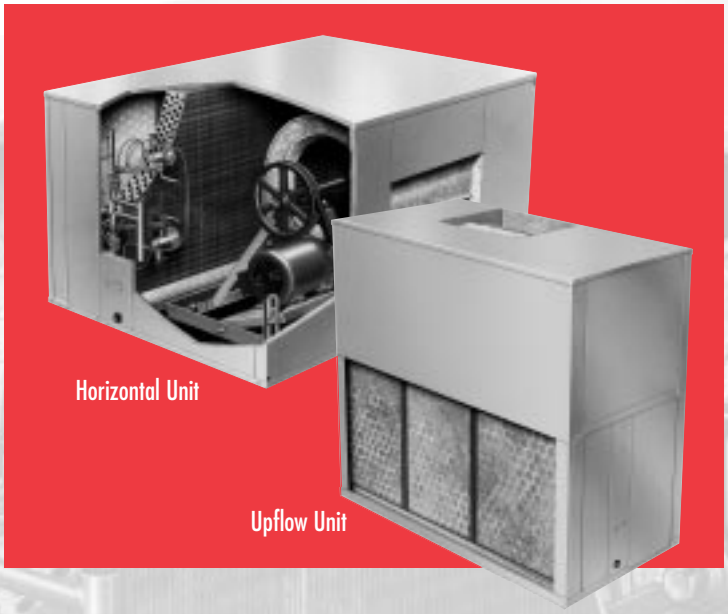
AHV
AHH

BLOWER-COIL-FILTER UNITS

7.5-20 tons



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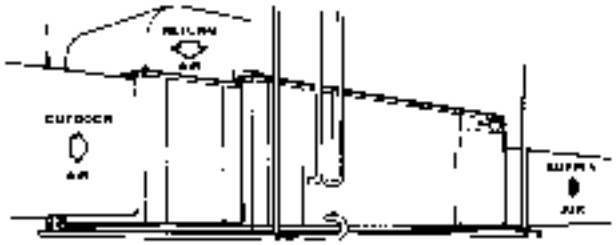
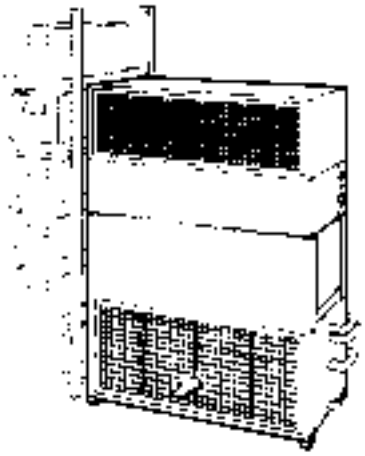
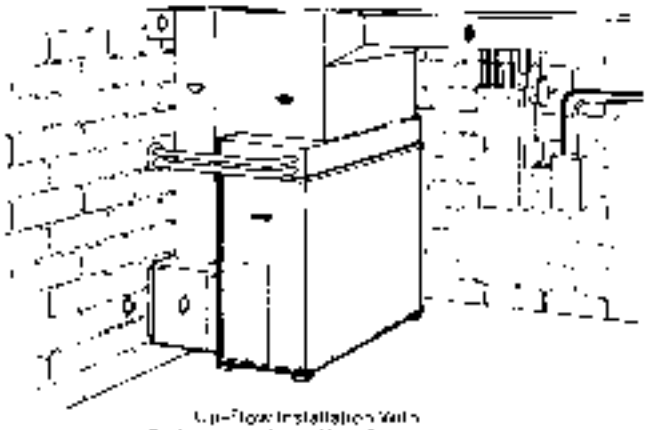
Horizontal Slope Installation With Optional Hot Water Heat Section and Supply Air Plenum and Grille



Suspended Horizontal Installation With Optional Electric Heat and Economizer Damper



Vertical Slope Cabinet Installation With Optional Electric Heat Section and Supply Air Plenum and Grille



Up-Flow Installation With Cabinet Hot Water Heat Section and Economizer Damper

FEATURES

Application — AHV and AHH model blower-coil filter units provide installation versatility and maximum efficiency in cooling performance, air handling and filtering in cooling or heat pump applications. Units are available in two model styles, AHV series with up-flo supply air discharge or AHH series with horizontal supply air discharge. The units are equipped with dual circuit evaporator coils, this makes them suitable for application with LSAC remote condensing units or LSAP heat pump outdoor units. Each indoor coil circuit has a separate expansion valve and distribution system for two stage capacity control during cooling cycles. Blower coil units are shipped factory assembled ready to install. Blower drives are shipped separately and must be ordered extra. See condensing unit bulletins (section Spilt System Condensing Units) or heat pump outdoor units (section Split System — Heat Pump Units) for heating-cooling efficiencies and capacities.

Completely Tested — Blower coil units are thoroughly tested with matching outdoor units according to ARI Standard test conditions. Blower performance data is from actual unit tests conducted in air test chamber. Units and components within are bonded for grounding to meet safety standards for servicing required by U.L., N.E.C. and C.E.C.

Cabinet — Cabinet is constructed of heavy gauge galvanized steel. A five station metal wash preparation assures a perfect bonding surface for the finish coat of baked-on enamel. Cabinet is completely lined with thick fiberglass insulation resulting in quiet and efficient operation due to the excellent sound deadening and insulating qualities of fiberglass. Large removable panels are provided for complete service access. Electrical inlets are conveniently located in the cabinet.

Dual Circuit Copper Tube Coil — Extra large surface area of coil provides maximum cooling efficiency, excellent heat transfer and low air resistance. Coil is face split with separate circuits, each circuit has its separate expansion valve. Precise circuiting gives uniform refrigerant distribution. Fabricated coil is constructed of precisely spaced ripple-edged aluminum fins fitted to durable seamless rifled copper tubes. Rifled tubing provides superior refrigerant flow resulting in maximum heat transfer. Fins are strengthened to resist bending and are equipped with collars that grip tubing for maximum contact area. Flared tubing connections and silver soldering provide tight, leakproof joints. Long life copper tubing is corrosion-resistant and easy to field service. Coil is thoroughly factory tested under high pressure to insure leakproof construction.

Drain Pan — Deep, corrosion resistant drain pan is constructed of heavy gauge galvanized steel. Equipped with twin drain connections on both sides of cabinet as added protection from overflow.

Belt Drive Blowers — AHV/AHH90 models are equipped with a single blower, AHV/AHH120, -180 & 240 models have dual blowers. Centrifugal belt driven blowers deliver large air volumes quietly and with low power consumption. Blower wheels are heavy duty, with forward curved blades and double inlet. Wheels are statically and dynamically balanced to eliminate vibration and designed to give maximum air delivery. Bearings are heavy duty, self aligning, permanently sealed and lubricated. All moving parts (blower wheels, drives and motor) are mounted on a rugged frame, resiliently mounted and isolated from the rest of the cabinet. Motor mounting frame allows simple belt adjustment and motor mounting. Adjustable motor pulley provides variable speed adjustments. A choice of motor outputs and drives are available and must be ordered extra. See drive kit table.

Expansion Valve — Factory installed and piped. Dual circuited coils have two expansion valves, one for each coil section. Valves are sized for best performance.

Piping And Drain Connections — Refrigerant line inlets and drain connections are provided on both sides of the cabinet. Refrigerant lines require sweat connections and are made internal to the cabinet. Dual galvanized pipe drain outlets extend outside the cabinet for ease of connection.

Air Filters — 1 inch (25 mm) thick throwaway fiberglass media filters are furnished as standard. Filter rack is adjustable to accommodate up to two inch (51 mm) thick throwaway or cleanable optional filters. Filter rack design permits quick and easy removal of filters for servicing.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Economizer Damper Section (Optional) — Factory assembled and wired economizer dampers and controls are available for field installation. Heavy gauge steel cabinet has a baked-on enamel finish and is completely insulated with thick matte faced fiberglass insulation. Large removable panels on both sides of cabinet provide complete service access. Mounting flanges provide ease of connection to unit. Flanges on outdoor air opening and return air opening permit easy duct connection. Economizer has mechanically linked outdoor air and recirculated air dampers. Formed dampers rotate smoothly in nylon bearings. Outdoor air dampers are reinforced and gasketed for tight seal and quiet operation. Damper linkage and shafts are plated. The positioning of the dampers is accomplished by a 24 volt fully modulating electronic spring return damper motor with adjustable minimum position potentiometer and controlled by the room thermostat, adjustable mixed air sensor and adjustable enthalpy control. The enthalpy control allows 0 to 100% outdoor air to be used for "free cooling" when outdoor temperature and humidity are acceptable.

Differential Enthalpy Control (Optional) — A solid-state return air enthalpy sensor is available to be used with the outdoor air enthalpy control to determine which air has the lowest enthalpy. The air with the lowest enthalpy will be selected. Return air enthalpy sensor field installs in the economizer damper section and must be ordered extra.

Electric Heat (Optional) — Furnished in a separate add-on matching cabinet. Bolts, nuts and washers are furnished to secure cabinets together. Holes are pre-punched. Cabinet is constructed of heavy gauge galvanized steel with a baked-on enamel finish. Completely insulated with thick fiberglass insulation. Removable panel permits service access. Electrical inlet provides wiring entry. Factory installed electric heaters are available in several sizes, see electric heat data table. Helix wound nichrome heating elements are exposed directly in the air stream resulting in instant heat transfer, lower coil temperatures and long service life. Elements are accurately located and insulated from the heavy gauge steel support frame by high quality insulators. Time delays bring the elements on and off the line in sequence and equal increments in response to demand with a time delay between each element. Elements are equipped with individual limit controls providing positive protection in case of excessive overheating. Heaters may be two stage controlled with each stage being energized only when required. Heaters must be ordered extra. Sub-fusing, contactors, control relays, 24 volt transformer, terminal block and blower motor contactor are furnished as standard equipment.

Optional Accessories (Must Be Ordered Extra)

Hot Water Heat (Optional) — Furnished in a separate add-on matching cabinet. Bolts, nuts and washers are furnished to secure cabinets together. Holes are pre-punched. Cabinet is constructed of heavy gauge galvanized steel with a baked-on enamel paint finish. Completely insulated with thick matte faced fiberglass insulation. Removable panel permits service access. Piping inlets are furnished in both sides of cabinet. Factory installed, designed and built coil has large face area, excellent heat transfer and low air resistance. Constructed of precisely spaced ripple-edged aluminum fins fitted to durable copper tubes. Fins are equipped with collars that grip tubing for maximum contact area. Flared shoulder tubing connections and silver soldering provide tight, leakproof joints. Long life copper tubing is easy to field service. Coil is thoroughly factory tested under high pressure to insure leakproof construction. Must be ordered extra. Valves and pumps must be furnished by installer.

Return Air Grille (Optional) — Anodized aluminum grille field installs in return air opening of blower-coil unit. Must be ordered extra.

Supply Air Plenum & Grille (Optional) — Constructed of heavy gauge galvanized steel with a baked-on enamel paint finish. Completely lined with thick matte faced fiberglass insulation. Equipped with anodized aluminum grille with double deflection and four-way directional control in vertical and horizontal planes for precise control of discharge air. Bolts, nuts and washers are furnished to secure plenum to cabinet. Must be ordered extra.

Spacer Cabinets (Optional) — Matching empty spacer cabinets give additional height required for plenum and grille in up-flow store cooler applications and provides spacing between unit and plenum and grille in horizontal installations not using an electric heat or hot water heat cabinet. Constructed of heavy gauge galvanized steel with a baked-on enamel paint finish. Completely lined with thick matte faced fiberglass insulation. Must be ordered extra.

Suspension Kits (Optional For AHH90,-120 only) — Provides support of units in suspended horizontal applications. Kit consists of 2 angle iron channels with holes at each end. Kits are not available for the AHH180 & AHH240 models and must be field provided.

Heat Pump Check Valve Kit (Optional) — Field installed kit contains check valves with connecting tubing, sweat connections. Kit must be ordered extra. See Specifications Table.

Outdoor Thermostat (Optional) — An outdoor thermostat can be used to lock out some of the heating elements on units where two stage control is applicable. Outdoor thermostat maintains the heating load on the low power input as long as possible before allowing the full power load to come on the line. Thermostat and mounting box must be ordered extra.

