

USER'S GUIDE

WATER HEATED AIR CURTAINS

Models:

HEAT1-W-100

HEAT1-W-150

HEAT1-W-200

Thanks for purchasing this Air Curtain.

PLEASE READ AND SAVE THESE INSTRUCTIONS.

Strongly recommend to test the unit before installation for any defective or damage during shipment.

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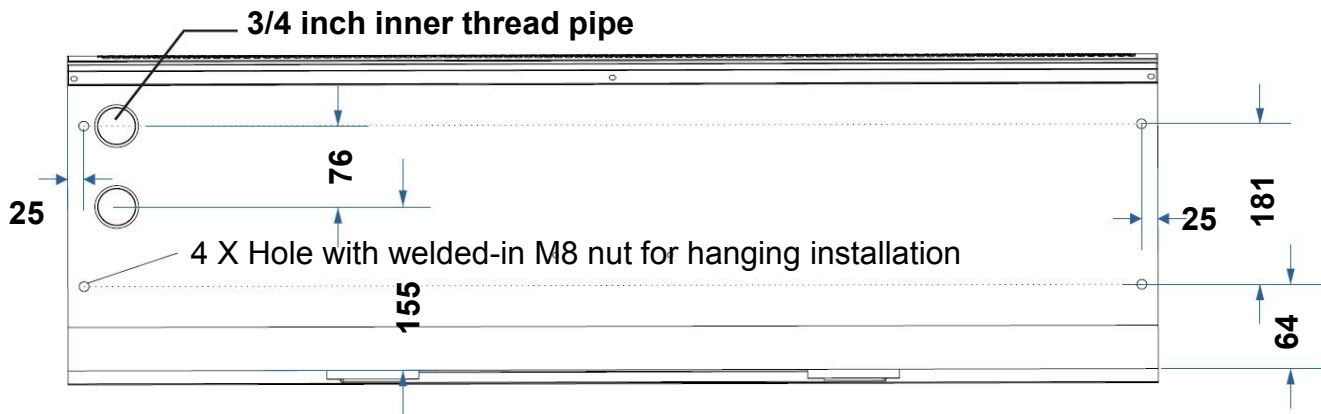
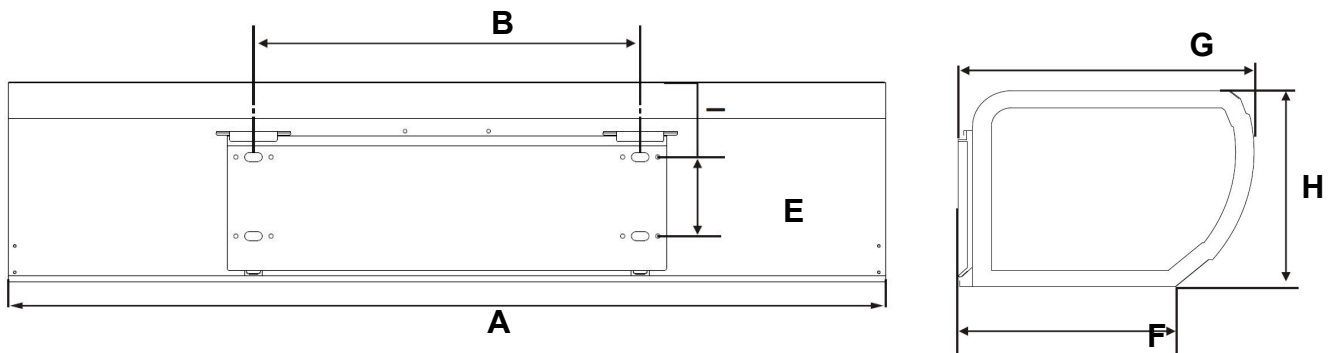
1. PRODUCT INTRODUCTIONS

Air curtains are widely installed at the entrances of supermarket, shop, waiting room, hotel, factory, storage room etc. They can reduce penetration of insects, outside dust, unconditioned air into a conditioned space by forcing an air stream over the entire entrance to create a comfortable environment for indoor.

The water heated air curtain is a type of energy saving product. You can use it all year around. You can install it at a place with heating or air conditioning system.

2. INSTALLATION DIMENSIONS

UNIT: mm if not indicated



MODEL	A	B	E	F	G	H	I	N.W (KG)
HEAT1-W-100	1000	440	90	228	310	227	83	18
HEAT1-W-150	1500	840						28
HEAT1-W-200	2000							34

Note: The data are subject to change without notice due to product development.

