



WORLD LEADER
IN AIR CONDITIONING
AND HEATING
TECHNOLOGY

INSTALLATION, START-UP
AND SERVICE INSTRUCTIONS
**38LB/38LF AIR COOLED
CONDENSING UNIT**



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Physical Data

38LB

Description		Air Cooled Condensing Unit						
Product Model	38LB	048SC	060SC	007SC	009SC	012SC	015SC	
Nominal Cooling Capacity	W	14,000	17,500	22,800	28,700	35,100	43,900	
	Btu/hr.	48,000	60,000	78,000	98,000	120,000	150,000	
Power Consumption	W	4,200	5,240	6,170	9,370	10,830	14,330	
Power Supply	V/Ph/Hz	380/3/50						
Operating Current	Amp.	8.59	10.09	12.50	17.80	21.52	29.52	
Compressor	Compressor Type	Scroll						
	QTY	1	1	1	1	1	1	
	RLA Amp.	7.1	8.6	10.5	16.5	18.2	24.2	
	LRA Amp.	56.0	74.0	101.0	146.0	147.0	175.0	
Fan Motor	Power Supply	V/Ph/Hz	220/1/50					
	Power Input	W	279	279	374	374	733	733
	RLA	Amp.	1.49	1.49	2.00	2.00	3.92	3.92
	Fan Type	Propeller						
	QTY	1	1	1	1	1	1	
	Drive Type	Direct						
Safety Device	Hi-Pressure Switch	psig	395±10 / 275±15(Cut out / Cut in) - Auto Restart type					
	Low-Pressure Switch	psig	30±10 / 60±15(Cut out / Cut in) - Auto Restart type					
Refrigerant	Type	R-22						
	Pre-Charging from Fact	kg.	0.30					
Piping Connections	Liquid	inch	3/8 (Flare)	1/2 (Flare)	5/8 (Flare)			
	Suction	inch	7/8 (Flare)	1-1/8 (Brazing)	1-3/8 (Brazing)			
Dimension	Height	mm.	690	845	1050	1150		
	Width	mm.	800	900	1040	1050		
	Depth	mm.	725	915	1080	1190		
Weight	kg.	97	100	193	209	245	294	