Blower Contactor Kit (Optional) — Contactor kit SSA10 is not furnished with the unit and must be ordered extra. Kit is not required with electric heaters. Kit requires a separate 20VA (minimum rating) transformer (not furnished).

DRIVE KIT SELECTION

Using Total Air Volume and System External Static Pressure needed for unit requirements, determine from blower performance table blower speed and blower motor output required.

Unit Size	Drive Kit Model Number	Nominal Motor Output		[1]Max. Usable Motor Output		Voltage and Phase	[2]Minimum Circuit Ampacity	RPM Range	Shipping Weight	
		hp	W	hp	W				lbs.	kg
–90 –120	SSA51	1.5	1119	1.7	1268	200/230/460v — 60hz — 3ph	7.5/6.5/3.3	600 — 820	39	18
–90, –120 –180, –240	SSA41	2	1492	2.3	1716	200/230/460v — 60hz — 3ph	9.9/8.5/4.3	730 — 950 (90/120 models) 520 — 660 (180/240 models)	45	20
–180, –240	SSA42	3	2238	3.4	2536	200/230/460v — 60hz — 3ph	13.9/12.0/6.0	600 — 750	51	23
	SSA43	5	3730	5.7	4252	200/230/460v — 60hz — 3ph	21.9/19.0/9.5	690 — 830	70	32

[1]Maximum useable output of motors furnished In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.
[2]At rated voltages shown.

INSTALLATION CLEARANCES — inches (mm)

Model Number	AHV90 AHH90	AHV120 AHH120	AHV180 AHH180	AHV240 AHH240
Cabinet	0 inch (0 mm)	0 inch (0 mm)	0 inch (0 mm)	0 inch (0 mm)
Plenum	1 inch (25 mm)	1 inch (25 mm)	1 inch (25 mm)	1 inch (25 mm)
Duct	*1 inch (*25 mm)	**1 inch (**25 mm)	*1 inch (*25 mm)	*1 inch (*25 mm)

*Within 3 feet (1 m) of the unit.
**Within 4 feet (1.2 m) of the unit.

SPECIFICATIONS

Model Number			AHV90 AHH90	AHV120 AHH120	AHV180 AHH180	AHV240 AHH240
Nominal Cooling Capacity — Tons (kW)			7-1/2 (26)	10 (35)	15 (53)	20 (70)
Blower wheel nominal diameter x width — in. (mm)			(1) 15 x 15 (381 x 381)	(2)15 x 9 (381 x 229)	(2) 15 x 11 (381 x 279)	(2) 15 x 15 (381 x 381)
Blower motor output and blower drives			See Drive Kit Table (shipped separately)			
*Number and size of air filters		in.	(2) 16 x 25 x 1 (1) 20 x 25 x 1	(4) 16 x 25 x 1	(6) 16 x 20 x 1 (2) 16 x 25 x 1	(6) 20 x 20 x 1 (2) 20 x 25 x 1
		mm	(2) 406 x 635 x 25 (1) 508 x 635 x 25	(4) 406 x 635 x 25	(6) 406 x 508 x 25 (2) 406 x 635 x 25	(6) 508 x 508 x 25 (2) 508 x 635 x 25
Condensate drain connection — female pipe thread		in.	(2) 1-1/4			
		mm	(2) 31.8			
Refrigerant			HCFC-22			
Evaporator Coil	Net face area — ft.^{2} (m^2)		7.98 (0.74)	10.07 (0.94)	17.38 (1.61)	23.16 (2.15)
	Coil split — 1st stage/2nd stage (%)		60/40	61.9/38.1	53.8/46.2	52.9/47.1
	Number of rows		4			
	Tube outside diameter — in. (mm)		3/8 (9.5)		1/2 (12.7)	
	Fins per inch (fins per m)		14 (551)		13 (512)	
	Suction line connection — outside diameter (sweat)	in.	1-3/8		(2) 1-1/8	(2) 1-3/8
		mm	34.9	34.9	(2) 28.5	(2) 34.9
	Liquid line connection — outside diameter (sweat)	in.	(2) 3/8		(2) 1/2	(4) 3/8
		mm	(2) 9.5	(2) 9.5	(2) 12.7	(4) 9.5
**Shipping weight — lbs. (kg) (†2 packages)		Up-flow	350 (159)	418 (190)	720 (327)	815 (370)
		Horizontal	312 (142)	379 (172)	760 (345)	860 (390)
Optional Accessories (Must Be Ordered Extra)						
Electric Heat Model Number			ES90	ES120	ES240	
Hot Water Coil	Model Number		SSA33	SSA34	SSA35	
	Shipping weight — lbs. (kg)		95 (43)	104 (47)	160 (73)	
	††Heating capacity — Btuh (kW)		185,000 (54.2)	257,000 (75.3)	405,000 (118.7)	462,000 (135.4)
	Net face area — ft.^{2} (m^2)		6.4 (0.59)	8.5 (0.79)	15.6 (1.45)	
	Tube outside diameter — in. (mm) number of rows		1/2 (12.7) 2	1/2 (12.7) 2	1/2 (12.7) 2	
	Fins per inch (fins per m)		12 (472)	12 (472)	12 (472)	
	Water line connections Outside diameter — in. (mm)	Inlet	1-3/8 (35) sweat	1-3/8 (35) sweat	1-5/8 (41) sweat	
		Outlet	1-3/8 (35) sweat	1-3/8 (35) sweat	1-5/8 (41) sweat	
Supply Air Plenum and Grille (shipping weight)		Up-flow	SSA16 124 lbs. (56 kg)	SSA17 148 lbs. (67 kg)	SSA18 242 lbs. (110 kg)	
		Horizontal	SSA19 41 lbs. (19 kg)	SSA20 50 lbs. (23 kg)	SSA21 86 lbs. (39 kg)	
Return Air Grille (shipping weight)			SSA25 29 lbs. (13 kg)	SSA26 37 lbs. (17 kg)	SSA27 65 lbs. (29 kg)	SSA28 82 lbs. (37 kg)
Empty Spacer Cabinet (shipping weight)			SSA22 55 lbs. (25 kg)	SSA23 60 lbs. (27 kg)	SSA24 82 lbs. (37 kg)	
Economizer Dampers (shipping weight)			SSA29 145 lbs. (66 kg)	SSA30 185 lbs. (84 kg)	SSA31 395 lbs. (179 kg)	SSA32 542 lbs. (264 kg)
Differential Enthalpy Control			SSA11			
Horizontal Suspension Kit (shipping weight)			SSA13 21 lbs. (10 kg)	SSA14 26 lbs. (11 kg)	Not Available	
Heat Pump Check Valve Kit			SSA6		SSA7	SSA9

*Standard filters are 1 inch (25 mm) thick. 2 inch (51 mm) filters may also be used.
**Weight does not include motor and drives.
†Packages consist of: blower coil unit and drive kit with motor and drives.
††Rated at 180°F (82°C) supply water temperature, 70°F (21°C) entering air temperature, 20°F (11°C) water temperature drop and 450 cfm air volume per ton (60 L/s air volume per kW) of cooling capacity. See Hot Water Capacity Curves for heating capacities at different conditions.

AHV90 AND AHH90 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)									
	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	0.9 (225)	1.0 (250)	1.25 (310)	1.5 (375)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
2000 (945)	- - - -	- - - -	- - - -	550 0.35 (261)	590 0.50 (373)	630 0.55 (410)	650 0.60 (448)	690 0.70 (522)	720 0.75 (560)	790 1.05 (783)	850 1.30 (970)
2500 (1180)	- - - -	- - - -	560 0.30 (224)	600 0.55 (410)	630 0.65 (485)	670 0.75 (560)	700 0.80 (597)	730 .90 (671)	760 1.00 (746)	830 1.30 (970)	880 1.40 (1044)
3000 (1415)	560 0.60 (448)	590 0.65 (485)	625 0.75 (560)	650 0.85 (634)	690 0.95 (709)	720 1.00 (746)	750 1.15 (858)	775 1.25 (933)	800 1.30 (970)	860 1.55 (1156)	925 1.80 (1343)
3500 (1650)	620 0.95 (709)	650 1.05 (783)	685 1.05 (783)	715 1.15 (858)	740 1.30 (970)	770 1.35 (1007)	800 1.50 (1119)	825 1.60 (1194)	840 1.65 (1231)	910 1.95 (1455)	970 2.20 (1641)
4000 (1890)	700 1.40 (1044)	725 1.50 (1119)	750 1.60 (1194)	775 1.65 (1231)	800 1.75 (1306)	825 1.85 (1380)	850 1.95 (1455)	875 2.05 (1529)	900 2.15 (1604)	- - - -	- - - -

NOTE — All data is measured external to the unit with air filters in place.

AHV120 AND AHH120 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)										
	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	.9 (225)	1.0 (250)	1.25 (310)	1.5 (375)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
3000 (1415)	- - - -	550 0.50 (373)	575 0.60 (448)	610 0.70 (522)	650 0.80 (597)	680 .90 (671)	725 1.05 (783)	750 1.20 (895)	790 1.30 (970)	860 1.55 (1156)	925 1.85 (1380)
3500 (1650)	550 0.60 (448)	575 0.70 (522)	620 0.80 (597)	650 .95 (709)	680 1.05 (793)	725 1.15 (858)	750 1.25 (933)	790 1.40 (1044)	820 1.55 (1156)	900 1.95 (1455)	950 2.10 (1567)
4000 (1890)	595 0.85 (634)	625 0.95 (709)	665 1.10 (821)	700 1.20 (895)	725 1.30 (970)	750 1.40 (1044)	790 1.55 (1156)	820 1.70 (1268)	850 1.90 (1417)	920 2.15 (1604)	- - - -
4500 (2125)	650 1.15 (858)	680 1.30 (970)	715 1.40 (1044)	740 1.55 (1156)	755 1.70 (1268)	810 1.80 (1343)	840 1.95 (1455)	870 2.10 (1567)	890 2.25 (1679)	- - - -	- - - -
5000 (2360)	710 1.55 (1156)	730 1.70 (1268)	760 1.80 (1343)	800 1.95 (1455)	825 2.15 (1604)	850 2.30 (1716)	- - - -	- - - -	- - - -	- - - -	- - - -
5500 (2595)	750 2.00 (1492)	775 2.10 (1567)	815 2.30 (1716)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -

NOTE — All data is measured external to the unit with air filters in place.

AHV180 AND AHH180 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)									
	0.1 (25)	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	0.9 (225)	1.0 (250)	1.25 (310)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
5000 (2360)	- - - -	- - - -	500 1.00 (746)	530 1.05 (783)	560 1.20 (895)	630 1.50 (1119)	640 1.55 (1156)	660 1.65 (1231)	685 1.75 (1306)	720 1.90 (1417)	800 2.25 (1679)
5500 (2595)	- - - -	495 1.05 (783)	525 1.20 (895)	555 1.35 (1007)	585 1.50 (1119)	635 1.65 (1231)	650 1.70 (1268)	680 1.85 (1380)	710 2.05 (1529)	740 2.20 (1641)	825 2.55 (1902)
6000 (2830)	490 1.20 (895)	520 1.30 (970)	550 1.45 (1082)	580 1.60 (1194)	610 1.75 (1306)	640 1.90 (1417)	675 2.10 (1567)	705 2.20 (1641)	730 2.35 (1753)	760 2.50 (1865)	840 2.90 (2163)
6500 (3065)	515 1.45 (1082)	550 1.60 (1194)	575 1.75 (1306)	610 1.90 (1417)	635 2.05 (1529)	670 2.25 (1679)	700 2.35 (1753)	725 2.50 (1865)	750 2.65 (1977)	780 2.75 (2052)	870 3.30 (2462)
7000 (3305)	550 1.75 (1306)	575 1.90 (1417)	605 2.05 (1529)	635 2.25 (1679)	665 2.35 (1753)	690 2.55 (1902)	720 2.65 (1977)	745 2.85 (2126)	775 3.00 (2238)	810 3.20 (2387)	- - - -
7500 (3540)	575 2.05 (1529)	605 2.25 (1679)	635 2.55 (1828)	660 2.45 (1902)	690 2.75 (2052)	720 2.90 (2163)	740 3.05 (2275)	775 3.25 (2425)	800 3.40 (2536)	835 3.55 (2648)	- - - -
8000 (3775)	605 2.40 (1790)	635 2.60 (1940)	660 2.80 (2089)	690 2.95 (2201)	720 3.15 (2350)	740 3.30 (2462)	775 3.50 (2611)	800 3.65 (2723)	835 3.85 (2872)	870 4.10 (3059)	- - - -

NOTE — All data is measured external to the unit with air filters in place.

