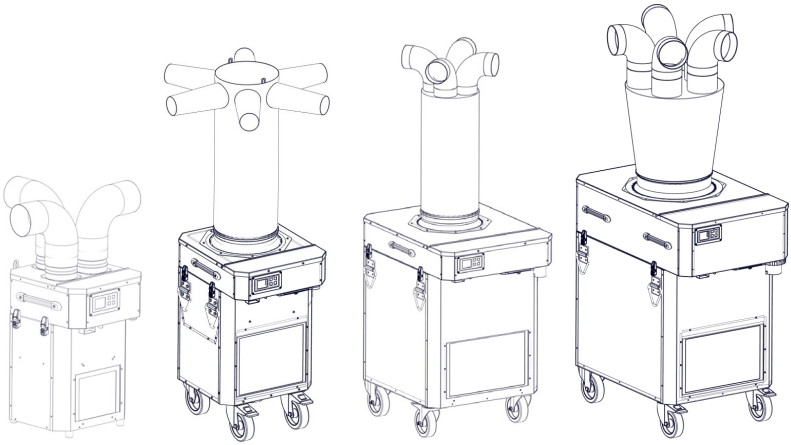
Manual

EN

TF9 EBC, TF18 EBC, TF36 EBC, TF72 EBC

EB16332, EB17462, EB14646, EB14647



5 YEAR WARRANTY

This product is only suitable for well-insulated areas or occasional use.

EL-BJÖRN

SAFETY

Read the instruction manual carefully and ensure you understand its contents before using the product.

The manufacturer guarantees that this product fulfils safety requirements in accordance with the relevant EU directives and standards. EU Declaration of Conformity, see **www.elbjorn.com**.

Warning signs on the product.
If these are missing, they must be replaced with new ones as soon as possible. These can be found on the El-Björn website.

Safety during assembly
- If extension cables are used: Only use approved extension cables that are marked for outdoor use.
- Connect the machine to a power distribution box with a residual current device.
- Check the electrical box and electrical cables before start-up/disconnection. Replace any defective parts.
- On installation of the El-Björn metal air distributor (TF9 EBC, TF18 EBC, TF36 EBC, TF72 EBC) or textile air distributor with spiral reinforcement (TF18 EBC), the machine must be switched off.
- Make sure the distance between the machine and the wall is at least 0.5 m.
- Do not use the machine close to showers, baths, pools etc.

Safety during use
- The machine must always be connected to the El-Björn air distributor.
- The machine must never be covered during operation.
- The wheels must be locked during operation.
- The cover must be fitted to the electrical box.
- The 4 lever lock fasteners must be locked with a spanner throughout operation.
- Keep the machine and working area clean.
- Take care not to damage the electrical cable. Do not jerk the electrical cable out of the electrical inlet/outlet. Do not expose it to high temperatures, oil, or sharp edges.
- Make sure the machine is standing on a firm, level surface.
- Important: Do not lift the entire machine by the carrying handles for Module 2 (the heating module).

- Do not allow children under the age of 3 near the equipment unless they are constantly supervised.
- Children between the ages of 3 and 8 should only be allowed to turn the machine on/off if it is installed in its normal position and they have been instructed how to use it safely and understand the risks.
- Children between the ages of 3 and 8 must not be allowed to plug in, adjust or carry out maintenance on the machine.
- This equipment may be used by children aged 8 upwards and by persons with reduced physical ability, impaired judgement or mental capacity, or lack of experience and knowledge, providing that they have been shown or instructed in the safe use of the equipment and they understand the risks.
- Children must not play with the equipment. Children may not clean or perform maintenance on the device without supervision.

WARNING: Parts of this equipment can get very hot and could cause burns. Take special care when children or vulnerable people are present.

Safety during service/maintenance
The machine must be isolated from the electrical supply before servicing/maintenance.

