

**MINI-SPLIT SYSTEMS**

**MS7C/MS7H**

Lennox® 7 Series  
Single Zone - R-410A



**PRODUCT SPECIFICATIONS**

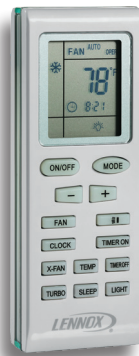
Bulletin No. 210612  
October 2012  
Supersedes June 2012



MS7-CO Air Conditioner Outdoor Unit  
MS7-HO Heat Pump Outdoor Unit



MS7-CI Air Conditioner Indoor Unit  
MS7-HI Heat Pump Indoor Unit



Wireless  
Remote Control  
(furnished)

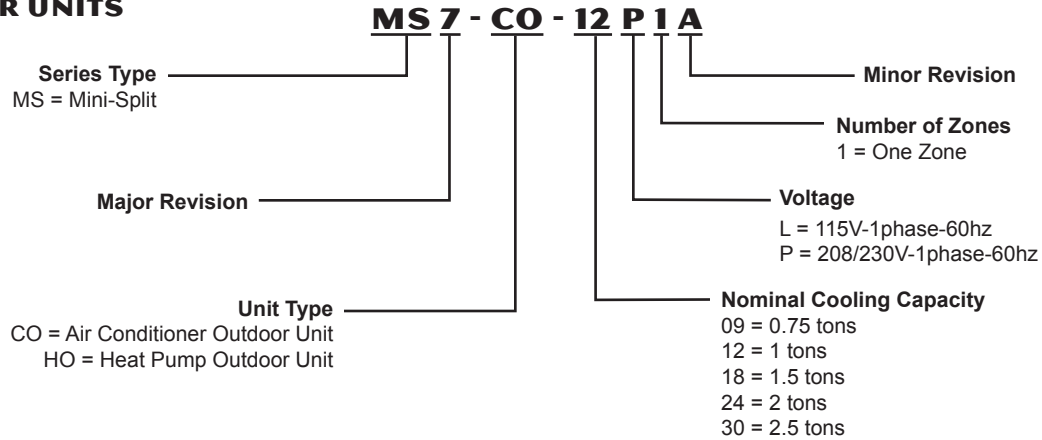


**SEER up to 22.00**  
**0.75 to 2.5 Tons**

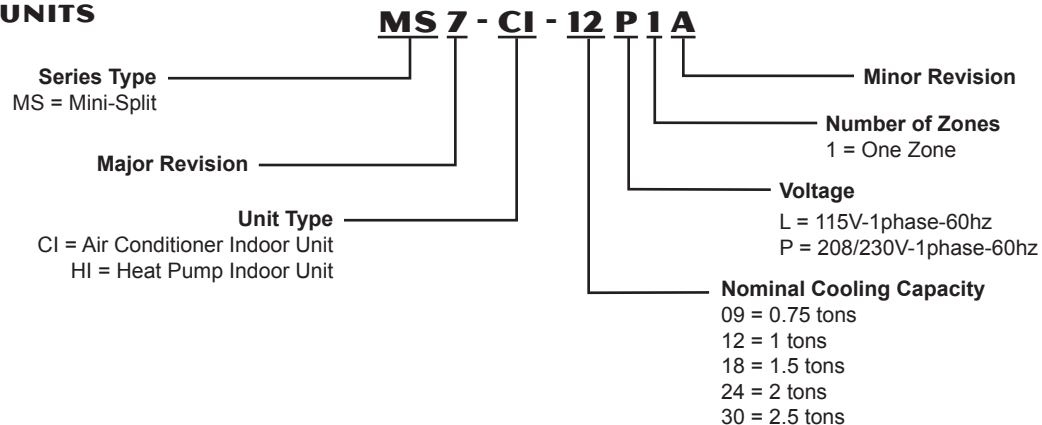
**Cooling Capacity - 9,000 to 28,000 Btuh**  
**Heat Pump Heating Capacity - 9,500 to 28,400 Btuh**

**MODEL NUMBER IDENTIFICATION**

**OUTDOOR UNITS**



**INDOOR UNITS**



## FEATURES - OUTDOOR UNITS

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### EQUIPMENT WARRANTY

**Compressor** - limited warranty for **five** years in residential installations and one year in non-residential installations.

**All other covered components** - **five** years in residential installations and one year in non-residential installations.

Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

### APPLICATIONS

SEER up to 22.00.

HSPF (Heat Pumps) up to 10.20.

0.5 through 2.5 ton.

Single phase power supply (115V and 208/230V).

Outdoor unit sound levels as low as 63 dB.

Ductless mini-split systems provide a wide range of capacities and applications and provide an alternative when a ducted system is impractical or cost prohibitive. See AHRI System Matches.

Units shipped completely factory assembled, internally piped, and wired.

Installer must set outdoor unit, hang indoor unit, connect refrigerant lines, and make electrical connections to complete job

### APPROVALS

AHRI Certified to AHRI Standard 210/240-2008.

Tested in the Lennox Research Laboratory environmental test room.

Rated according to U.S. Department of Energy (DOE) test procedures.

Indoor and outdoor units and components within bonded for grounding to meet safety standards for servicing required by UL and CEC.

Units are UL and ULC listed.

ENERGY STAR® certified units are designed to use less energy, help save money on utility bills, and help protect the environment. Many Lennox home comfort systems meet ENERGY STAR requirements when used with matching components.

### REFRIGERATION SYSTEM

#### R-410A Refrigerant

Non-chlorine, ozone friendly, R-410A.

Unit pre-charged with refrigerant.



#### Outdoor Coil

Aluminum fins fitted to copper tubes.

Wire grille guard provided.

#### Outdoor Fan

Direct drive fan moves large air volumes uniformly through entire condenser coil for high refrigerant cooling capacity.

Fan guard provided.

#### Refrigerant Line Connections, Service Valve

Flare connection lines are located on side of unit cabinet.

Fully serviceable brass service valve prevents corrosion and provide access to refrigerant system. Shut-off valve on can be fully shut off while 2-way service valve (with service port) may be front seated to manage refrigerant charge while servicing system.

NOTE - Special Male Flare Adaptor is required to check operating pressures. See Optional Accessories table.

### COMPRESSOR

#### Variable Frequency Rotary Compressor

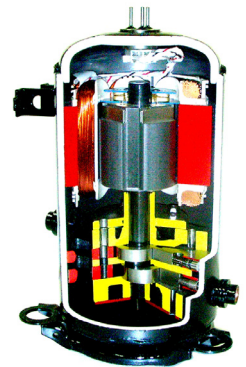
Twin rotary compressor features high efficiency operation.

