

A A O N, Inc.

TULSA, OKLAHOMA

RE SERIES

2 through 63 tons

rooftop heating
and
cooling units

ENERGY / COST EFFICIENCY

The critical differences between AAON air conditioning units and others are things you'll probably never see. Things you'll never hear.

That's because AAON units are engineered to perform and not attract a lot of attention.

A climate control system should provide more than just a comfortable temperature. It should offer a complete environment of energy efficiency, acoustical control, quality and reliability, backed by years of experience in the industry.

AAON designs climate control systems to meet your specific requirements for comfort and cost efficiency. That's why AAON rooftop units are used and specified by leading companies and engineers from coast to coast. With a complete range of capacities to 140 tons, it's clear why word is getting out that AAON offers sophisticated products built to your exact specifications.

AAON units meet or exceed all energy efficiency codes. Our gas heating units achieve an 80+% efficiency, a product of our advanced engineering. The positive pressure segment of the air handling system is contained in a chamber designed for 12" pressure, so there's no leakage of treated air into the outside environment. In fact, negative pressure is maintained at the outer skin boundary, preventing the escape of heating or cooling.

Further efficiency is achieved by the use of low-leakage, double wall aluminum outside air damper blades crafted in a unique airfoil design. Their gear-driven adjustment-free mechanism, provides precision control not possible with conventional linkage. Positive outside air shut-off prevents leakage into conditioned areas when dampers are closed.

ACOUSTICAL CONTROL

By design, AAON climate control units keep noise to a minimum. Compressors are isolated within the control compartment to avoid noise transmission to the "building air" side.

AAON also offers an optional acoustical curb for applications where even more "quiet" is required. A chamber of special acoustic baffling is used to suppress noise even further, isolating the noise source from the air discharge ducts.

QUALITY FIRST TO LAST

From conceptual design through fabrication, AAON units are engineered to last. Top grade materials, rugged components and high quality construction go into every unit for long, reliable operating life - and lower maintenance cost.

Thorough "run testing" of mechanical and control logic functions is performed on every unit before shipping. When delivered, the unit comes with a test performance report and quality control analysis for the owner's records.

All units are warranted for one year, with an additional four-year extended warranty on the compressor and a nine-year extended warranty on the exchanger.

AT YOUR SERVICE

AAON units are designed for easy servicing. Routine maintenance is simplified with fully gasketed, quick release, hinged access doors. Controls and critical components are designed for quick inspection.

Our 25 unit sizes require only five curb sizes, making it possible to change capacities for different load requirements without building modifications.

A REPUTATION THAT SPEAKS FOR ITSELF

For more than 50 years, AAON, Inc. has provided environmental control systems. Today, our units have gained wide acceptance and are in demand for use in restaurants, retail stores, offices, public buildings, shopping centers and manufacturing buildings around the country.

Whatever your requirements may be, AAON, Inc. can provide engineered solutions while maintaining the cost advantage of production line equipment.

CANADIAN STANDARDS:

CAN / CGA - 2.3 - M86 CAN 1 - 2.17 - M80
CAN 1 - 2.21 - M85
CSA - C22.2 No. 0 - M1982
CSA - C22.2 No. 3 - 1979
CSA - C22.2 No. 23 - 1980
CSA - C22.2 No. 119 - M1985
CSA - B52 - M1983

CERTIFIED



CERTIFIED AAON QUALITY



AAON UNITS ARE DESIGNED IN ACCORDANCE
WITH ARI STANDARDS AND CERTIFIED AND
LISTED WHERE APPLICABLE.

UNITED STATES STANDARDS: DESIGNED AND TESTED IN ACCORDANCE WITH:

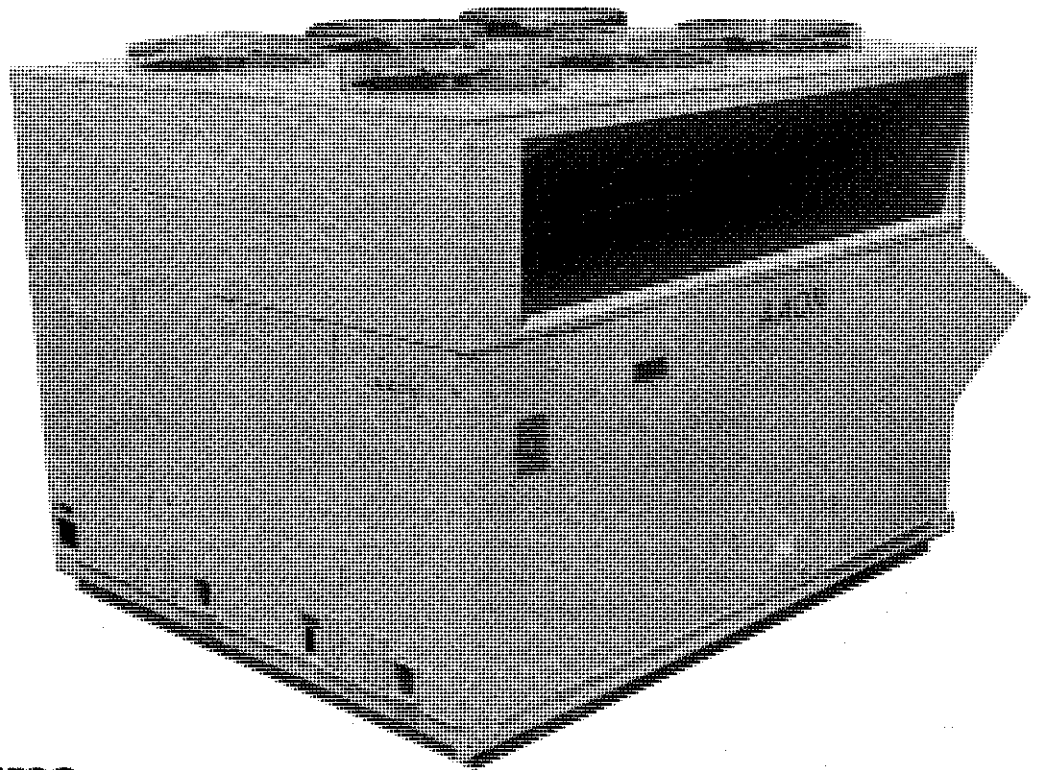
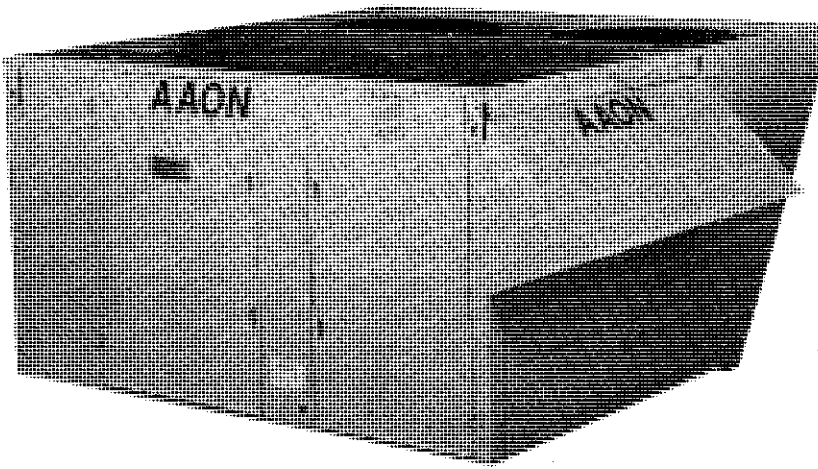
UL 465 - 1984
GAS Z21.47a - 1988

CERTIFIED LISTED



**It is the intent of AAON, Inc. to provide accurate and current specification information. However, in the interest of product improvement, AAON, Inc. reserves the right to change Pricing, Specifications and/or Design of its Products without notice, obligation or liability.

SB00201 (REV B) • 4-92



standard features

- AIR ON DISCHARGE SIDE OF BLOWER, IS CONTAINED WITHIN AN INTERNAL CABINET CAPABLE OF 12" OF STATIC PRESSURE, SURROUNDED BY INTERNAL AIR GAP & EXTERNAL CABINET. THIS GUARANTEES NO LEAKAGE FROM CABINET.
- CONTROLS, COMPRESSOR(S) & HEATING COMPONENTS, LOCATED IN A SINGLE, ISOLATED COMPARTMENT
- COMPRESSOR(S) ARE ELEVATED FROM UNIT BASE & ISOLATED FOR ACOUSTICAL PURPOSES
- HERMETIC COMPRESSOR(S)
- LOW AMBIENT OPERATION TO 45 DEGREES
- CRANKCASE HEATERS
- THERMOSTATIC EXPANSION VALVES
- MANUAL RESET HIGH PRESSURE SWITCHES
- AUTO RESET LOW PRESSURE SWITCHES
- TOP IS CROSS BROKEN & SLOPED FOR DRAINAGE
- HINGED ACCESS PANELS w/ TOOLLESS ACCESS LATCH
- TWO PART EPOXY-POLYESTER PAINT w/ WASH PRIMER
- RUN TEST REPORT, INSTALLATION MANUAL, WIRING DIAGRAM & START-UP REPORT FORM ARE LOCATED IN THE CONTROL ACCESS COMPARTMENT.
- DOUBLE WALL FILTER ACCESS DOOR
- 1" INTERIOR INSULATION
- BOTTOM SUPPLY & RETURN AIR
- MANUALLY ADJUSTED OUTSIDE AIR (0-25%)
- 24v CONTROL CIRCUIT w/ TERMINAL BLOCK
- DIRECT DRIVE CONDENSER FANS
- P-TRAP CONDENSATE DRAIN (field installed)
- SLIDE OUT BLOWER ASSEMBLY

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MODEL MASTER

MODEL NUMBER

TYPE GEN. UNIT SIZE VOLTAGE COOLING HEATING

R

E

-

-

-

-

-

-

-

-

-

-

TYPE

R = ROOFTOP

GENERATION

E = FIFTH

NOMINAL UNIT SIZE

TONS / CFM CAB.