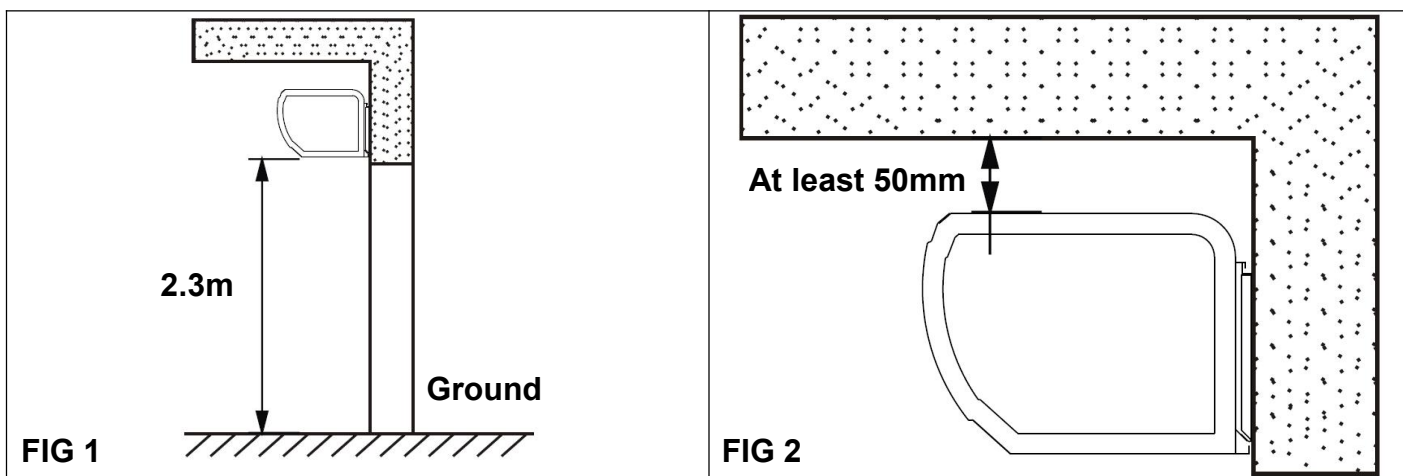
3. INSTALLATION PLANNING & CAUTIONS

WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, READ THE FOLLOWING CAREFULLY before attempting to assemble, install, operate or maintain the product.

Must observe the following when installing air curtains:

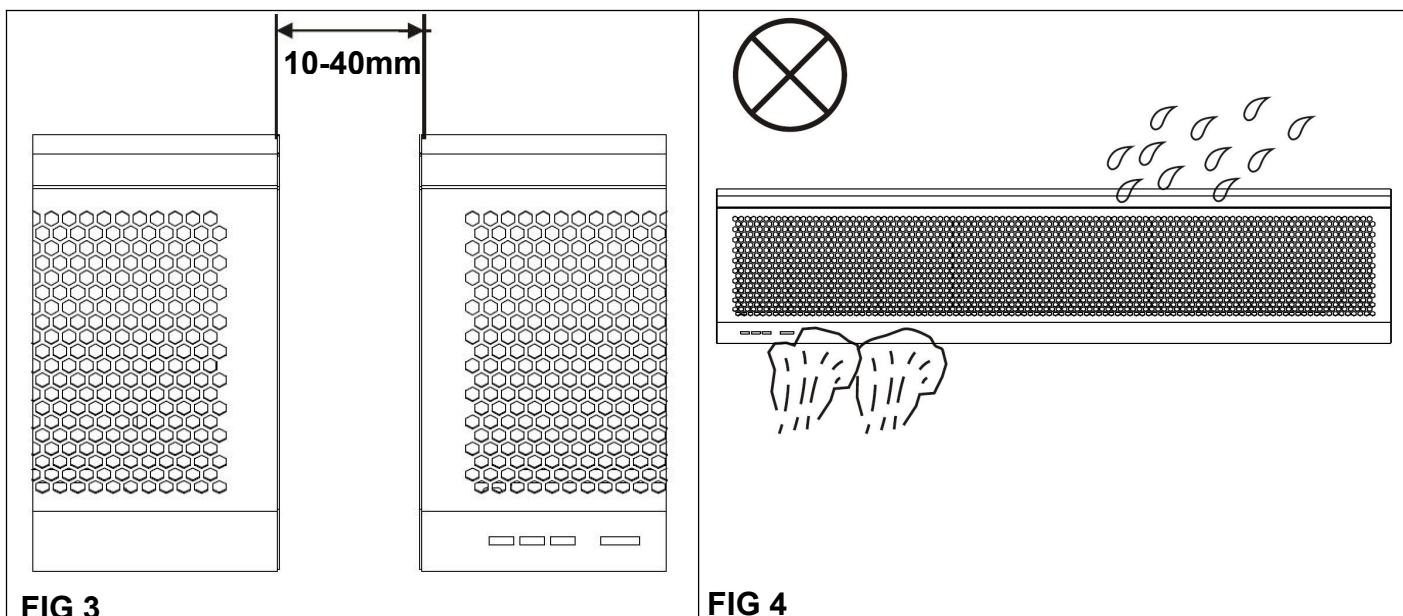
3.1 Please install it indoors at the place over the door. Don't install the unit too low, no less than 2.3 meters from the ground. See FIG 1 please.

