42TPM Fan Coil Units – 50Hz

Quality Assurance
Certificate Reg. No:
04 100 950420

Puron
the environmentally sound refrigerant

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Installation Operation Maintenance Manual

Manufacturer's Name: Saudi Airconditioning Manufacturing Co. Ltd.
Country of origin : Jeddah, Saudi Arabia
Nearest port of embarkation: Jeddah Islamic port
Product classification: Commercial and Residential

42TPM – 50Hz

Nominal Cooling Capacity 1.5 – 5.0 Tons
HFC R-410A Refrigerant

42TPM Direct Expansion fan coil units are available in 7 sizes with nominal cooling capacity range from 1.5 to 5.0 Tons. Each unit is designed to occupy a minimum space. Piping, drain, and wiring connections are readily accessible, integral mounting brackets are included to save installation time. Unit controls are conveniently mounted on the exterior panel.

Contact your local Carrier representative for additional support.

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Safety Considerations

General

The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. Children should be supervised not to play with the appliance.

Improper installation, adjustment, alteration, service, maintenance or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer; service agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing. Follow all the safety codes. Wear safety glasses and work gloves. Use quenching cloths for brazing operations and have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes for special requirements. In absence of local codes, it is recommended that the USA standard ANSI/NFPA 70, National Electrical Code (NEC), be followed.

It is important to recognize safety information. This is the safety-alert symbol  . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand the signal words DANGER, WARNING, CAUTION**,** and NOTE**.** These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury of death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

Installation Safety Considerations

After the unit has been received and when it is ready to be installed or reinstalled, it must be inspected for damage. If damage is detected upon receipt, immediately file a claim with the shipping company or repair. This machine must be installed in a location that is not accessible to the public and protected against access by non-authorized people. This machine must not be installed in an explosive atmosphere.

Do not remove the skid or the packaging until the unit is in its final position. The units can also be lifted with slings, using only the designated lifting points marked on the unit (labels on the chassis and a label with all unit handling instructions are attached to the unit). Use slings with the correct capacity, and always follow the lifting instructions on the certified drawings supplied for the unit.

Motors are permanently lubricated; use of any external lubricant (including WD40) is not allowed, For units without factory supplied control it is the full responsibility of the user to install proper controls matching the unit's design and capable to carry components current, control wiring should be strictly follow local/national electrical codes (i.e. using telephone wires or similar is prohibited). Safety is only guaranteed, if these instructions are carefully followed. If this is not the case, there is a risk of material deterioration and injuries to personnel.

Warranty

Warranty is based on the general terms and conditions of the manufacturer. Any modifications to the design and/or installation made without discussion with Carrier and without advance written agreement will result in the loss of the right to any warranty claims and any claim for injury to personnel as a result of these modifications.