Balanced for reduced vibration and quiet operation.

Brushless DC motor uses powerful Neodymium magnets, which are approximately 15-20 times stronger than ferrite magnets used in conventional AC compressors.

#### Compressor Crankcase Heater (MS7-HO-30P Heat Pump Models only)

Protects against refrigerant migration that can occur during low ambient operation.



## FEATURES - OUTDOOR UNITS

### **CONTROLS**

#### **DC Inverter Control**

Provides continuous operation, while adjusting capacity according to room temperature.

The accurate sensing of cooling or heating loads prevents frequent changes in capacity and ensures efficient, economical operation.

#### **Outdoor Unit Microprocessor**

Electronic expansion valve control (all models except MS7-HO-30P).

Automatic compressor timed-off protection (3 minutes).

Automatic fan delay in heating mode (heat pump models) after coil is warm.

Temperature sensor.

LEDs on control (09-24 models) or two-digit character display (30 model) display error codes and assist in troubleshooting.

Communication port to indoor unit.

4-way valve control (heat pump models).

#### **Electronic Expansion Valve**

Furnished on all models except MS7-HO-30P. MS7-HO-30P uses a capillary system.

#### **Compressor Overcurrent Protection**

Overcurrent protection can result due to any of the following:

- The ambient temperature is too high
- Locked rotor on the compressor
- Outdoor air is blocked or restricted

#### **Condenser High Temperature Protection**

Condenser high temperature can occur due to any of the following conditions:

- High outdoor ambient
- Outdoor fan blocked
- Outdoor coil blocked

The outdoor coil thermistor continuously monitors the temperature and communicates with the microprocessor.

Depending on the temperature measured, the compressor will be allowed to increase the frequency if needed to meet the load or is forced to run at the current or reduced frequency. If the temperature gets excessively high the compressor will be de-energized as shown below:

When the outdoor coil temperature drops to 124°F, the unit will resume normal operations

*NOTE - In heating mode (heat pump models) the indoor fan is de-energized 60 seconds after the compressor is de-energized.*

#### **High Pressure Discharge Temperature Protection**

The compressor discharge temperature can be high due to any of the following:

- Low refrigerant charge
- Blocked capillary

The compressor discharge line thermistor continuously monitors the temperature and communicates with the microprocessor.

Depending on the temperature measured, the compressor will be allowed to increase the frequency to meet the load or is forced to run at the current or reduced frequency. If the temperature gets excessively high, the compressor will be de-energized. When the compressor discharge temperature drops below 194°F, the unit will resume normal operations.

#### **Intelligent Power Module (IPM) Protection**

Protects the unit from any of the following conditions:

- Loss of cooling to the heat sink
- High ambient temperature
- Low voltage

#### **Low Voltage Protection**

If the incoming voltage is below the minimum allowed, E5 will be displayed on the front panel of the indoor unit.

#### **Terminal Strip**

Furnished for easy wiring connections.

#### **Defrost Control (Heat Pump Models)**

Defrost cycle is automatically enabled if there is a build-up of frost on the outdoor coil. Outdoor fan and indoor blower operation is terminated during the defrost cycle.

H1 is displayed on the indoor unit panel on the front cover during a defrost cycle.

#### **Reversing Valve (Heat Pump Models)**

4-way interchange reversing valve effects a rapid change in direction of refrigerant flow resulting in quick changeover from cooling to heating and vice versa.

Valve operates on pressure differential between outdoor unit and indoor unit of the system.

### **CABINET**

Constructed of heavy gauge steel.

Tabs on unit base allow secure mounting to slab.

Condensate drain outlets furnished on unit base (heat pump models only). Drain must be field furnished.

Access cover for power and control wiring connections.

Access cover for service valves (-18, -24 and -30 models only).

## FEATURES - INDOOR UNITS

### **CABINET (CONTINUED)**

High impact plastic cabinet.

#### **Unit Display Panel (on Indoor Unit)**

- Heat Indicator
  - Cool Indicator
  - Temperature/Error Code
  - Power/Run
  - Dehumidify Mode
  - Infrared Signal Receptor (for wireless remote control)
- Unit display can be turned off using the wireless remote control.

#### **Wall Mounting Plate**

Furnished for easy wall mounting of the indoor unit. See dimension drawing.

#### **Air Deflection Louvers**

Horizontal Louvers default to the cooling or heating position when the unit is operating.

Horizontal louvers can be set to a preset oscillating range or fixed position by pushing the "LOUVER SETTING" button (➤) on the wireless remote control.

Four oscillating settings and five fixed position settings. Full oscillating is the default setting when button pushed.

Vertical louvers can be manually adjusted to direct the airflow for optimal comfort.

Easy filter access.

### **INDOOR COIL**

Copper tubes fitted to aluminum fins.

High efficiency wraparound design.

Condensate drain line furnished.

Drain line can be located on left side, right side, left rear, right rear (recommended) or bottom of unit.

### **BLOWER**

Dual cross flow centrifugal blower.

Aerodynamic spiralled blades for increased airflow and reduced sound levels.

#### **Turbo Function**

Unit runs at maximum speed to cool or heat the area quickly.

#### **Cold Blow Prevention (Heat Pump Models)**

Prevents cold air from blowing into a conditioned space during heating mode if the following occurs:

- If coil temperature is less than 106°F and indoor air temperature is less than 75°F there is a three-minute time delay before blower runs at low speed for five minutes.
- If coil temperature is equal to or more than 106°F and room temperature is equal to or more than 75°F blower runs at low speed for five minutes.

### **FILTER**

Cleanable filter furnished as standard.

### **CONTROLS**

#### **Indoor Unit Microprocessor**

Contains all necessary components to control system.

#### **Terminal Strip**

Furnished for easy wiring connections.

#### **Indoor Coil Freeze Protection**

When the unit is operating in the COOL or DEHUMIDIFICATION MODE, the indoor coil may freeze due to any of the following:

- Low system charge
- Reduced indoor airflow
- Restricted refrigerant flow
- Low ambient temperature (outdoor)
- Low load (indoor)

The indoor coil thermistor monitors the coil temperature continuously. Any time the coil temperature drops below 30°F, the compressor and the outdoor fan (30 seconds later) will be switched off until the coil temperature rises above 43°F and the compressor was off for a minimum of 3 minutes.