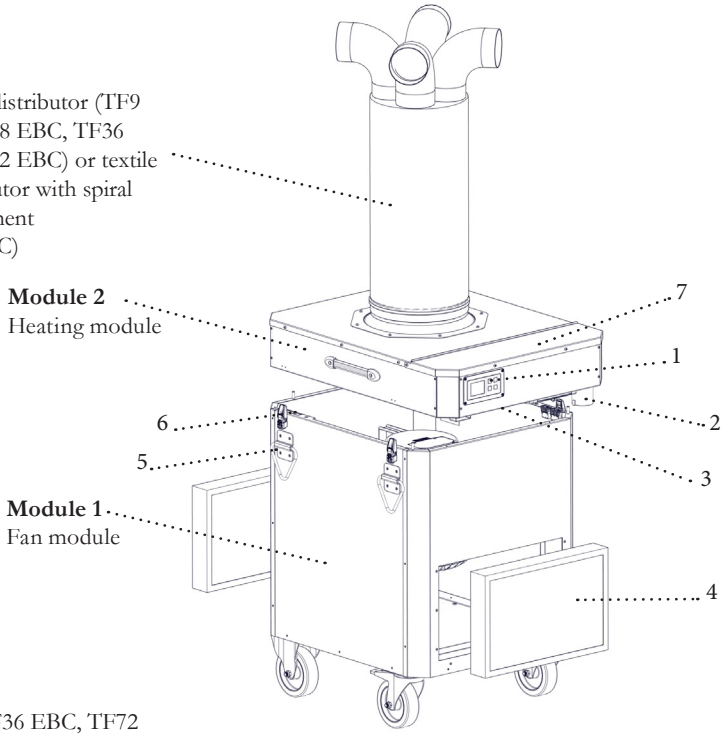
PERSONAL PROTECTIVE EQUIPMENT
When replacing the air filter, a respirator and gloves should be used. Place the used filter in a bag and seal it.

MINIMUM EXPERTISE REQUIRED
Any servicing and installation work must be performed by a qualified service technician, qualified professional or the manufacturer.

RISK ASSESSMENT
Using spare parts or accessories that have not been recommended by El-Björn increases the risk of injury or damage to the machine.
The machine is only intended for temporary drying and heating of rooms. When using electrical machinery, basic safety regulations shall always be followed, in order to reduce the risk of fire, electric shocks, burns or other personal injury.

Read the instructions before starting the machine and save the instructions for safe operation.

INTRODUCTION



1. Display
2. Inlet
3. Fuses (TF36 EBC, TF72 EBC)
4. Filter
5. Lifting eyes
6. Lever lock fastener
7. Fuse in the electrical box

DESCRIPTION

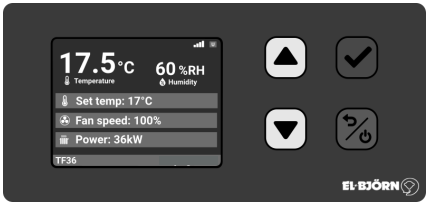
The entire product is constructed from powder-coated, corrosion-resistant, galvanized sheet steel.
The machine comprises 3 main modules.
Module 1. (Fan module) includes wheels, filter, fan and lifting eyes.
Module 2. (Heating module) includes display/control board, inlet, fuses and heating element.
Module 3. Metal air distributor.

Module 1.
- 4 x heavy-duty wheels for moving machine, 2 of which are lockable.
- 4 lifting eyes for moving or suspending the machine from the ceiling.
- 2 x filters with additional pre-filter for extended life.

Module 2.
- Inlet, the temperature/humidity sensor is well protected under the overhang.
- Fuses (TF36 EBC, TF72 EBC) under the overhang, fuse (TF18 EBC) in the electrical box.
- Removable cover on top for electrical box. Accessible only by qualified service technician.
- All operation of the machine is performed via the display. See display instructions.

