



EAGLE

Air Cooled Split System

ACCS, HEB-D, EB-D, VEB-D 50/60Hz

Cooling Capacity: 56 to 1401 MBH (16 to 411 kW)

Heating Capacity: 57 to 1326 MBH (17 to 389 kW)



VEB-D (Indoor)



ACCS (Outdoor)



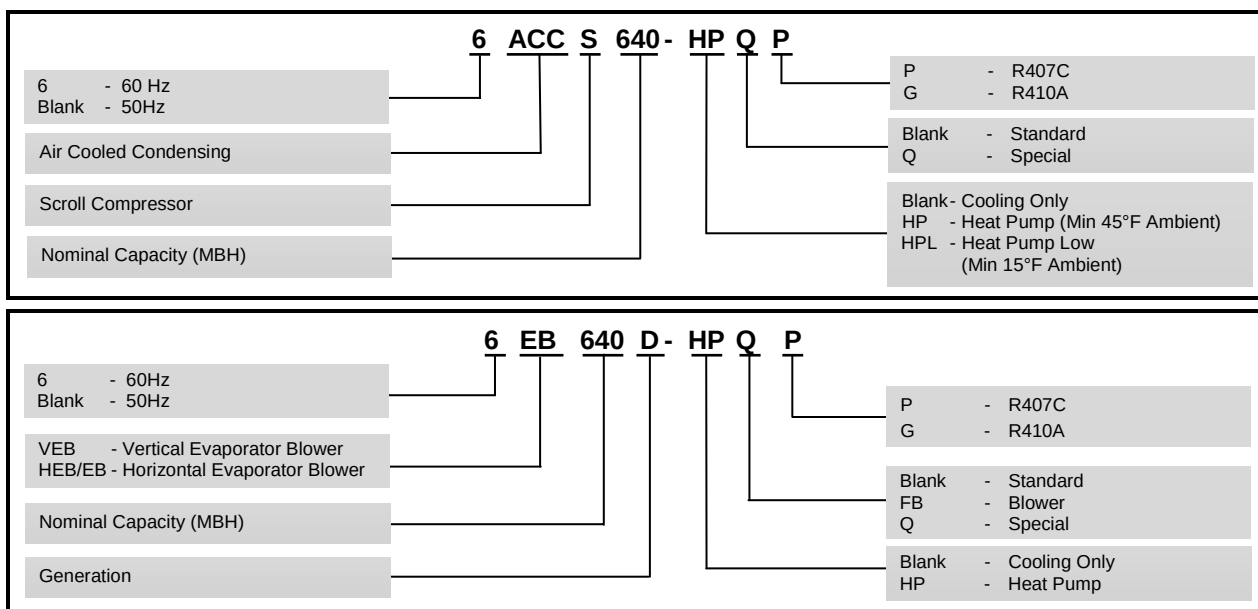
HEB-D (Indoor)



DUNHAM-BUSH®

Products that perform...By people who care

NOMENCLATURE



AIR-COOLED CONDENSING UNITS

GENERAL DESCRIPTION

The ACCS series with new features is suitable for hotel, office, hospitals, schools, factory and supermarket applications. The low noise and compact series are completely leak tested, evacuated, dehydrated and charged with dry nitrogen to maintain system "dryness" prior to field piping connections.

SCROLL COMPRESSOR(S)

Reliability

No contact scroll design that minimizes friction, increases volumetric efficiency and reduces vibration, thus longer service life. Suction gas cooled motor.

Low Power Consumption:

- ✱ High EER.



CLASS F INSULATION CONDENSER FAN MOTOR (ACCS 125 & above)

- ✱ Extra safety margin and longer motor life even in extreme operating conditions.
- ✱ IP 55 construction ensure extra motor protection
- ✱ Low motor speed at 950 rpm ensures quiet condenser fan operation.

TANDEM COMPRESSOR (ACCS 640 & above)

For condensing units, ever two compressors is connected in tandem, to reduce refrigerant circuits to 3 or 4 and thus reduce the cost of labor and materials for field piping connection works.

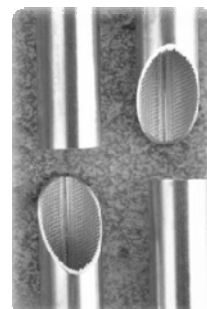


MULTIPLE COMPRESSORS (ACCS 220 & above)

- ✱ By cycling off compressor(s) operation to match building load, no energy is being wasted when room load requires lesser cooling capacity.
- ✱ No total shut down when servicing or repairing a faulty compressor.

EFFICIENT CONDENSER COIL

- ✱ Staggered row of 3/8" [9.5mm] OD inner groove tubes with 25 to 30% more surface area guarantee better heat transfer.
- ✱ Mechanically expanded into die-formed corrugated aluminum fins.
- ✱ Integral subcooling circuit to maximize efficiency.



AIR-COOLED CONDENSING UNITS

FULLY LEAK TESTED REFRIGERANT CIRCUIT

- ✱ Pressure ports are provided on the discharge, liquid and suction line.
- ✱ Evacuated, dehydrated and pressurized with dry nitrogen for storage and shipping purpose.

SAFETY CONTROL

- ✱ High-low pressure cutout to protect compressor from high discharge pressure and system leakage.

CASING

- ✱ Constructed from heavy gauge galvanized steel.
- ✱ Panels are painted powder coated paint for excellent finish, weatherability and corrosion resistance.

DUCTED EVAPORATOR BLOWER UNITS

GENERAL DESCRIPTION

The ducted evaporator-blower units; each consist of an evaporator coil, a centrifugal forward-curved blower fan complete with drive package and filters and enclosed in a single closed cell Polyethylene (PE) foam insulated rigid steel cabinetry; are completely factory packaged to provide greater flexibility to the building owners, consultants, architects and installers. These flexibility includes;

- ✱ A wide range of model sizes covering cooling capacities from 59 to 1327 MBH [17 to 389 kW]; and each model size also has a wide band of air-flow rates (cfms) covering a wide band of static pressure to meet almost any system demands.
- ✱ Except for HEB 68DP to HEB 95DP which are specially designed for ducted, ceiling application, all other sizes allow flexibility for either horizontal air discharge or vertical air discharge ducted connections.
- ✱ All units can be provided with left or right hand piping connections. This must be specified at the time of order entry to factory.

EFFICIENT EVAPORATOR COIL

- ✱ Independent thermal expansion valve with external equalizer for better refrigerant control and wider load condition.
- ✱ Evacuated, dehydrated and charged with dry nitrogen.

DRIVE PACKAGE AND BLOWERS (HEB 125D to EB 1520D, VEB 125D to 250D)

- ✱ Belt driven drive package offers flexibility on various air flow rate and various static pressure applications.
- ✱ Single large diameter double inlet double width blowers (AMCA certified) reduce the noise level and eliminates the need for common transition and eliminates air unbalance.



CASING

- ✱ Constructed of heavy gauge steel sheet 1/2" (model HEB/EB 68D to EB 760D) and 3/4" (model EB 800D and above) thick closed cell Polyethylene (PE) foam shall be provided. Closed cell elastomer insulation shall comply Class O (BS476 Part 6) and Class 1 (BS476 Part 7) fire resistant standard.
- ✱ Aesthetically coated powder paint to provide excellent finish, weatherability and corrosion resistance.
- ✱ Removable panels on the left and right hand side of the unit to provide access to critical parts and components.

FILTERS

Side loading 1" [25mm] thick filters - from both sides- thus eliminates unnecessary duct opening at site.

OPTIONAL ACCESSORIES

- ✱ Factory wired starters
 - DOL for compressors and fan motors. (Require external mounted control box for ACCS 68 - 95)
 - Softstarters for compressors.
- ✱ Suction stop valve(s), discharge stop valve(s) and liquid stop valve(s).
- ✱ Fan staging of multiple fans for head pressure control.
- ✱ Thermostat. (starter options must be selected).
- ✱ Hydrophilic fins, DB Coat, copper fins for better corrosion resistance.
- ✱ Liquid line filter drier and sight glass.
- ✱ Hot gas by pass for low load and low ambient conditions.
- ✱ Electric heaters.
- ✱ Option right hand motor location, except for HEB 68DP to HEB 95DP, which are direct driven
- ✱ Optional R410A refrigerant
- ✱ Variable Frequency Drive for Evaporator Motor Nominal HP & Max HP

COOLING AND HEATING PORTFOLIO

Capacity		R407C				R410A			
Reference		MBH		kW		MBH		kW	
		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
ACCS 68	Cooling	56.0	57.3	16.4	16.8	58.3	62.8	17.1	18.4
	Heating	58.0	57.0	17.0	16.7	59.7	62.8	17.5	18.4
ACCS 81	Cooling	65.9	70.3	19.3	20.6	69.3	70.3	20.3	20.6
	Heating	66.2	69.3	19.4	20.3	67.9	71.3	19.9	20.9
ACCS 95	Cooling	76.4	77.1	22.4	22.6	75.1	80.5	22.0	23.6
	Heating	76.4	76.1	22.4	22.3	72.3	79.5	21.2	23.3
ACCS 125	Cooling	105.8	106.5	31.0	31.2	105.4	107.8	30.9	31.6
	Heating	104.4	105.8	30.6	31.0	102.4	105.1	30.0	30.8
ACCS 145	Cooling	124.5	130.0	36.5	38.1	122.2	130.7	35.8	38.3
	Heating	119.1	126.6	34.9	37.1	114.0	123.5	33.4	36.2
ACCS 160	Cooling	137.5	146.0	40.3	42.8	137.9	142.6	40.4	41.8
	Heating	131.7	144.3	38.6	42.3	131.7	137.5	38.6	40.3
ACCS 190	Cooling	157.6	160.7	46.2	47.1	159.0	161.1	46.6	47.2
	Heating	152.5	154.9	44.7	45.4	149.8	152.9	43.9	44.8
ACCS 220	Cooling	187.0	189.4	54.8	55.5	187.3	190.7	54.9	55.9
	Heating	176.7	182.5	51.8	53.5	172.3	177.8	50.5	52.1
ACCS 250	Cooling	215.0	217.0	63.0	63.6	215.0	220.4	63.0	64.6
	Heating	205.1	207.8	60.1	60.9	200.3	206.1	58.7	60.4
ACCS 290	Cooling	240.6	250.8	70.5	73.5	236.5	253.5	69.3	74.3
	Heating	227.2	242.3	66.6	71.0	219.7	239.2	64.4	70.1
ACCS 320	Cooling	277.1	294.8	81.2	86.4	279.1	288.7	81.8	84.6
	Heating	262.1	287.0	76.8	84.1	262.7	274.0	77.0	80.3
ACCS 380	Cooling	320.7	326.5	94.0	95.7	323.8	327.9	94.9	96.1
	Heating	309.8	315.3	90.8	92.4	304.7	311.2	89.3	91.2
ACCS 435	Cooling	367.1	373.6	107.6	109.5	360.3	377.7	105.6	110.7
	Heating	349.1	363.1	102.3	106.4	337.8	359.0	99.0	105.2
ACCS 480	Cooling	406.7	433.0	119.2	126.9	411.5	425.5	120.6	124.7
	Heating	370.2	402.0	108.5	117.8	383.9	399.6	112.5	117.1
ACCS 510	Cooling	436.4	468.5	127.9	137.3	440.2	474.3	129.0	139.0
	Heating	389.3	431.3	114.1	126.4	403.7	445.3	118.3	130.5
ACCS 570	Cooling	469.2	491.0	137.5	143.9	475.7	498.2	139.4	146.0
	Heating	440.2	466.1	129.0	136.6	447.3	476.3	131.1	139.6
ACCS 640	Cooling	560.6	593.0	164.3	173.7	543.2	576.0	159.2	168.8
	Heating	532.6	578.4	156.1	169.5	534.7	566.8	156.7	166.1
ACCS 700	Cooling	603.9	656.8	176.9	192.4	588.9	640.8	172.5	187.8
	Heating	551.1	618.6	161.5	181.2	563.3	614.9	165.0	180.2
ACCS 760	Cooling	654.1	719.3	191.7	210.8	640.8	694.4	187.8	203.5
	Heating	596.8	657.5	174.9	192.6	605.3	664.0	177.4	194.6
ACCS 800	Cooling	710.1	773.5	208.1	226.6	686.2	765.5	201.1	224.3
	Heating	675.9	772.2	198.0	226.3	669.8	746.2	196.3	218.6
ACCS 890	Cooling	775.2	826.8	227.1	242.3	750.0	808.7	219.8	236.9
	Heating	754.1	819.9	221.0	240.2	738.7	800.5	216.4	234.5
ACCS 960	Cooling	836.0	906.9	244.9	265.7	812.1	854.7	237.9	250.4
	Heating	795.7	883.7	233.1	258.9	790.3	833.6	231.6	244.2
ACCS 1020	Cooling	911.0	997.0	266.9	292.1	881.7	975.5	258.3	285.8
	Heating	880.7	990.2	258.0	290.1	869.1	971.8	254.6	284.7
ACCS 1140	Cooling	1017.2	1091.9	298.0	319.9	988.8	1055.7	289.7	309.3
	Heating	987.1	1063.6	289.2	311.6	962.6	1037.6	282.0	304.0
ACCS 1340	Cooling	1181.6	1214.7	346.2	355.9	1145.1	1173.8	335.5	343.9
	Heating	1116.5	1170.0	327.1	342.8	1108.3	1137.6	324.7	333.3
ACCS 1520	Cooling	1312.7	1401.4	384.6	410.6	1287.4	1351.9	377.2	396.1
	Heating	1244.1	1326.3	364.5	388.6	1220.2	1303.1	357.5	381.8