#### **Auto Button Operation**

If the wireless remote control is lost, damaged, or the batteries are exhausted, the AUTO button located inside the front cover on the indoor unit can be used to run the unit.

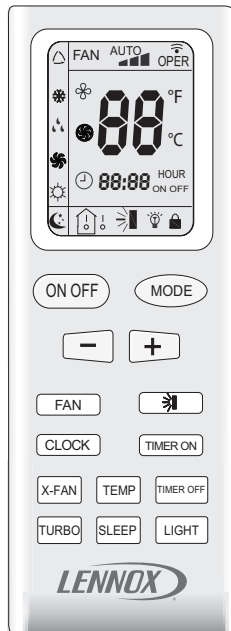
Auto Settings:

- Cooling Mode (setpoint 77°F)
- Heating Mode (setpoint 68°F)
- Fan Only Mode (runs continuously)
- Fan Speed (Auto)
- Oscillate (On)

## FEATURES - INDOOR UNITS

### WIRELESS REMOTE CONTROL (FURNISHED)

Complete remote control of system. Maximum operating range is 25 ft.



- **ON/OFF** - Turns system on and off. Also overrides SLEEP function.
- **MODE** - Select system operation modes (AUTO/COOL/DEHUMIDIFICATION/FAN/HEAT). Default setting is AUTO. HEAT only available on heat pump models.
- **+/- (Plus/Minus) Buttons** - Increase or decrease temperature in one degree increments.  
NOTE - Temperature cannot be adjusted in AUTO mode.
- **FAN** - Select fan speed (AUTO/LOW/MEDIUM/HIGH). Default setting is AUTO. Fan speed is displayed at the top of the control display.  
Note - Not adjustable during Dehumidification mode.
- **LOUVER SETTING** - Sets the angle of the horizontal louvers. Four oscillating settings and five fixed position settings. Full oscillating is the default setting when button is first pushed.



- **CLOCK (24 Hour)** - Set time on display. + and - buttons adjust time up or down.
- **TEMP** - Set temperature and display current indoor ambient temperature or outdoor ambient temperature.

### TIMER ON / TIMER OFF

TIMER ON (to start the unit at a preset time) and TIMER OFF (to stop the unit at a preset time) can be used separately or together. The clock on the wireless remote control must be set before using this function.

Pressing the + (plus) or – (minus) buttons sets time in one-minute increments. Press continuously for ten-minute increments.

Press TIMER ON or TIMER OFF again to cancel setting.

### X-FAN

Operates the indoor blower in COOL or DEHUMIDIFICATION mode for ten minutes to dry the indoor unit when unit is not operating.

Not available in AUTO, FAN or HEAT mode.

### SLEEP

Used to conserve energy.

#### Cool Mode

After one hour of operation setpoint will be increased by 2°F.

After two hours setpoint will be increased by another 2°F and fan will operate on low speed.

Canceled by pushing the “SLEEP” button again.

#### Heat Mode (Heat Pump Models Only)

After one hour of operation setpoint will be decreased by 2°F.

After two hours setpoint will be decreased by another 2°F and fan will operate on low speed.

Canceled by pushing the “SLEEP” button again.

Note - SLEEP function is only available when the unit is in COOL or HEAT mode.

### TURBO

Turns on blower to the maximum speed setting.

Canceled when switching modes or changing blower speeds.

### LIGHT

Turns the LCD display backlight on or off.

### Additional Features

Pressing the + (plus) and – (minus) buttons simultaneously locks or unlocks the keypad to prevent tampering.

Fahrenheit or Celsius temperature display. When system is off press MODE and - (minus) buttons simultaneously to switch between Fahrenheit and Celsius

Operates on two AAA 1.5V batteries (furnished).

### OPTIONS

#### Wireless Remote Control Holder

Holder can be mounted on a wall for easy access. Mounting screws furnished.



## OPTIONAL ACCESSORIES - ORDER SEPARATELY

### OUTDOOR UNITS

#### Condenser Pad

Provides permanent foundation for outdoor units.

One-piece lightweight structural foam and molded from high-density polyethylene (HDPE), which makes them lightweight and easy to carry and install. The textured finish provides a non-skid surface so that the outdoor unit sits securely in one place. UV stable.

#### Disconnects

Positive unit disconnect. Single door enclosure. Fused and non-fused models available.

#### Fuses

30 and 60 amp fuses available.

#### Indoor/Outdoor Wiring Cable (09 through 24 models only)

14-gauge, 4-conductor wire. THHN (Thermoplastic High Heat-resistant Nylon-coated) wire. Suitable for wet or dry locations. Rated up to 600V.

#### Refrigerant Line Sets

Refrigerant lines are shipped refrigeration clean. Lines are cleaned, dried, pressurized and sealed at factory.

#### Wall Brackets

Heavy duty 1/8 in. thick steel brackets for supporting outdoor units. Mount at any height to allow for easy maintenance under units. Pre-punched holes for easy installation. Powder coated gray finish. Load rating 600 lbs. per pair.

#### Whips

Heavy duty electrical whips are available in 8 and 10 gauge sizes. 6 ft. lengths. Weatherproof metal conduit.

#### Universal Mini-Split Installation Kit



Kit includes two-valve service manifold, premium 5 ft. hoses with ball valve, clutch type flaring tool, 6-in-1 metric torque wrench, imperial/metric hex tool, valve core tool, brass adaptors and brass caps, tool bag.

### INDOOR UNITS

#### Condensate Mini-Split Drain Line

Constructed of flexible reinforced polypropylene, 160 ft. roll.

#### Condensate Pumps

Quietly and efficiently removes condensate.

Designed to be installed above a false ceiling, behind wall-mounted evaporators or in plastic conduit.

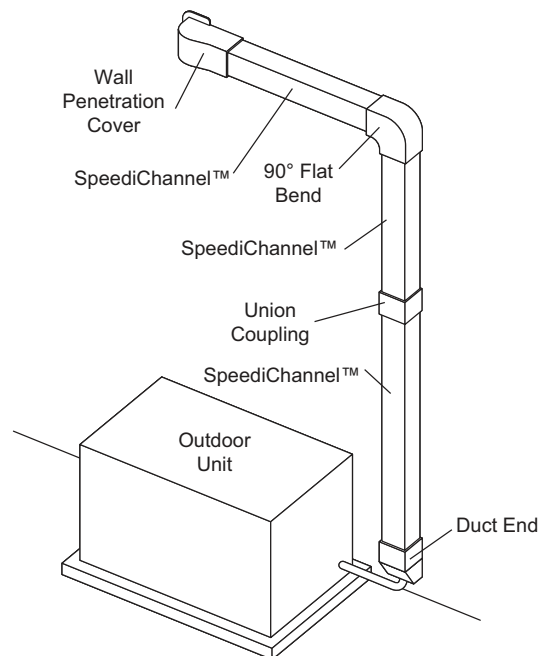
ETL listed.

