
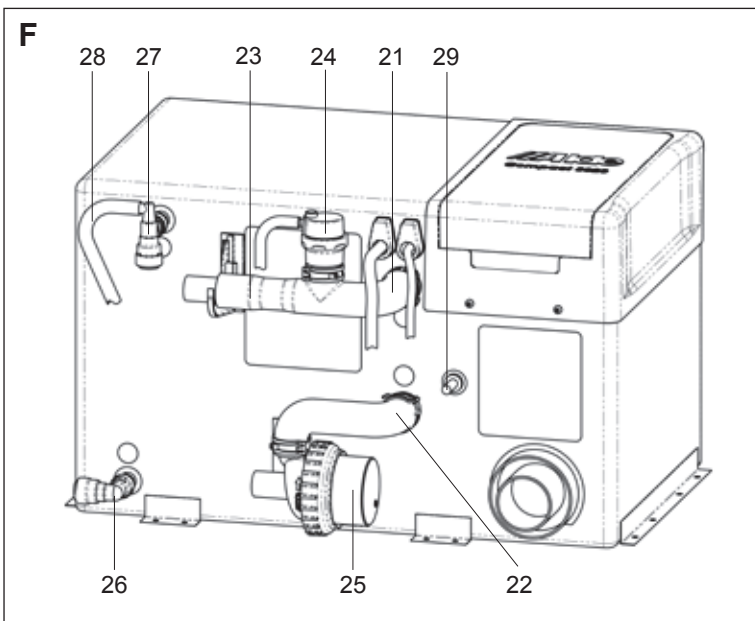
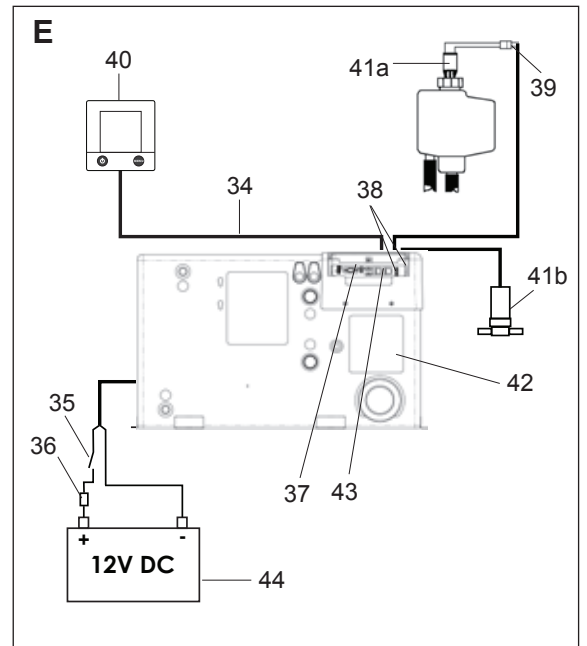
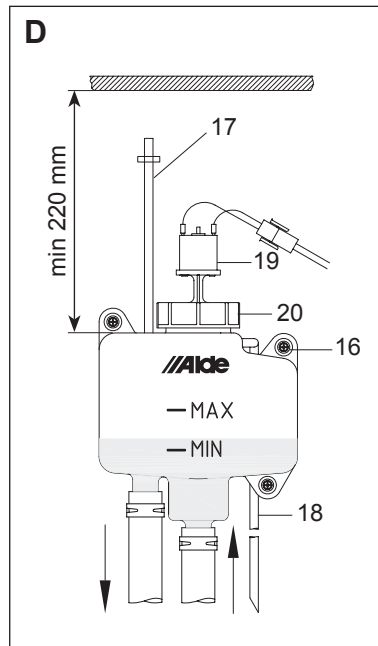
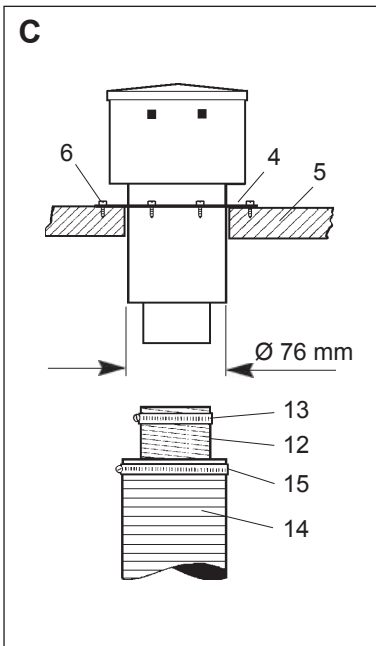
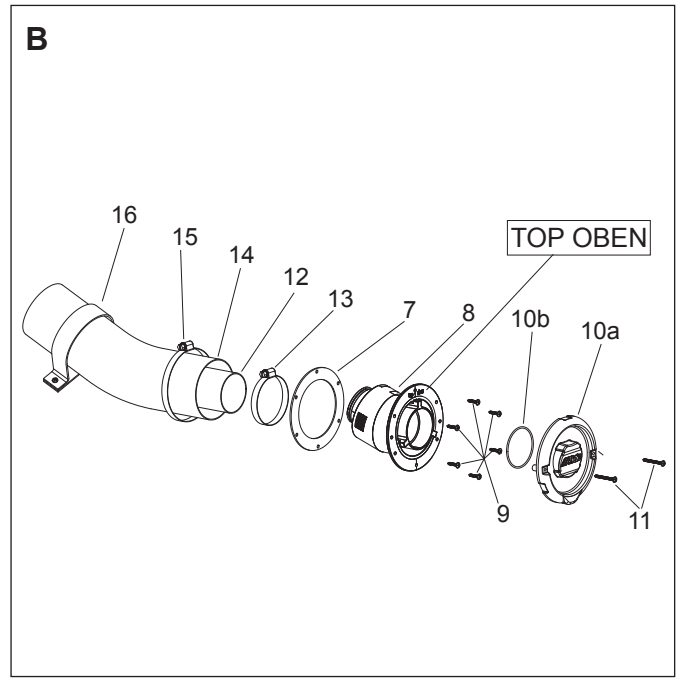
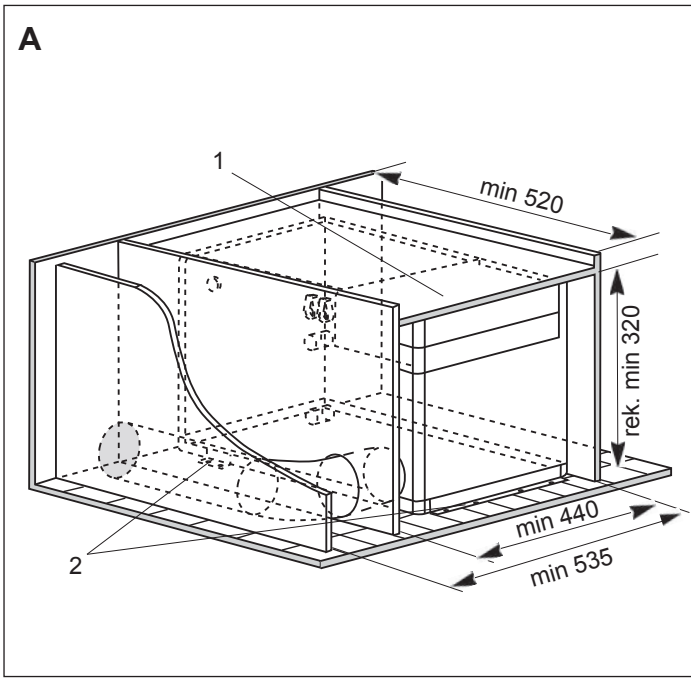