BLOWER DATA

AHV240 AND AHH240 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)										
	0.1 (25)	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	0.9 (225)	1.0 (250)	1.25 (310)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
6500 (3065)	515 1.35 (1007)	535 1.45 (1082)	570 1.70 (1268)	585 1.80 (1343)	615 1.90 (1417)	635 2.00 (1492)	670 2.25 (1679)	690 2.30 (1716)	720 2.45 (1828)	740 2.50 (1865)	805 2.95 (2201)
7000 (3305)	525 1.55 (1156)	545 1.70 (1268)	575 1.85 (1380)	600 2.00 (1492)	625 2.15 (1604)	650 2.30 (1716)	680 2.45 (1828)	705 2.55 (1902)	730 2.70 (2014)	755 2.80 (2089)	820 3.25 (2425)
7500 (3540)	530 1.70 (1268)	555 1.85 (1380)	585 2.05 (1529)	615 2.25 (1679)	630 2.30 (1716)	665 2.55 (1902)	685 2.65 (1977)	720 2.80 (2089)	740 2.90 (2163)	770 3.15 (2350)	825 3.60 (2686)
8000 (3775)	540 1.90 (1417)	565 2.15 (1604)	590 2.25 (1679)	625 2.45 (1828)	650 2.65 (1977)	675 2.80 (2089)	705 2.95 (2201)	730 3.05 (2275)	760 3.35 (2499)	785 3.40 (2536)	840 3.95 (2947)
8500 (4010)	555 2.15 (1604)	580 2.30 (1714)	610 2.55 (1902)	630 2.70 (2014)	665 2.90 (2163)	690 3.10 (2313)	720 3.20 (2387)	745 3.35 (2499)	775 3.60 (2686)	805 3.80 (2835)	855 4.40 (3282)
9000 (4245)	565 2.35 (1753)	595 2.60 (1940)	630 2.85 (2126)	655 3.05 (2275)	680 3.20 (2387)	710 3.40 (2536)	735 3.55 (2648)	760 3.75 (2798)	795 4.00 (2894)	820 4.20 (3133)	870 4.70 (3506)
9500 (4485)	585 2.65 (1977)	620 2.95 (2201)	640 3.15 (2350)	670 3.05 (2275)	700 3.55 (2648)	730 3.75 (2798)	755 3.90 (2909)	785 4.15 (3096)	815 4.40 (3282)	840 4.65 (3469)	890 5.15 (3842)
10,000 (4720)	610 3.05 (2275)	635 3.30 (2462)	660 3.45 (2574)	690 3.30 (2462)	720 3.90 (2909)	750 4.10 (3059)	775 4.35 (3245)	805 4.55 (3394)	835 4.85 (3618)	860 5.15 (3842)	- - - -
10,500 (4955)	625 3.35 (2499)	655 3.55 (2648)	685 3.80 (2835)	715 4.05 (3021)	745 4.30 (3208)	775 4.60 (3432)	800 4.75 (3544)	830 5.05 (3767)	860 5.40 (4028)	880 5.70 (4252)	- - - -

NOTE — All data is measured external to the unit with air filters in place.

SUPPLY AIR PLENUM AND GRILLE AIR THROW DATA

Blower Coil and Supply Plenum and Grille Model Number	Air Volume		*Effective Throw — ft. (m) †10 ft. (3.0 m) Ceiling	
	cfm	L/s	Front of Unit	45° From Unit
†AHV90 With SSA16 or AHH90 With SSA19	2000	945	40 (12.2)	31 (9.4)
	2500	1180	46 (14.0)	36 (11.0)
	3000	1415	53 (16.2)	41 (12.5)
	3500	1650	56 (17.1)	45 (13.7)
	4000	1890	63 (19.2)	50 (15.2)
†AHV120 With SSA17 or AHH120 With SSA20	3000	1415	50 (15.2)	35 (10.7)
	3500	1650	55 (16.8)	40 (12.2)
	4000	1890	61 (18.6)	44 (13.4)
	4500	2125	67 (20.4)	50 (15.2)
	5000	2360	71 (21.6)	56 (17.1)
	5500	2595	74 (22.6)	61 (18.6)
†AHV180 With SSA18 or AHH180 With SSA21	5000	2360	30 (9.1)	19 (5.8)
	5500	2595	31 (9.4)	19 (5.8)
	6000	2830	35 (10.7)	22 (6.7)
	6500	3070	36 (11.0)	22 (6.7)
	7000	3305	36 (11.0)	22 (6.7)
	7500	3540	39 (11.9)	24 (7.3)
	8000	3775	41 (12.5)	26 (7.9)
†AHV2420 With SSA18 or AHH240 With SSA21	6500	3070	36 (11.0)	22 (6.7)
	7000	3305	36 (11.0)	22 (6.7)
	7500	3540	39 (11.9)	24 (7.3)
	8000	3775	41 (12.5)	26 (7.9)
	8500	4010	43 (13.1)	27 (8.2)
	9000	4250	46 (14.0)	29 (8.8)
	9500	4485	49 (14.9)	30 (9.1)
	10,000	4720	53 (16.2)	33 (10.1)
	10,500	4955	55 (16.8)	34 (10.4)

*Effective throw is terminated at a point where conditioned air reaches a level of 3 feet (1 m) above the floor or where velocity has decreased to 50 feet per minute (0.25 m/s).
†Ceiling height not applicable to AHV Up-Flow models.

BLOWER DATA

ACCESSORY AIR RESISTANCE — AHV90, AHH90, AHH120 AND AHV120

Model Number	Air Volume		Total Resistance — inches water gauge (Pa)			
			Hot Water Coil		Economizer Dampers	
	cfm	L/s	SSA33	SSA34	SSA29	SSA30
AHV90 AHH90	2000	945	0.13 (32)	- - - -	0.02 (5)	- - - -
	2500	1180	0.16 (40)	- - - -	0.04 (10)	- - - -
	3000	1415	0.18 (45)	- - - -	0.07 (17)	- - - -
	3500	1650	0.20 (50)	- - - -	0.09 (22)	- - - -
	4000	1890	0.24 (60)	- - - -	0.12 (30)	- - - -
AHV120 AHH120	3000	1415	- - - -	0.14 (35)	- - - -	0.03 (70)
	3500	1650	- - - -	0.17 (42)	- - - -	0.05 (12)
	4000	1890	- - - -	0.18 (45)	- - - -	0.07 (17)
	4500	2125	- - - -	0.20 (50)	- - - -	0.09 (22)
	5000	2360	- - - -	0.24 (60)	- - - -	0.11 (27)
	5500	2595	- - - -	0.27 (67)	- - - -	0.13 (32)

NOTE — Electric heat section, plenum and grilles have no appreciable air resistance.

ACCESSORY AIR RESISTANCE — AHV180, AHH180, AHH240 AND AHV240

Model Number	Air Volume		Total Resistance — inches water gauge (Pa)		
			Hot Water Coil	Economizer Dampers	
	cfm	L/s	SSA35	SSA31	SSA32
AHV180 AHH180	5000	2360	0.08 (20)	0.04 (10)	- - - -
	5500	2595	0.10 (25)	0.05 (12)	- - - -
	6000	2830	0.11 (27)	0.06 (15)	- - - -
	6500	3070	0.13 (32)	0.07 (17)	- - - -
	7000	3305	0.15 (37)	0.08 (20)	- - - -
	7500	3540	0.17 (42)	0.09 (22)	- - - -
	8000	3775	0.18 (45)	0.10 (25)	- - - -
AHV240 AHH240	6500	3070	0.13 (32)	- - - -	0.04 (10)
	7000	3305	0.15 (37)	- - - -	0.05 (12)
	7500	3540	0.17 (42)	- - - -	0.06 (15)
	8000	3775	0.18 (45)	- - - -	0.07 (17)
	8500	4010	0.21 (52)	- - - -	0.08 (20)
	9000	4250	0.23 (57)	- - - -	0.08 (20)
	9500	4485	0.25 (62)	- - - -	0.09 (22)
	10,000	4720	0.27 (67)	- - - -	0.10 (25)
	10,500	4955	0.30 (75)	- - - -	0.11 (27)

NOTE — Electric heat section, plenum and grilles have no appreciable air resistance.

HOT WATER COIL PRESSURE DROP

Flow Rate		Pressure Drop — feet of water (kPa)		
gpm	L/s	SSA33	SSA34	SSA35
15	0.95	0.93 (3.0)	1.18 (3.5)	- - - -
20	1.25	1.56 (4.5)	1.99 (6.0)	0.55 (1.5)
25	1.60	2.33 (7.0)	2.97 (9.0)	0.82 (2.5)
30	1.90	3.24 (9.5)	4.13 (12.5)	1.14 (3.5)
35	2.20	4.27 (12.5)	5.44 (16.0)	1.50 (4.5)
40	2.50	5.44 (16.0)	6.92 (20.5)	1.91 (5.5)
45	2.85	6.72 (20.0)	8.56 (25.5)	2.36 (7.0)
50	3.15	- - - -	- - - -	2.86 (8.5)
55	3.45	- - - -	- - - -	3.39 (10.0)
60	3.80	- - - -	- - - -	3.97 (12.0)
65	4.10	- - - -	- - - -	4.58 (13.5)
70	4.40	- - - -	- - - -	5.23 (15.5)

OPTIONAL ELECTRIC HEAT DATA

ELECTRIC HEAT FOR AHV/AHH-90 and -120

Electric Heat Model No. and Shipping Weight	No. of Steps	Volts Input	kW Input	Btuh Output	Minimum Circuit Ampacity	
					1-1/2 hp (1119W)	2 hp (1492W)
15ES90 (170 lbs.) (77 kg) 15ES120 (193 lbs.) (88 kg)	1	200	10.4	35,500	46.8	48.9
		210	11.5	39,200		
		220	12.6	43,000	51.4	53.4
		230	13.8	47,100		
		240	15.0	51,200		
	1	440	12.6	43,000	25.6	26.6
		460	13.8	47,100		
		480	15.0	51,200		
	1	550	12.6	43,000	21.0	21.3
		575	13.8	47,100		
		600	15.0	51,200		
30ES90 (176 lbs.) (80 kg) 30ES120 (200 lbs.) (91 kg)	**2	200	20.8	71,000	86.3	88.4
		210	23.0	78,500		
		220	25.2	86,000	96.5	98.5
		230	27.5	93,900		
		240	30.0	102,400		
	1	440	25.2	86,000	48.3	49.3
		460	27.5	93,900		
		480	30.0	102,400		
	1	550	25.2	86,000	39.0	39.3
		575	27.5	93,900		
		600	30.0	102,400		
45ES90 (182 lbs.) (83 kg) 45ES120 (207 lbs.) (94 kg)	**3	200	31.3	106,800	125.9	128.0
		200	34.5	117,700		
		220	37.8	129,000	141.6	143.6
		230	41.3	141,000		
		240	45.0	153,600		
	**2	440	37.8	129,000	70.8	71.8
		460	41.3	141,000		
		480	45.0	153,600		
	**2	550	37.8	129,000	57.0	57.3
		575	41.3	141,000		
		600	45.0	153,600		
60ES120 (214 lbs.) (97 kg)	**4	200	41.7	143,400	165.4	167.5
		210	46.0	157,000		
		220	50.4	172,000	186.8	188.8
		230	55.1	188,100		
		240	60.0	204,800		
	**2	440	50.4	172,000	93.4	94.4
		460	55.1	188,100		
		480	60.0	204,800		
	**2	550	50.4	172,000	75.0	75.3
		575	55.1	188,100		
		600	60.0	204,800		

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).
**May be used with two stage control.