### SPEEDICHANNEL™ SYSTEM



SpeediChannel™ is a channel system used to cover system line sets. The two-part system has a base and a cover. The base is fastened to a wall or ceiling with plastic clips (SpeediClip™) that snap into a channel already molded into the base. The cover fits on top of the base. SpeediChannel is manufactured from rigid PVC, which is UL rated and resistant to UV light. The system is a natural color that closely matches typical mini-split outdoor units. However, it can be painted as desired to match any wall color.

#### Typical Application



## OPTIONAL ACCESSORIES - ORDER SEPARATELY

### **SPEEDICHANNEL™ SYSTEM (CONTINUED)**

#### **SpeediChannel™ Starter Kit**

The starter kit includes (1) Coupling, (1) Wall Penetration, (1) Inside Elbow, (1) Long Radius Flat Bend, (10) Speediclips™, (10) 11 in. Cable Ties, and (1) SpeediChannel Instruction Booklet.

#### **Duct End**

Duct Ends are used to terminate a run of SpeediChannel™ to a small opening just large enough for the line set and condensate drain line to pass through.



#### **Flat Wall Escutcheon**

Flat Wall Escutcheons are used to cover a rough opening in a soffit, wall, or ceiling penetration. One side of the escutcheon



is flat to allow for a SpeediChannel™ to run along a wall and to penetrate through an adjacent wall or ceiling. This is the most common type of wall penetration. Furnished in two parts, the escutcheon easily snaps onto the SpeediChannel™.

#### **Flex Joint**

A Flex Joint is an accordion-style piece of SpeediChannel™. The flex joint can be extremely flexible when routing a SpeediChannel™ system around an obstacle. Each joint is 20 in. long and can be combined together for longer flex runs. The flex joint does not require the use of a union coupling. The flex joint slides tightly inside the SpeediChannel™ system.

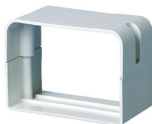
#### **T-Joint**

T-Joints are used for creating a tee connection between three pieces of SpeediChannel™. Each tee is individually packed and furnished with stainless steel screws.



#### **Union Coupling**

Union Couplings are used for joining two pieces of SpeediChannel™. Each coupling is individually packed and furnished with stainless steel screws.



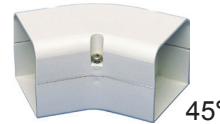
#### **Wall Penetration Cover**

Wall penetration covers are used to transition from the SpeediChannel™ system to a through wall penetration. Wall covers are designed to allow for easy installation, even after the line set has been installed. A hooking and fastening arrangement allows for quick installation. Each wall cover is individually packed, and furnished with stainless steel screws to attach the wall cover to the base. Three screws are necessary to fasten the wall cover to the wall construction, regardless of the type of installed system.



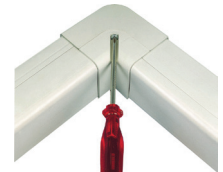
#### **45° and 90° Flat Bend Elbows**

45° Flat Bends are used to route the SpeediChannel™ around obstacles. Each bend is individually packed and furnished with stainless steel screws.



#### **90° Inside Elbow**

90° Inside Elbows are used to route the SpeediChannel™ around an inside corner. Each elbow is individually packed and furnished with stainless steel screws.



#### **Mount Block White Qty. (2) 14 in. and (2) 36 in.**

Mount Blocks are used as mounting bases when outdoor units must be bolted down. End caps (for aesthetics) come furnished with mounting bolts. Maximum load capacity is 900 pounds per mounting block. Installation temperatures range from -4°F to 140°F. Mount blocks fit all mini-split outdoor units with a sliding rail feature.



## SPECIFICATIONS - AIR CONDITIONER SYSTEMS

### OUTDOOR UNIT

Nominal Tonnage Outdoor Unit Model No.		0.75	0.75	1	1	1.5	2
		MS7-CO-09L	MS7-CO-09P	MS7-CO-12L	MS7-CO-12P	MS7-CO-18P	MS7-CO-24P
Cooling Capacity (Btuh)	High	10,600	10,600	14,000	14,000	22,350	25,000
	Standard	9,000	9,000	12,000	12,000	18,000	21,500
	Low	4,435	4,435	4,500	4,500	6,000	9,600
Connections (in.)	Small line o.d. - flare	1/4	1/4	1/4	1/4	1/4	1/4
	Large line o.d. - flare	3/8	3/8	3/8	3/8	1/2	5/8
<sup>1</sup> Refrigerant (R-410A) furnished		2 lbs. 6 oz.	2 lbs. 6 oz.	2 lbs. 9 oz.	2 lbs. 9 oz.	3 lbs. 2 oz.	3 lbs. 10 oz.
Outdoor Coil	Net face area - sq. ft.	3.95	3.95	4.08	4.08	5.94	7.77
	Tube diameter - mm	7	7	9	9	7	7
	Number of rows	2	2	2	2	2	2
	Fins per inch	18	18	18	18	18	18
Outdoor Fan Motor	Diameter - in.	15-5/8	15-5/8	15-5/8	15-5/8	20	22
	No. of blades	3	3	3	3	3	3
	Cfm	1120	1120	1120	1120	1885	2470
	Rpm	900/650	900/650	900/680	900/680	690/500	780/500
	Watts	40	40	40	40	60	90
Shipping Data - lbs.	Outdoor Unit	91	91	97	97	121	132

### ELECTRICAL DATA

Line voltage data - 60 hz - 1ph		115V	208/230V	115V	208/230V	208/230V	208/230V
<sup>1</sup> Maximum overcurrent protection (amps)		25	15	25	15	25	25
<sup>2</sup> Minimum circuit ampacity		15	6.1	15	6.1	14	14
Compressor	Locked rotor amps	33	33	33	33	41	41
	Rated load amps	4.6	4.6	4.6	4.6	8.4	8.4
Compressor Inverter Frequency (hz)	High	70	70	80	80	---	---
	Standard	41	41	57	57	---	---
	Low	15	15	15	15	---	---
Compressor Power Input (W)	<sup>3</sup> High	1050	1050	1450	1450	---	---
	<sup>3</sup> Standard	640	640	980	980	1640	1640
	Low	180	180	120	120	---	---
Outdoor Fan Motor	Rated load amps	0.17	0.17	0.17	0.17	0.62	0.90
	Output (W)	40	40	40	40	60	90
Rated Amps	High	16.8	6.5	17.0	7.0	---	---
	Standard	7.0	3.2	11.0	5.2	12	12

