

**Congratulations, you have made a wise choice the purchase of this product. This product has been designed, assembled and supplied in one of our world class manufacturing facilities and we feel that it will meet your expectations.**

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PRODUCT RANGE

UNIT	V / Ph / 50 Hz	NOMINAL CAPACITY W	NOMINAL CONSUMPTION KW
SNE 2,8K	230 V - 1Ph	8.300	2,68
SNE 3K	230 V - 1Ph	10.700	3,18
	230 V - 3Ph		
	400 V - 3Ph		
SNE 4K	230 V - 3Ph	13.600	3,82
	400 V - 3Ph		

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## GENERAL INFORMATION

The air conditioner, horizontal compact, water condensed type SNE, are specially design for small and average installation, office, house etc..

On standard version cools, heats, dehumidifies, cleans and filter the air. The option of easily incorporating an electric heater or hot water coil to be able to work as heating

## CABINET

The cabinet is made of electrozincd steel with epoxy painted finish and finished on polyester powder. Its compact dimensions and features allow the unit to be positioned in almost any location.

Internally the unit incorporate thermal acoustic insulation to reduce sound level.

## HEAT EXCHANGER

Made of copper tubing with aluminium swirl fins, they are designed and specially dimensioned to obtain the maximum output

## COMPRESSOR

One compressor of the hermetically sealed type cooled with internal thermal insulation. It is mounted on vibration-absorbent blocks both on the inside and outside, statically and dynamically balanced. In all cases the compressors are acoustically isolated, resulting in silent operation.

## FAN

The units include a centrifugal three speed motor fan, with a motor directly fitted, with high performance on air flow.

## CONDENSER

The unit includes condenser plate, compact and resistant made on inoxidable steel, specially selected for this type of unit.

## AIR FILTER

A polypropylene washable air filters are incorporated in the unit they are easy accessible for maintenance

## COOLING CIRCUIT

Made of welded dehumidifying copper tube with access connections. Includes dehydrator filter, liquid recipient expansion system and high and low pressostat on all models

## ELECTRICAL CIRCUIT

The electrical panel includes a printed board, necessary for installation, and plate circuit board ready to control the unit, which incorporates defrosting timer thermostat. The power supply of the unit may turn be off by a fuses block on the electrical box. The function of the unit is controlled by cable thermostat.

## REMOTE CONTROL

Digital remote controller by cable at 24V, digital selector temperature which permit to choose the following function:

- Selection ON/OFF
- Three functions mode: cool, heat and fan operating.
- Two options fan operating: AUTO (automatic) which Select turn on and stop automatically fan mode temperature. On mode ON the fan doesn't stop even when temperature is selected.
- Selector three steps fan.

## OPTIONS

- Electrical heater mounted on fan discharge.
- Hot water coil.
- Presostatic valves regulating water flow
- Discharge plenum
- Admission plenum
- Digital thermostat programmable.

## SPECIFICATIONS

UNIT		SNE 2,8K	SNE 3K	SNE 4K
Total cooling capacity	W (*)	8.300	10.700	13.600
Nominal absorber power	Kw	2,68	3,18	3,82
Air flow (max./min.)	m <sup>3</sup> /h	1800/950	2050/1100	2050/1450
Available static power. (1)	Pa	120	100	80
Chilled water flow rate	l/h	1885	2390	3000
Chilled water pressure drop	KPa	24	30	16
Net weight	Kg	100	110	120
Sound level (LP)(2)	dB(A)	50	52	53
Dimensions	H (mm)	1125	1125	1125
	Large (mm)	635	635	635
	W (mm)	515	515	515
Hydraulic connections		3/4" G	3/4" G	1" G

(\*) Inlet air temperature: 27°C DB / 19°C WB

Inlet/Outlet water temperature: 30°C / 35°C

(1) With minimum air flow admissible □

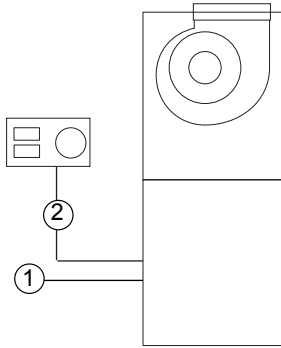
(2) Sound level has been tested at a distance of 2m from the unit.

