

ATLOSON

THERMAL SYSTEMS

VATIRO T2000

INSTALLATION AND OPERATION MANUAL

OPERATION | MAINTENANCE | PARTS



HEAT DRIVES
POSSIBILITIES

01 Identification, safety and use

This manual accompanies model VATIRO T2000. Record SKU, serial number, voltage, fuel and revision before installation. Accessories, functions and protective devices depend on the supplied variant.

Cabin heating for vans, work trucks, recreational vehicles and mobile equipment. Select according to insulation, climate, volume and air exchange.

SKU	Fuel	Voltage
ATL-VAT-ER20-D12	Diesel	12V
ATL-VAT-ER20-G12	Gasoline	12V
ATL-VAT-ER20-D24	Diesel	24V
ATL-VAT-ER2000-D12	Diesel	12V
ATL-VAT-ER2000-G12	Gasoline	12V

Carbon monoxide: combustion gases must remain outside occupied spaces. Do not operate in a garage or other enclosed location. Keep intakes and flue outlets clear, especially after snow, mud or travel.

Fuel smell, abnormal smoke, leakage or a CO alarm: stop use, move occupants away and have the installation inspected. Do not restart to conceal a fault. Contact emergency services if there is immediate danger.

Fire and burns: keep combustible materials away from the appliance, hot ducts and exhaust. Do not use the service compartment for storage. Allow cooling before inspection and keep children away from hot surfaces.

Power: use the nameplate voltage. Never increase a fuse rating or bypass protection. For a normal stop, allow the controlled cooling cycle to finish before disconnecting power.

Stop before refuelling. Fuel, combustion, gas and mains work require a qualified professional. Install and maintain a CO detector suitable for the application according to its own instructions.

Air heating: cabin air passes through the heat exchanger and returns warm; it must remain separate from exhaust. Confirm duct size, length and resistance, return air, grilles and outlet protection. Do not close all outlets. No domestic-water circuit is documented for this family.

02 Variant specifications

Common specification	Value
Heat output class	2 kW

Differences between variants

Specification	SKU	Value
Fuel	ATL-VAT-ER20-D12 / ATL-VAT-ER20-D24 / ATL-VAT-ER2000-D12	Diesel
Fuel	ATL-VAT-ER20-G12 / ATL-VAT-ER2000-G12	Gasoline
Operating voltage	ATL-VAT-ER20-D12	12 V DC (10.5-16 V operating range)
Operating voltage	ATL-VAT-ER20-G12 / ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	12 V DC
Operating voltage	ATL-VAT-ER20-D24	24 V DC
Heat output	ATL-VAT-ER20-D12	0.9-2.0 kW
Heat output	ATL-VAT-ER20-G12 / ATL-VAT-ER20-D24	Up to 2.0 kW
Heat output	ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	2 kW class