Notes: 1.) Cooling Mode: At 80 °F (DB), 67 °F (WB) Air on Evaporator And 95°F Ambient Air Temperature on Condenser.
2.) Heating Mode: At 70 °F (DB) Air on Evaporator And 45°F Ambient Air Temperature on Condenser.

PHYSICAL SPECIFICATIONS

AIR COOLED CONDENSING UNITS

50Hz

Model	Compressor		R407C-Compressor			R410A-Compressor			Condenser Coil			Condenser Fan		Approx. Unit Weight lbs
	Qty	Power Supply	MRA Each	LRA Each	NRA Each	MRA Each	LRA Each	NRA Each	Face Area ft²	Rows/FPI	Heat Pump	Motor HP (Qty)	Motor FLA (Qty)	
ACCS 68	1	400-3-50Hz	10.9 x 1	74.0 x 1	9.2 x 1	12.2 x 1	75.0 x 1	9.8 x 1	10.5	2/10	3/12	250W (2)	1.15(2)	450
ACCS 81	1	400-3-50Hz	13.3 x 1	101.0 x 1	11.4 x 1	15.1 x 1	92.0 x 1	12.1 x 1	12	2/10	3/12	250W (2)	1.15(2)	485
ACCS 95	1	400-3-50Hz	15.3 x 1	95.0 x 1	13.3 x 1	19.0 x 1	98.0 x 1	13.4 x 1	12	2/12	3/12	250W (2)	1.15(2)	551
ACCS 125	1	400-3-50Hz	20.6 x 1	153.0 x 1	16.8 x 1	24.0 x 1	142.0 x 1	17.2 x 1	15.6	2/12	3/12	3/4 (1)	1.7(1)	705
ACCS 145	1	400-3-50Hz	23.0 x 1	153.0 x 1	18.6 x 1	28.0 x 1	147.0 x 1	19.1 x 1	15.6	3/10	4/12	3/4 (1)	1.7(1)	772
ACCS 160	1	400-3-50Hz	24.9 x 1	140.0 x 1	21.2 x 1	31.0 x 1	158.0 x 1	21.3 x 1	17.2	2/12	3/12	3/4 (2)	1.7(2)	794
ACCS 190	1	400-3-50Hz	31.6 x 1	174.0 x 1	27.3 x 1	36.0 x 1	197.0 x 1	24.6 x 1	17.2	3/10	3/12	3/4 (2)	1.7(2)	840
ACCS 220	2	400-3-50Hz	16.7 x 2	111.0 x 2	14.3 x 2	22.0 x 2	142.0 x 2	16.3 x 2	20.7	3/10	3/12	3/4 (2)	1.7(2)	899
ACCS 250	2	400-3-50Hz	20.6 x 2	153.0 x 2	16.8 x 2	24.0 x 2	142.0 x 2	17.2 x 2	20.7	3/12	4/12	3/4 (2)	1.7(2)	930
ACCS 290	2	400-3-50Hz	23.0 x 2	153.0 x 2	18.6 x 2	28.0 x 2	147.0 x 2	19.1 x 2	20.7	4/10	5/12	3/4 (2)	1.7(2)	990
ACCS 320	2	400-3-50Hz	24.9 x 2	140.0 x 2	21.2 x 2	31.0 x 2	158.0 x 2	21.3 x 2	32	3/12	4/12	3/4 (3)	1.7(3)	1451
ACCS 380	2	400-3-50Hz	31.6 x 2	174.0 x 2	27.3 x 2	36.0 x 2	197.0 x 2	24.6 x 2	37.3	3/12	4/12	3/4 (3)	1.7(3)	1601
ACCS 435	3	400-3-50Hz	23.0 x 3	153.0 x 3	18.6 x 3	28.0 x 3	147.0 x 3	19.1 x 3	37.3	4/12	5/12	3/4 (3)	1.7(3)	1720
ACCS 480	3	400-3-50Hz	24.9 x 3	140.0 x 3	21.2 x 3	31.0 x 3	158.0 x 3	21.3 x 3	48.8	3/10	4/12	3/4 (4)	1.7(4)	1764
ACCS 510	3	400-3-50Hz	24.9 x 2 31.6 x 1	140.0 x 2 174.0 x 1	21.2 x 2 27.3 x 1	31.0 x 2 36.0 x 1	158.0 x 2 197.0 x 1	21.3 x 2 24.6 x 1	48.8	3/12	4/12	3/4 (4)	1.7(4)	1984
ACCS 570	3	400-3-50Hz	31.6 x 3	174.0 x 3	27.3 x 3	36.0 x 3	197.0 x 3	24.6 x 3	48.8	4/10	5/12	3/4 (4)	1.7(4)	2094
ACCS 640	4	400-3-50Hz	24.9 x 4	140.0 x 4	21.2 x 4	31.0 x 4	158.0 x 4	21.3 x 4	66	4/12	5/12	2 (3)	4.0(3)	2646
ACCS 700	4	400-3-50Hz	24.9 x 2 31.6 x 2	140.0 x 2 174.0 x 2	21.2 x 2 27.3 x 2	31.0 x 2 36.0 x 2	158.0 x 2 197.0 x 2	21.3 x 2 24.6 x 2	68	4/12	5/12	2 (3)	4.0(3)	2756
ACCS 760	4	400-3-50Hz	31.6 x 4	174.0 x 4	27.3 x 4	36.0 x 4	197.0 x 4	24.6 x 4	72	4/12	5/12	2 (3)	4.0(3)	3086
ACCS 800	5	400-3-50Hz	24.9 x 5	140.0 x 5	21.2 x 5	31.0 x 5	158.0 x 5	21.3 x 5	94	3/12	4/12	2 (4)	4.0(4)	3968
ACCS 890	5	400-3-50Hz	24.9 x 2 31.6 x 3	140.0 x 2 174.0 x 3	21.2 x 2 27.3 x 3	31.0 x 2 36.0 x 3	158.0 x 2 197.0 x 3	21.3 x 2 24.6 x 3	94	4/10	5/12	2 (4)	4.0(4)	4079
ACCS 960	6	400-3-50Hz	24.9 x 6	140.0 x 6	21.2 x 6	31.0 x 6	158.0 x 6	21.3 x 6	94	4/12	5/12	2 (4)	4.0(4)	4630
ACCS 1020	6	400-3-50Hz	24.9 x 4 31.6 x 2	140.0 x 4 174.0 x 2	21.2 x 4 27.3 x 2	31.0 x 4 36.0 x 2	158.0 x 4 197.0 x 2	21.3 x 4 24.6 x 2	123	3/12	4/12	2 (6)	4.0(6)	4960
ACCS 1140	6	400-3-50Hz	31.6 x 6	174.0 x 6	27.3 x 6	36.0 x 6	197.0 x 6	24.6 x 6	123	4/10	5/12	2 (6)	4.0(6)	5291
ACCS 1340	8	400-3-50Hz	24.9 x 6 31.6 x 2	140.0 x 6 174.0 x 2	21.2 x 6 27.3 x 2	31.0 x 6 36.0 x 2	158.0 x 6 197.0 x 2	21.3 x 6 24.6 x 2	129	4/12	5/12	2 (6)	4.0(6)	5512
ACCS 1520	8	400-3-50Hz	31.6 x 8	174.0 x 8	27.3 x 8	36.0 x 8	197.0 x 8	24.6 x 8	129	4/12	5/12	2 (6)	4.0(6)	5732

Notes: 1.) Condenser fan motors for ACCS 125 to 1520 are 400V-3-50Hz electrical supply & ACCS 68 to 95 are 230V-1-50Hz electrical supply.

2.) Minimum - Maximum voltage is 360V-440V.

3.) MRA - Maximum must trip amp.

LRA - Locked rotor amp.

NRA - Nominal running amp.

FLA - Full load amp.