-  Bruksanvisning & installationsanvisning – Compact 3020
-  Operating instructions & installation instructions – Compact 3020
-  Bedienungsanleitung & Installationsanleitung – Compact 3020
-  Gebruiksaanwijzing & installatievoorschriften – Compact 3020
-  Käyttöohje & asennusohje – Compact 3020
-  Bruksanvisning og installasjonsanvisning – Compact 3020
-  Notice d'emploi & manuel d'installation – Compact 3020
-  Istruzioni per l'uso e Istruzioni per l'installazione – Compact 3020
-  Navodilo za uporabu & navodilo za instalacijo – Compact 3020
-  Instrukcja Obsługi wraz z Instrukcja Instalacji – Compact 3020
-  Instrucciones de manejo e instalación – Compact 3020







Please read these instructions carefully before using the boiler for the first time. The operating and installation instructions for the control panel are provided separately.

These instructions are approved for the Alde Compact 3020 boiler fitted in caravans, motor caravans or buildings in accordance with CE 0402 no. SC0653-13 and have the E5 mark for installation in vehicles in accordance with ECE R122, no. 00 001 and R10, no. 04 166.

Installation and repairs may only be carried out by a specialist. Always comply with national regulations.

BOILER DESIGN

The boiler consists of three eccentrically mounted pipes (the heat exchanger, the water jacket for the heating system and, on the outside, the water jacket for the hot water). The two outer pipes, and their ends and connections, are made of stainless steel, while the heat exchanger is made of aluminium.

The heat exchanger is split into two hemispheres. The burner is located in the top half which forms the combustion chamber, and the flue gases are expelled through the bottom half.

The burner unit is mounted on the end of the heat exchanger. It consists of a combustion fan, burner, solenoid valve and intake/exhaust gas connections.

Two electric elements are fitted in the water jacket for the heating system

Their maximum output is 2 or 3 kW depending on the model.