ELECTRIC HEAT FOR AHV/AHH180 and -240

Electric Heat Model No. and Shipping Weight	No. of Steps	Volts Input	kW Input	Btuh Output	Minimum Circuit Ampacity		
					2 hp (1149W)	3 hp (2238W)	5 hp (3730W)
15ES240 (191 lbs.) (87 kg)	1	200	10.4	35,500	48.8	52.7	60.3
		210	11.5	39,200			
		220	12.6	43,000	53.6	57.1	64.1
		230	13.8	47,100			
		240	15.0	51,200			
	1	440	12.6	43,000	26.8	28.6	32.1
		460	13.8	47,100			
		480	15.0	51,200			
	1	550	12.6	43,000	21.4	22.9	25.7
		575	13.8	47,100			
		600	15.0	51,200			
30ES240 (195 lbs.) (88 kg)	**2	200	20.8	71,000	88.3	92.2	99.8
		210	23.0	78,500			
		220	25.2	86,000	98.8	102.3	109.3
		230	27.5	93,900			
		240	30.0	102,400			
	1	440	25.2	86,000	49.4	51.1	54.6
		460	27.5	93,900			
		480	30.0	102,400			
	1	550	25.2	86,000	39.5	41.0	43.7
		575	27.5	93,900			
		600	30.0	102,400			
45ES240 (205 lbs) (93 kg)	**3	200	31.3	106,800	127.8	131.6	139.3
		210	34.5	117,700			
		220	37.8	129,000	143.9	147.4	154.4
		230	41.3	141,100			
		240	45.0	153,600			
	**2	440	37.8	129,000	71.9	73.7	77.2
		460	41.3	141,000			
		480	45.0	153,600			
	**2	550	37.8	129,000	57.5	59.0	61.8
		575	41.3	141,000			
		600	45.0	153,600			
60ES240 (209 lbs.) (95 kg)	**4	200	41.7	142,300	167.2	171.1	178.7
		210	46.0	157,000			
		220	50.4	172,000	189.0	192.5	199.5
		230	55.1	188,100			
		240	60.0	204,800			
	**2	440	50.4	172,000	94.5	96.3	99.8
		460	55.1	188,100			
		480	60.0	204,800			
	**2	550	50.4	172,000	75.5	77.1	79.8
		575	55.1	188,100			
		600	60.0	204,800			

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).
**May be used with two stage control.

GUIDE SPECIFICATIONS

Prepared for the guidance of architects, consulting engineers and mechanical contractors.

General — *Furnish and install a blower-coil-filter unit. The unit shall be a standard product of a firm regularly engaged in the manufacture of heating-cooling equipment throughout the United States and Canada.*

The installed weight shall not be more than . . . . . lbs. (kg). Unit shall have a width of not more than . . . . . inches (mm), a depth of not more than . . . . . inches (mm) and an overall height of not more than . . . . . inches (mm).

The equipment shall be shipped assembled ready for necessary field connections. Blower motor and pulley shall be shipped separate and field installed. AHV models shall be capable of up-flow air distribution. AHH models shall have horizontal air distribution.

DX Cooling System — *The total certified cooling capacity shall not be less than . . . . . Btuh (kW) with an evaporator air volume of . . . . . cfm (m^3/s), an entering wet bulb temperature of . . . . . ° F (° C) and . . . . . ° F (° C) coil refrigerant evaporating temperature.*

The coil shall be non-ferrous construction with aluminum fins machine fitted to copper tubes. The coil shall be dual circuit with each circuit having an expansion valve. Coil shall be factory pressure leak tested. Coil face area shall be not less than . . . . . sq. ft. (m^2). Control option shall include Latent Load Control.

Heat Pump Heating System — *The total certified heating capacity shall not be less than . . . . . Btuh (kW) with an indoor coil air volume of . . . . . cfm (L/s), an entering dry bulb temperature of . . . . . ° F (° C) and a condensing temperature of . . . . . ° F (° C).*

Air Movers — *Centrifugal conditioned air blowers shall have statically and dynamically balanced, forwardly curved, double inlet blower wheels, permanently lubricated bearings, adjustable belt drives and be capable of delivering . . . . . cfm (L/s) at an external static pressure of . . . . . .inches water gauge (Pa), requiring not more than . . . . . bhp (W) and . . . . . rpm. AHV/AHH90 models shall be equipped with a single blower. AHV/AHH120, 180 and 240 models shall have dual blowers.*

Cabinet — *The unit cabinet shall be constructed of galvanized steel with a baked-on enamel finish. Panels shall be insulated with not less than one inch (25mm) thick fiberglass insulation. Cabinet shall be equipped with large removable panels providing service access to interior. Inlets shall be provided for refrigerant line and power connection entry. Dual drain connections shall be accessible external to the cabinet.*

Air Filters — *One inch (25 mm) thick throwaway filters furnished shall have not less than . . . . . sq. ft. (m^2) of area. Filter rack shall be capable of holding optional two inch (51 mm) thick throwaway or cleanable filters.*

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Additive Electric Heat — *The certified total heating capacity output shall be . . . . . Btuh with . . . . . kw input at . . . . . volts power supply.*

Optional electric heaters shall be available in a separate matching cabinet. Heating elements shall be nichrome bare wire exposed directly to the air stream. Time delays shall bring the elements on and off in sequence with a time delay between each element. Limit controls shall provide overload and short circuit protection. Cabinet shall be constructed of galvanized steel with a baked-on enamel paint finish and insulated with fiberglass insulation. Shall have removable access panel and electrical inlets.

Additive Hot Water Heat — *The certified total heating capacity output shall be . . . . . Btuh (kW) with a heating coil air volume of . . . . . cfm (L/s), at a water entering temperature of . . . . . ° F (° C) and a flow rate of . . . . . gpm (L/s) and an entering air temperature of . . . . . ° F (° C).*

Optional hot water coil shall be available in a separate matching cabinet. Cabinet shall be constructed of galvanized steel with a baked-on enamel finish and insulated with fiberglass insulation. Shall have removable access panel and piping inlet openings. The coil shall be non-ferrous construction with aluminum fins mechanically bonded to copper tubes. Coil shall be factory pressure leak tested. Coil face area shall be not less than . . . . . sq. ft. (m^2).

Economizer Damper Section — *Furnish and install complete with controls an optional air mixing damper assembly including outdoor air and recirculated air dampers. The assembly shall provide for the introduction of outside air for minimum ventilation and free cooling. The assembly shall be furnished in a fully insulated heavy gauge galvanized steel cabinet with baked-on enamel finish. The damper motor shall be 24 volt, fully modulating electronic spring return. Controls shall include adjustable mixed air sensor, adjustable minimum position potentiometer, and adjustable enthalpy control. Optional differential enthalpy control (return air sensor) shall be available.*

Supply Air Plenum and Grille — *Optional plenum and grille shall be constructed of galvanized steel with baked-on enamel paint finish and insulated with fiberglass insulation. Shall be equipped with anodized aluminum discharge air grille with double deflection and four-way directional control in the vertical and horizontal planes.*

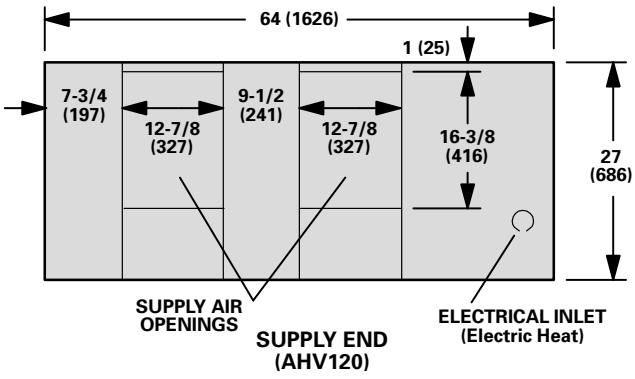
Spacer Cabinets — *Optional empty cabinets shall match cabinet sections in size and provide necessary spacing between cabinet sections for varying applications. Shall be constructed of galvanized steel with baked-on enamel paint finish and insulated with fiberglass insulation.*

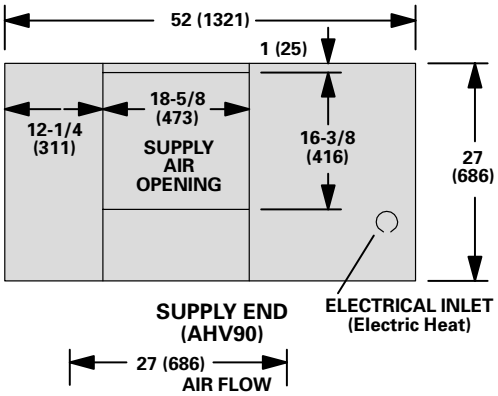
Return Air Grille — *Optional anodized grille shall be available for field addition to blower-coil unit.*

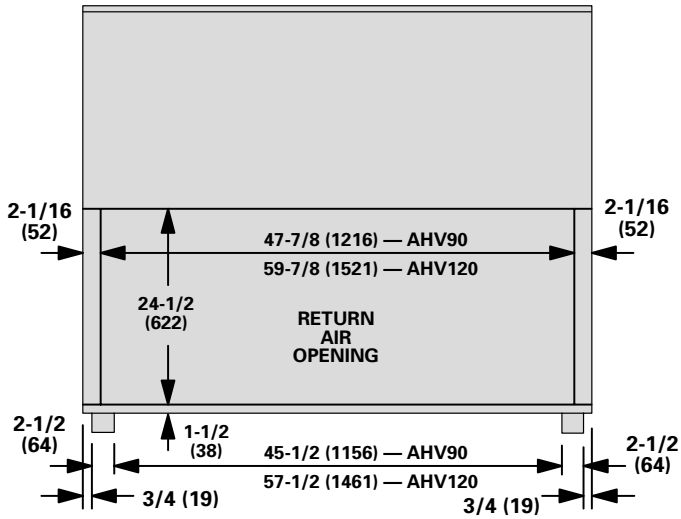
Suspension Kit — *Kit shall be available for AHH90 and AHH120 models in suspended horizontal applications.*

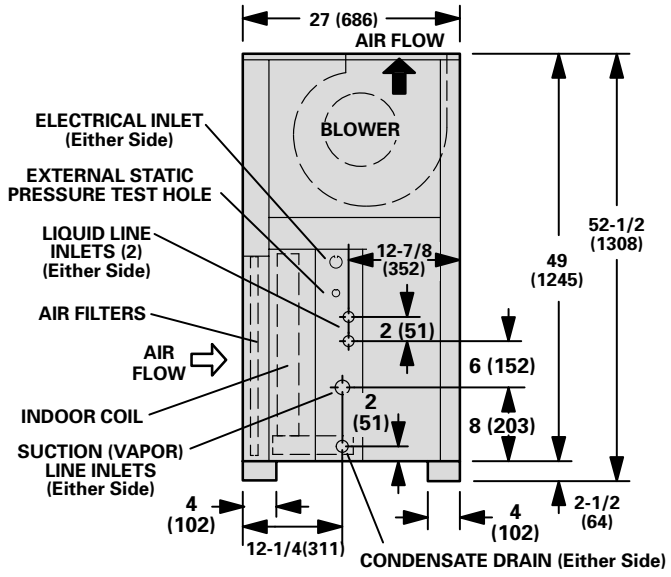
DIMENSIONS — inches (mm)