AIR COOLED CONDENSING UNITS

60Hz

Model	Compressor		R407C-Compressor			R410A-Compressor			Condenser Coil			Condenser Fan		Approx. Unit Weight lbs
	Qty	Power Supply	MRA Each	LRA Each	NRA Each	MRA Each	LRA Each	NRA Each	Face Area ft²	Rows/ FPI	Heat Pump	Motor HP (Qty)	Motor FLA (Qty)	
6ACCS 68	1	460-3-60Hz	9.6 x 1	59.6 x 1	8.2 x 1	10.0 x 1	62.0 x 1	8.3 x 1	10.5	2/10	3/12	360W (230/1/60) 730W (460/3/60)	1.6(2) (230/1/60) 1.35(2) (460/3/60)	450
6ACCS 81	1	460-3-60Hz	10.7 x 1	75.0 x 1	9.2 x 1	11.9 x 1	75.0 x 1	9.7 x 1	12	2/10	3/12	360W (230/1/60) 730W (460/3/60)	1.6(2) (230/1/60) 1.35(2) (460/3/60)	485
6ACCS 95	1	460-3-60Hz	13.4 x 1	100.0 x 1	11.6 x 1	19.0 x 1	98.0 x 1	13.1 x 1	12	2/12	3/12	360W (230/1/60) 730W (460/3/60)	1.6(2) (230/1/60) 1.35(2) (460/3/60)	551
6ACCS 125	1	460-3-60Hz	17.5 x 1	126.0 x 1	14.5 x 1	22.0 x 1	142.0 x 1	15.7 x 1	15.6	2/12	3/12	1 (1)	1.6(1)	705
6ACCS 145	1	460-3-60Hz	20.8 x 1	150.0 x 1	17.8 x 1	24.0 x 1	142.0 x 1	16.9 x 1	15.6	3/10	4/12	1 (1)	1.6(1)	772
6ACCS 160	1	460-3-60Hz	22.0 x 1	150.0 x 1	19.1 x 1	28.0 x 1	147.0 x 1	19.2 x 1	17.2	2/12	3/12	1 (2)	1.6(2)	794
6ACCS 190	1	460-3-60Hz	26.1 x 1	150.0 x 1	21.7 x 1	31.0 x 1	158.0 x 1	21.6 x 1	17.2	3/10	3/12	1 (2)	1.6(2)	840
6ACCS 220	1	460-3-60Hz	31.8 x 1	179.0 x 1	27.2 x 1	36.0 x 1	197.0 x 1	24.7 x 1	20.7	3/10	3/12	1 (2)	1.6(2)	899
6ACCS 250	2	460-3-60Hz	17.5 x 2	126.0 x 2	14.5 x 2	22.0 x 2	142.0 x 2	15.7 x 2	20.7	3/12	4/12	1 (2)	1.6(2)	930
6ACCS 290	2	460-3-60Hz	20.8 x 2	150.0 x 2	17.8 x 2	24.0 x 2	142.0 x 2	16.9 x 2	20.7	4/10	5/12	1 (2)	1.6(2)	990
6ACCS 320	2	460-3-60Hz	22.0 x 2	150.0 x 2	19.1 x 2	28.0 x 2	147.0 x 2	19.2 x 2	32	3/12	4/12	1 (3)	1.6(3)	1451
6ACCS 380	2	460-3-60Hz	26.1 x 2	150.0 x 2	21.7 x 2	31.0 x 2	158.0 x 2	21.6 x 2	37.3	3/12	4/12	1 (3)	1.6(3)	1601
6ACCS 435	2	460-3-60Hz	31.8 x 2	179.0 x 2	27.2 x 2	36.0 x 2	197.0 x 2	24.7 x 2	37.3	4/12	5/12	1 (3)	1.6(3)	1720
6ACCS 480	3	460-3-60Hz	22.0 x 3	150.0 x 3	19.1 x 3	28.0 x 3	147.0 x 3	19.2 x 3	48.8	3/10	4/12	1 (4)	1.6(4)	1764
6ACCS 510	3	460-3-60Hz	26.1 x 3	150.0 x 3	21.7 x 3	31.0 x 3	158.0 x 3	21.6 x 3	48.8	3/12	4/12	1 (4)	1.6(4)	1984
6ACCS 570	3	460-3-60Hz	26.1 x 2 31.8 x 1	150.0 x 2 179.0 x 1	21.7 x 2 27.2 x 1	31.0 x 2 36.0 x 1	158.0 x 2 197.0 x 1	21.6 x 2 24.7 x 1	48.8	4/10	5/12	1 (4)	1.6(4)	2094
6ACCS 640	3	460-3-60Hz	31.8 x 3	179.0 x 3	27.2 x 3	36.0 x 3	197.0 x 3	24.7 x 3	66	4/12	5/12	2 2/3 (3)	4.0(3)	2646
6ACCS 700	4	460-3-60Hz	26.1 x 4	150.0 x 4	21.7 x 4	31.0 x 4	158.0 x 4	21.6 x 4	68	4/12	5/12	2 2/3 (3)	4.0(3)	2756
6ACCS 760	4	460-3-60Hz	26.1 x 2 31.8 x 2	150.0 x 2 179.0 x 2	21.7 x 2 27.2 x 2	31.0 x 2 36.0 x 2	158.0 x 2 197.0 x 2	21.6 x 2 24.7 x 2	72	4/12	5/12	2 2/3 (3)	4.0(3)	3086
6ACCS 800	4	460-3-60Hz	31.8 x 4	179.0 x 4	27.2 x 4	36.0 x 4	197.0 x 4	24.7 x 4	94	3/12	4/12	2 2/3 (4)	4.0(4)	3968
6ACCS 890	5	460-3-60Hz	26.1 x 5	150.0 x 5	21.7 x 5	31.0 x 5	158.0 x 5	21.6 x 5	94	4/10	5/12	2 2/3 (4)	4.0(4)	4079
6ACCS 960	6	460-3-60Hz	22.0 x 6	150.0 x 6	19.1 x 6	28.0 x 6	147.0 x 6	19.2 x 6	94	4/12	5/12	2 2/3 (4)	4.0(4)	4630
6ACCS 1020	6	460-3-60Hz	26.1 x 6	150.0 x 6	21.7 x 6	31.0 x 6	158.0 x 6	21.6 x 6	123	3/12	4/12	2 2/3 (6)	4.0(6)	4960
6ACCS 1140	6	460-3-60Hz	26.1 x 4 31.8 x 2	150.0 x 4 179.0 x 2	21.7 x 4 27.2 x 2	31.0 x 4 36.0 x 2	158.0 x 4 197.0 x 2	21.6 x 4 24.7 x 2	123	4/10	5/12	2 2/3 (6)	4.0(6)	5291
6ACCS 1340	6	460-3-60Hz	31.8 x 6	179.0 x 6	27.2 x 6	31.0 x 6	158.0 x 6	21.6 x 6	129	4/12	5/12	2 2/3 (6)	4.0(6)	5512
6ACCS 1520	8	460-3-60Hz	26.1 x 6 31.8 x 2	150.0 x 6 179.0 x 2	21.7 x 6 27.2 x 2	31.0 x 6 36.0 x 2	158.0 x 6 197.0 x 2	21.6 x 6 24.7 x 2	129	4/12	5/12	2 2/3 (6)	4.0(6)	5732

Notes: 1.) Condenser fan motors for 6ACCS 125 to 1520 are 460V-3-60Hz electrical supply & 6ACCS 68 to 95 are 230V-1-60Hz for 208V-3PH-60Hz main supply. Condenser fan motors for 6ACCS 68 to 95 are 460V-3-60Hz for 460V-3PH-60Hz main supply.

2.) Minimum - Maximum voltage is 360V-440V.

3.) MRA - Maximum must trip amp.

LRA - Locked rotor amp.

NRA - Nominal running amp

FLA - Full load amp.

PHYSICAL SPECIFICATIONS

EVAPORATOR BLOWER UNITS

50 Hz

Model	Blower Section						Evaporator Coil		Air Filters	Approx. Operating Weight, lbs	Suction Connection		Liquid Connection	
	Qty	Standard Size (Qty)	Max HP	FLA Each	LRA Each	Fan Min-Max (CFM)	Rows Deep	Face Area ft²			Qty	Size inches	Qty	Size inches
HEB 68D	1	10x10	0.75	5	-	1350 2700	3	4.5	16x20x1(2)	260	1	7/8	1	3/8
HEB 81D	1	10x10	1	8.8	-	1350 2700	3	4.5	16x20x1(2)	275	1	7/8	1	1/2 (R407C)/ 3/8 (R410A)
HEB 95D	1	10x10	1	8.8	-	1500 3000	3	5	20x20x1(2)	340	1	1 1/8(R407C)/ 7/8(R410A)	1	1/2(R407C)/ 5/8(R410A)
VEB/ HEB 125D	1	12x12	4	6.5	39.7	2170 4330	3	7.2	20x25x1(1) 25x25x1(1)	380	1	1 3/8(R407C)/ 1 1/8(R410A)	1	1/2 (R407C)/ 5/8 (R410A)
VEB/ HEB 145D	1	12x12	4	6.5	39.7	2170 4330	4	7.2	20x25x1(1) 25x25x1(1)	400	1	1 3/8	1	5/8
VEB/ HEB 160D	1	15x15	5.5	8.4	54.6	2800 5600	3	9.3	25x25x1(2)	470	1	1 3/8	1	5/8
VEB/ HEB 190D	1	15x15	5.5	8.4	54.6	2800 5600	3	9.3	25x25x1(2)	500	1	1 3/8	1	5/8
VEB/ HEB 220D	1	15x15	10	14.8	96.2	3960 7930	3	13.2	20x25x1(1) 25x25x1(2)	500	2	1 1/8	2	1/2 (R407C)/ 5/8 (R410A)
VEB/ EB 250D	1	15x15	10	14.8	96.2	3900 7790	3	13.2	20x25x1(1) 25x25x1(2)	680	2	1 3/8 (R407C)/ 1 1/8 (R410A)	2	1/2 (R407C)/ 5/8 (R410A)
EB 290D	1	18x13	15	21.4	147.7	4958 9917	3	16.5	16x25x1(3) 20x25x1(3)	900	2	1 3/8	2	5/8
EB 320D	1	18x13	15	21.4	147.7	4958 9917	4	16.5	16x25x1(3) 20x25x1(3)	920	2	1 3/8	2	5/8
EB 380D	1	18x18	15	21.4	147.7	6417 12833	3	21.4	20x25x1(3) 25x25x1(3)	1100	2	1 3/8	2	5/8
EB 435D	1	450x450	15	21.4	147.7	6417 12833	3	21.4	20x25x1(3) 25x25x1(3)	1150	3	1 3/8	3	5/8
EB 480D	1	500x500	20	28.8	195.8	8750 17500	3	29.2	20x25x1(9)	1450	3	1 3/8	3	5/8
EB 510D	1	500x500	20	28.8	195.8	8750 17500	3	29.2	20x25x1(9)	1520	3	1 3/8	3	5/8
EB 570D	1	500x500	20	28.8	195.8	8750 17500	3	29.2	20x25x1(9)	1600	3	1 3/8	3	5/8
EB 640D	1	560x560	30	40.8	281.5	10208 20410	3	34.0	20x25x1(3) 25x25x1(6)	1820	2	1 5/8	2	7/8
EB 700D	1	560x560	30	40.8	281.5	10208 20410	4	34.0	20x25x1(3) 25x25x1(6)	1860	2	1 5/8	2	7/8
EB 760D	1	560x560	30	40.8	281.5	10208 20410	4	34.0	20x25x1(3) 25x25x1(6)	1900	2	1 5/8	2	7/8
EB 800D	1	630x630	40	54.6	371.3	14625 29250	3	48.8	16x20x1(4) 16x25x1(4) 20x25x1(4) 25x25x1(4)	2100	2 1	1 5/8 1 3/8	2 1	7/8 5/8
EB 890D	1	630x630	40	54.6	371.3	14625 29250	3	48.8	16x20x1(4) 16x25x1(4) 20x25x1(4) 25x25x1(4)	2180	2 1	1 5/8 1 3/8	2 1	7/8 5/8
EB 960D	1	630x630	40	54.6	371.3	16250 32500	3	54.2	16x25x1(8) 25x25x1(8)	2250	3	1 5/8	3	7/8
EB 1020D	1	710x710	40	54.6	371.3	16250 32500	3	54.2	16x25x1(8) 25x25x1(8)	2340	3	1 5/8	3	7/8
EB 1140D	1	710x710	40	54.6	371.3	16250 32500	4	54.2	16x25x1(8) 25x25x1(8)	2400	3	1 5/8	3	7/8
EB 1340D	1	800x800	50	66.2	436.9	23480 46950	3	78.3	20x25x1(24)	3500	4	1 5/8	4	7/8
EB 1520D	1	800x800	50	66.2	436.9	23480 46950	4	78.3	20x25x1(24)	3750	4	1 5/8	4	7/8

Note: Power supply for HEB 68D to 95D is 230-1-50hz.

EVAPORATOR FREE BLOW UNITS

50Hz

Model	Blower Section				Evaporator Coil		Filters		Suction Connection		Liquid Connection	
	Qty	Dia. X Width (Inches)	Motor Hp	Fan cfm[m³/hr]	Rows Deep	Nom Face Area ft²[m²]	Qty	Size inches[mm]	Qty	Size inches	Qty	Size inches
VEB 68D-FB	1	241 x 241	1/2	2000 [3398]	3	5.4 [0.5]	2	20 x 16 3/8 x 1/2 [508x416x13]	1	7/8	1	3/8
VEB 81D-FB	2	241 x 241	1/3	2400 [4078]	3	7.0 [0.7]	2	20 x 16 3/8 x 1/2 [508x416x13]	1	7/8	1	1/2
VEB 95D-FB	2	241 x 241	1/3	2600 [4418]	4	7.0 [0.7]	2	20 x 16 3/8 x 1/2 [508x416x13]	1	1 1/8	1	1/2
VEB 125D-FB	1 (Twin)	10-10	1 1/2	3500 [5947]	3	9.9 [0.9]	2	26 5/8 x 16 3/8 x 1/2 [676x416x13]	1	1 3/8	1	1/2
VEB 145D-FB	1 (Twin)	10-10	2	4000 [6797]	3	9.9 [0.9]	2	26 5/8 x 16 3/8 x 1/2 [676x416x13]	1	1 3/8	1	5/8
VEB 160D-FB	1 (Twin)	10-10	3	4600 [7816]	4	9.9 [0.9]	2	26 5/8 x 16 3/8 x 1/2 [676x416x13]	1	1 3/8	1	5/8
VEB 190D-FB	1 (Twin)	12-12	2	4800 [8156]	3	13.1 [1.2]	2	21 1/2 x 16 3/8 x 1/2 [546x416x13]	1	1 3/8	1	5/8
VEB 220D-FB	1 (Twin)	12-12	2	5400 [9176]	4	13.1 [1.2]	2	21 1/2 x 16 3/8 x 1/2 [546x416x13]	2	1 1/8	2	1/2

Note: Power supply for VEB 68D-FB to 95D-FB is 230-1-50hz.

