



Alde Compact 3020 HE

Certified for use in recreational vehicles



(GB) Installation Instructions – Compact 3020 HE



CONSUMER SAFETY INFORMATION

Your safety and the safety of others are very important.

There are many important safety messages in this manual and on your appliance.

Always read and obey all safety messages.



This is the safety alert symbol.

Recognize this symbol as an indication of Important Safety Information!

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word “DANGER,” “WARNING,” “CAUTION,” or “NOTICE.”

These words mean:



DANGER An imminently hazardous situation that will result in death or serious injury.



WARNING A potentially hazardous situation that can result in death or serious injury and/or damage to property.



CAUTION A potentially hazardous situation that may result in minor or moderate injury.



NOTICE Attention is called to observe a specified procedure or maintain a specific condition.

SAFETY WARNINGS



WARNING FIRE/EXPLOSION HAZARD

- Do not use the LPG operation on the heating system while refueling or when filling a fixed LPG tank.
- Do not use any type of open flame when checking for gas leaks.
- Use genuine Alde parts only.
- LPG tanks must be filled by a qualified gas supplier only.
- Use with LPG only.



WARNING CARBON MONOXIDE POISONING

This heating system can produce dangerous carbon monoxide (CO) gas when using the LPG operation if it is not installed and used properly.

To help avoid the risk of asphyxiation, only use the LPG operation on the heating system outdoors to help dissipate the exhaust gases.

Never use in enclosed spaces or breathe in the exhaust gases.

Make sure that the exhaust gas outlet is placed outside, e.g. never under the recreational vehicle's awning.

- Do not use the heating system without adequate ventilation.
- Keep the air inlet and exhaust gas outlet unobstructed.

When cleaning the vehicle, never spray water into the heating, e.g. if using a high-pressure cleaner, do not spray directly into the heating's exhaust gas outlet.

⚠️ WARNING HOT WATER HAZARD

Hot water at temperatures above 49 °C can cause serious scalding injuries and in extreme cases even death. The heating can deliver hot water at temperatures above 85 °C.

- For safe operation, always use a mixing valve set at a temperature no higher than 48 °C.
- **Always check the water temperature before entering a shower or bath.**
- **Hot water can be dangerous, especially for infants, children, the elderly or the infirm.**

How long can skin be exposed to hot water?

Temperature °C	Time before skin becomes scalded	
70	Extreme danger!	< 1 second
66	Very dangerous!	1 – 5 seconds
60	Dangerous!	10 seconds
54	Warning!	30 seconds
52		2 minutes
49		5 – 10 minutes
38	Safe	Safe bathing Temperature

Source: Moritz, A.R. / Herriques, F.C.: Studies of thermal injuries: the relative importance of time and surface temperature in causation of Cutaneous burns A. J. Pathol 1947; 23: 695 - 720.

- Before using the hot water tap or using the shower, allow the hot water to run until the water temperature is safe and stabilized.
- Test the temperature of the water before placing a child in the bath or shower.
- **Do not leave a child or an infirm person in the bath unsupervised.**

NOTICE

- There may be a variation between the temperature delivered from the heating system and the temperature at the tap due to water conditions or the length of the pipe to the heating system.

⚠️ CAUTION

- Avoid damage to the heating system and voiding your warranty.
- No alterations! Any alteration to the heating system or its controls can cause unforeseen serious hazards and, in addition, will void the warranty.

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⚠ WARNING

Always read and follow these instructions carefully before installing and/or operating the heating system. For operating instructions, see the separate instructions.

⚠ WARNING

Use special caution when children are present. Children must not be allowed to play with the product and must not be allowed to perform cleaning and maintenance

1. INTENDED USE

The Alde Compact 3020 heating system consist of a gas-fired vehicle heater and convectors. The system provide heat for the convectors by circulating a glycol fluid which is heated by gas and/or electricity in the heater.

The heating system shall be installed in a recreation vehicle according to local codes if any; if not follow EN-1949. These instructions explains the installation of the heating system and control panel and are approved for the Alde Compact 3020 HE heating system fitted in recreational vehicles.

Installation and repairs may only be carried out by an Alde trained professional.
Always comply with national regulations.

2. PROHIBITED USE

To be used in recreational vehicles only.

3. SAFETY FEATURES

This heating system is equipped with the following safety devices:

Flame monitoring

If the flame goes out, the gas supply is switched off by a flame monitoring device.

Low-voltage shutdown

If voltage drops below 10.5 V DC, the gas supply to the burner will be switched off.

Monitoring of the exhaust fan

If there is a failure of the exhaust gas fan, the gas supply to the heating system is switched off.

Monitoring hot water temperature

A water temperature switch helps avoid excessively high water temperatures above 90 °C.
Always use caution before exposing the skin to heated water.

4. TECHNICAL DATA TECHNICAL DATA

• MEASUREMENTS / WEIGHT

Boiler height:	310 mm	
Boiler depth:	340 mm	
Boiler width:	510 mm	
Weight:	14 kg (without fluid)	
Gas:	Propane	Butane
Output 1:	3.3 kW	3.8 kW
- Consumption:	245 g/h	275 g/h
Output 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:	3.5L	
Volume of liquid, domestic hot water:	8.4L	
Max pressure radiator water:	0.05 MPa (0.5 bar)	
Max pressure domestic hot water:	0.3 MPa (3.0 bar)	
System temperature (max):	80 °C.	
230–240 V ~		
Output element: (2 or 3 kW)	1 x 1050 W 1 x 2100 W	
12 V DC		
Current consumption:	1.9 A (max)	
Fuse:	3.15 A	

CAUTION

When this heating system is in operation;
Always be aware of hot surfaces highlighted in orange colour, see Figure A.

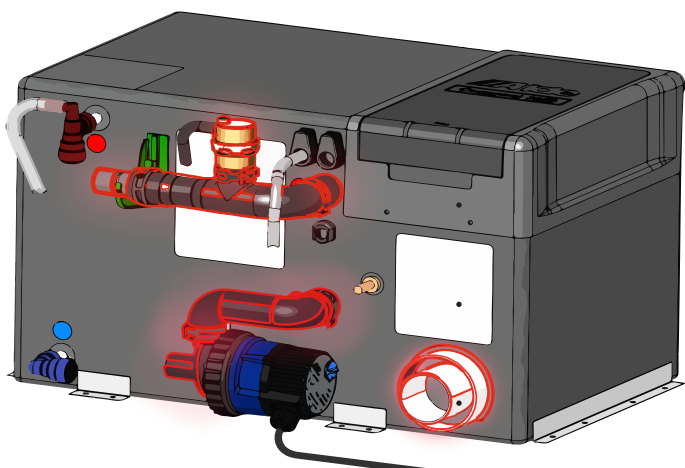


Figure A. Alde Compact 3020 HE boiler

5. INSTALLATION INSTRUCTION ALDE COMPACT 3020 HIGH EFFICIENCY

⚠ CAUTION

Do not drink any alcohol or take any drugs before or during the installation of the heating system and follow the safety instructions carefully.

⚠ CAUTION

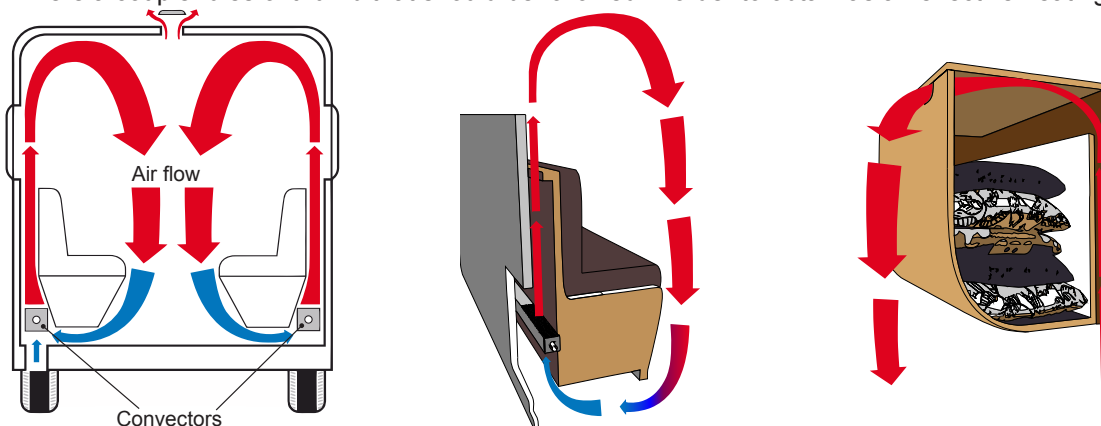
When this heating system is in operation;
– Always be aware of hot surfaces.

5:1 IMPORTANT INFORMATION

- The boiler must not be started if there is no ethylene glycol fluid in the system. For this reason, never connect 12 V supply to the boiler before the heating system has been filled with ethylene glycol fluid.
- Always drain the hot water tank in the heating system completely when there is a risk of frost and when the vehicle is not being used. Otherwise there is a risk of serious frost damage.

5:2 PLANNING THE HEATING SYSTEM

- There are a couple of rules of thumb that should be followed in order to obtain as effective a heating system as possible.



• Air circulation

To make the best use of the water-borne heating, it is important that air can circulate freely through air gaps under bunks, and behind backrests and wall-mounted cabinets. If, for example, the vehicle has a fitted carpet, make sure the carpet does not block the air supply to the convectors. It is equally important that curtains, cushions or blankets do not block the flow of air behind backrests and wall cabinets.

• Design of the air gaps

Air gaps between walls and furnishings should have an airtight, smooth surface on both sides and be designed so they are narrower at the top edge (approx. 20-25 mm) in order to increase the air speed; at the bottom, the air gap must be sealed against the convector. It is best if the air gap has a uniform incline between walls and furnishings. There should also be a free air flow to the convectors, this air gap should be at least 40 mm. Air gaps in top cupboards should be at least 20 mm at the bottom edge and with a sufficiently wide opening at the top edge to obtain satisfactory air circulation.