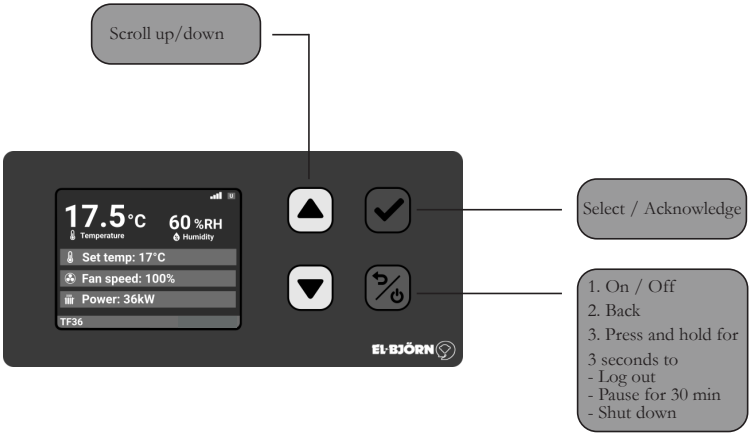
Module 3.
Metal air distributor (TF9 EBC, TF18 EBC, TF36 EBC, TF72 EBC) or textile air distributor with spiral reinforcement (TF18 EBC)

The air is drawn in through two filters from the front and rear of the machine (Module 1). This acts like an intake noise attenuator, as air pressure builds up in the fan compartment. The air is heated (Module 2) by the heating elements and flows out through the textile air distributor (Module 3) which propels the warm, dry air over a long distance.

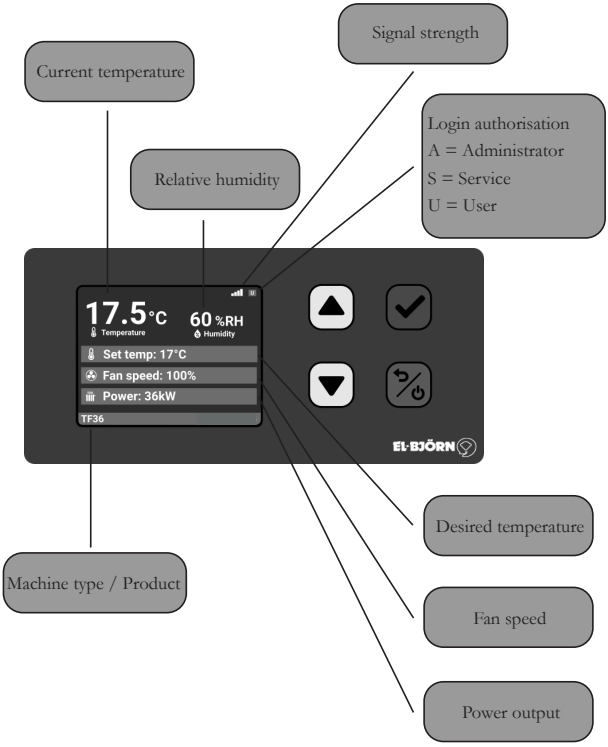


DISPLAY DESCRIPTION

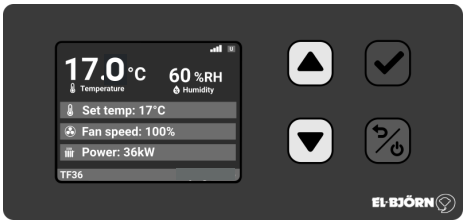
BUTTON DESCRIPTION



MENU DESCRIPTION



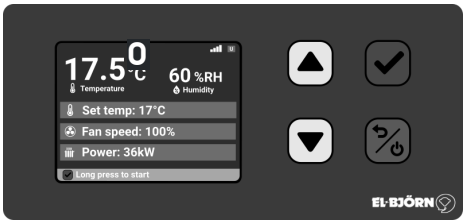
MACHINE STARTUP/SHUTDOWN IN STANDARD MODE (17°C AND 60% HUMIDITY)



1. To start up the display, press the RED ON BUTTON on the control panel for 1 second.
2. The above menu will appear in the display.
3. The machine is preset to default mode
4. To start the machine, press and hold the GREEN BUTTON for 2 seconds (the machine will start).
5. To switch off the machine, press and hold the RED BUTTON for 3 seconds.

