



USER MANUAL

SIP FIREBALL® IDX100 INDUSTRIAL INFRARED DIESEL HEATER

ITEM NO: 09243



PLEASE READ AND FULLY UNDERSTAND THE INSTRUCTIONS IN THIS MANUAL BEFORE OPERATION.
KEEP THIS MANUAL SAFE FOR FUTURE REFERENCE.

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1 Introduction

Thank You for Choosing SIP

SIP Industrial Products Ltd is a flagship supplier of high-quality machinery and equipment to the ever-growing engineering, construction, automotive and agricultural marketplaces.

As an ISO9001 approved machinery specialist, we are passionate about innovation and offering quality, value and choice, making sure that our users have the most appropriate and reliable product for the task at hand.

Welcome to Your User Manual

This manual is designed to introduce the support in place for you as an SIP customer as well as guide you through the product that you have purchased and how to use and maintain it safely and effectively.

Technical and Aftersales Support

With a dedicated service centre at head office and service engineers across the UK and Ireland, SIP are committed to providing you with the optimum support to minimise any working downtime.

Our extensive Technical, Service Engineer and Customer Service teams are on hand to support with:

- Product selection
- Servicing and maintenance advice
- Troubleshooting

Feel free to contact us for more information.

Tel: 01509 500 400

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1.1 Product Overview

The SIP FIREBALL® IDX100 Industrial Infrared Diesel Heater is a powerful heating solution designed to heat well-ventilated spaces including warehouses, commercial areas and large workshops quickly and effectively.

By utilising infrared heating technology, the IDX100 offers more effective and even heat distribution by warming people, objects and surfaces directly rather than the surrounding air. It also operates without exposed or visible flames for added safety compared to conventional conical or space-type diesel heaters.

This heater is built with a variety of other user-centred features intended to make operating the heater easier and safer, including a configurable heating cycle, digital LED display with touch control, remote control and multiple sensor-based safety measures.

1.2 Manual Version History

Manual Version Number	Date Published
V1.1	03/06/2026

2 Warranty

Warranty Registration

SIP proudly offer a 2 year warranty across all SIP branded machines.*

To benefit from the second warranty year, you must register within 30 days of purchase via the link or QR code below.

www.sip-group.com/warranty/register-warranty



***Excludes accessories and consumables**

3 Safety Instructions

3.1 Safety Symbols Used Throughout This Manual



Important: Please read the following instructions carefully, failure to do so could lead to serious injury, damage to the product or an invalidated warranty.



Danger/Caution: Indicates risk of personal injury and/or the possibility of damage.



Warning: Indicates risk of fire.



Note: Supplementary Information.

3.2 Safety Instructions

When using this diesel/paraffin/kerosene powered space heater, basic safety precautions should **always** be followed to reduce the risk of fire, electric shock, personal injury (or to others) and/or damage to the product. Read all these instructions before operating the item and save this user manual for future reference. SIP recommends that this product should not be modified or used for any application other than that for which it was designed; it was designed for commercial and industrial use, specifically for drying and heating in well-ventilated non-habitable spaces. It **must** be operated strictly in accordance with the instructions provided in this manual. If you are unsure of its relative applications do not hesitate to contact us and we will be more than happy to advise you.

3.2.1 General Safety Principles

Prior to first use read and understand this owner's manual and the labels affixed to the space heater. Learn its applications and limitations, as well as the potential hazards specific to it. Only trained and competent individuals may operate this space heater, and must follow the instructions provided in this manual. **Never** operate the space heater under the influence of alcohol, drugs, or medication. Children under the age of 16 years or people unfamiliar with the space heater **must not** be allowed to use it.

Keep all safety guards and covers in place and functional, and **do not** bypass, disable, or modify any safety guards, safety devices or warning system. **Do not** use this space heater in damp or wet locations, or expose it to rain/water. **Do not** start or use the space heater in poorly ventilated areas. **Always** use a carbon monoxide detector in

Section 3: Safety Instructions

combination with an air quality monitor to measure the ventilation quality of the room the space heater is used in. **Do not** place in front of combustible materials either when in use or when cooling down.

For a permanent installation, or an installation where sufficient ventilation cannot be provided, an exhaust flue (supplied with the unit) **must** be fitted. This flue **must** be installed and serviced by a qualified professional in line with relevant laws and regulations.

THIS SPACE HEATER MUST NEVER BE USED IN A POORLY VENTILATED OR CONFINED SPACE. EXHAUST GASES CONTAIN CARBON MONOXIDE WHICH IS ODORLESS AND CAN KILL.

Only operate the space heater on a stable and level surface. Make sure that the power switch is off before plugging in to avoid unintentional starting. **Do not** move or handle the space heater when it is running or still hot, **always** turn it off and allow it to complete its cooling cycle before unplugging from the electrical mains supply. **Do not** obstruct the air inlet (rear) and the hot air outlet (front) of the heater. **Do not** use any form of ducting in front or at the rear of the heater. **Do not** fill the fuel tank whilst the heater is running or still hot. This heater **must** only use diesel, paraffin (C1) or kerosene fuels. **Do not** run the space heater whilst unattended, **always** switch off the space heater when leaving the area it is heating.

3.2.2 Personal Protective Equipment

Personal Protective Equipment (PPE) **must** be worn when performing refuelling operations and performing maintenance. **Always** ensure that the correct PPE is worn, to reduce the risk of injury **always** wear eye protection and nitrile gloves to prevent contact with any spill or splashed diesel.

3.2.3 Hazards During Use

Fire and Explosion Hazards: This heater **must** only use diesel, paraffin (C1) or kerosene fuels, using petrol or a more volatile fuel source (such as paint thinners or solvents) may cause an explosion or fire. **Do not** use the space heater in the presence of flammable liquids, gases, dust or other combustible sources. **Do not** use the space heater where it may heat compressed gas cylinders.

Do not move or handle the space heater when it is running or still hot, **always** turn it off and allow it to complete its cooling cycle before unplugging from the electrical mains supply. Clean any spills immediately with appropriate spill kits, and/or change any clothing. Ensure the fuel cap is correctly seated and the fuel tank is sealed after refuelling operations to prevent the escape of fuel vapours.