DESCRIPTION OF FUNCTIONS

Operation using LPG

When LPG operation is selected on the control panel, the combustion fan starts up. Once the correct speed is attained, a signal is sent to the circuit board that the boiler can be lit. Ignition sparks are sent from the spark plug at the same time as the solenoid valve opens to allow gas in.

The burner ignites, and a sensor transmits a signal back to the circuit board that the boiler is lit, and the ignition spark stops. The burner keeps burning until the boiler thermostat or the room thermostat reaches the set temperature value.

Should the boiler go out for any reason, the sensor will detect this and a new attempt is made to start the boiler (for about 10 seconds).

Operation using the electric heating element(s)

When electrical operation is selected in one of the power modes on the control panel, the 12-volt relays on the circuit board trip, allowing the 230-240 volt supply to reach the electric elements. The electric elements are controlled in the same way as the LPG boiler.

Domestic hot water

When hot water only is required, during the summer for instance, no settings need be made; the boiler looks after this function automatically.

The pump will only start once the temperature in the vehicle is lower than the set temperature (see point 4, control panel).

If the temperature in the vehicle is higher, the pump will **not** start.

IMPORTANT INFORMATION

- The boiler must not be started if there is no ethylene glycol fluid in the system.
- Ethylene glycol fluid may be heated even if the hot water heater is not filled with freshwater.
- The LPG boiler and electric elements may be operated simultaneously.
- Always switch off the main isolating switch for the boiler when the vehicle is not in use.
- Always drain the hot water heater of freshwater if there is a risk of frost.
- The LPG boiler must not be in operation when refuelling the vehicle at a garage or similar.
- When washing the vehicle, take care not to wash right up against the roof vent.

THE DOMESTIC HOT WATER HEATER

The boiler is fitted with a built-in hot water heater which can hold approximately 8.5 litres of freshwater. The hot water heater can produce around 12 litres of 40°C water per half-hour (at a cold water temperature of 10°C). If the electric elements are used instead of gas for heating the water heater, the capacity is slightly reduced.

Always flush out the heater before it is used, particularly if it has not been in operation for some time.

NB! The hot water is not intended as drinking water or for cooking purposes.

When the heater is in continuous use, it should be emptied approximately once a month, to create a new air cushion inside it. The air cushion is used to absorb pressure surges in the heater.

For emptying specially-adapted boilers, as well as the vehicle's general freshwater system, please refer to the manufacturer's instructions.

NB! The hot water heater should always be drained down completely when there is a risk of frost and the vehicle is not in use. The warranty does not cover frost damage.

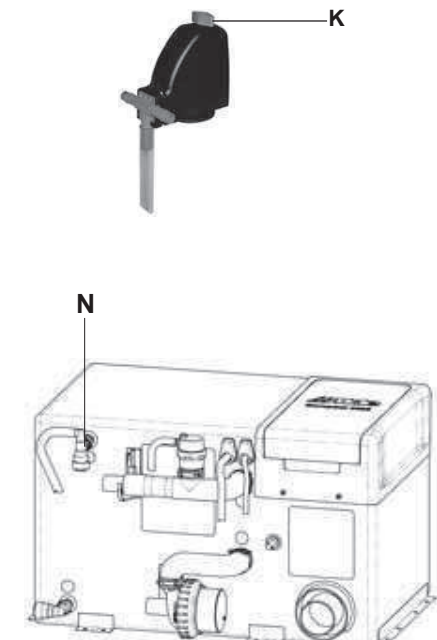
1. Switch off the freshwater pump.
2. Open all water taps.
3. Then open the safety/drain valve by raising the yellow lever (M) to a vertical position, or by turning the knob (K) 180°.
4. The heater will now drain directly below the vehicle through the safety/drain valve hose. Check that all the water is emptied out (about 7-10 litres). Leave the valve in the open position until the next time the heater is used.

NB! Check that the automatic non-return valve (N) is open and is allowing air to enter the heater when it is being drained, and that the hose is not blocked.

Opening the manual safety/drain valve



Opening the automatic safety/drain valve



THE ELECTRIC ELEMENTS

All Compact 3020s are fitted with two 230–240 V electric elements with a maximum output of 2100 or 3150 watts, depending on model. The output of the electric elements is selected on the control panel.

Always check that the input fuse of the vehicle has the correct amperage in relation to the selected output.

An output of 1050 W requires a 6 amp fuse.

An output of 2100 W requires a 10 amp fuse.

An output of 3150 W requires a 16 amp fuse.

THE CIRCULATION PUMP

A circulation pump is required to circulate the heated ethylene glycol fluid through the heating system. There are three types of circulation pump:

- 12 V circulation pump for fitting in the expansion tank
- 12 V circulation pump for fitting to the boiler
- 230–240 V circulation pump for fitting to the boiler.

