

# Diesel Heater Installation Manual



AF-2Kw/5Kw

**AU FOCUS Pty Ltd** is 100% Australian owned and a business providing:

- Supplying the right Diesel Heater for your requirements,
- Installation services or assisting with your DIY installation project,
- Maintenance & servicing.

Our Diesel Heaters are our signature product, and we'll provide you with a warm and comfortable solution during cold weather that is a safe, simple, and effective for caravans, RVs, boats, garages, and motor homes.



COMPANY LOCATION

Unit 11, 21-23 Capella Cres, Moorabbin VIC



WAREHOUSE

We have over one thousand products in stock

## Introduction to the AUFOCUS Diesel Heaters : AF-2Kw/5Kw

1. Low fuel consumption and high efficiency.
2. Can be used in a wide range environments.
3. Applicable for arctic weather, which can work normally at -41 °C.
4. Compact design and low noise.

## Key Notes:

1. Where possible keep the exhaust pipe as short as possible. This helps to avoid carbon build-up.
2. Avoid running out of fuel. Keep an eye on the fuel level gauge from time to time and top up when it's starting to get low. Running out of Diesel will mean that you'll need to prime it again. This can be a lengthy and inconvenient process
3. When starting your heater, it will run through a cycle to prepare the chamber for ignition. This takes around 3 minutes and then you'll see a flame appear on the screen which indicates combustion, and you'll start to feel heat coming from the duct.
4. When turning off the heater the unit runs through a shutdown and cool down cycle. This can take between 3 to 5 minutes. This process allows the unit chamber to cool down and also burns any excess fuel out in preparation for its next use. **Allow this cycle to complete otherwise it will cause excess smoke from the exhaust and fresh air filter, and cause carbon build up in the chamber eventually decreasing heating efficiency.**
5. The AU FOCUS has three working modes:
  - 5.1 Warm Air Mode - This allows P1 being the lowest setting to P5 being the highest setting. The fan and heat will remain consistent depending on the level you've set.
  - 5.2 Air conditioning mode - This allows you to set a temperature between 10°C and 35°C and will automatically increase and decrease fan and heat to reach your target temperature automatically.
  - 5.3 Fan mode. This function operates the fan only. (F1 being the lowest fan speed through to F5 being the highest. This mode is great for use in hotter weather and keeps the air circulating.

## Warnings:

1. Do not place any combustible or flammable dangerous goods near the exhaust pipe.
2. There should be no obstructions within 100 mm from the heater's exhaust. The exhaust temperature is very high, any materials that cannot withstand high temperature may be damaged or may even potentially cause a fire.
3. Do not use fuel other than diesel.
4. **If the heater is installed indoors, it is necessary to direct the exhaust fumes to the outside and ensure that there is no leakage. Failure to do so may result in the risk of exhaust gas poisoning or suffocation.**
5. When turning the heater off, ensure that the heater is allowed to run through a cool down cycle. Otherwise, the remaining diesel will not be burned out of the combustion chamber which can lead to carbon build up and excessive smoke from the exhaust.
6. Do not modify the heater, use, repair or replace any components with non-Aufocus original parts.

AU Focus company is not liable for any accidents or damages caused by the reasons above.

## Installation Guidance

**Before beginning your installation plan the location of the following items and note the following:**

- Where you plan to install the diesel heater main unit. Consider the following when looking for the best place:
  - Is there any obstruction under the vehicle? i.e. gas lines, water lines, water tanks, etc.
  - Can you run the exhaust muffler out from under the vehicle? i.e. On a caravan you will want the muffler pointing out from the chassis so that exhaust fumes don't get trapped and build up under the caravan and potentially find a way inside.
  - You'll need to have the cold air intake filter away as far as possible from the exhaust muffler so plan where you'll be mounting this under your vehicle.
  - Where will the duct outlet be inside? Where possible the duct should be positioned where the warm air will circulate best and most evenly through the vehicle.
- Where do you plan to install the control panel:
  - The control panel has a built-in thermostat so do not install it directly opposite the warm air duct.
  - Where possible install the control panel as far from the warm air duct as possible. You have around 2.5 meters of wire from the main unit to the control panel to do this.
- Where do you plan to install the fuel tank?
  - Where possible install the fuel tank between 2 meters and 3.5 meters from the main unit. You may install it up to 6 meters away, but it will just take longer to prime the fuel. (Note there is 6 meters of fuel line in the diesel heater kit)
- Where do you plan to install the fuel pump?
  - Where possible install the fuel pump in a clear position between the main unit and the fuel tank. Map a path where possible. (Note that the pump power can be run 2.5m from the main unit.)
- Where is the power source?
  - We recommend connecting directly to the power source. There is 5 meters of power cable with Anderson plugs for your use. If possible, map out where you'll run the power cables to get to the power source or batteries.