Fuels **must** be stored in suitable containers in an appropriate location away from children, and **never** near the space heater - especially when it is hot, and in accordance

Section 3: Safety Instructions

with local safety laws. If fuels are not stored correctly, radiant heat from the space heater can produce flammable vapours.

Keep the front of the heater a minimum of 3.5 metres away from any combustible materials (i.e. wooden items, cloth, plastics, paper, etc).

Do not smoke near, or expose fuels to, open flames or sparks.

Burn Hazards: **Do not** touch the heater outlet or dome when first switched off as these are very hot and will take time to cool. Be aware that the outer casing, panelling and construction may be hot for a time after switching the unit off.

Electrical Hazards: **Never** carry the heater by the mains lead or pull it to remove the plug from the mains socket. Keep the mains lead away from heat, oil and sharp edges. If the mains lead is damaged, it **must** be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid unwanted hazards.

Chemical Hazards: Failure to provide adequate ventilation when using the space heater can result in serious illness or death. Even with a high combustion efficiency, this heater produces small amounts of carbon monoxide (CO). CO is highly toxic, odourless and can kill. **Always** provide continuous ventilation from outside of the building to the heater and its operating area. **Do not** use the heater in closed rooms, living areas, basements or below ground level.

For a permanent installation, or an installation where sufficient ventilation cannot be provided, an exhaust flue (supplied with the unit) **must** be fitted. This flue **must** be installed by a qualified professional that conforms to appropriate laws and regulations.

High-risk individuals include:

- Pregnant women.
- Those with heart or lung conditions.
- People with anaemia.
- Anyone under the influence of alcohol.
- Individuals at high altitudes.

CO exposure symptoms:

- Headache.
- Dizziness.
- Nausea.
- Dry mouth or sore throat.

Section 3: Safety Instructions

If any CO exposure symptoms occur, stop using the heater immediately, move to fresh air, and seek medical attention. Have the unit serviced before further use.

The use of a carbon monoxide detector is strongly recommended.

3.2.4 Residual Risks

Despite built-in safety features and the hazards/risks identified in this manual, some risks remain and cannot be entirely eliminated or reduced by controls alone. To attempt to mitigate these, assess the risks, stay alert and aware of your surroundings and check that the heater is in sound condition and good working order before use. Take immediate action to repair or replace damaged parts when they are discovered.

3.2.5 Warning signs and symbols

This SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit features warning labels and safety symbols, familiarise yourself with the meaning of each symbol before use. Replace damaged or unreadable labels immediately.

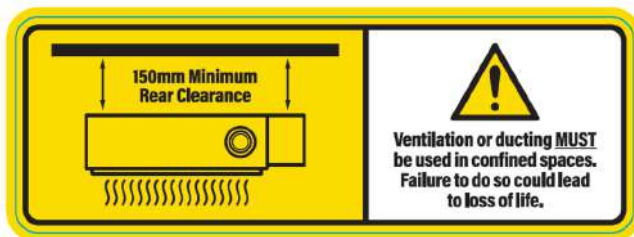


Figure 1: Safety sticker showing the minimum clearance to be maintained at the back of the heater

The safety sticker in Figure 1, located on top of the heater, shows the minimum clearance that must be maintained at the back of the heater. It also states that the flue **must** be used when indoors. Sections 3.2.1, 3.2.3 and 7.1 explain in more detail the dangers of carbon monoxide, such as the symptoms of CO poisoning. Please read these sections before operating the heater.



Warning: Diesel/Paraffin heaters produce carbon monoxide which is a clear, odorless, undetectable gas. Carbon monoxide is extremely dangerous and will kill when inhaled, even in small amounts.

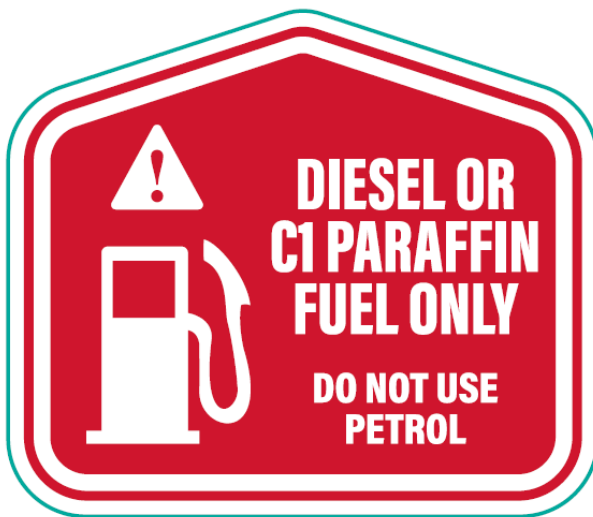


Figure 2: Safety sticker showing that petrol must not be used in the heater

The safety sticker in Figure 2 located under the fuel filler port, states that petrol must never be used in this product. Severe injury or death may result as petrol is much more flammable than diesel or kerosene. Providing the ignition flame with petrol will cause the flame to be too severe, resulting in fire and/or explosion.



Figure 3: Safety sticker showing burn hazard

The safety sticker in Figure 3, located next to the exhaust, warns that several points in the heater will get incredibly hot, resulting in possible severe burns if touched. These areas are the top, back, exhaust, front grille and left hand side (when looking at the heater front, i.e. opposite the burner assembly). This warning label also states that the heater must not be covered. Covering any part of the heater could start a fire due to hot surfaces alighting flammable material such as clothes, or due to the item covering the

Section 3: Safety Instructions

heater causing an obstruction of airflow.

3.2.6 Safety Devices

The SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit possesses the following safety features:

Castor Brakes: There are two breaks on the set of wheels at one end of the heater. This ensures that the heater will not roll away during operation.

Safety Grilles: The metal grid covering at the front cuts off access to the heated pipes which could cause serious injury if touched.

Flue: The supplied flue allows for use indoors to reroute the exhaust fumes outside. As this heater may produce small yet extremely dangerous amounts of CO, the flue **must always** be used when using the heater in a semi enclosed space. The flue **MUST** be fitted by a qualified professional. Adequate ventilation **MUST** be supplied to the area where the heater is being used, whether a flue is installed or not.

