LENNOX®

ENGINEERING DATA

HM61 / AM61V - COMPLETEHEAT®

DAVE LENNOX *SIGNATURE* ™ COLLECTION
RESIDENTIAL SPACE HEATING / WATER HEATING SYSTEM

Recovery Efficiency up to 96%
Space Heating Input - 40,000 to 120,000 Btuh
Water Heating Input - 100,000 to 150,000 Btuh
Nominal Add-on Cooling - 2 to 5 Tons
(Residential Applications Only)

Bulletin No. 210386
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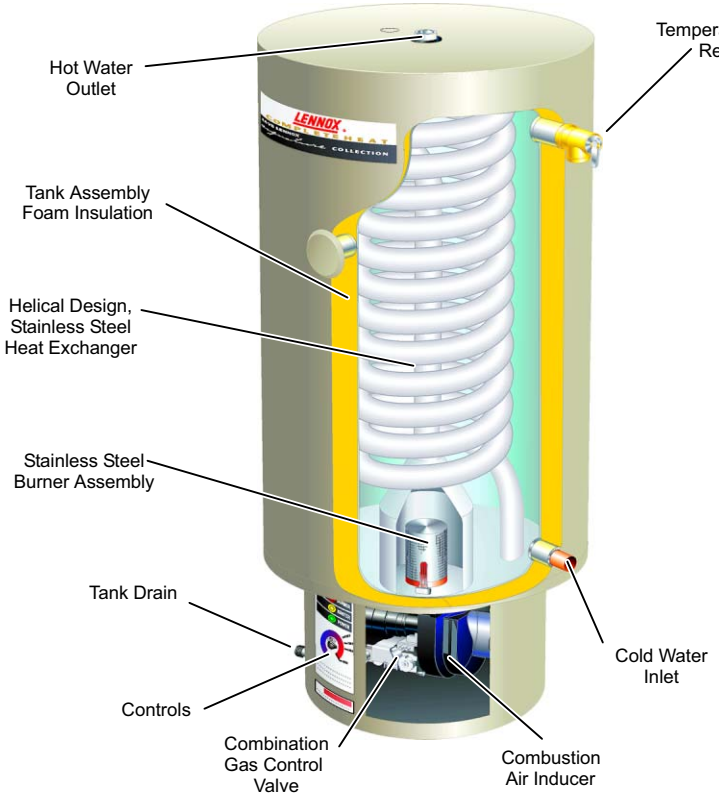

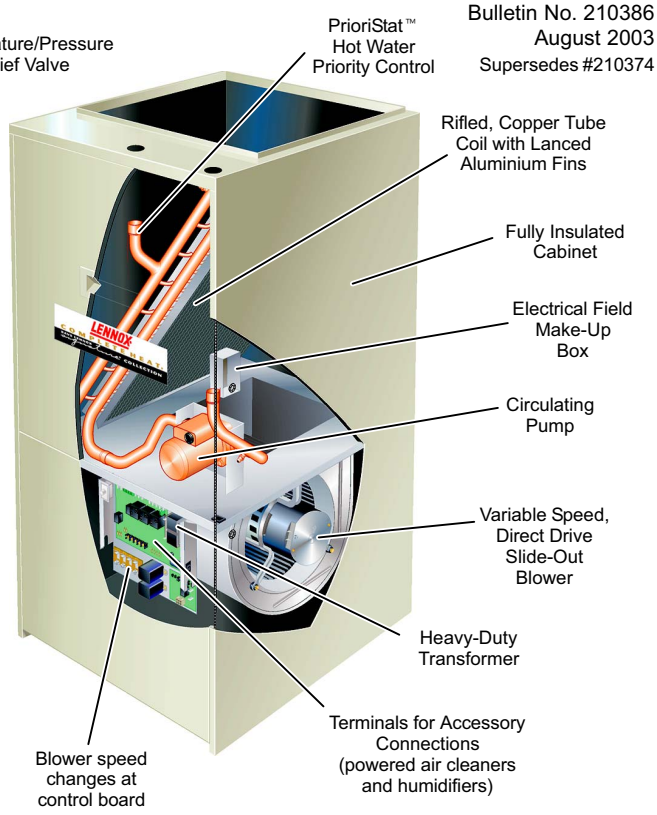

MODEL NUMBER IDENTIFICATION

HM 61 - 150 _ - 2

Unit Type
HM = Heating Module

Series

Nominal Heat Input
100 = 100,000 Btuh (29.3 kW)
150 = 150,000 Btuh (43.9 kW)

Gas Type
_ = Natural Gas
P = LPG/Propane Gas

Minor Revision Number

AM 61V - 24 B - 070 - 2

Unit Type
AM = Multi-Position Air Module

Series

Blower
V = Variable Speed

Nominal Add-On Cooling Capacity
24 = 2 tons (7.0 kW)
36 = 3 tons (10.6 kW)
48 = 4 tons (14.1 kW)

Cabinet Width
B = 17-1/2 in. (445 mm)
C = 21 in. (533 mm)

Nominal Water Coil Heat
040 = 40,000 Btuh (11.7 kW)
070 = 70,000 Btuh (20.5 kW)
090 = 90,000 Btuh (26.4 kW)
100 = 100,000 Btuh (29.3 kW)
120 = 120,000 Btuh (35.2 kW)

Minor Revision Number

Visit us at www.lennox.com
For the latest technical information, www.lennoxdavenet.com

NOTE - Due to Lennox' ongoing committment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.
Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
Installation and service must be performed by a qualified installer and servicing agency.

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FEATURES

WARRANTY

HM61 stainless steel heat exchanger / hot water tank - limited ten year warranty in residential applications.

AM61V Air Module- limited five year warranty in residential applications.

All other covered components - limited five year warranty in residential applications.

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

SEQUENCE OF OPERATION

HM61 Heating Module uses potable tap water and heats it to a predetermined temperature with a gas power burner and helical heat exchanger.

Thermistor controls burner operation, keeping water at preselected temperature.

Stainless steel tank stores water until there is demand for domestic hot water or space heating.

AM61V Air Module includes supply air blower, water circulating pump, hot water coil, and blower/pump control.

When demand for space heat is received from the thermostat, the blower/pump control activates the circulating pump.

After timed-on delay (adjustable) the blower energizes at heating speed.

When heating demand is satisfied, the circulating pump shuts off.

After a timed-off delay (fixed) the supply air blower shuts off.

PrioriStat™ (furnished with AM61V) will control AM61V blower operation and give the HM61 potable water heating priority. The PrioriStat™ is factory set for optimal performance.

APPROVALS

Units certified by CSA International and ratings are listed by GAMA.

Approved by California Energy Commission and meet California Seasonal Efficiency requirements and California Nitrogen oxides (NO_x) Standards.

Blower data from unit tests conducted in Lennox Laboratory air test chamber.

HM61 units approved for vertical or horizontal (sidewall) venting.

APPLICATION

Lennox CompleteHeat® combination forced air and water heating system combines high-efficiency space heating with high-efficiency water heating.

CompleteHeat system consists of HM61 Water Heating Module, Lennox PrioriStat priority potable water control, and AM61V Air Module.

HM61 available for use with natural or LPG/Propane gas.

HM61 tank stores 34 US gallons (129 L) of hot water at adjustable temperatures ranging from 110°F to 160°F (43°C to 71.1°C).

HM61 is capable of operating as a stand-alone water heater module as well as part of the CompleteHeat system. HM61 may also be used with radiant heating systems.

AM61V may be used with other makes of water heaters.

AM61V circulates hot water through a hot water coil, supply air blower moves the return air past the coil to extract the heat and then distribute the heated air throughout the conditioned space.

AM61V is a multi-position (up-flow, down-flow, or horizontal) blower/hot water coil unit.

Lennox add-on evaporator coil with remote condensing unit, air cleaners, automatic humidifier, and all Lennox Indoor Air Quality products can easily be added for a complete all season system.

CORROSION AND WATER QUALITY

Water conductivity and hardness levels vary from location to location. Water which is highly conductive and water which is considered hard each pose their own set of problems for any water heating system. Galvanic corrosion occurs when two dissimilar metals are immersed in an electrically conductive solution such as water. To protect the CompleteHeat® system from this corrosion, the HM61 tank, heat exchanger and weld materials are all constructed of a special grade of stainless steel which minimizes the corrosive effects of water.

The construction significantly reduces the presence of corrosion-producing crevices. In certain extreme conditions, galvanic corrosion can occur even when a single type of metal is present.

Water hardness due to the presence of dissolved minerals (such as sodium, calcium and magnesium compounds) is not entirely remedied by filtering. Water is considered hard when these minerals reach levels over 120 ppm or 7 grains per gallon (GPG). Water with mineral levels over 180 ppm or 10.6 GPG is considered to be very hard.

When hard water is heated, it deposits a hard, rock-like scale in water heaters. Significant scale deposits can result in loss of heat transfer and lower efficiencies, increased temperatures of heated metal surfaces and loss of capacity due to displacement of water volume.

Note: In order to ensure proper operation, water quality must meet the following minimum requirements. Water supplied to the HM61 that must be less then 12 grains (205 mg/l) total hardness. Any levels above this may reduce the life and performance of the water heater. **The HM61 warranty is void if the unit is operated in applications which do not meet minimum water quality requirements.** Depending on the degree of hardness, it is recommended that either a water pre-treatment system or a water softener be installed and properly maintained.

HM61 FEATURES

HEATING SYSTEM

Tank Assembly

Stainless steel construction.
Tank is encased with foam insulation.
See dimension drawings for water connections.

Tank Drain Valve

Furnished for servicing tank.
Located behind access panel.
Standard garden hose connection.

Flue Pipe/Condensate Trap Assembly

Vents combustion products and collects condensate.
Contains a built-in internal trap.

Heat Exchanger

Stainless steel construction.
Helical design.

Burner Assembly

Stainless steel construction.
Short flame design.
Uses 100% outside air for combustion.

Automatic Gas Control

Combines automatic electric valve (dual) and gas pressure regulation into a compact combination control.
Dual valve design provides double assurance of close off of gas to main burners at each off cycle.
Gas valve is automatically regulated to maintain even gas flow regardless of venting installation type.
Design compensates for variations in gas supply pressure.

Combustion Air Blower

Aluminum housing, completely sealed.
Pressure switch prevents unit operation in case of combustion air, flue outlet, or condensate drain blockage.
Located behind service access panel under the storage tank.

Temperature/Pressure Relief Valve

Provides temperature/pressure relief in case of abnormal operating conditions.
Located on side of water tank.
Opens at 210°F or 150 psig (99°C or 1034 kPa).
Approved by A.S.M.E.

CABINET

Heavy gauge, painted steel construction.
HM61 controls accessible from front of cabinet.
Hot water outlet is located at top of cabinet.

CONTROLS

Ignition Control

Provides positive hot surface ignition of burner on each operating cycle.
Main burner is extinguished during off cycle.
Burner operation is automatic on demand for heat.
Unit shuts down if loss of flame occurs and will initiate 3 attempts at relighting before going into Watchguard mode.
Watchguard circuit automatically resets ignition controls after one hour of unit lockout. Eliminates nuisance calls for service.
Diagnostic LED's are furnished as aid in troubleshooting.

Water Temperature Control

Easy to read dial type.
Adjustable 110°F to 160°F (43° to 71.1°C).

Limit Control (Energy Cut-Off)

High temperature limit switch will shut down the water heater if the temperature of the water exceeds 203°F (95°C).
Auto-reset switch.
Located on the side of water tank.