### MATCHING INDOOR UNIT

Indoor Unit Model No.		MS7-CI-09L	MS7-CI-09P	MS7-CI-12L	MS7-CI-12P	MS7-CI-18P	MS7-CI-24P
Connections (in.)	Small line o.d. - flare	1/4	1/4	1/4	1/4	1/4	1/4
	Large line o.d. - flare	3/8	3/8	3/8	3/8	1/2	5/8
Indoor Blower Air Volume (cfm)	Turbo	330	330	300	300	500	560
	High	295	295	275	275	460	470
	Medium	255	255	255	255	380	410
	Low	220	220	215	215	325	355
Indoor Blower RPM	Turbo	1260	1260	1260	1260	1350	1400
	High	1050	1050	1070	1070	1200	1150
	Medium	920	920	900	900	1050	1100
	Low	730	730	730	730	900	850
Indoor Coil	Net face area - sq. ft.	1.85	1.85	1.85	1.85	2.34	2.82
	Tube diameter - mm	7	7	7	7	7	7
	Number of rows	2	2	2	2	2	2
	Fins per inch	18	18	18	18	18	18
Indoor Blower	Diameter x Length	3.6 x 25.4	3.6 x 25.4	3.6 x 25.4	3.6 x 25.4	3.9 x 28	3.9 x 30
	Type	Cross flow	Cross flow	Cross flow	Cross flow	Cross flow	Cross flow
Shipping Data - lbs.	Indoor Unit	31	31	31	31	31	46

### ELECTRICAL DATA

Line voltage data - 60 hz - 1ph		115V	208/230V	115V	208/230V	208/230V	208/230V
Rated Load Amps		0.38	0.20	0.38	0.20	0.25	0.45
Output (W)		20	20	20	20	20	35

NOTE - Extremes of operating range are plus 10% and minus 5% of line voltage.

<sup>1</sup> HACR type circuit breaker or fuse.

<sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>3</sup> Rated Input



## SPECIFICATIONS - HEAT PUMP SYSTEMS

		OUTDOOR UNIT						
Nominal Tonnage		0.75	0.75	1	1	1.5	2	2.5
Outdoor Unit Model No.		MS7-HO-09L	MS7-HO-09P	MS7-HO-12L	MS7-HO-12P	MS7-HO-18P	MS7-HO-24P	MS7-HO-30P
<b>Cooling Capacity (Btuh)</b>	High	10,600	10,600	14,000	14,000	22,350	25,000	30,000
	Standard	9,000	9,000	12,000	12,000	18,000	21,500	28,000
	Low	4,435	4,435	4,500	4,500	6,000	9,600	9,500
<b>Heating Capacity (Btuh)</b>	High	11,100	11,100	14,500	14,500	25,000	26,000	33,000
	Standard	9,500	9,500	13,000	13,000	25,000	26,000	28,500
	Low	3,200	3,200	3,250	3,250	4,100	4,300	10,000
<b>Connections (in.)</b>	Small line o.d. - flare	1/4	1/4	1/4	1/4	1/4	1/4	1/4
	Large line o.d. - flare	3/8	3/8	3/8	3/8	1/2	5/8	5/8
<b><sup>1</sup> Refrigerant (R-410A) furnished</b>		2 lbs. 6 oz.	2 lbs. 6 oz.	2 lbs. 9 oz.	2 lbs. 9 oz.	3 lbs. 2 oz.	3 lbs. 10 oz.	5 lbs. 7 oz.
<b>Outdoor Coil</b>	Net face area - sq. ft.	3.95	3.95	4.08	4.08	5.94	7.77	7.66
	Tube diameter - mm	7	7	9	9	7	7	9
	Number of rows	2	2	2	2	2	2	2
<b>Outdoor Fan Motor</b>	Fins per inch	18	18	18	18	18	18	18
	Diameter - in.	15-5/8	15-5/8	15-5/8	15-5/8	20	22	21-3/4
	No. of blades	3	3	3	3	3	3	3
	Cfm	1120	1120	1120	1120	1885	2470	2355
	Rpm - Cooling (Heating)	900/650 (900)	900/650 (900)	900/680 (900)	900/680 (900)	690/500	780/500	830/830
	Watts	40	40	40	40	60	90	90
<b>Shipping Data - lbs. Outdoor Unit</b>		110	110	119	119	148	161	163
<b>ELECTRICAL DATA</b>								
Line voltage data - 60 hz - 1ph		115V	208/230V	115V	208/230V	208/230V	208/230V	208/230V
<sup>1</sup> Max. overcurrent protection (amps)		25	15	25	15	25	25	25
<sup>2</sup> Minimum circuit ampacity		15	6.1	15	6.1	14	14	13
<b>Compressor</b>	Locked rotor amps	33	33	33	33	41	41	45
	Rated load amps	4.6	4.6	4.6	4.6	8.4	8.4	9.7
<b>Compressor Inverter Frequency (Hz) (Heating/Cooling)</b>	High	70/63	70/63	80/75	80/75	---	---	---
	Standard	41/44	41/44	57/65	57/65	---	---	---
	Low	15/15	15/15	15/15	15/15	---	---	---
<b>Compressor Power Input (W) (Cooling/Heating)</b>	<sup>3</sup> High	1050/1100	1050/1100	1450/1500	1450/1500	---	---	3450/3500
	<sup>3</sup> Standard	660/700	660/700	1000/1200	980/1200	1640	1640	2780/2870
	Low	180/220	180/220	120/220	120/220	---	---	550/700
<b>Outdoor Fan Motor</b>	Rated load amps	0.17	0.17	0.17	0.17	0.62	0.90	0.45
	Output (W)	40	40	40	40	60	90	120
<b>Rated Amps (Cooling/Heating)</b>	High	16.8/17.0	6.5/6.8	17.0/18.2	7.0/7.5	---	---	---
	Standard	7.0/7.5	3.2/3.5	11.0/12.5	5.2/6.0	12/12.6	12/12.5	17/17
<b>MATCHING INDOOR UNIT</b>								
Indoor Unit Model No.		MS7-HI-09L	MS7-HI-09P	MS7-HI-12L	MS7-HI-12P	MS7-HI-18P	MS7-HI-24P	MS7-HI-30P
<b>Connections (in.)</b>	Small line o.d. - flare	1/4	1/4	1/4	1/4	1/4	1/4	1/4
	Large line o.d. - flare	3/8	3/8	3/8	3/8	1/2	5/8	5/8
<b>Indoor Blower Air Volume (cfm)</b>	Turbo	330	330	300	300	500	560	---
	High	295	295	275	275	460	470	735
	Medium	255	255	255	255	380	410	675
	Low	220	220	215	215	325	355	645
<b>Indoor Blower RPM (Heating/Cooling)</b>	Turbo	1260/1320	1260/1320	1260/1280	1260/1280	1350/1420	1400/1400	---
	High	1050/1200	1050/1200	1070/1050	1070/1050	1200/1250	1150/1150	1400/1400
	Medium	920/1100	920/1100	900/980	900/980	1050/1150	1100/1100	1300/1300
	Low	730/950	730/950	730/920	730/920	900/1050	850/900	1200/1200
<b>Indoor Coil</b>	Net face area - sq. ft.	1.85	1.85	1.85	1.85	2.34	2.82	4.41
	Tube diameter - mm	7	7	7	7	7	7	7
	Number of rows	2	2	2	2	2	2	2
	Fins per inch	18	18	18	18	18	18	18
<b>Indoor Blower</b>	Diameter x Length	3.6 x 25.4	3.6 x 25.4	3.6 x 25.4	3.6 x 25.4	3.9 x 28	3.9 x 30	4.25 x 20.5
	Type	Cross flow	Cross flow	Cross flow	Cross flow	Cross flow	Cross flow	Cross flow
<b>Shipping Data - lbs. Indoor Unit</b>		37	37	37	37	46	56	60
<b>ELECTRICAL DATA</b>								
Line voltage data - 60 hz - 1ph		115V	208/230V	115V	208/230V	208/230V	208/230V	208/230V
Rated Load Amps		0.38	0.20	0.38	0.20	0.25	0.45	0.40
Output (W)		20	20	20	20	20	35	40