Tilt Sensor: The tilt sensor detects the angle the heater is sitting at, if the tilt sensor detects that the heater has fallen over it will stop operation and display Er02 error.

Photocell: The photocell stops operation if an abnormal flame is detected or there is a flame out, to prevent fuel being pumped into the chamber without ignition.

Overheat Protecton:If excessive heat is detected inside the unit it will shut off.

3.2.7 Maintenance and Servicing Safety

When carrying out maintenance or servicing operations **always** unplug the unit from the electrical mains supply, allow it to cool and drain it of fuel first. Repairs **must** only be carried out by qualified persons using original parts otherwise this may result in considerable danger to the user.

You **must** always check that the space heater is in sound condition and good working order prior to use. If you suspect that it is damaged or not operating correctly **do not** attempt a repair, contact an SIP service agent immediately.

3.2.8 Disposal Safety

Dispose of fuel and fuel filters in accordance with local environmental regulations. Never pour fuel or oil down the drain or into soil. At the end of the product's life, recycle components where facilities exist. Contact local authorities for approved disposal or recycling services.

Section 3: Safety Instructions

3.2.9 Storage

Never store the space heater with fuel in the fuel tank, especially inside a building where the fumes could come within range of an open fire, sparks or sources of high temperature/ignition. Before storing in any enclosed area, allow the space heater to cool down and **do not** store in a confined area, only in a clean, dry, and ventilated area, and out of reach of children and unauthorized persons. Drain the fuel in a well ventilated area and **only** when the heater has cooled down.

4 Electrical Connections

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following:

You must check all electrical products, before use, to ensure that they are safe.

You must inspect power cables, plugs, sockets and any other connectors for wear or damage.

You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices; a Residual Current Circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a Residual Current Device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by a Residual Current Breaker with Over-Current (RCBO). If in any doubt consult a qualified electrician.

Never carry this product by the mains lead or pull it to remove the plug from the mains socket. Keep the mains lead away from heat, oil and sharp edges. If the mains lead is damaged, it must be replaced by the manufacturer, its service agent or a similarly qualified person in order to avoid unwanted hazards. **Always** disconnect from the power supply when not in use.



Danger/Caution: The wires in the power cable of this product are coloured in accordance with the following code: Blue = Neutral, Brown = Live, Yellow and Green = Earth.

This appliance is fitted with a plug which is moulded onto the electric cable (i.e. non-rewirable) please note:

1. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from most electrical stockists.
5. The fuse in the plug must be replaced with one of the same rating (1 A) and this replacement must be ASTA approved to BS1362.



Warning: Never connect live or neutral wires to the earth terminal of the plug. Only fit an approved plug with the correct rated fuse. If in doubt consult a qualified electrician.



Note: Always make sure the mains supply is of the correct voltage and amperage and the correct fuse protection is used. In the event of replacing the fuse, always replace the fuse with the same value as the original.



Note: If an extension lead is required in order to reach the mains supply; ensure that this too is rated for the correct voltage and fuse rating.



Note: The cross section of the extension lead should be checked so that it is of sufficient size to reduce the chances of voltage drops.

5 Technical Specifications

Parameter	Value
Input Supply	230 V; 50 Hz
Power Cable Length	2 m
Motor Power	80 W
Fuel Type	Diesel; C1 Paraffin
Fuel Tank Size	70 L
Max. Heat Output	29 kW; 24940 K cal/h; 98952 BTU/h
Approx. Heating Area	250 - 300 m ²
Approx. Fuel Consumption	2.37 - 2.64 L/h; 1.97 - 2.20 kg/h
Energy Efficiency Class	B
Maximum Temperature Setting	40°C
Minimum Temperature Setting	0°C
Net Weight	71.5 kg
Gross Weight	90 kg
Product Dimensions (H x W x D)	1150 x 1500 x 380 mm
Packaged Dimensions (Inc. Pallet) (H x W x D)	1305 x 1560 x 440 mm
Operating Temperature Range	-20°C - 60°C

6 Getting to know your SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit

6.1 Basic Overview



Figure 4: Overview of the SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit highlighting the important components.

Item	Description
1	Side Heat Reflection Panels
2	Exhaust Duct and Protector
3	Control Panel
4	Back Heat Reflection Panels
5	Access Door to Fuel System
6	Fuel Tank
7	One-Way Castor Wheel
8	Safety Grille
9	Swivel with Brake Castor Wheel

Section 6: Getting to know your SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit

Item	Description
10	Combustion Chamber
11	Heating Pipes

6.2 Burner Assembly and Fuel System

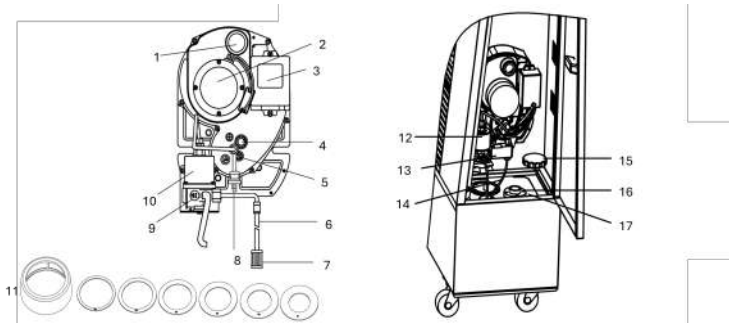


Figure 5: Diagram showing parts of the burner assembly and fuel system of the SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit

Item	Description
1	Air Suction Hole
2	Motor Assy
3	Ignitor
4	Flame Monitor Window
5	Photocell
6	Fuel Line
7	Fuel Filter
8	Solenoid Valve
9	Fuel Flow Regulator
10	Electronic Pump
11	Inlet Rings (Set of 6)
12	Fuel Pump
13	Fuel Return Valve
14	Fuel Lines
15	Fuel Tank Cap
16	Fuel Inlet Pouring Port
17	Fuel Tank

6.3 The Control Panel



Figure 6: Control Panel for SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit

Item	Description
1	LED Display Current (Ambient) Temp
2	LED Display Set (Target) Temp / Time
3	Operation Indicator
4	Time Indicator
5	Fuel Gauge
6	Low Fuel Indicator
7	Control Panel Lock
8	Timer
9	Set Temp / Time Decrease

Section 6: Getting to know your SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit

Item	Description
10	Set Temp / Time Increase
11	Temp / Time Function Selection Button
12	On / Off Button
13	Overheat Warning Indicator
14	Tilt Warning Indicator
15	Misfire Warning Indicator
16	Panel Lock Indicator
17	Time Control Mode
18	Temperature Control Mode

6.4 Accessories

Quantity	Description
1	Fuel funnel
2	Extra fuel filters
1	Remote Control
1	Long line for ODS
1	Mini screwdriver
1	Flue (in separate box)

6.5 Assembly Instructions

This product comes fully assembled. Before the first start up, the heater will require to be filled with fuel.