Expansion Tank Furnished

3/4 inch male NPT.
Prevents excessive build up of system pressure due to thermal expansion.
Protects system components from premature failure caused by pressure cycling.

HM61 OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

WATER SYSTEM

Air Vent/Bleed Valve

Available in 3/4 in. or 1 in. female NPT.
Reduces air entrapped in system.

Water Mixing Valve Kit

Field adjustable to ensure a steady, safe temperature for domestic hot water.
Recommended in applications using over 120°F (49°C) water tank temperature.
Required in applications using over 140°F (60°C) water tank temperature or maximum temperature allowed by local codes.

Water Pressure Reducing Valve

Recommended in closed-loop systems.
3/4 or 1 inch valve reduces inlet water pressure.
Factory set at 55 psig (379 kPa).

Water Pressure Test Gauge

Testing of water pressure supplied within a building.
3/4 in. bib hose connection.
Second gauge needle indicates the maximum water pressure reached.

HEAT CABLE KITS FOR CONDENSATE DRAIN

Self-limiting wattage heat cable prevents condensate drain from freezing in unconditioned areas.
Heat cable kits are available in 6, 24, or 50 ft. (1.8, 7.3, or 15.2 m) lengths.
Also available Heat Cable Tape: 66 ft. (20 m) length, 1/2 in. (13 mm) wide fiberglass or 60 ft. (18 m) length, 2 in. (51 mm) wide aluminum foil.

VENTING

Air Intake Filter Kit

Helps keep debris out of the intake air stream.
Recommended installation above the bottom elbow of the flue pipe/condensate trap assembly in the vertical position.
Includes one each 2 in. and 3 in. (51 mm and 76 mm) reducers.

Intake/Exhaust Vent Adaptor Kit

3 in. to 2 in. (76 mm to 51 mm) reducer adaptors allows connection of exhaust and intake pipe to HM61.

TERMINATION KITS

Concentric Termination Kit

Facilitates installation of combustion air intake pipe and flue exhaust pipe.
Kit contains concentric termination assembly, mounting clamp, roof flashing, reducer bushing, and 45 degree elbow.
Kit requires single hole penetration of roof or wall for installation.
CSA certified.
See dimension drawings.

Roof Termination Kit

Facilitates installation of combustion air intake pipe and flue exhaust pipe.
Kit contains two neoprene rubber roof flashings.
See dimension drawings.
Refer to HM61 Exhaust and Intake Venting table in this bulletin to determine pipe size needed and proper termination kit required.

Wall Assembly Termination Kits

Facilitates installation of combustion air intake pipe and flue exhaust pipe.
Refer to venting tables in this bulletin to determine pipe size needed and proper termination kit required.
See dimension drawings.

Close Couple Kits

Kit consists of close-couple, side-by-side PVC piping with galvanized steel wall cover plate for sealing and isolating piping penetration of the wall.
Piping spacing and length is sized for proper wall installations.
CSA certified.

WTK Close Couple Kits

Kit contains one insulated faceplate, one insulated exhaust pipe, elbow and fittings.

Wall Ring Kit

Kit contains two stainless steel outside seal caps, two galvanized steel inside seal caps, four seal rings for the caps, and 18-inch (457 mm) insulation sleeve for sealing and isolating intake and exhaust piping penetration of wall.
Maintain a maximum of 6 inches (152 mm) between the inlet and outlet openings in the installation of the pipes.
See dimension drawings.

AM61V FEATURES

CABINET

Heavy gauge steel construction with five station metal wash process and baked-on enamel paint finish.
Foil faced fiberglass insulation on hot water coil access door panel, side panels and on back panel reduces cabinet temperatures.
Black mat faced fiberglass in blower compartment assures quiet operation.
Complete service access by removing hot water coil section and blower compartment access panels.
Blower assembly completely removable for easy servicing.
Blower deck rails angle down for easy blower removal.
Electrical inlets in both sides of the cabinet.
Safety interlock switch automatically shuts off power to unit when blower compartment access door is removed.
Return air entry on either side or bottom of cabinet.
AM61 air module is applicable to up-flow, horizontal, or down-flow installations.

Field Make-up Box

Furnished for line voltage wiring.
Box may be installed on either side of AM61 cabinet.

HEATING SYSTEM

Hot Water Coil

Corrugated/lanced aluminum fins.
Seamless corrosion resistant copper tubes.
Fin collars grip tubing for maximum contact area.
Flared shoulder tubing connections and silver soldering provides tight, leakproof joints.
Factory tested under high pressure.
Entire coil accessible for cleaning.

Circulating Pump

Bronze construction.
Carbon bearings.
Self lubricating.
Non-metallic impeller.
Impedance protected.
Motor and impeller removable as single unit for servicing.

Freezestat

Protects system from freezing temperatures when unit is installed in unconditioned areas.
Thermostat automatically energizes circulating pump when water line temperature falls below 45°F (7°C).

BLOWER

Variable Speed Blower Motor

Variable speed motor (VSM) maintains specified air volume from 0 though 0.80 in. w.g. (0 through 200 Pa) static range.
Gradual acceleration and deceleration of variable speed blower motor when starting and stopping over a specific time frame results in extremely quiet operation.
Motor is controlled by BDC3 Control Board.
Motor is resiliently mounted.
When units are used with Harmony Zone Control System, blower motor operates from predetermined minimum to maximum air volumes to satisfy zone requirements.

Variable Speed Blower

Each blower assembly statically and dynamically balanced.
Change in blower speed is easily accomplished by simple jumper pin position change on BDC3 Control Board.
Blower assembly completely removable for easy servicing.
See blower performance tables.

CONTROLS

Blower/Pump Control Board

Blower “timed-on” delay jumper (15 to 60 seconds, adjustable) factory setting 15 seconds, blower “timed-off” delay setting 30 seconds (fixed).
Automatically circulates water for 30 seconds every 6 hours (delays pump operation during cooling demand).
Control voltage terminal strips for thermostat connections.
120 volt (less than 4 amps) accessory terminals furnished for humidifiers and powered air cleaners.
Blower cooling relay for air-conditioning operation.
Metal oxide varistor, mounted on board, protects against voltage spikes.
Diagnostic LED furnished as an aid in troubleshooting.

BDC3 Electronic Blower Control

Blower control interfaces variable speed motor with thermostat.
Solid-state board controls evaporator humidity by controlling blower and compressor speed on two-stage outdoor units.
Two COOL speeds and one HEAT speed (with four different air volume selections for each) are made by simple jumper pins on board.
ADJUST jumper pin allows approximately 10% higher, normal, or 10% lower motor speed selection within HEAT and COOL speeds selected for fine tuning the air volume.
DELAY jumper pin allows selection blower motor de-humidification profiles during cooling mode.

Option 1 - Motor runs at 100% of capacity until demand met. Once demand is met, motor ramps down to stop.

Option 2 - Motor runs at 100% of capacity until demand is satisfied. Motor runs at 100% of capacity for 60 seconds then ramps down to stop.

Option 3 - Motor runs at 82% of capacity for approximately 7-1/2 minutes. If demand is not satisfied, motor runs at 100% capacity until demand is satisfied. Once demand is met, motor ramps down to stop.

Option 4 - Motor runs at 50% capacity for 30 seconds, then 82% capacity for approximately 7-1/2 minutes. If demand is not satisfied, motor runs at 100% capacity until demand is met. Once demand is met, motor runs at 50% capacity for 30 seconds, then ramps down to stop.

BDC3 control has two diagnostic indicator lights, “CFM” and “RUN”, to assist in servicing.
Accessory relay terminals provide connections for power humidifiers or electronic air cleaners.
Control is factory installed in the unit control box.

24 Volt Transformer

Furnished in AM61 control box.

PRIORISTAT™ HOT WATER PRIORITY CONTROL

Furnished and factory installed on the hot water coil.
Control will allow any demand for potable hot water to have priority over hot water needed for space heating.
Senses the water temperature supplied to the AM61V and prevents blower operation when temperature drops below a fixed setting.
Factory set with a built-in differential.

AM61V OPTIONAL ACCESSORIES

WATER SYSTEM

Auxiliary Pump

For remote applications over 30 equivalent feet (9.1 m).
Field installed anywhere in-between AM61 and HM61.

Anti-Thermal Siphon Kit

In-line check valve prevents thermal siphoning when AM61 is located above HM61.

DOWN-FLOW BASE

Provides clearance for routing water lines for down-flow applications without an evaporator coil.

FILTER KITS

Air Filter and Rack Kit for Horizontal Return Air (End) Applications

Washable or vacuum cleanable polyurethane frame type filter and external end return air rack available for field installation.
Rack has filter door for easy filter servicing.
Flanges on rack allow easy duct connection.
See dimension drawing.

Air Filter and Rack Kit for Up-Flow Side Return Air Applications - Not for use with RAB Return Air Base

Washable or vacuum cleanable polyurethane frame type filter and external side return air rack available for field installation.
Available in single and ten pack kits.
Rack has filter door for easy filter servicing.
Flanges on rack allow easy duct connection.
Field installs on either side of unit cabinet. See dimension drawing.

EZ Filter Base for Up-Flow Bottom Return Air Applications

Hinged door with thumbscrew for easy filter access.
Uses standard size filters (field provided).

SignatureStat™ Home Comfort Controller

Combination temperature and humidity control in cooling mode.
2 Heat/2 Cool
Auto-changeover
Easy-to-use, menu driven thermostat with a back-lit, dot-matrix LCD screen.
Remote outdoor sensor (furnished) allows the thermostat to display outdoor temperature and adjust indoor dewpoint temperature for precision humidity control in cooling mode.
See the SignatureStat Engineering Handbook bulletin in the Controls section for more information.

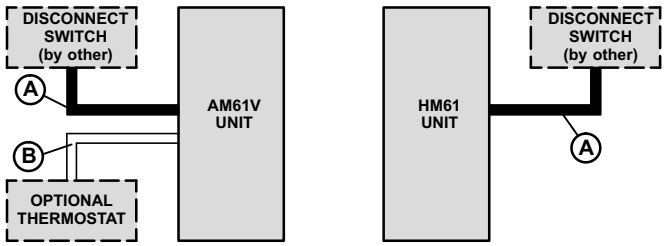
HORIZONTAL SUPPORT FRAME KIT

Provides support of unit in horizontal applications.
Consists of (2) 1 x 1-1/2 x 32-5/8 in. (25 x 38 x 829 mm) and (2) 1 x 3 x 53-7/8 in. (25 x 76 x 1368 mm) painted heavy gauge cold rolled steel support channels with assembly and suspending holes.
Bolts and nuts furnished for field assembly.
Suspending rods must be field provided.

RAB RETURN AIR BASE

See Blower Data tables for applications.
Cabinet is pre-painted steel to match the furnace.
See Dimension Drawing.

FIELD WIRING



A - Two wire power with ground
B - Three wire control voltage (Heating Only)
Four wire control voltage (Cooling)

NOTE - There is no direct field wiring between AM61V and HM61.
A heating call will start the pump on the AM61V and a temperature sensor in the HM61 will operate water heating as needed.
AM61V blower operation is controlled by PrioriStat.

- Field wiring not furnished -

All wiring must conform to NEC or CEC and local electrical codes.