* RATING CONDITION: OUTDOOR AMBIENT TEMPERATURE 95F, SATURATED SUCTION TEMPERATURE 45F

** UNIT SUPPLIED FROM FACTORY ONLY 4.5 LB FOR PRE-CHARGED

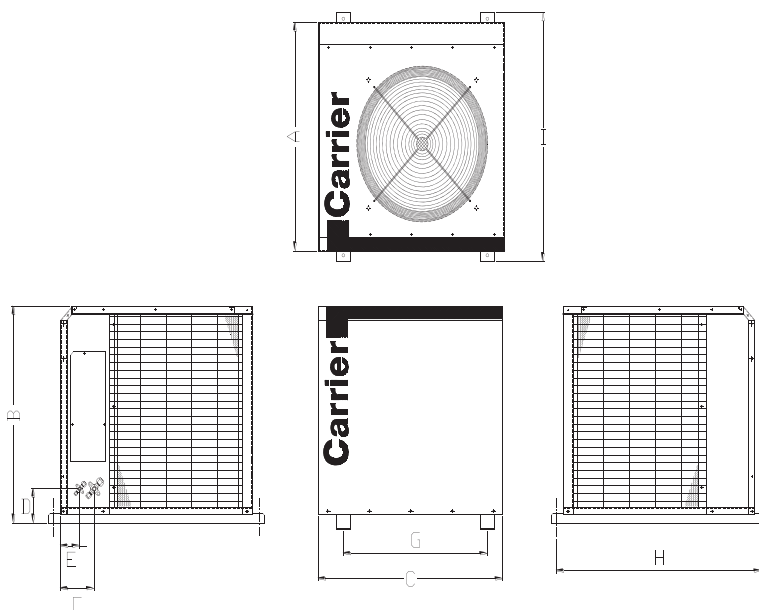
38LF

Description		Air Cooled Condensing Unit					
Product Model		38LF048	38LF060	38LF007	38LF009	38LF012	38LF015
Nominal Cooling Capacity	Btu/hr.	48,000	60,000	78,000	98,000	120,000	150,000
	w	14.1	17.6	22.9	28.7	28.7	44.0
Power Consumption	w	4,470	5,380	6,270	9,320	10,880	14,380
Power Supply	V/Ph/Hz	380/3/50					
RLA	Amp.	8.89	10.39	12.90	18.00	21.62	30.42
Operating Weight (Approx)	kg.	97	100	193	209	240	260
Compressor	Fully Hermetic Scroll Compressor						
Refrigerant	Type	HFC R-407C					
	Pre-Charging from Factory	Nitrogen					
	Operation Charging	kg.	3.0	3.1	5.3	5.5	6.2
Fan Motor	Type	Propeller Fan , Direct Drive					
	Power Supply	V/Ph/Hz	220/1/50				
Safety Device	Hi-Pressure Switch	psig	395 / 275 (Cut out / Cut in) - Auto Restart type				
	Low-Pressure Switch	psig	30 / 60 (Cut out / Cut in) - Auto Restart type				
Piping Connections	Liquid	inch	3/8	1/2	5/8	5/8	
	Suction	inch	7/8	1-1/8	1-1/8	1-3/8	
Dimension	Height	mm.	690	845	1050	1165	
	Width	mm.	800	900	1040	1035	
Weight	kg.	97	100	193	209	240	260

* RATING CONDITION: OUTDOOR AMBIENT TEMPERATURE 95 F, SATURATED SUCTION TEMPERATURE 45 F

** UNIT SUPPLIED FROM FACTORY ONLY NITROGEN

Dimension Data



38LB

Condensing Unit 38LB	38LB048SC	38LB060SC	38LB075SC	38LB090SC	38LB090SC-D	38LB120SC	38LB120SC-D	38LB150SC	38LB150SC-D
Dimension (mm.)	A	725			915		1080		1190
	B	690			845		1050		1150
	C	800			900		1040		1050
	D	70			90		130		150
	E	115			160		125		95
	F	80			100		220		195
	G			-			795		797
	H			-			1132		1234
	I			-			1192		1294

38LF

Condensing Unit 38LF	38LF048	38LF060	38LF075	38LF090	38LF120	38LF150
Dimension (mm.)	A	725		915	1080	1190
	B	690		845	1050	1150
	C	800		900	1040	1050
	D	70		90	130	150
	E	115		160	125	95
	F	80		100	220	195
	G		-		795	797
	H		-		1132	1234
	I		-		1192	1294

Rigging & Unpacking

- Unit should not be removed from protective packaging until reaching final location.
- The 38LB Series should be handled and installed upright.
- Inspect the unit for shipping damage and file claim with transport agency if necessary.
- Confirm the nameplate voltage to ensure that it matches available power supply.
- Consult building and electrical codes as required in your area.

Location

Unit should be installed outdoors. Do not restrict service, wiring and piping areas. Also avoid positioning unit in manner restriction airflow or in areas where water will pour directly onto unit. Minimum recommended clearance space is shown in figure 1 to 4.