• Placing the boiler

The best place for the boiler is in a wardrobe or storage space, but it can also be placed in the double floor of the vehicle. When choosing the location, bear in mind that it has to be possible to remove the service panel (Figure A.1) and that room should be left for replacement of components during servicing.

The rating plate (Figure A.2) on the boiler must be legible after installation.

When choosing the location, also bear in mind that the flue (Figure A.3) must not end up on the same side as any awning. Bear in mind the need to remove the boiler for servicing/replacement.

• Direction of flow, ethylene glycol fluid

To obtain the best warming comfort in the vehicle, you should always install the heating system so the heat from the boiler is led to the front of the vehicle first. This is because more heat is needed to warm up the driver space of mobile homes as well as the fact that one usually wants it to be a little cooler in the sleeping area, both in mobile homes and caravans.

• Amount of convectors

To obtain the best heating comfort in the vehicle, a sufficient amount of convectors should be used. One easy way to estimate this is to multiply the vehicle's length by 1.5.

Example: If the vehicle is 7.5 metre long, the length of convectors needed is about 11 metres. However, this is just a rule of thumb, to be completely certain of obtaining the result wanted, a cold chamber test needs to be conducted because there are many different factors that are crucial for how effectively a vehicle is warmed up; the vehicle's insulation, the design of the vehicle as well as the vehicle's furnishings and so on.

• Placing convectors

The convectors have to be placed evenly spread throughout the vehicle, these are placed between outer walls and furniture at a height of at least 100 mm from the floor and should be under each window; convectors can also be placed in intermediate floors. If there is a need for extra convectors, these can be placed one above the other. One metre convector corresponds to approx. 400 W, if a convector is placed above another one, the output is 100% for the lower one and 50% for the upper one. *Example:* If two convectors, each of which are one metre long, are placed one above the other, the output is approx. 400 W + 200 W.

5:3 BOILER INSTALLATION

NOTICE

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



WARNING SHARP EDGES CAN CAUSE CUT INJURIES

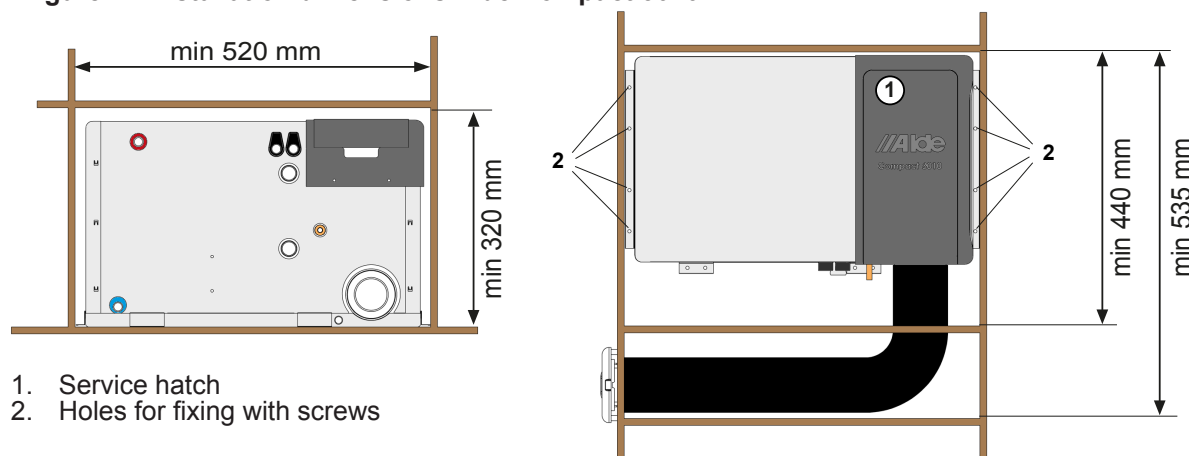
Always wear protective gloves to help avoid injuries from sharp edges during installation.

- The best place for the boiler is in a wardrobe or storage space, but it can also be placed in the double floor of the vehicle. When placing outside the vehicle, the boiler must be built into an enclosed space to protect it against water spray, exhaust fumes etc. When choosing the location, also bear in mind the need to be able to remove the service panel (Figure A.1) and that space has to be left for the replacement of components during servicing.

Bear in mind the need to remove the boiler for servicing/replacement.

- The data plate (Figure A.2) on the boiler has to be legible after installation.
- The installation dimensions according to Figure A are the recommended minimum dimensions for installation of a boiler.
- The space where the boiler is installed must be ventilated, ventilation area at least 70 cm².
- The boiler must be screwed securely to the floor through the holes in the fixing brackets (Figure A.2).

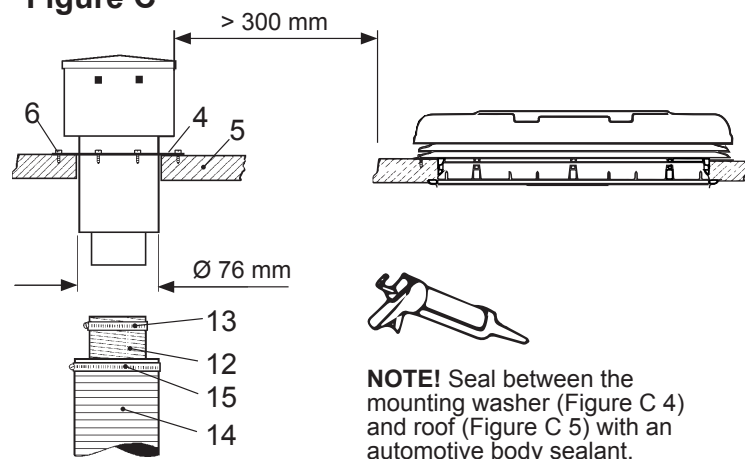
Figure B. Installation dimensions Alde Compact 3020



5:4 FITTING A ROOF FLUE

- The boiler may only be fitted with an original Alde flue.
- The flue must not be blocked.
- The roof flue should be mounted on a level surface (however, a roof pitch of max 30° is acceptable).
- No items may be mounted on the roof within a radius of 200 mm from the flue.
- There must be a minimum lateral distance of 300 mm from a ventilation air intake
- Mark the hole centre, where the flue is to be fitted, and drill a Ø 76 mm hole through the roof.
- Fit the flue, working from the top of the roof down. Seal between the mounting washer (Figure C 4) and roof (Figure C 5) with an automotive body sealant, and screw the flue securely in place with 6 self-tapping screws (Figure C 6).

Figure C



NOTICE

For flue installation in buildings, the following applies:

For vertical installation of the flue on the roof, the opening in its entirety must be at least 0.3 m perpendicular to the surface of the roof.

For installation extending out from the wall, the opening must be placed:

- At least 2 m above ground level.
- At least 1 m from opening windows.
- At least 1.5 m from ventilation openings.
- At least 0.5 m from doors.
- Not with an area of 45° between outer wall and eaves/gutter.

5:5 FITTING A WALL FLUE

⚠ DANGER CARBON MONOXIDE POISONING

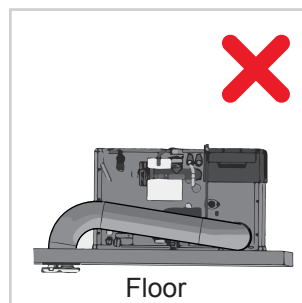
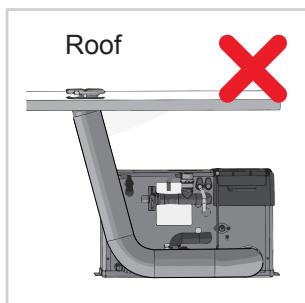
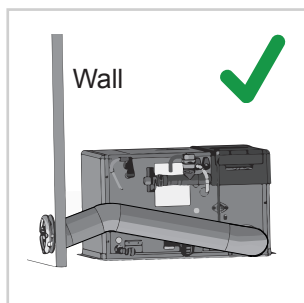
This heating system can produce dangerous carbon monoxide (CO) gas when using the LPG operation if it is not installed and used properly.

⚠ WARNING FIRE/EXPLOSION HAZARD

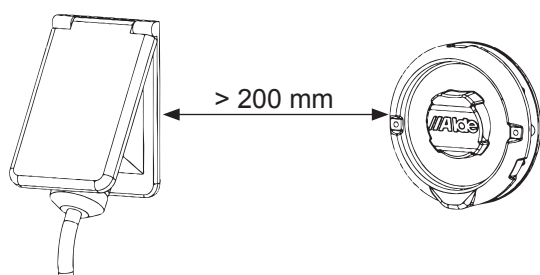
The exhaust temperatures from the LPG burner can be up to 200 °C.

- Do not place combustible materials and liquids close to the flue.

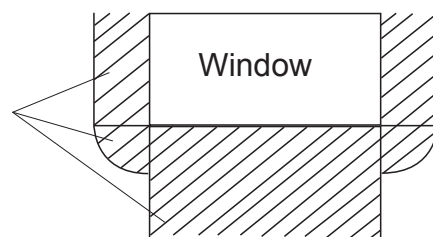
- The boiler must be mounted together with the Alde original wall flue, never mount the wall flue to floor or roof. The flue must not be blocked. In choosing the location, bear in mind that there must always be adequate ventilation of exhaust gases into the open air.



- 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 below.



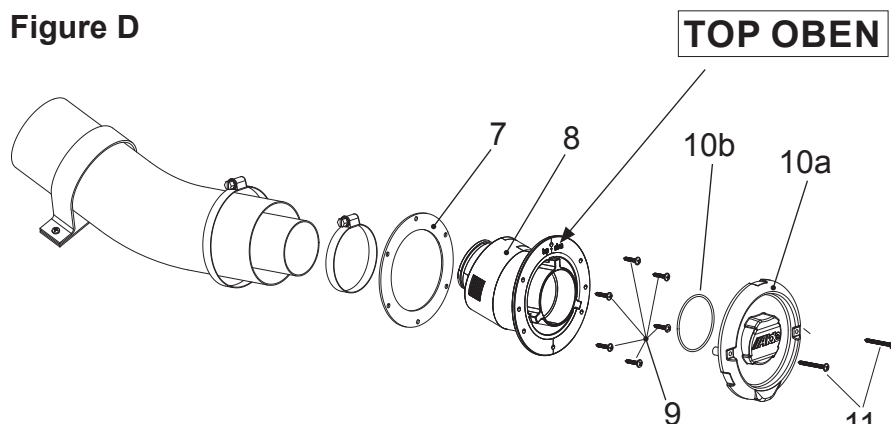
Prohibited zone



If the flue is to be fitted closer than the dimensions above, a window switch (Part. no. 3010 280) must be fitted that stops LPG operation when the window is open. 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). National regulations must always be followed.