02 = 2 / 1000

03 = 3 / 1200

04 = 4 / 1600

05 = 5 / 2000

06 = 6 / 2400

07 = 7 / 2800

08 = 8 / 3200

10 = 10 / 4000

13 = 13 / 5200

15 = 15 / 6000

16 = 16 / 6400

20 = 20 / 8000

24 = 24 / 9600

26 = 26 / 10400

32 = 32 / 12800

40 = 40 / 16000

50 = 50 / 20000

56 = 56 / 22000

63 = 63 / 25200

A

B

C

D

E

VOLTAGE

1 = 208-230 / 1 / 60 or 208-240 / 1 / 60

2 = 208-230 / 3 / 60 or 208-240 / 3 / 60

3 = 460 / 3 / 60 or 480 / 3 / 60

4 = 575 / 3 / 60

COOLING

* NO COOLING = 0

COMPRESSORIZED w/ COIL = 1

COMPRESSORIZED • 6 ROW COIL = 2

CHILLED WATER 4 ROW = 3

CHILLED WATER 6 ROW = 4

NON-COMPRESSORIZED w/ DX COIL = 5

NON-COMPRESSORIZED • 6 ROW = 6

0 = STANDARD

1 = PHENOLIC Coated Coils

* NO
CONDENSING
SECTION

HEATING

DESIGNATION

TYPE

0 = N/A (No Heating)

1 = Elect. Heat • Belt Drive

2 = NAT. GAS (NG)

3 = Stainless Stl • NG

4 = LP GAS (LP)

5 = Stainless Stl • LP

6 = Steam • Non-Freeze

7 = Hot Water

8 = Elect. Heat • Direct Drive

ELECTRIC HEAT RATED KW @

208v 240v • 480v • 575v

A =	7.5	10.0
B =	15.0	20.0
C =	22.5	30.0
D =	30.2	40.0
E =	45.1	60.0
F =	60.1	80.0
G =	75.1	100.0
H =	90.1	120.0
J =	120.1	160.0
K =	150.2	200.0

GAS ; STEAM ; OR HOT WATER HEATING

0 = N/A (No Heating)

1 = LOW HEAT

2 = MEDIUM HEAT

3 = HIGH HEAT

4 = 2 ROW (Steam Heat only)

5 = 2 ROW (Hot Water only)

STAGE

0 = N/A (No Heating)

1 = 1 STAGE (1st Stg)

2 = 2 STAGE (2nd Stg)

3 = (NOT USED)

4 = SEQUENCER (Elect. Heat only)

5 = 1 Stg • High Altitude

6 = 2 Stg • High Altitude

7 = MODULATING (MOD) ONLY

8 = MOD. • High Altitude

ONE SELECTION ONLY

OPTIONAL FEATURES

NOTE: SOME OPTIONS DO NOT
APPLY TO ALL ROOFTOP UNITS.

FEATURE NUMBER

	O.S.A.	BLWR. MTR.	FILTERS	REFRIG. ELECT.	REFRIG. ELECT.	POWER	SAFETY
	1	2	3	4	5	6	7
OUTSIDE AIR O.S.A. 1							
O = STANDARD ~ Manual O.S.A. (0 - 25%)							
A = 3 POSITION ECONOMIZER (3 Pos.Econ)							
B = 3 POSITION ECON w/ ENTHALPY CONTROL							
C = FULL MODULATING ECON w/ Enth. Control							
D = MOTORIZED O.S.A. ~ (0 - 50%)							
E = MOTORIZED O.S.A. ~ (0 - 100% O.S.A. Only)							
F = POWER EXHAUST (Std. Mtr.- Full Mod. Econ. w/ Enth. Control)							
G = PWR. EXH. (Oversize Mtr.- Full Mod. Econ. w/ Enth. Control)							
H = PWR. EXH. (Std. Mtr.- Full Mod. Econ.- Evap. Mtr. w/ VAV)							
J = PWR. EXH. (Oversize Mtr.- Full Mod. Econ.- Evap. Mtr. w/ VAV)							
K = FULL MODULATING ECON (Evap. Blwr. Mtr. w/ VAV)							
L = 100% O.S.A HOOD (Non-Motorized)							
N = Adjustable Compressor Lockout w/ MFA (0 - 25%)							
EVAP. BLWR. MTR. 2							
O = STANDARD							
A = OVERSIZE MOTOR							
B = DBLE. OVERSIZE MOTOR							
C = STANDARD w/ VAV Controls (See Feature 9)							
D = OVERSIZE MOTOR w/ VAV Controls (See Feature 9)							
E = DBLE. OVERSIZE MOTOR w/ VAV Controls (See Feature 9)							
FILTER OPTIONS 3							
O = STANDARD ~ 2" Throw Away* / Pleated							
A = 2" Permanent Filter Frame w/ Replaceable Media (2" PERM)							
B = 2" PLEATED FILTERS *(Std. for some units)							
C = 4" PLEATED FILTERS ~ Includes Clogged Filter Switch							
D = CLOGGED FLTR SWITCH ~ (2")							
E = MAGNAHELIC GAUGE (MAG.Ga)							
F = 2" PERM + CLOG. FLTR SW (2")							
G = 2" PERM + MAG.Ga							
H = 2" PERM + CLOG. FLTR SW (2") + MAG.Ga.							
J = 2" PLEATED + CLOG. FLTR SW (2")							
K = 2" PLEATED + MAG.Ga.							
L = 2" PLEATED + CLOG. FLTR SW (2") + MAG.Ga.							
M = 4" PLEATED + MAG.Ga.							
N = CLOG. FLTR SW (2") + MAG.Ga.							
REFRIGERATION CONTROL (ELECTRICAL) 4							
O = STANDARD (Low Ambient to 20 deg.)							
A = 5 MIN. TIME DELAY RELAY ~ 1 per Stage (5 MTDR)							
B = 20 SECOND TIME DELAY RELAY (20 STDR)							
C = 115v GFI Outlet (Field Wired)							
D = 115v GFI Outlet (Factory Wired @ 13 Amps.)							
E = 5 MTDR + 20 STDR							
F = 5 MTDR + 115v Outlet (Field Wired)							
G = 5 MTDR + 115v Outlet (Factory Wired)							
H = 5 MTDR + 20 STDR + 115v Outlet (Field Wired)							
J = 5 MTDR + 20 STDR + 115v Outlet (Factory Wired)							
K = 20 STDR + 115v Outlet (Field Wired)							
L = 20 STDR + 115v Outlet (Factory Wired)							
REFRIGERATION OPTIONS 5							
O = STANDARD							
A = HOT GAS BYPASS ~ 1st STAGE (HGB1)							
B = HOT GAS BYPASS ~ 2nd STAGE (HGB2)							
C = HOT GAS REHEAT COIL (H.G.RHC)							
D = SIGHT GLASS (SG)							
E = HGB1 + HGB2							
F = HGB1 + HGB2 + SG							
G = HGB1 + H.G.RHC							
H = HGB1 + SG							
J = HGB2 + H.G.RHC							
K = HGB1 + H.G.RHC + SG							
L = HGB2 + SG							
M = H.G.RHC + SG							

CTRLS / CTRLS / OPEN / CODE / CABNT / SYSTEM / TYPE
PKGE

NOTE: SOME OPTIONS DO NOT
APPLY TO ALL ROOFTOP UNITS.

8

9

10

11

12

13

14

TYPE

14

- B = STANDARD (Includes 'GRAY PAINT')
- A = CORROSION PROTECTED INTERIOR ('GRAY PAINT' Unless Otherwise Specified)
- Q = BEIGE EXTERIOR PAINT
- X = SPECIAL INFORMATION REQUIRED ('GRAY PAINT' Unless Otherwise Specified) (CONSULT FACTORY FOR AUTHORIZATION)

SYSTEM PACKAGE

13

- Q = STANDARD

CODE OPTIONS

11

- Q = STANDARD
- A = M.E.A (NEW YORK)
- B = CHICAGO (CITY) ~ Gas w/ Full Cabinet
- C = CHICAGO (CITY) ~ Elect. w/ Full Cabinet
- D = CHICAGO (CITY) ~ Other w/ Full Cabinet
- E = CHICAGO (CITY) ~ Gas w/ No Cond. Section
- F = CHICAGO (CITY) ~ Elect. w/ No Cond. Section
- G = CHICAGO (CITY) ~ Other w/ No Cond. Section

CABINET OPTIONS

12

- Q = STANDARD
- A = EXPORT CRATING~Full Cabinet (EX.CRT / FC)
- B = EXPORT CRATING~A/H Cabinet (EX.CRT / AHC)
- C = S/A & R/A BURG. BARS (S/A & R/A BB)
- D = EX.CRT / FC + S/A & R/A BB
- E = EX.CRT / AHC + S/A & R/A BB

SAFETY OPTIONS

7

- Q = STANDARD
- A = STANDARD w/ ECON. (for units equipped w/ Econ.)
- B = R/A & S/A FIRESTAT (R/A & S/A FS)
- C = R/A & S/A FS (for units equipped w/ Econ.)
- D = R/A SMOKE DETECTOR (R/A S.D)
- E = S/A SMOKE DETECTOR (S/A S.D)
- F = S/A SMOKE DETECTOR (for units equipped w/ Econ.)
- G = R/A & S/A SMOKE DETECTOR
- H = R/A & S/A FIRESTAT & R/A SMOKE DETECTOR
- J = R/A & S/A FIRESTAT & S/A SMOKE DETECTOR
- K = R/A & S/A FS + S/A S.D (for units equipped w/ Econ.)
- L = R/A & S/A FS + S/A & R/A SMOKE DETECTOR

SPECIAL CONTROLS

9

- STANDARD MECHANICAL CONTROLS
- Q = COOLING ONLY UNITS
- H = ALL GAS & 1 Stage ELECT. HEAT UNITS
- J = 2 Stage ELECT. HEAT UNITS
- K = ELECT. HEAT UNITS • w/ SEQUENCER
- MICRO PROCESSOR RELATED CONTROLS
- B = W7400 CONTROL
- C = NOVAR CONTROL • Manual O.S.A Units
- G = NOVAR CONTROL • Economizer Equipped Units
- D = VAV BLOWER CONTROL (See Feature 2)
- E = VVT CONTROL