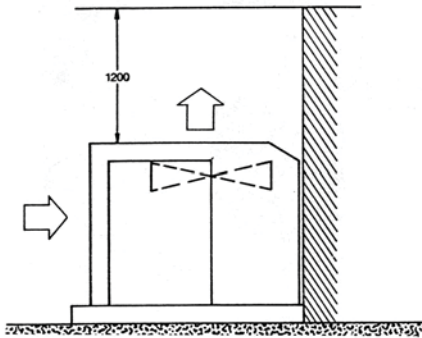


Fig 1

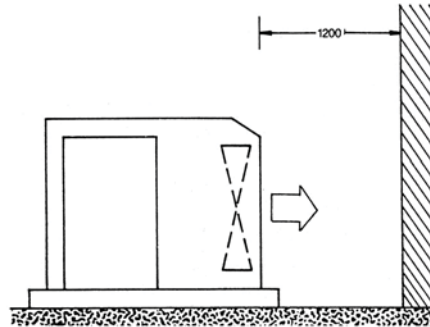


Fig 2

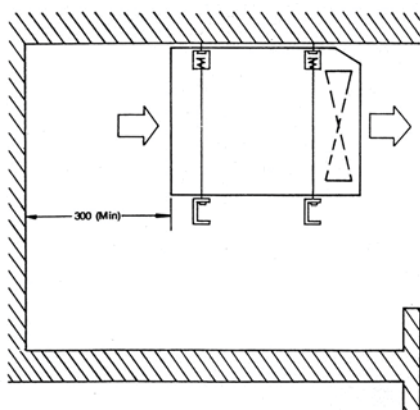


Fig 3

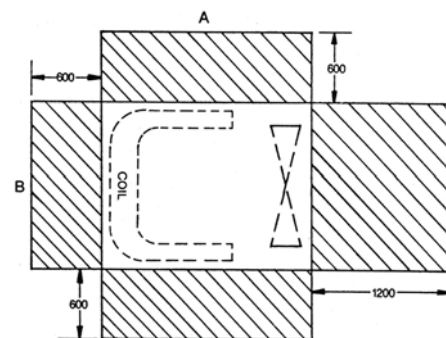


Fig 4

Configuration

Unit is shipped from factory in vertical discharge configuration as standard. However, converting to horizontal discharge as shown is simply effected without extra fittings or metal sheet work.

To modify into horizontal discharge mode :

1. Ensure all electrical supply to the unit is disconnected and then loosen top and fan discharge panels by removing screws.
2. Release wires tie on fan motor wires in control box and ease wires out of hole for extra length for interchanging panels.
3. Assemble top panel on front of unit and secure with screws.
4. Final assembles fan discharge panel. Pull fans motor wires taut and retie extra length in control box.
5. Check fan for free rotation and observe that wiring has not been damaged or improperly strained.

Electrical Data

Unit Model	Power Supply	Voltage Range		Compressor		Fan Motor		Recommended	
		Min	Max	RLA	LRA	QTY	RLA	Power Wire(mm.2)	Field CB (AT)
38LB048SC	380V/3Ph/50Hz	342	415	7.1	56	1	1.49	4	20
38LB060SC	380V/3Ph/50Hz	342	415	8.6	74	1	1.49	4	20
38LB007SC	380V/3Ph/50Hz	342	415	10.5	101	1	2.00	6	25
38LB009SC	380V/3Ph/50Hz	342	415	15.8	118	1	2.00	6	30
38LB009SC-D	380V/3Ph/50Hz	342	415	16.5	146	1	2.00	6	30
38LB012SC	380V/3Ph/50Hz	342	415	17.6	118	1	3.92	10	40
38LB012SC-D	380V/3Ph/50Hz	342	415	18.2	147	1	3.92	10	40
38LB015SC	380V/3Ph/50Hz	342	415	25.6	174	1	3.92	16	50
38LB015SC-D	380V/3Ph/50Hz	342	415	24.2	175	1	3.92	16	50

Unit Model	Power Supply	Voltage Range		Compressor		Fan Motor		Recommended		
		Min	Max	RLA	LRA	QTY	RLA	Power Wire(mm.2)	Ground Wire (mm.2)	Field CB (AT)
38LF048	380V/3Ph/50Hz	342	415	7.4	52.0	1	1.49	4	2.5	20
38LF060	380V/3Ph/50Hz	342	415	8.9	74.0	1	1.49	4	2.5	20
38LF007	380V/3Ph/50Hz	342	415	10.9	101.0	1	2.00	6	4	25
38LF009	380V/3Ph/50Hz	342	415	16.0	118.0	1	2.00	6	4	30
38LF012	380V/3Ph/50Hz	342	415	17.7	118.0	1	3.92	10	4	40
38LF015	380V/3Ph/50Hz	342	415	26.5	174.0	1	3.92	16	4	50

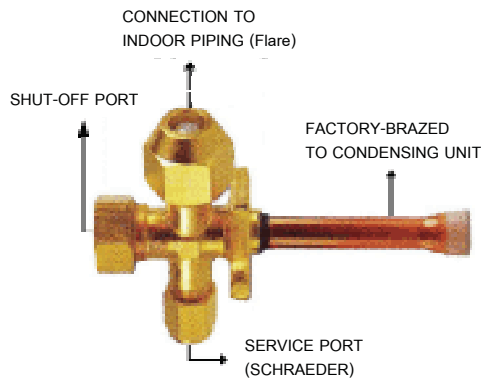
Remark : RLA : Rated Load Amps. LRA : Locked Rotor Amps. Cable type : THW