## ELECTRICAL SPECIFICATIONS

		SNE 2,8K	SNE 3K	SNE 4K
VOLTAGE		230V / 1Ph		
			230V / 400V 3Ph	
NOMINAL ABSORBER POWER				
Compressor	Kw.	2,50	2,78	3,42
Indoor fan	Kw.	0,18	0,40	0,40
TOTAL	Kw.	2,68	3,18	3,82
RUNNING CURRENT				
Nominal running current	A	14,0	17,4	
			9,5/5,5	11,5/6,8
Maximum running current	A	18,0	23,0	
			16,0/10,0	20,0/12,0
Starting current	A	91	90	
			78 / 39	106 / 53

# ELECTRICAL CONNECTIONS

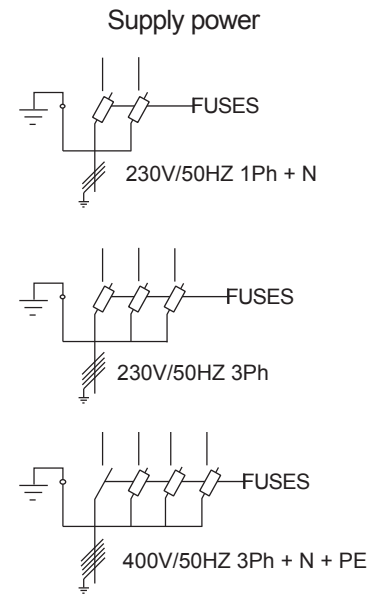
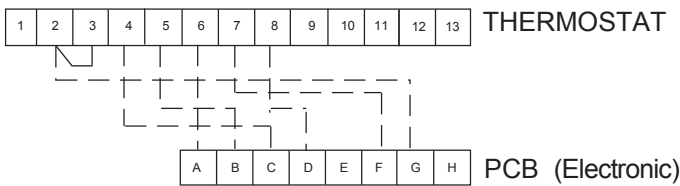
- ① Power supply
- ② Thermostat connections



MODEL	VOLTAGE 50Hz	N° OF CABLES X SECTION	
		①	②
SNE 2,8K	230 V / 1Ph	3 X 4mm <sup>2</sup>	6 X 1,5mm <sup>2</sup>
SNE 3K	230 V / 1Ph	3 X 4mm <sup>2</sup>	6 X 1,5mm <sup>2</sup>
	230 V / 3Ph	4 X 4mm <sup>2</sup>	6 X 1,5mm <sup>2</sup>
	400 V / 3Ph	5 X 2,5mm <sup>2</sup>	6 X 1,5mm <sup>2</sup>
SNE 4K	230 V / 3Ph	4 X 6mm <sup>2</sup>	6 X 1,5mm <sup>2</sup>
	400 V / 3Ph	5 X 4mm <sup>2</sup>	6 X 1,5mm <sup>2</sup>

**ELECTRICAL WIRING DIAGRAM  
FOR ELECTRICAL CONNECTION  
REFER TO WIRING DIAGRAM IN  
THE UNIT**

**SNE 2,8K-3K-4K**



## FAN SPECIFICATIONS

<b>SNE 2,8K</b>		AVAILABLE STATIC PRESSURE <b>Pa.</b>								
		0	20	40	60	80	100	120	140	
AIR FLOW	<b>m<sup>3</sup>/h</b>	HIGH SPEED	1800	1650	1550	1425	1300	1150	975	---
		AVERAGE SPEED	1250	1225	1200	1150	1075	950	---	---
		LOW SPEED	---	---	---	---	---	---	---	---

Unit leaves factory connected in AVERAGE and HIGH Speed.