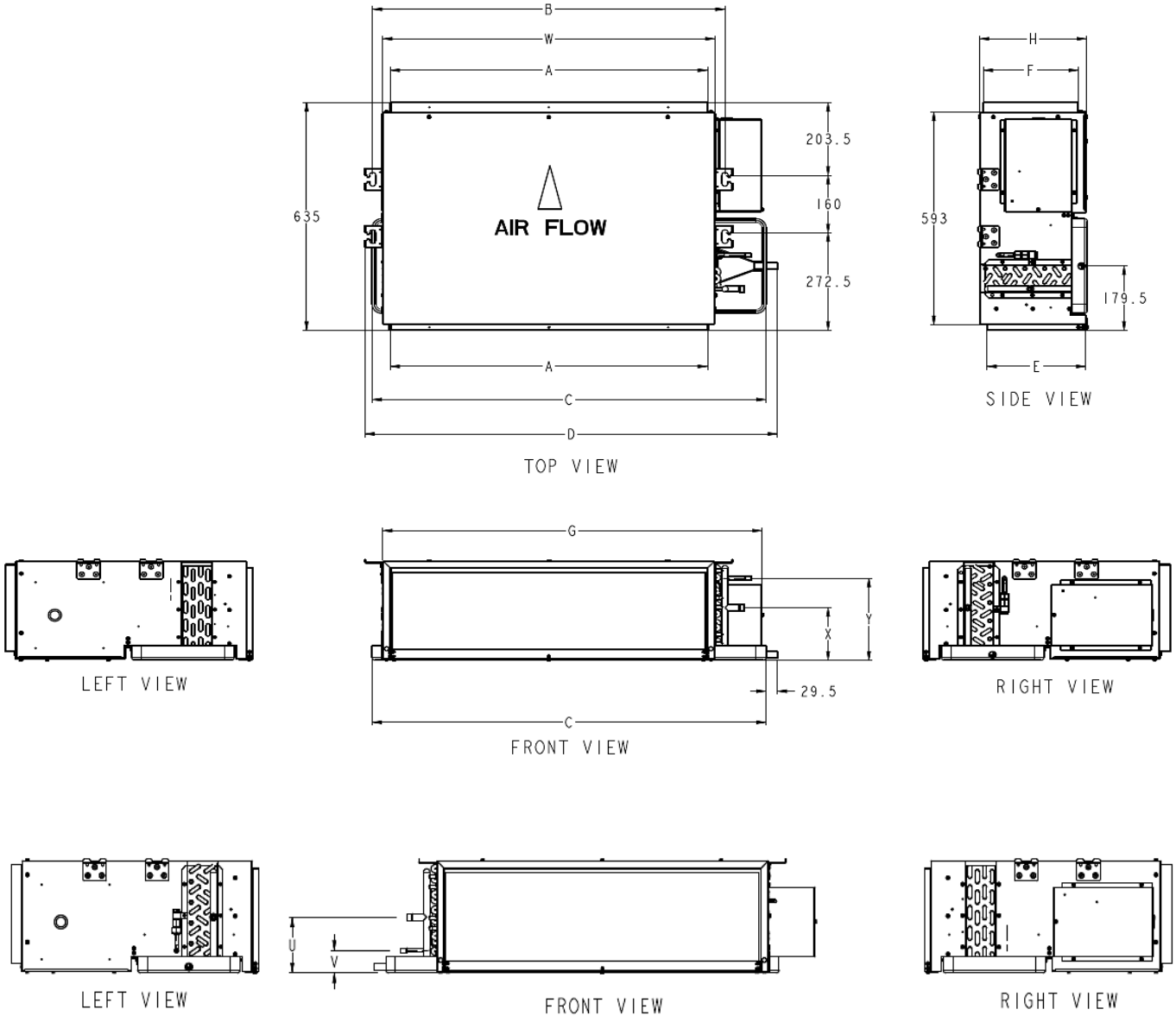
Physical Data

42TPM Unit Size	**18**	**24**	**30**	**36**	**42**	**48**	**60**
Unit Size (Tons)	1.5	2.0	2.5	3.0	3.5	4.0	5.0
Motor Rated Power - watt	125		150	200	250	375	450
Number of Motors / Speeds	1 / 3 Speed						
Evaporator Coil							
Coil Material (HP Tube)	Grooved Copper Tubes						
Coil Material (Finplate)	Aluminium Fins With Double Wavy Fins						
Coil Face Area, m^2	0.21	0.26	0.31	0.44			0.51
Number of Rows	4			3	4		
Fin Denisty / Inch	18	15		14	15		
Refrigerant Metering Device	AccuRater						
Size	49	55	65	70	73	76	84
Coil Connection Type	Sweat type						
Coil Suction Connection Size - Inch	5/8		3/4		7/8		
Coil Liquid Connection Size - Inch	3/8						
Drain Diameter - Inch	5/8						
Blower	Double Inlet, Forward Curved Blades						
Blower Diameter / Width - mm	160 / 200	180 / 190	180 / 240	200 / 190	200 / 240	255 / 240	
Filter Type	Washable Aluminum Filter						
Filter Qty. / Size (mm)	1 / 847x262	2 / 525x262	2 / 630x262	2 / 630x365			2 / 735x365
Unit Dimensions							
Width - mm	1013	1223	1433				1643
Depth - mm	635						
Height - mm	275			375			
Net Weight - kg	38	40	49	55	57	60	72
Gross Weight - kg	42	43	53	60	62	66	77

Base Unit Dimensions – 42TPM018-060

Notes:

- The piping connections drain pan outlet and control box are located on the right hand side facing the airflow as factory standard. They however can be relocated to the left hand side facing air flow in the field when needed.
- Unit should be installed for horizontal discharge only. Suspend horizontally using the factory-provided holes located at the topside flanges of the unit.



Unit Size	W	H	A	B	C	D	E	F	G	X	Y	U	V
18	854	275	816	906	1013	1061	254	244	975	146	228	137	60
24	1064	275	1026	1116	1223	1271	254	244	1185	146	228	137	60
30	1274	275	1236	1326	1433	1481	254	244	1395	146	228	137	60
36	1274	375	1236	1326	1433	1481	355	335	1395	192	278	190	104
42	1274	375	1236	1326	1433	1481	355	335	1395	192	278	190	104
48	1274	375	1236	1326	1433	1481	355	335	1395	192	278	190	104
60	1484	375	1446	1536	1643	1691	355	335	1605	192	278	190	104

Fig.1 Base Unit Dimensions

Note: All Dimensions are in mm.

Combination Matrix and Ratings

Outdoor Model	Indoor Model	Voltage	Indoor Type	Capacity (Btu/hr)		EER (Btu/hr) / W		Power Input (kW)		kWh/Yr		AMPS	
				T1	T3	T1	T3	T1	T3	T1	T3	T1	T3
38CKPC18DS70	42TPM018-71	230/1/50	Ducted	18,800	16,500	11.8	9.0	1.593	1.833	4,301	1,833	7.5	8.5
38CKPC24DS70	42TPM024-71	230/1/50	Ducted	25,000	21,500	11.8	8.8	2.119	2.443	5,721	2,443	9.5	10.8
38CKPC30DS70	42TPM030-71	230/1/50	Ducted	33,000	28,500	12.0	9.0	2.750	3.167	7,425	3,167	12.0	13.8
38CKPC36DS70	42TPM036-71	230/1/50	Ducted	37,000	32,500	12.2	9.5	3.033	3.421	8,189	3,421	13.2	15.2
38CKPC36DS90	42TPM036-71	400/3/50	Ducted	37,000	32,500	12.2	9.5	3.033	3.421	8,189	3,421	5.0	5.7
38CKPS42DS90	42TPM042-71	400/3/50	Ducted	42,000	39,500	12.7	9.6	3.307	4.115	8,929	4,115	5.5	6.5
38CKPS48DS90	42TPM048-71	400/3/50	Ducted	47,500	43,000	12.2	9.0	3.893	4.778	10,511	4,778	6.6	7.8
38CKPS60DS90	42TPM060-71	400/3/50	Ducted	60,000	51,000	11.8	8.3	5.085	6.145	13,730	6,145	8.5	10.0
38CKPC18DS10	42TPM018-11	240/1/50	Ducted	18,800	16,500	11.5	9.0	1.628	1.833	4,396	1,833	7.5	8.4
38CKPC24DS10	42TPM024-11	240/1/50	Ducted	25,000	21,500	11.8	9.0	2.119	2.389	5,721	2,389	9.5	10.8
38CKPC30DS10	42TPM030-11	240/1/50	Ducted	33,000	28,500	12.0	9.0	2.750	3.167	7,425	3,167	12.0	13.8
38CKPC36DS10	42TPM036-11	240/1/50	Ducted	37,000	32,500	12.2	9.5	3.033	3.421	8,189	3,421	13.2	15.2
38CKPC36DS40	42TPM036-11	415/3/50	Ducted	37,000	32,500	12.2	9.5	3.033	3.421	8,189	3,421	5.0	5.7
38CKPS42DS40	42TPM042-11	415/3/50	Ducted	42,000	39,500	12.7	9.6	3.307	4.115	8,929	4,115	5.5	6.5
38CKPS48DS40	42TPM048-11	415/3/50	Ducted	47,500	43,000	12.2	9.0	3.893	4.778	10,511	4,778	6.6	7.8
38CKPS60DS40	42TPM060-11	415/3/50	Ducted	60,000	51,000	11.8	8.3	5.085	6.145	13,730	6,145	8.5	10.0