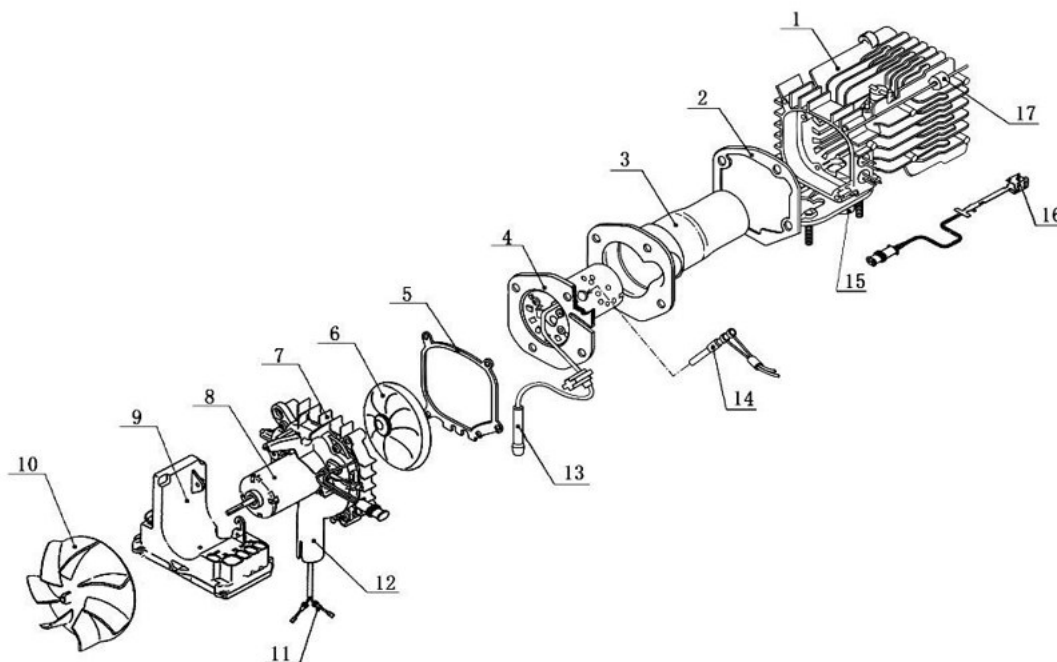
Specification	SKU	Value
Approximate output	ATL-VAT-ER20-D12 / ATL-VAT-ER20-G12	Up to 6,800 BTU/h
Approximate output	ATL-VAT-ER20-D24 / ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	Depending on variant
Fuel consumption	ATL-VAT-ER20-D12	0.12-0.24 L/h
Electrical power during operation	ATL-VAT-ER20-D12	14-29 W
Dimensions	ATL-VAT-ER20-D12 / ATL-VAT-ER20-G12	323 × 120 × 121 mm
Weight	ATL-VAT-ER20-D12 / ATL-VAT-ER20-G12	2.6 kg
Temperature setting	ATL-VAT-ER20-D12 / ATL-VAT-ER20-G12	5-35 °C
Temperature setting	ATL-VAT-ER20-D24 / ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	Depending on variant
Altitude function	ATL-VAT-ER20-D12	Up to 5,000 m (catalogue value)
Altitude function	ATL-VAT-ER20-G12 / ATL-VAT-ER20-D24 / ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	Depending on variant
Architecture	ATL-VAT-ER20-D12 / ATL-VAT-ER20-G12 / ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	Depending on variant
Architecture	ATL-VAT-ER20-D24	Forced-air heating
Controller	ATL-VAT-ER20-D12 / ATL-VAT-ER20-G12 / ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	Depending on variant
Controller	ATL-VAT-ER20-D24	Programmable digital controller
Assembly	ATL-VAT-ER20-D12 / ATL-VAT-ER20-G12 / ATL-VAT-ER20-D24	Depending on variant
Assembly	ATL-VAT-ER2000-D12 / ATL-VAT-ER2000-G12	Unit only

For unpublished values, use the supplied variant's nameplate and data sheet: starting current, fastening torque, pressure, pump flow and protection devices cannot be inferred from power.

03 Recommended applications and output selection

Select according to insulation, outdoor temperature, heated volume and air exchange. For domestic water: water demand, pressure and frost protection. Engine displacement and engine coolant volume are not applicable to this unit.

04 T2000 exploded view



Drawing callouts: identify components before service. A sectional view shows operation; it does not define a disassembly sequence. Check the unit revision before ordering any part.