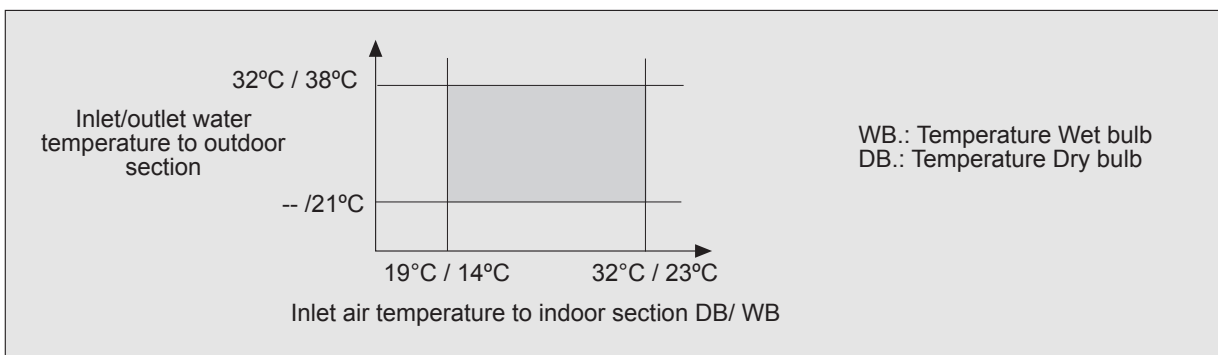
<b>SNE 3K</b>		AVAILABLE STATIC PRESSURE <b>Pa.</b>								
		0	20	40	60	80	100	120	140	
AIR FLOW	<b>m<sup>3</sup>/h</b>	HIGH SPEED	2050	1925	1775	1625	1450	1250	---	---
		AVERAGE SPEED	2000	1850	1700	1550	1375	1100	---	---
		LOW SPEED	1840	1700	1575	1375	1275	---	---	---

Unit leaves factory connected in AVERAGE and LOW Speed

<b>SNE 4K</b>		AVAILABLE STATIC PRESSURE <b>Pa.</b>								
		0	20	40	60	80	100	120	140	
AIR FLOW	<b>m<sup>3</sup>/h</b>	HIGH SPEED	2050	1925	1775	1625	1450	---	---	---
		AVERAGE SPEED	2000	1850	1700	1550	---	---	---	---
		LOW SPEED	1840	1700	1575	---	---	---	---	---

Unit leaves factory connected in HIGH and AVERAGE Speed.

## OPERATING LIMITS



## COOLING CAPACITY

### SNE 2,8K

### SNE 3K

INLET AIR TEMPERATURE TO INDOOR UNIT	COOLING CAPACITY IN kW	CONDENSING TEMPERATURE						CONDENSING TEMPERATURE					
		30°C	35°C	40°C	45°C	50°C	55°C	30°C	35°C	40°C	45°C	50°C	55°C
21°C DB	TOTAL	7,84	7,53	7,21	6,89	6,57	6,24	10,19	9,80	9,40	9,01	8,61	8,20
15°C WB	SENSIBLE	5,68	5,52	5,36	5,20	5,04	4,88	7,33	7,13	6,93	6,73	6,53	6,33
24°C DB	TOTAL	8,50	8,17	7,83	7,48	7,13	6,78	11,07	10,65	10,23	9,81	9,38	8,94
17°C WB	SENSIBLE	6,09	5,93	5,77	5,61	5,44	5,28	7,86	7,66	7,46	7,26	7,05	6,85
27°C DB	TOTAL	9,21	8,85	8,49	8,12	7,74	7,36	12,02	11,58	11,13	10,67	10,21	9,74
19°C WB	SENSIBLE	6,49	6,33	6,16	6,00	5,83	5,67	8,38	8,18	7,97	7,77	7,56	7,36
29°C DB	TOTAL	9,98	9,60	9,20	8,80	8,40	7,99	13,06	12,58	12,10	11,61	11,11	10,61
21°C WB	SENSIBLE	6,53	6,36	6,19	6,03	5,86	5,69	8,45	8,24	8,03	7,83	7,62	7,41
32°C DB	TOTAL	10,81	10,39	9,97	9,54	9,10	8,65	14,18	13,66	13,14	12,62	12,08	11,54
23°C WB	SENSIBLE	6,90	6,73	6,57	6,40	6,23	6,05	8,95	8,74	8,52	8,31	8,10	7,89

### SNE 4K

INLET AIR TEMPERATURE TO INDOOR UNIT	COOLING CAPACITY IN kW	CONDENSING TEMPERATURE					
		30°C	35°C	40°C	45°C	50°C	55°C
21°C DB	TOTAL	12,89	12,36	11,84	11,33	10,82	10,32
15°C WB	SENSIBLE	8,78	8,49	8,20	7,92	7,66	7,40
24°C DB	TOTAL	13,98	13,41	12,85	12,30	11,76	11,23
17°C WB	SENSIBLE	9,35	9,05	8,76	8,48	8,21	7,94
27°C DB	TOTAL	15,14	14,54	13,95	13,36	12,78	12,20
19°C WB	SENSIBLE	9,91	9,60	9,31	9,02	8,74	8,47
29°C DB	TOTAL	16,41	15,77	15,13	14,50	13,87	13,25
21°C WB	SENSIBLE	10,00	9,69	9,39	9,10	8,81	8,53
32°C DB	TOTAL	17,77	17,08	16,40	15,72	15,04	14,37
23°C WB	SENSIBLE	10,52	10,21	9,90	9,60	9,31	9,03