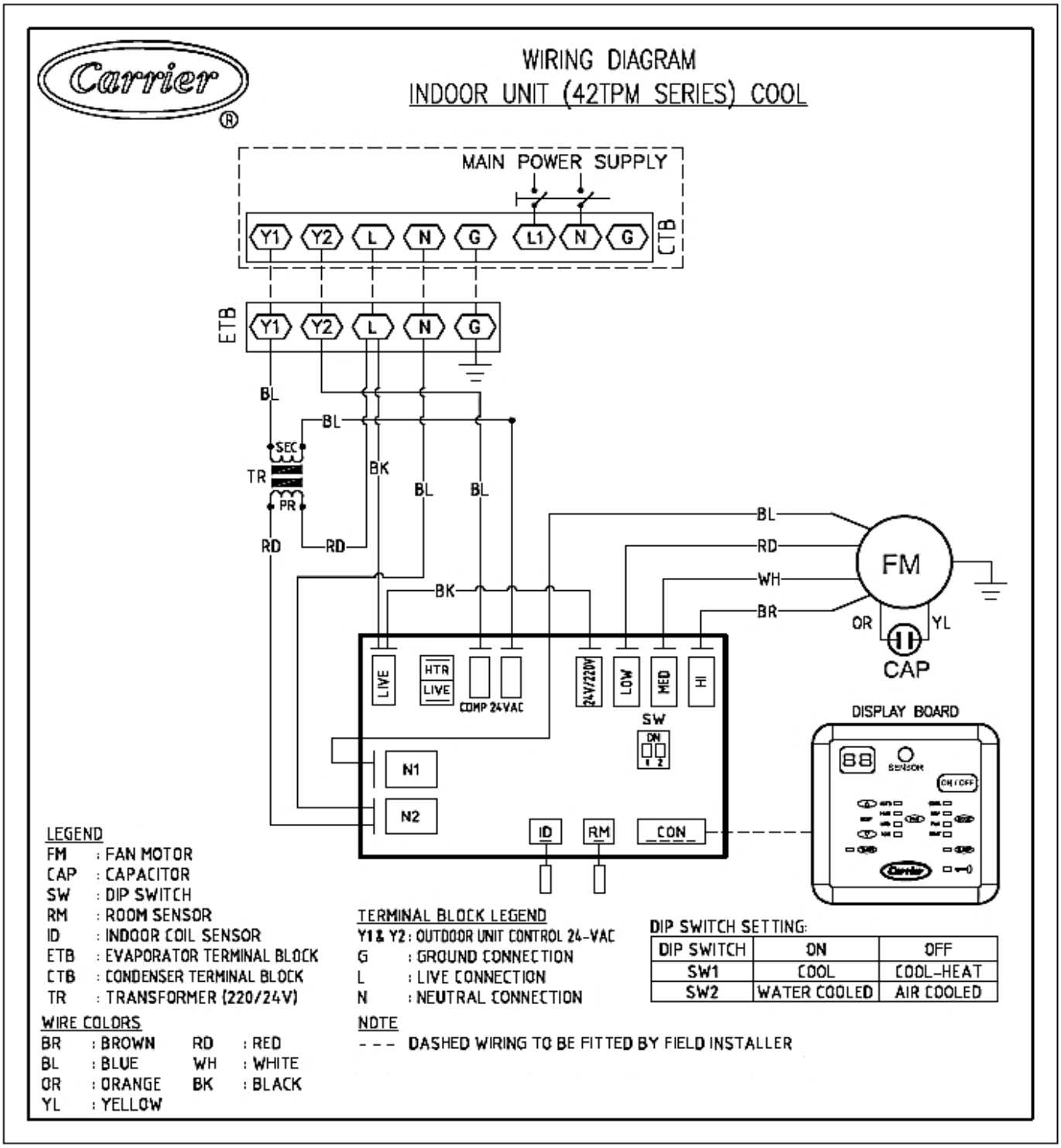
Legend for Combination Matrix and Ratings
CFM — Cubic Feet per Minute
EER — Energy Efficiency Ratio
kWh/Yr — kilowatt-hour/Year
Annual Consumption @ T1 kWh/Year — 2,700 x T1
Annual Consumption @ T3 kWh/Year — 1,000 x T3
Notes: Testing as per ISO 13253 testing standard at T1 and T3 conditions.

Electrical Data

Model No.	Condenser Control Input	Power Supply	Voltage		Fan
			Min	Max	FLA
42TPM018-71	24V	230V/1P/50Hz	207	253	1.3
42TPM024-71					1.3
42TPM030-71					1.5
42TPM036-71					1.8
42TPM042-71					2.5
42TPM048-71					3.0
42TPM060-71					3.0
42TPM018-11	24V	240V/1P/50Hz	207	253	1.3
42TPM024-11					1.3
42TPM030-11					1.5
42TPM036-11					1.8
42TPM042-11					2.5
42TPM048-11					3.0
42TPM060-11					3.0

Legend for Electrical Data Table
FLA — Full Load Amps

Typical Wiring Schematic



Introduction

This document contains general installation instructions for the 42TPM unit Fan Coils. Refer to the unit-wiring diagram installed on the control box or specific manufacturer literature for any other type of factory mounted controls.

See drawings for unit configurations, dimensions, clearances, and pipe connections. Refer to unit wiring label for all electrical connections; follow NEC (National Electrical Code) and local codes.

Receiving

42TPM fan coil units are shipped individually packed in carton boxes. When cartons are individually off loaded from the truck, do not roll, nor throw, or drop the carton to avoid damage to the contents. Store boxes upright as the symbols on the boxes indicated. Do not stack units more than 8 units high for size 018-024 and 8 units high for size 030 - 060.

Unpacking Instructions

1. Prepare unit for unpacking
2. Remove two(2) pcs, of plastic straps
3. Open carton flaps and remove styrofoam sheet covering the unit.
4. Remove styrofoam spacer next to control box.
5. Lift unit assembly carefully out of carton box

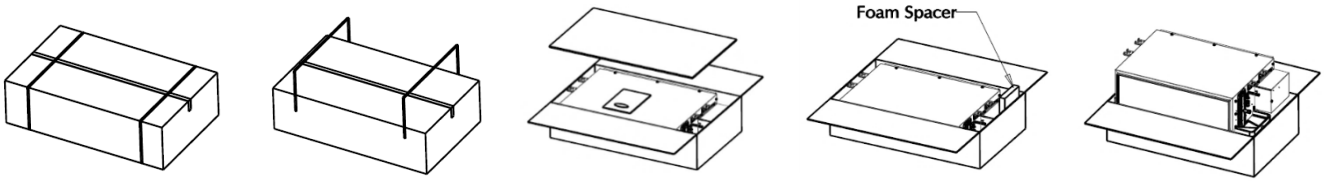


Fig.2 Unpacking Instructions

Packing Instructions

1. Lift unit assembly carefully place into the carton box.
2. Insert styro-foam spacer between the control box and carton
3. Place the IOM and then styro-foam sheet covering the top of the unit.
4. Close carton flaps and seal with tape along flap side, wrap with two(2) pcs of plastic straps around the box.