Item	Component	Reference
1	Heat exchanger	AT1013
2	Burner gasket	AT1025
3	Flame tube	AT1017
4	Burner	AT1018 / AT1019
5	Fan gasket	AT1024
6 / 8	Motor	AT1014 / AT1015
7	Motor support	AT1027
9	ECU	AT1020 / AT1021 / AT1022
10	Impeller	AT1023
14	Glow plug	AT1029 / AT1030
16	Sensor	AT1026

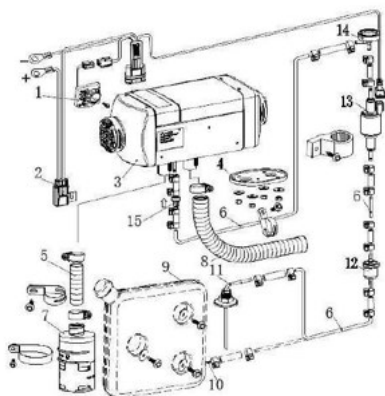
05 Step-by-step installation

STEP 1 - Prepare and secure

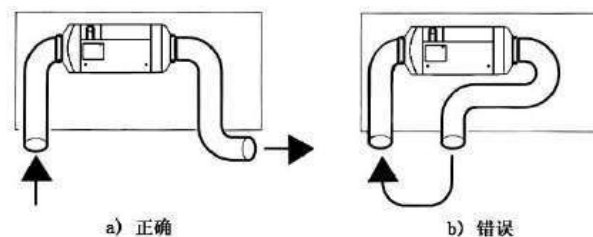
Select a rigid base. Check clearance for ducts and maintenance. Position the supplied gasket and template before drilling. Separate the occupied area from the combustion area.

STEP 2 - Distribute hot air

Provide a clear return-air route. Secure ducts without crushing them and protect outlets from luggage. Avoid direct recirculation from the hot outlet to the inlet.



Mounting and kit components

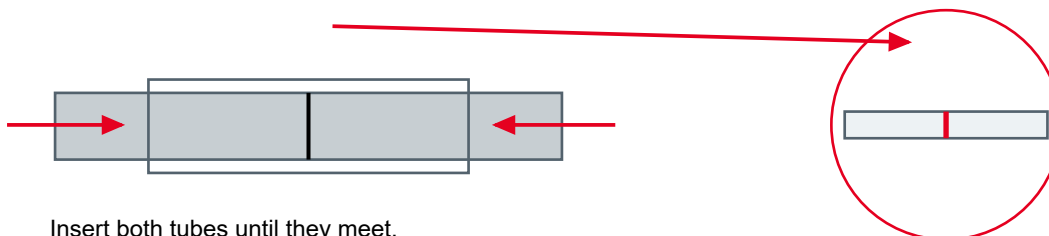


Circulation: correct / incorrect arrangement

STEP 3 - Install the fuel supply

Secure the tank, pickup, filter and pump compatible with the variant. Cut the tube cleanly; insert both ends until they meet inside the connector to avoid bubbles. Keep lines away from hot parts.

ACTION DETAIL - schematic

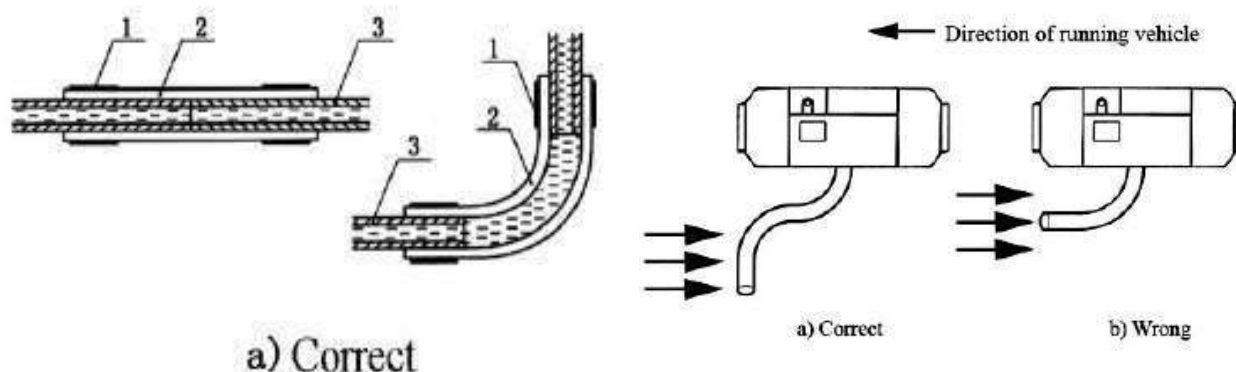


Insert both tubes until they meet.

