

# USER'S MANUAL OF DUCT TYPE ELECTRICAL HEATER

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APPLIED TO MODELS

AS-EC35

AS-EC65

AS-EC100

AS-EC100F ( HF-250H )

AS-EC100F ( HF-250H-A )


























Attention  
Please read this manual carefully before using the equipment

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# Safety Considerations








Please read the following safety instructions before installation. And ensure that the unit is installed correctly.  
Please observe all instruction in order to avoid any injury or damage to equipment or property.







Safety attentions			
The following symbols indicate potential levels of caution.			
 Warning	Situations with a risk or death or serious injure.	 Attention	Situations with a risk of injury or equipment/property damage.
The following symbols indicate compliance which must be observed			
	Not allowed or Stop		Must follow  or obliged

 <b>Warning</b>			
	Installation to be carried out by qualified person, End Users must not install, move or re-install this equipment by themselves		An anti-bird net or similar device should be installed to outside vents. Ensure there are no obstructions to or in the ducts
	Installation engineers must follow this manual strictly. Improper action can create a health hazard and reduce efficiency of the unit		Fresh air vent must be far enough away from any flue gas discharge or areas where hazardous vapors are present
	Unit must be installed strictly following this manual and mounted to a weight bearing surface for the weight of the unit		Electric engineering must follow national regulations and the manual, use special cables. Less capacity cables and improper engineering can cause electric shock or fire.
	During maintenance or repair, the unit and circuit breaker must be switched off. Otherwise electric shock could occur.		Ground wire cannot be connected to gas pipe, water pipe, lighting rod or telephone line etc. Incorrect grounding can cause electric shock.
 <b>Attention</b>			
	Power cable and wires must be installed by a qualified electrical engineer. Improper connection can cause over heating. Fire and loss of efficiency.		To avoid condensation, insulation should be fitted to fresh air ducts. Other ducting may also require insulation depending on dew point conditions.
	Insulation between the metal ducting and wall penetration must be installed if the ducting penetrates metal wall cladding, to avoid risk of electric shock or current leakage.		The cover of wiring box must be pressed down and closed to avoid dust and dirt entering. Excess dust and dirt can cause overheating of terminals and result in fire or electric shock.
	Use only approved installation hardware and accessories. Failure to observe can result in fire risk, electric shock and equipment failure		Where the unit is positioned, at high level in a hot humid situation. Please ensure sufficient ventilation is available
	The outdoor ducts must be installed facing downwards to avoid rain water entering. Improper installation can cause water leakage.		Correctly sized MCB must be fitted to the unit suitable earth leakage protection should also be installed to avoid risk of electric shock or fire.

# Safety Considerations

## Safety Considerations

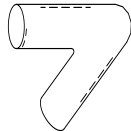
 <b>Attention</b>			
	Do not install the unit in an extremely humid conditions, as it may result in electric shock and pose a fire risk.		Do not use the units as the primary kitchen extract grease and fatty deposits can block the heat exchanger, filter and pose a fire risk.
	Don not install the unit in areas there any poisonous or caustic gases are present.		Do not install the unit near open flame as it may result in over heating and pose a fire risk
	Acidic or alkali environments can cause poisoning or a fire		Rated supply voltage must be maintained, otherwise this may cause fire.

 <b>Warning</b>			
	This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.		
	Children shall not play with the appliance.		Cleaning and user maintenance shall not be made by children without supervision.
	Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.		Prior to cleaning or other maintenance, the appliance must be disconnected from the supply mains.

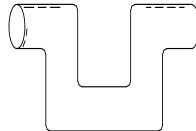
# Installation Considerations

## Installation attentions

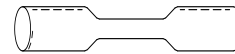
1. The duct type electrical heater should be installed between the ducts of air conditioning units or heat recovery ventilator, to preheat the incoming air and to avoid the problem of over low temperature of supply air.
2. Protection to the unit must be made to avoid construction dust or detritus entering the unit if the unit will be kept either long or short time in the installation site.
3. Unit cannot be installed nearby the water heater.
4. Following phenomenon should be avoided in duct installation.



Severe bends



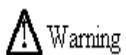
Multiple direction changes



Multiple reducers/ crimped duct

5. Unit should be connected with other ventilation equipments by the ducts, no air ports should be reserved between the equipments.
6. Unit should be fasten on the hook housing of steel plate, and insulated by non-combustible insulation material.
7. The flange gasket between the duct connection should be made by heat-resisting and non-combustible materials.
8. If the size of the vent of unit do not match those of duct system, use the reducer pipe for transition. The reducer should be made according to the ventilation ducting design regulation (the angle between duct and reducer should be less than 15 degree) .
9. The main duct should install the air valve to regulate the airflow, to make sure each fan in series doesn't run at overload status. The bigger airflow, the higher load of fans.