If more than one circulation pump is installed, the required circulation pump can be selected via the control panel. The control panel's room thermostat is used to control the circulation pump, i.e. switching it on or off, as determined by the heating requirement.

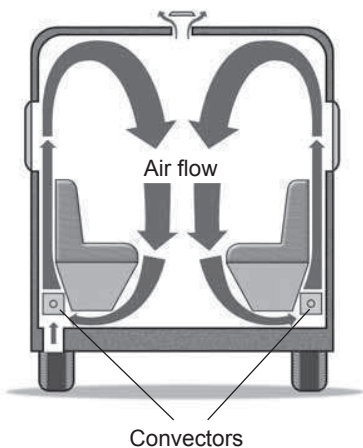
SYSTEM TEMPERATURE

The boiler is set to a system temperature of 80°C, i.e. the temperature of the ethylene glycol fluid as it circulates through the heating system.

AIR CIRCULATION

In order to exploit the water-borne heat design to the full, it is important that air can circulate freely under bunks, and behind backrests and wall-mounted cabinets. If the vehicle has a fitted carpet, for instance, ensure that the carpet does not obstruct the air supply to the convectors.

It is just as important that cushions or blankets do not obstruct the flow of air behind backrests and wall cabinets.



MAINTAINING THE HEATING SYSTEM

Camping in winter

If camping during the winter, ensure that the flue is kept clear of snow and ice, as the intake air to the LPG boiler enters through the flue

Do **not** start the LPG boiler until the roof vent is completely free of snow. If a roof flue is fitted, a flue extension (part no. 3000 320) is available for camping in winter.

The LPG system

The LPG system should be checked regularly by a specialist, who will ensure that there are no leaks from connections or hoses.

LPG hoses should be changed as indicated on the date stamp, as they tend to dry out and crack, and are liable to leak as a result.

For increased safety, we recommend fitting an Alde leak detector, type 4071, as close as possible to the reducing regulator.

Leak detector, type 4071



The heating system

Regularly check the heating system's fluid level in the expansion tank. The level should be about 1 cm above the minimum mark, with the boiler cold.

The heating system should be filled with a fluid mixture made up from water and ethylene glycol. For best results, use high-quality ready-mixed ethylene glycol (with inhibitors) intended for use in aluminium heating systems. The proportions when using concentrated ethylene glycol are 60% water and 40% ethylene glycol. If the heating system is likely to be exposed to temperatures below -25°C, the ethylene glycol content must be increased, but should not exceed 50%.

Any vessels used for handling or mixing the liquid must be spotlessly clean, and the pipes in the heating system must be free of contamination. This is to prevent the growth of bacteria in the system.

The ethylene glycol mixture should be changed every other year, as certain properties such as corrosion protection deteriorate over time. If Alde Premium Antifreeze is used, the interval for changing the mixture can be extended to five years under normal operating conditions.

If the fluid level is too low, the ethylene glycol content must be checked before topping up. This is to prevent excessive concentration of ethylene glycol in the mixture. When topping up, use the same

quality of ethylene glycol mixture as is already in the system, alternatively use Alde Premium Antifreeze, which is compatible with most ethylene glycol brands on the market.

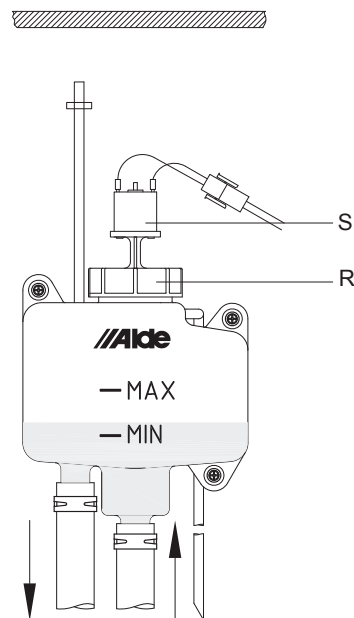
Never allow the heating system to stand empty of ethylene glycol fluid.

FILLING THE SYSTEM WITH ETHYLENE GLYCOL FLUID

NB! Any vessels used for handling or mixing the liquid must be spotlessly clean, and the pipes in the heating system must be free of contamination. This is to prevent the growth of bacteria in the system.

The system is filled through the expansion tank, either manually or using the Alde filling pump, which both tops up and bleeds the system. For manual filling, unfasten the circulation pump nut (R) and then lift the pump (S) out of the tank. Slowly pour the ethylene glycol mixture into the tank.

Bleed the system. Top up with more fluid if the level has fallen after bleeding. Bleed a newly filled heating system regularly during the first days it is in operation.



BLEEDING THE SYSTEM

Depending on how the pipes have been fitted, air pockets may form when the system is filled with ethylene glycol fluid. If the pipes only warm up a metre or so from the boiler, even though the circulation pump is operating, this is a symptom of air trapped in the system.