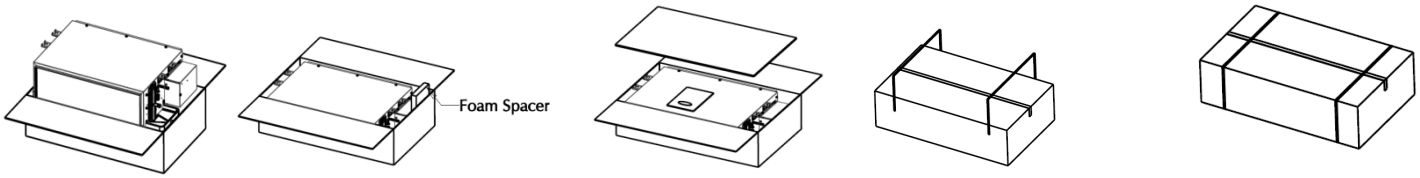


Fig.3 Packing Instructions

Inspection

Check the shipment against shipping list and remove unit from the carton and take off protective covering. If the unit has been damaged, file claim with transportation company and notify Carrier immediately.

Protection

Protect unit from damage caused by job site debris. Do not allow dust, debris and water to get into the unit. This will damage unit's component and unit's performance will be affected.

Preliminary Check

Following is a checklist which should be checked before the installation is started. The installer should be familiar with each of the following requirements before the actual installation.

a) Space requirement and clearance, See Fig.4.
b) Ceiling or mounting strength.
c) Piping connections.
d) Condensate drain connection.
e) Power supply and wiring.
f) Air duct connections.
g) The condensing unit model number is the recommended by the factory (as per "Combination Ratings and Matrix").

Prepare Jobsite for Unit Installation

To save time and to reduce the possibility of costly errors set up a complete sample installation in a typical room at jobsite. Check all critical dimensions such as pipe, wire, and duct connection requirements. Refer to job drawings and product dimension drawings as required. Instruct all trades in their part of the installation.

Identify and Prepare Units
Be sure power requirements match available power source. Refer to unit nameplate and wiring diagram.
1. Check all tags on unit to determine if shipping screws are to be removed. Remove screws as directed.
2. Rotate the fan wheel by hand to ensure that the fan is unrestricted and can rotate freely. Check for shipping damage and fan obstructions.

Unit Configuration
The piping connections, drain pan outlet and control box are located on the right side of the unit facing the airflow direction as factory standard as shown in the unit picture. Left hand side connection is factory option. However, the connections side can be relocated at site.

Rigging and Unpacking
Unit should not be removed from carton until reaching final location to avoid damage. Inspect unit for shipping damage and file claim with transportation company if necessary, check nameplate voltage against available power supply. For special installation, consult local building and electrical codes.

Installation

Placing Unit in Position
1. Select the unit location. Allow adequate space for free air circulation, service clearances, piping and electrical connections, and any necessary ductwork. For specific unit dimensions, refer to the Fig. 1. Allow clearances according to the Fig.4, and/or local and national electrical codes.
2. Be sure either the ceiling is able to support the weight of the unit. See “Physical Data” for nominal unit weight.
3. Move unit into position. Ensure unit is level or pitched towards drain to ensure proper drainage and operation.
4. Mounting units to the ceiling - When unit is lifted, access to the. Mounting holes is on the top panel of the unit. Hanger rods, fasteners, and other required hardware must be field-supplied.

Making Piping Connections
Qualified personnel in accordance with local and national codes must perform all piping connections. Refer to “Physical Data” for piping connections. NOTE: It is important to have a common understanding of which side of the unit is the right hand side and which is the left hand side. When facing the supply air outlet from the front of the unit (air blowing in your face), your right hand will be on the right side of the unit and your left hand will be on the left side of the unit, see Fig. 5. Refer to Fig. 6 for typical piping connections. Use the condensing unit manufacturer's recommended line sizes and requirements; see “Combination Ratings and Matrix”. Suction line must be insulated for correct operation. Use refrigerant-grade copper lines only. The unit is not applied as a heat pump.