6.6 Safety Features

Castor Brakes: There are two breaks on the set of wheels at one end of the heater. This ensures that the heater will not roll away during operation.

Safety Grilles: The metal grid covering at the front cuts off access to the heated pipes which could cause serious injury if touched.

Flue: The supplied flue allows for use indoors to reroute the exhaust fumes outside. As this heater may produce small yet extremely dangerous amounts of CO, the flue **must**

Section 6: Getting to know your SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit

always be used when using the heater in a semi enclosed space. The flue **MUST** be fitted by a qualified professional. Adequate ventilation **MUST** be supplied to the area where the heater is being used, whether a flue is installed or not.

Tilt Sensor: The tilt sensor detects the angle the heater is sitting at, if the tilt sensor detects that the heater has fallen over it will stop operation and display E2 error.

Photocell: The photocell stops operation if an abnormal flame is detected or there is a flame out, to prevent fuel being pumped into the chamber without ignition.

Overheat Protection: If excessive heat is detected inside the unit it will shut off.

7 Operating Instructions

7.1 Minimum Air Requirements



Warning: Carbon monoxide is an odourless gas and can kill. Always use carbon monoxide detectors when using this diesel/paraffin heater.



Danger/Caution: Air contaminants taken into the heater may affect the heat output, damage the unit and may cause health problems.

This heater consumes oxygen and produces carbon dioxide (and a trace amount of carbon monoxide) as part of normal operation. These gases are exhausted through the exhaust duct on top of the heater. In spaces with poor ventilation the flue kit must be installed to vent the exhaust gases outdoors. Where the flue is not used there must be sufficient ventilation. Always use carbon monoxide detectors when using this diesel / paraffin heater, as it is an odorless gas and can kill.

THE FLUE MUST BE INSTALLED AND SERVICED BY A QUALIFIED PROFESSIONAL IN LINE WITH RELEVANT LAWS AND REGULATIONS.

Airflow through the heater is necessary to ensure proper combustion, which is supplied by the internal burner fan. The air enters the burner funnel and gets mixed with a high pressure fuel jet. The fuel flow is supplied by an electrical pump, which sucks the fuel from the tank and moves it to the nozzle under high pressure.

7.2 Operating Environment

Only operate and refuel/fuel the heater in well ventilated areas. Careful consideration must be given to the placement of the heater to provide safe and comfortable heating. Ensure continuous ventilation is provided to the heater operating area. A ventilation opening must run from where the heater is to be operated to the outside of the premises.

Bodyshop filler dust/paint overspray will damage the motor bearing, clog the filter and contaminate the combustion chamber, causing flame flutter and health hazards. Please note that any parts damaged by filler dust/paint overspray or similar will not be covered by warranty.

7.3 Positioning



Warning: Using the heater in dusty environments or those that contain aerosols may cause damage to the heater or present a fire hazard.



Warning: Sufficient clearance must be left around the heater to ensure clean combustion and reduce the risk of fire.

Do not obstruct the air intake to the heater and always allow the following clearances around the heater from combustible materials:

- Front: 3.5 m
- Sides: 2.0 m
- Top: 2.0 m
- Rear: 2.0 m

7.4 Installing the Flue

For a permanent installation or an installation in where sufficient ventilation cannot be provided the exhaust flue must be used.

Installing the Flue:

1. The flue will arrive in a separate box. Inside there should be two longer pipes, one with holes at the end, and a shorter one with a 90° bend.
2. Insert the ends of both longer pipes into either end of the bent pipe, ensuring the pipe with the holes is inserted using the non-holed end.
3. Fit the end of the pipe which does not have holes over the exhaust vent.
4. Point the holed end outside the building, either through a hole or a high window.
5. Do not alter the pipe in any way (e.g. bending). If you believe the pipe to be faulty/damaged, please discontinue use and contact an SIP agent.

See the diagram below for correct and incorrect set up of the flue.

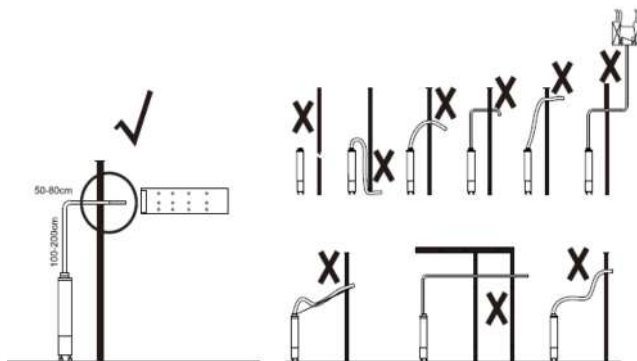


Figure 7: Correct and incorrect methods of installing the flue on the SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit

7.5 Re-fuelling



Warning: Never use fuels that the heater is not rated for, only use diesel or paraffin (C1). Use of other fuels may cause damage to the heater, or cause an explosion/fire hazard.



Caution: Do not overfill the fuel tank, check the Technical Specifications if you are unsure of the fuel tank size. Overfilling will cause an over flow of fuel out of the pouring port, possibly covering the user, heater and ground, presenting a fire hazard.