HM61 SPECIFICATIONS

		Heat Module Model No. - Natural Gas	**HM61-100**	**HM61-150**
		Heat Module Model No. - LPG/Propane Gas	**HM61-100P**	**HM61-150P**
Gas Heating Performance		Input - Btuh (kW)	100,000 (29.3)	150,000 (44.0)
		Output - Btuh (kW) - Space Heating	90,000 (26.4)	135,000 (39.6)
		Output - Btuh (kW) - Water Heating	94,000 (27.5)	141,000 (41.3)
		First Hour Rating - U.S. gals (L)	163 (617)	217 (821)
		[1] CA_{ef} (Effective Water Heating Efficiency)	.86	.86
		Recovery Efficiency	95%	96%
		Recovery rate at 90°F (32°C) temperature rise- U.S. gals/hr. (l/hr.)	129 (488)	188 (712)
Maximum Allowable Space Heating Load Btuh (kW)	Up to 2-1/2 bathrooms	With Night Setback	55,000 (16.1)	84,000 (24.6)
		Without Night Setback	71,500 (20.9)	109,000 (31.9)
	More than 3 bathrooms	With Night Setback	Not Recommended	74,000 (21.7)
		Without Night Setback	Not Recommended	91,000 (26.7)
Rated storage volume - U.S. Gallons (L)			34 (129)	34 (129)
Connections in. (mm)		Intake pipe size connection (PVC)	2 (51)	2 (51)
		Exhaust pipe size connection (PVC)	2 (51)	2 (51)
		to water supply (mpt)	1 (25.4)	1 (25.4)
		to AM61V Air Module (mpt)	1 (25.4)	1 (25.4)
		Expansion Tank (npt)	3/4 in.	3/4 in.
		Condensate trap drain connection (PVC)	1/2 (12.7)	1/2 (12.7)
		Tank drain (12 tpi - standard garden hose connection)	1-1/16 (27)	1-1/16 (27)
		Gas Piping Size I.P.S	1/2 (12.7)	3/4 (19.1)
		Temperature/Pressure Relief Valve	3/4 (19.1)	3/4 (19.1)
Temperature/Pressure Relief Valve - Opening specifications			210°F or 150 psig (99°C or 1034 kPa)	
Electrical Data		Characteristics	120 volts - 60 hertz - 1 phase	120 volts - 60 hertz - 1 phase
		Minimum Circuit Ampacity	5	5
Shipping weight - lbs. (kg)			150 (68)	150 (68)

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Air Intake Filter Kit			**28L82**	**28L82**
Air Vent/ Bleed Valve		3/4 inch (19 mm)	**29K49**	**29K49**
		1 inch (25.4 mm)	**29K50**	**29K50**
Condensate Drain Heat Cable		6 feet (1.8 m)	**26K68**	**26K68**
		24 feet (7.3 m)	**26K69**	**26K69**
		50 feet (15.2 m)	**26K70**	**26K70**
Heat Cable Tape - 1 roll		1/2 in. (38 mm) fiberglass	**39G04**	**39G04**
		2 in. (25 mm) aluminum foil	**39G03**	**39G03**
Intake/Exhaust Vent Adaptor Kit - 3 inch (76 mm) to 2 inch (51mm)			**78J39**	**78J39**
Termination Kits	Concentric Kits	1-1/2 inch (38 mm)	**60G77**	**60G77**
		2 inch (51 mm)	**33K97**	**33K97**
	[2] Roof Kits	2 inch (51 mm)	**15F75**	**15F75**
		3 inch (76 mm)	**44J41**	**44J41**
	[2] Wall Assembly Kits	wall ring - 2 inch (51 mm)	**15F74**	**15F74**
		close couple - 2 inch (51 mm)	**22G44**	**22G44**
		3 inch (76 mm)	**44J40**	**44J40**
		WTK close-couple - 2 inch (51 mm)	**30G28**	**30G28**
		3 inch (76 mm)	**81J20**	**81J20**
Water Mixing Valve Kits - adjustable 85 - 150°F (29 - 66°C)		3/4 inch (19 mm)	**99L99**	**99L99**
		1 inch (25 mm)	**10M00**	**10M00**
Water Pressure Reducing Valve		Factory setting	55 psig (379 kPa)	55 psig (379 kPa)
		1 inch NPT (25.4 mm)	**56L48**	**56L48**
		3/4 inch NPT (19 mm)	**67K57**	**67K57**
Water Pressure Test Gauge			**56L50**	**56L50**

[1] CA_{ef} (Effective Water Heating Capacity) = The effective efficiency of the combined appliance in performing the function of providing potable hot water. **CA_{ef} is the same rating as the Energy Factor (EF) for water heaters as determined by U.S. Department of Energy test procedures.**
[2] Determine from venting tables proper intake and exhaust pipe size and termination kit required.

HIGH ALTITUDE INFORMATION

No derate is required for HM61 units.

AM61 SPECIFICATIONS

	Model No.	AM61V-24B-040	AM61V-36B-070	AM61V-36C-090	AM61V-60C-100	AM61V-60C-120
Heating Performance	Nominal heating capacity - Btuh (kW)	40,000 (11.7)	70,000 (20.5)	90,000 (26.4)	100,000 (29.3)	120,000 (35.1)
	[1] Temperature rise range - °F (°C)	32 - 66 (18 - 37)	45 - 80 (25 - 45)	51 - 80 (28 - 45)	41 - 76 (23 - 42)	45 - 85 (25 - 47)
Indoor Blower	Wheel nom. diameter x width in.	10 x 8	10 x 8	10 x 8	11-1/2 x 10	11-1/2 x 10
	mm	254 x 203	254 x 203	254 x 203	292 x 254	292 x 254
	Blower motor output - hp (W)	1/2 (373)	1/2 (373)	1/2 (373)	1 (746)	1 (746)
	Tons (kW) of add-on cooling	2 - 3 (7.0 - 10.6)	2 - 3 (7.0 - 10.6)	2 - 3 (7.0 - 10.6)	3.5 - 5 (12.3 - 17.6)	3.5 - 5 (12.3 - 17.6)
Circulating pump	Motor output - hp (W)	1/40 (19)	1/40 (19)	1/25 (30)	1/25 (30)	1/25 (30)
	Capacity - U.S. gpm (L/m)	6 (23)	6 (23)	9.5 (36)	9.5 (36)	9.5 (36)
	Pressure drop thru coil @ rated flow - psi (kPa)	3 (20)	3 (20)	3 (20)	3 (20)	3 (20)
Heating Coil	Heating capacity range Btuh	23,700 - 58,500	30,300 - 85,400	31,400 - 96,100	49,600 - 125,400	55,000 - 152,000
	kW	6.9 - 17.1	8.9 - 25.0	9.2 - 23.1	14.5 - 36.7	16.1 - 44.5
	Net face area - sq. ft. (m^2)	3.83 (.36)	3.83 (.36)	4.33 (.40)	4.33 (.40)	4.33 (.40)
	Tube diameter & no. of rows - in. (mm)	3/8 (9.5) - 1	3/8 (9.5) - 2	3/8 (9.5) - 2	3/8 (9.5) - 2	3/8 (9.5) - 3
	Fins per inch (m)	16 (630)	16 (630)	16 (630)	16 (630)	16 (630)
Water Line Connections (sweat) - in. (mm) I.D.	Inlet	3/4 (19)	3/4 (19)	1 (25.4)	1 (25.4)	1 (25.4)
	Outlet	3/4 (19)	3/4 (19)	1 (25.4)	1 (25.4)	1 (25.4)
Shipping Data	lbs. (kg) - 1 package	127 (58)	144 (65)	157 (71)	157 (71)	165 (75)

ELECTRICAL DATA

Electrical Data	Electrical characteristics	120 volts - 60 hertz - 1 phase				
	Minimum Circuit Ampacity	10.2	10.2	10.4	16.8	16.8
	[2] Maximum Overcurrent Protection	15	15	15	20	20

OPTIONAL ACCESSORIES (MUST BE ORDERED EXTRA)

[3] Air Filter & Rack Kit Size of filter	Horizontal (end) - in. (mm)	**87L96** - 18 x 25 x 1 (457 x 635 x 25)		**87L97 -** 20 x 25 x 1 in. (508 x 635 x 25 mm)		
	Side Return - in. (mm)	Single **44J22** or Ten Pack **(66K63) -** (1) 16 x 25 x 1 (406 x 635 x 25)				
Anti-Thermal Siphon Kit		**73J84**	**73J84**	**73J84**	**73J84**	**73J84**
Auxiliary Pump		**99K69**	**99K69**	**53J76**	**53J76**	**53J76**
Down-flow Base		**68M03**	**68M03**	**68M03**	**68M03**	**68M03**
EZ Filter Base	Catalog Number - Ship. Wt.	**73P56** - 8 lbs. (4 kg)		**73P57** - 8 lbs. (4 kg)		
	Dimensions - H x W x D - in. (mm)	4 x 17-5/8 x 28-5/8 (102 x 448 x 727)		4 x 21-5/8 x 28-5/8 (102 x 549 x 727)		
	Size of field provided filter - in. (mm)	16 x 25 x 1 in. (406 x 635 x25 mm)		20 x 25 x 1 in. (508 x 635 x25 mm)		
Horizontal Support Frame Kit - Ship. Wt. - lbs. (kg)		**56J18** - 18 (8)	**56J18** - 18 (8)	**56J18** - 18 (8)	**56J18** - 18 (8)	**56J18** - 18 (8)
RAB Return Air Base		- - -	- - -	RAB60C (**12M71**)		
SignatureStat™ Home Comfort Controller		**51M27**	**51M27**	**51M27**	**51M27**	**51M27**

[1] Minimum temperature rise is based off 140°F (60°C) entering water temperature and the maximum heating air volume. Maximum temperature rise is based off 160°F (71°C) entering water temperature and the minimum heating air volume using Harmony Zone Control.
[2] HACR type breaker or fuse.
[3] Cleanable polyurethane frame type filter.

HM61 SIZING RECOMMENDATIONS

Water Heater Sizing

To determine the size of HM61 needed, determine the number of baths in the home, the number of people in the household, and determine the peak hour water usage (see table below).

Air Handler/Hot Water Coil Sizing

Determine the size of the air handler/hot water coil. Determine the Btuh heat loss of the area to be heated using the ACCA (Air Conditioning Contractors of America) Manual J™ or similar method. Make sure the hot water temperature supplied to the air handler/hot water coil can produce adequate Btuh's for the area to be heated. Consider the distance between the water heater and the air handler/hot water coil: less than five-feet, use the highest gallon per minute rate listed for the air handler/hot water coil; 5 to 15-feet, use the middle gallon per minute rate listed for the air handler/hot water coil; and 15 to 60-feet, use the low gallon per minute rate listed for the air handler/hot water coil.

Input/Output Loss

After determining the correct HM61 to correspond to the correct maximum domestic hot water load, determine the best HM61 for heat loss and heat gain. Determine the home's heat loss. Find your geographic zone (see map). Multiply the heat loss times your geographic zone multiplier. Find an appropriate HM61 (by tank size) with an output greater than the heat loss times the zone multiplier.

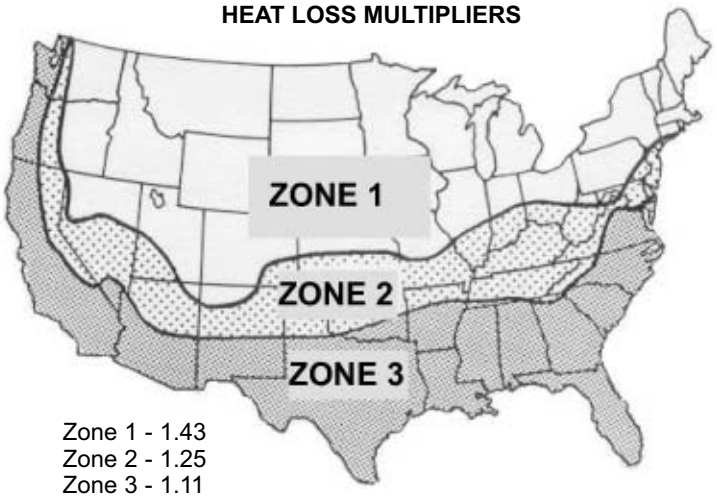
System Sizing For Domestic Water And Space Heating

Determine the system heat loss according the ACCA (Air Conditioning Contractors of America) Manual J™ or similar method. Match the heat load to the capacities outlined in the Specifications table. Reserve heating capacity required for domestic hot water demand and night setback recovery (if applicable) is included. HM61-150 is recommended in applications which include three or more bathrooms or other high domestic hot water demands.