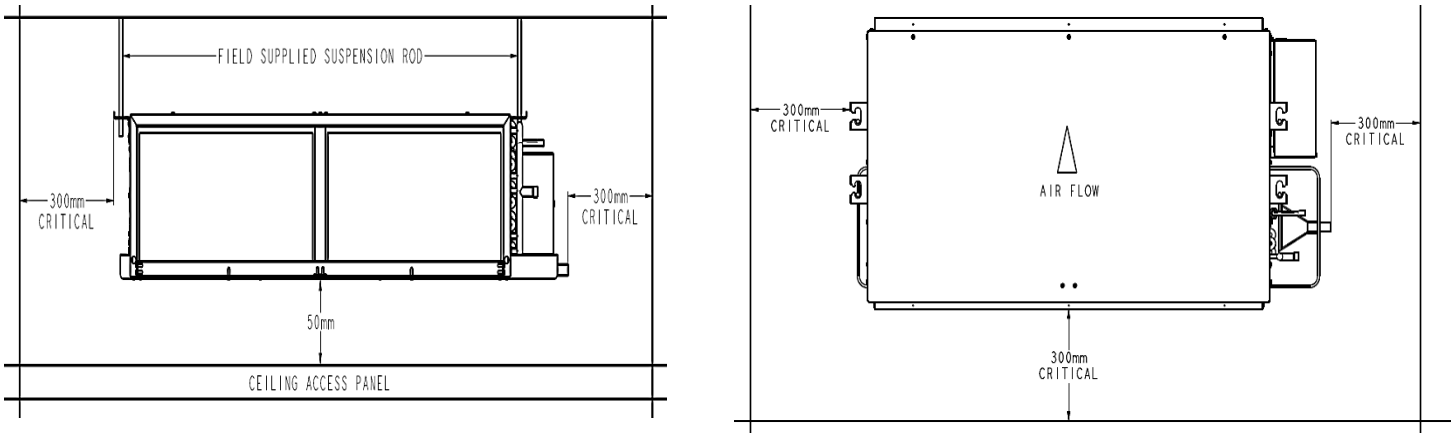


Fig.4 Minimum Clearance Required

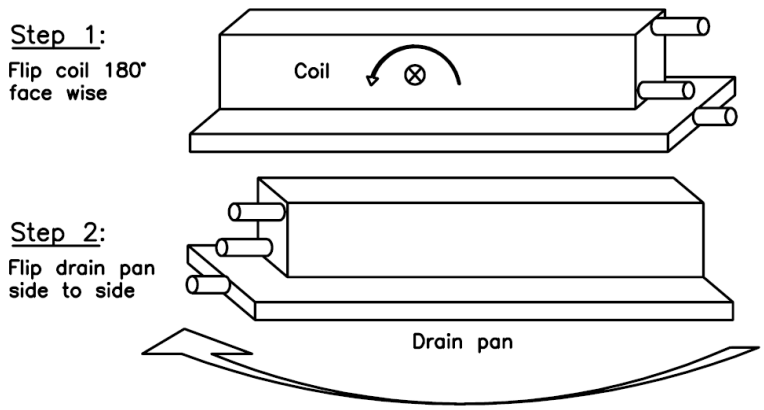


Fig. 5 Changing Coil Connection Side

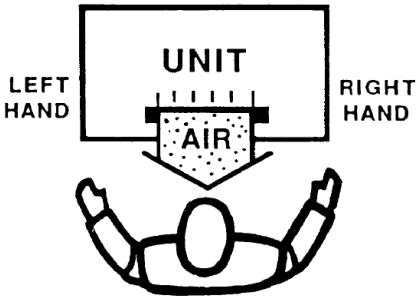


Fig. 6 Unit End Reference

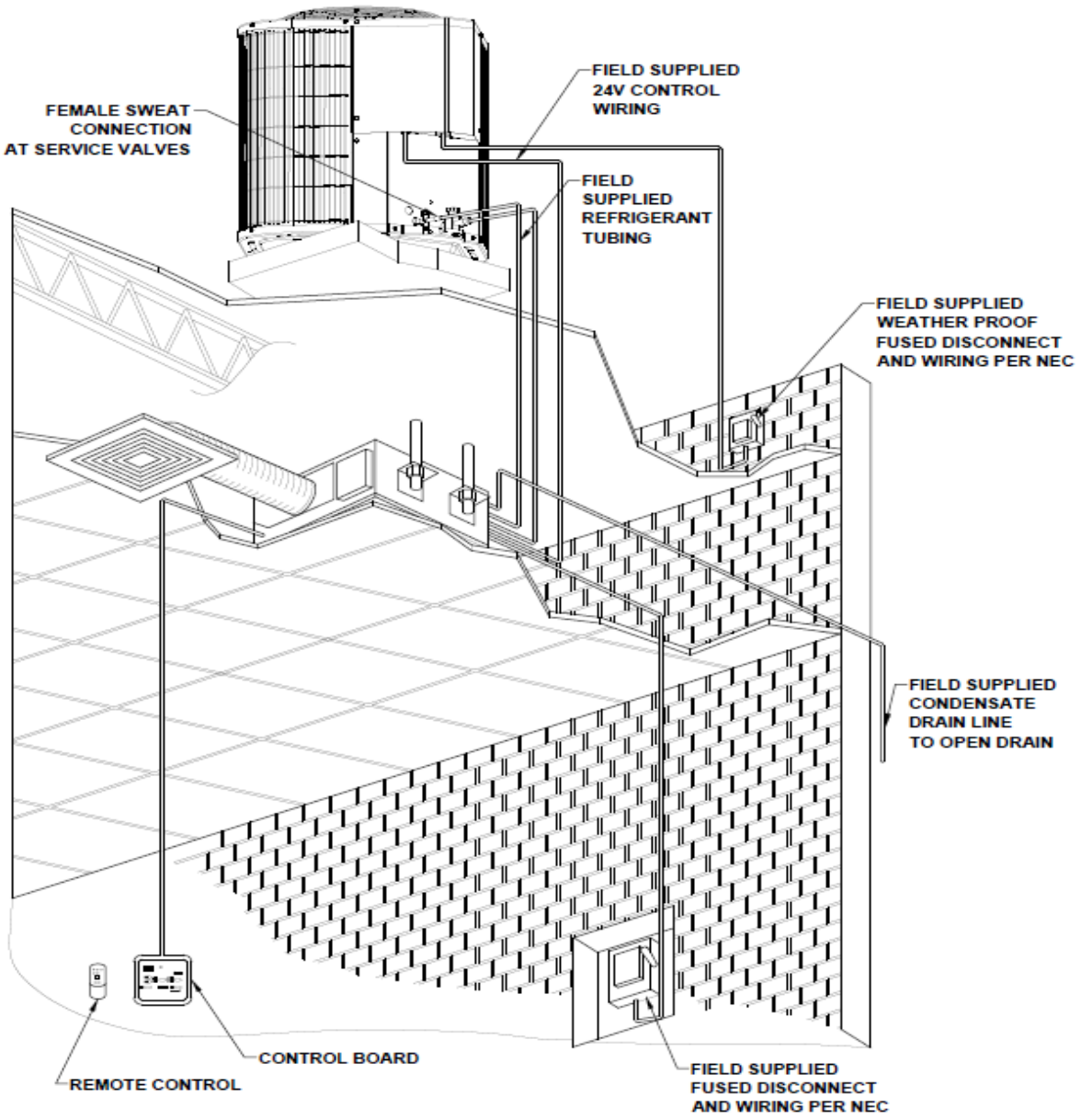


Fig.7 Typical Wiring & Piping Connections

NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national electric codes.
3. Wiring and piping shown are general points-of-connection guides only not intended for a special installation.
4. Insulate condensate line if run above a conditioned space.
5. The control board kit is factory supplied, no thermostat required.
6. The wall mounted wired room controller could control all system functions without wireless remote control.
7. Standard wire length for the control board is 7.5 m. If extension is required, please contact your local carrier dealer.

Test and Insulate

When all joints are complete, perform hydrostatic test for leaks. Vent all coils at this time. Check interior unit piping for signs of leakage from shipping damage or mishandling. If leaks are found, notify a Carrier representative before initiating any repairs. Release trapped air from system (refer to Make Final Preparations section).

Make Electrical Connections

Refer to unit nameplate for required supply voltage, fan and heater amperage and required circuit amp. Refer to unit wire diagram for unit and field wiring; see" Typical Wiring & Piping Connections", "Typical Wiring Schematic" and "Electrical Data". Make sure all electrical connections are in accordance with unit wiring diagram and all applicable codes. The fan motor(s) should never be controlled by any wiring or device other than the factory-supplied control board and remote control. All field wiring must be in accordance with governing codes and ordinances. Any modification of unit wiring without factory authorization will invalidate all factory warranties and nullify any agency listings.

- Select proper wall location to fix display pad
- Connect communication cable end to its location in the PCB as shown in the wiring diagram.

Follow local/national wiring regulations and code for all wiring to the unit, in absence of local codes use power supply wires sizes which are at least 1.25 times the unit's full load current and circuit breaker size 2 - 2.25 times the unit's full load current.