Type of conductor is installed : Insulated single core cables up to 3 lines. Or

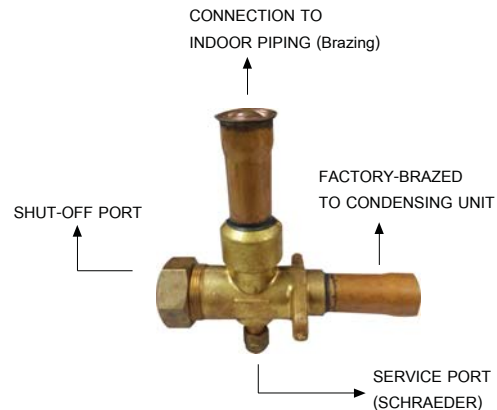
Insulated sheathed cables up to 3 axes in a pipe in the air in a pipe buried in the wall plaster. or in a pipe in the ceiling

Piping Connections / Piping

Refer to Physical Data Table for correct piping sizes. The length of refrigerant pipe depends on the unit placement and building structure – attempt to run pipes as



Service Valve (Flare)



Service Valve (Blazing)

1. Refrigerant tubing between sections may be made using accessory tubing packages or field-supplied tubing of refrigerant grade, correct size and condition.
2. Refrigerant suction tube must be insulated with closed-cell foam type insulation with a minimum wall thickness of 3/8 in. Failure to properly insulate refrigerant tubes adequately will degrade system performance and efficiency as well as permitting moisture or frost to form on the tubing surfaces during operation.
3. Run refrigerant tubes as directly as possible, avoiding unnecessary turns and bends.
4. If tube bending is necessary, use only copper cutter to cut the copper tube and shape tube with a tube bender so that the tube ends coincide with flare connections.
5. Carefully remove the flare nut fitting from indoor and outdoor sections tubing.
6. Thoroughly clean all tubing connection points to prevent foreign matter from entering the refrigerant circuit.
7. Thread the 2 fittings by hand, making sure the threads fit smoothly and the flare seats evenly against the union.
8. Tighten the 2 fittings securely.
9. Connect piping to the indoor and outdoor section.
10. Evacuate the system at lower 500-micron for at least 30 minutes.
11. Suspend refrigerant tubes so they do not damage insulation on liquid and vapor tubes and do not transmit vibration to structure. Also, when passing refrigerant tubes through walls, seal opening so vibration is not transmitted to structure. Leave some slack in refrigerant tubes between structure and units to absorb vibration.
12. After evacuating the system, turn on both valves at the condensing unit to flow the refrigerant into the system. Outdoor unit contains holding refrigerant charge to operate split system.

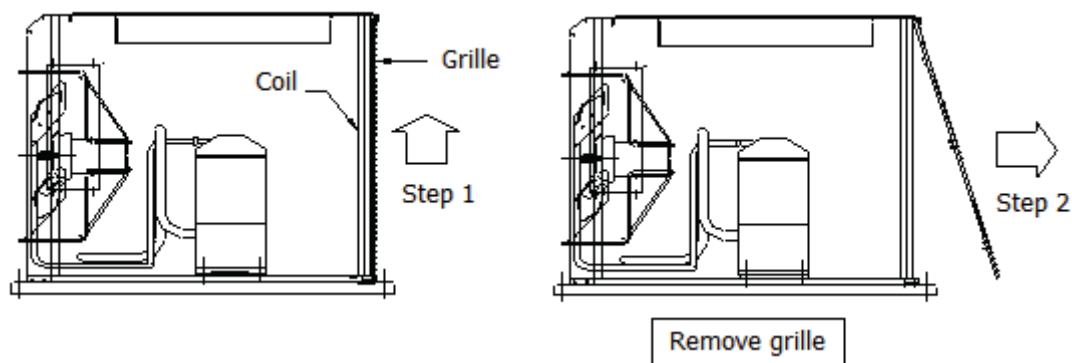
Maintenance

Warning! To avoid the possibility of electric shock, before performing any cleaning and maintenance operations always turn off power to the system. If the indoor unit is on a separate switch, be sure it is also disconnected.

Ensure that tubing is cool. Beware of rotating fan and energized electrical components.