3.2 The distance between the ceiling and the top of the air curtain shall be at least 50mm. See FIG 2 please.



3.3 When the entrance is wider than the unit, it is recommended to install two or more units in parallel. In this case, provide 10-40mm gaps between the units. See FIG 3 please.

3.4 Don't install the unit at a place where it is splashed by water, exposed to excessive steam, dust / explosive gas or corrosive gas. See FIG 4 please.



3.5 Hanging kit is not included. Please buy them to hang the air curtain to a sturdy place, such as the ceiling, mounting bracket. The product is designed hanging installation only.

3.6 Always disconnect, lock and tag power source before installing or servicing. Failure to disconnect power source can result in fire, shock or serious injury.

3.7 Please install the unit from a stationary and secure part of the building structure to avoid shaking and ensure its security (because the unit running may cause the wall to become loose or shake and make noise).

3.8 Verify and ensure the rated voltage and frequency (please refer to the rating label) of the air curtain is in compliance with the mains supply.

3.9 Do not cover the air inlet and air outlet of the air curtain when it is in operation.

3.10 Routine maintenance must be done every year.

3.11 Never use petrol, benzene, thinner or any other such chemical for cleaning the unit.

3.12 If power supply comes from socket, please use correct socket which the plug can fit properly. If connect the leads of power cord to the power supply directly without plug, please make sure the distance between contacts is 3mm at least.

3.13 The heat source of the product is hot water/steam. When no need heating, turn off the heat source to use it as an unheated air curtain.

3.14 The max pressure resistance of the product: 1.8~2.0Mpa.

3.15 Install it in indoors. Thermal insulation for the pipe must be done in winter to avoid the pipe crack because of severe cold.

3.16 Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.

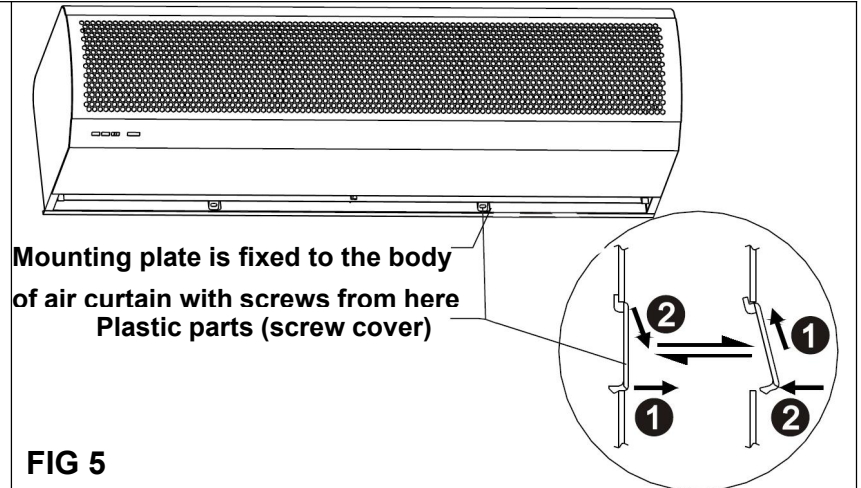
3.17 When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.