NOTE - Extremes of operating range are plus 10% and minus 5% of line voltage.

<sup>1</sup> HACR type circuit breaker or fuse.

<sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>3</sup> Rated Input

## SYSTEM OPTIMAL OPERATING RANGES

Unit Type	System Size	Outdoor Temperature Optimal Operating Ranges		Indoor Temperature Optimal Operating Ranges	
		Cooling	Heating	Cooling	Heating
Air Conditioner	09 to 24	41°F to 115°F	---	64°F to 90°F	---
Heat Pump	09 to 24	41°F to 115°F	5°F to 86°F	64°F to 90°F	50°F to 86°F
	30	64°F to 109°F	19°F to 75°F	64°F to 90°F	50°F to 86°F

### NOTES:

18 and 24 Models Only - If the outdoor temperature is above 50°F, the system will operate in the cooling mode if the room temperature is 61°F or above. If the outdoor temperature is below 50°F, the system will not operate unless the room temperature is 77°F or above.

See MS7 Unit Information Manual for system performance outside of the optimal operating ranges shown.

## OPTIONAL ACCESSORIES - ORDER SEPARATELY

Description	Catalog No.	Size				
		09	12	18	24	30
<b>OUTDOOR UNIT</b>						
Condenser Pad (18 x 36 x 2)	<b>48X92</b>	•	•	•	•	•
Disconnects	30 amp, fused, 1 ph	<b>27P37</b>	•	•	•	•
	60 amp, non-fused, 1 ph	<b>27P39</b>	•	•	•	•
Fuses	30A	<b>83P75</b>	•	•	•	•
	60A	<b>83P77</b>	•	•	•	•
Line Sets	1/4 in. x 3/8 in. x 50 ft.	<b>X0258</b>	•	•		
	1/4 in. x 1/2 in. x 25 ft.	<b>90X52</b>			•	
	1/4 in. x 1/2 in. x 50 ft.	<b>X0259</b>			•	
	1/4 in. x 5/8 in. x 25 ft.	<b>90X51</b>				•
	1/4 in. x 5/8 in. x 50 ft.	<b>X0260</b>				•
Male Flare Adaptor	5/16 in. quick connect x 1/4 in. MF	<b>Y0576</b>	•	•	•	•
Wall Brackets	30 inch	<b>Y5020</b>	•	•		
	36 inch	<b>Y5021</b>			•	•
Whips	10 Gauge - 1/2 in. x 6 ft.	<b>29P54</b>	•	•	•	•
	8 Gauge - 3/4 in. x 6 ft.	<b>27P44</b>	•	•	•	•
<b>INDOOR UNIT</b>						
Condensate Pumps	Aspen Mini Orange - 3.7 US gallons per hour, 26 ft. lift - 115V	<b>X8250</b>	•	•	•	•
	Aspen Mini Orange - 3.7 US gallons per hour, 26 ft. lift - 230V	<b>X8251</b>	•	•	•	•
	ClearVue Mini™ - 7.9 US gallons per hour, 35 ft. lift - 120/240V	<b>Y5170</b>	•	•	•	•
Condensate Mini-Split Drain Line - 5/8 in. I.D. 160 ft.		<b>Y3401</b>	•	•	•	•
Indoor/Outdoor Wiring Cable - 14 Gauge, 4 conductor wire, THHN, 250 ft.		<b>Y2067</b>	•	•	•	•
Wireless Remote Control Holder		<b>Y5070</b>	•	•	•	•
<b>INSTALLATION KIT</b>						
Universal Mini-Split Installation Kit		<b>Y3247</b>	•	•	•	•
<b>SPEEDICHANNEL™ SYSTEM</b>						
SpeediChannel™ Starter Kit - 4 in.		<b>Y3387</b>	•	•	•	•
SpeediChannel - 4 in. x 6-1/2 ft.		<b>Y3388</b>	•	•	•	•
Union Coupling - 4 in.		<b>Y3389</b>	•	•	•	•
90° Flat Bend Elbow - 4 in.		<b>Y3390</b>	•	•	•	•
90° Inside Elbow - 4 in.		<b>Y3391</b>	•	•	•	•
45° Flat Bend Elbow - 4 in.		<b>Y3392</b>	•	•	•	•
Flex Joint - 4 in.		<b>Y3393</b>	•	•	•	•
T-Joint - 4 in.		<b>Y3394</b>	•	•	•	•
Duct End - 4 in.		<b>Y3395</b>	•	•	•	•
Flat Wall Escutcheon - 4 in.		<b>Y3396</b>	•	•	•	•
Wall Penetration Cover - 4 in.		<b>Y3399</b>	•	•	•	•
Mount Block (White) Qty, 2 - 14 in.		<b>Y3397</b>	•	•	•	•
Mount Block (White) Qty, 2 - 36 in.		<b>Y3398</b>	•	•	•	•