- Never use highly volatile fuels such as petrol/gasoline.
- Only perform refuelling operations in a well ventilated area that allows fuel vapours to safely disperse.
- Make sure the heater is disconnected from the mains electrical power supply when re-fuelling.
- Only refuel when the heater chamber has cooled, if refuelling after use the outer casing will remain hot - do not touch!
- Only use clean/new diesel, paraffin (C1) or kerosene fuel. Use only one type of fuel at a time and ensure the fuel tank is fully empty before putting in a new type of fuel, mixing fuels may cause the heater to smoke.

- Wear appropriate PPE to refuel the heater and immediately wash/wipe off any fuel if it comes into contact with your skin or body parts.
- Ensure the fuel filter is clean and unblocked prior to refuelling.
- Make sure the tank is free of contaminants including water prior to filling.
- Remove the Fuel Tank Cap (15), as shown in Figure 5.
- Place the fuel funnel (see Accessories section) end into the Fuel Inlet Pouring Port (16), as shown in Figure 5. As the end of the fuel funnel is quite short, a second person or support is required to hold the funnel in place.
- Pour no more than 70 litres into the fuel tank.
- Once the fuel tank is filled, tighten the Fuel Tank Cap clockwise after refuelling.
- Clean any fuel spills with a suitable spills kit and store any unused fuel in a suitable container/location.
- Connect the heater to the mains electrical supply and switch on.
- The Control Panel as shown in Figure 6 will show the level of fuel ("Empty", "1/4", "1/2", or "Full").
- The heater is now ready to use. You may hear the heater attempt to start up a few times before starting correctly, this is not an issue and is to be expected as the motor will require to prime itself with fuel on first start up.

7.6 Starting the Heater



Important: The first ignition of the heater should be carried out outdoors, this will allow any oils etc. used during the manufacturing process to be burnt off.

- Plug the mains lead into a suitable mains electrical supply and turn the mains switch on.
- Ensure there is sufficient fuel by consulting the control panel.
- The ambient temperature (Current Temp) will show on the control panel's digital screen.
- Push ON/OFF switch on the control panel to start the heater operating.

- Note that once the ON/OFF button is pressed, both the ambient temperature (Current Temp) and target temperature (Set Temp) will be displayed. The default set temperature is 25°C. If the ambient temperature is higher than the 25°C at the moment of pressing the ON/OFF button, then the heater will not function until the ambient temperature drops or the target temperature is increased.

7.7 Using Temperature Control

The target temperature can be increased or decreased between 0°C and 40°C.

Changing the target temperature:

1. Ensure ON/OFF switch has been pressed and the heater is in operation.
2. Select temperature control mode by pressing the TEMP/TIME button once or twice. The temperature control lamp will be lit to indicate this.
3. Use the up and down arrows to increase or decrease the set temperature.
4. Once you have landed on the desired temperature this will become the new Set Temp.

Below are some tips and points regarding the temperature control function:

- The displayable range of the ambient temperature (Current Temp) is -9 to 50 °C. Any ambient temperatures below -9°C will show as 'LO' and any above 50°C will show as 'HI'.
- The heater will start to function when the target temperature is 2°C more than the ambient temperature. The heater will stop functioning when the ambient temperature is 1°C more than the target temperature.
- Please note that holding down the up and down arrows will change the set temp very fast. Pressing the up and down arrow buttons once will change the target temperature by 1°C at a time.

7.8 Using Time Control

The time control function allows for a 5 minute shut off break to be added in. E.g. a repeating cycle of 55 minutes of heating and 5 minutes of no heating.

Changing the time control:

1. Ensure ON/OFF switch has been pressed and the heater is in operation.

2. Select time control mode by pressing the TEMP/TIME button once or twice. The time control lamp will be lit to indicate this.
3. Use the up and down arrows to increase or decrease the break time interval. E.g. for a 5 minute break every 20 minutes, use the up or down arrow to select 20.
4. Once you have landed on the desired break time interval this will repeat until changed.

Below are some tips and points regarding the time control function:

- The repetition time can be set from every 5 minutes to every 55 minutes.
- To get the heater back to continuous operation (without 5 minutes breaks), set the time control mode and keep pressing the up arrow to one press beyond '55'.

7.9 Using the Remote Control

The remote control can be used in place of the control panel. If the remote control does not function it may be out of range, stand nearer the heater and try again. If it still does not work, change the batteries.

7.10 Stopping the Heater



Important: Do not turn the mains switch off or disconnect the heater from the mains supply to stop the heater or until the cooling cycle is complete.



Important: Turning the mains switch off, or removing the plug from the mains supply to stop the heater or before the cooling cycle is complete may cause overheating, possible damage to the heater and will void the warranty.



Caution: Some parts of the heater will remain hot for up to 1 hour after shut off (dependant on ambient temperature and run time). Ensure the heater is left to cool down fully before handling or putting away.

Stopping the heater:

1. Push the ON/OFF button.
2. Combustion will stop and the cooling cycle will begin.

3. When the cooling cycle has been completed (the fan stops running), it is safe to unplug the heater from the mains supply.

8 Maintenance



Danger: Maintenance operations should only be carried out by suitably qualified persons.



Warning: Never attempt to service or perform maintenance on the heater whilst it is still hot, or plugged into the electrical mains supply.

RECOMMENDED MAINTENANCE SCHEDULE: Proper routine maintenance of the heater will help prolong its life. Please perform maintenance checks and operations according to the maintenance schedule. If there are any questions about the maintenance procedures listed in this manual, please contact an SIP service agent.

Component	Frequency	Procedure
Fuel Tank	Clean every 150-200 hours of operation or when necessary	Empty and rinse with fresh fuel.
Nozzle	Clean or replace once per season or when necessary.	Contact an SIP service agent.
Photocell	Clean once per season or when necessary.	Contact an SIP service agent.
Fuel Filter	Clean or replace twice per season or when necessary.	Clean the fuel filter with clean fuel.
Ignition Device	Clean or replace every 1000 hours of operation, or when necessary.	Contact an SIP service agent.
Fan Blades	Clean when necessary.	Contact an SIP service agent.
General Surface Clean	Clean when necessary	Wipe with a clean dry cloth.



Note: Do not store the heater with fuel inside the tank for more than 2 months as the fuel will go stale.