3.18 To reduce the risk of fire or electric shock, do not use this fan with any solid-state speed control device

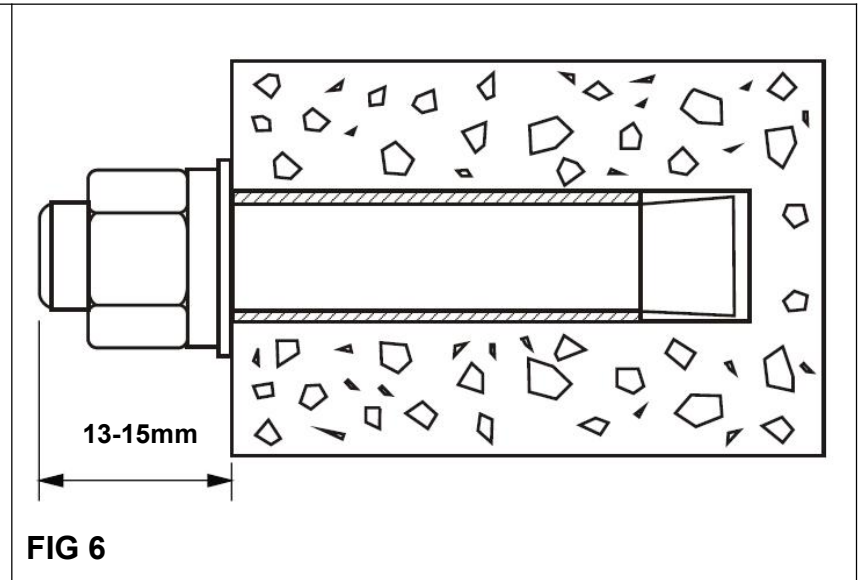
3.19 Repair and maintenance operations can only be performed by qualified personnel.

4. INSTALLATION INSTRUCTIONS

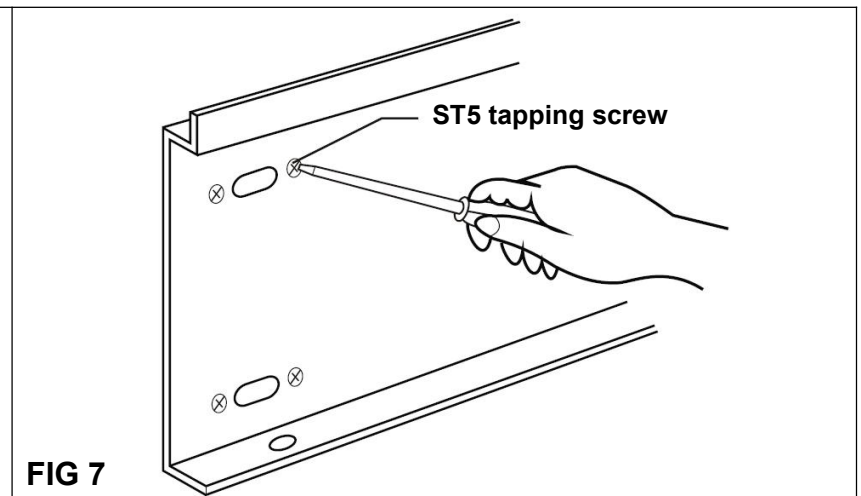
4.1 Remove the plastic parts (if the screw is covered by the plastic parts – screw covers) and unscrew the fixing screws to remove the mounting plate from the back of the main body.



4.2 If install it on concrete wall or brick wall and any other hard wall, please refer to the installation dimensions to determine the positions where fixing screws. Fix the M8 expansion bolts in the wall. Leave at least 13-15mm of the expansion bolt outside the wall.



4.3 If install it on wood plank wall or similar walls, please refer to the installation dimensions to determine the positions where fixing screws. Fix the mounting plate on wall with ST5 tapping screws.



4.4 Hang the main body onto the upper end of the mounting plate, and then tighten the fixing screws back to the mounting plate, cover the screws with the plastic parts (screw covers) as per FIG 5.

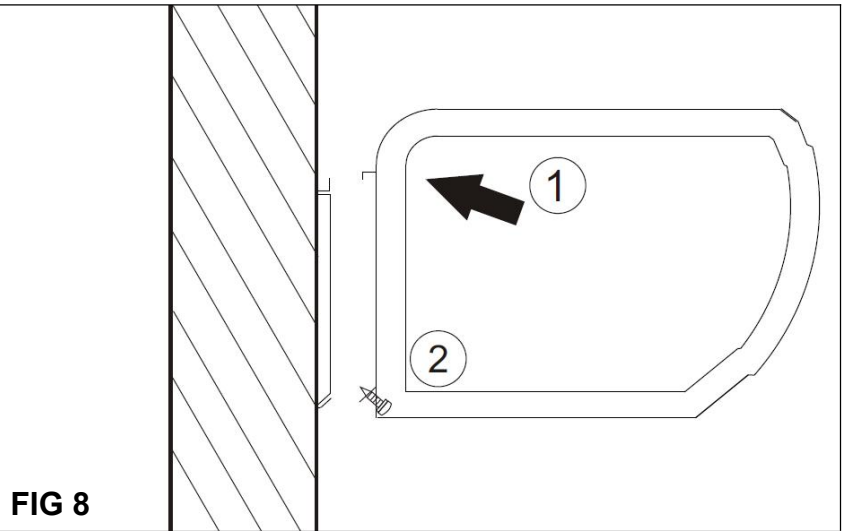


FIG 8

4.5 NOTE:

Hanging installation only!
Must hang the product to a sturdy place. Hanging kit is not included.
Please refer to the hanging installation dimensions on page 2.
Hanging bolt in the product shall not be more than 20mm long.