Hot Water Tank Storage

If a jetted hot tub is used, add 60% of the hot tub's capacity to water heater storage. If additional storage is required, use piping diagram showing recommended water heater with separate storage tank. Refer to Installation Instructions for additional information.

HEAT LOSS MULTIPLIERS



Zone 1 - 1.43
Zone 2 - 1.25
Zone 3 - 1.11
Alaska and Canada Zone 1 - 1.43
For locations with altitudes over 7000 feet, use Zone 1.

PEAK-HOUR HOT WATER USAGE WORKSHEET

Activity	Average Gallons (Liters) per Usage at Given Thermostat Setting			Multiply By:	Number of Times Used During Hour of Highest Demand	Equals	Gallons (L) Used During Hour of Peak Demand
	140°F (60°C)	130°F (54.4°C)	120°F (48.9°C)				
[1] Bath or Shower	15 (56.8)	17 (64.4)	19 (71.9)	X		=	
Shave	3 (11.4)	4 (15.1)	5 (18.9)	X		=	
Wash Hands or Face	4 (15.1)	5 (18.9)	6 (22.7)	X		=	
Shampoo Hair	4 (15.1)	5 (18.9)	6 (22.7)	X		=	
Hand wash Dishes	4 (15.1)	5 (18.9)	6 (22.7)	X		=	
Automatic Dishwasher	15 (56.8)	15 (56.8)	15 (56.8)	X		=	
Automatic Clothes Washer	28 (106)	28 (106)	28 (106)	X		=	
					TOTAL (peak hour demand)		

[1] Based on 3 gpm shower flow and standard-sized bathtub.

HM61 INTAKE AND EXHAUST PIPE VENTING

Size the exhaust outlet and combustion air inlet pipes as specified in table below. The table lists the maximum allowable length of the exhaust outlet and combustion air inlet pipes as related to the number of required elbows and the termination. The specified maximum lengths are for the separate inlet and exhaust pipe systems and not the combined length of both systems. Minimum pipe length is 6 ft. (2 m) with one elbow per side.

1. Determine termination type and pipe size.
2. Determine the number of elbows in the exhaust pipe system. Do not include the elbows in the termination or the condensate trap. Corresponding number indicates the maximum length of exhaust pipe.
3. Determine number of elbows in inlet pipe. Do not include the elbows in the termination. The corresponding number indicates the maximum length of inlet pipe.
4. Both pipes must be of the same size. If calculations determine one pipe needs to be larger, the larger size must be used for both the intake and exhaust pipes.

Termination Option	Maximum Allowable Length of Exhaust and Air Inlet pipe For Schedule 40 CPVC, ABS, or PVC pipe and fittings. Number of 90° Elbows (short or long sweep only)														Pipe Size - in.
	0		1		2		3		4		5		6		
	ft.	m	ft.	m	ft.	m	ft.	m	ft.	m	ft.	m	ft.	m	
2 in. Close-Couple Wall Kit **(22G44)** 2 in. Wall Ring Kit **(15F74)**	N/A	N/A	52	15.8	48	14.6	44	13.4	40	12.2	36	11.0	32	9.8	2
2 in. WTK Close-Couple Wall Kit **(30G28)**	N/A	N/A	44	13.4	40	12.2	36	11.0	32	9.8	28	8.5	24	7.3	2
2 in. Roof Kit **(15F75)**	52	15.8	48	14.6	44	13.4	40	12.2	36	11.0	32	9.8	28	8.5	2
1-1/2 in. Concentric Kit **(60G77)**	N/A	N/A	52	15.8	48	14.6	44	13.4	40	12.2	36	11.0	32	9.8	2
3 in. Close Couple Wall Kit **(44J40)**	N/A	N/A	125	38.1	120	36.6	115	35.0	110	33.5	105	32.0	100	30.5	3
3 in. WTK Close-Couple Wall Kit **(81J20)**	N/A	N/A	115	35.0	110	33.5	105	32.0	100	30.5	95	29.0	90	27.4	3
3 in. Roof Kit **(44J41)**	130	39.6	120	36.6	115	35.1	110	33.5	105	32.0	100	30.5	95	29.0	3
2 in. Concentric Kit **(33K97)**	N/A	N/A	125	38.1	120	36.6	115	35.0	110	33.5	105	32.0	100	30.5	3

N/A = Not Applicable

Notes - The above maximum lengths are for the separate inlet and outlet pipe systems and not the combined length of both systems.
- Maximum of 6 elbows can be used per pipe. Use only short or long sweep elbows. Vent elbows (very short radius) are not recommended at any location.
- Two 45° elbows are equivalent to one 90° elbow.
- Minimum length is 6-feet per pipe with one elbow per side.

INSTALLATION CLEARANCES

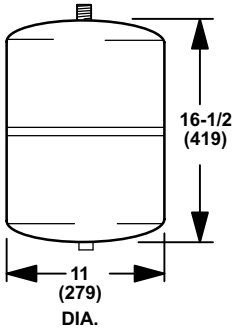
	HM61 Heating Module	AM61V Up-flow / Down-flow	AM61V Horizontal
Vent Type	Plastic (PVC, ABS, or CPVC)	- - -	- - -
Sides	4 inches (102 mm)	0 inches (0 mm)	0 inches (0 mm)
Rear	0 inches (0 mm)	0 inches (0 mm)	0 inches (0 mm)
Top	0 inch (0 mm)	0 inches (0 mm)	[1] 0 inches (0 mm)
Front	24 inches (610 mm)	[2] 0 inches (0 mm)	[2] 0 inches (0 mm)
Floor	Combustible	Combustible	0 inches (0 mm)
Exhaust Pipe	0 inches (0 mm)	- - -	- - -
Exhaust Pipe (service)	6 inches (152 mm)	- - -	- - -
Service Clearance (condensate drain)	3 inches (76 mm)	- - -	- - -

NOTE-Termination location must conform to the methods outlined in American National Standard (ANSI-Z223.1) National Fuel Gas Code or National Standard of Canada CAN/CGA-149.1, and CAN/CGA-149.2 “Installation Code for Gas Burning Appliances”.

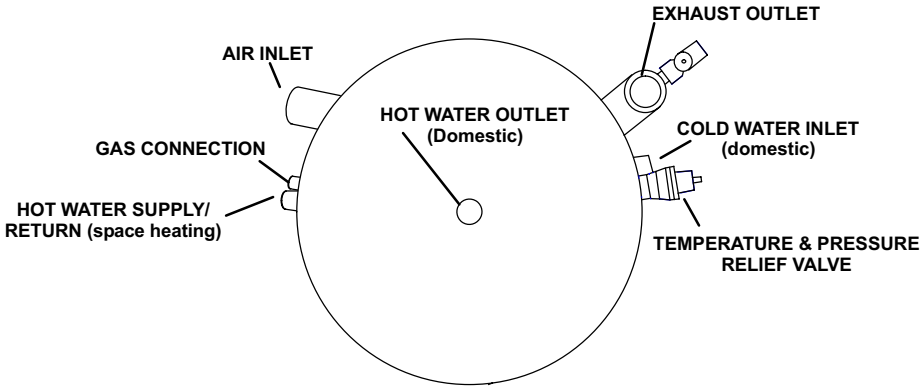
[1] Line contact installation permissible between jacket top or sides and building joists

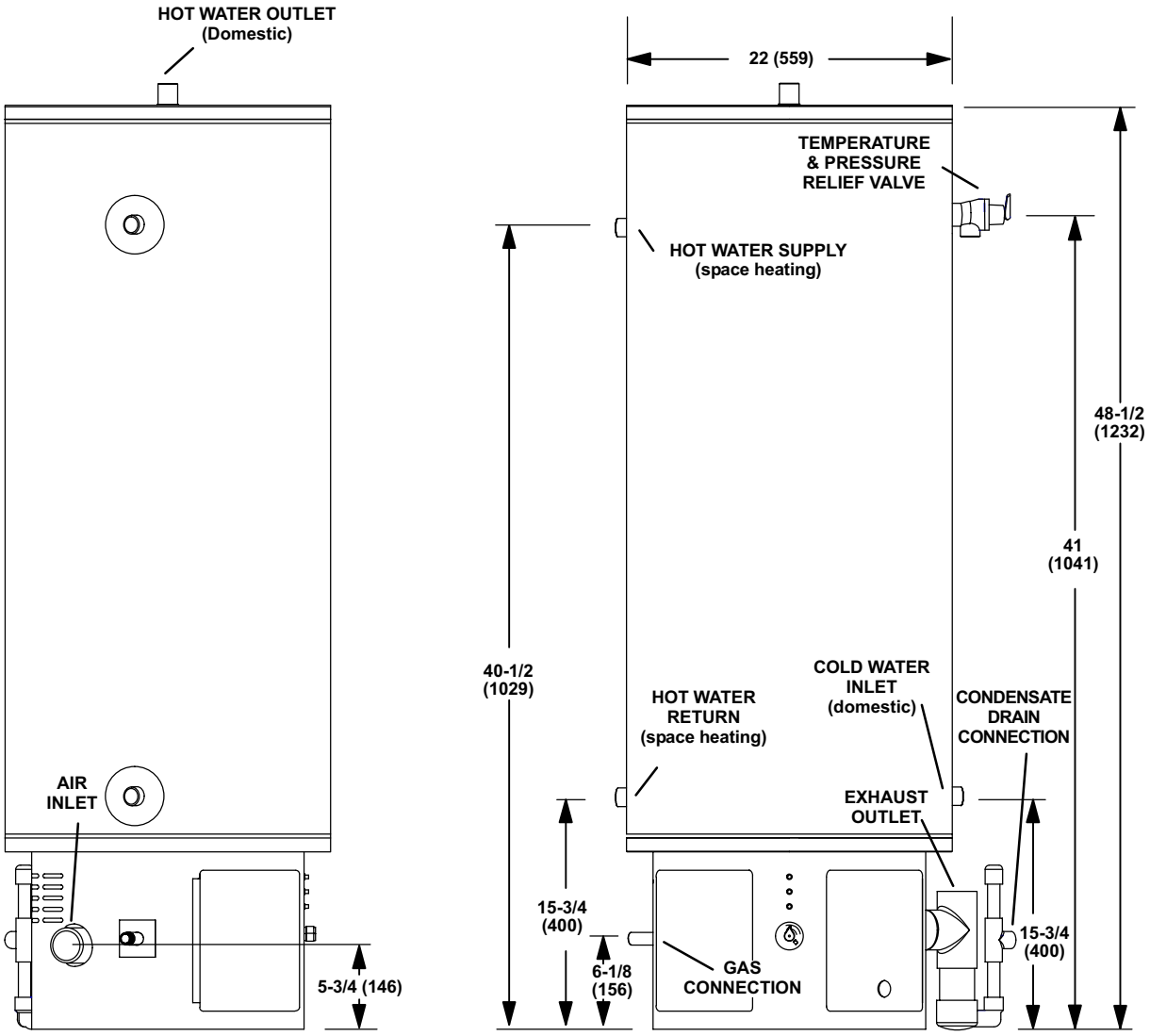
[2] Front clearance for alcove installations is 30 inches (762 mm).