In a newly filled system, small air bubbles can form in the expansion tank, resulting in a gurgling sound. Switch off the circulation pump for a few seconds to allow the bubbles to disappear.

Bleed as follows:

If a bleed screw is fitted to the outgoing pipe of the boiler, open this screw and leave it open until fluid starts coming out. If the boiler is fitted with an automatic bleeder, the boiler will be bled automatically. Start the LPG boiler. The circulation pump should be switched off. Open the remaining bleed screws in the system (please refer to the instruction manual of the vehicle for their locations).

Leave the bleed screws open until ethylene glycol fluid starts coming out of them, and then close them. Start the circulation pump and let it run for a while. See if the pipes and radiators are heating up around the vehicle.

If this does not help, you can try the following method:

Single-axle caravan: Switch off the circulation pump. Tilt the caravan forwards. Leave it in this position for a few minutes to allow the air to travel upwards in the system. Open the bleed screw located at the highest point. Leave it open until ethylene glycol fluid comes out. Proceed in the same manner but with the caravan tilted backwards. Then position the caravan horizontally and start the circulation pump. See if the pipes and radiators are heating up around the vehicle.

Motor caravan or twin-axle caravan:

For these, the easiest way to bleed the system is to park the vehicle on sloping ground or to raise one end of the vehicle using a jack. Bleed the system as described above.

ABOUT LPG

The properties of LPG

LPG is a petroleum product. Its full name is "liquid petroleum gas". Its main constituents are the gases propane and butane. The advantage of propane is that it remains gaseous at temperatures as low as -40°C, whereas butane is less effective below +10°C. For this reason, propane is used in colder countries.

The cylinders contain LPG in liquid and gaseous form. When the cylinders are filled, the pressure turns the gas into liquid form. When the cylinder valve is later opened, the LPG reverts to its gaseous form.

The risk with LPG is that any leaking gas may ignite and explode. Since LPG is heavier than air, any leaking gas will tend to collect at the lowest point.

LPG contains no toxic substances. However, inhalation of concentrated gas may have a certain anaesthetising effect, and can also result in shortness of breath and symptoms of suffocation. These symptoms quickly disappear once ordinary air or oxygen is inhaled.

Naturally, it is not advisable to expose yourself to situations where you risk inhaling either LPG or exhaust gases.

To make it easier to detect a potential leak of LPG, a substance with a distinctive pungent odour has been added to it.

Combustion

When LPG is fully combusted, only carbon dioxide (CO₂) and water vapour are given off, just like in the air we exhale. A good supply of air is essential to ensure full combustion.

WARNING: Always make sure the flue outlet is well ventilated. It is not a good idea to inhale the exhaust gases. Make sure the flue does not exit into an enclosed area, e.g. an awning.

LPG is very easy on the environment and does not generate soot once fully combusted.

It can be stored in cylinders for an unlimited period without any deterioration in quality.

Pressure

The LPG burner works at a lower pressure than that in the cylinder. Low pressure (0-50 mbar) and medium pressure (50 mbar-2.0 bar) are obtained by sending the LPG through a reducing regulator. High pressure (above 2.0 bar) is unreduced pressure used mainly in camping equipment. Low pressure and medium pressure always result from a reduction in pressure.

TROUBLESHOOTING

If the boiler is fitted with a digital control panel, always start by checking any error messages.

The boiler will not start on gas

1. No LPG?
2. Is the main tap fully open?
3. Check that the type of LPG used is suitable for the prevailing outdoor temperature. Butane is unsuitable for use at temperatures lower than +10°C. Use propane instead.
4. If the boiler has not been operated for some time, or if the LPG cylinder is new, it may take longer than normal to light the boiler.
5. Check that power is being supplied to the boiler (> 11 V).
6. Check that the fuse for the boiler has not blown.
7. Check whether the electrical connections on the boiler are secure and tight.
8. If none of the above helps, contact a
9. service workshop.

The electric element is not working

1. Check that power (230–240 V) is being supplied to the electric element.
2. Check that the relays fitted to the boiler come on (a slight click can be heard from the relays when the electric element is switched on at the control panel).
3. If none of the above helps, contact a service workshop.

WARRANTY

Alde's warranty is valid for one year from date of delivery and is restricted to defects of material or manufacture. It is conditional on the boiler having been installed and operated in accordance with the installation and operating instructions.

The warranty does not cover frost damage.

NB! Only original parts from Alde are to be used as spare parts.

INSTALLATION INSTRUCTIONS – COMPACT 3020

These instructions deal with the installation and assembly of the boiler and expansion tank. Read these instructions carefully before fitting the boiler.

These instructions are approved for the Alde Compact 3020 boiler fitted in caravans, motor caravans or buildings in accordance with CE 0402 no. SC0653-13 and have the E5 mark for installation in vehicles in accordance with ECE R122, no. 00 001 and R10, no. 04 166.