IMPORTANT

Wiring diagrams shown depict typical control functions. Refer to unit wiring label for specific functions.

Make Duct Connections

Install all ductwork to and from unit in accordance with all applicable codes. Duct construction must allow unit to operate within duct external static pressure limits as shown on job submittals. Units designed to operate with ductwork may be damaged if operated without intended ductwork attached. Units provided with outside air should have some method of low-temperature protection to prevent freeze-up. Insulate ductwork as required. Use flexible connections to minimize duct-to-unit alignment problems and noise transmission where specified. Set unit markings for minimum clearance to combustible materials and first 3 ft of ductwork. Install ductwork, accessory grilles and plenums so that they do not restrict access to filter. Cut openings for supply-air and return-air grilles. Be careful not to cut wires, piping or structural supports.

CAUTION

Prevent dust and debris from settling in unit. If wall finish or color is to be spray applied, *cover all openings to prevent spray from entering unit.* Unit efficiency will be reduced.

Make Final Preparations

1. Turn off power to the unit (open unit electrical disconnect).
2. Install the wired control panel kit and perform any other final wiring as applicable, see the controller for ducted fan coil units section.
3. Clean dirt, dust, and other construction debris from unit interior. Be sure to check fan wheel and housing.
4. Rotate fan wheel by hand to be sure it is free and does not rub housing. Check that wing nuts securing fan assembly to fan deck are tight.

IMPORTANT

Do not start-up or operate unit without filter. Be sure filter and unit interior are clean.

5. Be sure drain line is properly and securely positioned and that the line is clear. Pour water into drain to check operation.

Start-Up

42TPM unit is designed to operate in hot and humid conditions without condensation problem because of the rubber insulated drain pan. Refer to the “Mandatory Startup Checklist and Record” for startup procedure.

Service

WARNING
Failure to follow this caution may result in equipment damage. Motors are permanently lubricated; please do not use any external lubricant (such as WD40)

To Clean Coil

1. Be sure electrical service switch is open, locked, and tagged while working on unit.
2. Coil can be cleaned by removing filter and bottom panel and brush between coil fins with stiff wire brush. Follow-up by cleaning with vacuum cleaner. If coil is cleaned with air hose and nozzle, take care not to drive dirt and dust into other components.

Check Drain

Lock open and tag unit electrical service switch. Check drain pan, drain line and trap at start of each cooling season. A standard type pipe cleaner for 3/4-in. ID pipe can be used to ensure that pipe is clear of obstruction so that condensate is carried away.

Clean Fan Wheel

Lock open and tag unit electrical service switch. For access to fan assembly, remove supply air duct and bottom panel. Use a stiff brush or vacuum to remove dirt and debris from scroll. Wipe all fan surfaces with a damp cloth.

Clean or Replace Air Filters

Lock open and tag unit electrical service switch. At the start of each cooling season and after each month of operation (more or less depending on operating conditions) replace throwaway filter or clean permanent filter.

Throwaway Filter

Replace filter with a good quality filter of the size shown in “Physical Data”. Do not attempt to clean and reuse disposable filters.

Permanent Filter

1. Tap on solid surface to dislodge heavy particles.
2. Wash in hot water.
3. Set filter on end so that water drains out through slots in frame. Allow filter to dry thoroughly. See Fig.8 for filter access.

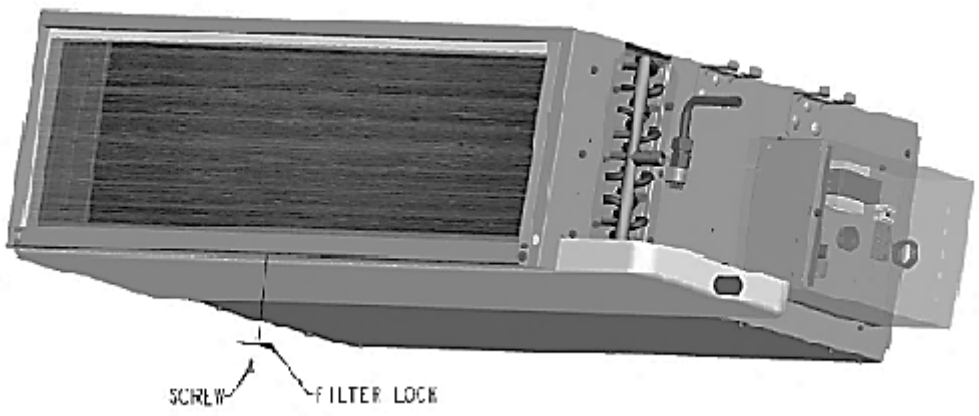


Fig. 8 Filter Access

Controller For Ducted Fan Coil Units

Features: The controller is used to control air cooled ducted split unit, supports the following functions:
- Modes: Cool, Dry, Fan
- Indoor fan speed: Auto, High, Medium, Low
- Sleep mode
- Compressor protections:
  Comp 3 minutes restart protection
  Indoor coil anti-freeze
  Room sensor and indoor coil sensor failure monitoring
- Nonvolatile memory – keep system settings
- Programmable On/Off timer
- Random restart to minimize voltage dip during compressor first cut in cycle upon power up.

Hardware Setting: A 2 way DIP switch is used to configure:

DIP Switch	On	Off
SW1	Cool	Cool-Heat
SW2	Water System	DX System

Error Code: If multiple faults happen at the same time, the corresponding error code will be shown one after another