PHYSICAL SPECIFICATIONS

EVAPORATOR BLOWER UNITS

60 Hz

Model	Blower Section						Evaporator Coil		Air Filters	Approx. Operating Weight, lbs	Suction Connection		Liquid Connection	
	Blower		Motor			Fan Min-Max (CFM)								
	Qty	Standard Size (Qty)	Max HP	FLA Each	LRA Each		Rows Deep	Face Area ft²	Size inches (Qty)		Qty	Size inches	Qty	Size inches
6HEB 68D	1	9x9	0.75	1.32	8	1350 2700	3	4.5	16x20x1(2)	260	1	7/8	1	3/8
6HEB 81D	2	9x9	1	1.73	11	1350 2700	3	4.5	16x20x1(2)	275	1	7/8	1	1/2
6HEB 95D	2	9x9	1	1.73	11	1500 3000	3	5	20x20x1(2)	340	1	7/8	1	1/2 (R407C) 3/8 (R410A)
6VEB/ 6HEB 125D	1	12x12	4	5.34	48	2170 4330	3	7.2	20x25x1(1) 25x25x1(1)	380	1	1 1/8	1	1/2 (R407C) 5/8 (R410A)
6VEB/ 6HEB 145D	1	12x12	4	5.34	48	2170 4330	4	7.2	20x25x1(1) 25x25x1(1)	400	1	1 3/8 (R407C) 1 1/8 (R410A)	1	1/2 (R407C) 5/8 (R410A)
6VEB/ 6HEB 160D	1	15x15	5.5	7.5	60	2800 5600	3	9.3	25x25x1(2)	470	1	1 3/8	1	5/8
6VEB/ 6HEB 190D	1	15x15	5.5	7.5	60	2800 5600	3	9.3	25x25x1(2)	500	1	1 3/8	1	5/8
6VEB/ 6HEB 220D	1	15x15	10	12.7	106	3960 7930	3	13.2	20x25x1(1) 25x25x1(2)	500	2	1 3/8	2	5/8
6VEB/ EB 250D	1	15x15	10	12.7	106	3900 7790	3	13.2	20x25x1(1) 25x25x1(2)	680	2	1 1/8	2	1/2 (R407C) 5/8 (R410A)
6EB 290D	1	18x13	15	18.1	164	4958 9917	3	16.5	16x25x1(3) 20x25x1(3)	900	2	1 3/8 (R407C) 1 1/8 (R410A)	2	1/2 (R407C) 5/8 (R410A)
6EB 320D	1	18x13	15	18.1	164	4958 9917	4	16.5	16x25x1(3) 20x25x1(3)	920	2	1 3/8	2	5/8
6EB 380D	1	18x18	15	18.1	164	6417 12833	3	21.4	20x25x1(3) 25x25x1(3)	1100	2	1 3/8	2	5/8
6EB 435D	1	450x450	15	18.1	164	6417 12833	3	21.4	20x25x1(3) 25x25x1(3)	1150	3	1 3/8	3	5/8
6EB 480D	1	500x500	20	24	204	8750 17500	3	29.2	20x25x1(9)	1450	3	1 3/8	3	5/8
6EB 510D	1	500x500	20	24	204	8750 17500	3	29.2	20x25x1(9)	1520	3	1 3/8	3	5/8
6EB 570D	1	500x500	20	24	204	8750 17500	3	29.2	20x25x1(9)	1600	3	1 3/8	3	5/8
6EB 640D	1	560x560	30	36.1	285	10208 20410	3	34.0	20x25x1(3) 25x25x1(6)	1820	2	1 5/8	2	7/8
6EB 700D	1	560x560	30	36.1	285	10208 20410	4	34.0	20x25x1(3) 25x25x1(6)	1860	2	1 5/8	2	7/8
6EB 760D	1	560x560	30	36.1	285	10208 20410	4	34.0	20x25x1(3) 25x25x1(6)	1900	2	1 5/8	2	7/8
6EB 800D	1	630x630	40	46.7	343	14625 29250	3	48.8	16x20x1(4) 16x25x1(4) 20x25x1(4) 25x25x1(4)	2100	2 1	1 5/8 1 3/8	2 1	7/8 5/8
6EB 890D	1	630x630	40	46.7	343	14625 29250	3	48.8	16x20x1(4) 16x25x1(4) 20x25x1(4) 25x25x1(4)	2180	2 1	1 5/8 1 3/8	2 1	7/8 5/8
6EB 960D	1	630x630	40	46.7	343	16250 32500	3	54.2	16x25x1(8) 25x25x1(8)	2250	3	1 5/8	3	7/8
6EB 1020D	1	710x710	40	46.7	343	16250 32500	3	54.2	16x25x1(8) 25x25x1(8)	2340	3	1 5/8	3	7/8
6EB 1140D	1	710x710	40	46.7	343	16250 32500	4	54.2	16x25x1(8) 25x25x1(8)	2400	3	1 5/8	3	7/8
6EB 1340D	1	800x800	50	59.5	399	23480 46950	3	78.3	20x25x1(24)	3500	4	1 5/8	4	7/8
6EB 1520D	1	800x800	50	59.5	399	23480 46950	4	78.3	20x25x1(24)	3750	4	1 5/8	4	7/8

Note: Power supply for 6HEB 68D to 95D is 230-1-60hz.

BLOWER PERFORMANCE

Available External Static Pressure - IWG - For Accessories And Duct System Static Resistance (Allowance Made For Wet Coil And Filters)

Single Cond. Unit Model	Evap. Blower Model	Airflow on Evaporator		Blower Size		External Static Pressure - in WG [Pa]							
				Standard (Qty)		0.5 [125]		1.0 [249]		1.5 [374]		2.0 [498]	
		CFM	m³/h	50 Hz	60 Hz	RPM	Motor Hp	RPM	Motor Hp	RPM	Motor Hp	RPM	Motor Hp
ACCS 68	HEB 68D	2,000	3,398	10-10	9-9	1,300	600W	N/A	N/A	N/A	N/A	N/A	N/A
ACCS 81	HEB 81D	2,400	4,078	10-10	9-9	1,300	750W						
ACCS 95	HEB 95D	2,600	4,417	12-12	9-9	1,300	750W						
ACCS 125	VEB/ HEB 125D	3,500	5,947	12-12	12-12	937	2	1088	3	1228	3	1363	4
ACCS 145	VEB/ HEB 145D	4,000	6,796	12-12	12-12	1,011	2	1151	3	1278	4	1400	4
ACCS 160	VEB/ HEB 160D	4,600	7,815	15-15	15x15	779	2	903	3	1024	4	1,140	4
ACCS 190	VEB/ HEB 190D	4,800	8,155	15-15	15x15	805	2	926	3	1,042	4	1,155	5.5
ACCS 220	VEB/ HEB 220D	5,400	9,175	15-15	15x15	771	3	919	4	1,000	4	1,103	5.5
ACCS 250	VEB/ EB 250D	6,400	10,874	15-15	15x15	839	4	940	5.5	1040	5.5	1135	7.5
ACCS 290	EB 290D	7,500	12,743	18-13	18x13	692	5.5	773	5.5	850	7.5	923	7.5
ACCS 320	EB 320D	8,000	13,592	18-13	18x13	731	5.5	808	7.5	882	7.5	950	10
ACCS 380	EB 380D	9,200	15,631	18-18	18x18	696	5.5	782	7.5	862	7.5	942	10
ACCS 435	EB 435D	11,500	19,539	450x450	450x450	762	10	834	10	907	15	982	15
ACCS 480	EB 480D	12,000	20,388	500x500	500x500	635	7.5	714	10	794	10	870	15
ACCS 510	EB 510D	14,000	23,786	500x500	500x500	694	10	762	15	829	15	898	15
ACCS 570	EB 570D	15,000	25,485	500x500	500x500	726	15	788	15	852	15	916	20
ACCS 640	EB 640D	16,000	27,184	560x560	560x560	594	10	661	15	725	15	792	15
ACCS 700	EB 700D	17,200	29,223	560x560	560x560	628	15	691	15	752	20	813	20
ACCS 760	EB 760D	18,000	30,582	560x560	560x560	656	15	716	15	775	20	832	20
ACCS 800	EB 800D	19,600	33,301	630x630	630x630	485	15	547	15	609	20	670	20
ACCS 890	EB 890D	21,000	35,679	630x630	630x630	505	15	563	15	622	20	679	20
ACCS 960	EB 960D	23,000	39,077	630x630	630x630	523	20	578	20	630	20	684	25
ACCS 1020	EB 1020D	25,800	43,834	710x710	710x710	468	20	521	20	574	25	624	25
ACCS 1140	EB 1140D	26,400	44,854	710x710	710x710	541	20	518	20	593	25	641	30
ACCS 1340	EB 1340D	32,000	54,368	800x800	800x800	439	25	430	25	487	30	532	30
ACCS 1520	EB 1520D	36,000	61,164	800x800	800x800	468	30	470	30	511	40	553	40

LIMITS AND CORRECTION FACTORS

OPERATING LIMITS

LIMITATION (AIR TEMPERATURE °F[°C])

		DB	WB
Indoor	Max.	95 [35] Cooling Mode 80 [27] Heating Mode	72 [22]
	Min.	70 [21]	57 [14]
Outdoor	Max.	115 [46] (Cooling Mode) 75 [24] (Heating Mode for Heat Pump Model)	61 [16] Heating Mode
	Min.	70 [21] (Standard) 50 [10] (With Low Ambient Kit) 15 [-9] Heat Pump	-

CORRECTION FACTORS

To correct for variation in air flow, use this multiplier

Air Flow Variation	Total Capacity	Sensible Capacity
0.9	0.980	0.950
1.0	1.000	1.000
1.1	1.015	1.045

To correct for altitude, use this multiplier

Air Above Sea Level - ft	0	2000	3000	4000	5000	6000
Cooling Capacity	1.00	0.98	0.97	0.96	0.95	0.93

To Correct Sensible Capacity For Varying Dry Bulb

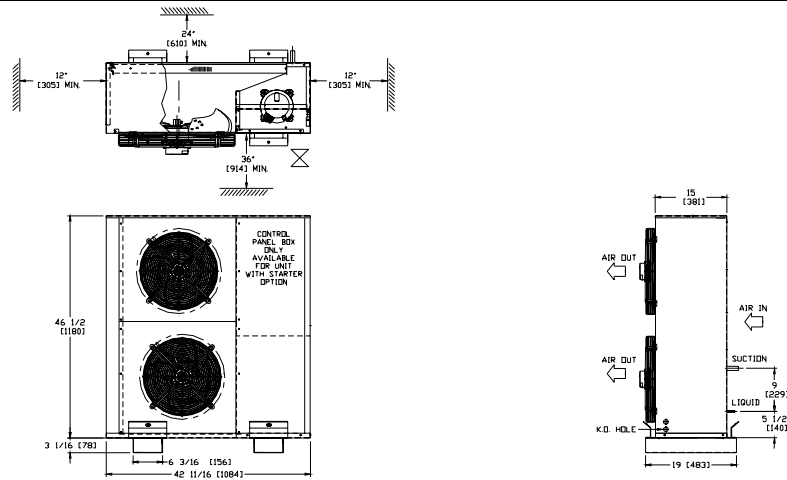
Dry Bulb	Wet Bulb			
	57	62	67	72
75	0.84	0.81	0.78	0.74
80	1.00	1.00	1.00	1.00
85	1.16	1.18	1.21	1.26

Note: If the capacity after multiplying the sensible with the correction factor exceed the total capacity, then the sensible must be equal to the total.