Installation and repairs may only be carried out by a specialist. Always comply with national regulations.

TECHNICAL DATA

Measurements/Weight

Boiler height: 310 mm

Boiler width: 340 mm

Boiler length: 510 mm

Weight: 14 kg (without fluid)

Gas: Propane
Butane

Output Stage 1: 3.3 kW 3.8 kW

Consumption: 245 g/h 275 g/h

Output Stage 2: 5.5 kW 6.4 kW

Consumption: 405 g/h 460 g/h

Pressure: I_{3+} 28-30/37 mbar
 $I_{3B/P}$ 30 mbar

Volume/Pressure/Temp.

Volume of liquid, radiator water: 3.5 litres

Volume of liquid, domestic hot water: 8.4 litres

Maximum pressure, radiator water: 0.05 MPa (0.5 bar)

Maximum pressure, domestic hot water: 0.3 MPa (3.0 bar)

System temperature: 85°C max.

230–240 V

Output, element: 1 x 1050 W

(2 or 3 kW) 1 x 2100 W

12 V DC

Power consumption: 1 amp (max.)

Fuse: 3.15 amp+/3.15 amp-

BOILER INSTALLATION

The best place for the boiler is in a wardrobe or storage space, but it can also be located under the floor of the vehicle. If located outside the vehicle, the boiler should be built into an enclosed space so that it is protected from water spray, exhaust fumes, etc. In choosing the location, also bear in mind the need to be able to remove the service panel (A 1) and that room should be left for replacement of components during servicing.

The rating plate on the boiler must be legible after installation.

The fitting dimensions given in Fig. A are recommended

minimum dimensions when fitting the boiler.

The space where the boiler is to be fitted must be ventilated, with a ventilation area of at least 70 cm².

The boiler must be screwed securely to the floor through the holes in the fixing brackets (A 2).

NB! The boiler must not be located in the passenger area of a vehicle of type M2 or M3.

Fig. A

1. Service panel
2. Holes for fixing with screws

FITTING A ROOF FLUE

The boiler may only be fitted with the original flue. The flue must not be blocked.

The roof flue should be mounted on a level surface (a roof pitch of 30° maximum is however acceptable). No items may be mounted on the roof within a radius of 200 mm from the flue.

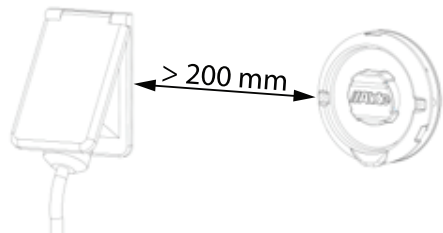
Mark the hole centre where the flue is to be mounted and drill a Ø 76 mm hole through the roof. Fit the flue, working from outside the roof. Seal between the mounting washer (C 4) and roof (C 5) with an automotive body sealant, and screw the flue securely in place with six flathead self-tapping screws (C 6).

Fit the flue, working from outside the roof. Seal between the mounting washer (C 4) and roof (C 5) with an automotive body sealant, and screw the flue securely in place with six flathead self-tapping screws (C 6).

FITTING A WALL FLUE

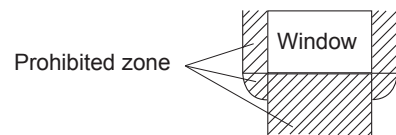
The boiler may only be fitted with the original flue. The flue must not be blocked. In choosing the location, bear in mind that there must always be adequate ventilation of exhaust gases into the open air.

The wall flue should be mounted on as flat a surface as possible, allowing air to circulate freely past the flue. There must be a minimum lateral distance of 200 mm from any projecting item.



There must be a minimum lateral distance of 300 mm from a window that can be opened or a ventilation air intake. The flue must not be mounted under a window that can be opened or a ventilation air intake; see drawing.

If the flue is fitted at a distance which is closer than indicated above, a window circuit-breaker switch must be installed that shuts off the LPG gas supply when the window is opened. To ensure the boiler works as intended, no item should be fitted within a radius of 300 mm around the flue (not a legal requirement).



REMEMBER to always comply with current national regulations.

The distance from the flue to a ventilation air intake under the vehicle should be at least 300 mm (not a legal requirement).

The distance from the flue to a filling point or ventilation for fuel must be at least 500 mm.

Mark up where the flue is to be located. Then drill a Ø 83 mm hole through the outer wall. First fit the gasket (B 7), and then screw the flue (B 8) securely in place with the six flathead self-tapping screws (B 9). If the surface is of contoured type, such as hammered sheet metal, an automotive body sealant must be used around the gasket.

Note that the flue must be fitted with the elbow pointing upwards, (the roof flue is also marked TOP OBEN). Then fit the plastic cap (B 10a) and the O-ring (B 10b), using the two screws (B 11) supplied.