DB: Dry Bulb  
WB: Wet Bulb

Nominal capacity established on following conditions:

- Air inlet temperature : 27°C DB/19°C WB
- Inlet/outlet water temperature: 30°C/35°C
- Condensing Temperature between 40 and 45°C depending on models

Data based on the following air flow:

	MODELS SNE		
	2,8	3	4
AIR FLOW IN M <sup>3</sup> /H	1550	1700	1700

## COEFFICIENTS OF CORRECTION OF COOLING CAPACITY

Data of cooling capacity rated on tables are calculated for nominal air flow, for minimum /maximum air flow, you must follow the following table

AIR FLOW	SNE 2,8K			SNE 3K			SNE 4K		
	MAX.	NOMINAL	MÍN.	MAX.	NOMINAL	MIN.	MÁX.	NOMINAL	MIN.
TOTAL CAPACITY	1,02	1	0,90	1,03	1	0,90	1,03	1	0,98
SENSIBLE CAPACITY	1,06	1	0,81	1,08	1	0,82	1,07	1	0,96

## CONSUMPTION AND WATER PRESSURE DROP

Normally, the water condense is used across a cooling tower with water temperature around 30°C, and water flow available to work the unit with condensation temperature between 40 and 45°C.

You are able not to use a cooling tower when the unit is near a river etc.. with enough flow and enough quality of the water. The use of the water must be used always across a previous Analysis of water. If the water inlet temperature is below 20°C, It is then necessary to use a regulation valve (Option) to maintain condensing temperature value between 40 and 45 °C.

Depending inlet water temperature and condensation temperature needed you will be able to calculate water consumption following the table below.

TABLE OF WATER CONSUMPTION ON UNITS SNE (L/H) (\*)

UNIT	DIFFERENCES BETWEEN: CONDENSATION TEMPERATURE AND INLET WATER TEMPERATURE (°C)							
	10	15	20	25	30	35	40	45
<b>SNE 2,8K</b>	3300	1220	740	520	400	325	270	235
<b>SNE 3K</b>	4160	1545	945	670	515	420	350	300
<b>SNE 4K</b>	4550	1690	1030	730	560	460	385	330

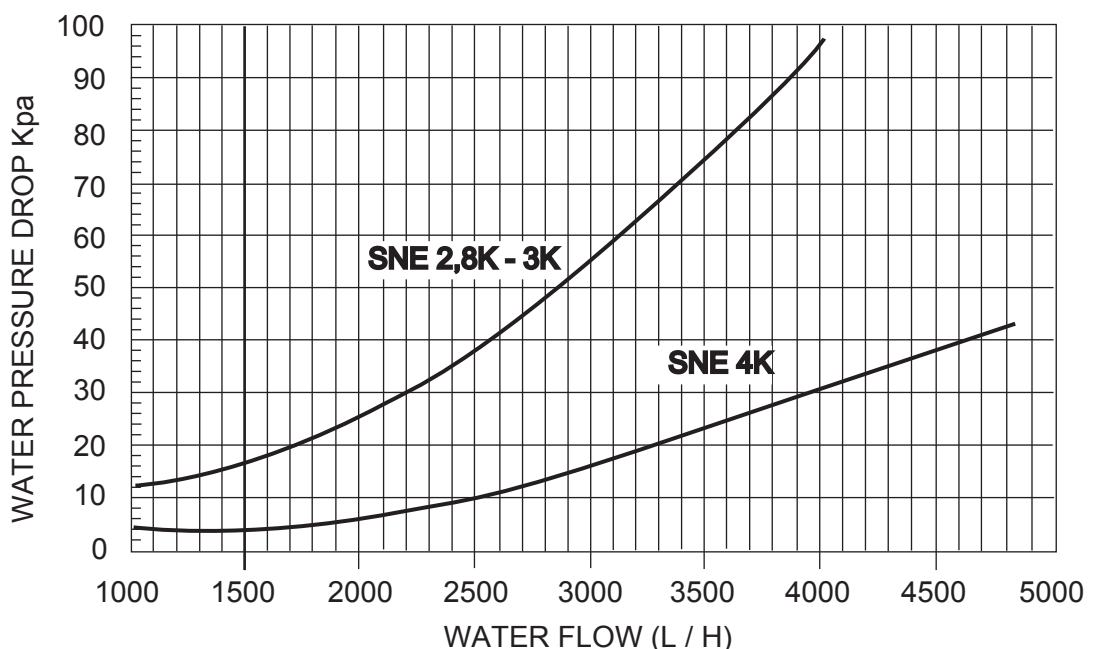
(\*) Inlet air temperature  
27°CWB / 19°C DB