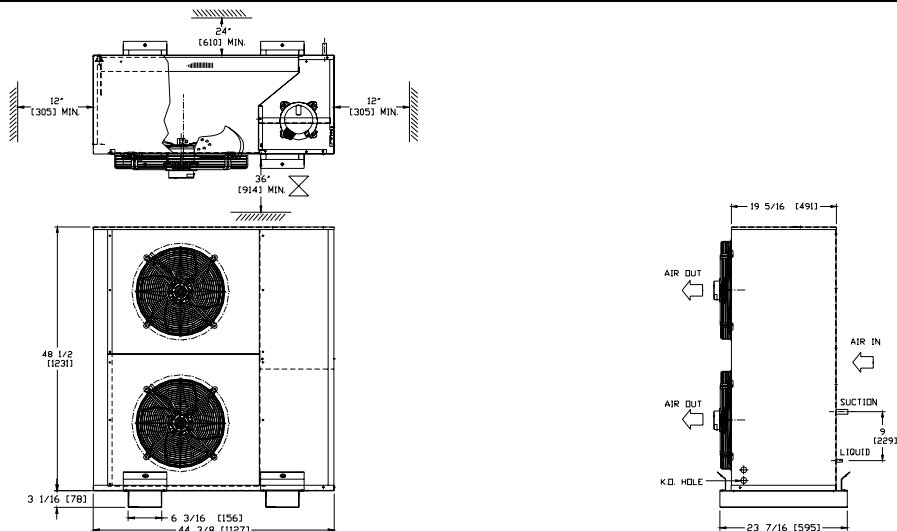
DIMENSIONAL DATA

AIR COOLED CONDENSING UNITS

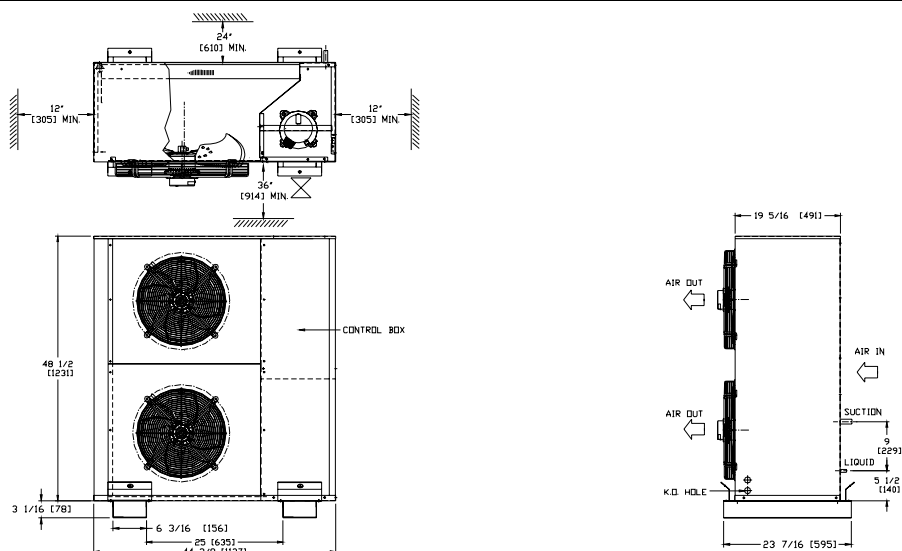
ACCS 68



ACCS 81



ACCS 95

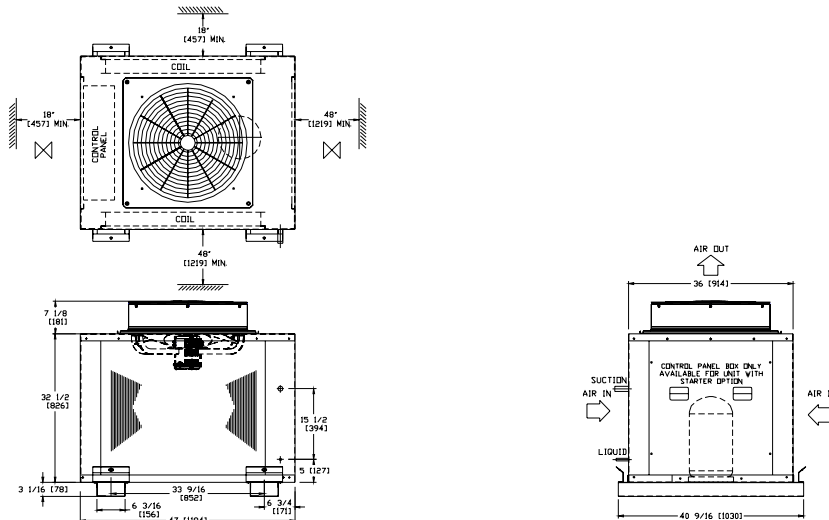


Note: All dimensions are in inches [mm].

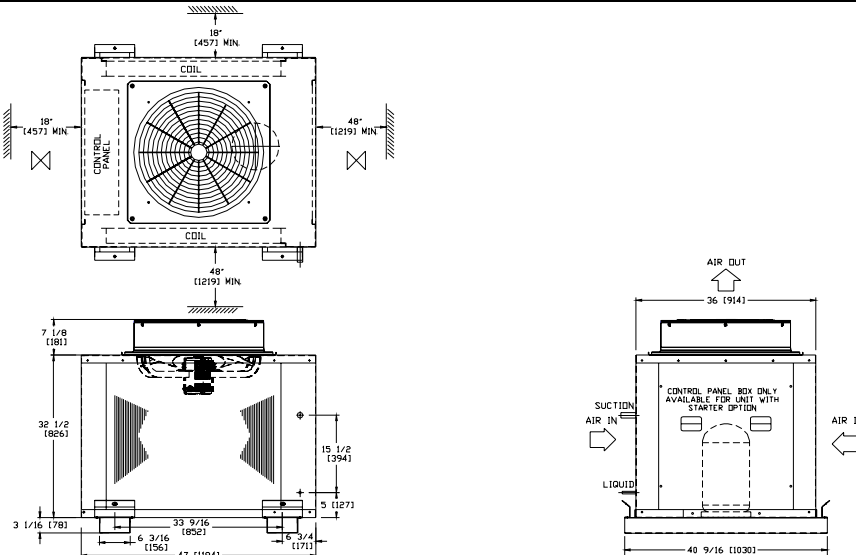
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AIR COOLED CONDENSING UNITS

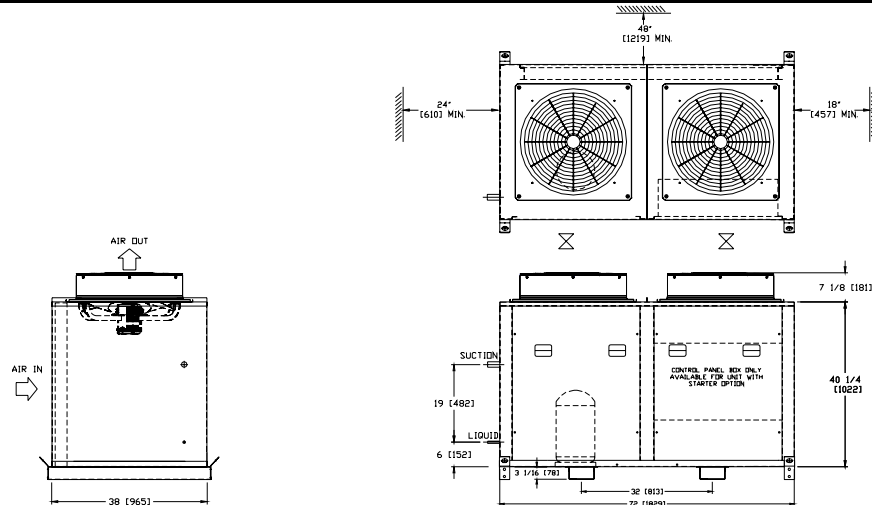
ACCS 125



ACCS 145



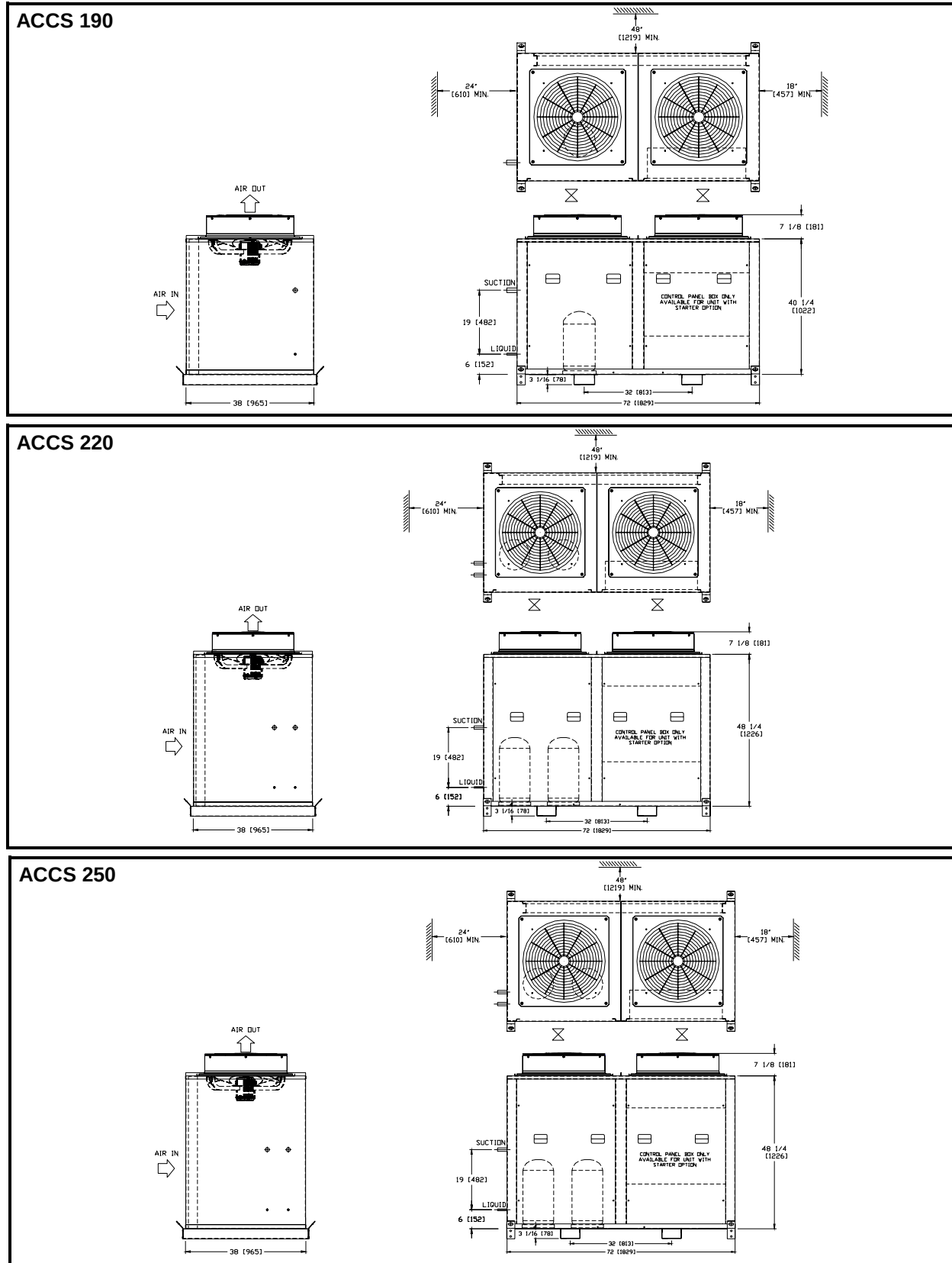
ACCS 160



Note: All dimensions are in inches [mm].