If any installation accessories are not provided, please buy them on yourself and make sure they are tough enough for the installation.

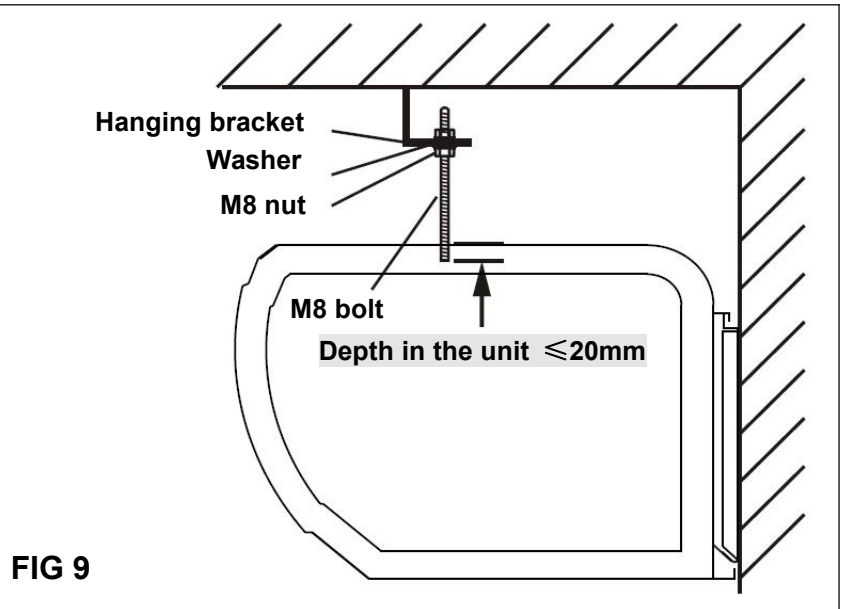


FIG 9

4.6 If install it above ceiling, please purchase suitable pipes.

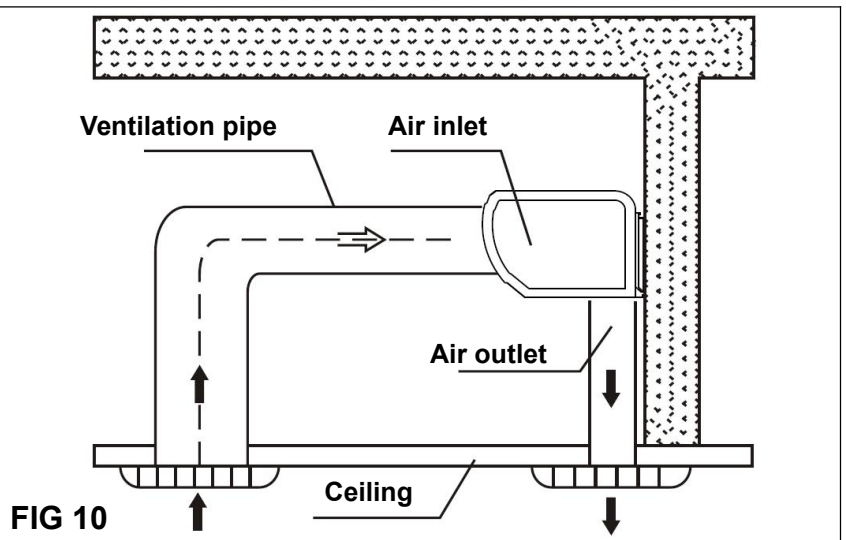


FIG 10

4.8 After the air curtain is fixed securely, connect water inlet and water outlet pipes (not provided) to the product. Please make sure no any water leakage.