### COEFFICIENTS FOR DIFFERENT AIR INLET TEMPERATURE.

For different air inlet temperature multiply the consumption by the coefficient of this table.

	AIR INDOOR TEMPERATURE (WB/DB)				
	21/15	24/17	27/19	29/21	32/23
Coefficients of water consumption	0,88	0,93	1	1,07	1,14

### WATER PRESSURE DROP







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## INSTALLATION

### PRE-INSTALLATION

Prior to install the equipment make sure of the following points:

- Leave enough space for access to air supply, water section, power supply and outlet condense.
- The water section must have the correspondant valves.
- Easy extraction of the air filter.
- Easy access to lateral panel for easy accessibility to all services of the unit.
- Unit must be mounted with springs.
- The electrical section must be done following legal normative
- Check that the tension is the same as installation place.
- Check the water condense quality, across analysis.
- Keep in mind water inlet temperature of the unit. Temperature below 20°C you will need a water regulation pressostatic valve ( element as option) to maintain condensation temperature value between 40 and 45°C.
- Depending on water entry temperature, you have to calculate the water flow following the consumption table.
- Check that air flow needed correspond for duct installation.
- Keep in mind power supply for maximum consumption for each unit.

### INSTALLATION

- All installation must be carried out by qualified personnel
- Make sure that the unit is completely disconnected from the power supply before carrying out any type of work on the unit.

Hydraulic circuit:

- Make sure that the water connections are correct, inlet water (down side), outlet water (upper side)
  - Fit a water filter in the outlet water connection, the step of the mesh should not be less than 0.5mm, wich avoid welded and dirty get to the unit.
  - If quality of water is not good, may be neccesary to install a decalcified
  - Install cut off valves at inlet and outlet water connections, because of in case of repairs, the hydraulic circuit can be independent.
  - Install an adecuate water pump, and all the elements necessities for the installation.
- Air flow:
    - All models include three fan speed motor fan.
    - Make the motor fan connections for the fan speed required to adecuate the air flow neded for the installation
  - Drainage tube:
    - Use the flexible tube connected to the tray as a drainage tube.
    - Cause a siphon with this tube in order to avoid the inlet of scents from the installation to the unit.

## SERVICE AND MAINTENANCE

- The unit under supply, have rotating objects and high temperature into the pipe. Make sure to turn off electrically the unit before to access for maintenance or revision.
- Air filter: Clean the filter (maximum each 6 months), but the clean of the filter depend on the ambient where the units is working.
- Water filter: Realise a clean of the filter.
- Security elements: The unit include electrical elements of security( Internal thermal protection on the compressor and motor fan, external thermal protection on the compressor and motor three phase) and cooling elements of security like high and low pressostat pressure with electrical rearm. If limits of function of the unit is out of conditions of work, some protections will be display.

### LOCALISATION OF PROBLEMS

PROBLEMS	CAUSES
<ul style="list-style-type: none"> <li>• Cut low pressure (Electrical rearm) (*)</li> <li>• Cooling capacity low.</li> <li>• Freeze on coil</li> </ul>	<ul style="list-style-type: none"> <li>• Air in temperature very low</li> <li>• Defect on refrigerant charge. Test that the refrigerant is correct.</li> <li>• Air filter dirty</li> <li>• low air flow.</li> <li>• Water temperature is too low</li> </ul>
<ul style="list-style-type: none"> <li>• Cut high pressure (Electrical rearm) (*)</li> <li>• High consumption</li> <li>• Thermal compressor protection cut</li> </ul>	<ul style="list-style-type: none"> <li>• High water temperature</li> <li>• Low air flow</li> </ul>

(\*) Rearm electrically the unit turning off/on, after repair the cause which produce a cut on high and low pressure.