9 Troubleshooting

Issue	Cause	Corrective Action
Heater does not power on.	No power to the heater.	Carefully unplug the heater and check the cable and plug condition. Contact an SIP customer service agent for cable/plug replacement. Check the rating of the outlet socket.
Heater powers on but heating operation will not start.	1. Low fuel. 2. Target temperature setting is 1°C lower than current ambient temperature. 3. Air in the fuel pump - Misfire LED illuminated. 4. Heater has exceeded it maximum safe temperature - Overheat LED illuminated. 5. Heater has fallen or exceeded the maximum safe tilt angle - Tilt LED illuminated.	1. Check the fuel light on the control panel and top up with fuel if required. 2. Increase the target temperature to at least 2°C above the ambient temperature. 3. Bleed the fuel pump system and restart. 4. Check the front, vents and exhaust for any blockages. Ensure minimum surrounding space is adhered to. Allow to cool then attempt to restart. 5. If heater has fallen, employ a second person or equipment to lift. The heater is heavy, never attempt to lift alone. Get onto level ground and assess to determine if there is any damage. If there is no damage, attempt to restart the heater.

Section 9: Troubleshooting

Issue	Cause	Corrective Action
Ignition failure.	1. Fuel filter is clogged from contaminated fuel or poor maintenance. 2. Displacement or damage of air inlet valve is affecting air flow from transit damage or poor maintenance. 3. Voltage is below system requirements.	1. Check fuel for contamination. Clean filter and replace fuel if necessary. 2. Contact SIP customer service agent. 3. Check the input voltage from the outlet socket.

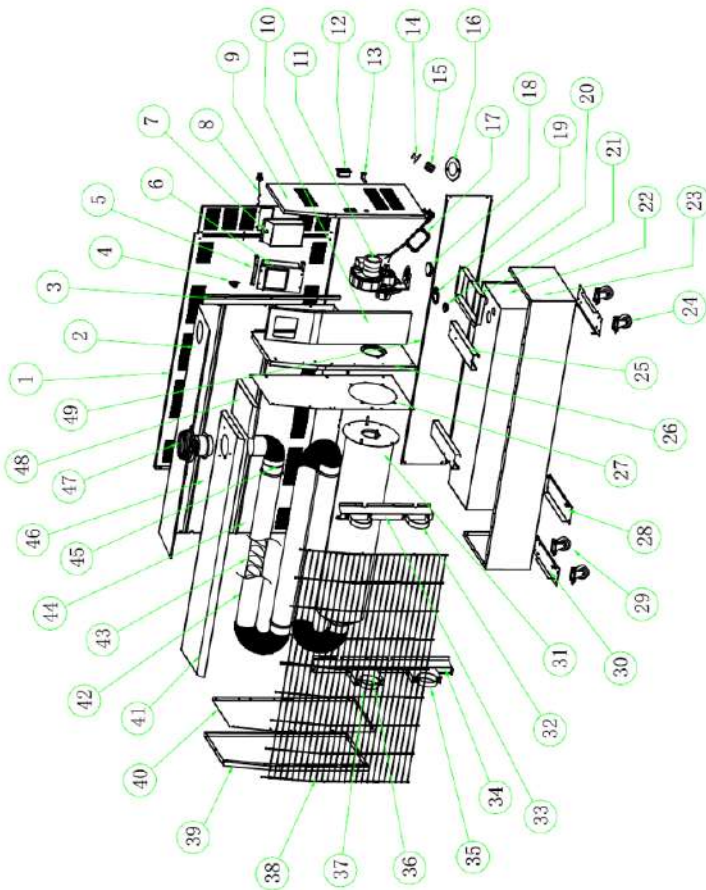
Error Code	Cause	Corrective Action
Er01 (Temperature Control Sensor Error - Open Circuit or Sensor Failure)	1. Sensor cable/wiring disconnected or damaged. 2. Sensor faulty or damaged.	1. Contact an SIP service agent. 2. Contact an SIP service agent.
Er02 (Tip Over Error)	1. Sensor cable/wiring disconnected or damaged. 2. Sensor faulty or damaged. 3. Heater has tipped beyond an angle safe for operation.	1. Contact an SIP service agent. 2. Contact an SIP service agent. 3. If heater has fallen, employ a second person or equipment to lift. The heater is heavy, never attempt to lift alone. Get onto level ground and assess to determine if there is any damage. If there is no damage, attempt to restart the heater.

Error Code	Cause	Corrective Action
Er04 (Photocell Error)	1. No fuel in the fuel tank. 2. Fuel is contaminated/dirty. 3. Fuel Filter is dirty/blocked. 4. Photocell is dirty or faulty. 5. Ignition Error.	1. Turn the power switch off and refuel the heater. 2. Turn the power switch off and drain the fuel tank. Clean or replace the fuel filter and refill the tank with clean fuel. 3. Clean or replace the fuel filter. 4. Contact an SIP service agent. 5. Contact an SIP service agent.
Er05 + Misfire	1. Airlock in the fuel pump or line. 2. Empty fuel tank. 3. Fuel filter is clogged. 4. Fan motor failure. 5. Fuel pump failure.	1. Bleed fuel system and restart heater. 2. Re-fill fuel tank. 3. Clean or change the fuel filter. Check the fuel for contamination. 4. Contact SIP customer service agent. 5. Contact SIP customer service agent.

Error Code	Cause	Corrective Action
Er06 (Temperature Control Sensor Error - Overheat)	1. Sensor cable/wiring disconnected or damaged. 2. Sensor faulty or damaged. 3. Temperature has exceeded maximum safe temperature of the heater system.	1. Contact an SIP service agent. 2. Contact an SIP service agent. 3. Check the front, vents and exhaust for any blockages. Ensure minimum surrounding space is adhered to. Allow to cool then attempt to restart.
Er09 (Fuel Level Sensor Fault)	1. Sensor cable/wiring disconnected or damaged. 2. Sensor faulty or damaged.	1. Contact an SIP service agent. 2. Contact an SIP service agent.