**Make sure you have the tools required for your installation: We recommend that you purchase an Installation accessories & tool kit from AUFOCUS. This will include:**

- 105mm hole saw
- 100mm flange ring for use under the mounting plate.
- 65mm hole saw for the 2kw Installation kit or a 80mm hole saw for the 5kw kit (Depending on which kit you purchase)
- Tube of flame-retardant silicone
- Heat resistant exhaust wrap
- Cutter - used to cut fuel line and conduit
- Electric cable joiners - used to rejoin power cables when shortened.
- Electric tape. Used to neaten your job up and cover any electrical cables if required.
- 7mm socket for mini clamps for the fuel line joiners, fresh air intake clamps and for the ducting clamps.
- 8mm socket for the self-tapping screws, heavy duty exhaust clamps.
- 10mm socket for bolts that mount the mounting plate to the main unit.

**Okay, now that you've planned everything out it's time to start the installation!**

## **Step 1.**

Make a pilot hole using a small drill bit where you plan to mount your unit.

Note: use the mounting plate as a template on the inside and outside of the vehicle to check and understand where it will be mounted and ensure the mounting screws that you'll be using on each corner of the mounting plate will not cause any damage to anything before you mount it. Take note of this.

## **Step 2.**

Making the mounting hole for the main unit. There are two options to achieve this:

### **Option a.**

Use a hole saw (105mm recommended) with a metal flange is recommended. (The metal flange being 100mm and can be purchased separately from the plumbing section at bunnings.) Or **purchase installation accessories & tool kit from AUFOCUS**



## Option b.

Overlap 2 x 75mm hole saws ensuring the size of the overlapped holes to not exceed the size of the mounting plate. Remove the centres so that you will have an oval shape. As per the images below.

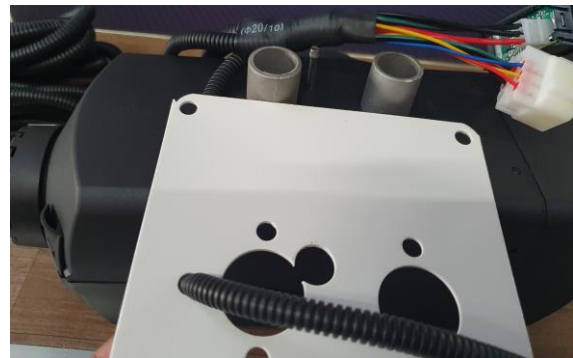


## Step 3.

Use heat resistant silicone around the edges and on the inside of the cut as shown in the images above.

## Step 4.

Feed the fuel pump power from the wiring harness through the mounting plate cold air void and into the small adjoining void on the mounting plate. **(Not all the way through. Leave around 100 mm from the wiring harness junction.)**



## Step 5.

Mount the mounting plate to the main unit securely using the bolts provided.





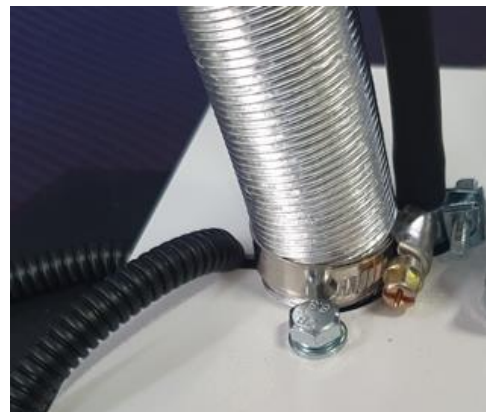
## Step 6.