Diameter of pipe thread: 3/4 inch

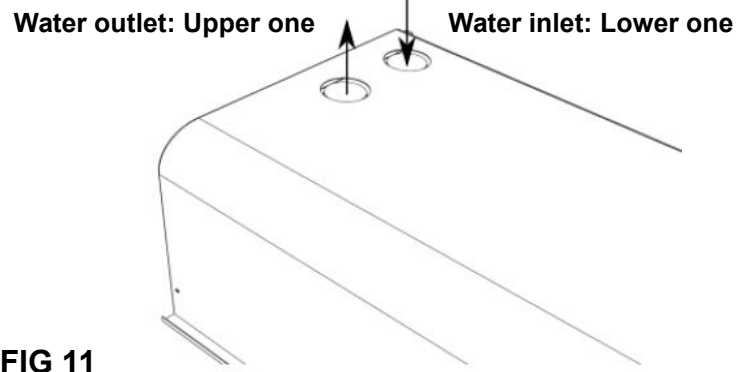


FIG 11

5. TECHNICAL PARAMETER

Model No.	Wheel Dia. (mm)	Dimensions (mm)	Voltage (V~Hz)	Motor input power H/L (W)	Air volume H/L (m ³ /h)	Air velocity H/L (m/s)	Noise level (dB)	N.W. (Kg)
HEAT1-W-100	115	1000X310X227	220V~, 50Hz	150/120	1500/1150	9/7	<57	18
HEAT1-W-150	115	1500X310X227		200/160	2250/1750	9/7	<59	28
HEAT1-W-200	115	2000X310X227		320/280	3250/2550	9/7	<61	34

The specifications are subject to change without notice due to product development.

TABLE A:

Model: HEAT1-W-100	AIR FLOW									
	H = 9m/s					L = 7m/s				
	V=1500 m3/h					V=1150 m3/h				
	Tp1	PT	Qw	Δ pw	Tp2	Tp1	PT	Qw	Δ pw	Tp2
°C	kW	l/h	kPa	°C	°C	kW	l/h	kPa	°C	
Tw1/Tw2 = 90/70°C	0	9.0	400	1.5	26.0	0	9.0	400	1.5	26.0
	5	9.0	400	1.5	31.0	5	9.0	400	1.5	31.0
	10	9.0	400	1.5	36.0	10	9.0	400	1.5	36.0
	15	9.0	400	1.5	41.0	15	9.0	400	1.5	41.0
	20	9.0	400	1.5	46.0	20	9.0	400	1.5	46.0
Tw1/Tw2 = 80/60°C	0	8.0	370	1.5	23.0	0	8.0	370	1.5	23.0
	5	8.0	370	1.5	28.0	5	8.0	370	1.5	28.0
	10	8.0	370	1.5	33.0	10	8.0	370	1.5	33.0
	15	8.0	370	1.5	38.0	15	8.0	370	1.5	38.0
	20	8.0	370	1.5	43.0	20	8.0	370	1.5	43.0
Tw1/Tw2 = 70/50°C	0	7.0	340	1.5	20.0	0	7.0	340	1.5	20.0
	5	7.0	340	1.5	25.0	5	7.0	340	1.5	25.0
	10	7.0	340	1.5	30.0	10	7.0	340	1.5	30.0
	15	7.0	340	1.5	35.0	15	7.0	340	1.5	35.0
	20	7.0	340	1.5	40.0	20	7.0	340	1.5	40.0
Tw1/Tw2 = 60/40°C	0	6.0	310	1.5	17.0	0	6.0	310	1.5	17.0
	5	6.0	310	1.5	22.0	5	6.0	310	1.5	22.0
	10	6.0	310	1.5	27.0	10	6.0	310	1.5	27.0
	15	6.0	310	1.5	32.0	15	6.0	310	1.5	32.0
	20	6.0	310	1.5	37.0	20	6.0	310	1.5	37.0

V – Air volume

PT – Heating capacity

Tp1 – Inlet air temperature

Tp2 – Outlet air temperature

Tw1 – Inlet water temperature

Tw2 – Outlet water temperature

Qw – Water flow rate

Δ pw– Pressure drop of water

The specifications are subject to change without notice due to product development.

TABLE B:

Model: HEAT1-W-150	AIR FLOW									
	H = 9m/s					L = 7 m/s				
	V=2250 m ³ /h					V=1750 m ³ /h				
	Tp1	PT	Qw	Δ pw	Tp2	Tp1	PT	Qw	Δ pw	Tp2
	°C	kW	l/h	kPa	°C	°C	kW	l/h	kPa	°C
Tw1/Tw2 = 90/70°C	0	13.0	600	2.2	26.0	0	13.0	600	2.2	26.0
	5	13.0	600	2.2	31.0	5	13.0	600	2.2	31.0
	10	13.0	600	2.2	36.0	10	13.0	600	2.2	36.0
	15	13.0	600	2.2	41.0	15	13.0	600	2.2	41.0
	20	13.0	600	2.2	46.0	20	13.0	600	2.2	46.0
Tw1/Tw2 = 80/60°C	0	12.0	570	2.2	23.0	0	12.0	570	2.2	23.0
	5	12.0	570	2.2	28.0	5	12.0	570	2.2	28.0
	10	12.0	570	2.2	33.0	10	12.0	570	2.2	33.0
	15	12.0	570	2.2	38.0	15	12.0	570	2.2	38.0
	20	12.0	570	2.2	43.0	20	12.0	570	2.2	43.0
Tw1/Tw2 = 70/50°C	0	11.0	540	2.2	20.0	0	11.0	540	2.2	20.0
	5	11.0	540	2.2	25.0	5	11.0	540	2.2	25.0
	10	11.0	540	2.2	30.0	10	11.0	540	2.2	30.0
	15	11.0	540	2.2	35.0	15	11.0	540	2.2	35.0
	20	11.0	540	2.2	40.0	20	11.0	540	2.2	40.0
Tw1/Tw2 = 60/40°C	0	10.0	510	2.2	17.0	0	10.0	510	2.2	17.0
	5	10.0	510	2.2	22.0	5	10.0	510	2.2	22.0
	10	10.0	510	2.2	27.0	10	10.0	510	2.2	27.0
	15	10.0	510	2.2	32.0	15	10.0	510	2.2	32.0
	20	10.0	510	2.2	37.0	20	10.0	510	2.2	37.0

V – Air volume

PT – Heating capacity

Tp1 – Inlet air temperature

Tp2 – Outlet air temperature

Tw1 – Inlet water temperature

Tw2 – Outlet water temperature

Qw – Water flow rate

Δ pw– Pressure drop of water

The specifications are subject to change without notice due to product development.

TABLE C:

Model: HEAT1-W-200	AIR FLOW									
	H = 9m/s					L = 7m/s				
	V=3250 m3/h					V=2550 m3/h				
	Tp1	PT	Qw	Δ pw	Tp2	Tp1	PT	Qw	Δ pw	Tp2
	°C	kW	l/h	kPa	°C	°C	kW	l/h	kPa	°C
Tw1/Tw2 = 90/70°C	0	17.0	800	3.0	26.0	0	17.0	800	3.0	26.0
	5	17.0	800	3.0	31.0	5	17.0	800	3.0	31.0
	10	17.0	800	3.0	36.0	10	17.0	800	3.0	36.0
	15	17.0	800	3.0	41.0	15	17.0	800	3.0	41.0
	20	17.0	800	3.0	46.0	20	17.0	800	3.0	46.0
Tw1/Tw2 = 80/60°C	0	16.0	750	3.0	23.0	0	16.0	750	3.0	23.0
	5	16.0	750	3.0	28.0	5	16.0	750	3.0	28.0
	10	16.0	750	3.0	33.0	10	16.0	750	3.0	33.0
	15	16.0	750	3.0	38.0	15	16.0	750	3.0	38.0
	20	16.0	750	3.0	43.0	20	16.0	750	3.0	43.0
Tw1/Tw2 = 70/50°C	0	15.0	700	3.0	20.0	0	15.0	700	3.0	20.0
	5	15.0	700	3.0	25.0	5	15.0	700	3.0	25.0
	10	15.0	700	3.0	30.0	10	15.0	700	3.0	30.0
	15	15.0	700	3.0	35.0	15	15.0	700	3.0	35.0
	20	15.0	700	3.0	40.0	20	15.0	700	3.0	40.0
Tw1/Tw2 = 60/40°C	0	14.0	650	3.0	17.0	0	14.0	650	3.0	17.0
	5	14.0	650	3.0	22.0	5	14.0	650	3.0	22.0
	10	14.0	650	3.0	27.0	10	14.0	650	3.0	27.0
	15	14.0	650	3.0	32.0	15	14.0	650	3.0	32.0
	20	14.0	650	3.0	37.0	20	14.0	650	3.0	37.0