9.1 Exploded Drawing and Parts List

Main Exploded Parts Diagram



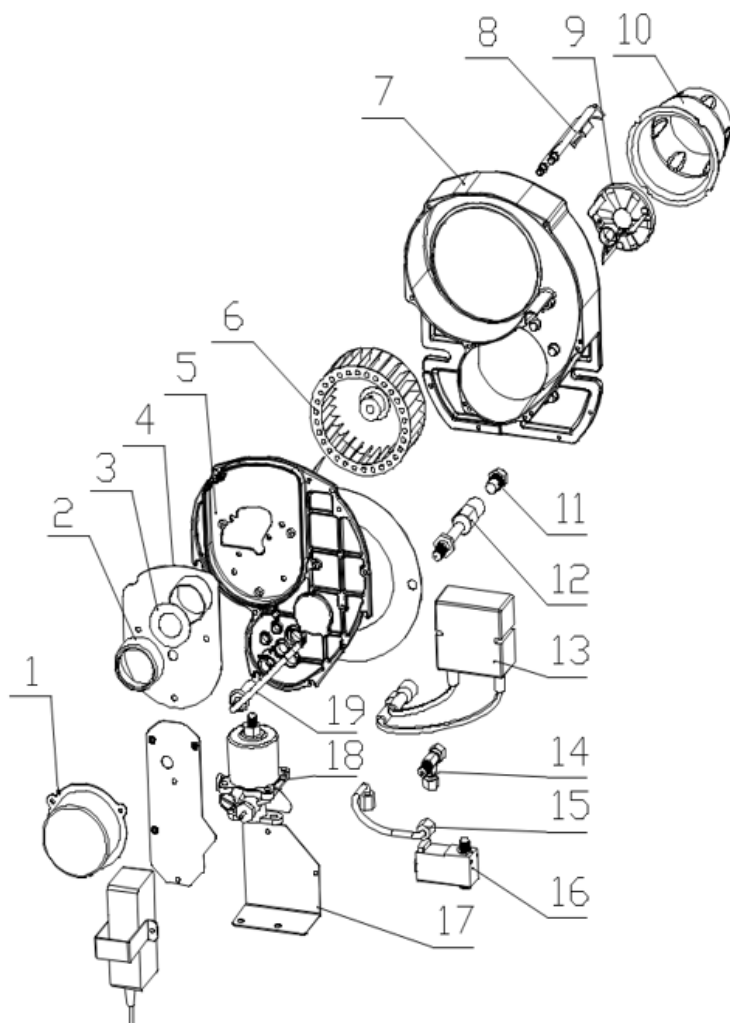
Section 9: Troubleshooting

Ref No	Description	SIP Product Code
1	Back Panel	PW24-00846
2	Upper Lining Board	PW24-00847
3	L-shaped Lining Board Bracket	PW24-00848
4	Snap-Action Thermostat	PW24-00684
5	Control Box Mounting Bracket	PW24-00849
6	Control Box Assembly	PW24-00892
6a	Decorative Ring	PW24-00691
6b	Control Box	PW24-00686
6c	Control Box Cover	PW24-00685
6d	Sticker for Control Panel	PW24-00689
6e	Silicon Filler	PW24-00702
7	Power Cable Storage Box	PW24-00850
8	NTC Temperature Probe	PW24-00843
9	Control Cabinet Right Side Door	PW24-00851
10	Control Cabinet Front Panel	PW24-00852
11	Burner Assembly	PW24-00883
12	Control Cabinet Door Handle	PW24-00853
13	Screwdriver Door lock	PW24-00854
14	Fuel Filter Sleeve	PW24-00735
15	Fuel Filter	PW24-00736
16	Fuel Level Sensor Gasket	PW24-00855
17	Power Cable	PW24-00856
18	Fuel Filling Port and Lid	PW24-00838
19	Fuel Level Sensor	PW24-00840
20	O-Ring for Fuel Inlet and Return Lines	PW24-00702
21	Fuel System Bracket	PW24-00857
22	Fuel Tank	PW24-00858
23	Fuel Tank Cover	PW24-00859
24	One-Way Castor	PW24-00837
25	Fuel Tank Upper Mounting Bracket	PW24-00860

Ref No	Description	SIP Product Code
26	Right Panel	PW24-00861
27	Right Inner Panel	PW24-00862
28	Fuel Tank Lower Mounting Bracket	PW24-00863
29	Swivel Castor With Brake	PW24-00836
30	Castor Bracket	PW24-00864
31	Combustion Chamber	PW24-00865
32	Right Long Elbow Clamp	PW24-00866
33	Short/Right Long Clamp Bracket	PW24-00867
34	Combustion/Left Long Elbow Clamp Bracket	PW24-00868
35	Combustion Elbow Clamp	PW24-00869
36	Clamp to Bracket Mount	PW24-00870
37	Left Long Elbow Clamp	PW24-00871
38	Safety Grille	PW24-00872
39	Left Panel	PW24-00873
40	Left Inner Panel	PW24-00874
41	Top Panel	PW24-00875
42	Left Long Elbow	PW24-00876
43	Muffler Plate	PW24-00877
44	Inner Rear Panel	PW24-00878
45	Short Elbow	PW24-00879
46	Exhaust Pipe Mounting Bracket	PW24-00880
47	Exhaust Safety Grille	PW24-00681
48	Control Cabinet Top Panel	PW24-00881
49	Fuel Tank Cover Rear	PW24-00882
N/A - Accessory	Fuel funnel	PW24-00835
N/A	PCB	PW24-00690
N/A	PCB Power Supply	PW24-00839
N/A	7P Line Wire for PCB	PW24-00738
N/A	800 mm Red PVC Lead Wire	PW24-00841
N/A	800 mm Black PVC Lead Wire	PW24-00842

Ref No	Description	SIP Product Code
N/A	NTC Wire Assembly	PW24-00844
N/A	Control Wire Assembly	PW24-00845

Burner Assembly Components (Part 11)