Fault	Error code
Room sensor fault	E1
Indoor coil sensor fault	E2
Comp fault	E4

Split System Description

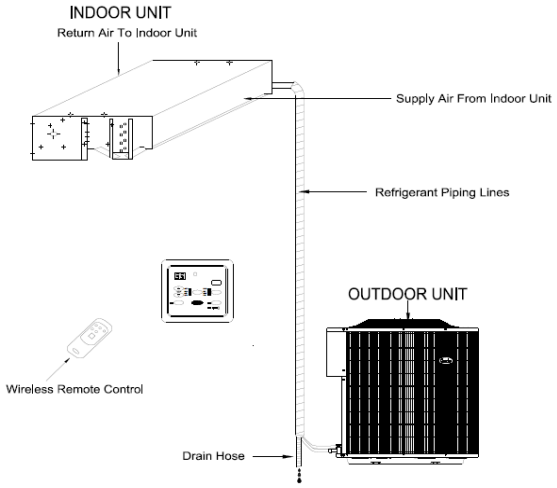


Fig. 9 Split System Setup

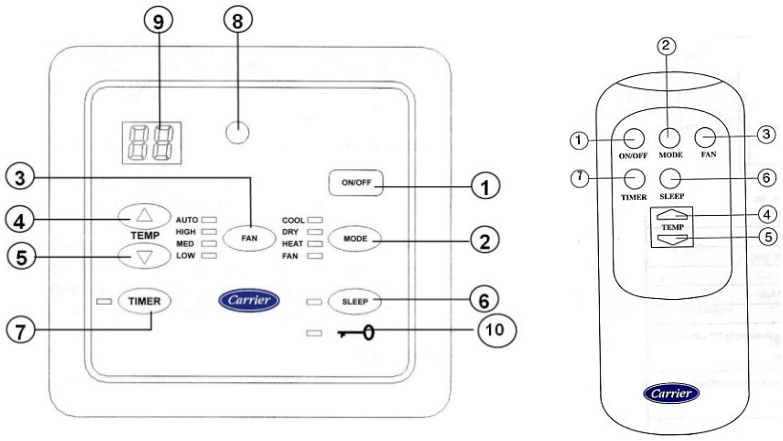


Fig.10 System Room Controllers

Notes: The wired room controller is mounted on the wall and can control all system functions without wireless remote control.

1) On/Off Key: If you press this key, the system will begin operation, Press the key again, and operation stops. (You can hear a receiving beep). If you press this key immediately after turning off the system, the compressor will not operate for 3 minutes to prevent overloading.

2) Operation Mode Selection Key: Toggles the operation mode: Cool, Dry, or Fan only

"COOL" Led	Lights on when selecting COOL mode.
"DRY" Led	Lights on when selecting DRY mode.
"FAN" Led	Lights on when selecting FAN mode.
"Heat" Led	Heating mode is disabled

3) Fan Speed Selection Key: Toggles the fan speed: Auto, High, Medium, or Low, Note: Fan key is invalid in Dry mode.

4) Temperature Up Key: By pressing temperature up key, the setting temperature increases by 1ºC with each press.

5) Temperature Down Key: By pressing temperature down key, the setting temperature decreases by 1ºC with each press. If you set the desired room temperature, then system will maintain the room temperature as set. Upon setting the desired room temperature the system will maintain the room temperature

Cool Mode: If the room temperature is higher than the setting, the compressor will automatically turn on provide a cooling effect. On the hand, if the room temperature is lower than the setting, the compressor will automatically turn off to stop cooling operation. If indoor fan is programed to be turned off with comp signal, it will turn off once comp is cut off

Dry Mode: The fan speed runs automatically at low speed and compressor stopping and running is controlled by the difference between room and setting temperatures and by continuous running time. If indoor fan is programed to be turned off with comp signal, it will turn off once comp is cut off

- In Dry mode, the humidity is reduced in the space to be air-conditioned.

Fan Mode: There will be no cooling effects; only the fans of indoor unit will run for ventilation at the selected speed (High, Med, and Low).

- In COOL mode and if AUTO fan speed is selected; Fan speed is automatically selected by controller according to the difference between setting temperature and room temperature, fan will be continuously running at low speed after setting temperature is achieved.

Notes:

a) Temperature setting range is 16ºC to 30ºC or 60ºF to 85ºF, For ESMA regulated units the temperature setting range is from 20°C to 30° or 68°C to 85°F.
b) Hold down at the same time for about 5 seconds, Temp down and fan keys will toggle the temperature setting from degree C to degree F and vice versa.
c) Press any temperature key will flash the current setting temperature for 4 seconds, Should there be no further key press, it will revert to room temperature display. Temperature display range is 0 C to 50 C or 32 F to 99 F.
d) Temp keys are invalid in Fan mode.

6) Sleep Key: Press this key to set the SLEEP timer and then the sleep led will light on, to cancel the sleep timer press this key again.

- Sleep function for healthy sleep to control automatically the room temperature and stop automatically the operation of the air conditioner after certain set off time.
- Sleep mode is valid in cool mode and invalid in Fan mode.

7) Timer Key: Upon count down of the set hours, the system will switch from OFF to ON or vice-versa.

- OFF Timer Function to stop automatically, the air conditioner after certain set OFF time.
- ON Timer Function to start automatically, the air conditioner after certain set ON time.

* Timer setting is 1 Hour to 24 Hour. The timer led will light on when operating the Timer Function
First key press will flash the digital display and Timer Led for 3 seconds.

Notes:

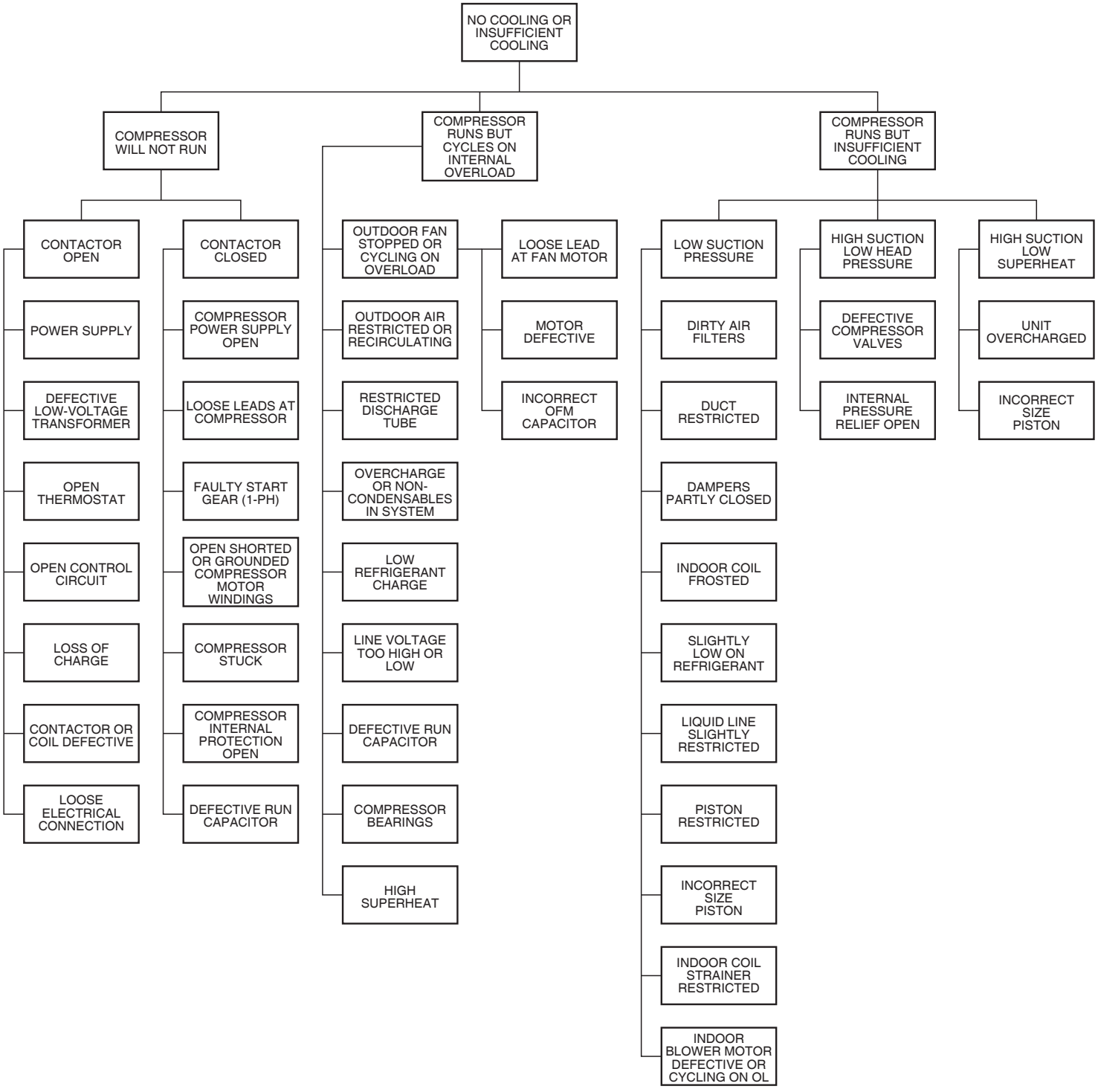
a) The digital displays show the number of hours previously set, only the Timer Led flashes.
b) Subsequent 3 seconds will show the number of hours previously set; only the timer led flashes.
c) Should there be no further key press, it will revert to normal mode.
d) Should Timer key is not released timer setting will increase automatically every 0.5-second.