- The distance from the flue to a ventilation air intake under the vehicle should be at least 300 mm.
- 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 (Figure D 7), and then screw the flue (Figure D 8) securely in place with the six self-tapping screws (Figure D 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 flue is also marked **TOP OBEN**. Then, fit the plastic cap (Figure D 10a) and the O-ring (Figure D 10b), using the two enclosed screws (Illustrated D 11)

Figure D



NOTE! If the surface is of contoured type, such as hammered sheet metal, an automotive body sealant must be used around the gasket (D.7).

NOTICE

The flue must be mounted with the bend upward (the wall flue is also marked TOP/OBEN).

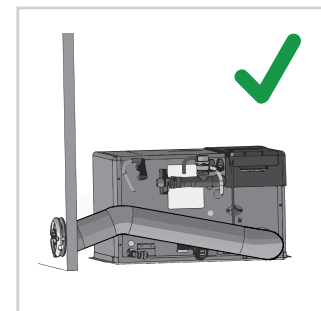
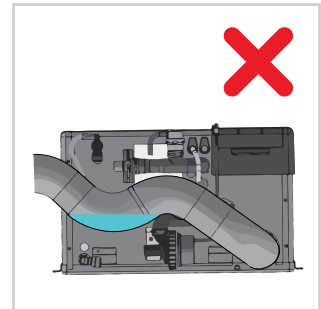
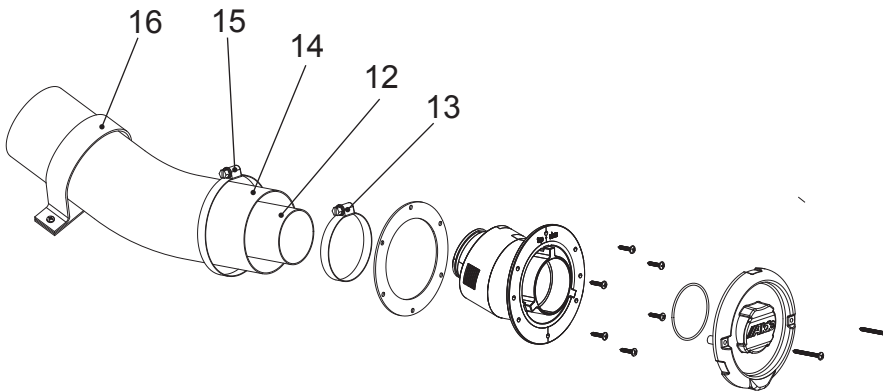
5:6 FITTING THE AIR INTAKE/FLUE EXHAUST HOSE

- Hose length with roof flue: min 2.0 and max 3.5 m.
- Hose length with wall flue: min 0.5 and max 2 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 for hose lengths longer than 1 m. The hoses must go in approx. 20 mm on the pipe connectors.
- Insert the flue exhaust hose into the air intake hose. First, fit the flue exhaust hose (Figure C,E 12) to the flue and secure in place with a hose clip (Figure C,E 13). Then push on the air intake hose (Figure C,E 14) and secure in place with the other hose clip (Figure C,E 15). After that, fit the hoses to the boiler in the same way. Secure the hose with pipe clamps (Figure E 16) at 600 mm c/c, or equivalent.
- Check the routing of the air intake/flue exhaust hose to make sure water pockets are not possible in the air intake/flue exhaust hose. Also check that the hose clips are fitted correctly.

⚠ CAUTION

Check the hose routing to ensure that water cannot be retained in the inlet/exhaust hose.

Figure E



5:7 FITTING THE EXPANSION TANK

- Fit the expansion tank at least 200 mm higher than the highest point of the heating system. Leave a space of at least 220 mm above the expansion tank for filling and servicing purposes. Fit the expansion tank using the enclosed screws and grommets (Figure F 16).
- If a circulation pump is to be fitted in the expansion tank, it will be the suction pump type. For this reason, incoming hoses must be connected to the pipe underneath the pump and outgoing hoses to the pipe alongside it (see Figure F). The air vent hose (Figure F 17) has to be fitted vertically and secured in place with pipe clamps to prevent the hose from creasing. The drain hose (Figure F 18) has to be fitted so that it follows the shortest route from the expansion tank and out through the floor of the vehicle. Cut the hose obliquely under the vehicle at an angle of 30° facing the rear of the vehicle (Figure G). Once the heating system has been filled, any optional pump is fitted in the tank and secured in place with nut (Figure F 19). Then, fit the contact to the pump to the "right place" on the circuit board. (Figure K 7, page 9).

Figure F

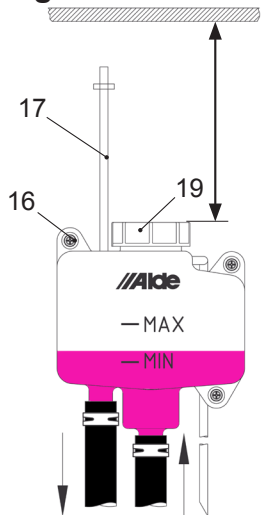
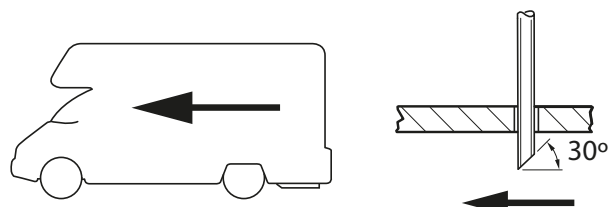


Figure G



5:8 CONNECTION TO THE HEATING SYSTEM

WARNING BURN HAZARD

The heating system reaches high temperatures when running. The heating pipes must be insulated or built in to prevent the driver or passenger from coming in contact with them while operating the vehicle.

- 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 (Figure H 22) and the blue for the incoming return pipe (Figure H 26). Use the installation kit with automatic bleeder and automatic circulation stop for fitting to the boiler.
- The drain hose from the bleeder (Figure H 23) must be routed through the floor of the vehicle. Cut the hose obliquely at an angle of 30° facing the rear of the vehicle (Figure G).

NOTICE

If a circulation pump (Figure H 27) is fitted, it must be connected to the return pipe.
The rubber connections must be secured with band clips.

CAUTION

Pipes, joints or water storage tanks made of copper should not be used in the heating system. It is best to use aluminium pipes only. Do not use different metals because this can cause serious corrosion damage.

5:9 CONNECTION TO THE WATER SYSTEM

For the in built hot water heater to function in the boiler, it must be connected to the vehicle's freshwater system. The freshwater connections are placed on the side of the boiler (Figure H 21 and H 25). The blue marking is for incoming cold freshwater and the red for outgoing hot water.

- A safety/drain valve must always be fitted to the hot water heater. The safety valves are available in two different models (see the section on installing Safety/drain valve). If the inlet 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 500 cm³/min.
- A non-return valve should also be installed between the water pump and the hot water heater to prevent hot water from running back into the water tank.

THE HOT WATER HEATER

Always rinse through the hot water heater the first time it is used. It is also OK to use the boiler without freshwater in the heater.

NOTICE

The freshwater in the heater should always be drained when there is risk of frost, otherwise there is a risk of damage due to the boiler freezing. **The warranty does not cover frost damage.** A frost guard can be installed to reduce the risk of freezing (Art. No. 3010 430, 3010 431).

NOTICE

Hot water from the boiler is not intended as drinking water or for preparing food.

WARNING SCALDING HAZARD

Remember, water in the water heater may be hot.

WARNING SCALDING HAZARD

Never actuate the drain valve lever as long as the heating system is under water pressure and/or is still warm.

EMPTYING THE HOT WATER HEATER

1. Switch off the freshwater pump.
2. Open all water taps.
3. Then, open the safety/drain valve by moving the yellow lever to the vertical position (M) (Figure I), or, alternatively, turn the knob (K) 90° (Figure J). The hot water heater will now drain straight out under the vehicle through the safety/drain valve hose.
4. Check that all the water empties out (approx. 7-10 litres). Leave the valve in the open position until the next time the heater is used.

NOTICE

Ensure that the automatic check valve (see figure H 21) is open and is allowing air to enter the boiler when it is being drained and that the hose is not blocked.

5:10 INSTALLATION OF SAFETY/DRAIN VALVE

The Alde safety/drain valve has to be fitted to the cold water hose entering the hot water heater.

⚠ CAUTION

Safety/drain valve must not be mounted higher than the hose connection.

NOTICE

Only original Alde valves may be used.

1. Drill a Ø 16 mm hole in the floor for the drain hose, and then screw the safety/drain valve securely into the floor.
2. Fit the hose connection (Figure H 21) on the inlet nipple.
3. Connect the safety/drain valve to the hose connection.
4. Then, fit the elbow connection with inbuilt vent valve on the outlet connection (Figure H 25). This should be fitted in the same way as the hose connection. Fit the bleed hose (Figure H 20) to the valve's hose connector, and pull the hose out through the floor. Cut the hose obliquely under the vehicle at an angle of 30° facing the rear of the vehicle (Figure G). The hose must not be blocked.