AHV90 AND AHV120 HORIZONTAL MODELS

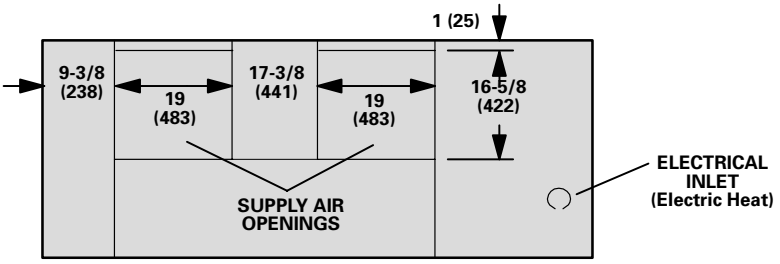


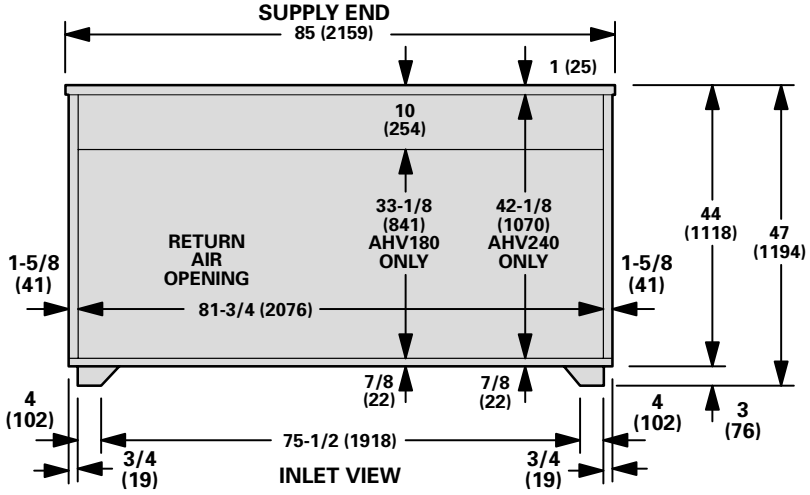


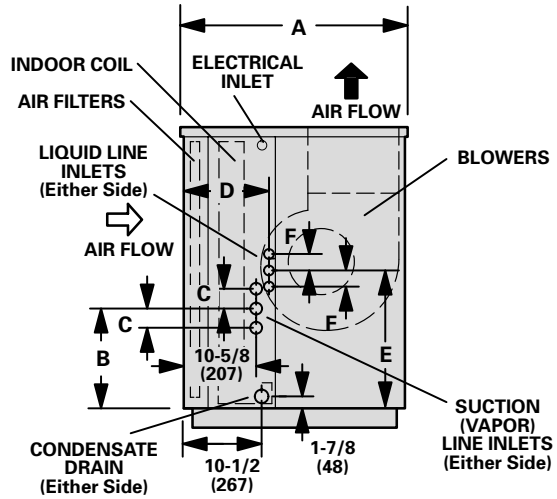




AHV180 AND AHV240 HORIZONTAL MODELS



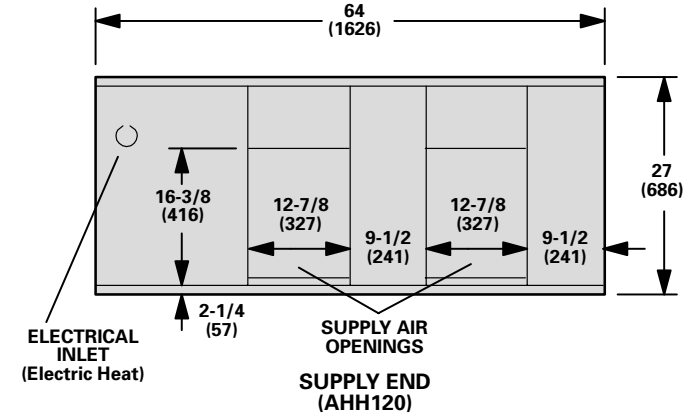




Model No.	A		B		C		D		E		F	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
AHV180	35	889	18-3/8	467	2-1/2	57	12-1/2	318	22-5/8	575	1-1/4	32
AHV240	44	1118	22-3/4	578	2–5/8	67	14-1/4	362	22-1/2	572	4-7/8	124

DIMENSIONS — inches (mm)

AHH90 AND AHH120 HORIZONTAL MODELS



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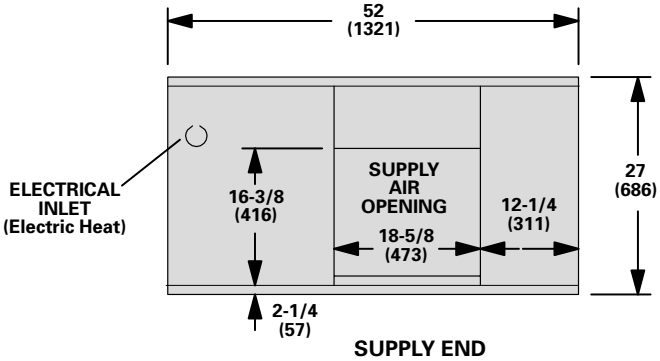
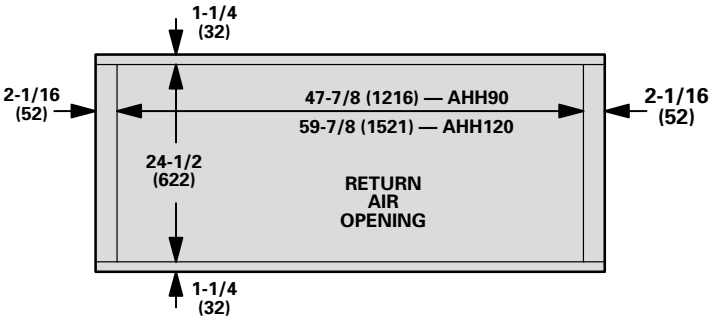
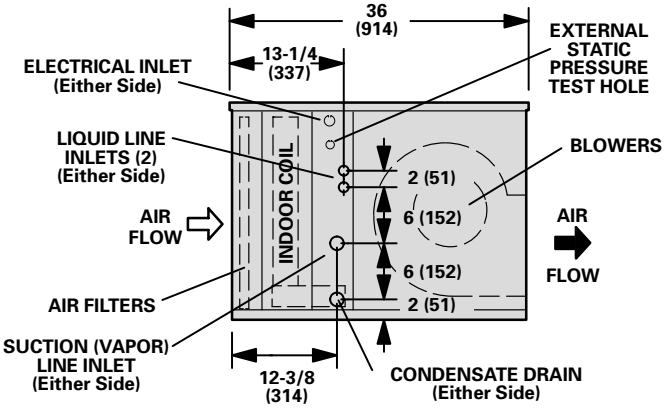
(AHH120)



SUPPLY END
(AHH90)

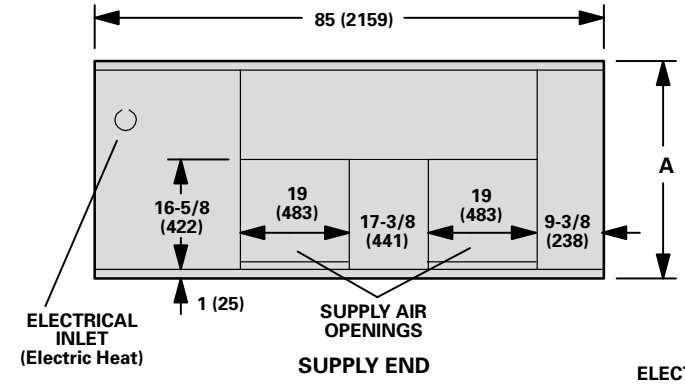


INLET END

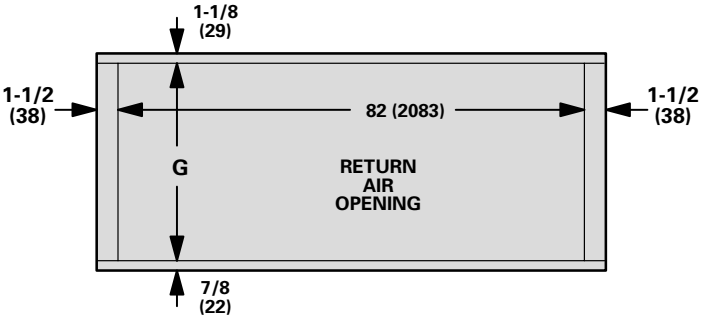


DRIVE END VIEW

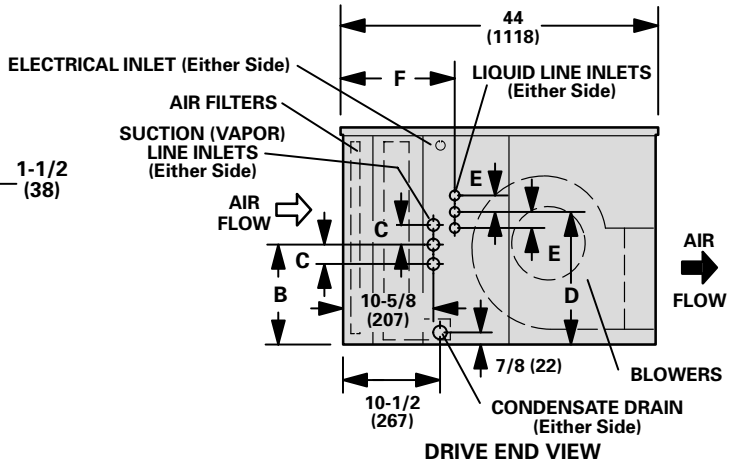
AHH180 AND AHH240 HORIZONTAL MODELS



SUPPLY END



INLET END

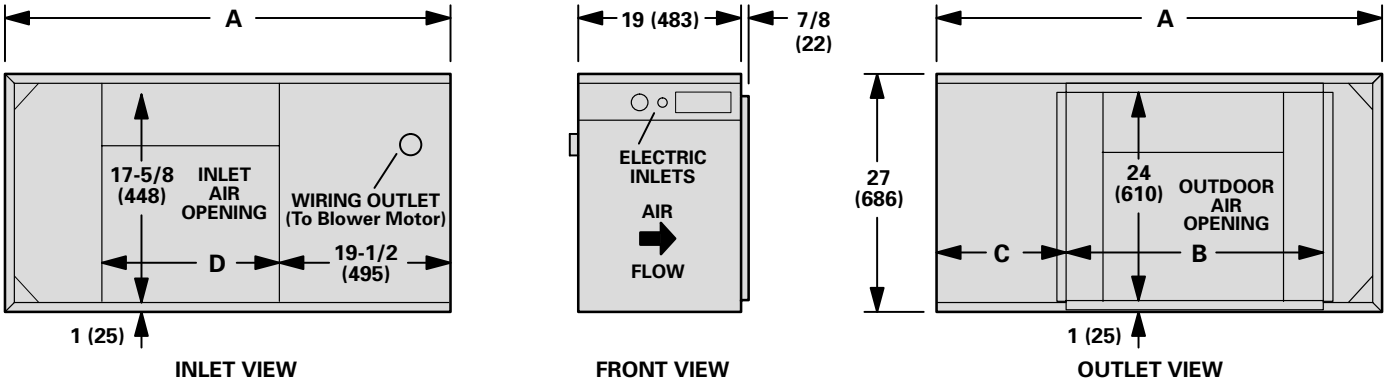


DRIVE END VIEW

Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
AHH180	35	889	18-3/8	467	2-1/4	57	22-5/8	575	1-1/4	32	13-1/8	333	33	838
AHH240	44	1118	22-11/16	576	2-5/8	67	22-7/16	570	4-7/8	124	14-7/8	378	42	1067

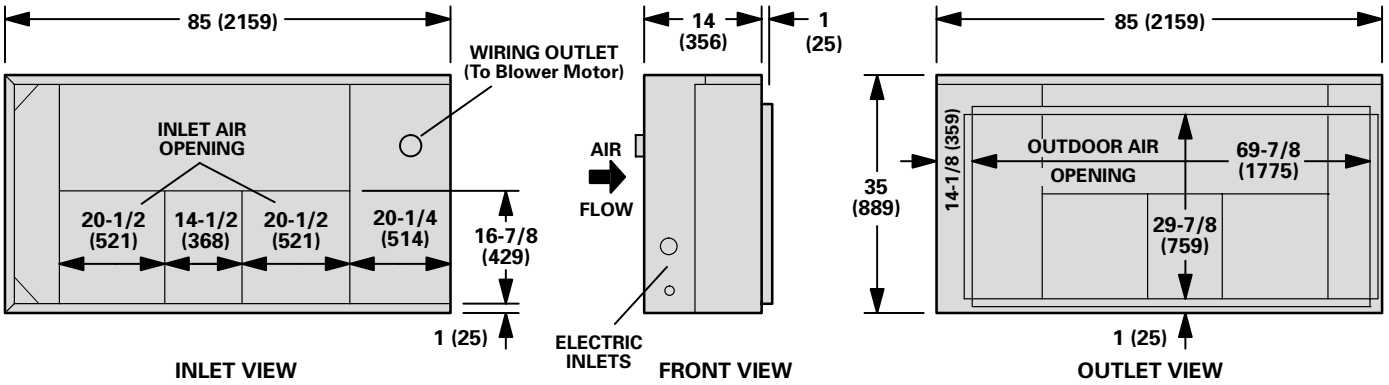
OPTIONAL ACCESSORY DIMENSIONS — inches (mm)