HM61 DIMENSIONS - INCHES (MM)



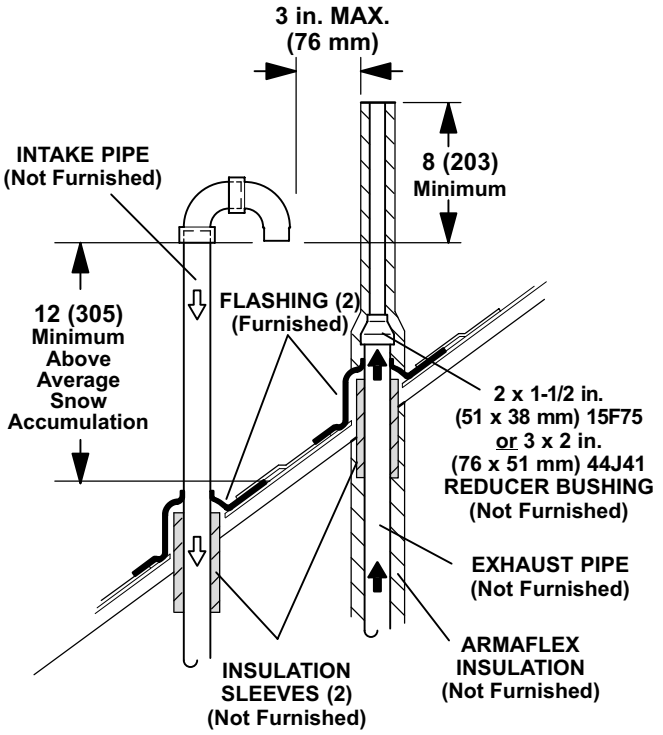
EXPANSION TANK
(Furnished)



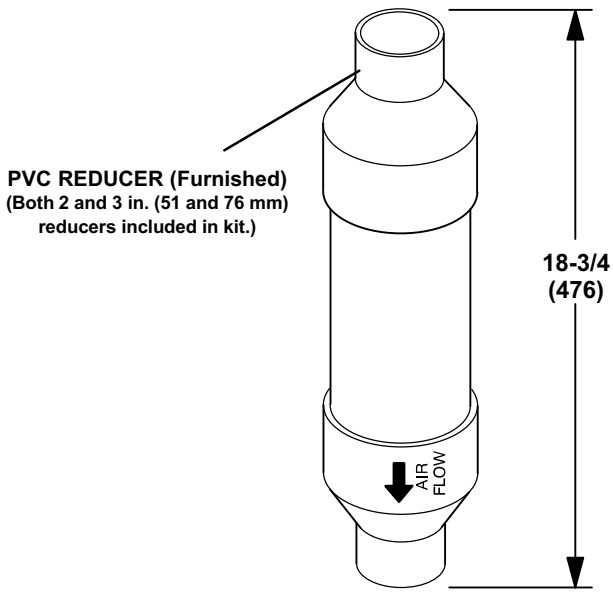


HM61 OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)

ROOF TERMINATION KITS
15F75 for 2 inch (51 mm) Venting
44J41 for 3 inch (76 mm) Venting

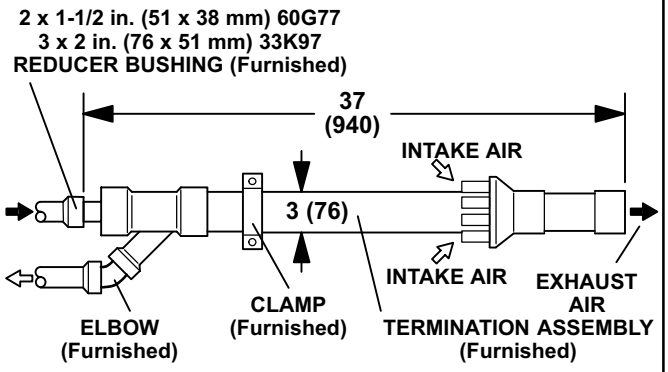


AIR INTAKE FILTER

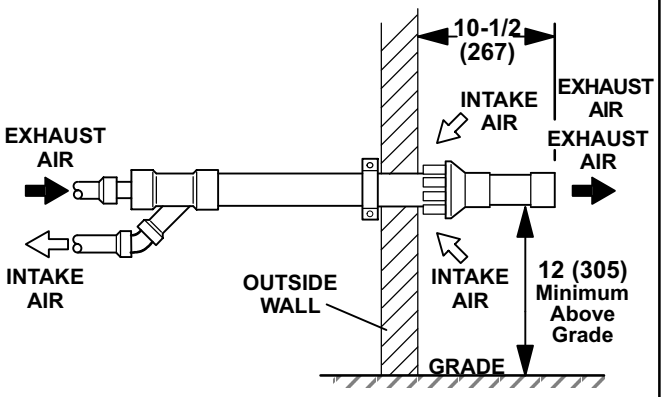


CONCENTRIC TERMINATION KITS

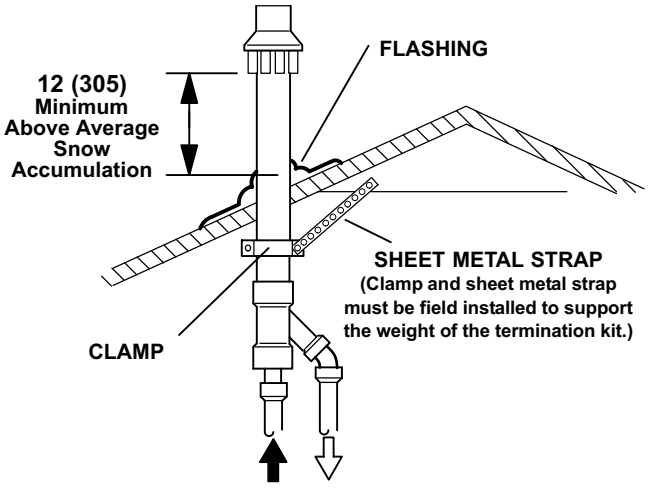
60G77 for 1-1/2 inch (38 mm) Venting
33K97 for 2 inch (51 mm) Venting



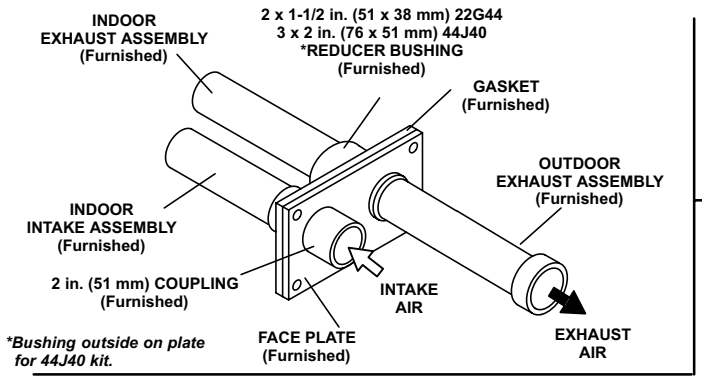
CONCENTRIC WALL TERMINATION APPLICATIONS



CONCENTRIC ROOF TERMINATION APPLICATIONS

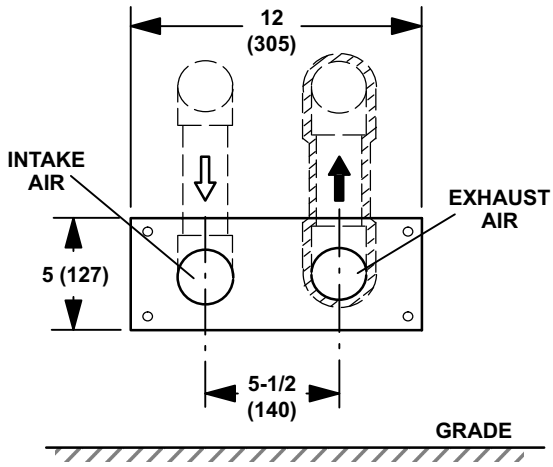


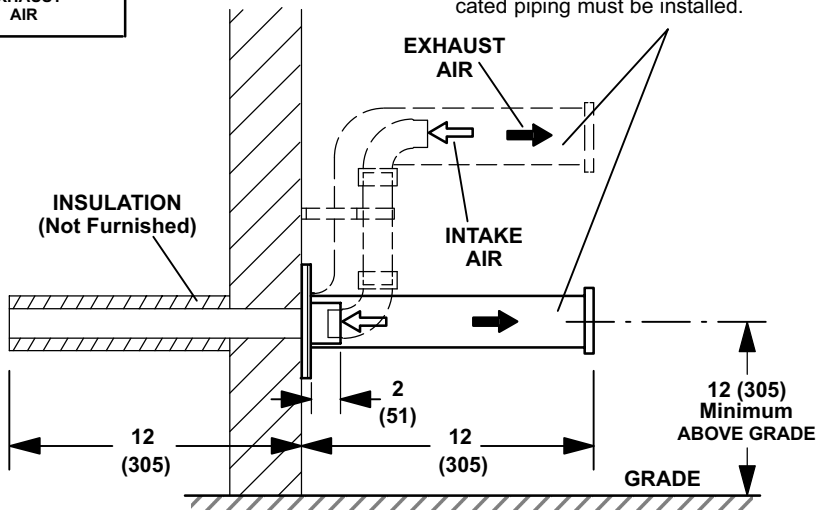
HM61 OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)

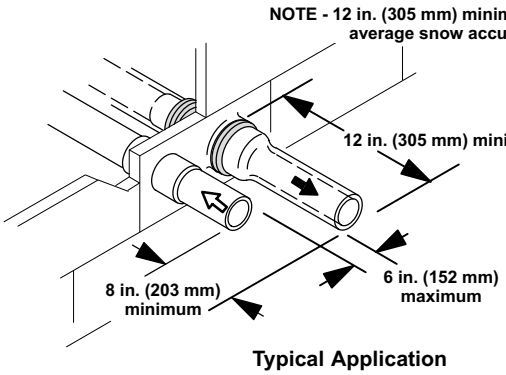


WALL TERMINATION KITS
(CLOSE-COUPLE)
22G44 for 2 inch (51 mm) Venting
44J40 for 3 inch (76 mm) Venting

If Intake and Exhaust Pipe is less than 12 in. (305 mm) above snow accumulation or other obstructions, field fabricated piping must be installed.