Figure H

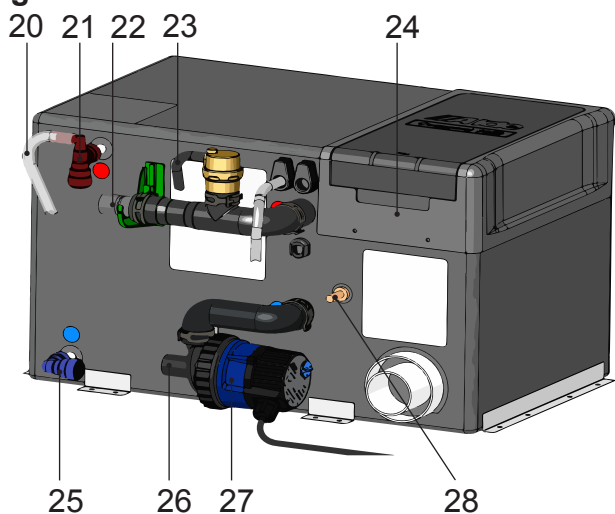


Figure I

Closed



Open

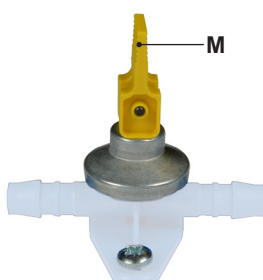
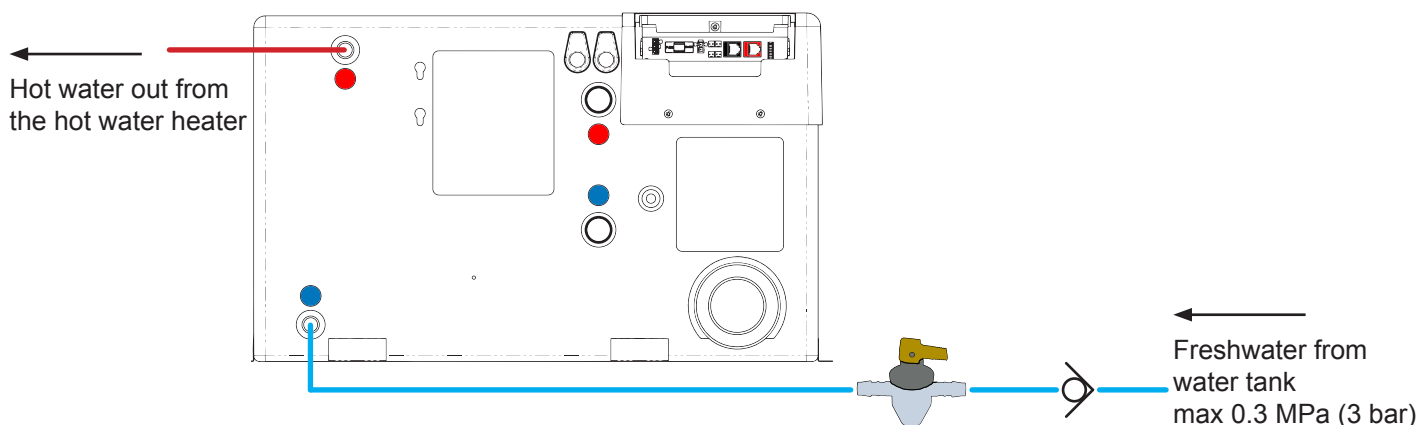


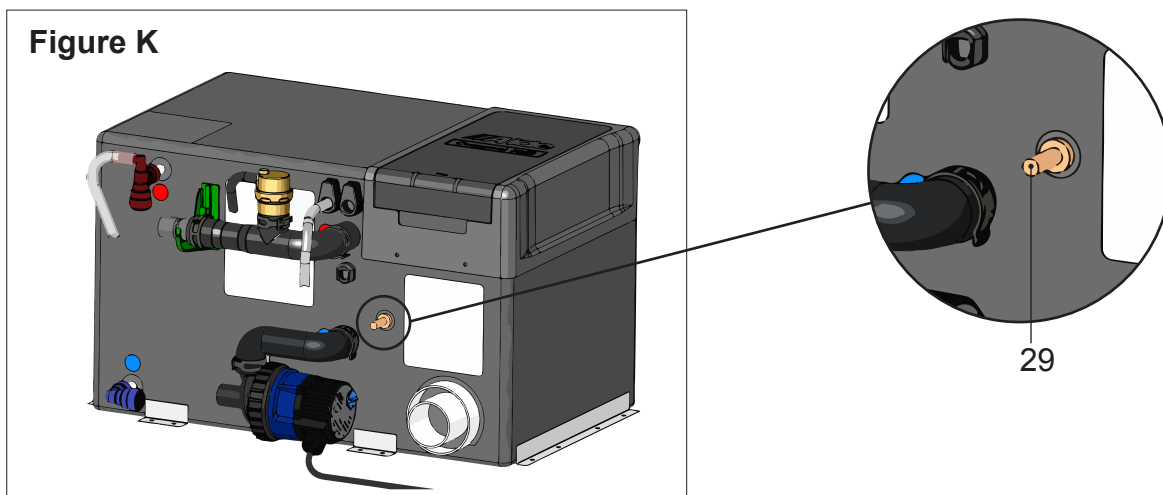
Figure J



5:11 LPG CONNECTION

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

Figure K



NOTICE

Current national regulations must be adhered to when installing LPG system.

NOTICE

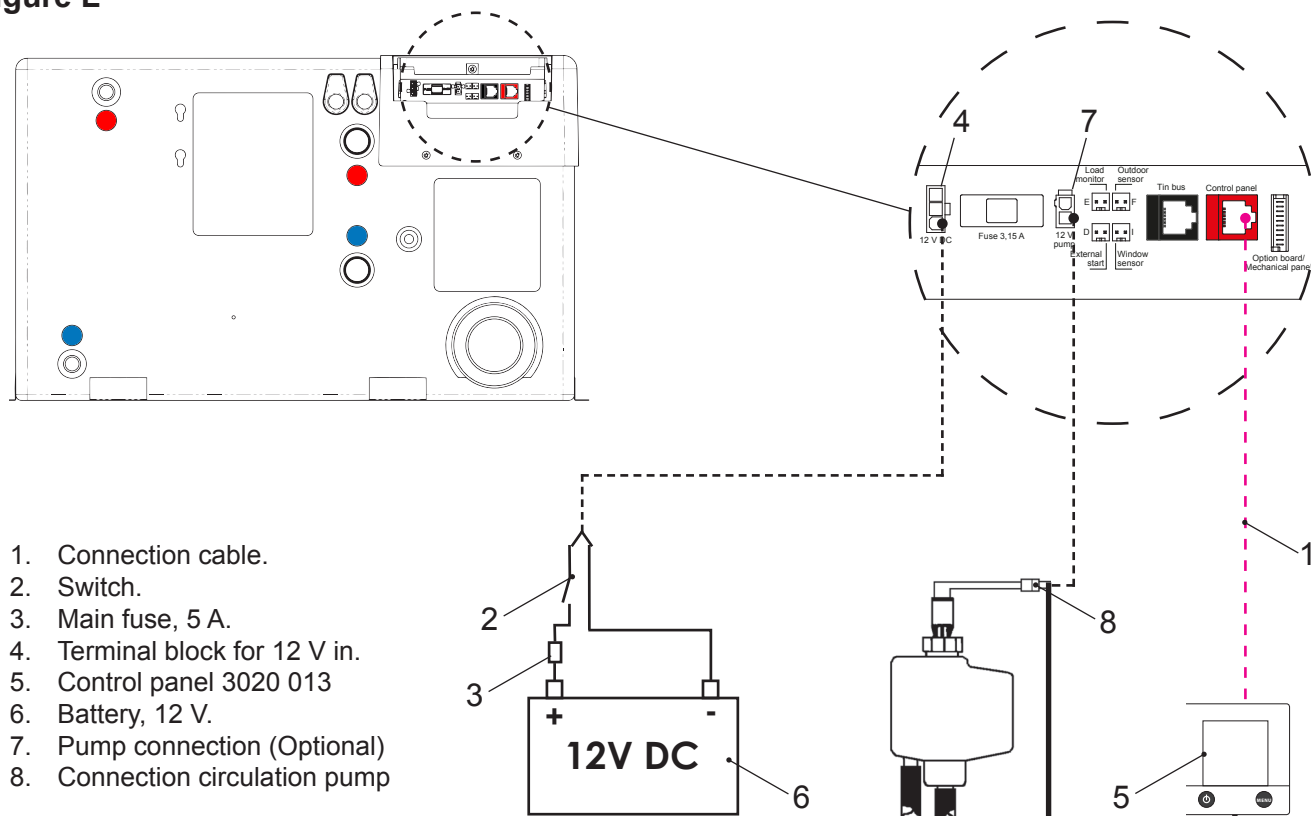
Prior to LPG operation, an installation inspection of the installation must be done, please consult the section, Installation checks.

- The LPG installation to the boiler has to be executed using 8 mm copper or steel pipe, and be connected to the boiler's gas pipe with a compression coupling. When routing pipes, bear in mind that all joints/couplings have to be easily accessible and it has to be possible to disassemble the boiler for servicing.
- The LPG connection to the boiler must have a separate shut-off tap that is easily accessible.
- The boiler must be connected to an LPG cylinder with a type-approved reducing valve with a pressure of 30 mbar.

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

5:12 ELECTRICAL CONNECTION

Figure L



12 VOLTS DC

Connect the cable (Figure L 1) between the control panel and the LPG boiler, the cable must not be extended. Only use original Alde cables; these are available in various lengths.

CAUTION

Do not connect the 12V source to the heating system before the heating system is filled with glycol mixture.

NOTICE

Do not clamp or bind 12V cables or sensor cables together with 230V cables. The cables should preferably not be placed close to each other. If the cables are bundled, the risk of malfunction increases.

- The 12-volt supply to the boiler must be routed directly from the battery via the vehicle's main switch (Figure L 2) or a separate switch (the boiler draws about 70 mA when it is in standby or switched off).
- A 5A fuse (Figure L 3) must be fitted close to the battery. The positive and negative cable between the battery and the boiler must have a cross-sectional area 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). For longer cables, the area must 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 any circulation pump in the expansion tank must be made using a two-core cable of at least 0.5 mm² cross-sectional area (max length, 6 m). For longer cables, 0.75 mm² area. Fit the cable to the two-pole contact and connect to the boiler's contact (Figure L 7) and to the circulation pump's contact (Figure L 8).

NOTICE

There must not be any voltage spikes or losses in the 12 V supply to the Alde Compact 3020 HE.

NOTICE

To protect against malfunction only use original Alde cables, shielded cable for EMC.