ES90 AND ES120 ELECTRIC HEAT SECTION

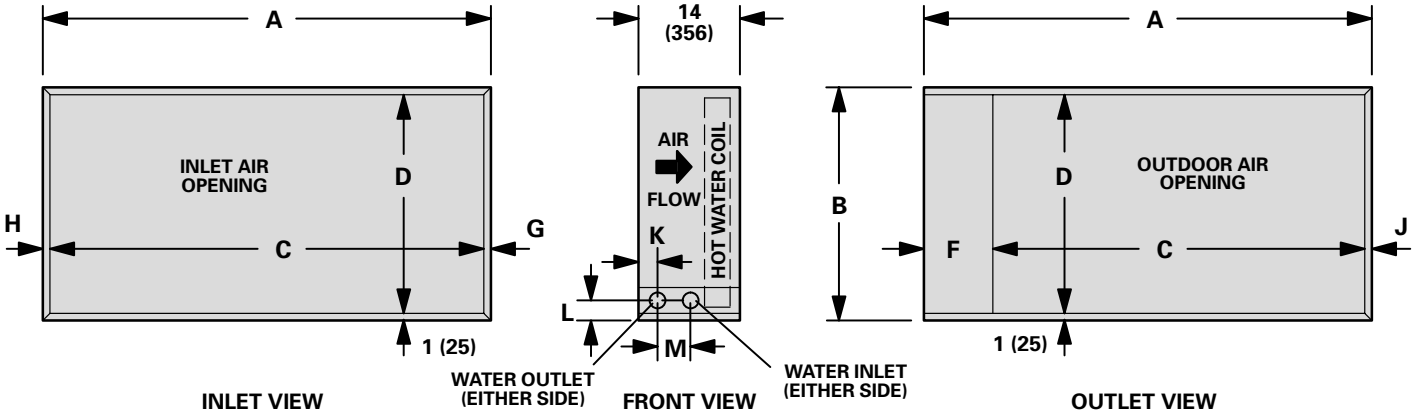


Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
ES90	52	1321	29-7/8	759	14-9/16	370	21-1/16	535
ES120	64	1626	39-7/8	1013	18-1/8	470	37-15/16	948

ES240 ELECTRIC HEAT SECTION



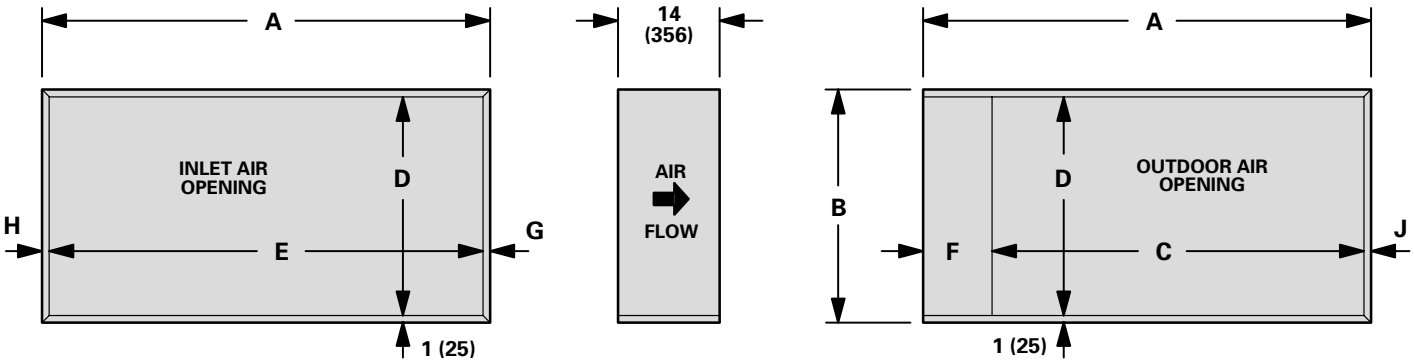
HOT WATER HEAT SECTION



Model No.		A	B	C	D	E	F	G	H	J	K	L	M
SSA33	in.	52	27	41-1/2	25	50	9-1/2	1	1	1	3	2-3/8	4
	mm	1321	686	1054	635	1270	241	25	25	25	76	60	102
SSA34	in.	64	27	53-1/2	25	62	9-1/2	1	1	1	3	2-3/8	4
	mm	1626	686	1359	635	1575	241	25	25	25	76	60	102
SSA35	in.	85	35	69	33	70	13	13	2	3	2-1/4	2	2-3/4
	mm	2159	889	1753	838	1778	330	330	51	76	57	51	70

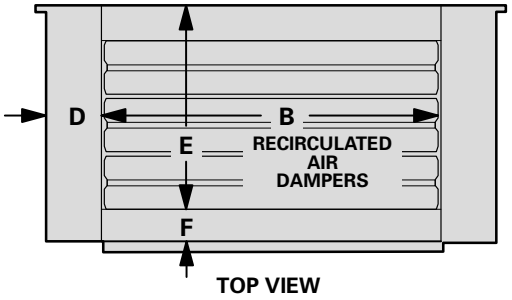
OPTIONAL ACCESSORY DIMENSIONS — inches (mm)

EMPTY SPACER CABINETS

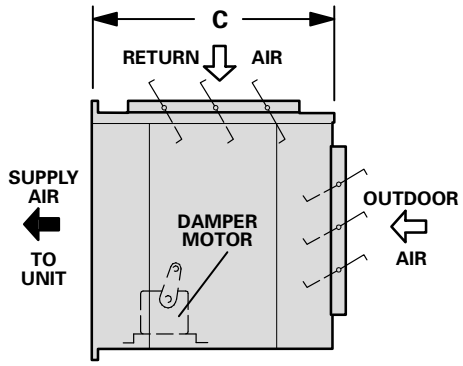


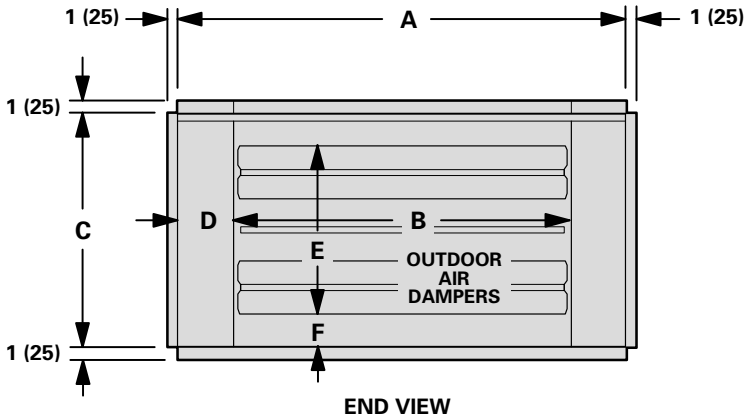
Model No.	A		B		C		D		E		F		G		H		J	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
SSA22	52	1321	27	686	41-1/2	1054	25	635	50	1270	9-1/2	241	1	25	1	25	1	25
SSA23	64	1626	27	686	53-1/2	1359	25	635	62	1575	9-1/2	241	1	25	1	25	1	25
SSA24	85	2159	35	889	69	1753	33	838	70	1778	13	330	13	330	2	51	3	76

ECONOMIZER DAMPERS



NOTE — Economizer section may be rotated 180° for bottom return air connection.

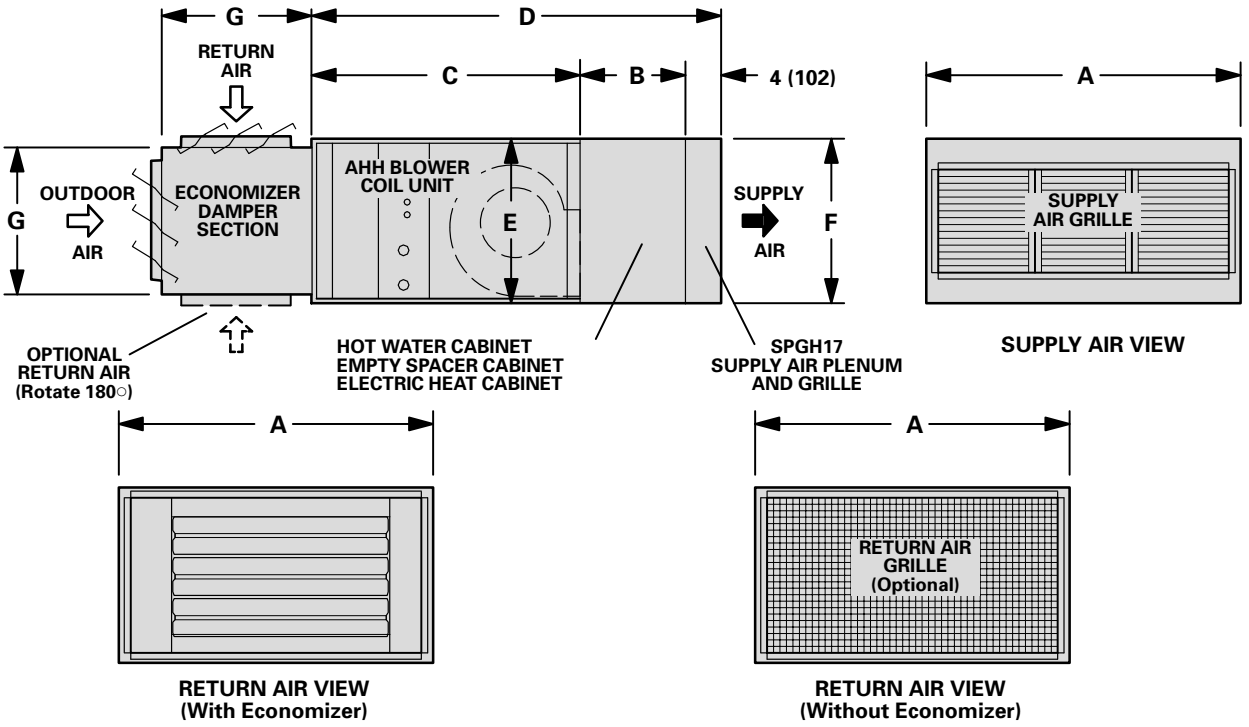




Model No.	A		B		C		D		E		F	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
SSA29	48	1219	36	914	25	635	6	152	18	457	3-1/2	89
SSA30	60	1524	48	1219	25	635	6	152	18	457	3-1/2	89
SSA31	83	2108	60	1524	33	838	11-1/2	292	24	610	4-1/2	114
SSA32	83	2108	60	1524	42	1067	11-1/2	292	30	762	6	152

OPTIONAL ACCESSORY DIMENSIONS — inches (mm)

AHH HORIZONTAL MODELS WITH OPTIONAL ACCESSORY SECTIONS



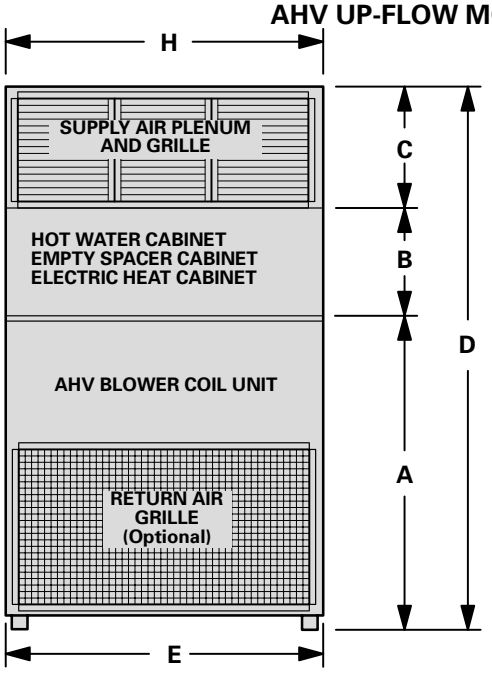
GRILLE AREA

Model No.		Grille Free Area	
		sq. ft.	m^2
Supply Air Grille	SSA19	4.5	0.42
	SSA20	5.6	0.52
	SSA21	9.7	10.90
Return Air Grille	SSA25	7.3	0.68
	SSA26	9.0	0.84
	SSA27	16.5	1.53
	SSA28	21.2	1.97