The following options are visualized:
- Log out
- Pause machine for 30 minutes
- Turn off

NOTE! For all variants except TF9 EBC, when paused or switched off, the machine will be cooled down using only the fan for one minute. It is important not to disconnect the power before cooling down is complete.



MACHINE CONTROL WITH WIRELESS LORA SENSOR (REQUIRES MACHINE CONNECTED TO GATEWAY)

The LoRa wireless sensor is not supported by older software versions. See the latest software version on our website under Support/Software Update. When the temperature is received via a LoRa message from the wireless sensor, the machine uses the received temperature instead of the room temperature (ambient temperature). In addition, the temperature is shown on the display with a changed label and an icon right next to it. If contact with the LoRa sensor is lost, machine control will continue using the local temperature sensor on the machine.

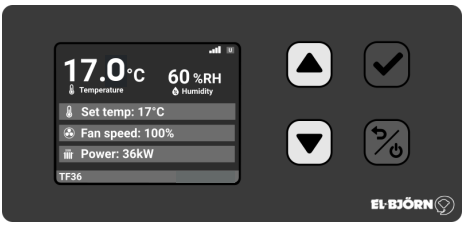
CHANGING DEFAULT SETTINGS

1. To log in, press any button for 1 second; the window below will display.
2. Use the arrows to change the digits in your password, and confirm with the GREEN button.
3. There are three levels of login authorisation: (User, Administrator and Service). The user can only adjust the setpoint/set temp (desired room temperature).
   (If no change is made to the display within 60 seconds you will be logged out automatically).
4. To access the various menu options, press the RED button for 1 second.
5. Use the arrows to navigate in the function window, confirm with the GREEN button.

CHANGING DEFAULT SETTINGS DESIRED TEMPERATURE, FAN SPEED, POWER (ELECTRIC DRYING FAN)

1. To log in, press any button for 1 second; the window below will display.
2. Use the arrows to change the digits in your password, and confirm with the GREEN button.
3. There are three levels of login authorisation: (User, Administrator and Service). The user can only adjust the setpoint/set temp (desired room temperature). If no change is made to the display within 60 seconds you will be logged out automatically.

4. To change the preset parameters, press the up or down arrow to select a parameter. The desired parameter will then be highlighted in orange.
5. To change the desired parameter, confirm with the GREEN button.
6. Use the up/down arrows to set the desired value and confirm with the GREEN button.

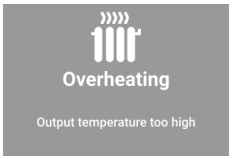


ALARM LIST

Most alarms are briefly displayed across the entire screen (5 sec) and then saved as an icon (except for power loss, which is displayed across the entire screen for 2 hours, and overheating, which is displayed across the entire screen until the alarm is confirmed).

Time to replace filter:

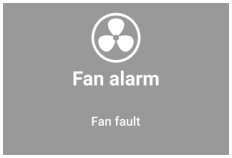
- Acknowledge the alarm with the green button
- The alarm will be minimized and remain until the filter is replaced



The product has overheated and shut down, and must be restarted manually. In the alarm log, you can see the differential pressure across the filter and the temperature in the case of overheating. You can also see if someone has acknowledged the alarm.

The product has not been switched off correctly:

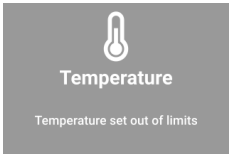
- Power outage
- Cable break
- The fuse has tripped



Electrical fault in the fan

Frost guard, water temperature below critical temperature, risk of water coil freezing. The fan stops if the water temperature drops below 5 degrees Celsius, and restarts automatically when the water temperature rises above 15 degrees Celsius.