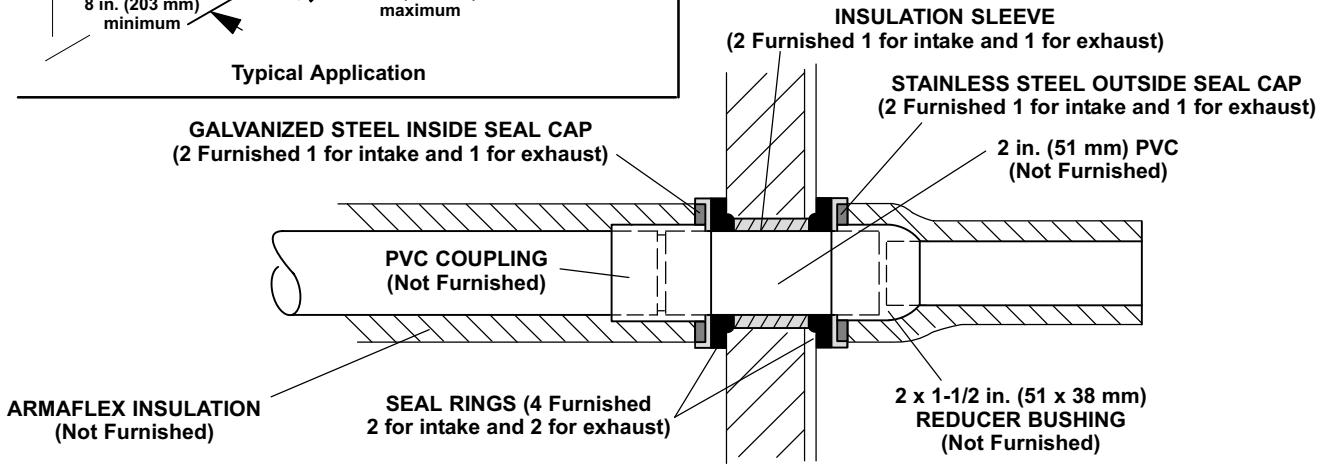




Typical Application

WALL ASSEMBLY TERMINATION KIT
(RING KIT)
15F74 for 2 inch (51 mm) Venting
NOTE - Not for use with 3 inch (76 mm) Venting

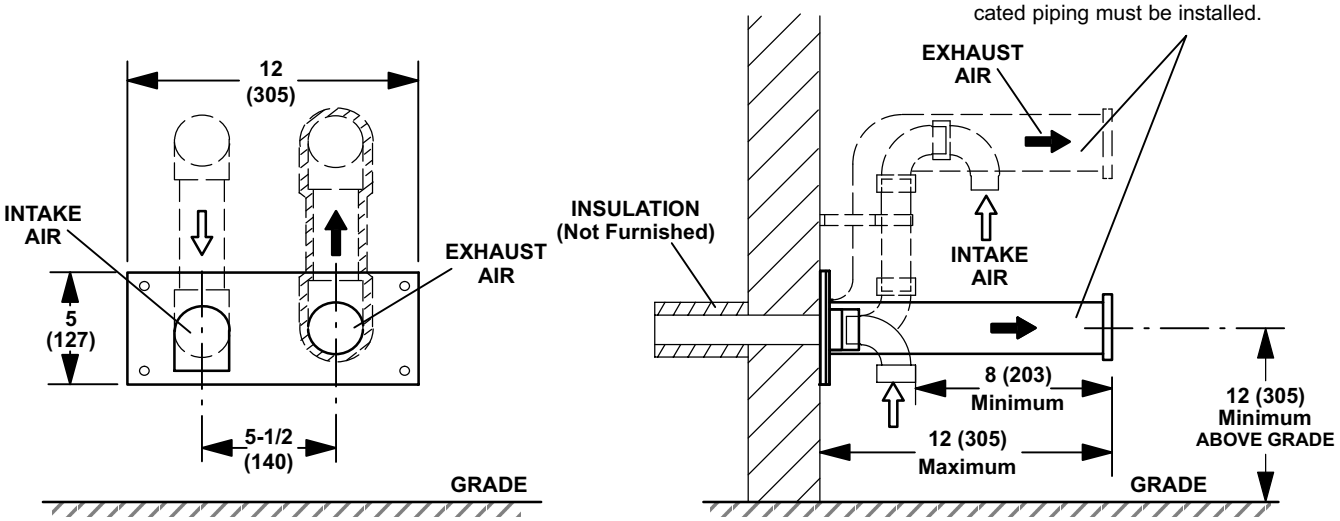
NOTE - EXHAUST PIPE SHOWN



HM61 OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)

WTK WALL ASSEMBLY TERMINATION KIT
WITH FIELD FABRICATION ABOVE
GRADE EXTENDED CLEARANCE
30G28 for 2 inch (51 mm) Venting
81J20 for 3 inch (76 mm) Venting

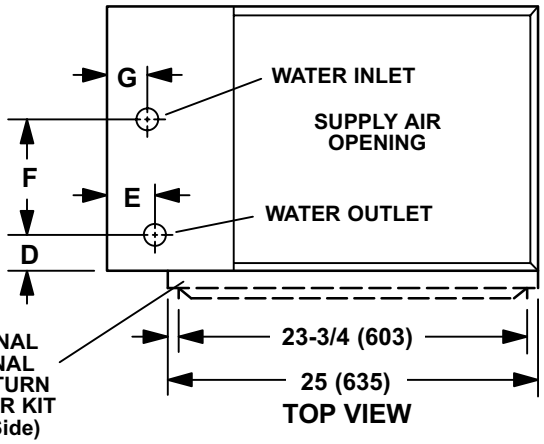
If Intake and Exhaust Pipe is less than 12 in. (305 mm) above snow accumulation or other obstructions, field fabricated piping must be installed.

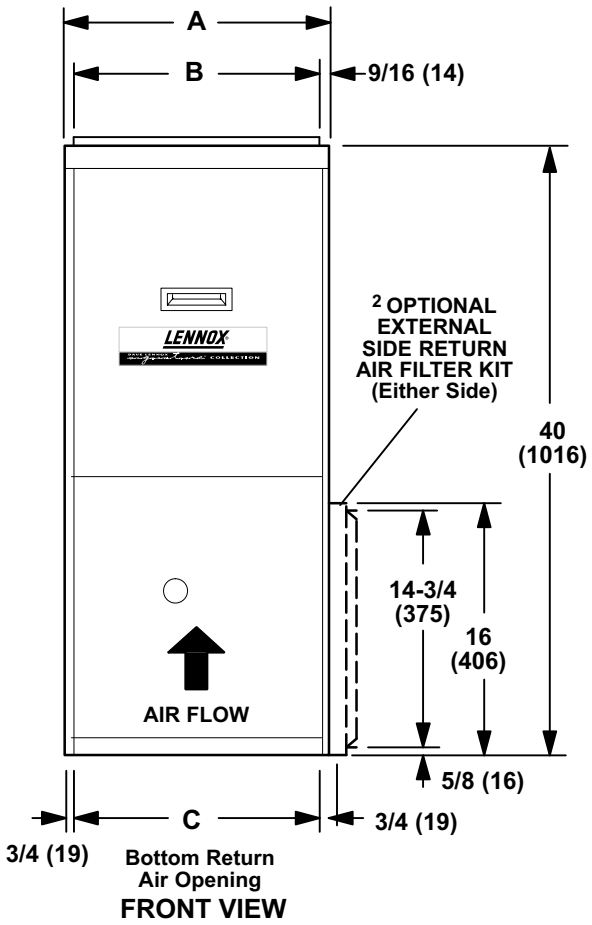


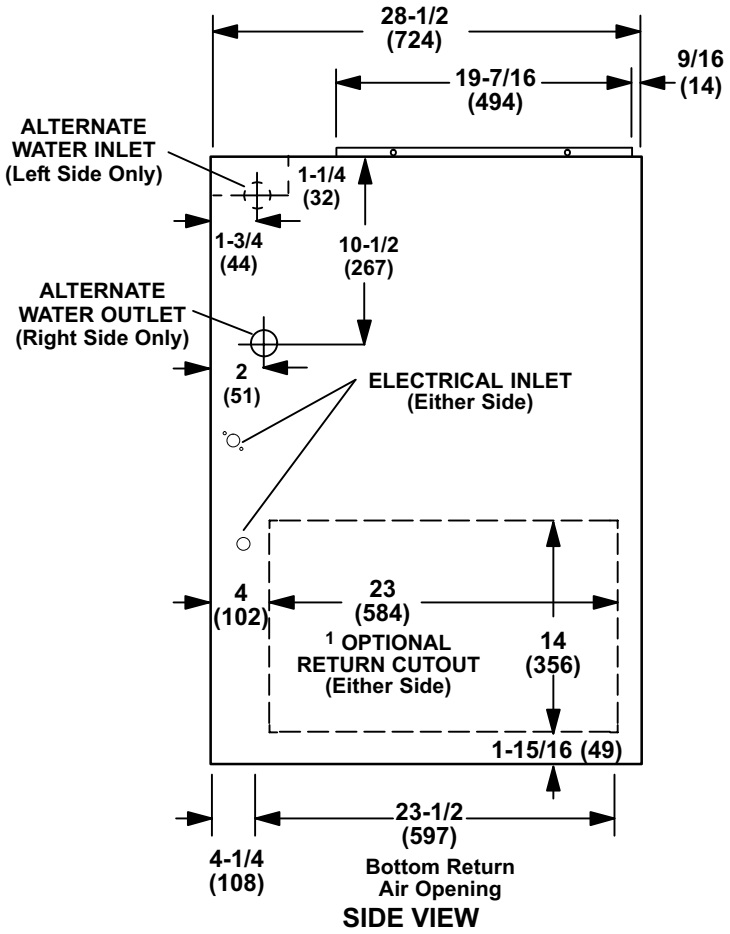
AM61 DIMENSIONS - INCHES (MM)

[1] NOTE - Single side inlet applications result in approximately 4% reduction of air volume on B-size units and approximately 5% reduction of air volume on C-size units.

[2] Optional External Side Return Air Filter Kit is not for use with the optional RAB Return Air Base.



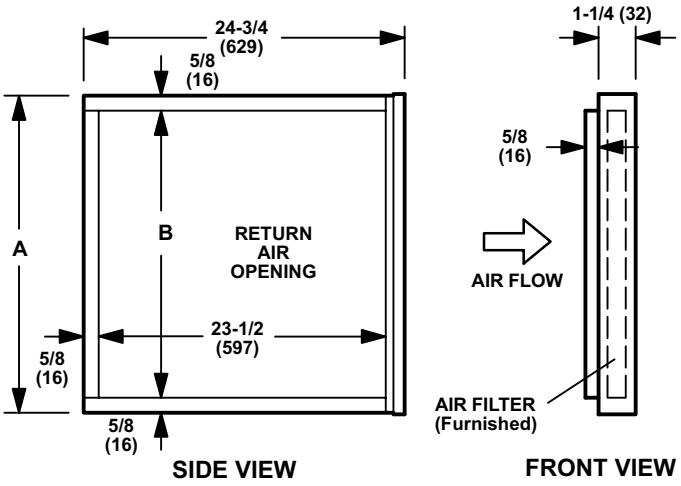




Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
AM61V-24B-040 AM61V-36B-070	17-1/2	446	16-3/8	416	16	406	1-1/2	38	1-3/4	44	8	203	2	51
AM61V-36C-090 AM61V-60C-100 AM61V-60C-130	21	533	19-7/8	454	19-1/2	495	2	51	2-1/2	64	9-1/2	241	1-1/2	38

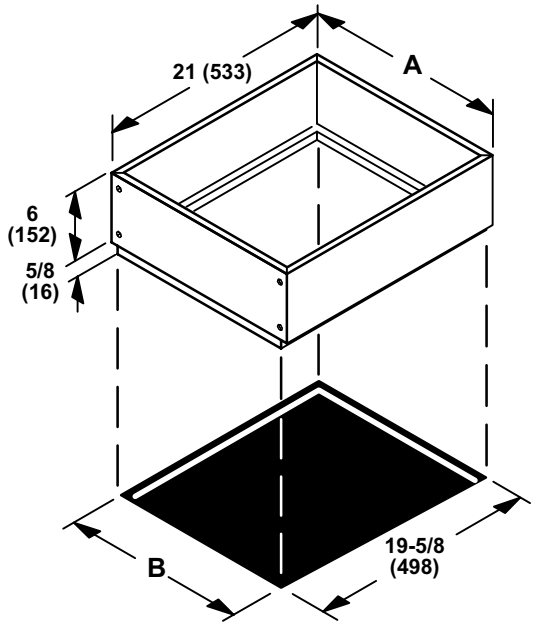
AM61V OPTIONAL ACCESSORY DIMENSIONS - INCHES (MM)