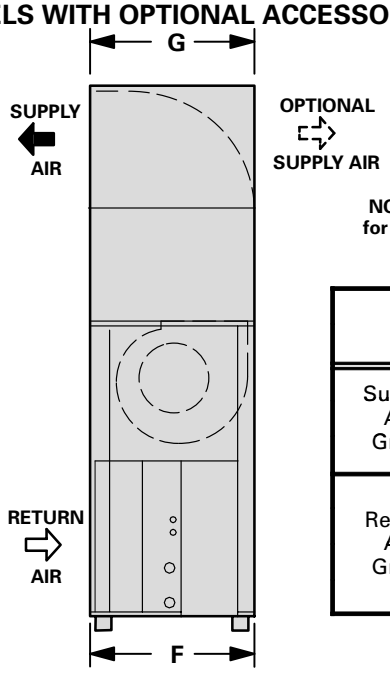
Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
AHH90 Basic Unit	52	1321	– – –	– – –	36	914	– – –	– – –	27	686	– – –	– – –	– – –	– – –
AHH120 Basic Unit	64	1626	– – –	– – –	36	914	– – –	– – –	27	686	– – –	– – –	– – –	– – –
AHH180 Basic Unit	85	2159	– – –	– – –	44	1118	– – –	– – –	35	889	– – –	– – –	– – –	– – –
AHH240 Basic Unit	85	2159	– – –	– – –	44	1118	– – –	– – –	44	1118	– – –	– – –	– – –	– – –
ES90 Electric Heat Section	52	1321	19	483	– – –	– – –	59	1499	– – –	– – –	27	686	– – –	– – –
ES120 Electric Heat Section	64	1626	19	483	– – –	– – –	59	1499	– – –	– – –	27	686	– – –	– – –
ES240 Electric Heat Section	85	2159	14	356	– – –	– – –	62	1575	– – –	– – –	35	889	– – –	– – –
SSA33 Hot Water Coil or SSA22 Empty Spacer	52	1321	14	356	– – –	– – –	54	1375	– – –	– – –	27	686	– – –	– – –
SSA34 Hot Water Coil or SSA23 Empty Spacer	64	1626	14	356	– – –	– – –	54	1375	– – –	– – –	27	686	– – –	– – –
SSA35 Hot Water Coil or SSA24 Empty Spacer	85	2159	14	356	– – –	– – –	62	1575	– – –	– – –	35	889	– – –	– – –
SSA19 Supply Air Plenum and Grille	52	1321	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	27	686	– – –	– – –
SSA20 Supply Air Plenum and Grille	64	1626	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	27	686	– – –	– – –
SSA21 Supply Air Plenum and Grille	85	2159	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	35	889	– – –	– – –
SSA29 or SSA30 Economizer	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	25	635
SSA31 Economizer	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	33	838
SSA32 Economizer	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	– – –	42	1067

OPTIONAL ACCESSORY DIMENSIONS — inches (mm)

AHV UP-FLOW MODELS WITH OPTIONAL ACCESSORY SECTIONS



FRONT VIEW
(Without Economizer)



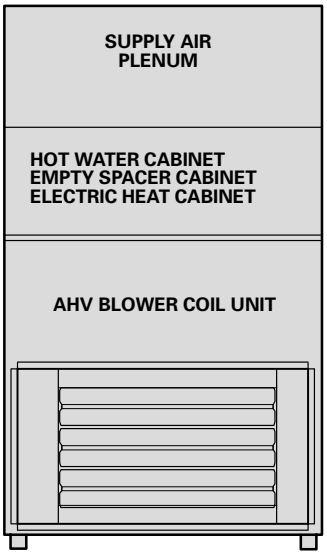
DRIVE SIDE VIEW
(Without Economizer)

NOTE — Plenum may be rotated 180° for change in direction of discharge air.

Model No.		Grille Free Area	
		sq. ft.	m^2
Supply Air Grille	SSA16	4.5	0.42
	SSA17	5.6	0.52
	SSA18	9.7	0.90
Return Air Grille	SSA25	7.3	0.68
	SSA26	9.0	0.84
	SSA27	16.5	1.53
	SSA28	21.2	1.97

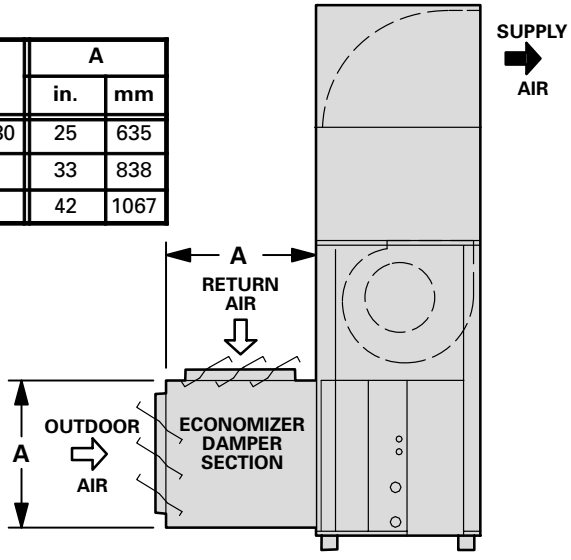
Model No.	A		B		C		D		E		F		G		H	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
AHV90 Basic Unit	51-1/2	1308	– – –	– – –	– – –	– – –	– – –	– – –	52	1321	27	686	– – –	– – –	– – –	– – –
AHV120 Basic Unit	51-1/2	1308	– – –	– – –	– – –	– – –	– – –	– – –	64	1626	27	686	– – –	– – –	– – –	– – –
AHV180 Basic Unit	47	1194	– – –	– – –	– – –	– – –	– – –	– – –	85	2159	35	889	– – –	– – –	– – –	– – –
AHV240 Basic Unit	47	1194	– – –	– – –	– – –	– – –	– – –	– – –	85	2159	44	1118	– – –	– – –	– – –	– – –
ES90 Electric Heat Section	– – –	– – –	19	483	– – –	– – –	94-1/2	2400	– – –	– – –	– – –	– – –	27	686	52	1321
ES120 Electric Heat Section	– – –	– – –	19	483	– – –	– – –	94-1/2	2400	– – –	– – –	– – –	– – –	27	686	64	1626
ES240 Electric Heat Section	– – –	– – –	14	356	– – –	– – –	91	2311	– – –	– – –	– – –	– – –	35	889	85	2159
SSA33 Hot Water Coil or SSA22 Empty Spacer	– – –	– – –	14	356	– – –	– – –	89-1/2	2273	– – –	– – –	– – –	– – –	27	686	52	1321
SSA34 Hot Water Coil or SSA23 Empty Spacer	– – –	– – –	14	356	– – –	– – –	89-1/2	2273	– – –	– – –	– – –	– – –	27	686	64	1626
SSA35 Hot Water Coil or SSA34 Empty Spacer	– – –	– – –	14	356	– – –	– – –	91	2311	– – –	– – –	– – –	– – –	35	889	85	2159
SSA16 Supply Air Plenum and Grille	– – –	– – –	– – –	– – –	24	610	– – –	– – –	– – –	– – –	– – –	– – –	27	686	52	1321
SSA17 Supply Air Plenum and Grille	– – –	– – –	– – –	– – –	24	610	– – –	– – –	– – –	– – –	– – –	– – –	27	686	64	1626
SSA18 Supply Air Plenum and Grille	– – –	– – –	– – –	– – –	30	762	91	2311	– – –	– – –	– – –	– – –	35	889	85	2159

AHV UP-FLOW MODELS WITH ECONOMIZER DAMPER SECTION



FRONT VIEW
(With Economizer)

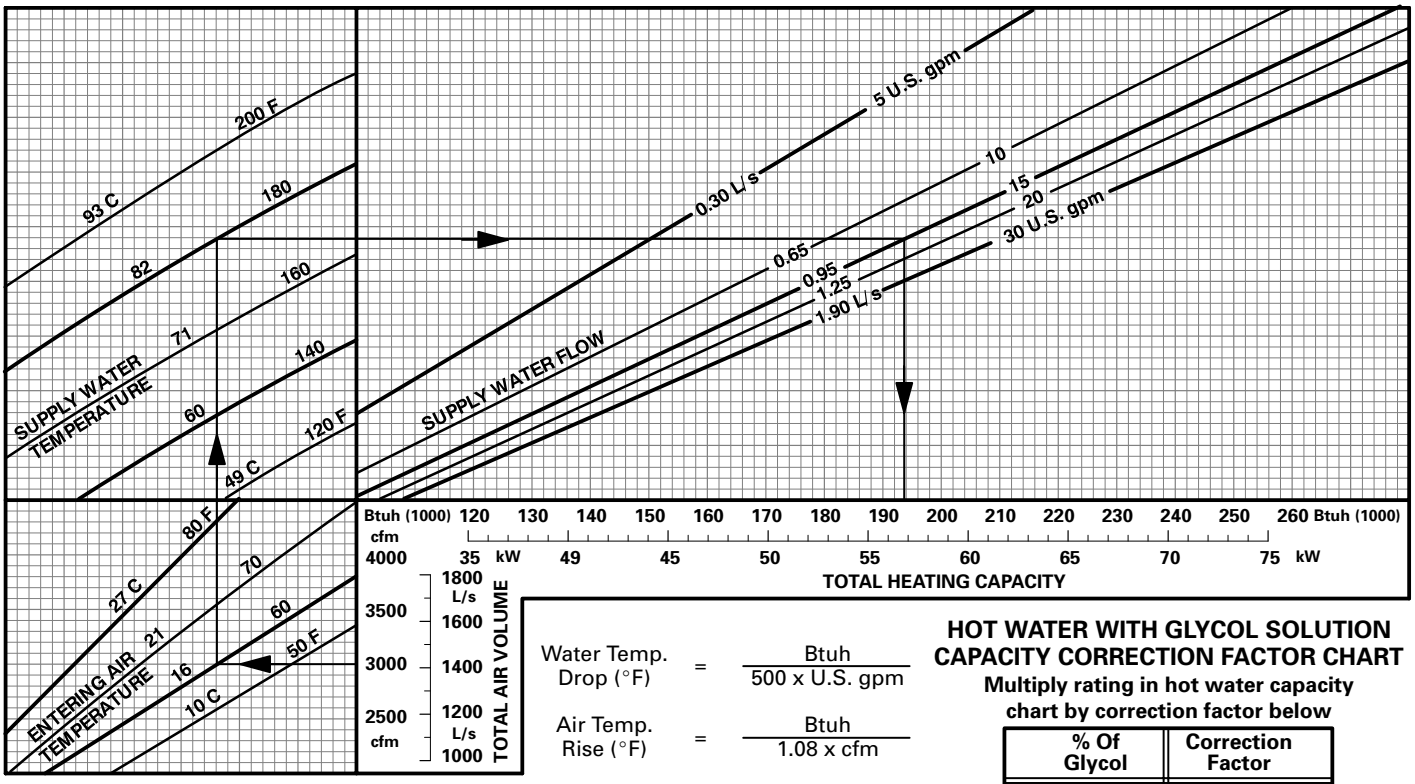
Model No.	A	
	in.	mm
SSA29 and SSA30	25	635
SSA31	33	838
SSA32	42	1067



DRIVE SIDE VIEW
(With Economizer)

