



B-COOL
GREEN POWER AC

**SPLIT
UNIT**

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Introduction

B-COOL Split Unit Is an AC unit, available in 12 and 24 volts with an inside cab air diffuser, ready to connect wire harness / battery cable and fuse block and comes pre- charged with R134a refrigerant.

In other words – our unit comes completely ready to go.

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To ensure the durability of DC Power Solutions products, please follow and understand the instructions within the manuals.

Recycle and dispose of the air conditioning unit properly to help keep the environment healthy.

There are Federal, Provincial and State regulations regarding the disposal of refrigeration /AC machines. Consult a professional and ensure they follow the laws when disposing of the refrigeration/AC unit.

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Recommendations / Safety Instructions

	The installation must be performed by a qualified professional.
	Switch off / disconnect the battery before installation and performing maintenance work.
	Wear goggles and gloves for the installation of this product or disassembly an item for repair.
	ATTENTION: The unit must be cooled before any work is performed. Some parts are hot and can cause burns.
	ATTENTION. Do not remove any protection provided on the unit. This could cause serious injury.
	ATTENTION: The unit is heavy. Do not handle or install the unit alone.

B-COOL12000FLEX5H EVAPORATOR - 100% Electric

MODEL #	B-COOL12000FLEX5H 12V	B-COOL12000FLEX5H 24V
Voltage	12V	24V
Compressor type	DC scroll Inverter compressor	DC scroll Inverter compressor
Max. current	70 amps	40 amps
Working current	55-70 amps	13-40 amps
Working Time (Parked Vehicle)	6-8 Hours	6-8 Hours
Freon type	R134a	R134a
Freon amount	600-650g	600-650g
Cooling capacity	12,000 BTU/h	12,000 BTU/h
Evaporator air flow	600m ³ /hr	600m ³ /hr
Condenser air flow	2400m ³ /hr (1410cfm)	2400m ³ /hr (1410cfm)
Climate controller	yes	yes
Remote controller	yes	yes
AC Outside dimensions	66cm L x 49cm W x 21cm H (25.98 x 19.29 x 8.26 inches)	66cm L x 49cm W x 21cm H (25.98 x 19.29 x 8.26 inches)
AC inside cabin dimensions	45.5cm L x 33.5cm W x 16.5cm H (17.91 x 13.18 x 6.49 inches)	45.5cm L x 33.5cm W x 16.5cm H (17.91 x 13.18 x 6.49 inches)
Weight of Compressor, condenser	20.4 kg (44.97 lbs.)	20.4 kg (44.97 lbs.)
Weight of Evaporator	6.2 kg (13.66 lbs.)	6.2 kg (13.66 lbs.)
AC shipping box 1	70cm L x 56cm W x 30cm H (27.55 x 22.04 x 11.811 inches)	70cm L x 56cm W x 30cm H (27.55 x 22.04 x 11.811 inches)
AC shipping box 2	50cm L x 40cm W x 21cm H (19.68 x 15.74 x 8.26 inches)	50cm L x 40cm W x 21cm H (19.68 x 15.74 x 8.26 inches)