Detail: no air pocket between tubes.

STEP 4 - Install intake and exhaust

Use the supplied ducts. Secure ends and direct gases outside the vehicle, away from openings. Provide condensate drainage according to installation; no water pockets or contact with a fuel line.



Fuel connection without air pocket

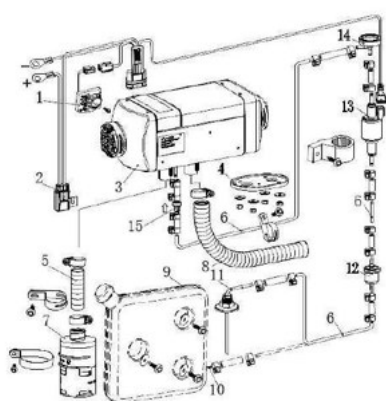
Outlet orientation: correct / incorrect

STEP 5 - Connect and test

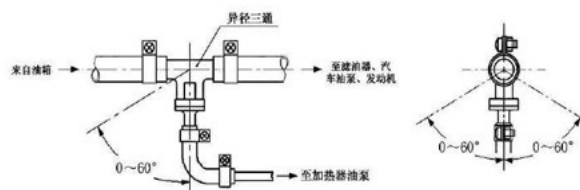
Connect the protected harness and compatible [AT1192](#) controller. Check polarity and voltage under load. Perform ignition, steady operation and complete shutdown; check odors, leaks and overheating.

06 T2000 dimensions and connections

Check point	Value
Nominal dimensions	323 × 120 × 121 mm
Base	Flatness <1 mm; 4 M6 fasteners; torque according to kit
Hot-air duct	Minimum diameter 60 mm; rated for 130 °C
Air pressure drop	0.15 kPa maximum
Combustion ducts	Radius ≥50 mm; total bends ≤270°
Supports	Fuel <50 cm; cables ≤30 cm; last exhaust support ≤150 mm

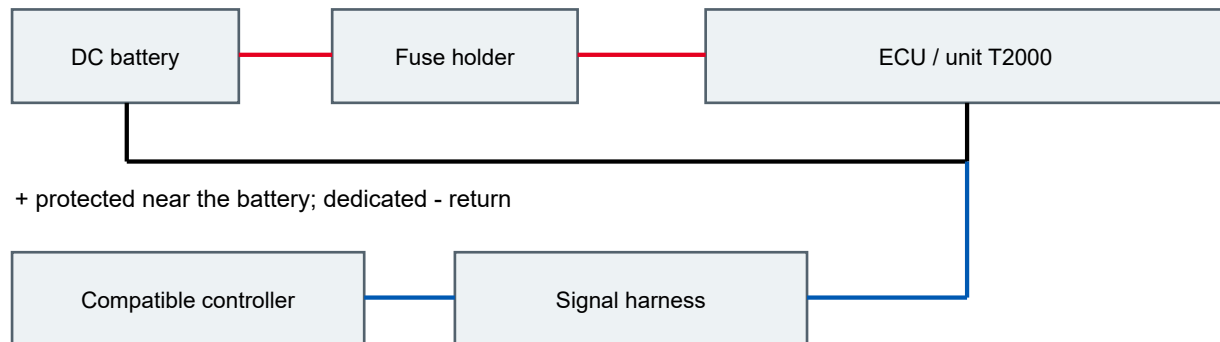


Position the template and gasket before drilling.



Separate combustion intake and exhaust.