Mount the **long** black rubber fuel line joiner to the base of the unit using a mini clamp to secure it and on the opposite side Insert the fuel line into the black joiner on the unit side at least 20mm in and use a minicamp to secure it. **(Tip! to ensure you have pushed the fuel line in far enough use a texter and mark the 20mm from the end of the fuel line, use some lubricant to force it in up to the marked line so you know it's gone in far enough.)**



## Step 7.

Mount the cold air intake pipe to the base of the main unit (Next to the black fuel line joiner) secure with the supplied clamp. (Don't mount the air filter yet!) **Note: Ensure that the clamp screw is on the inside of the unit as per the image below.**



## Step 8.

Mount the exhaust pipe to the base of the main unit using the supplied heavy-duty clamp. (Don't mount the muffler yet!) **Note: Ensure that the heavy-duty clamp bolt is on the inside of the unit as per the image below.**





## Step 9.

Feed all of the main unit attached (cold air intake pipe, exhaust pipe, black rubber fuel line joiner and fuel pump power) through the mounting hole with the main unit mounting plate firmly against the base of the floor.



## Step 10.

Check the position of the mounting plate carefully on the ground and ensure that there is as much clearance as possible from the exhaust outlet and floor or mounting ring then mount the plate firmly to the floor using the self-tapping screws provided.



## Step 11.

Mount the **long** black fuel line joiner and fuel filter to the fuel tank using the mini clamps provided.



## Step 12.

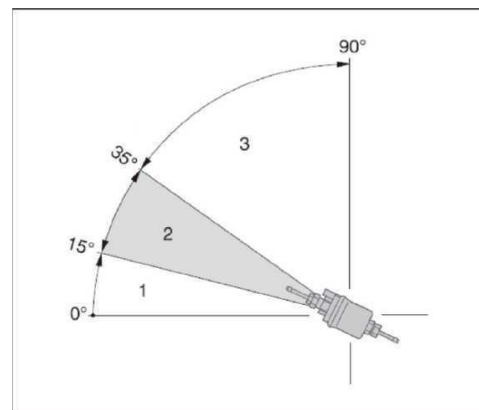
Mount the fuel tank into position firmly. In the image below the fuel tank has been mounted to a black checker plate between the gas bottles.



## Step 13.

Find the location where you want to mount the fuel pump and place the small foam square provided in place.

**Note:** Before mounting the actual pump, mount the **short** black rubber joiners to each end of the fuel pump (Note: some models may already have the joiners attached.) and then attach the rubber fuel pump mount over the fuel pump. Secure the joiners with mini clamps in preparation to mount it.) Once done, go ahead and use a long self-mounting screw to mount it! Note the image below is the recommended mounting angle.



## Step 14.

Feed the fuel line from the main unit to the fuel pump, cut the required length, and then measure and use the provided conduit to cover the fuel line. Now proceed to join the fuel line to the fuel pump joiner. Do the same from the other side of the fuel pump to the fuel tank!

**Note:** Use the provided cable ties to make sure the fuel line and conduit is secured neatly to the undercarriage.



## Step 15.

Find a place for the cold air intake filter opposite where you'll be securing the muffler. Attach the cold air intake filter using the provided clamp. Use cable ties to secure the cold air pipe and filter to the undercarriage neatly.



## Step 16.

Bend the exhaust pipe into position so that it's opposite the cold air intake and pointing out from the vehicle. Use the angle bracket supplied and attach the muffler to the chassis. Next use the heavy-duty clamp provided to attach the muffler to the exhaust pipe. **Note: Make sure that the exhaust pipe is clear of any obstructions as it gets very hot and can cause damage or even a fire if touching anything.**



## Step 17.

Determine where you are placing the warm air vent and cut the provided duct at the correct length.

## Step 18.

Using the correct size hole saw for the warm air vent (65mm for 2kw unit or 80mm for 5kw unit) Attach and secure the duct from the unit to the warm air vent using the provided clamps. Then attach the vent using the provided small screws Note: The face of the vent can be removed to do this.





## Step 19.

Make sure that the rear intake of the main unit can receive air from the main cabin. If required place the other provided vent to the rear of the unit away from the warm air vent repeating the process in step 18. **Note:** To do this, you will need to unscrew the lid on the rear of the unit.