## Electrical Installation



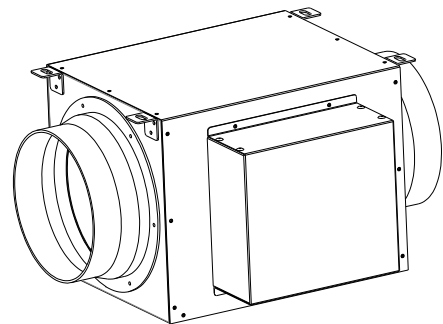
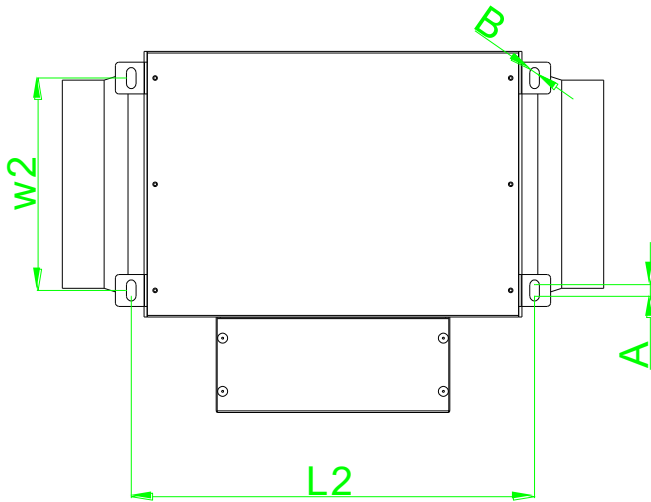
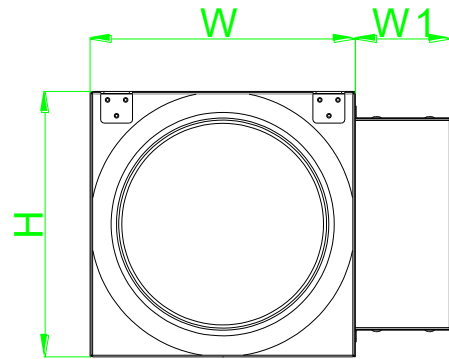
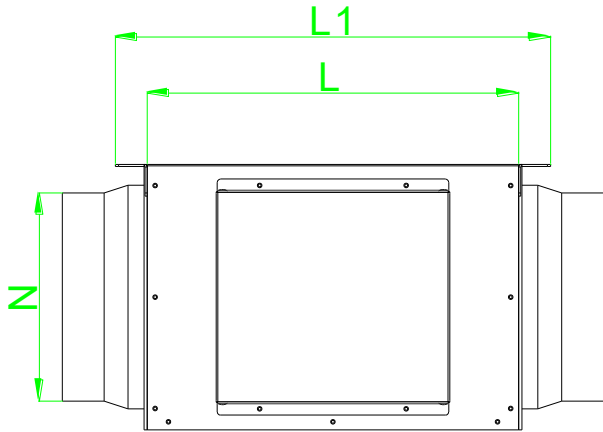
Warning

Power must be cut off before installation and maintenance to avoid injury by electric shock. The specifications of cables must strictly match the requirements, otherwise it may cause performance failure and danger of electric shock or fire.

1. The power supply is AC220V/50Hz/1ph.
2. Unit should be well-grounding.
3. The wiring terminals exposed should be protected by cover.
4. **The electrical heater can only be used under ventilation status. The ON/OFF of electrical heater should be locked with fans.**
5. Open the cover of electrical box, connect the 2 wires (L/N/) to the terminals.