Section 9: Troubleshooting

Ref No	Description	SIP Product Code
1	DC Fan Motor and Power Adaptor	PW24-00822
2	Silicone Spacer Ring	PW24-00884
3	Inlet Ring (Accessory)	PW24-00885
4	Motor Bracket	PW24-00886
5	Housing Cover Plate	PW24-00887
6	Fan Impellor (Burner Wheel)	PW24-00733
7	Main Housing	PW24-00888
8	Ignition Needle	PW24-00824
9	Flame Plate	PW24-00723
10	Combustion Head Cover	PW24-00889
11	Fuel Injection Nozzle	PW24-00828
12	Injector Nozzle Seat	PW24-00732
13	Ignition Transformer H-01	PW24-00825
14	Galvanized T-Joint Connector	PW24-00830
15	Black Resin High Pressure Fuel Line	PW24-00829
16	Decompression (solenoid) Valve Senya 2W 025-06	PW24-00827
17	Fuel Pump Bracket	PW24-00891
18	Fuel Pump	PW24-00820
19	Photosensitive Resistor Assembly	PW24-00826

10 UK - Declaration of Conformity

We, SIP (Industrial Products) Ltd, Gelders Hall Road, Shepshed, Loughborough, Leicestershire, LE12 9NH, United Kingdom

As the manufacturer within the UK, England, Scotland and Wales, declare that the

SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit - 09243A

Conforms to the requirements of the following regulation(s), as indicated:

Radio Equipment Regulations 2017
Electrical Equipment (Safety) Regulations 2016
Electromagnetic Compatibility Regulations 2016
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
The Ecodesign for Energy-Related Products and Energy Information Regulations 2021

The following standards have been applied:

EN IEC 61000-3-2:2019+A1:2021
EN 61000-3-3:2013+A1:2019+A2:2021
EN IEC 55014-1:2021
EN IEC 55014-2:2021
EN 301 489-17 V3.3.1
EN 301 489-1 V2.2.3
EN 300 328 V2.2.2
EN 60335-2-102:2016
EN 60335-1:2012+A14:2019+A15:2021+A16:2023
EN 50665:2017
EN 62493:2015
EN 13842:2004



Mr. P Ippaso - Managing Director
SIP (Industrial Products) Ltd
Date: 01/06/2026



11 EU - Declaration of Conformity

We, SIP (Machinery Europe) Ltd, ASM, Block One, Quayside Business Park, Dundalk, County Louth, A91 DP8R, Republic of Ireland

As the manufacturer's authorised representative within the EC, declare that the

SIP FIREBALL® IDX100 29kW Industrial Infrared Diesel Heater with 3pc Steel Flue Kit - 09243A

Conforms to the requirements of the following directive(s), as indicated:

2014/53/EU	Radio Equipment (RED) Directive
2014/35/EU	Low Voltage (LVD) Directive
2014/30/EU	Electromagnetic Compatibility (EMC) Directive
2011/65/EU	Restriction of Hazardous Substances (RoHS) Directive
2009/125/EC	Ecodesign Directive

The following harmonised standards have been applied:

EN IEC 61000-3-2:2019+A1:2021
EN 61000-3-3:2013+A1:2019+A2:2021
EN 301 489-17 V3.3.1
EN 301 489-1 V2.2.3
EN 300 328 V2.2.2
EN 60335-1:2012+A14:2019+A15:2021+A16:2023

The following standards have been applied:

EN IEC 55014-1:2021
EN IEC 55014-2:2021
EN 60335-2-102:2016
EN 50665:2017
EN 62493:2015
EN 13842:2004



Mr. P Ippaso - Managing Director
SIP (Machinery Europe Ltd)
Date: 01/06/2026



12 Information Requirements for Gaseous/Liquid Fuel
Local Space Heaters (Regulation (EU) 2024/1103)

Contact Details (UK):	SIP (Industrial Products) Ltd, Gelders Hall Road, Shepshed, Loughborough, Leicestershire, LE12 9NH, United Kingdom		
Contact Details (EU):	SIP (Machinery Europe) Ltd, ASM, Block One, Quayside Business Park, Dundalk, County Louth, A91 DP8R, Republic of Ireland		
Model identifier: 09243A			
Indirect heating functionality: No			
Direct heat output: 29kW			
Indirect heat output: N/A			
Minimum permissible total flue duct length (vertical + horizontal pipe): 1.5m			
Fuel	Liquid	Nitrogen oxides (NO _x) emissions	
Select fuel type	Diesel	Value	Unit
		87	mg/kWh _{net,GCV}
Item	Symbol	Value	Unit
Heat Output			
Nominal Heat output	P _{nom}	29.0	kW
Minimum heat output (indicative)	P _{min}	N/A	kW
Auxiliary electricity consumption			
At nominal heat output	e _{h,max}	0.1	kW
At minimum heat output	e _{h,min}	N/A	kW
Power consumption			
In off-mode	P ₀	1.03	W
In standby mode	P _{sm}	1.03	W
In idle mode	P _{idle}	1.03	W
In networked standby mode	P _{netm}	1.03	W
Standby mode with display of information or status	Yes		
Permanent pilot flame power requirement			
Pilot flame power requirement (if applicable)	P _{pilot}	N/A	kW
Item	Symbol	Value	Unit
Efficiency (NCV)			
Useful efficiency at nominal heat output	η _{th,nom}	91.8	%
Useful efficiency at minimum heat output (indicative)	η _{th,min}	N/A	%
Seasonal space heating energy efficiency	η _s	82.6	%
Type of heat output/room temperature control (select one)			
Single stage heat output, no room temperature control	No		
Two or more manual stages, no room temperature control	No		
Mechanic thermostat room temperature control	No		
Electronic room temperature control	No		
Electronic room temperature control plus day timer	Yes		
Electronic room temperature control plus week timer	No		
Other control options (multiple selections possible)			
Room temperature control, with presence detection	No		
Room temperature control, with open window detection	No		
Distance control option	Yes		
Adaptive start control	No		
Working time limitation	No		
Black bulb sensor	No		
Self-learning functionality	No		
Control accuracy	No		

13 Notes



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.



Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised recycling agent. This will allow the recycling of raw materials and help protect the environment.

**FOR HELP OR ADVICE ON THIS PRODUCT PLEASE CONTACT
YOUR DISTRIBUTOR OR SIP DIRECTLY ON:**

T: 01509 500400

E: sales@sip-group.com or customerservice@sip-group.com



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