HORIZONTAL FILTER KIT



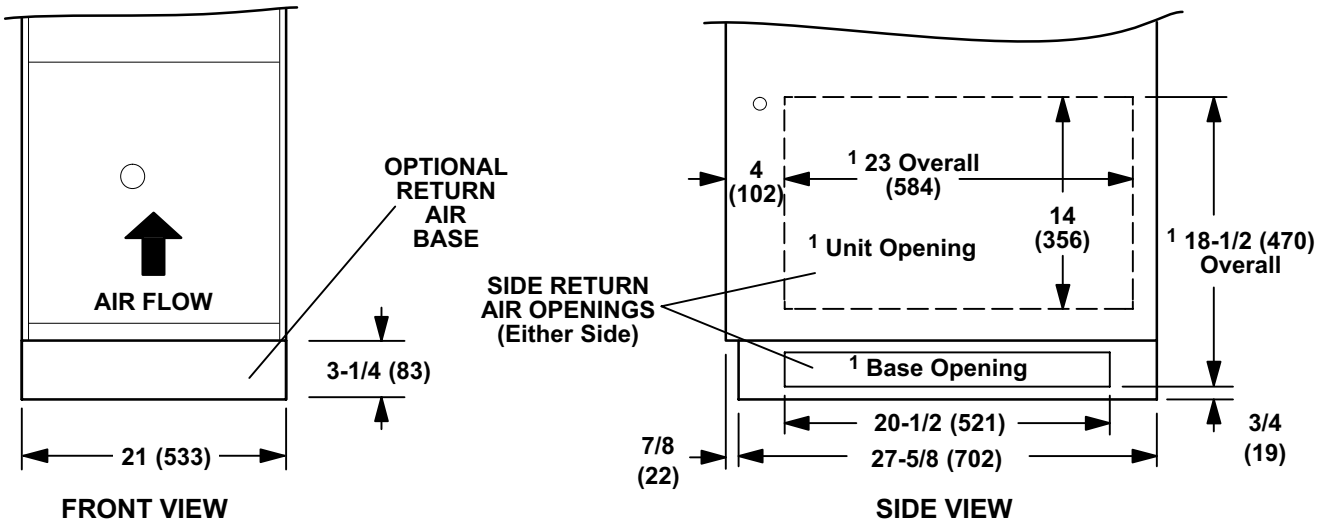
Catalog Number	A		B	
	inch	mm	inch	mm
87L96	18	457	16-3/4	425
87L97	21	533	18-3/4	476

DOWN-FLOW BASE (Use Without Cooling Coil)



Model No.	A		B	
	inch	mm	inch	mm
AM61V-24B-040 AM61V-36B-070	17-7/8	454	16-1/2	419
AM61V-36C-090 AM61V-60C-100 AM61V-60C-120	21-3/8	543	20	508

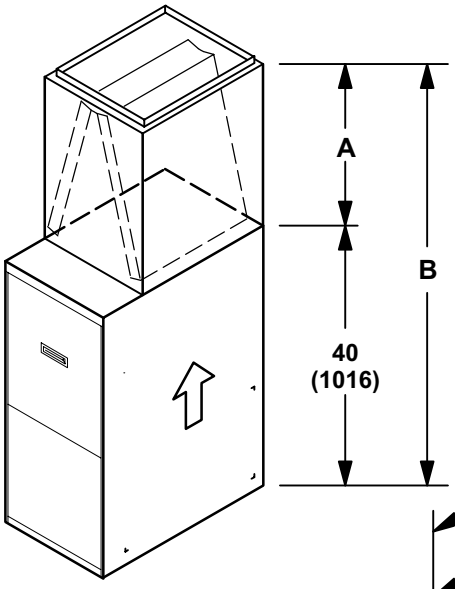
RAB RETURN AIR BASE (Up-Flow Applications Only)
For use with 60C size models only



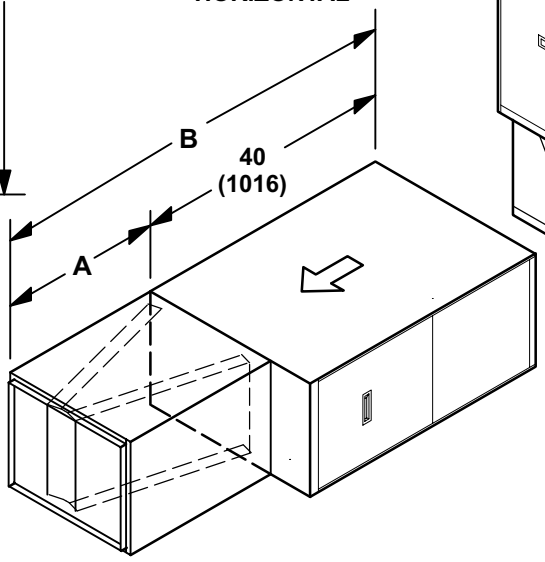
[1] **NOTE-Both return air openings must be covered by a single plenum.**
Overall opening dimensions (W x H): 23 x 18-1/2 in. (584 x 470 mm).
Optional Side Return Air Filter Kits are not for use with RAB Return Air Base.

AM61 DIMENSIONS - INCHES (MM) - FURNACE/COIL COMBINATIONS

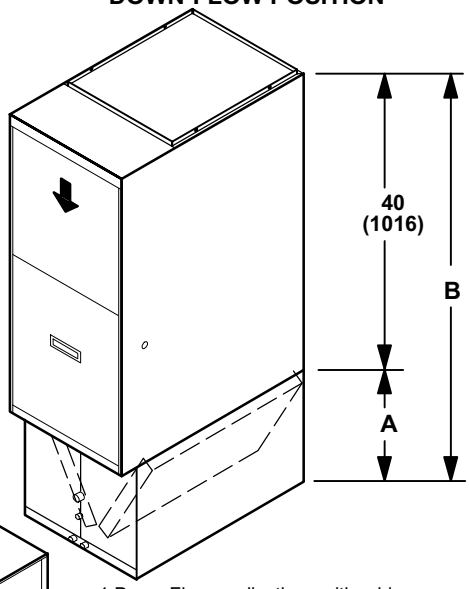
UP-FLOW POSITION



HORIZONTAL



[1] DOWN-FLOW POSITION



1 Down-Flow applications with add-on cooling coil require field fabricated transition that provides adequate clearance to remove/service cooling coil without interfering with water lines.
This may affect dimensions shown.

An alternative is to use alternate water line inlet/outlet on sides of AM61V cabinet.

Model No.	A		B	
	in.	mm	in.	mm
Up-Flow Uncased				
C33-24B-2	13-7/8	352	53-7/8	1368
C33-30B-2	17-3/4	451	57-3/4	1467
C33-48B-2	22-1/8	562	62-1/8	1578
C33-36B-2	21-7/8	556	61-7/8	1572
C33-36C-2	21-1/4	540	61-1/4	1556
C33-38B-2	22	559	62	1575
C33-42B-2	21-7/8	556	61-7/8	1572
C33-44C-2, C33-48C-2	21-1/2	546	61-1/2	1562
C33-50/60C-2	24-3/4	629	64-3/4	1645
Up-Flow Cased				
C33-24B-2F, CX34-18/24B-6F	16-1/2	419	56-1/2	1435
C33-30B-2F, CX34-30B-6F	20-1/2	521	60-1/2	1537
C33-36B-2F, C33-36C-2F, C33-38B-2F, C33-42B-2F, C33-44C-2F, C33-48B-2F, C33-48C-2F, CX34-36B-6F, CX34-36C-6F, CX34-38B-6F, CX34-42B-6F, CX34-44/48C-6F, CX34-44/48B-6F	24-1/2	622	64-1/2	1638
C33-50/60C-2F, CX34-50/60C-6F	27-1/2	699	67-1/2	1715

Model No.	A		B	
	in.	mm	in.	mm
Horizontal Cased				
CH33-36B-2F	26-1/2	673	66-1/2	1689
CH33-36C-2F	26-1/2	673	66-1/2	1689
CH33-42B-2F	26-1/2	673	66-1/2	1689
CH33-44/48B-2F	31-1/2	800	71-1/2	1816
CH33-48C-2F	26-1/2	673	66-1/2	1689
CH33-50/60C-2F	31-1/2	800	71-1/2	1816
Down-Flow Cased				
CR26-18N-F	12-3/4	324	52-3/4	1340
CR26-30N-F	12-3/4	324	52-3/4	1340
CR26-36N-F	15-3/8	391	55-3/8	1407
CR26-36W-F	15-3/8	391	55-3/8	1407
CR26-48N-F	19-1/8	486	59-1/8	1502
CR26-48W-F	19-1/8	486	59-1/8	1502
CR26-60N-F	22-7/8	581	62-7/8	1597
CR26-60W-F	22-7/8	581	62-7/8	1597

BLOWER DATA

AM61V-24B-040 Blower Performance
0 through 0.80 in. w.g. (0 Through 200 Pa) External Static Pressure Range

"ADJUST" Jumper Setting	BDC3 Jumper Speed Positions																			
	"HEAT" Speed								First Stage "COOL" Speed								Second Stage "COOL" Speed							
	1		[1] 2		3		4		[1] 1		2		3		4		[1] 1		2		3		4	
	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
+	820	385	990	465	1180	555	1340	630	610	290	770	365	930	440	1010	475	880	415	1120	530	1340	630	1440	680
[1] NORM	750	355	900	425	1070	505	1230	580	560	265	700	330	830	390	910	430	800	375	1000	470	1200	565	1300	615
—	670	315	810	380	940	445	1080	510	510	240	630	295	750	355	810	380	720	340	900	425	1080	510	1170	550

AM61V-36B-070 Blower Performance
0 through 0.80 in. w.g. (0 Through 200 Pa) External Static Pressure Range

"ADJUST" Jumper Setting	BDC3 Jumper Speed Positions																			
	"HEAT" Speed								First Stage "COOL" Speed								Second Stage "COOL" Speed							
	1		2		3		[1] 4		1		2		[1] 3		4		1		2		[1] 3		4	
	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
+	790	370	980	465	1140	540	1310	620	590	280	745	350	895	420	975	460	850	400	1090	515	1300	620	1430	675
[1] NORM	730	345	870	410	1040	490	1190	560	545	255	680	320	805	380	890	420	775	365	990	465	1190	560	1280	605
—	640	300	770	360	920	435	1070	505	490	230	600	280	725	340	780	370	700	330	870	410	1065	500	1150	540

AM61V-36C-090 Blower Performance
0 through 0.80 in. w.g. (0 Through 200 Pa) External Static Pressure Range

"ADJUST" Jumper Setting	BDC3 Jumper Speed Positions																			
	"HEAT" Speed								First Stage "COOL" Speed								Second Stage "COOL" Speed							
	1		2		3		[1] 4		1		2		[1] 3		4		1		2		[1] 3		4	
	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
+	820	385	1000	470	1180	555	1340	630	620	290	770	365	930	440	1010	475	890	420	1130	535	1340	630	1450	685
[1] NORM	760	360	900	425	1070	505	1220	575	570	270	700	330	830	390	910	430	800	380	1020	480	1220	575	1310	620
—	675	320	810	380	950	450	1100	520	520	245	630	295	760	360	810	380	720	340	900	425	1100	520	1180	555

AM61V-60C-100 Blower Performance
0 through 0.80 in. w.g. (0 Through 200 Pa) External Static Pressure Range

"ADJUST" Jumper Setting	BDC3 Jumper Speed Positions																			
	"HEAT" Speed								First Stage "COOL" Speed								Second Stage "COOL" Speed							
	1		2		3		[1] 4		1		2		3		[1] 4		1		2		3		[1] 4	
	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
+	1500	710	1700	800	1880	885	2100	990	1110	525	1250	590	1380	650	1530	720	1540	725	1760	830	1970	930	2200	1040
[1] NORM	1370	645	1540	725	1720	810	1920	905	1000	470	1130	535	1250	590	1380	650	1400	660	1600	755	1800	850	1980	935
—	1250	590	1380	650	1540	725	1720	810	930	440	1040	490	1130	535	1260	595	1270	600	1420	670	1600	755	1780	840

AM61V-60C-120 Blower Performance
0 through 0.80 in. w.g. (0 Through 200 Pa) External Static Pressure Range

"ADJUST" Jumper Setting	BDC3 Jumper Speed Positions																			
	"HEAT" Speed								First Stage "COOL" Speed								Second Stage "COOL" Speed							
	1		2		3		[1] 4		1		2		3		[1] 4		1		2		3		[1] 4	
	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
+	1510	715	1720	810	1900	895	2120	1000	1100	520	1250	590	1400	660	1560	735	1570	740	1800	850	2000	945	2200	1040
[1] NORM	1380	650	1560	135	1740	820	1920	905	990	465	1130	535	1260	595	1400	660	1410	665	1620	765	1820	860	2020	955
—	1240	585	1380	650	1540	725	1720	810	930	440	1020	480	1130	535	1260	595	1260	595	1440	680	1620	765	1810	855

[1] Factory default jumper setting.