B-COOL12000FLEXSA EVAPORATOR - 100% Electric

MODEL #	B-COOL12000FLEXSA 12V	B-COOL12000FLEXSA 24V
Voltage	12V	24V
Compressor type	DC scroll inverter compressor	DC scroll inverter compressor
Max. current	70amps	40 amps
Working current	55-70 amps	13-40 amps
Working Time (Parked Vehicle)	6-8 Hours	6-8 Hours
Freon type	R134a	R134a
Freon amount	600-650g	600-650g
Cooling capacity	12,000 BTU/h	12,000 BTU/h
Evaporator air flow	600m ³ /hr	600m ³ /hr
Condenser air flow	2400m ³ /hr (1410cfm)	2400m ³ /hr (1410cfm)
Climate controller	yes	yes
Remote controller	yes	yes
AC Outside dimensions	66cm L x 49cm W x 21cm H (25.98 x 19.29 x 8.26 inches)	66cm L x 49cm W x 21cm H (25.98 x 19.29 x 8.26 inches)
AC inside cabin dimensions	63.5cm L x 33cm W x 16.5cm H (25 x 13 x 6.49 inches)	63.5cm L x 33cm W x 16.5cm H (25 x 13 x 6.49 inches)
Weight of Compressor, condenser	20.4 kg (44.97 lbs.)	20.4 kg (44.97 lbs.)
Weight of Evaporator	7 kg (15.43 lbs.)	7 kg (15.43 lbs.)
AC shipping box 1	70cm L x 56cm W x 30cm H (27.55 x 22.04 x 11.811 inches)	70cm L x 56cm W x 30cm H (27.55 x 22.04 x 11.811 inches)
AC shipping box 2	68cm L x 36cm W x 21cm H (26.77 x 14.17 x 8.26 inches)	68cm x 36cm x 21cm (26.77 x 14.17 x 8.26 inches)

PARTS LIST & NUMBERS

**SPU – BOX-TYPE
PLASTIC
ENCLOSURE**



Backpack plastic enclosure

SPU – 300-01A ----- 1X

**SPU – BOX-TYPE
BACKPACK BASE**



Backpack base

SPU – 300-02A ----- 1X

**SPU -
CONDENSER FAN**



SPU – 100-05 (12V) ----- 1X

SPU – 100-06 (24V) ----- 1X

SPU – CONDENSER



SPU – 100-09 ----- 1X

**SPU – BOX-TYPE
HIGH PRESSURE
PIPE**



SPU – 100-10 ----- 1X

**SPU –
COMPRESSOR
SHOCK PAD**



SPU – 100-11 – 4X

**SPU – INJECTION
MOLDDING
CONNECTION LINE**



SPU – 100-12 – 1X

**SPU – 3 POINT
HOSE**



SPU – 100-13 – 1X

PARTS LIST & NUMBERS

**SPU – 5
POINT HOSE**



SPU – 100-14 – 1X

**SPU – POWER
HARNESS**



SPU – 100-15 – 1X

**SPU – CONTROL
HARNESS**



SPU – 100-16 – 1X

**SPU –
COMPRESSOR
CONTROLLER**



SPU – 100-17 – 1X

**SPU –
COMPRESSOR
12V / 24V**



SPU – 100-18 – 1X

SPU – BAG-TYPE



SPU – 100-20 – 1X

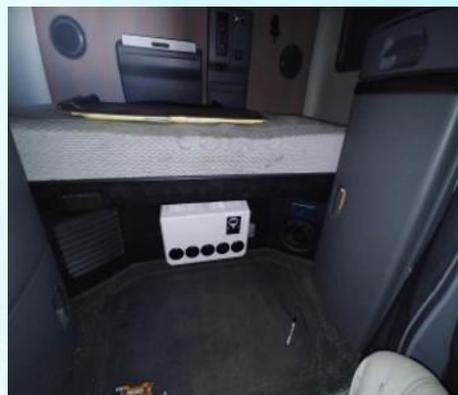
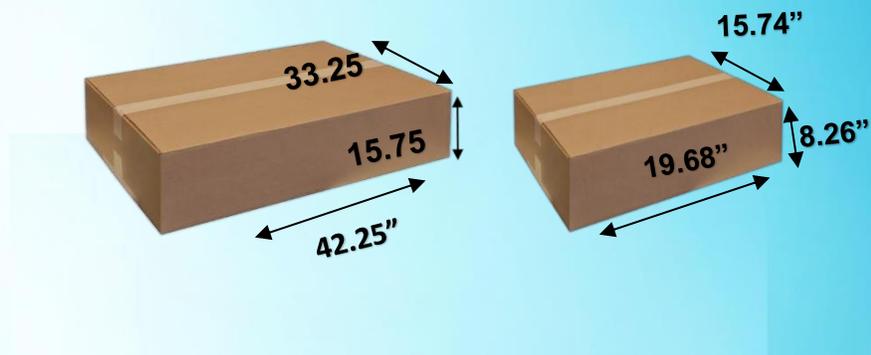
Installation