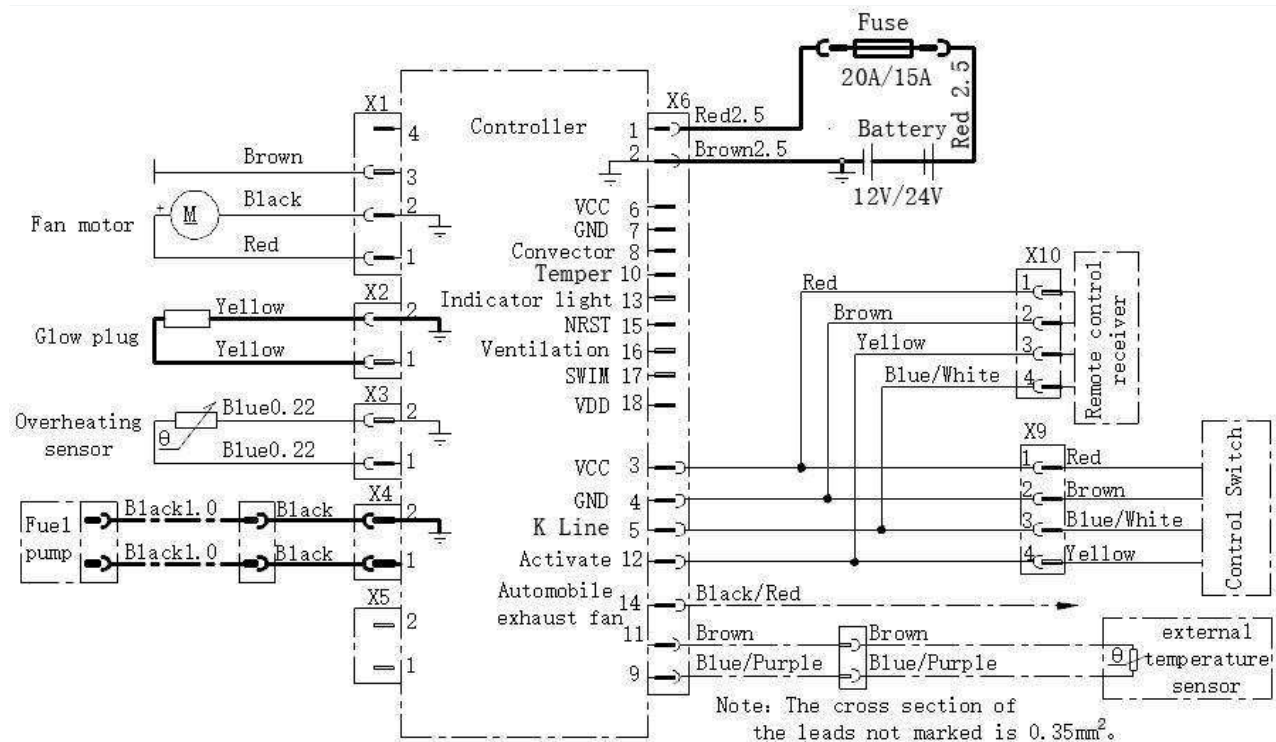
07 Electrical connections



Schematic. Pins, rating and voltage: use the supplied harness.

Maintain power during cooling. Normal shutdown uses the controller; do not install a switch that interrupts the cycle. Protect cables and connections against water, abrasion and heat.

Version	Fuse	Reference
12 V DC	20 A	AT1031 / AT119107
24 V DC	15 A	AT1032 / AT119106
Total + and - length		Cross-section
<8 m		2,5 mm ²
8-12 m		4 mm ²
12-16 m		6 mm ²
Maximum voltage drop		0,5 V en 12 V ; 1,0 V en 24 V



Circuit detail for the illustrated family. Drawing labels identify components; check connectors, voltage and options on the supplied harness. A mains connection cannot be inferred from nominal power alone.

08 Initial commissioning

Check	Result to verify
Rating plate and controller	SKU, voltage, fuel and connectors match
Mounting	Mountings, clearances, ducts and outlets checked
Fluid circuit	Filled and bled; no leaks
Supply under load	Voltage measured during starting
Complete cycle	Ignition, operation, setpoint and shutdown/cooling tested
Delivery	Rating-plate photo, measurements, date and installer recorded

09 Operation and controls



[AT1192](#) - controls for the illustrated air configuration. The coolant configuration uses its own menus.