POWER OPTIONS

6

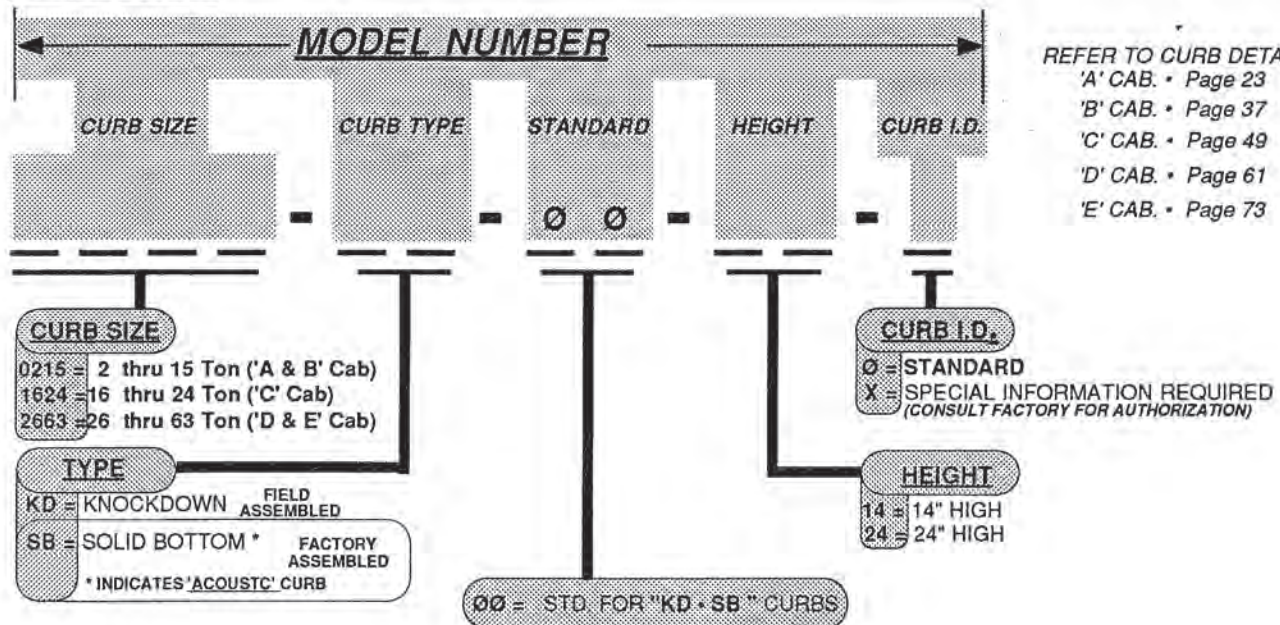
- Q = STANDARD
- A = POWER SWITCH ~ Cooling & Gas Units (FULL CABINET)
- B = POWER SWITCH ~ All But Elect Heat (Units w/ No Cond. Section)
- C = POWER SWITCH ~ All Elect Heat Units (10 & 20 kw)
- D = POWER SWITCH ~ All Elect Heat Units (30 & 40 kw)
- E = POWER SWITCH ~ All Elect Heat Units (60 & 80 kw)
- F = POWER SWITCH ~ All Elect Heat Units (100 & 120 kw)
- G = POWER SWITCH ~ All Elect Heat Units (160 & 200 kw)

CONTROLS

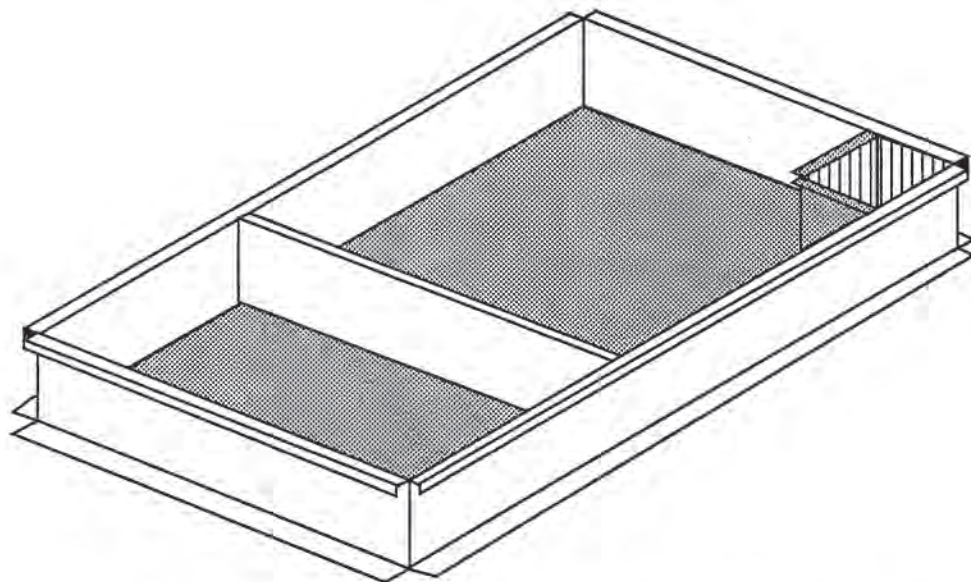
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- Q = STANDARD
- A = NIGHT SETBACK (N.SB)
- B = LOW LIMIT CONTROL (LLC)
- C = DuctStat Modulating (for units w/ Mod. Gas Valve) (DSM)
- D = PHASE & BROWN OUT PROTECTION (Ph / BOP)
- E = N.SetBack + LowLimit Control
- F = N.SetBack + DuctStat Mod.
- G = N.SetBack + Phase & BrnOut Protection
- H = N.SetBack + LowLimit Ctl + Phase & BrnOut Pro.
- J = N.SetBack + DuctStat Mod. + Phase & BrnOut Pro.
- K = LowLimit Ctl + Phase & BrnOut Pro.
- L = DuctStat Mod. + Phase & BrnOut Pro.

RE CURBS



CURB TYPE / MODEL NO.	AVAILABLE IN:	HEIGHT	DESCRIPTION
KNOCKDOWN 'KD'	ALL CABINETS	14"	FULL PERIMETER CURB • FIELD ASSEMBLY REQUIRED
		24"	
SOLID BOTTOM ACOUSTIC CURB 'SB'	ALL CABINETS	14"	FULLY ASSEMBLED AND INSULATED • FIELD CUT S/A AND R/A OPENINGS REQUIRED
		24"	



TYPICAL 'SOLID BOTTOM' ACOUSTICAL CURB

specifications • 'A' cabinet

UNIT FEATURES		RE UNIT SIZE					
		02	03	04	05	06	07
NOMINAL CAPACITY TONS		2	3	4	5	6	7
EER - FULL LOAD *①						9.25	8.6
SEER - FULL LOAD *① (Single phase only)		9.4	9.1	9.65	9.5		
REFRIGERANT CHARGE total lbs / no. of systems		5.62 (1)	5.56 (1)	6.62 (1)	11.5 (1)	13.25 (1)	13.12 (1)
COMPRESSOR (HERMETIC) Quantity		(1)					
CONDENSER COIL		16 / 1 / 21				16 / 2 / 16	
Face Area Sq. Ft. / Rows / Fins per inch							
CONDENSER FANS		(1) / 22"				(2) / 22"	
Quantity / Diameter							
CONDENSER FAN MOTORS		248 / 1100					
Watts / RPM EACH							
EVAPORATOR COIL - Standard		7.56 / 1 / 14		7.56 / 2 / 14		7.56 / 3 / 10	
Face Area Sq. Ft. / Rows / Fins per inch							
EVAPORATOR COIL - 6 Row		4.27 / 6 / 10			4.27 / 6 / 8		
Face Area Sq. Ft. / Rows / Fins per inch							
EVAPORATOR BLOWER - BELT DRIVE ②		(1) / 10 x 10 / FC					
Quantity / Wheel D x W / Type							
HP - Standard		0.5 ②			(1) 1		(1) 2
EVAP. BLOWER MOTOR ②		(1) 1	(1) 1	(1) 1	(1) 1	(1) 2	(1) 3
HP - Oversize							
HP - Double Oversize					(1) 2	(1) 3	
GAS FURNACES - TYPE		TUBULAR - INDUCED DRAFT /					
Standard Material / Optional Material		ALUMINIZED STEEL / STAINLESS STEEL					
IGNITION		NON-STANDING , AUTOMATIC , SPARK RELIGHT					
GAS CONNECTION (F.P.T.)		0.5					
FILTERS - TYPE THROWAWAY		(4) / 16" x 20" x 2"					
QTY / SIZE							
FILTERS - TYPE PLEATED		(4) / 16" x 20" x 2"					
QTY / SIZE							
POWER EXHAUST FANS - DIRECT DRIVE		(1) / 12 x 9 / FC					
Quantity / Wheel D x W / Type							
POWER EXH. FAN MOTOR		(1) 1 HP					
HP - Standard							
HP - Oversize		N / A					
UNIT NET WEIGHTS		02	03	04	05	06	07
BASE UNIT (Cooling Only)		700	700	731	757	805	875
GAS Heat Exchanger - high heat - Std / SS				105 / 120			
GAS Heat Exchanger - low heat - Std / SS		75 / 86					
ELECTRIC HEAT		50					
HOT WATER OR STEAM COIL		60					
ECONOMIZER		143					
POWER EXHAUST		120					
VAV / VVT				50			
CURB WEIGHTS							
KNOCKDOWN CURB - 14" HIGH		160					
KNOCKDOWN CURB - 24" HIGH		320					
ACOUSTICAL CURB - 14" HIGH		200					
ACOUSTICAL CURB - 24" HIGH		360					

① AT STANDARD A.R.I TEST CONDITIONS.

② ALL UNITS BELT DRIVE EXCEPT 1/2 HP IN 2 - 5 TON UNITS.