HOT WATER HEATING CAPACITY CURVES

SSA35 HOT WATER HEATING CAPACITY with AHV/AHH90



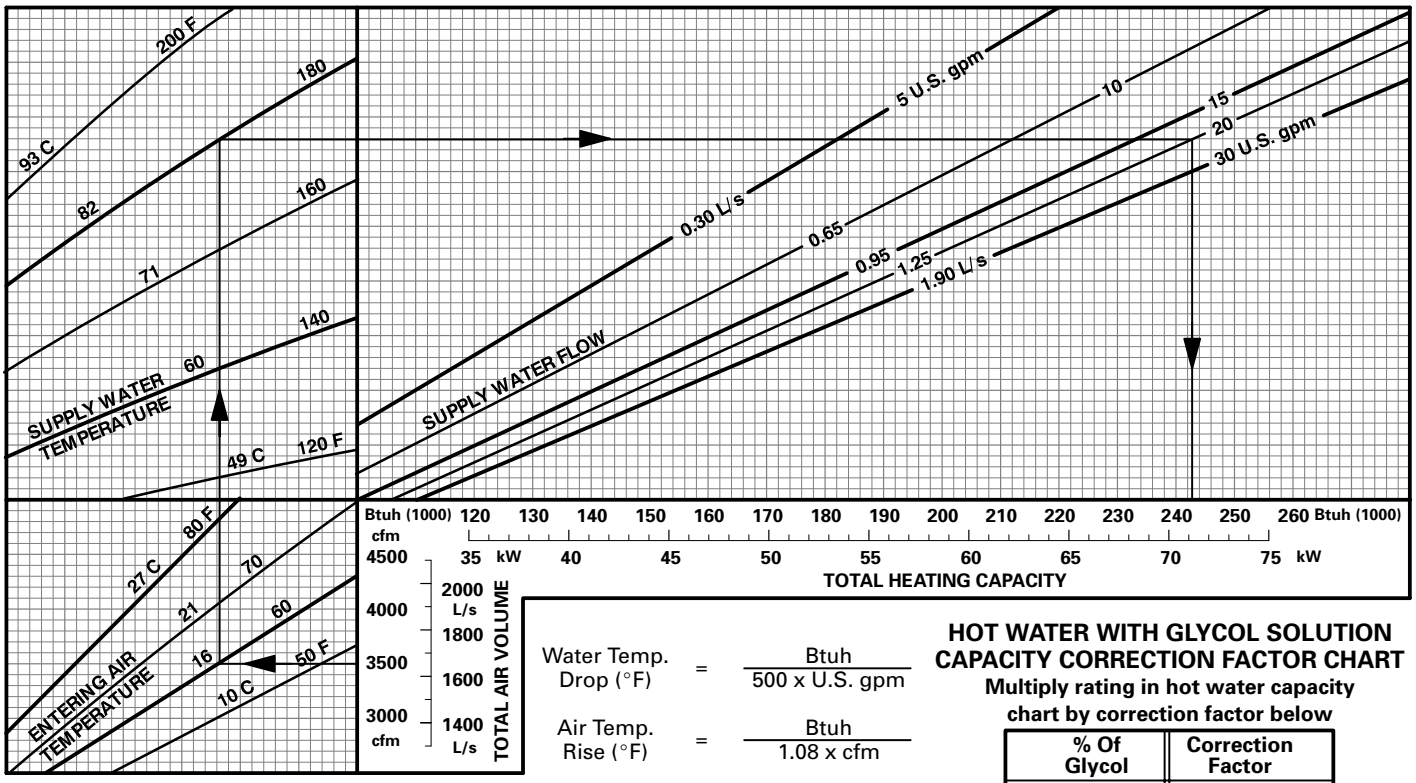
Water Temp. Drop (°F)	=	$\frac{\text{Btuh}}{500 \times \text{U.S. gpm}}$
Air Temp. Rise (°F)	=	$\frac{\text{Btuh}}{1.08 \times \text{cfm}}$
Water Temp. Drop (°C)	=	$\frac{\text{kW}}{4.19 \times \text{L/s (water)}}$
Air Temp. Rise (°C)	=	$\frac{\text{kW}}{1210 \times \text{L/s (air)}}$

HOT WATER WITH GLYCOL SOLUTION CAPACITY CORRECTION FACTOR CHART

Multiply rating in hot water capacity chart by correction factor below

% Of Glycol	Correction Factor
0	1.00
10	.97
20	.94
30	.91
40	.87
50	.84

SSA34 HOT WATER HEATING CAPACITY with AHV/AHH120



Water Temp. Drop (°F)	=	$\frac{\text{Btuh}}{500 \times \text{U.S. gpm}}$
Air Temp. Rise (°F)	=	$\frac{\text{Btuh}}{1.08 \times \text{cfm}}$
Water Temp. Drop (°C)	=	$\frac{\text{kW}}{4.19 \times \text{L/s (water)}}$
Air Temp. Rise (°C)	=	$\frac{\text{kW}}{1210 \times \text{L/s (air)}}$

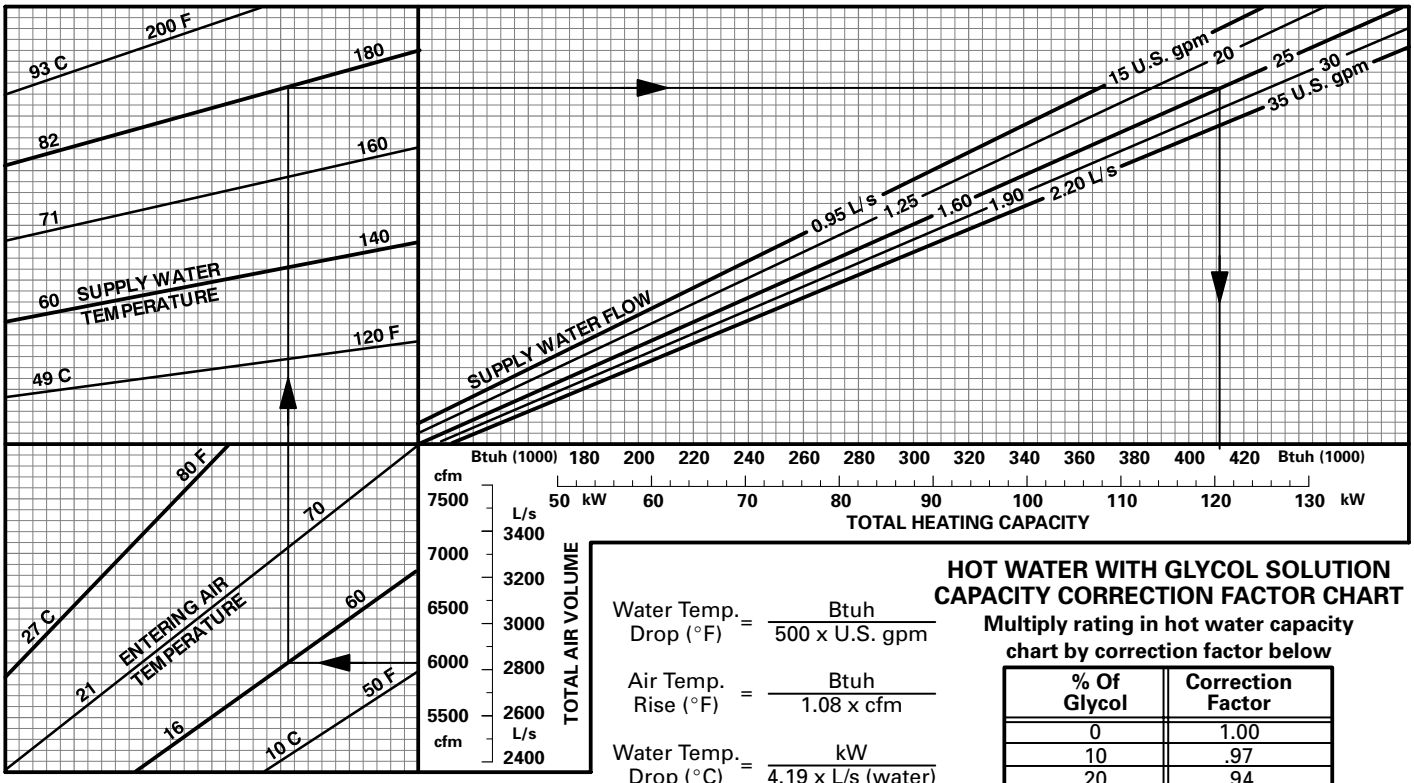
HOT WATER WITH GLYCOL SOLUTION CAPACITY CORRECTION FACTOR CHART

Multiply rating in hot water capacity chart by correction factor below

% Of Glycol	Correction Factor
0	1.00
10	.97
20	.94
30	.91
40	.87
50	.84

HOT WATER HEATING CAPACITY CURVES

SSA33 HOT WATER HEATING CAPACITY with AHV/AHH180



Water Temp. Drop (°F) = Btuh / 500 x U.S. gpm

Air Temp. Rise (°F) = Btuh / 1.08 x cfm

Water Temp. Drop (°C) = kW / 4.19 x L/s (water)

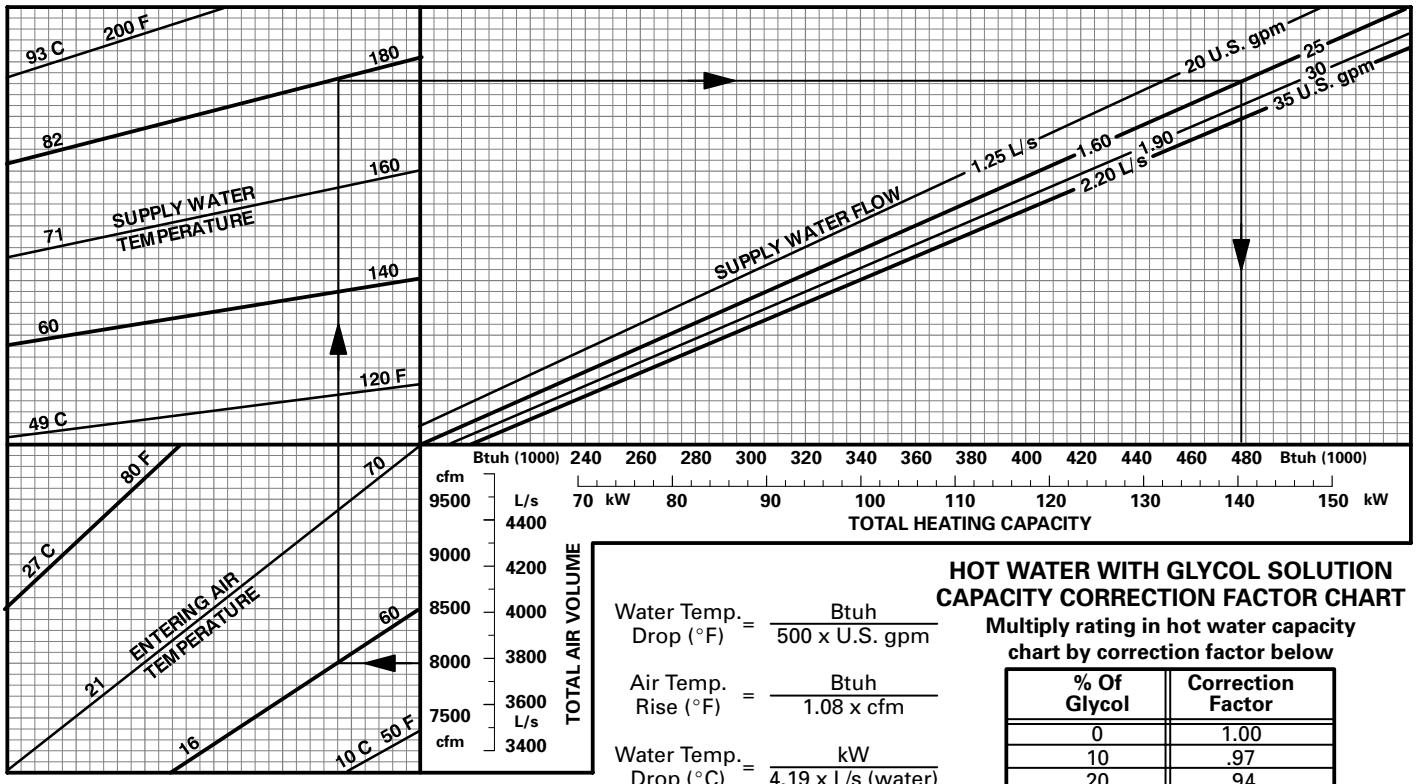
Air Temp. Rise (°C) = kW / 1210 x L/s (air)

HOT WATER WITH GLYCOL SOLUTION CAPACITY CORRECTION FACTOR CHART

Multiply rating in hot water capacity chart by correction factor below

% Of Glycol	Correction Factor
0	1.00
10	.97
20	.94
30	.91
40	.87
50	.84

SSA34 HOT WATER HEATING CAPACITY with AHV/AHH240



Water Temp. Drop (°F) = Btuh / 500 x U.S. gpm

Air Temp. Rise (°F) = Btuh / 1.08 x cfm

Water Temp. Drop (°C) = kW / 4.19 x L/s (water)

Air Temp. Rise (°C) = kW / 1210 x L/s (air)

HOT WATER WITH GLYCOL SOLUTION CAPACITY CORRECTION FACTOR CHART

Multiply rating in hot water capacity chart by correction factor below

% Of Glycol	Correction Factor
0	1.00
10	.97
20	.94
30	.91
40	.87
50	.84

A LENNOX International Inc. Company

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NOTE :
Specifications, Ratings and Dimensions subject to change without notice.

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