Cleaning coil :

Ensure power to unit is disconnected. Wire grilles may be removed simply by lifting grilles upwards so that grille legs clear holes in base pan and then pulling them towards you (Fig. 4). Clean coil with water from ordinary hose at a pressure high enough to clean efficiently. Coils are double row and may be separated carefully and sufficiently by loosening screws at one end of the coil so that dirt may be flushed out towards the outside of both coils. Avoid splashing mud on coil or water onto fan motor.



Condensing fan adjustment :

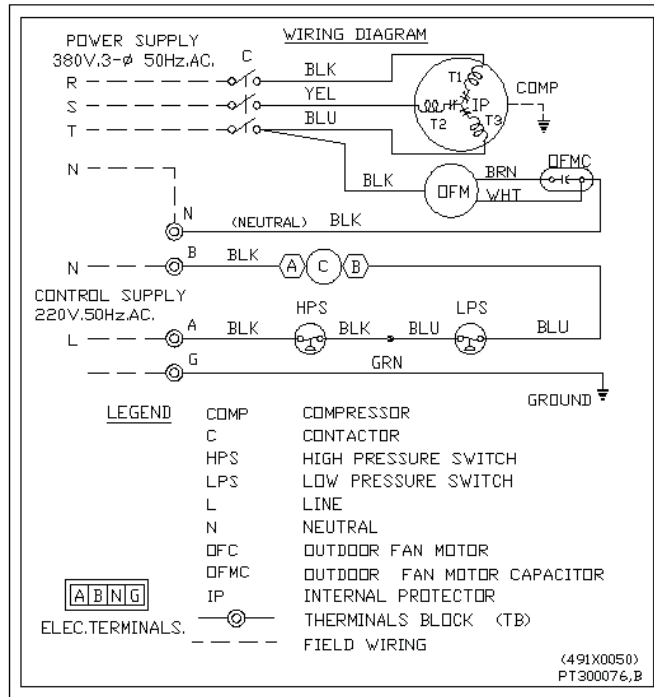
The fan should be adjusted by loosening the set screws and moving the fan blade up or down. The final position of the fan relative to the louvers should be as shown in Fig. 5.

Condenser fan removal :

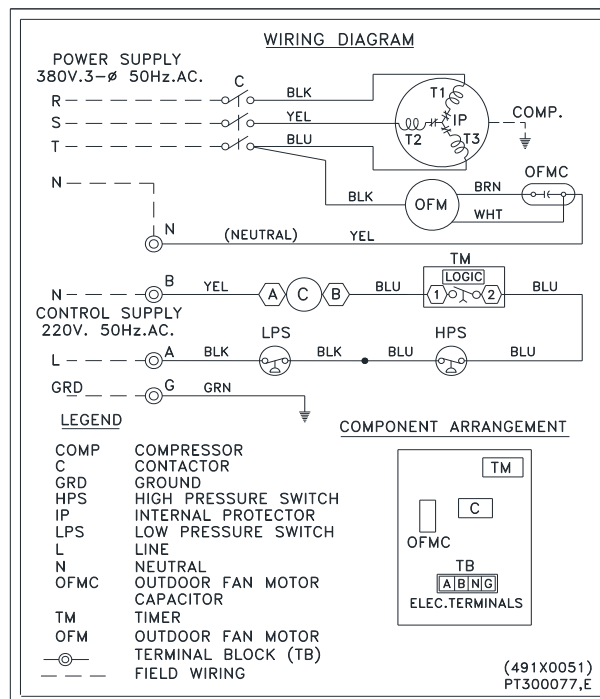
- Shut off power to unit.
- Open control box cover and remove fan motor wire leads from attached components.
- Remove fan deck and then the 3 mounting nuts between fan bracket and deck.
- Remove 3 nuts between motor bracket and motor.