2 ton • mechanical cooling capacities

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1000 CFM				6 ROW EVAPORATOR @ 1000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	33,300	31,600	30,200	28,600	34,300	32,600	31,200	29,400
		Sensible	28,500	27,200	25,600	24,300	27,100	26,000	24,500	23,300
	80	Total	33,800	32,100	30,700	29,000	34,800	33,100	31,700	29,900
		Sensible	33,600	32,100	30,300	28,700	32,000	30,600	28,900	27,400
	85	Total	34,500	32,800	31,400	29,600	35,600	33,800	32,400	30,600
		Sensible	34,400	32,800	31,300	29,600	35,500	33,800	32,300	30,600
67	75	Total	35,900	33,900	31,900	29,900	37,000	34,800	32,900	30,800
		Sensible	23,500	22,800	22,100	21,400	22,400	23,000	23,600	24,500
	80	Total	36,400	34,400	32,400	30,400	37,600	35,500	33,400	31,300
		Sensible	28,500	27,700	26,900	26,100	27,200	26,500	25,600	24,900
	85	Total	37,200	35,100	33,100	31,100	38,300	36,300	34,100	32,000
		Sensible	33,800	32,800	31,900	31,000	32,300	31,300	30,300	29,500
72	75	Total	38,900	36,800	34,800	28,600	40,200	38,000	35,800	29,500
		Sensible	18,700	17,800	17,200	16,500	17,200	16,900	16,300	15,700
	80	Total	39,500	37,400	35,300	29,000	40,800	38,600	36,400	30,000
		Sensible	23,400	22,600	21,800	21,000	22,300	21,500	20,700	20,000
	85	Total	40,300	38,200	36,100	29,600	41,600	39,500	36,100	29,600
		Sensible	28,600	27,700	27,000	25,900	26,500	25,600	24,900	23,900

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 800 CFM				6 ROW EVAPORATOR @ 800 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	31,400	29,900	28,400	27,000	32,300	30,800	29,200	27,700
		Sensible	27,000	25,700	24,300	23,000	25,200	23,900	22,600	21,400
	80	Total	31,900	30,400	28,800	27,400	32,800	31,300	29,700	28,100
		Sensible	31,900	30,400	28,600	27,100	29,800	28,300	26,700	25,200
	85	Total	32,600	31,100	29,400	28,000	33,500	32,000	30,400	28,700
		Sensible	32,500	31,100	29,300	28,000	33,400	32,000	30,300	28,700
67	75	Total	34,300	32,400	30,500	28,700	35,200	33,200	31,400	29,500
		Sensible	21,300	20,600	20,000	19,400	19,800	20,300	21,000	21,600
	80	Total	34,800	32,900	31,000	29,100	35,800	33,900	31,900	30,000
		Sensible	25,900	25,100	24,300	23,500	24,100	23,400	22,800	22,000
	85	Total	35,500	33,600	31,700	29,700	36,600	34,500	32,600	30,600
		Sensible	30,600	29,700	28,800	27,800	28,600	27,700	27,000	26,100
72	75	Total	37,300	35,400	33,400	27,000	38,400	36,400	34,400	27,700
		Sensible	17,300	16,500	15,800	15,300	15,700	15,400	14,900	14,300
	80	Total	37,900	35,900	33,900	27,400	39,000	37,000	34,900	28,100
		Sensible	21,700	20,900	20,100	19,500	20,200	19,600	18,900	18,200
	85	Total	38,700	36,700	34,600	28,000	39,900	37,800	35,700	28,700
		Sensible	26,600	25,600	24,800	24,100	24,800	23,900	23,400	22,500

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 600 CFM				6 ROW EVAPORATOR @ 600 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	29,200	27,700	26,100	24,900	29,600	28,200	26,600	25,300
		Sensible	24,900	23,700	22,200	21,000	22,800	21,700	20,300	19,300
	80	Total	29,600	28,100	27,200	25,300	30,100	28,600	27,000	25,700
		Sensible	29,400	27,900	26,900	24,800	27,000	25,600	24,000	22,800
	85	Total	30,200	28,700	27,800	25,800	30,700	29,200	27,500	26,300
		Sensible	30,100	28,700	27,700	25,800	30,600	29,200	27,400	26,300
67	75	Total	32,000	30,500	28,800	27,100	32,500	30,800	29,200	27,400
		Sensible	18,900	18,200	17,700	17,000	17,300	17,500	18,100	18,500
	80	Total	32,500	31,000	29,200	27,500	33,000	31,400	29,700	27,800
		Sensible	23,000	22,200	21,500	20,700	21,000	20,300	19,800	19,000
	85	Total	33,200	31,700	29,800	28,100	33,700	32,100	30,400	28,400
		Sensible	27,300	26,300	25,500	24,500	24,900	24,100	23,400	22,500
72	75	Total	35,300	33,300	31,500	24,900	35,400	33,800	32,000	25,300
		Sensible	15,800	15,100	14,500	13,800	14,300	13,800	13,300	12,600
	80	Total	35,500	33,800	32,000	25,300	36,000	34,200	32,500	25,700
		Sensible	19,800	19,100	18,400	17,600	18,200	17,500	16,900	16,200
	85	Total	36,300	34,500	32,700	25,800	36,800	35,000	33,200	26,300
		Sensible	24,300	23,400	22,800	21,700	22,300	21,500	20,900	19,900

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS mechanical cooling capacities .3 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1500 CFM				6 ROW EVAPORATOR @ 1500 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	39,600	37,600	35,800	33,700	42,600	40,600	38,400	36,200
		Sensible	33,700	32,300	30,400	28,600	36,200	34,700	32,600	30,800
	80	Total	40,200	38,200	36,300	34,200	43,300	41,200	39,000	36,800
		Sensible	39,800	38,100	35,800	33,800	42,800	41,000	38,500	36,400
	85	Total	41,100	39,000	37,100	34,900	44,300	42,000	39,900	37,600
		Sensible	41,000	39,000	37,000	34,900	44,200	42,000	39,800	37,600
67	75	Total	41,800	39,100	36,900	34,900	45,000	41,900	39,800	37,700
		Sensible	27,900	27,100	26,200	25,300	30,100	31,200	32,100	32,500
	80	Total	42,400	39,700	37,500	35,400	45,700	42,800	40,400	38,200
		Sensible	33,900	32,900	31,900	30,700	36,600	35,500	34,400	33,100
	85	Total	43,300	40,600	38,300	36,200	46,700	43,700	41,300	39,000
		Sensible	40,200	39,000	37,800	36,400	43,300	42,000	40,900	39,100
72	75	Total	45,100	42,700	39,800	37,200	48,700	46,000	42,800	40,300
		Sensible	21,100	20,200	19,400	18,500	21,200	21,800	20,900	19,900
	80	Total	45,800	43,300	40,400	37,800	49,400	46,700	43,500	40,900
		Sensible	26,500	25,600	24,600	23,600	28,600	27,600	26,600	25,500
	85	Total	46,800	44,200	41,300	38,600	50,500	47,700	41,300	38,600
		Sensible	32,500	31,400	30,400	29,200	32,500	31,400	30,500	29,200

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1200 CFM				6 ROW EVAPORATOR @ 1200 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	37,500	35,700	33,800	31,800	39,700	37,700	35,600	33,700
		Sensible	31,900	30,400	28,700	27,200	33,900	32,200	30,500	28,900
	80	Total	38,100	36,200	34,300	32,300	40,300	38,200	36,200	34,200
		Sensible	37,700	35,800	33,900	32,100	40,000	38,000	36,000	34,100
	85	Total	38,900	37,000	35,000	33,000	41,200	39,000	37,000	34,900
		Sensible	38,800	37,000	34,900	33,000	41,100	39,000	36,900	34,900
67	75	Total	40,200	37,800	35,700	33,600	43,400	40,600	38,400	36,300
		Sensible	25,100	24,300	23,600	22,700	26,700	27,300	28,100	28,700
	80	Total	40,800	38,400	36,200	34,100	44,100	41,400	39,000	36,900
		Sensible	30,500	29,600	28,600	27,600	32,400	31,300	30,300	29,200
	85	Total	41,700	39,200	37,000	34,800	45,000	42,300	39,900	37,700
		Sensible	36,200	35,100	33,900	32,700	38,400	37,100	35,900	34,500
72	75	Total	43,600	41,300	38,500	36,100	47,100	44,500	41,500	39,100
		Sensible	19,500	18,500	17,700	16,900	19,100	19,600	18,800	17,900
	80	Total	44,300	41,900	39,100	36,700	47,800	45,100	42,100	39,700
		Sensible	24,400	23,400	22,500	21,600	25,800	24,800	23,800	22,900
	85	Total	45,300	42,800	39,900	37,500	48,800	46,100	40,000	37,600
		Sensible	29,900	28,700	27,800	26,700	29,300	28,200	27,300	26,200

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 900 CFM				6 ROW EVAPORATOR @ 900 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	35,200	33,200	31,300	29,600	37,300	35,100	33,300	31,400
		Sensible	29,800	28,000	26,700	25,300	29,400	27,600	26,300	25,000
	80	Total	35,700	33,700	31,800	30,100	37,800	35,700	33,800	31,900
		Sensible	35,100	33,100	31,500	29,900	34,700	32,700	31,000	29,500
	85	Total	36,500	34,400	32,500	30,700	38,600	36,500	34,400	32,600
		Sensible	36,400	34,400	32,400	30,700	38,500	36,500	34,300	32,600
67	75	Total	36,300	36,100	34,100	32,100	41,000	38,300	36,300	34,200
		Sensible	22,000	21,200	20,500	19,700	22,900	23,400	24,100	24,500
	80	Total	38,900	36,700	34,600	32,600	41,500	39,100	36,900	34,700
		Sensible	26,800	25,800	24,900	24,000	27,800	26,900	26,000	24,900
	85	Total	39,700	37,500	35,300	33,300	42,400	40,000	37,700	35,500
		Sensible	31,700	30,600	29,500	28,400	33,000	31,800	30,700	29,600
72	75	Total	41,800	39,400	37,000	34,900	45,500	42,000	39,500	37,200
		Sensible	17,600	16,600	16,000	15,100	17,100	17,300	16,700	15,800
	80	Total	42,400	40,000	37,600	35,400	45,100	42,700	40,100	37,800
		Sensible	22,000	21,100	20,300	19,300	22,900	22,000	21,200	20,100
	85	Total	43,300	40,900	38,400	36,200	40,100	43,600	38,300	36,200
		Sensible	27,000	25,900	25,100	23,900	26,300	25,300	24,500	23,400