V – Air volume

PT – Heating capacity

Tp1 – Inlet air temperature

Tp2 – Outlet air temperature

Tw1 – Inlet water temperature

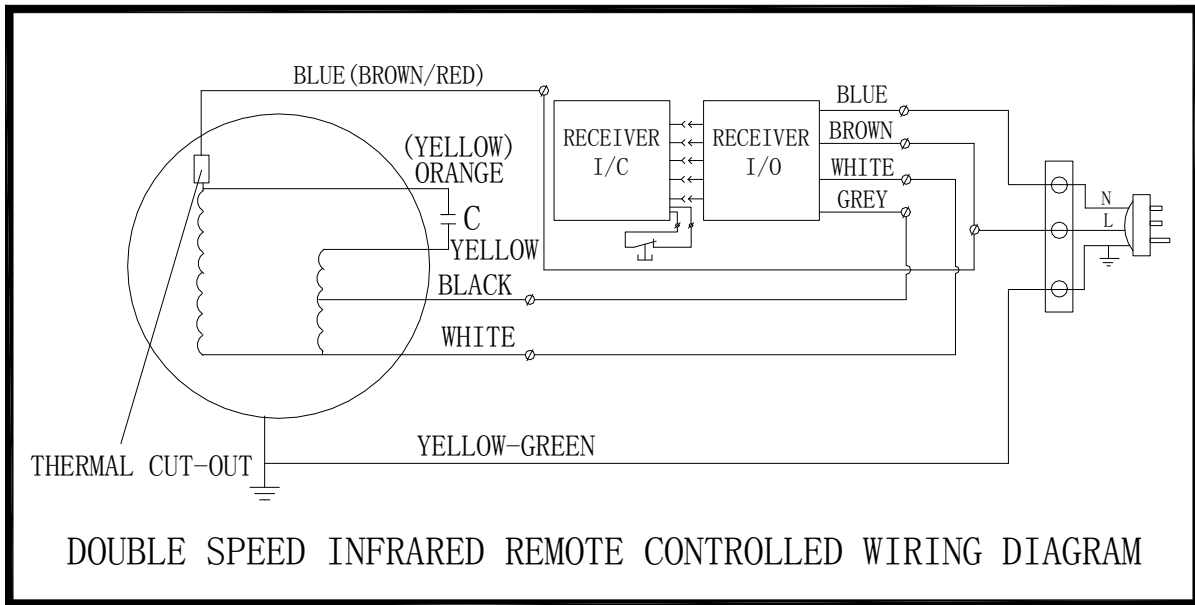
Tw2 – Outlet water temperature

Qw – Water flow rate

Δ pw– Pressure drop of water

The specifications are subject to change without notice due to product development.

6. WIRING DIAGRAM



7. OPERATING INSTRUCTIONS

7.1 Connect power to the unit.

7.2 Press the [ON/OFF] button on the air curtain to turn it on at default [H] - high speed. Press the button again to select [L] - Low speed. You can repeat pressing the button press to cycle through ON – H, L, and OFF.

The temperature of the air flow from the nozzle is controlled by the user's heating system.

Room with cooling	Room with heating	Prevent against smell and insect
<p>Indoor Outdoor</p>	<p>Indoor Outdoor</p>	<p>Indoor Outdoor</p>
<p>For the place with cooling, please make the air deflector toward indoor in an angle between 0 – 15 degrees.</p>	<p>For the place with heating, please make the air deflector toward outdoor in an angle between 0 – 15 degrees.</p>	<p>For the place of canteen, kitchen, please make the air deflector toward outdoor in an angle between 0 – 15 degrees.</p>

8. MAINTENANCE AND CLEANING

WARNING:

- A. Any service is to be performed only by qualified personnel who are familiar with local codes and regulations and are experienced with this type of product.**
- B. Always unplug or disconnect the appliance from the power supply before installation, servicing or cleaning the unit.**
- C. Never use petrol, benzene, thinners or any other such chemicals for cleaning the unit.**
- D. Don't allow water or any liquid to enter the motor.**
- E. Use the unit at the rated voltage and frequency indicated on the rating label.**

- 8.1. Routine maintenance must be done every year, clean the dust on the heat exchanger and other parts, keep them clean.
- 8.2. Plastic parts should be cleaned with mild soap water, thoroughly remove soap film with a clean damp cloth.
- 8.3. Dry the case with a soft dry cloth before operating the unit.
- 8.4. Please choose proper piping according to the type of heat source. The pipe must be thermal insulated. When using hot water as heat source, the upper one is water outlet and the lower one is water inlet. Install automatic discharge valve at the place of water outlet or the highest place of main pipe.
- 8.5. When using hot water as heat source, the water must be soft water.
- 8.6. Please discharge condensed water or steam and preheat for 10 minutes when need to use the product.
- 8.7. Please discharge the water in the heat exchanger when the product is not in use.
- 8.8. In order to prolong the lifespan of the product, prohibit heating when the product is not turned on.
- 8.9. If any abnormality happens, turn off the product immediately and check the problem.