DIMENSIONAL DATA

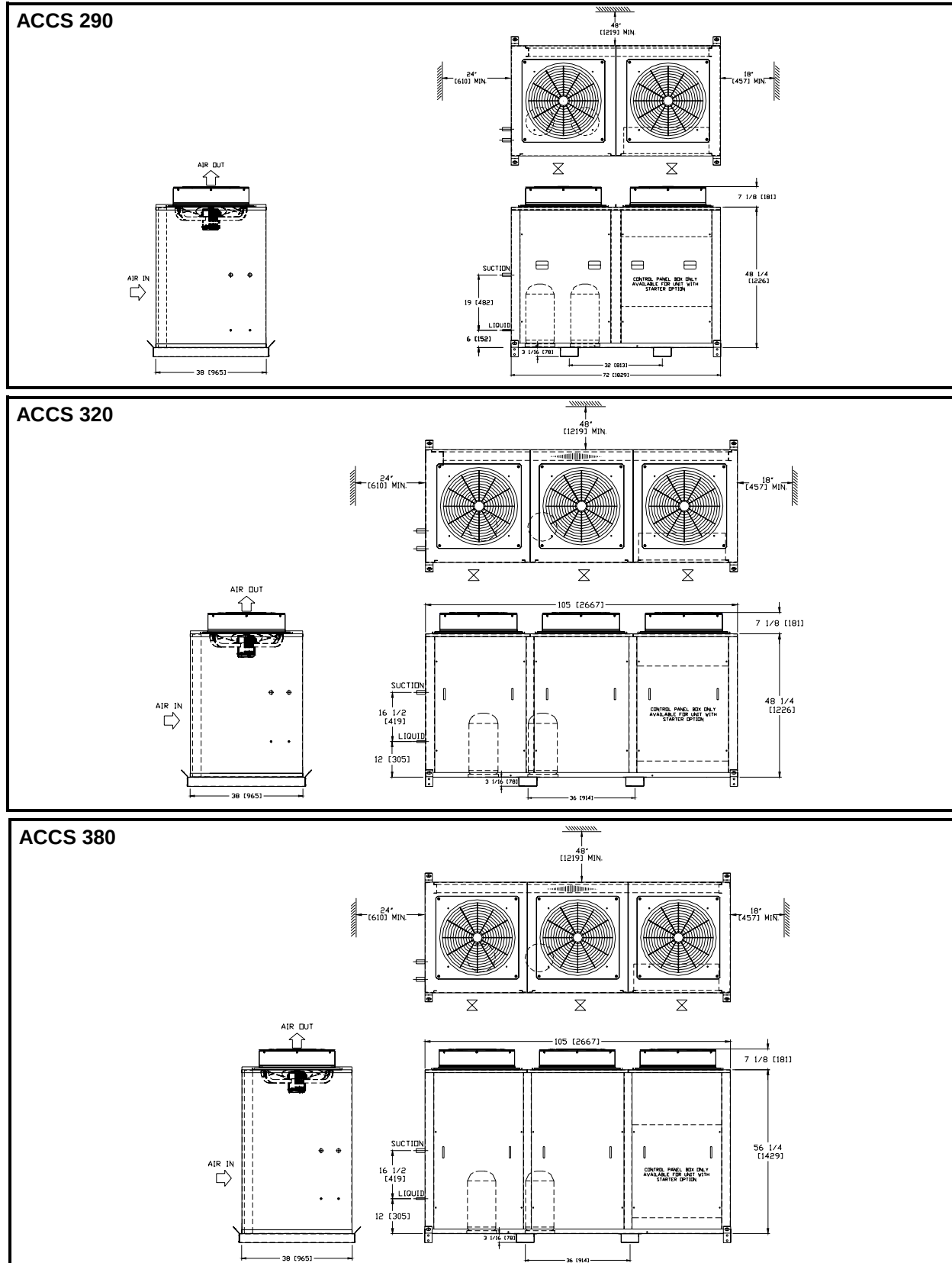
AIR COOLED CONDENSING UNITS



Note: All dimensions are in inches [mm].

DIMENSIONAL DATA

AIR COOLED CONDENSING UNITS

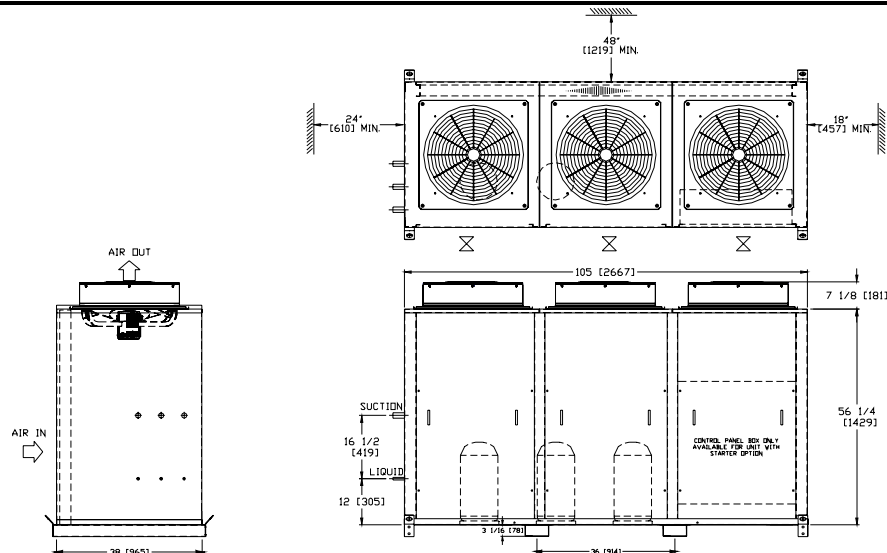


Note: All dimensions are in inches [mm].

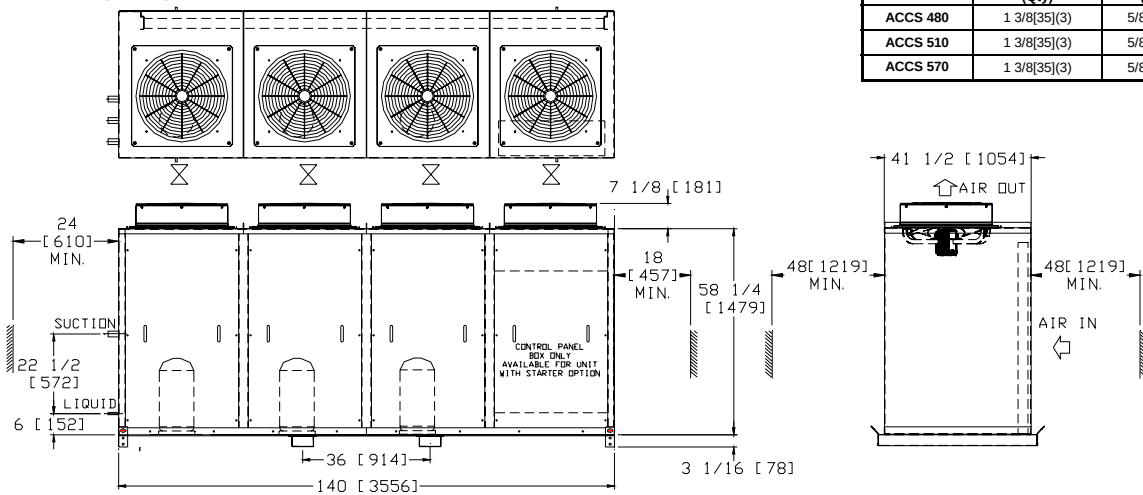
DIMENSIONAL DATA

AIR COOLED CONDENSING UNITS

ACCS 435

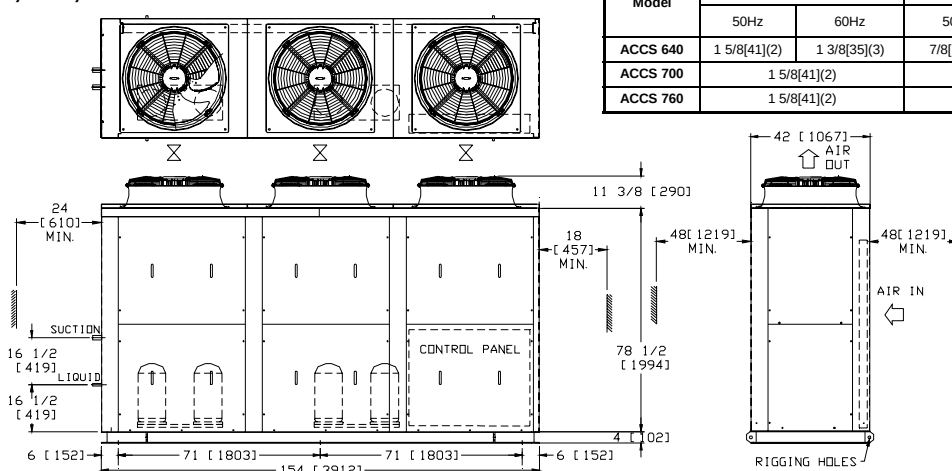


ACCS 480, 510, 570



Model	Suction Size (Qty)	Liquid Size (Qty)
ACCS 480	1 3/8[35](3)	5/8[16](3)
ACCS 510	1 3/8[35](3)	5/8[16](3)
ACCS 570	1 3/8[35](3)	5/8[16](3)

ACCS 640, 700, 760



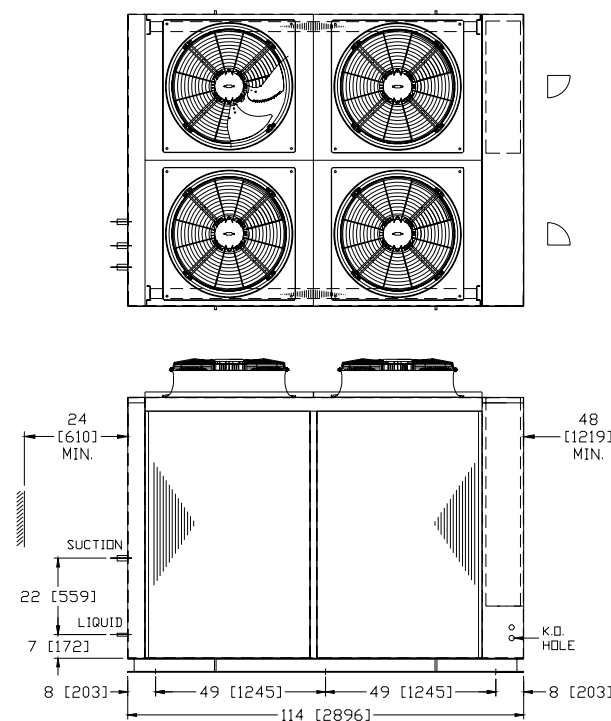
Model	Suction Size (Qty)		Liquid Size (Qty)	
	50Hz	60Hz	50Hz	60Hz
ACCS 640	1 5/8[41](2)	1 3/8[35](3)	7/8[22](2)	5/8[16](3)
ACCS 700	1 5/8[41](2)		7/8[22](2)	
ACCS 760	1 5/8[41](2)		7/8[22](2)	

Note: All dimensions are in inches [mm].