## OPTIONS

### PLENUM

#### DISCHARGE PLENUM

Use discharge plenum if you do not use duct on the discharge.  
This plenum includes a grille with orientable lame for a correct distribution of the air.

#### ADMISSION PLENUM

Use the admission plenum if you are going to use duct of aspiration air or hot water coil. The superior part is detachable to access and clean air filter of the unit.

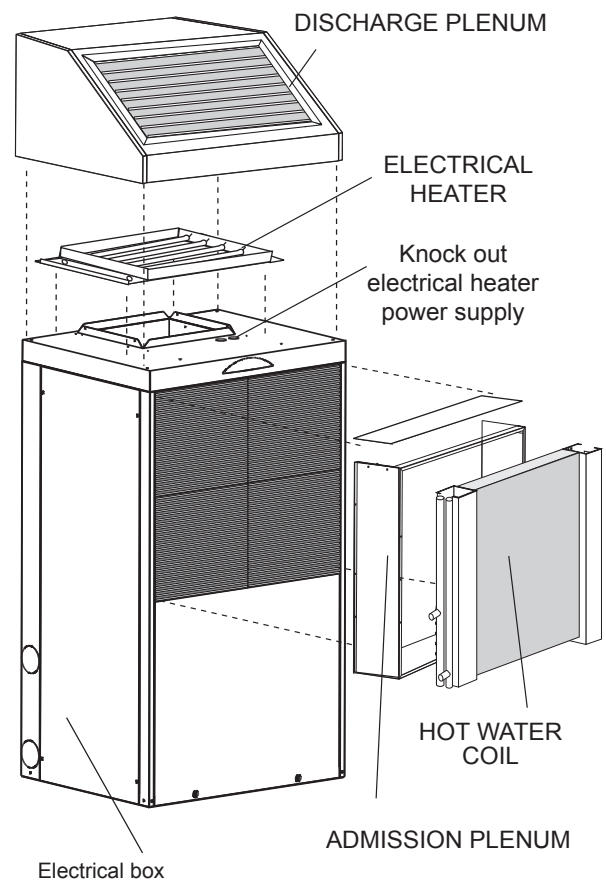
Fix both plenums with the screws supplied

### ELECTRICAL HEATER TECHNICAL DATA

	Power	Voltages
SNE 2,8K - 3K - 4K	6 Kw 1 Step	230V / 1Ph -50Hz 230 V /400 V 3Ph -50Hz
	7,5 Kw 1 Step	230 V /400 V 3Ph -50Hz

### INSTALLATION

- The electrical should be install into the impulsion fan of the unit.
- Fix the screws following the figure.
- Take out the knock out, and take the electrical supply of the electrical heater to the electrical box of the unit.



### HOT WATER COIL 1 ROW TECHNICAL DATA

DIFFERENCE TEMPERATURE BETWEEN WATER IN AND AIR IN INTO THE BATTERIE (°C)

SNE 2,8K - 3K - 4K

60 50 40

CAPACITY IN KW FOR FLOW OF 500 L/H .

9,90 8,25 6,60

DROP PRESSURE AIR = 10 Pa.

DROP PRESSURE WATER= 15 K Pa

DATA CALCULATED FOR AN AIR FLOW OF = 1700 m<sup>3</sup>/h

### INSTALLATION

This optional kit included a hot water coil and an admission plenum.

- Install the admission plenum with the screw supplied at the discharge of the unit.
- Screw the hot water coil to the discharge plenum as figure shows.

The hot water coil is symmetrical, the water connections could be located, to the right or left.

## OPTIONS

### PRESOSTATIC VALVES

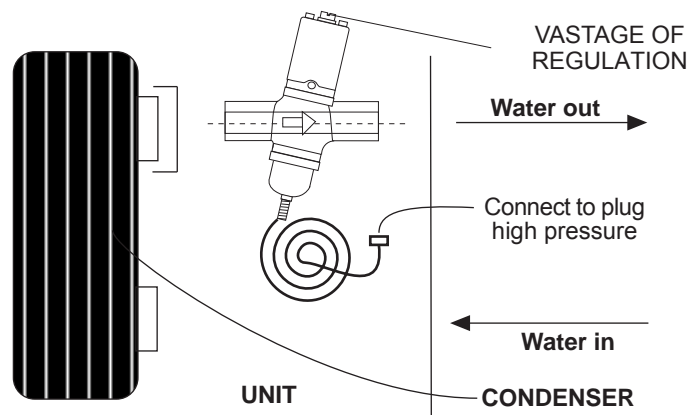
If water inlet temperature is below 20°C we recommend to maintain level condensation temperature in (40 a 45°C)

#### FUNCTION

The presostatic valve maintain some values of the condensation pressure regulating the water flow which enter into the condenser.