Indication that relative humidity of surroundings is above 50%



Temperature is outside the preset temperature range

TECHNICAL DATA

	TF9 EBC 400 VAC	TF 18 EBC 400 VAC	TF36 EBC 400 VAC	TF72 EBC 400 VAC
H incl. air distributor	940	2150 mm	2150 mm	2200 mm
H excl. air distributor	700	1000 mm	1200 mm	1400 mm
W	440 mm	560 mm	740 mm	740 mm
D	460 mm	640 mm	935 mm	1110 mm
Total weight (top part, bottom part, distributor)	33.3 kg (16) (17.3)	66 kg (23.5) (42.5)	127.5 kg (41.5) (77.5) (8.5)	180 kg (72) (96.5) (11.5)
Noise level	61/54	62/57 dB(A)	68/63 dB(A)	69/63 dB(A)
Rated current	13 A	27 A	57 A	110 A
Rated voltage	3N~400V	3N~400V	3N~400V	3N~400V
IP rating	IP44	IP44	IP44	IP44
Seasonal average efficiency (ηs)	36%	36%	36%	36%
Motor and air side				
Fan voltage	1N~230V	1N~230V	3N~400V	3N~400V
Fan power	170 W	500 W	1700 W	4500 W
Fan current	1.4 A	2.2 A	2.6 A	7.0 A
Air flow	1500/1000 m^3/h	2500/2040 m^3/h	4650/3850 m^3/h	7900/6454 m^3/h
Temperature rise	38/25	22/23ºC	29/34ºC	40/47ºC
Electric heating				
Electric elements	6×1.5 kW	6×3 kW	6×6 kW	12×6 kW

EU Declaration of Conformity, see **www.elbjorn.com**.

NOTE!
The section concerning safety must be read and understood by everyone who uses or repairs this machine. The instructions describe operation and maintenance measures that can be performed by the operator. More detailed maintenance or troubleshooting may only be performed by a qualified professional or the manufacturer. The instructions describe all necessary safety features and must be read and understood by the user before connecting the machine to the electrical supply. In other words, the first action after delivery is to read through the operating instructions.
There are symbols and warning labels on the machine that are mentioned in the section on "Safety". If any of the warning signs on the machine have become damaged or worn, new signs must be ordered and fitted as quickly as possible in order to ensure the greatest possible safety when using the machine. The machine may only be used for the purposes described in this instruction. The manufacturer reserves the right to make changes.

APPLICATION AREA
The TF model is intended for drying and heating buildings where there is a need for temporary heating, drying or air circulation. This model is not intended for use in the presence of extremely fine particles, such as during ice blasting, in textile or carpentry shops, stables or agriculture.

INSTALLATION

PRE-COMMISSIONING CHECK
That the machine is protected by a residual current device.
That the filter is fitted and is clean and undamaged.
That cables and connectors are undamaged and in good condition.
That the El-Björn textile air distributor/metal air distributor is clean and undamaged.
That the El-Björn textile air distributor with its spiral reinforcement is correctly installed/that the metal air distributed is correctly installed and unobstructed.
That the wheels are locked.
That the machine is positioned at least 0.5 m away from the wall.
That the machine always stands on a firm, level surface.

INSTALLATION
In order to achieve the best drying and heating performance, the machine should be positioned as centrally in the room as possible. The fan must run continuously in order to achieve optimal results. Minimum distance from wall: 0.5 m. The machine should only be used upright, with its wheels/feet at the lowest point. If the machine is to be suspended, use the 4 lifting eyes provided on the sides of Module 1. Check that these are not damaged or deformed. The lifting eyes are only designed to support the weight of the machine itself.

TF9 EBC: Position the machine in its designated place. Install the El-Björn metal air distrib-utor. Connect the power cable to a fused 5-pole 16 A socket that is protected by a residual current device.