## SYSTEM MATCHES - AIR CONDITIONERS

NOTE - For the latest up-to-date system matches please visit the AHRI web site at <http://www.ahridirectory.org>

Outdoor Model	Capacity	SEER	EER	Indoor Model	AHRI Reference
MS7-CO-09L	9,000	22.00	14.20	MS7-CI-09L	4733645
MS7-CO-09P	9,000	22.00	14.20	MS7-CI-09P	4733646
MS7-CO-12L	12,000	20.00	12.50	MS7-CI-12L	4733647
MS7-CO-12P	12,000	20.00	12.50	MS7-CI-12P	4733648
MS7-CO-18P	18,000	18.00	12.00	MS7-CI-18P	4733649
MS7-CO-24P	22,000	18.00	12.00	MS7-CI-24P	4733650

NOTES:

Ratings are AHRI certified to AHRI Standard 210/240; 95°F outdoor air temperature, 80°F db / 67°F wb entering evaporator air.

## SYSTEM MATCHES - HEAT PUMPS

NOTE - For the latest up-to-date system matches please visit the AHRI web site at <http://www.ahridirectory.org>

Outdoor Model	Capacity	SEER	EER	Heat Capacity		HSPF Region IV	Indoor Model	AHRI Reference
				High	Low			
MS7-HO-09L	9,000	22.00	14.20	9,500	5,400	9.80	MS7-HI-09L	4733651
MS7-HO-09P	9,000	22.00	14.20	9,500	5,400	9.80	MS7-HI-09P	4733653
MS7-HO-12L	12,000	20.00	12.50	13,000	7,500	9.60	MS7-HI-12L	4733652
MS7-HO-12P	12,000	20.00	12.50	13,000	7,500	9.60	MS7-HI-12P	4733654
MS7-HO-18P	18,000	18.00	12.00	25,000	16,300	10.20	MS7-HI-18P	4733655
MS7-HO-24P	21,000	18.00	12.00	26,000	16,000	10.20	MS7-HI-24P	4733656
MS7-HO-30P	28,000	16.00	10.05	28,400	17,000	8.20	MS7-HI-30P	4733657

NOTES:

Ratings are AHRI certified to AHRI Standard 210/240;

- Cooling Ratings - 95°F outdoor air temperature and 80 °F db/67° F wb entering indoor coil air.
- High Temperature Heating Ratings - 47° F db/43° F wb outdoor air temperature and 70 °F db entering indoor coil air.
- Low Temperature Heating Ratings - 17 °F db/15° F wb outdoor air temperature and 70 °F db entering indoor coil air.

To convert HSPF from Region IV to Region V - Divide by 1.15.

## INDOOR UNIT AIR THROW DATA

Indoor Unit	Effective Throw - ft.				
	09	12	18	24	30
Low Speed	18	19	25	23	N/A
Medium Speed	20	21	30	27	N/A
High Speed	23	25	32	30	N/A
Turbo Speed	N/A	N/A	35	37	N/A

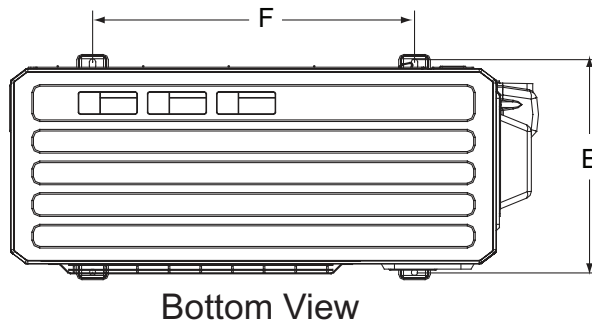
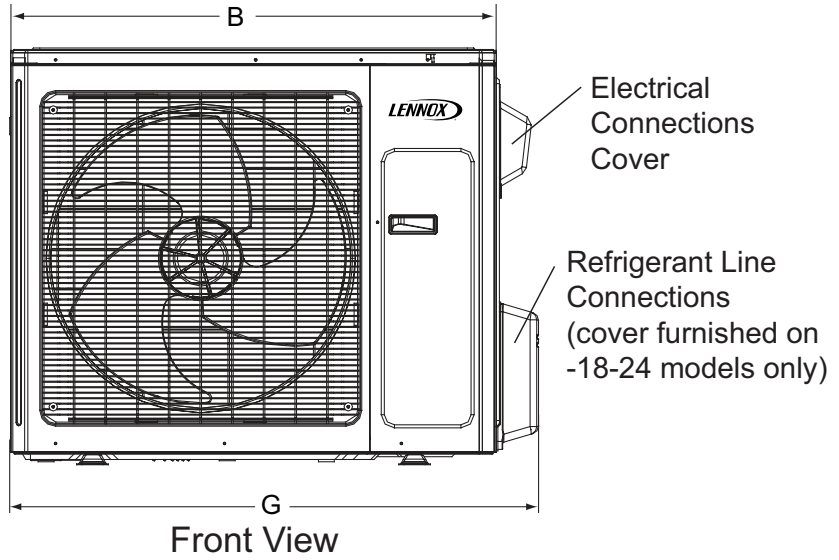
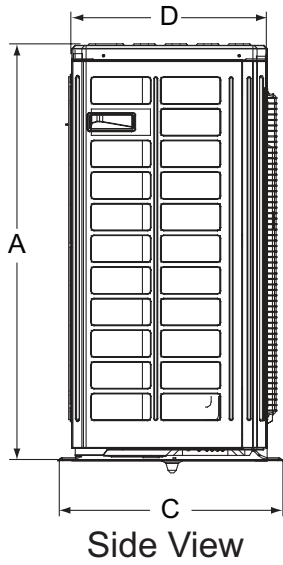
## SOUND DATA - OUTDOOR