Alternatively use a hole saw and simply create a vent to the main cabin area close to the rear of the unit as per the image below.



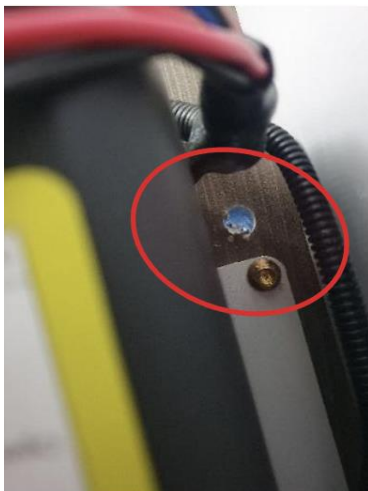
## Step 20.

Attach the LCD panel to the wiring harness and then mount the LCD panel securely. Note there is 2.5m of cable for the LCD panel. Note: The LCD screen has a temperature sensor so ensure that it is not positioned in front or directly opposite the warm air vent.



## Step 21.

Connect the power cable from the main unit to the main power source. Note. If the power is in another location, it may be necessary to remove the Anderson plug and run the power cable through the floor just behind the mounting plate. See image below:

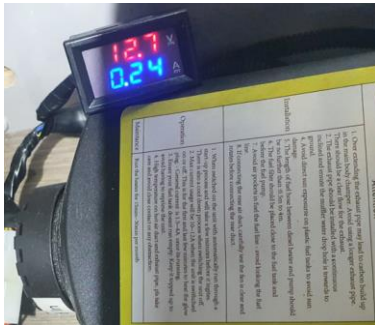


## Step 22.

Some models include a voltage meter option available on the wiring harness close to the unit. This simply displays the voltage and amps that the unit is drawing whilst in operation.

There are 3 options for using this.

- keep it close to the unit as per the image below it's, been double sided taped to the rear side of the unit.
- Use the 1.5m extension cable and mount it where you like within 1.5m.
- Use the small bypass plug provided and do not use the voltage meter.



### Note:

**1. One of the above options must be taken. The unit will not receive power if there is nothing plugged into the voltage meter outlet. The voltage meter will simply display the current voltage the unit is currently receiving and displays the amps it is drawing in real time.**

## Step 23.

Press the power on the LCD to make sure it turns on and then press it again to turn it off.

**Note: This is just to make sure you have power.**

## Step 24.

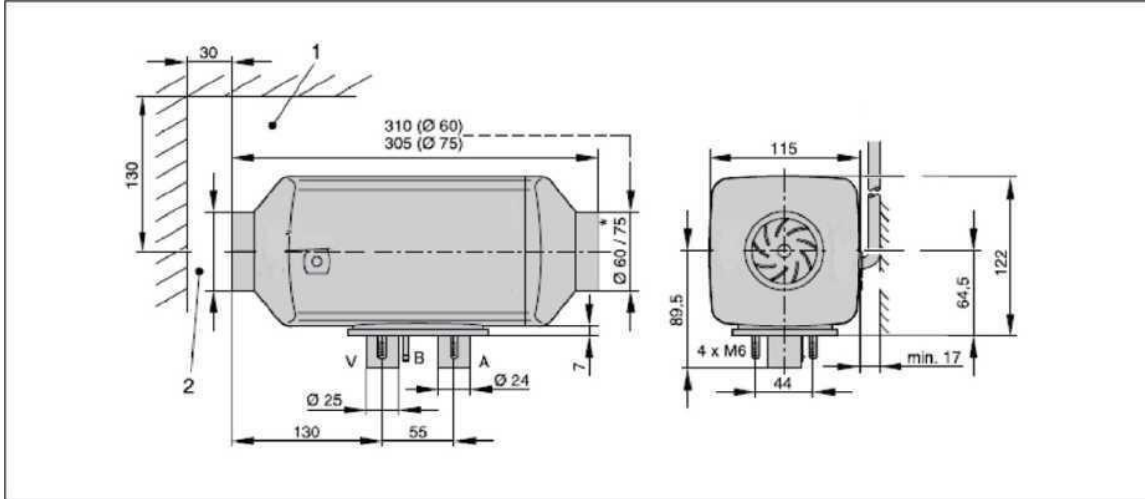
Put Diesel into the fuel tank.

