E4/LU	Undervoltage protection	Low battery or check for loose electrical connection
E6	Condensing coil fan failure or air circulation	Short circuit of motor poor contact of plug
E7	Compressor malfunction	Compressor terminals failure Compressor short
E9/PER	Pressure switch protection	Inspect the condenser fan. It should operate when the compressor is on. Pressure switch Failure. If error appears as soon as you turn on the AC it could be a Refrigerant leak.
OPE	Bad temperature sensor, open circuit	Check plug is disconnected or wire is broken/damaged
SHr	Temperature sensor, short circuit	temperature sensor needs to be replaced
AC	Cooling failure	Low refrigerant
CS	Defrost	Defrost necessary

TROUBLESHOOTING

NOTES

To clear faults turn the battery power off for 5 seconds.

LOW VOLTAGE FAULT AND UNDERVOLTAGE VALUE ADJUSTMENT

The undervoltage value can be adjusted between the range of 9-28 volts. When the battery voltage is lower than the under voltage protection values the system will stop working and the error code LU will be displayed on the main display.

STEPS TO ADJUST UNDER VOLTAGE PROTECTION VALUES

- Power on unit.
- Press and hold fan button for 6 sec.
- Press temperature button up or down.
- To save the settings press the power button and the system will exit the undervoltage adjustment mode.

TO READ THE VOLTAGE ON THE UNIT CONTROLLER

- Press and hold the Mode button for 6 sec.



WARRANTY



WARRANTY

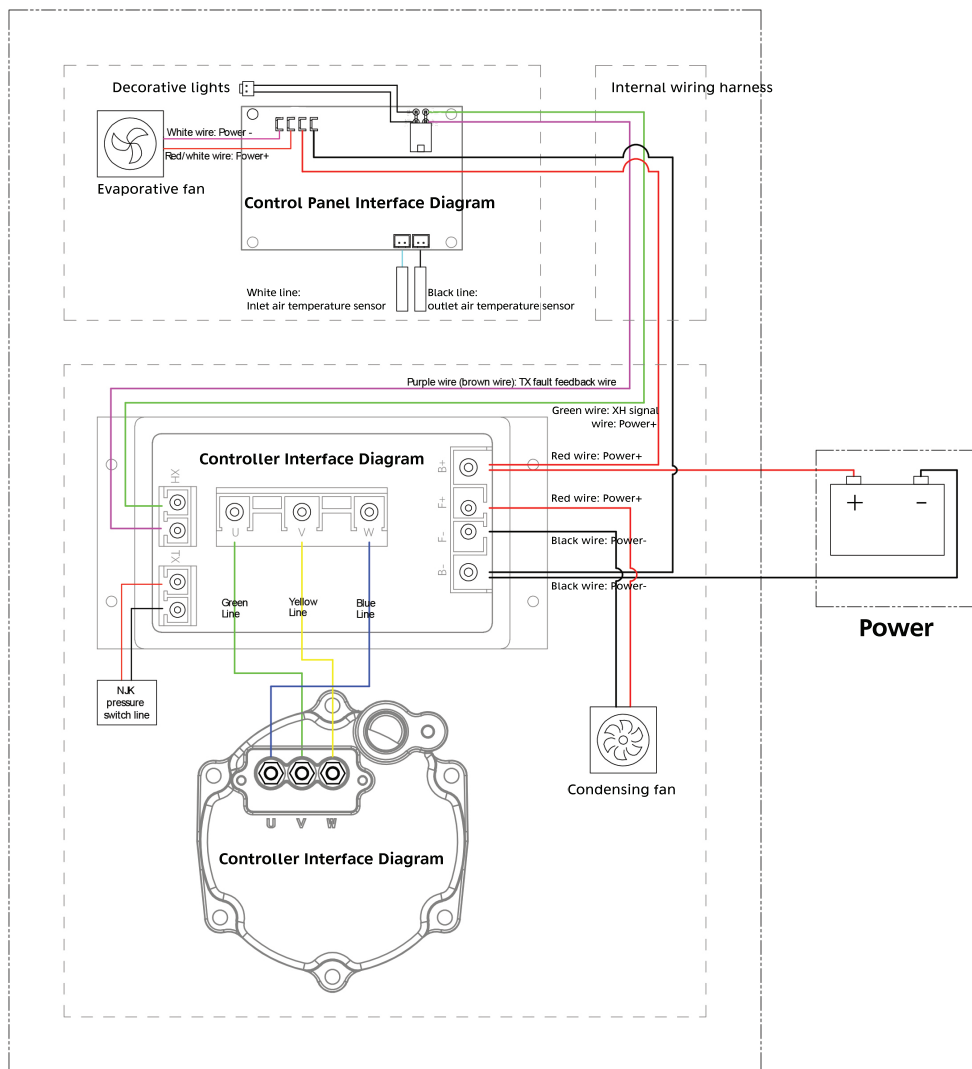
Mabru Power Systems offers a one year limited warranty. If the product is installed as original equipment on a vehicle, the warranty period shall begin on the date of the original purchase of the vehicle. In all other instances, the warranty shall begin on the date of the products purchase. The Consumer must establish these dates by presenting legible papers at the time the warranty claim is made showing the applicable purchase date Any defective parts will be repaired. All replacements and exchanges will be made using new, remanufactured or refurbished parts or components at the option of Mabru Power Systems. This warranty does not cover damage caused by mishandling, neglect, lightning, corrosive atmosphere, improper installation, improper application or improper energy supply. This warranty does not cover damages or equipment failure caused by the use of non Mabru Power Systems parts or components.

For full warranty information visit our website. To file a claim call or send an email to support@mabrumarine.com

NOTES

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WIRING SCHEMATIC



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