FITTING THE AIR INTAKE/ FLUE EXHAUST HOSE

Hose length with roof flue: min. 2.0 and max. 3.5 m.

Hose length with wall flue: min. 0.5 and max. 2.0 m.

Measure up and cut the required length of air intake hose (Ø 75 mm). The flue exhaust hose (Ø 50 mm) should be cut so that it is approximately 50 mm longer than the air intake hose.

Applies to hose lengths over 1 metre in length. Note that around 20 mm of the hose length must cover the pipe stub in each case.

Insert the flue exhaust hose into the air intake hose. First fit the flue exhaust hose (B,C 12) to the flue and secure in place with a hose clip (B,C 13).

Then slide the air intake hose on top (B,C 14) and secure in place with the other hose clip (B,C 15). After that, fit the hoses to the boiler in the same way. Secure the hose with pipe clamps (B 16) at centre-to-centre intervals of 600 mm, or equivalent.

NOTE! Check the routing of the air intake/flue exhaust hose to ensure water cannot collect in it.

FITTING THE EXPANSION TANK

Fit the expansion tank at least 200 mm higher than the highest point of the heating system or boiler. If the expansion tank is fitted in a wardrobe for example, Alde's protective housing should be fitted around the tank to prevent any accidental splashing of the fluid coming into contact with clothes.

Leave a space of at least 220 mm above the expansion tank for filling and servicing purposes.

Fit the expansion tank using the screws and grommets (D 16) supplied.

Where a circulation pump is fitted in the expansion tank, it will be of suction pump type. Incoming hoses must therefore always be connected to the pipe underneath the pump and outgoing hoses to the pipe alongside it (see Fig. D).

The air vent hose (D 17) should be fitted in a fully vertical position and secured in place with pipe clamps to prevent creasing of the hose.

The drain hose (D 18) should be fitted so that it follows the shortest route from the expansion tank out through the floor of the vehicle. Cut the hose obliquely under the vehicle at a 30° angle away from the direction of travel.

Once the heating system has been filled, the circulation pump should be fitted (D 19) in the tank, and secured in place with the nut (D 20).

CONNECTION TO THE HEATING SYSTEM

The LPG boiler's connection pipe to the heating system (Ø 22 mm) is located on the side of the boiler. The red marking is for the outgoing feed pipe (F 21) and the blue for the incoming return pipe (F 22).

Use the assembly set with automatic bleeder and automatic circulation stop for fitting to the boiler. Connect the outgoing pipe with the rubber T-connector (F 23).

The drain hose from the bleeder (F 24) must be routed through the floor of the vehicle. Cut the hose obliquely at a 30° angle away from the direction of travel.

NB! If a circulation pump (F 25) is fitted it must be connected to the return pipe.

The rubber connections must be secured with band clips. A thin layer of Permatex Form-a-Gasket no. 3 should be applied to the joints of the rubber connections to seal them.

NB! The heating system reaches a high temperature when running. The heating pipes should be insulated or enclosed to prevent any risk of the driver or passengers coming into contact with them during the journey.

NB! Copper piping must not be used in the system. It is best to use aluminium pipes only.

Do not mix different metals, as this can lead to serious corrosion damage.

CONNECTION TO THE FRESHWATER SYSTEM

For the hot water heater to function, it must be connected to the vehicle's freshwater system.

The freshwater connections are located on the side of the boiler. The blue marking is for incoming cold freshwater and the red for outgoing hot water.

A safety valve must always be connected to the hot water heater. The safety valves are available in two different models (see the section on the domestic hot water heater). If incoming pressure to the hot water heater exceeds 0.3 MPa (3 bar), a pressure reducing valve must be installed. The pressure reducing valve must be set to a maximum of 0.3 MPa (3 bar) and have a minimum capacity of 5 dm³/min.

External safety valve with built-in drain

The safety/drain valve (Alde part no. 3000 473) must be fitted to the cold water hose entering the heater.

Drill a Ø 16 mm hole in the floor for the drain hose, and then screw the safety/drain valve securely into the floor.

Fit the hose connection (F 26) on the incoming nipple.

Connect the safety/drain valve to the hose connection. **NB!** The mounting position of the safety/drain valve must not be higher than the hose connection.

Then fit the elbow connection with built-in bleed valve on the outgoing connection (F 27).

This should be fitted in the same way as the hose connection. Fit the bleed hose (G 28) to the valve's hose stub, and then pull the hose out through the floor. Cut the hose obliquely under the vehicle at a 30° angle away from the direction of travel. The hose must not be blocked.

Only use an original Alde valve.

LPG CONNECTION

Remove the protective cap from the gas pipe on the boiler (F 29).

The LPG installation for the boiler should be executed using 8 mm pipe connected to the boiler's gas pipe with a compression coupling.