Wiring Diagram

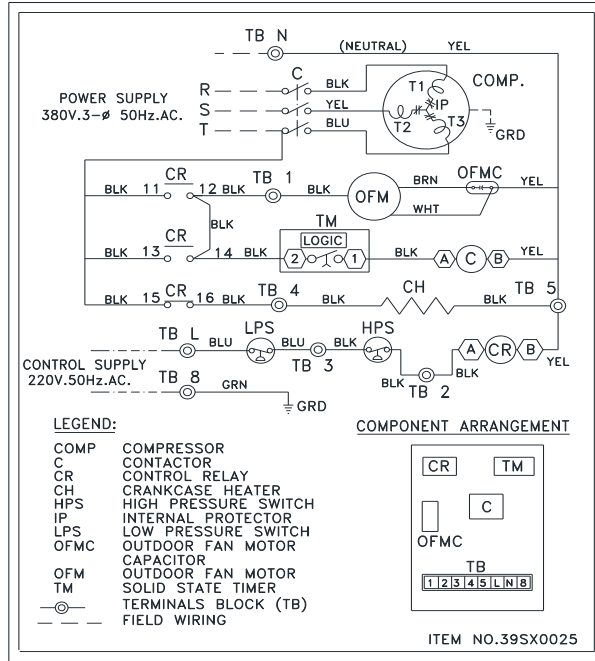


38LB(048SC, 060SC) / 38LF(048, 060SC)

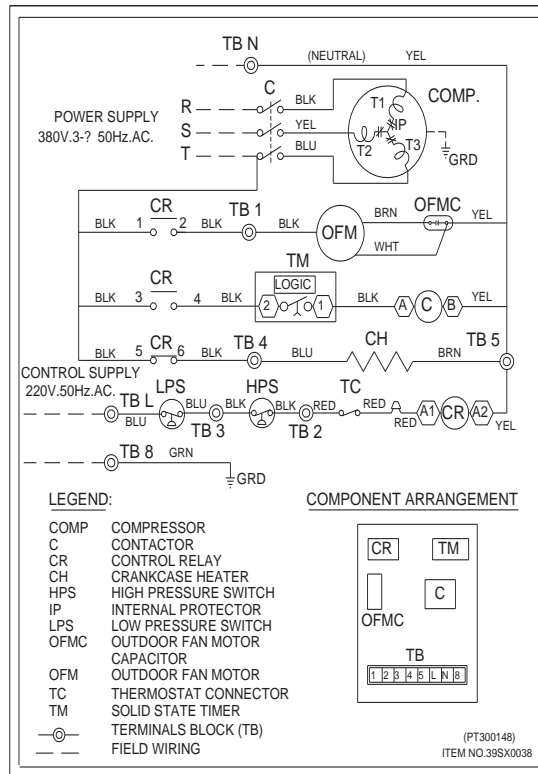


38LB (007SC, 009SC, 009SC-D, 012SC, 012SC-D)
38LF(007, 009, 012)

Wiring Diagram



38LB015SC / 38LF015SC



38LB015SC-D

Attention before operating

1. Please read this installation manual carefully. It contains further important instructions.
2. Do not anything block the air outlet and air inlet of the condensing unit. The refrigeration system may be broken down.
3. Due to temperature of outlet air is higher around 50-60 degree C; it may be having an effect on environments especially tree, plant, or shrub etc.
4. Make sure that outlet air is moved out from installation area. It must not be return to air inlet. Do not be store until temperature above 42 degree C. The compressor or refrigeration system may be damaged.
5. For safety first, it should be turned off the breaker if the air conditioner does not be used for a long time.
6. If the condensing unit is installed on the ground, make sure that the location is not liable to flooding.
7. After a long use, check the unit fixing for damage.
8. Before cleaning, be sure to stop the operation and turn off the breaker. (As the fan is rotating at high speed, cleaning during operation may cause injury)
9. Do not place a vessel containing water or any object on the condensing unit and do not stand or sit on the condensing unit.
10. The condensing unit should not be installed where normal operation sounds may be objectionable. On either rooftop or ground level installations. Rubber padding can be applied between the base rails and their supports to lesson any transmission of vibration.
11. The fan of condensing unit is the propeller type. It is not suitable for use with duct work.
12. Make sure that the surrounding atmosphere does not contain noxious or dangerous substances such as oil vapors etc.

Before inform our call center or inspect the air-conditioner, please check as following

Case of Air-conditioner does not work,

- Disconnect the electrical?
- Turn off the breaker?
- Fuse is broken?
- Low level of the battery show on remote control?
- The timer function is set on remote control?

Case of air-conditioner work but it can not cooling,

- Fan-coil is unclean?
- Open the door or the window?
- Pre-Filter is unclean?
- The position of louver is unsuitable?
- Low speed on fan-coil unit?
- The temperature setting is unsuitable set on remote control?