4 ton • mechanical cooling capacities

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 2000 CFM				6 ROW EVAPORATOR @ 2000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	54,800	52,500	49,600	46,700	54,300	52,000	49,100	46,300
		Sensible	46,800	45,200	42,600	40,700	45,700	44,300	41,600	39,800
	80	Total	55,600	53,300	50,400	47,400	55,200	52,700	49,900	47,000
		Sensible	55,200	53,000	50,300	47,000	54,000	52,300	49,200	46,900
	85	Total	56,800	54,400	51,500	48,400	56,300	53,900	51,000	48,000
		Sensible	56,700	54,300	51,400	48,400	56,200	53,800	50,900	48,000
67	75	Total	57,300	54,100	50,800	48,000	56,400	52,900	50,000	47,200
		Sensible	38,800	37,600	36,500	35,400	39,400	40,600	41,800	43,100
	80	Total	58,200	54,900	51,600	48,700	57,300	54,000	50,800	47,900
		Sensible	47,200	45,700	44,400	43,000	48,000	46,500	45,100	43,800
	85	Total	59,500	56,100	52,700	49,700	58,600	55,200	51,900	48,900
		Sensible	56,000	54,200	51,700	49,100	56,900	55,100	51,900	48,900
72	75	Total	61,300	58,200	54,800	51,200	60,300	57,300	53,900	50,300
		Sensible	29,100	27,700	26,700	25,400	30,000	28,100	27,100	25,900
	80	Total	62,200	59,100	55,600	52,000	61,200	58,200	54,700	51,100
		Sensible	36,400	35,100	33,800	32,500	37,000	35,700	34,400	33,100
	85	Total	63,500	60,400	56,800	53,100	62,600	59,500	56,700	53,000
		Sensible	44,600	43,000	41,800	40,200	46,100	44,500	43,200	41,500

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1800 CFM				6 ROW EVAPORATOR @ 1800 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	52,000	49,900	46,800	44,000	39,300	37,700	35,200	33,200
		Sensible	44,200	42,700	40,200	38,300	32,800	31,700	29,900	28,500
	80	Total	52,800	50,700	47,500	44,700	39,900	38,200	35,800	33,700
		Sensible	52,200	50,500	47,500	44,300	38,700	37,500	35,300	33,700
	85	Total	53,900	51,800	48,500	45,700	40,800	39,000	36,600	34,300
		Sensible	53,800	51,700	48,400	45,700	40,700	39,000	36,500	34,300
67	75	Total	55,500	52,200	49,100	46,000	55,000	51,400	48,600	45,600
		Sensible	34,800	33,600	32,400	31,300	34,600	35,500	36,500	37,600
	80	Total	56,300	53,000	49,800	46,700	55,900	52,400	49,300	46,300
		Sensible	42,300	40,800	39,400	38,000	42,100	40,600	39,200	37,800
	85	Total	57,500	54,100	50,900	47,700	57,000	53,600	50,400	47,300
		Sensible	50,100	48,300	46,700	45,000	49,900	48,100	46,500	44,900
72	75	Total	59,600	56,700	53,300	49,900	59,200	56,200	52,800	49,500
		Sensible	26,600	25,200	24,200	23,000	26,700	25,100	24,100	22,900
	80	Total	60,500	57,600	54,100	50,700	60,000	57,100	53,600	50,300
		Sensible	33,300	32,000	30,700	29,400	29,100	31,800	30,600	29,200
	85	Total	61,800	58,800	55,300	51,800	61,300	58,400	55,300	51,800
		Sensible	40,800	39,200	38,000	36,300	40,900	39,300	38,100	36,400

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1200 CFM				6 ROW EVAPORATOR @ 1200 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	48,500	46,100	42,600	40,600	45,900	43,700	40,400	38,500
		Sensible	39,800	38,400	36,600	35,100	37,700	36,300	34,600	33,200
	80	Total	49,200	46,800	43,200	41,200	46,600	44,400	41,000	39,100
		Sensible	47,000	45,300	43,200	41,200	44,500	42,800	40,900	39,100
	85	Total	50,300	47,800	44,100	42,100	47,600	45,300	41,800	40,000
		Sensible	50,200	47,800	44,000	42,100	47,500	45,300	41,700	40,000
67	75	Total	54,100	51,100	48,100	45,100	52,100	48,900	46,200	43,400
		Sensible	30,900	29,700	28,600	27,500	29,900	30,500	31,200	31,900
	80	Total	54,900	51,900	48,800	45,800	52,800	49,900	46,900	44,100
		Sensible	37,500	36,100	34,800	33,500	36,300	34,900	33,700	32,400
	85	Total	56,100	53,000	49,800	46,800	54,000	51,000	47,900	45,000
		Sensible	44,500	42,800	41,200	39,700	43,000	41,400	39,900	38,400
72	75	Total	58,400	55,800	52,400	49,300	56,200	53,600	50,300	47,500
		Sensible	24,600	23,300	22,200	21,000	24,000	22,500	21,500	20,200
	80	Total	59,300	56,600	53,200	50,000	57,100	54,400	51,100	48,200
		Sensible	30,800	29,500	28,200	26,800	29,800	28,500	27,200	25,900
	85	Total	60,600	57,800	54,300	51,100	58,400	55,600	52,800	49,700
		Sensible	37,800	36,200	34,800	33,100	36,900	35,400	34,100	32,300

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

mechanical cooling capacities • 5 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 2500 CFM				6 ROW EVAPORATOR @ 2500 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	63,700	60,800	58,800	56,200	66,300	63,100	61,100	58,500
		Sensible	54,600	52,100	50,400	48,100	56,700	54,100	52,300	49,900
	80	Total	64,700	61,700	59,700	57,100	67,200	64,100	62,100	59,400
		Sensible	64,500	61,500	59,500	56,800	66,900	63,800	61,700	59,000
	85	Total	66,100	63,000	61,000	58,300	68,700	65,500	63,400	60,600
		Sensible	66,000	62,900	60,900	58,200	68,600	65,400	63,300	60,500
67	75	Total	67,900	64,500	61,300	57,900	68,200	64,500	61,600	58,300
		Sensible	46,900	45,700	44,400	42,900	47,600	48,700	49,900	51,000
	80	Total	68,900	65,500	62,200	58,800	69,300	65,900	62,600	59,200
		Sensible	57,000	55,600	54,000	52,200	57,900	56,400	54,900	52,900
	85	Total	70,400	66,900	63,500	60,100	70,700	67,300	63,900	60,400
		Sensible	67,600	65,900	63,100	59,800	68,600	66,900	65,000	62,800
72	75	Total	73,500	69,700	66,100	62,400	73,900	70,200	66,600	62,900
		Sensible	35,000	33,500	32,500	31,100	35,200	34,100	33,000	31,600
	80	Total	74,600	70,800	67,100	63,400	75,000	71,200	67,500	63,800
		Sensible	43,800	42,500	41,200	39,800	44,500	43,200	41,800	40,400
	85	Total	76,200	72,300	68,500	64,800	76,700	72,800	68,600	64,800
		Sensible	53,700	52,100	50,900	49,200	54,200	52,700	51,500	49,600

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 2000 CFM				6 ROW EVAPORATOR @ 2000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	60,900	58,000	55,600	53,100	62,300	59,400	56,800	54,300
		Sensible	52,200	49,700	47,600	45,500	53,300	50,800	48,700	46,400
	80	Total	61,800	58,900	56,400	53,900	63,200	60,200	57,700	55,200
		Sensible	61,600	58,700	56,200	53,700	63,000	59,900	57,400	54,900
	85	Total	63,100	60,200	57,600	55,100	64,600	61,500	59,000	56,300
		Sensible	63,000	60,100	57,500	55,000	64,500	61,400	58,900	56,200
67	75	Total	65,500	62,300	59,100	56,000	66,700	63,100	60,100	57,000
		Sensible	41,900	40,700	39,600	38,400	42,000	42,900	44,000	45,000
	80	Total	66,500	63,200	60,000	56,900	67,600	64,300	61,000	57,900
		Sensible	51,000	49,500	48,100	46,700	51,100	49,600	48,200	46,800
	85	Total	67,900	64,600	61,300	58,100	69,100	65,700	62,300	59,200
		Sensible	60,400	58,700	57,000	55,300	60,500	58,800	57,000	55,500
72	75	Total	71,500	68,000	64,500	61,000	72,800	69,100	65,600	62,000
		Sensible	31,900	30,500	29,500	28,200	31,400	30,600	29,500	28,200
	80	Total	72,600	69,000	65,500	61,900	73,900	70,200	66,600	63,000
		Sensible	40,000	38,700	37,400	36,000	40,100	38,800	37,500	36,100
	85	Total	74,200	70,500	66,900	63,200	75,400	71,700	68,000	63,200
		Sensible	49,100	47,400	46,200	44,500	48,300	46,800	45,500	43,900

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1500 CFM				6 ROW EVAPORATOR @ 1500 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	57,600	55,000	51,700	49,400	57,300	54,600	51,500	49,100
		Sensible	48,200	45,800	44,000	42,100	46,000	43,700	42,000	40,200
	80	Total	58,500	55,800	52,500	50,200	58,200	55,500	52,300	49,900
		Sensible	56,900	54,000	52,000	49,700	54,300	51,600	49,600	47,500
	85	Total	59,800	57,000	53,600	51,300	59,500	56,600	53,400	51,000
		Sensible	59,700	56,900	53,500	51,200	59,400	56,500	53,300	50,900
67	75	Total	62,500	59,600	56,500	53,500	63,300	60,000	57,300	54,200
		Sensible	36,200	35,000	34,000	32,900	36,300	37,000	37,800	38,600
	80	Total	63,500	60,500	57,400	54,300	64,300	61,300	58,200	55,000
		Sensible	44,000	42,600	41,400	40,000	44,200	42,800	41,500	40,200
	85	Total	64,900	61,800	58,600	55,500	65,700	62,700	59,500	56,100
		Sensible	52,200	50,500	49,000	47,400	52,300	50,800	49,200	47,600
72	75	Total	68,300	65,000	61,800	58,500	69,100	65,900	62,600	59,300
		Sensible	28,700	27,300	26,300	25,100	28,400	27,400	26,400	25,300
	80	Total	69,300	66,000	62,700	59,400	70,200	66,800	63,500	60,100
		Sensible	35,900	34,600	33,300	32,100	36,100	34,800	33,500	32,300
	85	Total	70,800	67,400	64,000	60,700	71,700	68,300	64,000	60,600
		Sensible	44,000	42,400	41,100	39,700	43,700	42,100	40,800	39,400