230-240 VOLTS AC

- The boiler must be connected permanently to a 230 VAC supply and be protected with a 10 A fuse for a 2 kW
- Immersion heater and a 16 A fuse for a 3 kW immersion heater.

WARNING ELECTRICAL SHOCK HAZARD

The boiler must be connected to protective earth.

- 230 VAC must be well separated from 12 V.
- 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 carried out by a qualified person according to current national regulations.
- Only original connection cable from Alde should be used.

5:13 FILLING THE HEATING SYSTEM

The heating system must be filled with a fluid mixture consisting of distilled 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% distilled water, or water that is free of salts, and 40% ethylene glycol. If the heating system will be exposed to temperatures below -25°C, the ethylene glycol content has to be increased, however, do not exceed 50%. The ethylene glycol mixture has to be changed every other year, since properties such as corrosion protection, deteriorate over time. If Alde Premium Antifreeze is used, the interval for changing the mixture can be extended to max 5 years under normal operating conditions.

The ethylene glycol system is topped up in the expansion tank. Either manually or using Alde filling pump, which both fills and vents the system. During manual filling, pour the ethylene glycol mixture slowly into the expansion tank. When the heating system is cold, the level should be approx. 1 cm above the MIN line.

Bleed the system. Top up with more fluid if the level falls during bleeding. In newly filled heating systems, bleed at regular intervals.

5:14 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.

Bleed as follows:

1. The boiler has to be switched off.
2. If a bleed screw is fitted to the outgoing pipe of the boiler, open this bleed screw and leave it open until fluid starts coming out. Then, go to point 4.
3. If the boiler is equipped with an automatic air vent, bleeding the boiler takes place automatically. Start the boiler and circulate the fluid in the system until it is vented, top-up with fluid, if needed, according to point 5. If this doesn't help, switch off the boiler and go to point 4.
4. Open the other bleed screws in the system, one by one. Leave the bleed screws open until ethylene glycol fluid starts coming out of them, and then close them.
5. Check the fluid level. Top-up if the level has fallen during venting, the fluid level in the expansion tank has to be approx. 1 cm above the min line in a cold heating system.
6. Start the boiler and let it run for a while. Feel if the pipes and radiators are heating up around the vehicle. If this does not help, use an Alde filling pump..

NOTICE

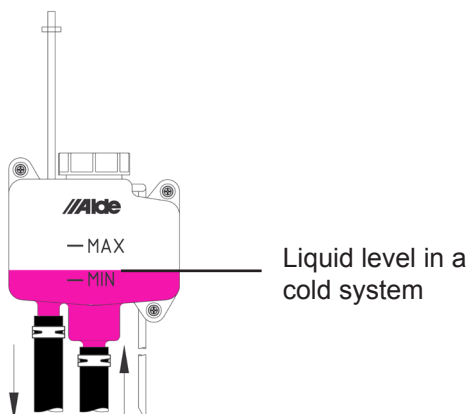
- Be sure that the heating system has been thoroughly bled. If this is not the case, there may be a risk of overheating.
- Never use full electric or gas capacity before the system has been thoroughly bled. There may be a risk of overheating.

NOTICE

The boiler must not be started if the level of ethylene glycol fluid is too low in the heating system.

NOTICE

Vessels used for handling or mixing the liquid must be spotlessly clean. This is to prevent the growth of bacteria and corrosion in the system.



6. INSTALLATION CHECKS

The LPG system

 WARNING FIRE/EXPLOSION HAZARD

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

- 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.
- Check that the reducing valve is at the right pressure (30 mbar).

The heating system

- Check that all hose clips are fitted and correctly placed.
- The heating system must be checked for leaks when the entire system is visible, i.e. before fitting the furnishings. Checks can be performed in two ways. Either leak detection with 0.75 - 1.0 bar for 15 minutes, maximum 0.05 bar pressure reduction, or fill the system with fluid and perform a visual check. No fluid leak is acceptable.
- Check the glycol fluid level in the expansion tank: the level should be approx. 1 cm above the MIN line when the system is cold. Ensure that the system is properly vented before it is put into operation.
- Check that the circulation pump's speed is set correctly. See section 10 Installation of pumps. If the fluid in the expansion tank gurgles and makes a noise, the pump speed is set too high; lower the speed of the circulation pump.
- Check that the boiler can be started on both gas and electricity.
- Ensure satisfactory heat comfort and circulation in the heating system.

Water system

- Leak test the freshwater system and the boiler. Carefully check that all connections between boiler and water system are watertight.

Miscellaneous

- Check that the bleed and drain hoses on the expansion tank are not blocked.
- Check that the emptying of the freshwater system is working (see section Connection to the freshwater system).
- Check that flue and hoses are in position and that hose clips are fitted and tightened.
- Check that the serial number and installation date have been entered into the boiler's servicing logbook.
- Check that the year on the boiler's rating plate has a cross against it (when installing the boiler or on initial start-up).
- Check that all accessories for the heating system are working, and are set correctly, under "Installed Accessories" in Alde's control panel. For example, booster, under floor heating, engine heating and load monitor.
- If Truma AC is fitted and connected to Alde Compact 3020 HE, check that the AC can be started from Alde's control panel.
- Check the air circulation. Make sure there are no obstructions preventing air circulation (convection). In order to exploit the water-borne heating 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 block the air supply to the convectors. It is equally important that cushions and blankets do not obstruct and prevent the flow of air behind backrests.

7. THE FIRST TIME THE HEATING SYSTEM IS STARTED.

- Start the boiler according to section 3 in the operating instructions for the Alde Compact 3020 HE.
- Select language, this appears when the panel is started for the first time, see section 2:11 point 22 in the operating instructions for the Alde Compact 3020 HE.
- Check that the right accessories are ticked off in the list of installed functions, see section "2:15 Activation of installed functions" in the operating instructions for the Alde Compact 3020 HE.
- Set the clock, see section 2:11 point 4 in the operating instructions for the Alde Compact 3020 HE.
- Set the desired operating mode (gas and/or electric) and the desired interior temperature, see sections 2:4, 2:5 and 2:6 in the operating instructions for the Alde Compact 3020 HE.
The LPG boiler and immersion heaters can be operated simultaneously, **but this should be avoided in newly filled systems, risk for overheating.**

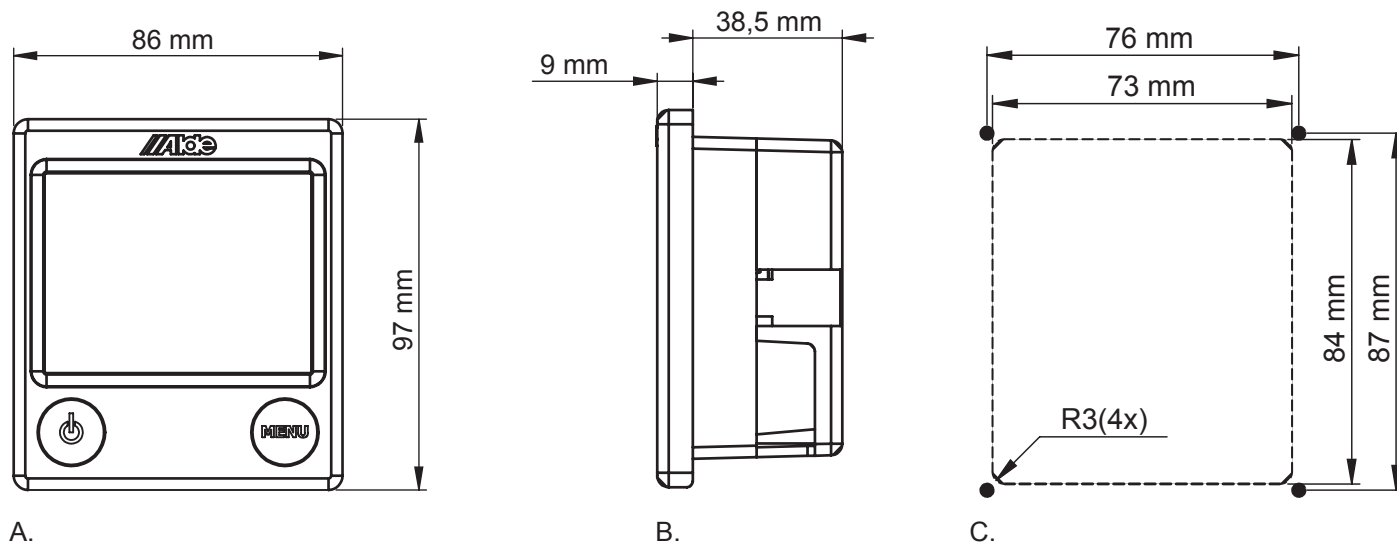
8. INSTALLATION INSTRUCTIONS – CONTROL PANEL 3020 013

Control panel 3020 013 is intended for the Alde Compact 3020 HE boiler.

The control panel should be located at least one metre above the floor, but not too close to the ceiling. Nor should it be located on an outer wall or close to items which radiate heat, such as a CD player, refrigerator or lamps, as this may result in incorrect temperatures. The space behind the panel should be well ventilated. If the room thermostat on the panel is still affected, an external sensor should be connected to the panel.

Make a hole for the control panel as shown in Figure C. Screw the control panel securely in place and push the front cover into position. Secure the cable with clamps to prevent any strain on the terminal strip of the panel.

Make a hole for the panel as shown in figure C. Screw the panel into place and press the front cover onto it. Use clips to attach the cables to avoid wear on the terminal strip of the panel.



NOTICE

If the room temperature on the panel is affected negatively by any appliance, an external sensor (Art. no. 3010 346) should be connected to the panel.