NOTES - The effect of static pressure and filter resistance is included in air volumes shown.
First stage COOL is approximately 70% of the same second stage COOL speed position.
Continuous Fan Only speed is approximately 38% of the same second stage COOL speed position.
Lennox Harmony zone control applications - Minimum blower speed is 400 cfm (189 L/s). Maximum air volume is the same as second stage cool position.
Applications with single sided inlets will reduce the air volume by approximately 4% on B-size units and 5% on C-size units.

HEATING PERFORMANCE

AM61V-24B-040 HEATING OUTPUTS - Capacities in bold require Harmony Zone System to reach the air volumes listed

Air Volume		Heating Outputs At Various Water Temperatures									
		140°F (60°C)		145°F (63°C)		150°F (65°C)		155°F (68°C)		160°F (71°C)	
cfm	L/s	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW
400	190	**23,700**	**6.9**	**25,300**	**7.4**	**26,900**	**7.9**	**28,500**	**8.4**	**30,100**	**8.8**
500	235	**27,400**	**8.0**	**29,300**	**8.6**	**31,100**	**9.1**	**32,900**	**9.6**	**34,800**	**10.2**
600	285	**30,700**	**9.0**	**32,700**	**9.6**	**34,800**	**10.2**	**36,800**	**10.8**	**38,900**	**11.4**
700	330	33,600	9.8	35,800	10.5	38,100	11.2	40,300	11.8	42,600	12.5
800	380	36,200	10.6	38,600	11.3	41,000	12.0	43,400	12.7	45,900	13.5
900	425	38,500	11.3	41,100	12.0	43,700	12.8	46,300	13.6	48,800	14.3
1000	470	40,700	11.9	43,400	12.7	46,100	13.5	48,800	14.3	51,600	15.1
1100	520	42,700	12.5	45,500	13.3	48,400	14.2	51,200	15.0	54,100	15.9
1200	565	44,500	13.0	47,500	13.9	50,400	14.8	53,400	15.7	56,400	16.5
1300	615	46,200	13.5	49,300	14.4	52,400	15.4	55,400	16.2	58,500	17.1

AM61V-36B-070 HEATING OUTPUTS - Capacities in bold require Harmony Zone System to reach the air volumes listed

Air Volume		Heating Outputs At Various Water Temperatures									
		140°F (60°C)		145°F (63°C)		150°F (65°C)		155°F (68°C)		160°F (71°C)	
cfm	L/s	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW
400	190	**30,300**	**8.9**	**32,400**	**9.5**	**34,400**	**10.1**	**36,400**	**10.7**	**38,500**	**11.3**
500	235	**36,200**	**10.6**	**38,700**	**11.3**	**41,100**	**12.0**	**43,500**	**12.7**	**45,900**	**13.5**
600	285	**41,500**	**12.2**	**44,300**	**13.0**	**47,100**	**13.8**	**49,900**	**14.6**	**52,600**	**15.4**
700	330	46,300	13.6	49,400	14.5	52,500	15.4	55,600	16.3	58,700	17.2
800	380	50,700	14.9	54,000	15.8	57,400	16.8	60,800	17.8	64,200	18.8
900	425	54,600	16.0	58,200	17.1	61,900	18.1	65,500	19.2	69,200	20.3
1000	470	58,200	17.1	62,100	18.2	66,000	19.3	69,900	20.5	73,700	21.6
1100	520	61,500	18.0	65,600	19.2	69,700	20.4	73,800	21.6	78,000	22.9
1200	565	64,600	18.9	68,900	20.2	73,200	21.5	77,500	22.7	81,800	24.0
1300	615	67,400	19.8	71,900	21.1	76,400	22.4	80,900	23.7	85,400	25.0

AM61V-36C-090 HEATING OUTPUTS - Capacities in bold require Harmony Zone System to reach the air volumes listed

Air Volume		Heating Outputs At Various Water Temperatures									
		140°F (60°C)		145°F (63°C)		150°F (65°C)		155°F (68°C)		160°F (71°C)	
cfm	L/s	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW
400	190	**31,400**	**9.2**	**33,500**	**9.8**	**35,600**	**10.4**	**37,700**	**11.0**	**39,800**	**11.7**
500	235	**38,000**	**11.1**	**40,500**	**11.9**	**43,000**	**12.6**	**45,600**	**13.4**	**48,100**	**14.1**
600	285	**44,000**	**12.9**	**47,000**	**13.8**	**49,900**	**14.6**	**52,800**	**15.5**	**55,800**	**16.4**
700	330	49,600	14.5	52,900	15.5	56,200	16.5	59,500	17.4	62,900	18.4
800	380	54,800	16.1	58,400	17.1	62,100	18.2	65,700	19.3	69,400	20.3
900	425	59,600	17.5	63,600	18.6	67,500	19.8	71,500	21.0	75,500	22.1
1000	470	64,100	18.8	68,300	20.0	72,600	21.3	76,900	22.5	81,200	23.8
1100	520	68,300	20.0	72,800	21.3	77,400	22.7	81,900	24.0	86,500	25.4
1200	565	72,200	21.2	77,000	22.6	81,800	24.0	86,600	25.4	91,400	26.8
1300	615	75,900	22.2	80,900	23.7	86,000	25.2	91,000	26.7	96,100	28.2

CORRECTION FACTOR FOR DIFFERENT INLET AIR TEMPERATURES

60°F (15.5°C)	Add 6%
65°F (18.3°C)	No Change
70°F (21.1°C)	Minus 6%
75°F (23.9°C)	Minus 12%

HEATING PERFORMANCE

AM61V-60C-100 HEATING OUTPUTS - Capacities in bold require Harmony Zone System to reach the air volumes listed

Air Volume		Heating Outputs At Various Water Temperatures									
		140°F (60°C)		145°F (63°C)		150°F (65°C)		155°F (68°C)		160°F (71°C)	
cfm	L/s	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW
700	330	**49,600**	**14.5**	**52,900**	**15.5**	**56,200**	**16.5**	**59,500**	**17.4**	**62,900**	**18.4**
800	380	**54,800**	**16.1**	**58,400**	**17.1**	**62,100**	**18.2**	**65,700**	**19.3**	**69,400**	**20.3**
900	425	**59,600**	**17.5**	**63,600**	**18.6**	**67,500**	**19.8**	**71,500**	**21.0**	**75,500**	**22.1**
1000	470	**64,100**	**18.8**	**68,300**	**20.0**	**72,600**	**21.3**	**76,900**	**22.5**	**81,200**	**23.8**
1100	520	**68,300**	**20.0**	**72,800**	**21.3**	**77,400**	**22.7**	**81,900**	**24.0**	**86,500**	**25.4**
1200	565	**72,200**	**21.2**	**77,000**	**22.6**	**81,800**	**24.0**	**86,600**	**25.4**	**91,400**	**26.8**
1300	615	75,900	22.2	80,900	23.7	86,000	25.2	91,000	26.7	96,100	28.2
1400	660	79,300	23.2	84,600	24.8	89,900	26.3	95,200	27.9	100,500	29.5
1500	710	82,600	24.2	88,100	25.8	93,600	27.4	99,100	29.0	104,600	30.7
1550	730	84,200	24.7	89,800	26.3	95,400	28.0	101,000	29.6	106,600	31.2
1700	800	88,600	26.0	92,200	27.0	100,400	29.4	106,400	31.2	112,300	32.9
1900	895	94,000	27.5	100,300	29.4	106,600	31.2	112,900	33.1	119,100	34.9
2100	990	99,000	29.0	105,600	30.9	112,200	32.9	118,800	34.8	125,400	36.8

AM61V-60C-120 HEATING OUTPUTS - Capacities in bold require Harmony Zone System to reach the air volumes listed.

Air Volume		Heating Outputs At Various Water Temperatures									
		140°F (60°C)		145°F (63°C)		150°F (65°C)		155°F (68°C)		160°F (71°C)	
cfm	L/s	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW	Btuh	kW
700	330	**55,000**	**16.1**	**58,700**	**17.2**	**62,400**	**18.3**	**66,100**	**19.4**	**69,700**	**20.4**
800	380	**61,600**	**18.1**	**65,700**	**19.3**	**69,800**	**20.5**	**73,900**	**21.7**	**78,000**	**22.9**
900	425	**67,700**	**19.8**	**72,200**	**21.2**	**76,700**	**22.5**	**81,300**	**23.8**	**85,800**	**25.1**
1000	470	**73,500**	**21.5**	**78,400**	**23.0**	**83,300**	**24.4**	**88,200**	**25.8**	**93,100**	**27.3**
1100	520	**79,000**	**23.2**	**84,300**	**24.7**	**89,500**	**26.2**	**94,800**	**27.8**	**100,100**	**29.3**
1200	565	**84,100**	**24.6**	**89,800**	**26.3**	**95,400**	**28.0**	**101,000**	**29.6**	**106,600**	**31.2**
1300	615	89,000	26.1	95,000	27.8	100,900	29.6	106,800	31.3	112,800	33.1
1400	660	93,600	27.4	99,400	29.1	106,100	31.1	112,400	32.9	118,600	34.8
1500	710	98,000	28.7	104,600	30.7	111,100	32.6	117,600	34.5	124,200	36.4
1550	730	100,100	29.3	106,800	31.3	113,500	33.3	120,100	35.2	126,800	37.2
1700	800	106,100	31.1	113,200	33.2	120,200	35.2	127,300	37.3	134,400	39.4
1900	895	113,400	33.2	120,900	35.4	128,500	37.7	136,100	39.9	143,600	42.1
2100	990	120,000	35.2	128,000	37.5	136,000	39.9	144,000	42.2	152,000	44.5

CORRECTION FACTOR FOR DIFFERENT INLET AIR TEMPERATURES

60°F (15.5°C)	Add 6%
65°F (18.3°C)	No Change
70°F (21.1°C)	Minus 6%
75°F (23.9°C)	Minus 12%