6 ton • mechanical cooling capacities

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 3000 CFM				6 ROW EVAPORATOR @ 3000 CFM*			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	76,500	73,400	70,200	67,000	76,300	73,400	70,100	66,900
		Sensible	65,300	62,600	59,700	56,900	65,500	62,700	59,900	57,100
	80	Total	77,700	74,500	71,300	68,000	77,500	74,500	71,200	67,900
		Sensible	77,100	73,900	70,500	67,200	77,300	74,100	70,700	67,400
	85	Total	79,400	76,100	72,800	69,500	79,200	76,000	72,800	69,300
		Sensible	79,200	76,000	72,700	69,400	79,000	75,900	72,700	69,200
67	75	Total	79,700	76,100	72,200	68,200	78,100	74,200	70,700	66,900
		Sensible	56,800	55,100	53,300	51,800	56,200	57,200	58,300	59,900
	80	Total	80,900	77,300	73,300	69,200	79,300	75,600	71,800	67,900
		Sensible	69,000	67,000	64,800	62,900	68,400	66,400	64,200	62,400
	85	Total	82,600	79,000	74,900	70,700	81,000	77,300	73,400	69,300
		Sensible	81,700	79,000	74,800	70,500	81,000	77,200	73,100	69,200
72	75	Total	86,400	82,200	78,100	74,000	84,700	80,700	76,500	72,600
		Sensible	41,600	39,800	38,700	37,300	42,100	39,500	38,200	36,800
	80	Total	87,700	83,500	79,300	75,100	86,000	81,900	77,700	73,700
		Sensible	52,100	50,500	49,100	47,600	51,600	50,000	48,600	47,100
	85	Total	89,600	85,300	81,000	76,700	87,900	83,600	79,400	75,300
		Sensible	63,900	61,900	60,700	58,800	63,200	61,400	60,000	58,200

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 2400 CFM				6 ROW EVAPORATOR @ 2400 CFM*			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	72,800	69,300	66,500	63,400	72,400	68,900	66,100	62,900
		Sensible	61,800	58,800	56,300	53,400	62,100	59,100	56,600	53,800
	80	Total	73,900	70,400	67,500	64,400	73,500	69,900	67,100	63,900
		Sensible	72,900	69,400	66,400	63,100	73,300	69,800	66,800	63,500
	85	Total	75,500	71,900	69,000	65,800	75,100	71,400	68,600	65,300
		Sensible	75,300	71,800	68,900	65,700	74,900	71,300	68,500	65,200
67	75	Total	77,400	73,600	69,800	65,600	76,500	72,300	69,000	64,800
		Sensible	49,900	48,400	46,900	45,500	49,400	50,500	51,600	53,200
	80	Total	78,600	74,700	70,900	66,600	77,700	73,800	70,000	65,800
		Sensible	60,700	58,800	57,000	55,300	60,200	58,300	56,500	54,800
	85	Total	80,300	76,300	72,400	68,000	79,400	75,400	71,500	67,200
		Sensible	71,900	69,700	67,500	65,500	71,300	69,000	67,000	64,800
72	75	Total	84,000	80,000	75,900	71,900	83,000	79,000	75,000	71,000
		Sensible	38,000	36,400	35,200	33,800	38,100	36,100	34,900	33,600
	80	Total	85,300	81,200	77,100	73,000	84,300	80,200	76,100	72,100
		Sensible	47,700	46,200	44,700	43,200	47,300	45,800	44,300	42,800
	85	Total	87,100	82,900	78,800	74,600	86,100	82,000	77,800	73,700
		Sensible	58,400	56,600	55,300	53,400	57,900	56,100	54,800	53,000

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1800 CFM				6 ROW EVAPORATOR @ 1800 CFM*			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	68,000	64,100	61,700	58,800	66,400	62,600	60,300	57,400
		Sensible	56,400	53,300	51,000	48,500	56,700	53,700	51,400	49,000
	80	Total	69,000	65,100	62,600	59,700	67,400	63,600	61,200	58,300
		Sensible	66,500	62,900	60,200	57,300	67,000	63,400	60,700	57,800
	85	Total	70,500	66,500	63,900	61,000	68,900	65,000	62,400	59,600
		Sensible	70,400	66,400	63,800	60,900	68,800	64,900	62,400	59,500
67	75	Total	73,900	70,400	66,800	62,300	72,800	69,000	65,800	61,400
		Sensible	43,200	41,800	40,400	39,000	42,700	43,300	44,200	45,700
	80	Total	75,000	71,500	67,800	63,200	73,900	70,400	66,800	62,300
		Sensible	52,500	50,800	49,100	47,400	51,900	50,200	48,600	46,800
	85	Total	76,600	73,000	69,300	64,600	75,500	71,900	68,300	63,600
		Sensible	62,200	60,200	58,200	56,200	61,500	59,500	57,600	55,500
72	75	Total	80,900	76,800	73,200	69,400	79,700	75,600	72,100	68,400
		Sensible	34,400	32,700	31,500	30,100	34,600	32,300	31,100	29,700
	80	Total	82,100	78,000	74,300	70,500	80,900	76,800	73,200	69,400
		Sensible	43,100	41,500	40,000	38,500	42,700	41,000	39,500	38,000
	85	Total	83,900	79,700	75,900	72,000	82,600	78,500	74,800	70,900
		Sensible	52,900	50,900	49,400	47,600	52,300	50,200	48,900	47,000

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

mechanical cooling capacities • 7 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 3500 CFM				6 ROW EVAPORATOR @ 3500 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	100,900	96,300	90,200	86,400	101,800	97,300	91,100	87,300
		Sensible	82,100	78,100	74,000	69,700	86,800	82,500	78,200	73,700
	80	Total	102,400	97,800	91,600	87,700	103,400	98,800	92,500	88,600
		Sensible	96,900	92,200	87,400	82,300	102,400	97,400	92,300	87,000
	85	Total	104,600	99,600	93,600	89,600	105,700	101,000	94,500	90,400
		Sensible	104,400	99,400	93,400	89,500	105,500	100,900	94,300	90,300
67	75	Total	102,700	96,900	91,100	87,000	107,200	100,600	95,000	90,800
		Sensible	68,700	65,500	63,200	60,900	70,800	71,700	73,700	74,100
	80	Total	104,300	98,400	92,500	88,300	108,800	102,600	96,400	92,200
		Sensible	83,500	79,700	76,900	74,000	86,200	82,200	79,400	76,300
	85	Total	106,500	100,500	94,500	90,200	111,200	104,800	98,500	94,200
		Sensible	98,900	94,400	91,100	87,700	102,100	97,400	94,100	90,400
72	75	Total	110,400	103,800	97,300	92,000	115,100	108,300	101,500	95,900
		Sensible	52,800	50,000	47,800	45,700	52,200	51,600	49,400	47,200
	80	Total	112,100	105,400	98,800	93,400	116,900	109,900	103,000	97,400
		Sensible	66,200	63,400	60,700	58,400	68,300	65,500	62,700	60,300
	85	Total	114,500	107,700	100,900	95,400	119,500	112,300	105,200	99,500
		Sensible	81,100	77,700	75,000	72,200	83,700	80,300	77,500	74,500

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 2800 CFM				6 ROW EVAPORATOR @ 2800 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	96,000	91,500	86,300	81,800	96,200	91,700	86,500	82,000
		Sensible	78,400	74,300	69,700	65,500	82,600	78,300	73,600	69,000
	80	Total	97,500	92,900	87,600	83,000	97,700	93,100	87,800	83,200
		Sensible	92,600	87,700	82,300	77,300	97,600	92,400	86,800	81,500
	85	Total	99,600	94,900	89,500	84,800	99,800	95,100	89,600	85,000
		Sensible	99,400	94,800	89,300	84,700	99,600	95,000	89,400	84,900
67	75	Total	99,700	93,700	88,300	83,700	104,300	97,600	92,400	87,600
		Sensible	61,900	59,000	56,800	54,600	63,300	64,200	65,600	66,600
	80	Total	101,200	95,100	89,600	85,000	105,900	99,600	93,800	88,900
		Sensible	75,300	71,700	69,000	66,400	77,000	73,400	70,600	68,000
	85	Total	103,400	97,100	91,500	86,800	108,200	101,800	95,700	90,800
		Sensible	89,200	84,900	81,700	78,700	91,300	87,000	83,600	80,500
72	75	Total	107,300	101,200	94,900	89,600	112,400	105,900	99,300	93,800
		Sensible	48,800	46,200	44,100	42,000	47,700	47,300	45,100	42,900
	80	Total	108,900	102,700	96,300	91,000	114,100	107,500	100,800	95,200
		Sensible	61,200	58,600	55,900	53,600	62,600	60,000	57,200	54,900
	85	Total	111,200	104,900	98,400	93,000	116,500	109,700	102,900	97,300
		Sensible	75,000	71,800	69,100	66,300	76,800	73,500	70,700	67,900

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 2100 CFM				6 ROW EVAPORATOR @ 2100 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	89,300	85,000	80,000	75,500	89,700	85,400	80,400	75,900
		Sensible	73,100	68,700	64,200	60,300	68,200	64,100	60,000	56,300
	80	Total	90,700	86,300	81,200	76,700	91,100	86,700	81,600	77,100
		Sensible	86,300	81,100	75,800	71,200	80,500	75,600	70,800	66,500
	85	Total	92,700	88,200	82,900	78,300	93,100	88,600	83,300	78,800
		Sensible	92,500	88,100	82,700	78,200	92,900	88,500	83,100	78,700
67	75	Total	94,600	89,300	84,300	80,100	98,900	93,000	88,200	83,800
		Sensible	54,400	51,300	49,400	47,100	55,800	55,800	56,800	57,000
	80	Total	96,000	90,700	85,600	81,300	100,400	94,900	89,500	85,100
		Sensible	66,100	62,400	60,100	57,300	67,900	64,100	61,700	58,800
	85	Total	98,100	92,700	87,400	83,000	102,500	96,900	91,500	87,000
		Sensible	78,400	74,000	71,200	67,900	80,400	76,000	73,100	69,700
72	75	Total	102,100	96,600	90,800	86,200	106,800	101,000	95,000	90,100
		Sensible	44,400	42,000	39,900	37,900	43,500	43,100	40,900	38,900
	80	Total	103,700	98,100	92,200	87,500	108,400	102,500	96,400	91,500
		Sensible	55,700	53,300	50,600	48,400	57,100	54,800	51,900	49,700
	85	Total	105,900	100,200	94,200	89,400	110,800	104,700	98,500	93,500
		Sensible	68,300	65,300	62,600	59,800	70,000	67,100	64,100	61,500

gas heating capacities

TABLE 16 - 1

CABINET	MODEL	Designation (1 - 3)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	TEMPERATURE RISE RANGE (°F)
A	RE-02	(3)	65.0	52.65	35 - 65
	RE-03	(3)	65.0	52.65	25 - 55
	RE-04	(1)	75.0	60.75	20 - 50
		(3)	120.0	97.20	40 - 70
	RE-05	(1)	75.0	60.75	15 - 45
		(3)	142.5	115.43	40 - 70
	RE-06	(3)	142.5	115.43	30 - 60
	RE-07	(3)	142.5	115.43	30 - 60

* AAON HEAT RANGE DESIGNATIONS (1) = LOW HEAT
(3) = HIGH HEAT

- NOTES: 1) To calculate air temperature rise: $\Delta T = \text{Output capacity} / (\text{CFM} \times 1.085)$
 2) Use tabulated ratings for elevations to 2000 FT.
 3) For elevations above 2000 FT. derate 4% for each 1000 FT. above sea level and use the following formula:
 $\Delta T = \text{Output capacity} / (.24 \times 60 \times \text{specific WT of air} \times \text{CFM})$
 4) Gas pressure supply range (inches of water guage): Natural 6-10.5 ; Propane 11-13.
 5) Gas manifold pressure (inches of water guage): Natural 3.5; Propane 10.5.
 6) Above 2000FT.; Specify "HI ALTITUDE KIT".