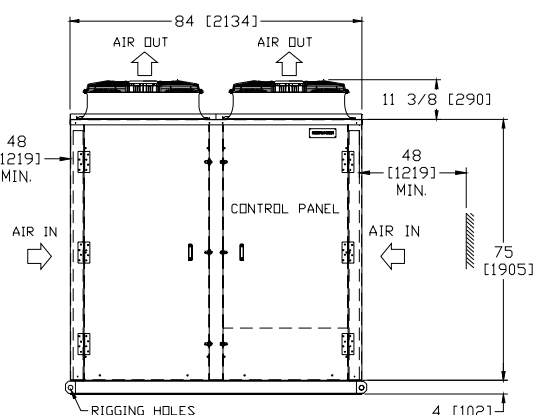
DIMENSIONAL DATA

AIR COOLED CONDENSING UNITS

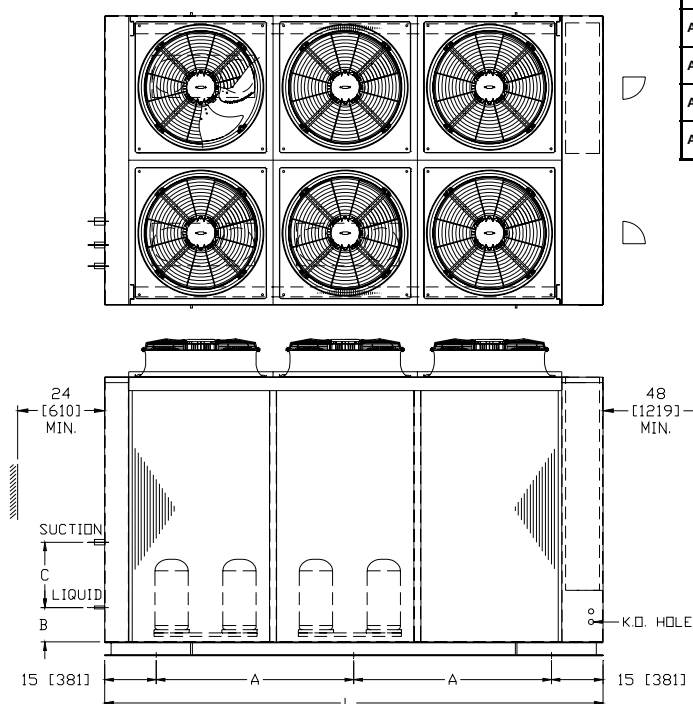
ACCS 800, 890, 960



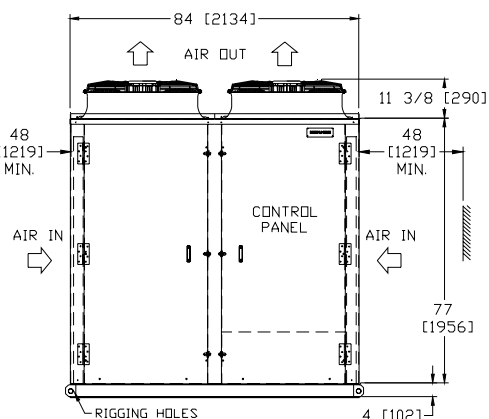
Model	Suction Size (Qty)		Liquid Size (Qty)	
	50Hz	60Hz	50Hz	60Hz
ACCS 800	1 5/8[41](2), 1 3/8[35](1)	1 5/8[41](4)	7/8[22](2), 5/8[16](1)	7/8[22](4)
ACCS 890	1 5/8[41](2), 1 3/8[35](1)		7/8[22](2), 5/8[16](1)	
ACCS 960	1 5/8[41](3)		7/8[22](3)	



ACCS 1020, 1140, 1340, 1520



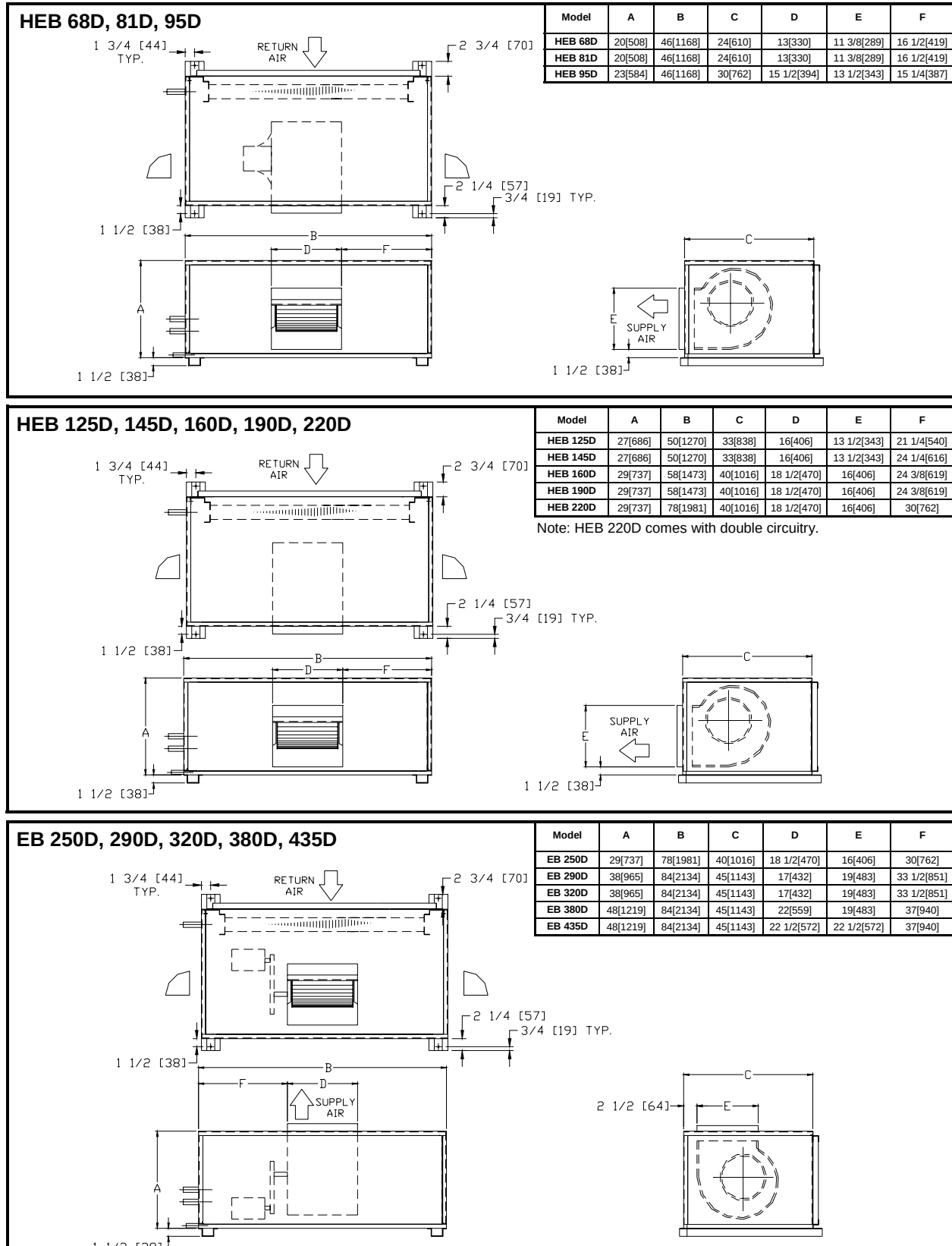
Model	A	B	C	L	Suction Size (Qty)		Liquid Size (Qty)	
					50Hz	60Hz	50Hz	60Hz
ACCS 1020	57 1/2 [1461]	10 [254]	19 [483]	145 [3683]	1 5/8[41](3)		7/8[22](3)	
ACCS 1140	57 1/2 [1461]	10 [254]	19 [483]	145 [3683]	1 5/8[41](3)		7/8[22](3)	
ACCS 1340	60 [1524]	8 [203]	22 [559]	150 [3810]	1 5/8[41](4)	1 5/8[41](3)	7/8[22](4)	7/8[22](3)
ACCS 1520	60 [1524]	8 [203]	22 [559]	150 [3810]	1 5/8[41](4)		7/8[22](4)	



Note: All dimensions are in inches [mm].

DIMENSIONAL DATA

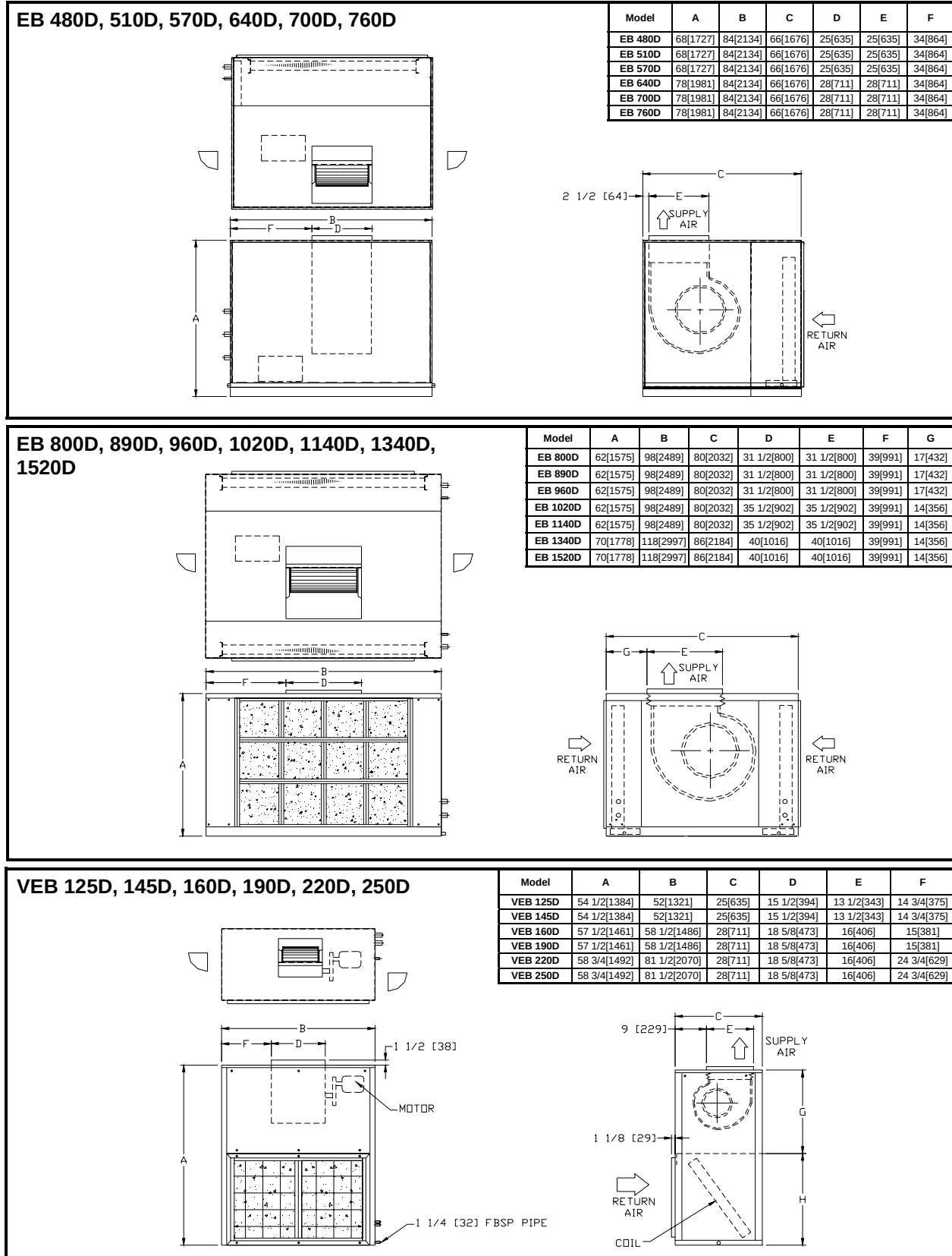
EVAPORATOR UNITS



Notes. :
 1.) All dimensions are in inches [mm].
 2.) Units shown are right hand piping connection.

DIMENSIONAL DATA

EVAPORATOR UNITS



Notes : 1.) All dimensions are in inches[mm].
2.) Units shown are right hand piping connection.

DIMENSIONAL DATA

FREE BLOW TYPE EVAPORATOR BLOWER UNITS

VEB 68D-FB, 81D-FB, 95D-FB, 125D-FB, 145D-FB, 160D-FB, 190D-FB, 220D-FB

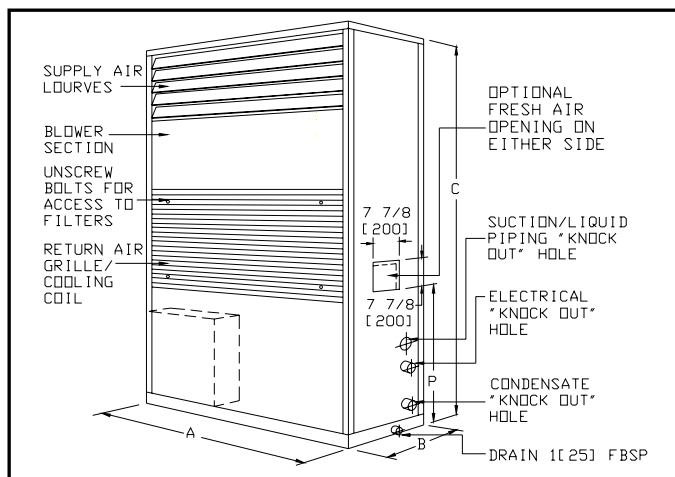
For Access To Internal Components

- 1.) Unscrew bolts at return air grille, remove grille and access to filters and coil.
- 2.) Unscrew bolts for blower section panel push panel up and remove panel for access to blower and drive assembly.
- 3.) Unscrew bolts for bottom panel, push panel up and access to compressor(s), condenser(s) and controls.