Pre-Install:

1. Open both the boxes and first check all the components and parts are present.
2. Read the Installation section to understand how the unit is mounted and installed before starting.
3. Mounting surfaces must be clean and free of debris.
4. Gather all equipment needed for the installation.
5. Verify roof is strong enough to support the roof mount AC unit and the weight.
6. Please look to technical specifications for weight and space requirements
7. Make sure there is no interference with any OEM electrical wiring, supports, etc. before drilling or cutting into the vehicle.
8. Prepare additional mounting hardware since there are differences between vehicle types, models, and applications.

Useful tools & equipment

- Tape measure
- Utility knife
- Drill/Impact gun
- Drill bit set
- Angle grinder
- Wrench set
- Pliers
- Wire cutters
- Wire crimpers
- Pull Riveter



Installation Instructions For B-COOL12000SPU

MODEL # B-COOL12000FLEXSA & FLEX5H 12V & 24V



Keep in mind the outside machine weighs 24 Kgs or 53lbs,
Get someone to help you.

Place the Air conditioner in the desired position.

Select the installation position and mark spot where to
punch the holes.

Use a pull riveter to fix the pull nut at the marked hole.

Install the shock absorption washer.

Attach the inside (evaporator) mounting plate

Now attach the evaporator - it weighs 6.2Kgs or 13.6lbs.

Install the expansion Valve.

Cut a hole(50mm) to connect internal and external
Units.

Connect the Pipe/ Hose provided.

Vacuum and Re-Fill the Freon for 30-45 minutes.
(R134a 650-700g).

Run the power cables to the main battery or auxiliary
batteries.

Check the polarity before installing the cables

Connect the power wire to the automotive battery.

Enjoy Cool Air.



OPERATING INSTRUCTIONS

Functions of the Control panel & the Remote Control



Turn on A/C: Press On / Off button to turn on A/C (long press)

Check High/Low Pressure
Normal range: H/P 1.2 - 1.4 L/P 0.2 - 0.25

Temperature setting:

A) Click the Temp. button (Arrow down) to set the temperature after starting the Air Conditioner

B) After clicking the down button, click the DOWN button or the UP button to set desired temperature (18°C [66°F] – or higher)

Speed setting:

A) Click the Speed button (Arrow up) to set speed after starting the Air Conditioner

B) After clicking the up button, click the DOWN button or the UP button to adjust the speed

Voltage setting:

A) After starting the Air Conditioner, click the ON / OFF button 3 times to enter the voltage setting

B) Click the DOWN button or the UP button to set the voltage

NOTE: Swing Flap, timed off, Timed on – **NO FUNCTION**

ERROR Codes displayed on the controller

If, while the air conditioner is running, any of the following codes appear on the controller screen, please take the following steps as the code may indicate a serious problem

- 1: STOP THE AIR CONDITIONER & POWER OFF.
- 2: AFTER 10 MINUTES POWER ON & START A/C
- 3: IF THE CODE PERSISTS - STOP A/C & POWER OFF
- 4: CONTACT REPAIR CENTER.



E01 - Voltage is too low - Charge the battery or Start the Engine

E02 - Evaporator blower is not operating. Check wiring and voltage of the supply wiring and repair. Also check blower and replace if defective.

H22 / H23 - Check evaporator inlet sensor by powering down the air conditioner and restart the air conditioner. If the code reappears it means that the sensor is defective or has become dislodged from the evaporator coil.

E04 - Temperature sensor of the plenum

E05 - Compressor over temperature indicator. This will power off the unit until to compressor cools down so as not to damage the unit. This may happen if the ambient temperature is very high. Once the compressor cools the unit will restart again.