CAUTION: FOR APPLICATIONS OUTSIDE THE TEMPERATURE RANGE SHOWN, CONTACT THE FACTORY.

electric heating capacities

TABLE 16 - 2 SINGLE PHASE

Heating Designation and Unit Availability		No. of Strips	208 / 60 / 1			240 / 60 / 1		
02 - 03	04 - 05		MBH	KW	AMPS	MBH	KW	AMPS
A	A	1	25.6	7.5	36.06	34.1	10.0	41.67
B	B	2	51.2	15.0	72.12	68.3	20.0	83.33
	C	3	76.8	22.5	108.18	102.4	30.0	125.00
	D	4	102.4	30.0	144.20	136.6	40.0	166.67

THREE PHASE

Heating Designation and Unit Availability		No. of Strips	208 / 60 / 3			240 / 60 / 3			480 / 60 / 3			575 / 60 / 3 ①		
02 - 03 ①	04 - 05 - 06 - 07		MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
A	A	1	25.6	7.5	20.80	34.1	10.0	24.1	34.1	10.0	12.0	34.1	10.0	10.0
B	B	2	51.2	15.0	41.60	68.3	20.0	48.2	68.3	20.0	24.0	68.3	20.0	20.0
	C	3	76.8	22.5	62.40	102.4	30.0	72.3	102.4	30.0	36.0	102.4	30.0	30.0
	D	4	102.4	30.0	83.28	136.6	40.0	96.4	136.6	40.0	48.0	136.6	40.0	40.0

① MODELS 02 AND 03 ARE NOT AVAILABLE IN 575 / 60 / 3.

steam heating data

TABLE 17-1 • FACE VELOCITY vs. SELECTION FACTOR • 2.81 SQ. FT. FACE AREA

FV (fpm)	SF	FV (fpm)	SF	FV (fpm)	SF
200	.707	475	.541	750	.454
225	.684	500	.531	775	.448
250	.664	525	.522	800	.442
275	.646	550	.513	825	.437
300	.629	575	.504	850	.431
325	.613	600	.496	875	.425
350	.599	625	.489	900	.420
375	.586	650	.481	925	.415
400	.574	675	.474	950	.410
425	.562	700	.467	975	.406
450	.551	725	.461	1000	.401

TABLE 17-2

SATURATED STEAM PROPERTIES		
PSIG	TEMPERATURE	LATENT HEAT
2	218	966
5	227	961
7	233	958
10	239	953
15	250	946

TABLE 17-3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
200	.03	700	.43
300	.10	800	.55
400	.16	900	.67
500	.24	1000	.81
600	.33		

EXAMPLE: What is the Expected Leaving Air Temperature with 2 PSIG Saturated Steam and 2000 cfm entering at 60°F ?

The coil face velocity is $2000 \div 2.81 = 711$ FPM.

FROM TABLE 17-1: SF = .465 (by interpolation)

FROM TABLE 17-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .465 (218 - 60) = 73.5°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

FROM TABLE 17-2: LATENT HEAT = 966.

FROM TABLE 17-3: AIR SIDE PRESSURE DROP = .44 (by interpolation)

CONDENSATE LOAD = BTUH + LATENT HEAT @ OPERATING PSIG.

CONDENSATE LOAD = (1.085 x 73.5 x 2000) + 966 = 165.1 lbs. / hr.

hot water coil performance data

TABLE 17-4 'A' CABINET • 180° F EWT, 60° F EAT • 2.81 SQ. FT. FACE AREA

C.F.M	ΔP AIR	10 GPM (.5 ft. ΔP)			15 GPM (1.0 ft. ΔP)			20 GPM (1.7 ft. ΔP)		
		ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH
1000	.16	69.2	15.1	75.6	73.0	10.6	79.8	75.2	8.2	82.1
2000	.53	48.6	21.3	106.3	52.7	15.4	115.2	55.1	12.0	120.4
3000	1.07	38.2	25.1	125.2	41.8	18.3	137.0	44.3	14.5	145.3

EXAMPLE: "A" Cabinet with 2000 cfm, 180°F EWT, 60°F EAT, and 10 GPM has a capacity of 106.3 MBH from Table 17-4. For 190°F EWT and 60°F EAT the correction factor is 1.08, actual coil capacity = 1.08 x 106.3 = 114.8 MBH.

$$\text{NEW } \Delta T_{H_2O} = \frac{114,800}{(500) (\text{GPM})} = \frac{114,800}{(500) (10)} = 23^\circ \text{F}$$

$$\text{NEW } \Delta T_{AIR} = \frac{114,800}{1.08 (\text{CFM})} = \frac{114,800}{1.08 (2000)} = 53.1^\circ \text{F}$$

CORRECTION FACTORS FOR OTHER THAN 180° F HW ENT. AND 60° F AIR							
AIR TEMP.	WATER TEMP.						
	210	200	190	180	170	160	150
50°	1.38	1.28	1.18	1.08	1.00	0.90	0.82
60°	1.28	1.18	1.08	1.00	0.90	0.82	0.72
70°	1.18	1.08	1.00	0.90	0.82	0.72	0.64

coil static pressure drops (in. wg.)

TABLE 18-1 • 'A' CABINET

• INDOOR COIL • NOTE: * 6 ROW COIL DATA "ZERO" % BYPASS												
C.F.M.	2 TON UNIT				3 TON UNIT				4 TON UNIT			
	STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
500	.009	.008	.069	.052	.013	.008	.074	.052	.026	.012	.087	.052
1000	.029	.020	.189	.149	.032	.020	.201	.149	.063	.036	.220	.149
1500	.051	.035	.361	.293	.055	.035	.384	.293	.104	.066	.400	.293
2000	.076	.055	.585	.481	.083	.055	.620	.481	.149	.103	.626	.481
2500	.103	.078			.114	.078			.197	.147	.899	.716
3000									.250	.197	1.219	.996
3500									.306	.255	1.586	1.322

• INDOOR COIL • NOTE: * 6 ROW COIL DATA "ZERO" % BYPASS												
C.F.M.	5 TON UNIT				6 TON UNIT				7 TON UNIT			
	STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
500	.028	.012	.057	.039	.018	.012	.061	.039	.021	.012	.079	.039
1000	.068	.036	.153	.113	.047	.033	.159	.113	.050	.033	.181	.113
1500	.114	.066	.286	.221	.084	.061	.293	.221	.090	.061	.317	.221
2000	.167	.103	.457	.364	.130	.096	.463	.364	.138	.096	.494	.364
2500	.227	.147	.665	.540	.183	.138	.669	.540	.196	.138	.714	.540
3000	.293	.197	.910	.751	.245	.187	.912	.751	.263	.187	.975	.751
3500	.365	.255	1.193	.996	.315	.242	1.190	.996	.339	.242	1.269	.996

component static pressure drops (in. wg.)

TABLE 18-2 • 'A' CABINET

C.F.M 2-7 TON	HEATING SECTION						FILTERS			ECON 100% R / A	Acoustical CURB
	GAS HEAT		ELECTRIC HEAT				2" Throw Away	2" Pleated	4" Pleated		
	* HIGH	** LOW	A	B	C	D					
500	.044	.026	.022	.034	.048	.064	.014	.018	.019	.010	.008
1000	.093	.060	.054	.077	.100	.141	.029	.040	.040	.022	.018
1500	.142	.094	.086	.120	.151	.218	.047	.063	.063	.036	.029
2000	.192	.129	.118	.162	.203	.294	.067	.090	.087	.051	.041
2500	.241	.163	.150	.205	.254	.371	.089	.119	.113	.068	.054
3000	.291	.197	.182	.248	.306	.448		.151	.141	.086	.068
3500	.340	.231	.214	.290	.358	.525		.186	.171	.105	.084

* 4-7 TON ONLY

** 2-5 TON ONLY (2 & 3 TON HIGH HEAT / 4 & 5 TON LOW HEAT)

blower performance motor input rpm and kw

TABLE 19 - 1 • '2 THRU 5 TON • DIRECT DRIVE • See Figure 20-1 For Belt Drive Performance.

C.F.M 2-5 TON	MOTOR INPUT (KW) & TOTAL STATIC PRESSURE (IN. WG.)	
	208 VOLT	230 / 460 VOLT
	TOTAL STATIC PRESSURE	TOTAL STATIC PRESSURE
500	1.53	1.70
1000	1.02	1.138
1500	.724	.805
2000	.483	.537

1 1/2 hp

• BELT DRIVE •

C.F.M 2-7 TON	TOTAL STATIC PRESSURE									
	0.5		1.0		1.5		2.0		2.5	
	RPM	KW	RPM	KW	RPM	KW	RPM	KW	RPM	KW
1000	810	.26	1080	.54	1310 1 1/2 hp	.83	1500	1.15	1660 2 1/2 hp	1.47
1500	900 1 1/2 hp	.45	1160 1 1/2 hp	.78	1380	1.15	1560 2 1/2 hp	1.48	1720 2 1/2 hp	1.87
2000	1020	.75	1250	1.10	1440 2 1/2 hp	1.55	1620	1.95	1780 3 1/2 hp	2.27
2500	1160 2 1/2 hp	1.13	1370	1.60	1550	2.08	1700 3 1/2 hp	2.52	NOT AVAILABLE	
3000	1290 2 1/2 hp	1.66	1500	2.26	1660	2.75				
3500	1440 2 1/2 hp	2.40	1620	3.00						

3.