8) Sensor: Receives the remote controller's signal
9) Display Screen: Displays the set temperature and displays also the TIMER settings when adjusting it.
10) Key Lock Mode: To activate key lock mode, hold down for 3 seconds, temp. Down Key (5) and Mode Key (2). In key lock mode, all keys are not valid except ON/OFF Key (1) to turn ON/OFF the system.

a) Hold down Temp Down and Sleep button for one second to enter into coil temperature display mode. Press Temp Up key to display indoor coil temperature, High Fan LED flashes. With the same sequence to exit coil temperature display mode. Temperature display range is -9C to 78 ºC.
b) Hold down ▽ and FAN buttons for only 1 second to activate the system control parameter setting. Press mode button to go through the desired menu steps (1 to 3) as per the below table. For each setting step press ▽ or △ button to change the setting from 1 to 2, after completing all setting steps hold down for 3 seconds temp down ▽ and mode buttons to exit the key lock mode.

Menu	Parameter	Set Range	Default value	Remarks
1	Temperature display, Auto fan LED flashing	1~2	1	1: Disable room temp display
				2: Enable room temp display
2	Cool mode fan control function, Auto & High fan LED flashing	1~2	1	1: Comp OFF, Fan ON
				2: Comp OFF, Fan OFF

Air Conditioner Troubleshooting Chart



MANDATORY START-UP CHECK LIST AND RECORD

IMPORTANT!

This page is a mandatory checklist & record – the check to be executed and data to be recorded for future reference incase of failure.
A copy of this checklist data has to be submitted to carrier representative. Completion of this checklist is a must for any field claim, no field support will be provided for incomplete or blank checklists.

TEAR ALONG THE DOTTED LINE

Preliminary Information

Outdoor Model Number:	Outdoor Serial Number:
Indoor Model Number:	Indoor Serial Number:
Startup Date:	Technician Name:
Customer Name/Address:	Project Name:
Additional Accessories:	

Pre-Start-Up Checklist	Yes	No	NA
Outdoor Unit			
Is there any shipping damage?			
If the unit is damaged, Please specifiy where:			
Will this damage prevent the unit start-up?			
Check power supply to see if it matches the unit data plate?			
Has the ground wire been properly connected?			
Are the circuit protection matched with the unit size and installed properly?			
Are the power wire guage matched with the unit size and installed properly?			
Piping			
Are both refrigerant lines flushed / cleaned, connected to service valve sets and properly tightend?			
Are all the service valves open and backseated ?			
Are the Stem Valves Installed and snug?			
Have all the refrigerant connections and piping joints checked for leaks and vacuum test conducted to 500 micron?			
Indoor Fan Coil Unit Piping			
Check accurater device size is matched and installed in fan coil unit? (If Applicable)			
Are the refrigerant connections properly connected and have been checked for leakages?			
Is condensate line connected?			
Is the condensate line free from obstacle and drains freely?			
Controls			
Are control power lines connected to there control power terminal block?			
Are terminal snug in the housing?			
Are control power lines and control cables routed separately (Not in the same conduit and not in same multi-conductor cable?			
Are control wires connected to the same circuit as associated refrigerant lines?			
Check to make sure the subbase mounting to wall is secure? (Don't apply excessive force to mounting screw)			
Are fresh batteries installed in the fan coil remote controller?			
Does remote controller backlight illuminate when the button is pressed?			
Fan System			
Does fan rotate freely?			
Are air filters in place and clean?			
Indoor Power Supply			
Does the power supply match the fan coil unit data plate?			
Is ground wire connected?			
Start-Up Checklist	**Yes**	**No**	**NA**
Check Indoor Fan Operation Under Ceiling Fan Coil Units			
Select fan mode, then initiate test sequence. Does the fan motor start at low speed , then shift to medium then to high?			
Start System Operation at the Fan Coil Unit			
Select cooling mode and adjust set point, it must be below current room temperature then observe unit operation.			
Does compressor start (After Initial Time Delay) and Run?			
Does outdoor fan run properly?			

After atleast 15 minutes of running time, record all the information below:

Outdoor Unit	
Unit Amps(L1/L2/L3)	
Voltage (L1/L2/L3)	
Vapor Line Pressure	
Vapor Line Temp	
Liquid Line Temp	
Entering Outdoor Air Temp	
Leaving Outdoor Air Temp	

Fan Coil Unit	
Indoor Entering Air dB(Dry Bulb) Temp	
Indoor Leaving Air dB(Dry Bulb) Temp	
Indoor Entering Air wB(Wet Bulb) Temp	
Indoor Leaving Air wB(Wet Bulb) Temp	
Technician Name, Signature and Date:	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