8:1 CABLE CONNECTION COMPACT 3020 HE AND CONTROL PANEL

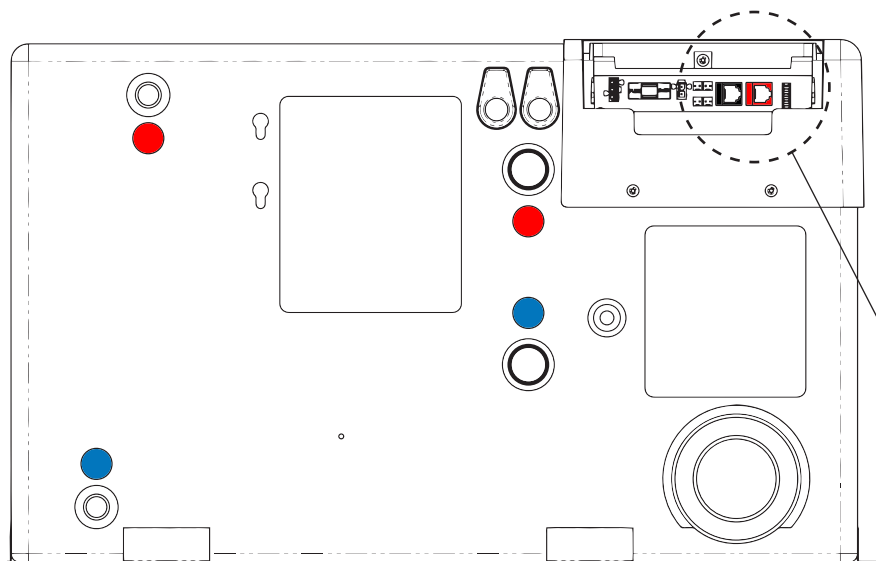
- Connect the boiler and control panel as shown in the diagram below.

NOTICE

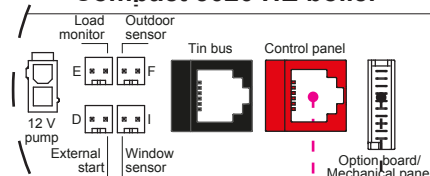
Do not clamp or bind 12V cables or sensor cables together with 230V cables. The cables should preferably not be placed close to each other. If the cables are bundled, the risk of malfunction increases.

NOTICE

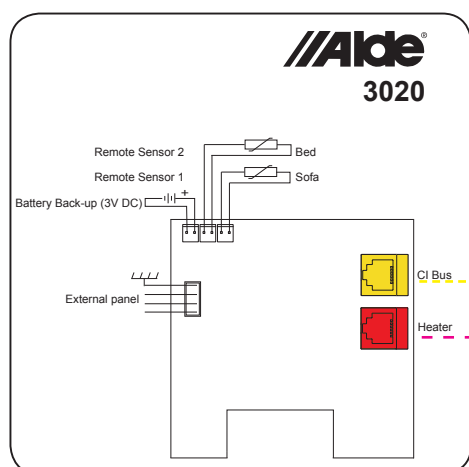
To protect against malfunction only use original Alde cables, shielded cable for EMC.



Circuit board on Compact 3020 HE boiler



Control panel rear



CI Bus connection



Mechanical panel 3010 214

9. CABLE CONNECTION COMPACT 3020 HE AND OPTION BOARD (accessory)

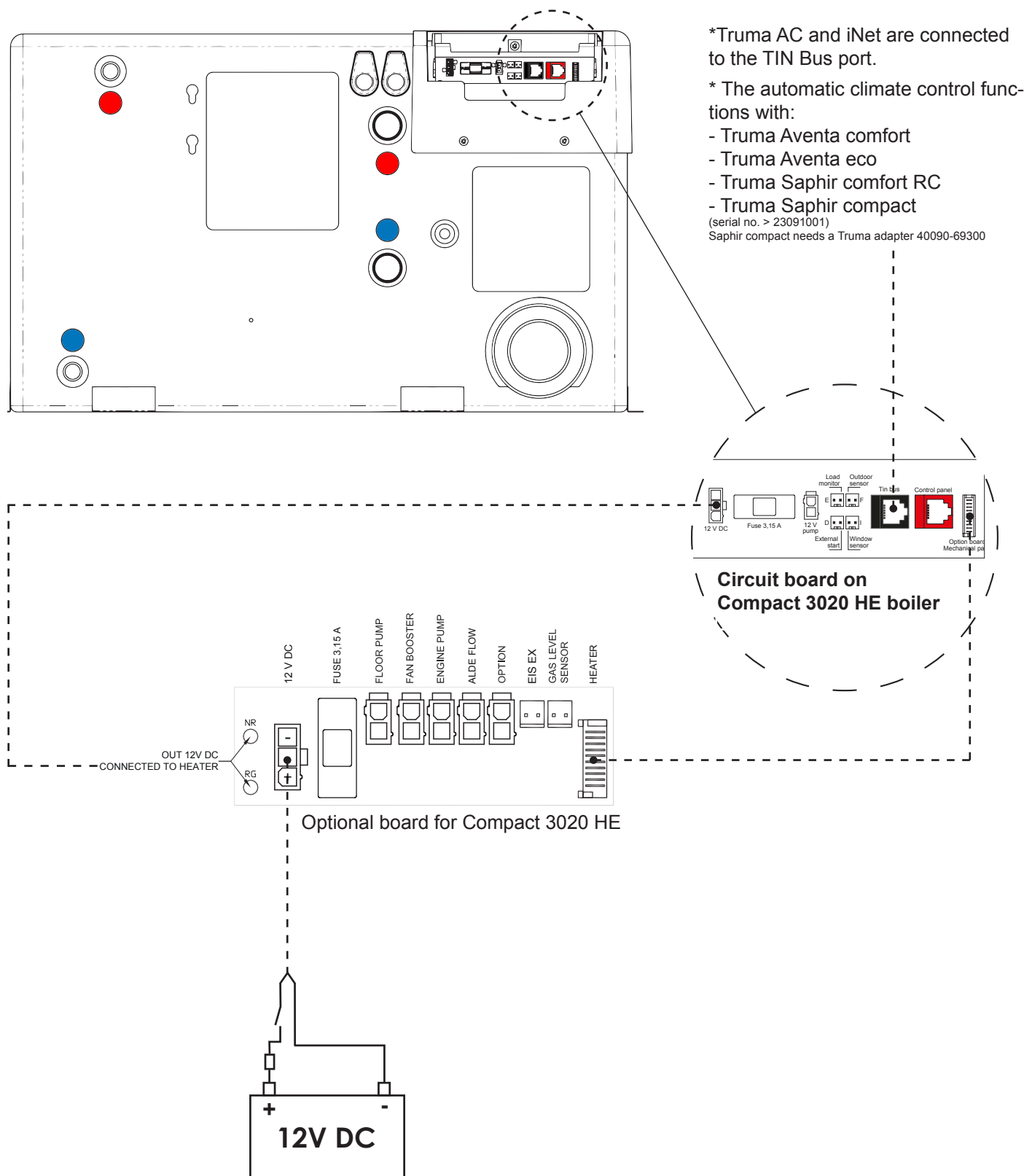
Connect accessories to the boiler as shown in the diagram below.

NOTICE

Do not clamp or bind 12V cables or sensor cables together with 230V cables. The cables should preferably not be placed close to each other. If the cables are bundled, the risk of malfunction increases.

NOTICE

To protect against malfunction only use original Alde cables, shielded cable for EMC.