When the condensation pressure is up, the valve open and water enter. and when pressure is low the valve close.

- Install the kit at the outlet water side of the condenser
- Keep in mind the row indicated in the valve.
- Connect the capillary tube of the valve to the plug of high pressure in the pipe of the unit.



### REGULATION PRESOSTATIC VALVES

- Connect a manometer of high pressure (30 bar) near the refrigerating circuit of the unit.
- Turn over the vastage in the head of the valve( right the valve open, left the valve close) regulating the water flow which enter into the unit.
- You must leave the unit working during 10 minutes and see the indication of the manometer. If the condensation pressure temperature is aproximately. 45°C the valve is correctly regulated. If not restart the regulation described before.

## POINTS TO KEEP IN MIND



ABRASIVE  
SURFACE



LOW  
TEMP



HIGH  
TEMP.



RISK OF INJURY  
MOVING OBJECTS



ELECT.  
VOLTA



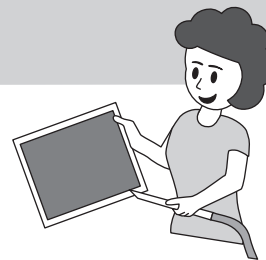
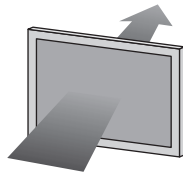
RISK OF INJURY  
WITH ROTATING

## ATTENTION

Before attempting to perform any service or maintenance on unit, turn off the electrical power, and check that the fan has stopped.

### FILTER CLEANING

Check the filter and make sure its blocked with dust or dirt.



If the filter is dirty, wash it in a bowl with neutral soap and water, drying it in the shade before inserting it in the unit.

## standard guildness to lennox equipement

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The data published in the operating instructions is based on the latest information available. We reserve the right to make modifications without notice.

We reserve the right to modify our products without obligation to modify previously supplied goods.

These operating instructions contain useful and important information for the smooth operation and maintenance of your equipment.

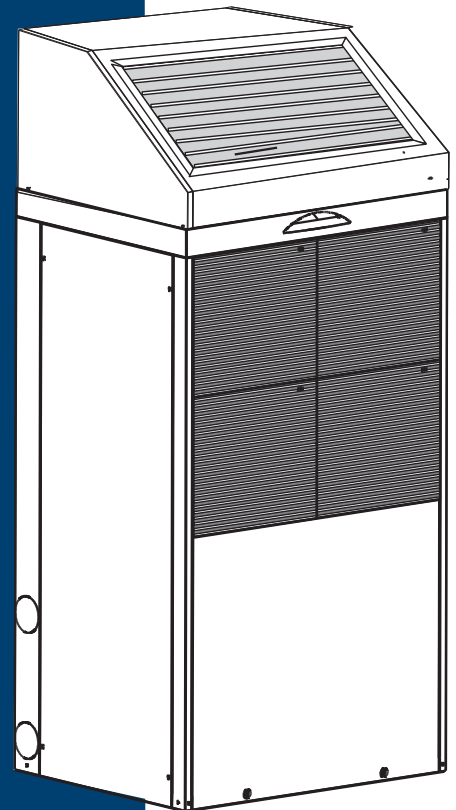
The instructions also includes guideliness on how to avoid accidents and serious damage before commissioning the equipment and during its operation and how to ensure smooth and fault-free operation. Read the operating instructions carefully before starting the equipment, familiarise yourself with the equipment and handling of the installation and carefully follow the instructions. It is very important to be properly trained in handling the equipment. These operating instructions must be kept in a safe near the equipment.

Like most equipment, the unit requieres regular maintenance. This section concerns the maintenance personnel and management.

If you have any queries or would like to receive futher information on any aspect relating to your equipement, do not hesitate to contact us.



**OPERATION, SERVICE AND  
INSTALLATION MANUAL**



PROVIDING **GLOBAL SYSTEM SOLUTIONS**

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