TF18 EBC: Position the machine in its designated place. Lock the wheels on the machine. Connect the power cable to a fused 5-pole 32 A socket that is protected by a residual current device. Check that the El-Björn textile air distributor and spring have free passage and that the spring is fully extended, about 0.5 m high.

TF36 EBC: Position the machine in its designated place. Lock the wheels on the machine. Install the El-Björn metal air distributor. Connect the power cable to a fused 5-pole 63 A socket that is protected by a residual current device.

OPERATION

HANDLING DURING NORMAL OPERATION

Start

See the display instructions.

Shutdown

See the display instructions. Do **not** push the textile air distributor and reinforcement together until the machine has cooled down.

Setting the room temperature

See the display instructions.

Cooling down

IMPORTANT!

The heating elements get very hot (about 300°C), so it is vital that the machine is switched off correctly. Turn off the machine correctly using the display; this will activate the cooling down feature. This must be done every time the machine is to be switched off.

Filter change

• Replace the filter when the filter alarm appears. The filter must be fitted so that the arrow on the filter points inwards towards the machine. Always use original filters from El-Björn.
• Turn off the machine according to the display function and replace the filter.
• Restart the machine.

NOTE! Use a respirator and gloves when replacing the air filter. Place the used filter in a bag and seal it.

DECOMMISSIONING

Switch off the machine as described above in the section "Shutdown". Disconnect the electrical cable. The machine can now be transported.

MAINTENANCE

Keep the machine in good condition by servicing it regularly. Day-to-day maintenance should be performed on site by an appointed operator.

- Never use a machine that is damaged.
- Always mark a defective machine with "Not to be used" until it has been repaired.
- Make sure there are no defective parts that could compromise safety.
- In the event of abnormal noise or vibrations, switch off the machine immediately and make sure the fault is repaired.
- Check that the El-Björn air distributor is clean and undamaged.
- Check that the reinforcement for the textile distributor (TF18 EBC) is intact and reaches its fully extended height, approx. 0.5 m.
- Check filters.

SERVICE

Warning! To eliminate the risk of injury, always disconnect from the electrical supply before starting any service work. All repairs to electrical parts must be performed by a qualified professional or the manufacturer.

NOTE! After the first season of use it is especially important to tighten electrical connections, the fan motor mounting and heating element nuts and connections.

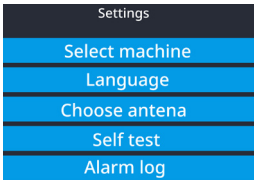
- Before using the machine, always check the main functions (fan & heating elements).
- Check and re-tighten the heating elements.
- Check and tighten electrical connections on the machine.
- Check that no screws are loose and that all parts are correctly assembled.
- Check that the machine is updated with the latest software. See the latest version on the El-Björn website under Support/Software Update
- Run self test, see section "Self test".
- Filter change
- Check that the El-Björn air distributor is clean and undamaged.
- Check that the reinforcement for the textile distributor (TF18 EBC) is undamaged and reaches its fully extended height, approx. 0.5 m.
- Never use a defective machine.
- Always mark a defective machine with "Do not use" until it has been repaired.
- Make sure there are no defective parts that could compromise safety.
- If abnormal noise or vibrations occur, switch off the machine immediately and ensure that the issue is corrected.

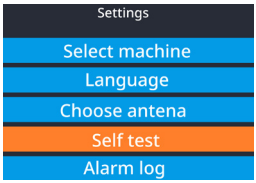
Cleaning

- Clean externally with a mild soap solution and a damp cloth.
- Air-blow the inside of the machine carefully, then wipe with a damp cloth.
- Never use inflammable or combustible solvents near the machine.
- Check that the heating elements are clean.

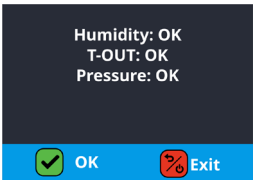
SELF TEST

After rental or when service is needed, you can opt to run a test on the TF machines.
In addition to the self test you should also follow instructions in the service document. This is available for download on our website www.elbjorn.com.