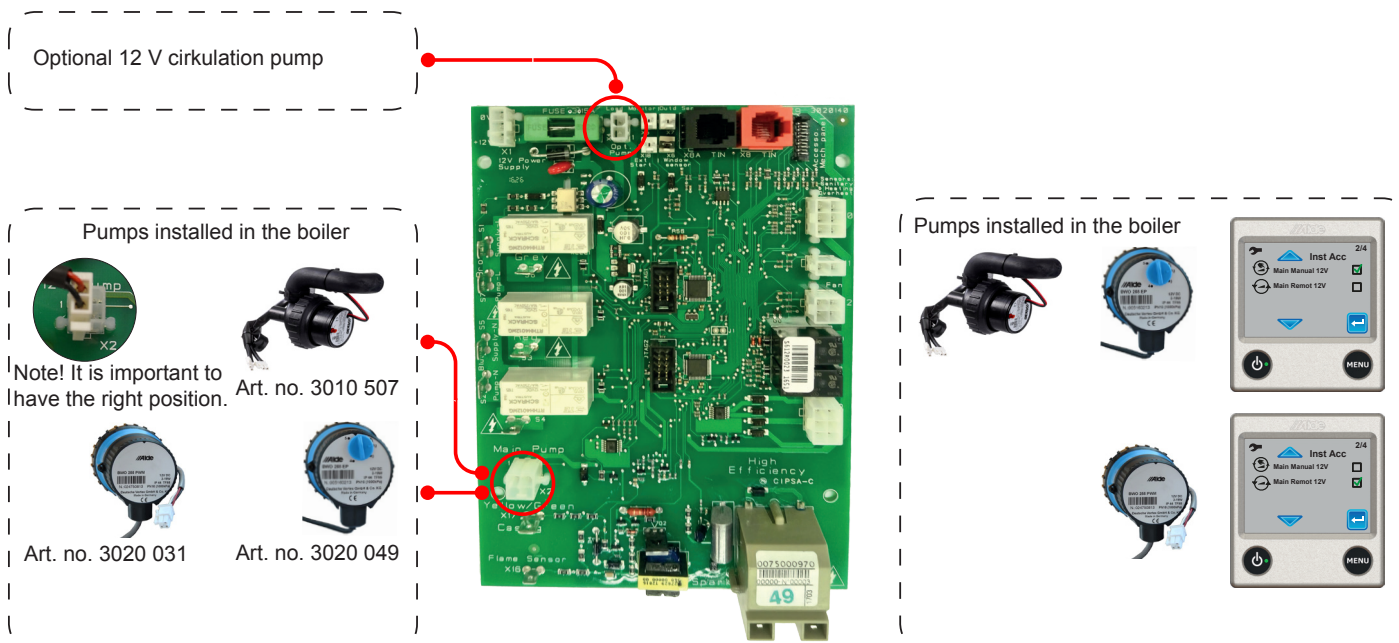


10. INSTALLATION OF PUMPS

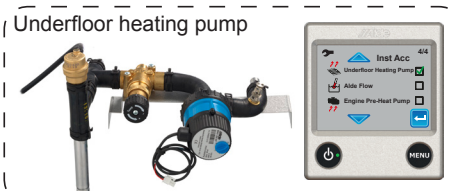
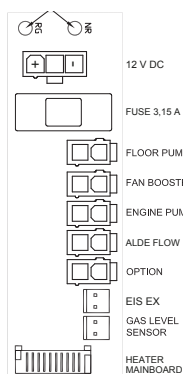
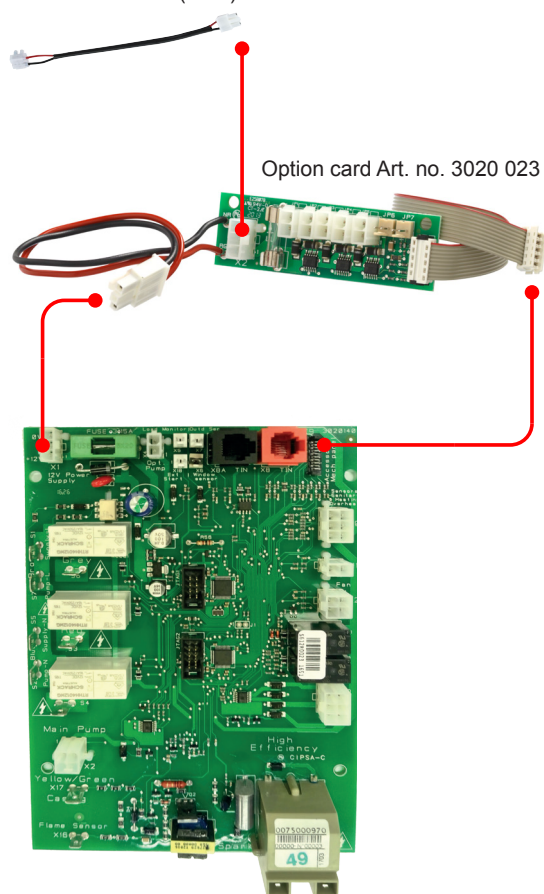
THERE ARE THREE TYPES OF CIRCULATION PUMPS:

- **12 V pump**, the pump's capacity is continuously adjustable using a knob on the rear of the pump (1-5); normal mode is 2, which works in most cases. Mounted on the boiler.
- **PWM controlled 12 V pump**, this is a speed controlled pump that can be set to one of five different modes (Level 1-5) via the panel; normal mode is 2, which works in most cases. Mounted on the boiler.
- **Optional 12 V pump**, usually placed in the expansion tank. Not speed controlled.

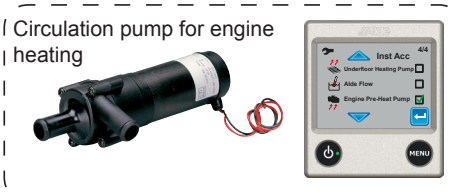
Check the right box in the Installed Accessories menu to select the different types of circulation pump, see below. For more information about Installed Accessories, see section "11. Activation of installed functions"



Connection cable (12 V) Art. no. 3010 201



Connection cable Art. no. 3010 209



Connection cable Art. no. 3010 209



11. ACTIVATION OF INSTALLED FUNCTIONS

The first time you use the heating system, check that the right accessories/functions are activated. This also applies when you supplement the heating system with accessories/functions. Activate accessories/functions by pressing on Installed Accessories, (see figure 1) and checking the box for the function/accessory in question to activate (see figure 2 to 5).

Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



The relevant box must be checked if you have:

	Connected an external panel or Alde Smart Control (part no. 3020 057).		Connected a gas bottle changer (DuoComfort or DuoControl).
	Connected a load monitor.		Connected a defroster (EisEx).
	Connected a 12 V pump that can be variably adjusted manually.		Connected a 12 V pump to the underfloor heating.
	Connected a PWM controlled 12 V pump that has variable speed control and is set from the panel.		Connected an additional hot water tank to increase the hot water capacity and also obtain continuous hot water (part no. 3020 160).
	Connected a booster.		Connected a 12 V pump for heating the vehicle's engine through the Alde heating system.

12. TROUBLESHOOTING

Always start by checking any error messages.

If a fault occurs in the system, the cause will be shown on the display. This is only displayed when the control panel is in standby mode.

The boiler does not start on gas (Gas Failure)

NOTICE

If the heating system has not been operated for some time, or if the gas cylinder has been changed, it may take longer than normal to light the boiler.

- No LPG?
- Is the main tap fully open?
- Check that the type of LPG used is suitable for the prevailing outdoor temperature. Use of butane is unsuitable at temperatures lower than +10°C. Use propane instead!
- Check that the fuse for the boiler has not tripped.
- Check that power at 12 V is being supplied to the boiler (> 11 V); the current voltage can be read off from the service menu.
- Check that the exhaust hose is secured properly between the boiler and flue and that it is not damaged or blocked with dirt, condensation or water. The exhaust hose consists of two hoses, an inner one and an outer one.
- Check there is nothing obstructing/blocking the path of the exhaust gases at the flue.
- Check for correct gas pressure. This can be done by starting all hobs on the gas cooker and then starting the boiler on gas operation. If there is a reduction in flame on the cooker, the gas pressure is incorrect.
- 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. Try to restart the boiler.
- If this does not help, contact Alde.

The electrical heater is not working satisfactorily

WARNING SHOCK HAZARD

The 230V electrical service presents a risk of electrical shock. Do not attempt to service the electric heating element yourself.

- Check that the fuse for the boiler has not tripped.
- Check that there is a 12 V supply to the boiler (> 11 V); the current voltage can be read off from the service menu.
- Check that 230 V really is being supplied to the boiler. Long and/or flimsy connection cables result in greater voltage drop and the voltage is sometimes lower under certain conditions.
- Check that the power level selected on the panel is high enough, see section "2:6 Heating with electricity" in the operating instructions for the Alde Compact 3020 HE.
- Check that the load monitor* (where present) has been correctly installed.
- If this does not help, contact Alde.

Poor heat or none at all (circulation in the heating system)

- Check that the symbol for the circulation pump is visible in the standby menu when heating is required, see section 4.
- Check that the circulation pump is working.
- Check that the correct circulation pump is activated, see section "11. Activation of installed functions".
- Check that the heating system has been bled.

*ACC not working satisfactorily

- Ensure that the temperature sensor that is used reacts effectively to the room temperature for both heating and cooling. To increase sensitivity of the sensor, a more open temperature sensor can be used (Part No. 3010 638). If the AC does not provide cooling due to low outdoor temperature, the outdoor sensor can be temporarily disconnected to test the AC.

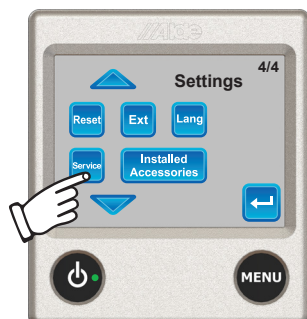
With an outside temperature sensor (Part No. 3010 299) fitted, the ACC function is improved: if the outdoor temperature is too low, the AC should not run at all.

13. SERVICE MENU & RESET

• SERVICE MENU

The Service menu is accessed by pressing Service (see figure A) The function shows the readings from the heating system on the screen (figure B to D). The readings are updated once a second.

A.



B.



C.



D.



• RESET

The panel can be reset to its factory settings by pressing Reset. After resetting, the panel will be set as follows:

Boiler – Off mode

Electrical operation – 1 kW

LPG heating – On mode

Interior temperature – 22 °C

Hot water – In normal mode

Other functions are switched off.

The functions that are checked under Installed functions (see 11) will not be affected by Reset.



14. FAULT MESSAGES

Low battery: If the vehicle has a battery voltage of less than 10.8 V, the boiler will stop. This is reset automatically once the voltage reaches 11 V. If the voltage becomes lower, various error messages may also occur. These are not genuine faults. Ensure that the boiler has the right voltage.

Fan restarts: Incorrect fan speed. New start attempt is made. Repeated faults results in Fan failure. If Fan failure recurs after resetting, contact a dealer. If Fan restarts is displayed, no action is necessary.

Gas failure: The boiler has not managed to ignite the LPG flame. Ensure that gas is available.

Overheat red fail: Overheat protection (red cable) tripped. This fault can arise if the boiler is run at high power at the same time as there are air pockets in the heating system, the heating system should then be bled properly. If the fault remains, contact a dealer. Also check that the fluid level in the expansion tank is at least 1 cm above the min line when cool.

Overheat blue fail: Overheat protection (blue cable) tripped.

Overheat PCB: The boiler's circuit board has overheat protection. If this gets too hot, the protection is tripped. Allow the boiler to cool down before resetting.

***Window open:** A window is open and the boiler stops running on gas. Gas operation of the boiler will restart once the window is closed. Electrical operation continues to function.

Heater not found: There is a connection fault between the boiler and the control panel. Most probably a problem with the heater's circuit board.

3rd party C. fail: Communication fault between Alde's panel and Alde Smart Control*.

Panel failure: Fault on the panel. May be caused by excessive moisture.

No match Heater/Panel: The circuit board in the boiler is not intended for the Alde Compact 3020 HE and will not work with the 3020 HE panel.

Red connection fail: Problem with the red cable or red ports. There is no communication with the Alde 3020 heater, AC or iNet.

Yellow connection fail: Problem with the cable between the Alde panel and the CI master panel or its ports.



iNet connection fail: Cannot find the INet box. Probably a problem with iNet. In the event of "iNet connection fail", this button is displayed. Pressing the button will remove the error.

To reset some of the errors and restart, switch off the boiler from the panel, disconnect 230 V to the vehicle and disconnect 12 V from the boiler.



15. WARRANTY

Alde International Systems AB (the “Company”) warrants solely to the direct purchaser of the Product (the “Original Owner”) and subject to the below mentioned conditions during the Warranty Period (as defined below), that the Alde Compact 3020 HE boiler (the “Product”) will conform to the Company’s published specifications and will be free of defects in materials or workmanship under normal and intended use. The Company shall be allowed to retain its right to deviate from its published specifications due to the latest innovations of the Product.