E06 / E07 - Condenser fan is not operating. Check the wiring and voltage. Also check fan as it may be defective and needs to be replaced

E09 - Condenser fan control board is defective and should be replaced.

E10 - Condenser fan failure - Replace the condensing fan motor

E11 - The condenser fan is not operating. Check the wiring for damage.

NOTE: If the number flashing on the indicator is not shown in this table, please replace the compressor control panel

Troubleshooting - Air conditioners

If any of the following situations occur during the use of air conditioners, please find out a solution by following the index

If it's a fault, please contact the tech. / repair center.

Condition	Solution
If the cooling effect is not good	Select the right mode and set proper temperature and speed.
	Check if there is any obstruction at the air inlet and outlet
	Check if the surface of the condenser is too dirty
	Check if it is short of refrigerant and if the high and low voltage is within the normal range
There is water on the surface of indoor unit	When running in an environment with high humidity, water drops may form on at the air outlet and core surface, which is a normal physical phenomenon
The indoor unit displays voltage fault	Check battery for low voltage and verify the power source is either DC 12V or 24V
	Check if the low voltage protection value is too high
The indoor unit displays sensor fault	Check if the sensor at air inlet / outlet is plugged in correctly
	Check if the display temperature is higher than normal ambient temperature. If it is, change the sensor.
The indoor unit displays fan fault	Check if the fan is correctly plugged in. Connect the fan with a separate 12V or 24V DC power source. If the fan doesn't work, replace fan.
Installation and User Manual for vehicle Electric Air – Conditioners	
The indoor unit displays outdoor unit fault	Check if it is short of refrigerant.
	Check if the high and low voltage is within the normal range.
	Check if the condenser is too dirty - so that heat dissipation is adversely affected.

The B-COOL9000 unit comes pre-charged. However, should a leak or an Incident occur during shipping, the following steps must be taken.

Leak Testing

- 1 - Refrigerant volume (check with level glass)
- 2 - If volume is low or is lower than the previous check, investigate possible leak by looking for traces of oil.
- 3 - Attach the nitrogen tank to the low side port.
- 4 - Perform a leak test by pressuring the system to 200 psi and then check for leaks at each fitting and connection and throughout the evaporator and condenser coils.
- 5 - The system should hold pressure for at least 15 minutes.
- 6 - Sometimes, but rarely the unit could get damaged during shipping.
- 7 - If there are no leaks, evacuate the system.

Evacuate System

Evacuate the entire system while meeting local refrigerant handling standards.

We recommend at least 30-45 minutes vacuum before charging.

After the unit is empty, move to charging the system and charge it with 650g of R134a refrigerant.

Charge the System

The system should be charged by a qualified A/C technician and follow the guidelines for R134a Freon.

Maintenance

Before beginning cleaning, make sure the air conditioner is turned off, powered off.

1) Surface Cleaning of inside unit:

Wipe with a clean damp cloth.

The cloth can be dipped in a mild cleaning solution if the unit is very dirty.

2) The core of evaporation chamber is too dirty.

Check for dirt and debris in the evaporator, clean with compressed air if necessary.

3) Outdoor unit cleaning:

Remove the top cover and clean the condenser with compressed air. Pay attention not to damage the condenser coil.

4) Long time not in use:

Unplug the air conditioner and wrap the outdoor unit to avoid any physical damage.

5) Using after long time not in use:

Clean the unit body condenser and evaporation unit. Check for signs of any foreign matter at the air inlet or outlet of the unit. Check if the drain is clear; Install remote controller, make inspection, and power it on.

Tips:

Maintain the AC unit frequently - at least once every 2 months, If you operate the AC in a dusty - dirty environment more frequent cleaning will be required.

Check for blockage on top and bottom of the condenser fan, the condenser coil and air flow before and after the evaporator blower.