## Step 25.

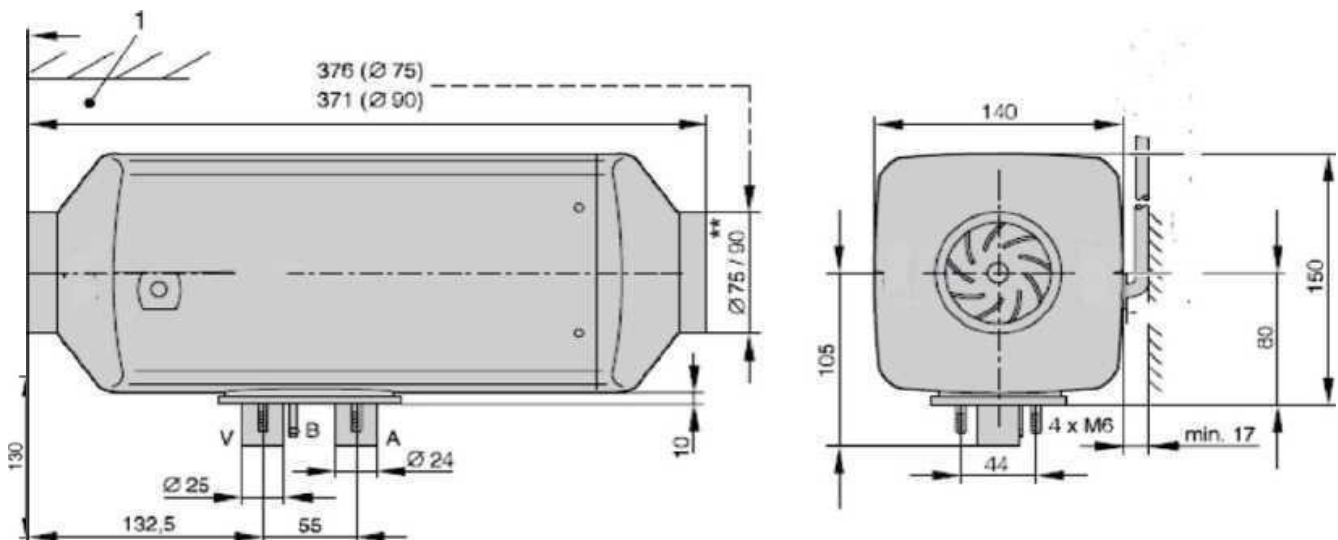
Prime the fuel using the "User Manual" provided.

**Note: DO NOT OVER PRIME FUEL AS THIS WILL CAUSE EXCESS SMOKE FROM THE EXHAUST.**

## AF-2KW Outline Dimensional Drawing



## AF-5KW Outline Dimensional Drawing



## Product Parameters

Model	Main Unit Weigh (Kg)	Dimensions (mm)	Heat Value (Kw)	Hot air Volume (Kw)	Rated Power Consumption (W)	Power Consumption for Ignition (W)	Ave Oil Consumption (L/h)
AF-2KW	2.7	310*115*122	2	90	36	W100	0.36
AF-5KW	4.5	376*140*150	5	150	50	W100	0.6



## Conditions

- Storage Temperature: -55°C to +70°C
- Operating Temperature: -41°C to +50°C
- Only use Diesel Fuel to operate this unit
- Applicable Altitude: Civil < 4,000m

## Maintenance

The Au focus Diesel heater should require very little maintenance.

### Monthly Checks and Maintenance:

- Simply start and run your heater on high for at least 15 minutes each month. This ensures everything keeps circulating and doesn't give the diesel a chance to go off.
- Check that all ducts are attached securely at least once monthly and ensure that there is no obstruction at the ducts Inlet and outlet.
- After each road trip you should inspect the undercarriage of your vehicle to ensure that there is no damage and that nothing has moved. **Note:** Pay special attention to the exhaust and muffler as this gets extremely hot and there should be some clearance from the start of the exhaust all the way to the muffler. (It shouldn't be too close or touching anything that is not steel).