This warranty extends to the Original Owner of the Product and is subject to the following conditions:

1. The Product is designed for the sole use in recreational vehicles for the purpose of heating radiators and water as explained in detail in the operating instructions.
2. The Company’s liability hereunder is limited to the replacement or the repair of the Product in whole or in part in the Company’s sole discretion.
3. The foregoing warranty is subject to the proper storage, transportation and use of the Product, and does not include defects due to normal wear and tear or deterioration.
4. The following items are further classified as normal maintenance and are not subject to this warranty:
 - a. adjustment of the gas pressure;
 - b. cleaning or replacement of the burner orifice;
 - c. cleaning or adjustment of the combustion fan;
 - d. cleaning or adjustment of the gas valve;
 - e. bleeding the system due to air pockets in the system;
 - f. adjustment of the pressure relief valve; and
 - g. change of glycol.
5. The Company does not warrant if the Product has been damaged or destructed by accident or intent, misapplication, unreasonable use or misuse (including but not limited to the failure to seek proper repair services, neglect to maintain the Product properly or neglect to read any of the safety warnings and notices listed in the operating instructions, tampering with the Product, incorrect instalment of the Product in violation of the operating instructions and/or applicable laws, regulations, and local/state/provincial codes), alterations or any other use of the Product without the prior written consent of the Company, acts of God or other causes not arising from defects in materials or workmanship.
6. The Original Owner shall not attempt to repair or replace the Product without the prior written consent of the Company. Any attempt by the Original Owner to repair or replace the Product without the prior written consent of the Company will void this warranty.
7. The Original Owner shall immediately, but in any event no later than five (5) days following delivery of the Product, inspect the Product for conformity and visible defects. The Original Owner shall give the Company immediate written notice of any nonconformists or visible defects regarding the Product. In the event that the Original Owner fails to provide the Company within five (5) days following delivery of the Product with notice of any nonconformists or visible defects, any warranty claims in this regard shall be deemed waived.
8. The “Warranty Period” begins on the date of delivery of the Products to the Original Owner, and continues to be in effect for two (2) years. The “Warranty Period” shall be suspended for the time of repair, or replacement until the repaired or replaced product has been returned to the Original Owner. The Company’s sole obligation under the foregoing warranty is, at the Company’s option and in its sole discretion, to replace or repair the defective Product in whole or in part. The Company will repair the water tank in its entirety if the inner tank of the built-in water heater leaks due to corrosion. This warranty includes all reasonable labour charges. Mere service calls to the Original Owner’s location, however, are not considered part of these charges and are, therefore, the sole responsibility of the Original Owner.

Notwithstanding the foregoing, the warranty period on replacement parts (or replacement of the boiler in its entirety) is the unused portion of the Warranty Period or ninety (90) days, whichever is greater.

The Company does not authorize any person or party to assume or create for it any other obligation or liability in connection with the Product except as set forth herein.

9. In the event of a warranty claim, the Original Owner shall immediately notify the Company in writing of any defects of the Product.
10. Any notices or requests should be directed to:

Alde International Systems AB
Box 11066 • S-291 11 Färlöv • Sweden
Tel: +46 (0)44 712 70
info@alde.se • www.alde.se

The Original Owner shall include its name, address, phone number, warranty registration number (if known), the date of the original shipment, and a description of the claimed defect along with the date the defect was discovered.

The Company will provide notification of any additional information and physical evidence that may be required to process the Original Owner's claim.

Any replaced or repaired Product shall be subject to this warranty, following their replacement or repair.

If the Company has received written notification from the Original Owner, and no defects of the Product could be discovered, the Original Owner shall bear the costs that the Company incurred as a result of the notice. It shall be in the Company's sole discretion to determine if the Product has a defect.

11. Any warranty claim service must be performed directly at an authorized Company Service Center (a list will be provided at no charge).
12. In the event of a Product repair, the defective Product part shall become the sole property of the Company. In the event of a Product replacement in whole or in part, the whole Product or Product part, respectively shall become the sole property of the Company.
13. THE WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES (WHETHER EXPRESS OR IMPLIED), RIGHTS OR CONDITIONS, AND THE ORIGINAL OWNER ACKNOWLEDGES THAT EXCEPT FOR SUCH LIMITED WARRANTY, THE PRODUCTS ARE PROVIDED "AS IS." THE COMPANY SPECIFICALLY DISCLAIMS, WITHOUT LIMITATION, ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF ANY KIND, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, AND THOSE WARRANTIES ARISING FROM A COURSE OF PERFORMANCE, A COURSE OF DEALING OR TRADE USAGE.
14. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR ANY INDIRECT, INCIDENTAL, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO DAMAGES FOR LOSS OF PROFITS, REVENUE, GOODWILL OR USE, INCURRED BY THE ORIGINAL OWNER OR ANY THIRD PARTY, WHETHER IN AN ACTION IN AGREEMENT, TORT, STRICT LIABILITY, OR IMPOSED BY STATUTE, OR OTHERWISE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. COMPANY'S LIABILITY FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PRODUCTS. IT IS AGREED AND ACKNOWLEDGED THAT THE PROVISIONS OF THIS AGREEMENT ALLOCATE THE RISKS BETWEEN THE COMPANY AND THE ORIGINAL OWNER, THAT THE COMPANY'S PRICING REFLECTS THIS ALLOCATION OF RISK, AND BUT FOR THIS ALLOCATION AND LIMITATION OF LIABILITY, THE COMPANY WOULD NOT HAVE ENTERED INTO THIS AGREEMENT.

IN JURISDICTIONS THAT LIMIT THE SCOPE OF OR PRECLUDE LIMITATIONS OR EXCLUSION OF REMEDIES OR DAMAGES, OR OF LIABILITY, SUCH AS LIABILITY FOR GROSS NEGLIGENCE OR WILFUL MISCONDUCT OR DO NOT ALLOW IMPLIED WARRANTIES TO BE EXCLUDED, THE LIMITATION OR EXCLUSION OF WARRANTIES, REMEDIES, DAMAGES OR LIABILITY SET FORTH ABOVE ARE INTENDED TO APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW. THE ORIGINAL OWNER MAY ALSO HAVE OTHER RIGHTS THAT VARY BY STATE, COUNTRY OR OTHER JURISDICTION.

16. HEALTH DECLARATION

EU Health Declaration

We

Company name:	Alde International System AB
Postal address:	Wrangels Allé 90
Postcode and city:	291 75 Färlöv
Telephone number:	+46 (0)44 71270
E-mail adress:	info@alde.se

declare that there is no risk of pollution towards environment with the materials used in the following appliance:

Apparatus model/product:	Compact 3020 HE
Type:	Gas-fired Vehicle Heater
Serial number:	At data plate

The selected materials are appropriate for the specific use according to current state of the art. The materials listed below does not create harmful substances for the environment and follow the recommendations in the directives below.

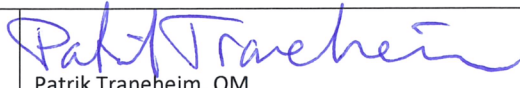
Directive

Materials in contact with food EC 1935/2004
Drinking water directive 98/83/EC
Construction Products Regulation(EU) 305/2011

The following standards and technical specifications have been applied:

Name/Number	Content	Used in
EN 1.4521	Ferritic Steel; Cr 18%; Mo2,5%	Water storage
Ultraform N2320 FC Aqua UN	Polyacetal	Plastic housing/pipe Water connection
EPDM	EPDM	Water connection-sealing
EN AW 6063	99% Al Mg 0,7% Si	Combustion chamber
EN-AB 44 300; SS 4263	EN AB-Al Si12 (Fe)	Burner housing
OHLER FLEXROHR®	Aluminium foil 6 layers	Convey combustion product

Signed for and on behalf of:

Färlöv	2017/10/25	 Patrik Traneheim, QM
Place of issue	Date of issue	Name, function, signature

17. DECLARATION OF CONFORMITY

EU Declaration of Conformity (DoC)

We

<i>Company name:</i>	Alde International System AB
<i>Postal address:</i>	Wrangels Allé 90
<i>Postcode and city:</i>	291 75 Färlöv
<i>Telephone number:</i>	+46 (0)44 71270
<i>E-mail adress:</i>	info@alde.se

declare that the declaration of conformity is issued under our sole responsibility and belongs to the following appliance:

<i>Apparatus model/product:</i>	Compact 3020 HE
<i>Type:</i>	Gas-fired Vehicle Heater
<i>Serial number:</i>	At data plate

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Regulation of Appliance burning gaseous fuels (EU) 2016/426
EMC directive 2014/30/EU, Low voltage directive 2014/35/EU
UNECE R10 EMC for vehicles, UNECE R122 approval of vehicles with regard to their heating system

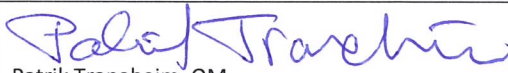
The following harmonised standards and technical specifications have been applied:

<i>Number</i>	<i>Title</i>	<i>Year</i>
SS-EN 624	Specification for dedicated LPG appliances- Room sealed LPG space heating equipment for installation in vehicles and boats	2011
SS-EN 298	Automatic burner control systems for burners and appliances burning gaseous or liquid fuels	2012
EN 61000-6-1:2007	Electromagnetic compatibility (EMC) Generic standards- Immunity for residential, commercial and light-industrial environments	2007
EN 61000-6-3	Electromagnetic compatibility (EMC) Generic standards- Emission standard for residential, commercial and light-industrial environments	2007+ A1:2011
EN 60335-1	Household and similar electrical appliances-Safety-Part 1 General requirements	2012+ A11:2014+ AC1:2014
EN 60335-2-21	Household and similar electrical appliances-Safety-Part 2-21 Particular requirements for storage water heaters	2003 + A1:2005

Notified body:

<i>Guarantee of-production quality</i>	
<i>Name of Notified body:</i>	DBI-Certification A/S
<i>4 digit notified body number:</i>	2531
<i>Certificate number:</i>	2531-GAR-CGA10323-17

Signed for and on behalf of:

Färlöv	2017/12/20	 Patrik Traneheim, QM,
<i>Place of issue</i>	<i>Date of issue</i>	<i>Name, function, signature</i>



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