Model	Specification of power supply cable
AS-EC35	2×1.5mm <sup>2</sup>
AS-EC65	2×1.5mm <sup>2</sup>
AS-EC100	2×2.0mm <sup>2</sup>
AS-EC100F ( HF-250H )	2×2.5mm <sup>2</sup>
AS-EC100F ( HF-250H-A )	2×2.5mm <sup>2</sup>

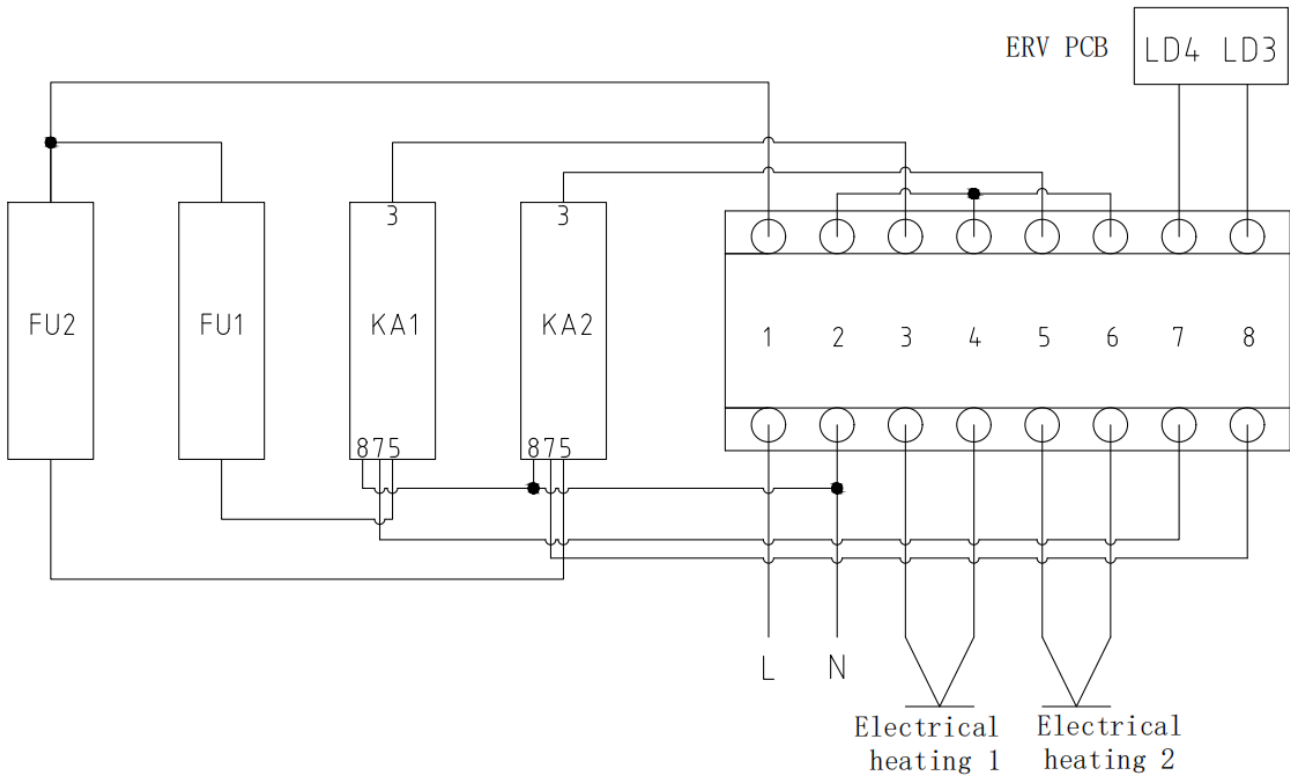
# Dimensions



Model	L1	L	H	W	W1	W2	L2	B	A	N
AS-EC35	410	350	270	280	90	230	380	9	11	145
AS-EC65	410	350	250	250	90	200	380	9	11	196
AS-EC100	460	400	324	324	90	234	430	9	11	245
AS-EC100F (HF-250H)	460	400	324	324	90	234	430	9	11	245
AS-EC100F (HF-250H-A)	460	400	324	324	90	234	430	9	11	245

# Wiring Diagram and Technical Parameters

## Wiring diagram



## Technical parameters

Model	Rated Air-flow	Power Consumption (kw)		Heating power (kw)		Temp. rise(°C)		Volt (V)	Frequency (Hz)
	(m <sup>3</sup> /h)	Low	High	Low	High	Low	High		
AS-EC35	350	0.6	1.1	0.5	1.0	5.0	10.0	220	50
AS-EC65	650	0.9	1.7	0.8	1.6	5.0	10.0	220	50
AS-EC100	1000	1.3	2.5	1.2	2.4	5.0	10.0	220	50
AS-EC100F (HF-250H)	1000-1300	1.5	2.9	1.4	2.8	5.0	10.0	220	50
AS-EC100F (HF-250H-A)	1000-1300	1.8	3.5	1.7	3.4	5.0	10.0	220	50

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