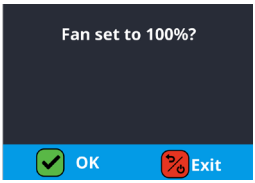




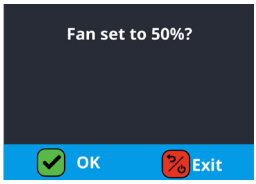
1.



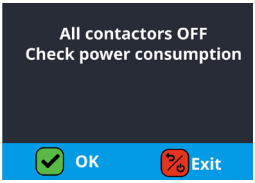
2.



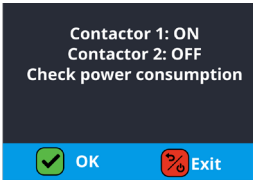
3.



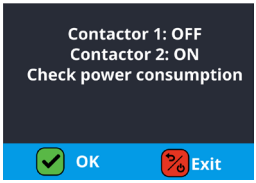
4.



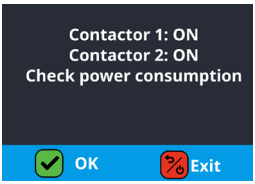
5.



6.

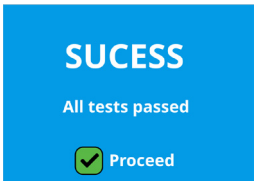


7.



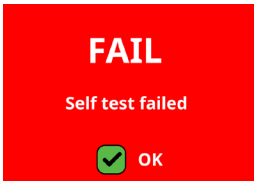
8.

9.



10.

Do not interrupt this process



"Fail" may appear during the test; action required.

TROUBLESHOOTING

Start by checking that all phases are present and working as far as the machine.

Problem	Possible cause	Solution
The machine does not start	Fuse or residual current device has tripped in the electrical cabinet of the power supply	Check that the fuses are intact and/or reset the residual current device in the nearest electrical cabinet.
	Fuse in the machine has tripped	Check that the fuse in the machine is in the "ON" position. These are located underneath together with the inlet behind the fuse cover (TF36 EBC, TF72 EBC) or in the electrical box (TF18 EBC).
The machine emits too little air	Clogged air distributor	Check that the air distributor/vents are not blocked.
	Clogged/dirty filter	Check that the air inlet and filter are not clogged.
	The fan speed is set too low	Check the display to see which fan speed the machine is running at.
There is no hot air supply	Temperature is set too low or the room temperature has been reached	Check the set temperature and the ambient temperature on the display.
	The fuses in the machine have tripped (TF36 EBC, TF72 EBC)	Check that the fuse in the machine is in the "ON" position. These are located underneath together with the inlet behind the fuse cover.
The machine has stopped	The overheating protector has tripped	See under the section "Alarm list"

For other alarms, see the section "Alarm list".
If the fault remains, contact a qualified professional or the manufacturer.

TRANSPORTATION/STORAGE

The machine must always be transported upright. Before transporting the machine, fix the air distributor in its lowered position if necessary. During transportation, the machine must be anchored to the transport vehicle. The machine should only be lifted using the 4 lifting eyes on the sides of Module 1. When the machine is not in use, store it indoors where it is dry and there is no risk of freezing.

SCRAPPING

Take the machine to a recycling station according to state or local regulations.

WARRANTY

El-Björn AB's products and deliveries are governed by the NL17 Nordic General Conditions for the Supply of Goods. Under these provisions, El-Björn AB is responsible for faults arising within one (1) year from the date of delivery.

El-Björn UK Ltd
Unit 5 Beacon Hill Logistics Park, Beacon Hill Road,
Church Crookham, Fleet, Hampshire, GU52 8DY
(+44) 01252 423 512, info@elbjorn.com, www.elbjorn.co.uk

251216 / 269550