On the documented OLED revision, a long press on the confirmation knob from the working screen controls on/off. The reference defines long as more than 2 s and short as less than 2 s. Confirm this behaviour on [AT1192](#) before issuing customer instructions.

For the documented air heater, short-press to open mode selection, rotate to choose, short-press to confirm and use Back to exit. Reference modes are power, thermostat and ventilation. Do not transfer these modes to coolant heating.

The coolant panel has specific coolant-temperature and duration settings. Check the applicable ranges, durations, menus and thresholds for the ATLOSON unit on the rating plate and supplied variant sheet. Do not use shortcuts from an older seven-day timer on the OLED panel.

Clock and timers: confirm firmware-specific labels and sequence, set the clock and supervise a test schedule. Disable unused events. Priming, resets, Bluetooth and updates require the exact revision manual.

GSM: confirm module reference, available network, SIM, wiring, commands and status feedback. No SMS command is assumed here. The panel alone does not establish that cellular connectivity is fitted.

The supplied T2000 manual describes holding the knob for 2 seconds to start or stop, a short press to select and rotation to adjust. On the corresponding revision, “Variable Heat” selects P1-P7; “Thermostat” sets cabin air at 5-35 °C; “Ventilation” runs the fan only. Select modes with the heater completely stopped. Flashing “OFF” means cooling; a dark screen does not prove shutdown. These air modes must not be applied to coolant heating. Confirm panel and ECU revision if screens differ.

For the revision in the T2000 PDF, set “Time” first. With the heater stopped, open “Timer”, select the arrow beside “Timer1”, “Timer2” or “Timer3”, then set “WEEK”, “START”, “Duration”, “MODE” and its value; save with “OK”. The stated minimum duration is 10 minutes. S M T W T F S runs Sunday to Saturday. Selecting the program name enables/disables it; the arrow edits it. Review all three programs and perform an attended test. Disable every timer before refuelling, entering an enclosed workshop or a hazardous area. Confirm labels and limits on other firmware.

The gear button opens settings. “Information” exposes “Heater”, “Panel”, “Air pressure” and “Run time” where available. The T2000 PDF states: steady blue initializing; flashing blue communication lost; steady green operating; steady red stopping; flashing green fault. Photograph the message before leaving the screen.

GSM-compatible marketing does not include a module, SIM, service plan or protocol automatically. A “Bluetooth” menu does not establish GSM connectivity. Confirm hardware, network and exact commands; test remote control with an operator present.

Situation	Action
Before departure or overnight	Check fuel level, battery charge and air inlets/outlets. Remove snow, mud or luggage that could block ducts. Check that the exhaust does not discharge beneath a window, door or air intake.
Start and adjust	Start with the compatible controller and allow the ignition cycle to finish. Select thermostat mode to maintain a temperature or power mode for constant output, if available. An older rotary controller and AT1192 may use different sequences.
During heating	Monitor warm air, odors and noises. Do not close any duct required for minimum airflow. A sensor in a hot-air pocket can stop heating too early; correct its position instead of changing combustion parameters.
Shutdown and prolonged storage	Stop with the controller and wait for cooling to finish before switching off the main power. For T2000, follow the monthly maintenance cycle and hours listed in the maintenance section. For other versions, confirm the interval with ATLOSON.

10 Maintenance and winterization

When	Work
Before use	Check fuel, battery, ducts, outlets, connections and absence of leaks.
After transport	Inspect mountings, cables, ducts and exposed components.
Before the season	Supervised test; full inspection of combustion and protective devices.
After repair	Suitable seals, leak test, complete cycle and measurements recorded.

Run for 10 minutes every month outside the operating season. Have the burner inspected at 800 hours. Internal work must be performed by a workshop using parts and tools for the variant.