Unit Type	Outdoor Unit Model No.	Sound Rating Number (dBA)	
		Pressure	Power
Air Conditioner	MS7-CI-09L	53	63
	MS7-CO-09P	53	63
	MS7-CO-12L	55	65
	MS7-CO-12P	55	65
	MS7-CO-18P	54	64
	MS7-CO-24P	56	66
Heat Pump	MS7-HO-09L	53	63
	MS7-HO-09P	53	63
	MS7-HO-12L	55	65
	MS7-HO-12P	55	65
	MS7-HO-18P	54	64
	MS7-HO-24P	56	66
	MS7-HO-30P	58	68

## SOUND DATA - INDOOR

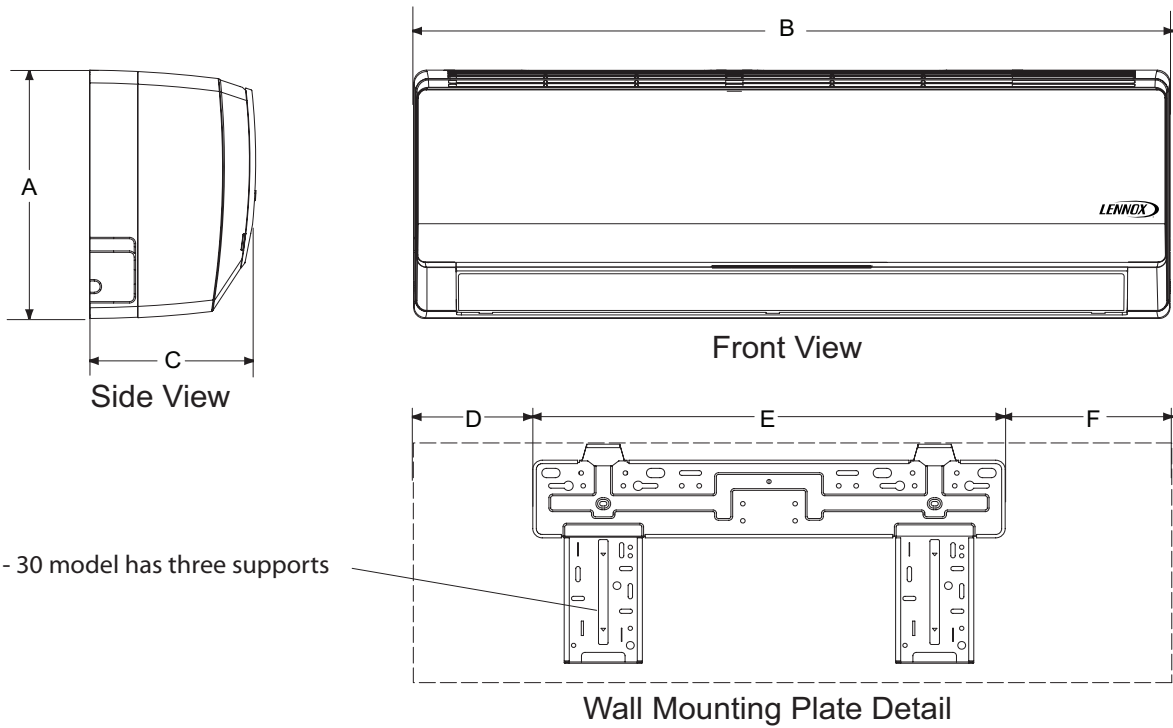
Unit Type	Indoor Unit Model No.	Sound Rating Number (dBA)					
		Low		Medium		High	
		Pressure	Power	Pressure	Power	Pressure	Power
Air Conditioner	MS7-CI-09L	26	36	30	40	34	44
	MS7-CI-09P	26	36	30	40	34	44
	MS7-CI-12L	26	36	32	42	36	46
	MS7-CI-12P	26	36	32	42	36	46
	MS7-CI-18P	35	45	40	50	44	54
	MS7-CI-24P	35	45	40	50	44	54
Heat Pump	MS7-HI-09L	26	36	30	40	34	44
	MS7-HI-09P	26	36	30	40	34	44
	MS7-HI-12L	26	36	32	42	36	46
	MS7-HI-12P	26	36	32	42	36	46
	MS7-HI-18P	35	45	40	50	44	54
	MS7-HI-24P	35	45	40	50	44	54
	MS7-HI-30P	48	58	50	60	52	62

## DIMENSIONS - INCHES (MM) OUTDOOR UNITS



Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
<b>-09</b>	21	533	30	762	12-5/8	320	10-1/8	257	11-1/4	286	21-1/4	540	33-3/8	848
<b>-12</b>	21	533	30	762	12-5/8	320	10-1/8	257	11-1/4	286	21-1/4	540	33-3/8	848
<b>-18</b>	27-1/2	701	35	890	13-3/8	340	13-3/8	340	14-1/2	368	22	560	37-1/2	955
<b>-24</b>	31-1/8	790	36-1/4	920	16-7/8	427	14-1/2	370	15-3/4	399	24	610	39-3/8	1000
<b>-30</b>	31-1/8	790	36-1/4	920	16-7/8	427	14-1/2	370	15-1/2	395	24	610	38-1/2	980

## DIMENSIONS - INCHES (MM) INDOOR UNITS



NOTE - 30 model has three supports

Model No.	A		B		C		D		E		F	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
-09	10-7/8	275	33	838	7	180	5-3/8	135	21-3/8	542	6-5/8	169
-12	10-7/8	275	33	838	7	180	5-3/8	135	21-3/8	542	6-5/8	169
-18	12	305	37	940	8	203	4-5/8	118	27-3/8	694	5-7/8	148
-24	12-3/8	315	39-3/4	1008	8-1/2	218	8-1/2	215	27	685	7-1/2	190
-30	12-7/8	326	53	1350	10	253	10	253	29-3/8	746	13-7/8	351

### INSTALLATION CLEARANCES - INCHES (MM)

OUTDOOR UNITS	In.	mm
Left Side	12	305
Right Side	12	305
Front	48	1219
Rear	12	305
Top	24	510
INDOOR UNITS	In.	mm
Left Side	6	152
Right Side	6	152
Top	6	152
Bottom	72	1829

**NOTES:**

If outdoor unit is mounted on a flat rooftop allow a minimum of 4 in. (102 mm) above the roof surface.

Locate the unit above a load bearing wall or area of the roof that can adequately support the unit. Consult local codes for rooftop applications.





## REVISIONS

Sections	Description of Change
Optional Accessories	Updated Condensate Pump usage.



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