When routing the pipe, bear in mind the need to remove the boiler for servicing purposes.

The boiler should be connected to an LPG cylinder with a type-approved reducing regulator and a pressure of 30 mbar.

NB! Always comply with national regulations for the LPG installation.

ELECTRICAL CONNECTION

12 VOLTS DC

Connect the cable (E 34) between the control panel and the LPG boiler.

NB! If the heating system is empty of fluid, wait before connecting the 12 V supply to the boiler. This is to ensure the boiler is not started up without fluid in the system by mistake. The cable must not be extended. Only use original Alde cables, which are available in various lengths.

The 12-volt supply to the boiler must be routed directly from the battery via the vehicle's main switch (E 35) or a separate switch (the boiler draws about 70 mA when it is in standby or switched off).

A 5-amp fuse (E 36) must be fitted close to the battery. The positive and negative cable between the battery and the boiler must have a cable section of 1.5 mm² if it is equal to or less than 20 metres in length (10 m for the positive cable and 10 m for the negative cable). On longer cables, the cable section should be increased to 2.5 mm².

If a transformer is used instead of the battery, it must be of good quality, producing constant direct current as opposed to pulsating direct current.

The electrical connection from the boiler to the circulation pump in the expansion tank must be made using a two-core cable of at least 0.5 mm² cross section (maximum cable length of 6 m). On longer cables, cable of 0.75 mm² cross section should be used. Fit the cable to the two-pole contact and connect to the boiler's contact (E 38) and to the circulation pump's contact (E 39).

NB! Do not clamp 12 V cables or sensor cables together with 230-240 V cables. It is best not to position the cables close to one another. If the cables are bundled together, there is a greater risk of malfunction during operation.

230-240 VOLTS

The boiler (electric element) must be connected securely to a 230-240 V supply and be protected with a 10 A fuse in the case of a 2 kW electric element and a 16 A fuse for a 3 kW element. The boiler must be connected to a protective earth. It must be possible to disconnect the power to the boiler, either via an easily accessible plug or via an omnipolar circuit breaker. The installation must be executed by a qualified person according to current national regulations. Only original connection cable from Alde should be used.

WARNING: 230-240 V must be kept separate from 12 V DC.

Fig. E

34. Extension cable
35. Switch
36. Main fuse, 5 A
37. Terminal for 12 V in
38. 2-pole terminal on boiler
39. 2-pole terminal on pump
40. Control panel 3010 413/613
- 41a. Circulation pump, 12 V
- 41b. Circulation pump, 230 V/12 V
42. Boiler
43. 10-pole terminal block
44. Battery, 12 V

FILLING THE HEATING SYSTEM

The heating system should be filled with a fluid mixture made up from water and ethylene glycol. For best results, use high-quality ready-mixed ethylene glycol (with inhibitors) intended for use in aluminium heating systems. The proportions when using concentrated ethylene glycol are 60% water and 40% ethylene glycol. If the heating system is likely to be exposed to temperatures below -25°C, the ethylene glycol content must be increased, but should not exceed 50%.

Any vessels used for handling or mixing the liquid must be spotlessly clean, and the pipes in the heating system must be free of contamination. This is to prevent the growth of bacteria in the system.

The system is filled via the expansion tank, either manually or using the Alde filling pump, which both tops up and bleeds the system. When filling manually, the fluid must be poured in slowly until the level is about 1 cm above the MIN mark on the tank. Bleed the system. Top up with more fluid if the level has fallen after bleeding. Bleed a newly filled heating system regularly during the first days it is in operation.

For general care of the heating system, see the user instructions.

INSTALLATION CHECKS

The LPG system

• After installation or servicing, always check the LPG installation for leaks in accordance with current regulations.

If there is leak, localise it with leak detector spray or soapy water.

NB! A naked flame must not be used when looking for leaks.

• Check that the reducing regulator is at the right pressure (30 mbar).

For still greater safety, we recommend that an Alde LPG leak detector be fitted.

This should be fitted close to the reducing regulator. You can then easily check whether the installation is leaking simply by pressing a button.

The heating system

• The heating system should be checked for leaks when the entire system is visible, i.e. before fitting the decorative covers. Checks can be performed in two ways. Either leak detection with 0.75 to 1.0 bar for 15 minutes, maximum of 0.05 bar pressure reduction, or fill the system with fluid and perform a visual check. No fluid leak is acceptable.

• Check that all hose clips are fitted and correctly located.

Miscellaneous

• Check that the bleed and drain hoses on the expansion tank and the drain tap for hot water are not blocked.

• Check that flue and hoses are in position and that hose clips are fitted and tight.

• Check that the boiler's servicing log has had the serial number and installation date entered in it.

• Check that the year on the boiler's rating plate has a cross against it (when installing the boiler or on initial start-up).