Model	A	B	*C	P
VEB 68D-FB	48 [1219]	22 [559]	79 [2007]	29 [737]
VEB 81D-FB	48 [1219]	22 [559]	79 [2007]	29 [737]
VEB 95D-FB	48 [1219]	22 [559]	79 [2007]	29 [737]
VEB 125D-FB	61 [1549]	24 [610]	81 [2057]	29 [737]
VEB 145D-FB	61 [1549]	24 [610]	81 [2057]	29 [737]
VEB 160D-FB	61 [1549]	30 [762]	86 [2184]	29 [737]
VEB 190D-FB	72 [1829]	30 [762]	86 [2184]	33 [838]
VEB 220D-FB	72 [1829]	30 [762]	86 [2184]	33 [838]

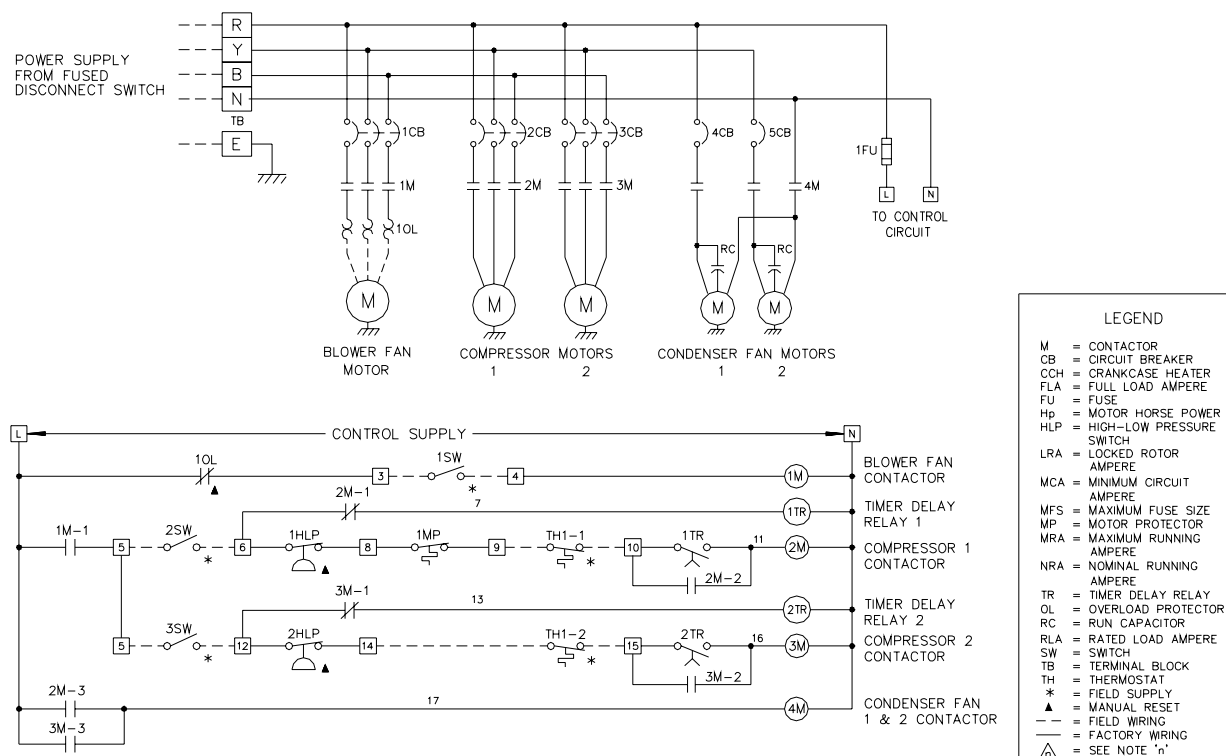
Note: All dimensions are in inches [mm].

*Add 10"[25mm] to the units height if autotransformer are required.



TYPICAL WIRING SCHEMATIC

With IEC Direct-On-Line (DOL) Option



GUIDE SPECIFICATIONS

1 GENERAL

Air cooled packaged unit shall include compressor(s), evaporator and condenser coils with fans, refrigeration piping, electrical components and enclosing cabinet in one piece. The air-cooled condensing section shall consist of the compressor(s); condenser coil; propeller condenser fan(s) with motor and drive assembly; safety and operating controls.

The evaporator blower section shall consist of the blower fan and motor assembly; direct expansion coil complete with thermo-expansion valve(s); and a filter frame for flat filters. The units shall be capable to operate up to 115°F [46°C] ambient temperature without failure.

2 CABINET

The unit cabinet shall be constructed from heavy gauge galvanized steel with epoxy painted for excellent finished, weatherability and corrosion resistance up to 1000 hours salt spray test according to ASTM B-117. Evaporator section shall be of 1/2"[13mm] thick (up to EB 760D) and 3/4"[19mm] (EB 800D and above) thick single skin with closed cell Polyethylene (PE) foam. The insulation shall have fire resistant of Class O (BS 476 Part 6, FM Approved). Access doors shall be provided for easy service and maintenance of unit internal parts.

3 COMPRESSOR & REFRIGERATION PIPING

Compressor(s) shall be scroll, refrigerant gas cooled and mounted on the base via vibration isolators. 1, 2, 3 or 4 refrigeration circuits shall be piped with copper tubing and include expansion valve with external equalizer, pressure fittings of manual reset high pressure control and auto reset low pressure safety cutouts as well as charging/access ports in each circuit. The compressors comply with the internationally recognized standards CE and UL. Filter dryer and sight glass are optional.

4 EVAPORATOR COIL

Evaporator coil shall be of draw through air design for uniform air distribution. The evaporator coil shall be quality construction of staggered row of 3/8"OD (model ACCS 68P to 570P) and 1/2"OD (model ACCS 640P and above) seamless copper tube, mechanically bonded to aluminium fins with galvanized coil plates. The coil shall be factory leak and pressure tested to 450psig (31 bar) for R407C and 650psig (45 bar) for R410A under

water. A galvanized and painted drain pan shall be provided to cover the entire coil area. The drain pan shall be designed to incorporate sloped gutter for complete condensate removal.

5 EVAPORATOR BLOWER AND MOTOR

Evaporator blower shall be belt-driven (model EB 68 to 145P) and belt driven (model EB160 and above), double-inlet-double-width (DIDW) forward curved. All blowers are statically and dynamically balanced to ensure quiet operation and smooth performance. Heavy-duty V-belt fan drive with cast iron pulleys keyed and secured to the blower shaft shall be provided (model EB 160 and above).

Motors shall be of totally enclosed fan cooled (TEFC) with IP55 enclosure rating, 4-poles with class F insulation. Motors shall be mounted to an adjustable motor frame. Motor pulleys shall be cast iron, keyed and secured to the motor shaft (model EB 160 and above).

6 CONDENSER COIL

Condenser coil shall be air cooled with integral sub-cooling circuit, constructed from staggered row of 3/8"OD inner grooved seamless copper tube, mechanically bonded to aluminium fins with galvanized coil plates. The coil shall be factory leak and pressure tested to 450psig (31 bar) for R407C and 650psig (45 bar) for R410A under water.

7 CONDENSER FAN AND MOTOR

Condenser fan shall be direct driven propeller type discharging air vertically upward. Condenser fans shall be constructed of corrosion resistant blades and are statically and dynamically balanced. Condenser fan motors shall be of totally enclosed fan cooled (TEFC) with IP55 enclosure rating, 6-poles with class F insulation and wired to unit control panel (model ACCS 125P and above). The condenser fan assembly shall be provided with heavy gauge and rust resistant steel wire fan guard.

8 CONTROL PANEL

The unit mounted control panel enclosure shall be constructed from heavy gauge galvanized steel with epoxy painted for excellent finished, weatherability and corrosion resistance. The enclosure shall conform to IP54. Hinged and lock type access door shall be provided for easy access and security. The control panel shall be wired without starter and control.

GUIDE SPECIFICATIONS

9 OPTIONS

9.1 Hot Gas Bypass

The refrigerant circuit (applicable to 'first in last out' refrigeration system only) shall be provided with a hot gas bypass system for low load and low ambient condition (evaporator freeze protection).

9.2 Evaporator Coil Fin Materials

In lieu of standard aluminium fin, alternative fin material and/or protective coating include,

- ✱ Hydrophilic coated aluminium fin
- ✱ Aluminium fin with DB-Coat coating

9.3 Condenser Coil Fin Materials

In lieu of standard aluminium fin, alternative fin material and/or protective coating include,

- ✱ Hydrophilic coated aluminium fin
- ✱ Aluminium fin with DB-Coat coating

9.4 Discharge / Suction / Liquid Line Service Valves

Service valves shall be provided at each refrigerant lines for service convenience.

9.5 1/2" or 3/4" Double Wall Closed Cell Polyethylene (PE) Foam Casing (Evaporator Section with aluminium foils as inner skin)

1/2" or 3/4" double wall closed cell Polyethylene (PE) foam casing shall be provided in lieu of single skin closed cell Polyethylene (PE) foam casing.

9.6 Oil Separator

The oil separator has been designed to remove compressor oil along the discharge line. It is useful to ensure sufficient oil return back to the compressor. It is recommended that an additional oil separator should be installed double dot in ACCS if the pipe length exceeding 100 feet. Hot water coil shall be provided for heating purpose (hot water shall be field supplied).

9.7 IEC DOL (Non UL)

The unit mounted control panel enclosure shall be constructed from heavy gauge galvanized steel with epoxy painted for excellent finished, weatherability and corrosion resistance. The enclosure shall conform to IP54. Hinged and lock type access door shall be provided for easy access and security. The control panel shall be factory wired and shall include compressor, evaporator fan motor and condenser fan motor circuit breaker and contactors, compressor and evaporator fan motor thermal overload relays, anti-recycling time delay relay, control circuit fuse, power and control circuit terminal blocks and features 230V controls with 380-415V/ 3PH/50HZ (+Neutral) power supply or 115V/230V/24V

controls with 208V-230V/380/460V-3PH-60HZ power\supply.

9.8 Micro Vision Controller (Model 125 and Above)

Micro Vision a flexible and advance programmable microprocessor controller designed specifically for the applications and precise control of Dunham-Bush packaged units. The controller is provided with a set of terminals that connected to various devices such as temperature sensors, refrigerant pressure safety switches, solenoid valves, control relays and etc. The unit algorithm program and operating parameters are stored in flash-memory that does not require a back-up battery. For heat-pump units, Micro Vision is without data logging and auto changeover between cooling and heating modes, if require please select Vision.

9.9 Vision (Model 125 and Above)

The unit shall be provided with Vision control system with the following features,

- ✱ The control algorithm and parameters shall be stored in flash memory and EPROM of the controller and shall retain even in the event of power failures, without requiring a backup battery
- ✱ PGD Display
- ✱ Built in memory for data logging
- ✱ Temperature and humidity controlled
- ✱ Configurable by user
- ✱ Alarm status/display
- ✱ Analog input/output display
- ✱ Digital input/output status
- ✱ Remote start/stop input
- ✱ Digital input for customer input alarm
- ✱ General alarm output (dry contact)
- ✱ Self-diagnostics
- ✱ Security password access with multiple access level for advanced settings
- ✱ Unit status display

9.10 Indicating Lights

Indication provided for high-pressure trip and compressor run.

9.11 UVR/Phase Failure Protect

Phase Failure Relay is provided for over voltage, under voltage and phase loss protection.

9.12 Door Interlock Main Incoming Isolator

Incoming Isolator is provided for isolate the main incoming power supply to the unit.

9.13 VFD Driver for Evaporator Motor Nominal & Max HP (consult factory for unit layout)

Variable Frequency Drive (VFD) option that comes with its VFD box mounted at the side of the unit.



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