Before use and after travel, inspect ducts, supports, openings, fuel lines and accessible connections. Once cool, remove external debris without directing water into the intake or flue.

Before the season and after storage, have the installation, battery, protection, tightness and combustion checked. Hour-based intervals, exercise-run duration and component life remain to be confirmed for the exact model and revision.

The user may keep access clear and clean cold surfaces using material-appropriate methods. Burner, exchanger, pump, sensor and ECU removal is qualified service work. Do not adjust fuel delivery or thermal protection.

After repair, require leak checks and a full cycle. Record date, hours, symptom, code, part SKUs and technician. Confirm applicable warranty terms with ATLOSON; no other warranty is implied.

11 Troubleshooting and fault codes

Symptom	Action
Display off	Check the permitted power supply, visible connection and identified protection device; a fuse that blows again requires professional diagnosis.
No ignition / flameout	Record the code and check fuel level and visible obstructions. Do not repeat starting or priming attempts; have fuel dosing and combustion checked.
Overheating / low heat output	Keep air passages clear. On a coolant circuit, allow cooling before checking the level; have air bleeding, circulation and pump checked. Do not bypass the sensor.
Smoke / odor / leak	Stop using the system and have it inspected before returning it to service. Do not tighten or repair a hot pipe.
Communication / remote control	Record the message and version. Have harness and protocol confirmed. For GSM, check the module and network availability with the installer.

Record the exact code before clearing it. Stop and allow cooling, check the power supply under load, then ducts and the fluid circuit. Correct the cause before a supervised test. A repeated fault requires workshop service.

12 Fault-code table - AIR

Table for the controller/ECU of this family. The same number may have a different meaning on another revision.

Code	Meaning
00	Missing or lost communication
10 / 12	Ignition failure / lockout by code
20 / 24	Flameout
30	Voltage too high
31	Voltage too low
40 / 41 / 42	Overheat or abnormal temperature by code
50 / 51	Flame detection / sensor circuit
52 / 53	Temperature sensor / circuit / limit
65 / 66 / 67 / 68 / 69	Temperature sensor / circuit / limit
70 / 71	Metering pump circuit
80 / 81 / 82 / 83 / 84 / 85	Blower: circuit, speed or start
90 / 91 / 92 / 93	Glow plug / circuit / version
A2 / A4	Overheat or abnormal temperature by code
A9	Abnormal power interruption
B4 / B5	Temperature sensor / circuit / limit
C0 / C1	Auxiliary output/equipment circuit
C4 / C5	Controller circuit
D0 / D1	ECU / memory
D3	Maintenance requested
E0 / E1 / E2 / E3	Ignition / glow / flame monitoring
EE	Unidentified fault

13 Parts, kits and purchasing

Order by part number and variant. Drawing callouts are not SKUs. Check voltage, fuel and connector before replacement. A complete-system reference is not a maintenance kit.

Reference / purchase	Catalogue description
AT0003	Fuel Line Adapter 90° 7.5mm to 4.5mm
AT1003	T2000 MAINTENANCE KIT 12V DIESEL
AT1004	T2000 MAINTENANCE KIT 12V GASOLINE
AT1005	T2000 Heater Only diesel 12v
AT1006	T2000 Heater Only gasoline 12v
AT1007	T2000 Heater Only diesel 24v
AT1008	ECU Cover
AT1009	Top Cover
AT1010	Supply side hood
AT1011	Heat exchanger housing
AT1012	Intake side hood

Reference / purchase	Catalogue description
AT1013	Heat exchanger
AT1014	Blower motor assembly 12v
AT1015	Blower motor assembly 24v
AT1017	Flame tube
AT1018	Burner assembly 12v - DIESEL
AT1019	Burner assembly 12v - Gsoline
AT1020	ECU 12v diesel
AT1021	ECU 24v diesel
AT1022	ECU 12v gasoline
AT1023	Cabin air impeller
AT1024	Blower gasket
AT1025	Burner gasket
AT1026	Overheat sensor
AT1027	Blower motor support frame
AT1028	Heat exchanger grommet
AT1029	Glow pin 12v
AT1030	Glow pin 24v
AT1031	Wiring harness 12v (20a)
AT1032	Wiring harness 24v (15a)
AT10351	TEMPERATURE EXTERNE SENSOR
AT10355	Heater non-plateau to plateau adapter cable
AT1037	Air duct 60mm*1m
AT1040	Heater base gasket
AT1048	Fuel line clamp ϕ 12-14mm
AT104897	Fuel Tank, 10L, 304 SS-2
AT104898	Fuel Tank, 10L, 304 SS
AT1049	Air duct clamp
AT1050	Air diffuser (grille)
AT1056	Heater mounting plate
AT10561	Foam mounthing plate
AT10562	Mounting Plate L-shaped
AT10563	Non return valve
AT10564	Silicone Heat Resistant Sleeve, 22 mm, 1 m
AT10565	Silicone Heat Resistant Sleeve, 22 mm, 20 m
AT10566	Stainless Steel Fuel Tank 10L Gasoline Storage for Parking Heater
AT10567	Stainless Steel Thru Hull Fitting, 22 mm, 90° Base, Angled Connector, Boltless
AT10568	harness fuel pump wire cable
AT10569	T-Joint, 60 mm

Reference / purchase	Catalogue description
AT1057	Self-drilling self-tapping screw ST5.5×25
AT10570	Air Duct Connector, 60-90 mm
AT10571	Air Duct Elbow Connector, 60 mm
AT10572	Air Duct Straight Connector, 60 mm
AT10573	Air Duct Y, 60 mm
AT10574	Air Ducting, 60 mm, 5 m Length
AT10575	Air Outlet with Adjustable Louvers, 60 mm
AT10576	Mounting Bracket AIR HEATER
AT1058	Intake grille
AT1060	Reducing tee 10-6-10mm
AT1146	FUEL TANK 10, PLASTIK
AT1155	Muffler
AT1158	Fuel pump 12V
AT1159	Fuel pump 24V
AT1160	Fuel pump damper
AT1161	Fuel pump support
AT1166	Nut M6
AT1167	Flat washer 6mm*12mm
AT1169	Fuel filter
AT1170	Fuel line $\phi 5 \times 2.0$ mm L1m
AT1171	Fuel line $\phi 4$ mm× $\phi 1.5$ mm L6m, clear
AT1172	Fuel line coupling 3.5*9.5*40mm
AT1173	Fuel line coupling 4.1*10.5*40mm
AT1174	Fuel line clamp $\phi 8$ -10mm
AT1175	Fuel line clamp $\phi 9$ -11mm
AT1180	Air inlet pipe 20.5 x 24mm x L900mm
AT1181	Air inlet pipe strap
AT1183	Exhaust pipe
AT1184	Exhaust pipe strap
AT1185	Exhaust pipe clamp 24-28mm
AT1189	Fuel pickup tube
AT119105	Fuel Pump Connector
AT119106	Fuse, 24V (15A)
AT119107	Fuse, 12V (20A)
AT119108	Fuse Base
AT119109	Fuse Base 2
AT1192	Digital control switch, GSM compatible
AT15001	Diagnostics USB Cable

Reference / purchase	Catalogue description
ATL1001	T2000 Heater Kit, Air Heater, 2kw, 12v, Diesel, Controller LCD - BT
ATL100124	T2000 Heater Kit, Air Heater, 2kw, 24v, Diesel, Controller LCD - BT
ATL1002	T2000 Heater Kit, Air Heater, 2kw, 12v, Gasoline, Controller LCD - BT
ATM001001	VATIRO T2000 Instruction Manual

Records and support

Date / hours: _____ Work / parts: _____

Keep the invoice, SKU, serial number and history. For assistance, provide a nameplate photo, code and symptom.

[ATLOSON support](#)