NOTE: TOTAL STATIC = INTERNAL STATIC + EXTERNAL STATIC

BLOWER PERFORMANCE TABLES INCLUDE INTERNAL RESISTANCE OF CABINET ONLY.
FOR TOTAL STATIC PRESSURE DETERMINATION, SYSTEM EXTERNAL STATIC PRESSURE
MUST BE ADDED TO THE APPROPRIATE COMPONENT STATIC PRESSURE DROPS.
SEE TABLES 18-1, 18-2, 17-3 AND 17-4 FOR COMPONENT STATIC PRESSURE DROPS.

REFER TO PAGE 82 FOR 'KW' TO 'HP' CONVERSION.

power exhaust performance

TABLE 19 - 2 • 'A' CABINET • 2-7 TON • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.2		0.4		0.6		0.8		1.0	
	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
800	450	1	600	1	700	1	810	1	900	1
1000	490	1	620	1	740	1	820	1	920	1
1200	520	1	650	1	760	1	850	1	940	1
1400	560	1	690	1	790	1	870	1	960	1
1600	620	1	720	1	820	1	900	1	980	1
1800	670	1	760	1	850	1	940	1	1010	1
2000	710	1	810	1	890	1	970	1	NOT AVAILABLE	
2200	760	1	850	1	940	1				
2400	820	1	900	1						

electrical data

TABLE 20-1 • 'A' CABINET •

SINGLE PHASE																			
208 - 240 / 1 / 60																			
UNIT SIZE		02		03		04		05			06			07					
BLOWER MOTOR	(HP)	.50	1.0	.50	1.0	.50	1.0	.50	1.0	2.0									
	F.L.A.	4.9	8.0	4.9	8.0	4.9	8.0	4.9	8.0	12.0									
COMPRESSOR	F.L.A. (ea)	11.2		16.0		21.4		25.8											
	L.R.A. (ea)	66		87		118		135											
CONDENSER FAN MTR.	F.L.A. (ea)	(1) 3.6																	
COMBUSTION BLOWER MTR.	F.L.A. (ea)	0.9																	
COOLING	F.L.A.	20	23	25	28	30	33	34	37	41									
	M.C.A.	23	26	29	32	35	38	41	44	48									
Max. Overcurrent Protect.		30	35	40	45	50	50	60	60	70									
ELEC. HEAT	F.L.A.	47	50	47	50	47	50	47	50	54									
Designation - A -	M.C.A.	58	62	58	62	58	62	58	62	67									
Max. Overcurrent Protect.		60	70	70	60	60	70	60	70	80									
ELEC. HEAT	F.L.A.	88	91	88	91	88	91	88	91	95									
Designation - B -	M.C.A.	110	114	110	114	110	114	110	114	119									
Max. Overcurrent Protect.		125																	
ELEC. HEAT	F.L.A.					130	133	130	133	137									
Designation - C -	M.C.A.					162	166	162	166	171									
Max. Overcurrent Protect.						175													
ELEC. HEAT	F.L.A.					172	175	172	175	179									
Designation - D -	M.C.A.					215	218	215	218	223									
Max. Overcurrent Protect.						225													

THREE PHASE																	
208 - 240 / 3 / 60																	
UNIT SIZE		02		03		04		05			06			07			
BLOWER MOTOR	(HP)	.50	1.0	.50	1.0	.50	1.0	.50	1.0	2.0	1.0	2.0	3.0	2.0	3.0		
	F.L.A.	4.9	3.6	4.9	3.6	4.9	3.6	4.9	3.6	6.8	3.6	6.8	9.6	6.8	9.6		
COMPRESSOR	F.L.A. (ea)	7.7		9.9		13.2		16.1			17.7			26.3			
	L.R.A. (ea)	60		66		84		105			130			183			
CONDENSER FAN MTR.	F.L.A. (ea)	(1) 3.6													(2) 3.6		
COMBUSTION BLOWER MTR.	F.L.A. (ea)	0.9													1.3		
COOLING	F.L.A.	16	15	18	17	22	20	25	23	27	29	32	35	40	43		
	M.C.A.	18	17	21	20	25	24	29	27	31	33	36	39	47	50		
Max. Overcurrent Protect.		25		30		35		40			50			70			
ELEC. HEAT	F.L.A.	29	28	29	28	29	28	29	28	31	28	31	34	40	43		
Designation - A -	M.C.A.	36	35	36	35	36	35	36	35	39	35	39	42	47	50		
Max. Overcurrent Protect.		40	35	40	35	40	35	40	35	50	35	50	60	70	70		
ELEC. HEAT	F.L.A.	53	52	53	52	53	52	53	52	55	52	55	58	55	58		
Designation - B -	M.C.A.	66	65	66	65	66	65	66	65	69	65	69	72	69	72		
Max. Overcurrent Protect.		70													80	70	80
ELEC. HEAT	F.L.A.					77	76	77	76	79	76	79	82	79	82		
Designation - C -	M.C.A.					97	95	97	95	99	95	99	102	99	102		
Max. Overcurrent Protect.						100						110	100	110			
ELEC. HEAT	F.L.A.					101	100	101	100	103	100	103	106	103	106		
Designation - D -	M.C.A.					127	125	127	125	129	125	129	133	129	133		
Max. Overcurrent Protect.						150											

TABLE 21-1 • 'A' CABINET •

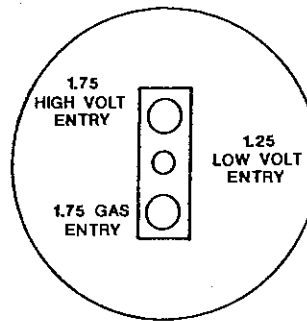
480 / 3 / 60																
UNIT SIZE		02		03		04		05			06			07		
BLOWER MOTOR	(HP)	.50	1.0	.50	1.0	.50	1.0	.50	1.0	2.0	1.0	2.0	3.0	2.0	3.0	
	F.L.A	2.5	1.8	2.5	1.8	2.5	1.8	2.5	1.8	3.4	1.8	3.4	4.8	3.4	4.8	
COMPRESSOR	F.L.A (ea)	3.9		5.0		6.6		8.1			9.1			13.2		
	L.R.A (ea)	28		35		42		55			65			91		
CONDENSER FAN MTR.	F.L.A (ea)	(1) 1.8									(2) 1.8					
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.5									0.7					
COOLING	F.L.A	8	8	9	9	11	10	12	12	13	15	16	18	20	22	
	M.C.A	10	9	11	10	13	12	14	14	15	17	18	20	24	25	
Max. Overcurrent Protect.		15						20			25			35		
ELEC. HEAT	F.L.A	15	14	15	14	15	14	15	14	15	14	15	17	20	22	
	Designation - A - M.C.A	18	17	18	17	18	17	18	17	19	17	19	21	24	25	
Max. Overcurrent Protect.		20								25	20	25	30	35		
ELEC. HEAT	F.L.A	27	26	27	26	27	26	27	26	27	26	27	29	27	29	
	Designation - B - M.C.A	33	32	33	32	33	32	33	32	34	32	34	36	34	36	
Max. Overcurrent Protect.		35												40	35	40
ELEC. HEAT	F.L.A					39	38	39	38	39	38	39	41	39	41	
	Designation - C - M.C.A					48	47	48	47	49	47	49	51	49	51	
Max. Overcurrent Protect.						50							60	50	60	
ELEC. HEAT	F.L.A					51	50	51	50	51	50	51	53	51	53	
	Designation - D - M.C.A					63	62	63	62	64	62	64	66	64	66	
Max. Overcurrent Protect.						70										

575 / 3 / 60														
UNIT SIZE		02	03	04		05			06			07		
BLOWER MOTOR	(HP)			.50	1.0	.50	1.0	2.0	1.0	2.0	3.0	2.0	3.0	
	F.L.A			2.0	1.5	2.0	1.5	2.8	1.5	2.8	3.9	2.8	3.9	
COMPRESSOR	F.L.A (ea)			5.1		6.2			7.3			10.5		
	L.R.A (ea)			36		50			52			73		
CONDENSER FAN MTR.	F.L.A (ea)			(1) 1.8						(2) 1.8				
COMBUSTION BLOWER MTR.	F.L.A (ea)			0.5						0.7				
COOLING	F.L.A			9	9	10	10	11	12	14	15	17	18	
	M.C.A			10	10	12	11	12	14	16	17	20	21	
Max. Overcurrent Protection				15						20			30	
ELEC. HEAT	F.L.A			12					13	12	13	14	17	18
	Designation - A - M.C.A			15	14	15	14	16	14	16	17	20	21	
Max. Overcurrent Protection				20	15	20	15	20	15	20	25	30		
ELEC. HEAT	F.L.A			22					23	22	23	24	23	24
	Designation - B - M.C.A			28	27	28	27	29	27	29	30	29	30	
Max. Overcurrent Protection				30								35	30	35
ELEC. HEAT	F.L.A			32					33	32	33	34	33	34
	Designation - C - M.C.A			40	39	40	39	41	39	41	42	41	42	
Max. Overcurrent Protection				45	40	45	40	45	40	45				
ELEC. HEAT	F.L.A			42					43	42	43	44	43	44
	Designation - D - M.C.A			53	52	53	42	54	52	54	55	54	55	
Max. Overcurrent Protection				60										

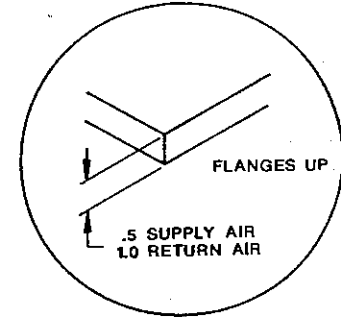
NOTE: THE COOLING ELECTRICAL DATA IS FOR COOLING ONLY AND COOLING WITH GAS HEAT PACKAGE UNITS. THE ELECTRIC HEAT ELECTRICAL DATA IS FOR PACKAGED COOLING WITH ELECTRIC HEAT UNITS. SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN TABLES 20-1 AND 21-1 DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

dimensions • A cabinet • 2 - 7 ton

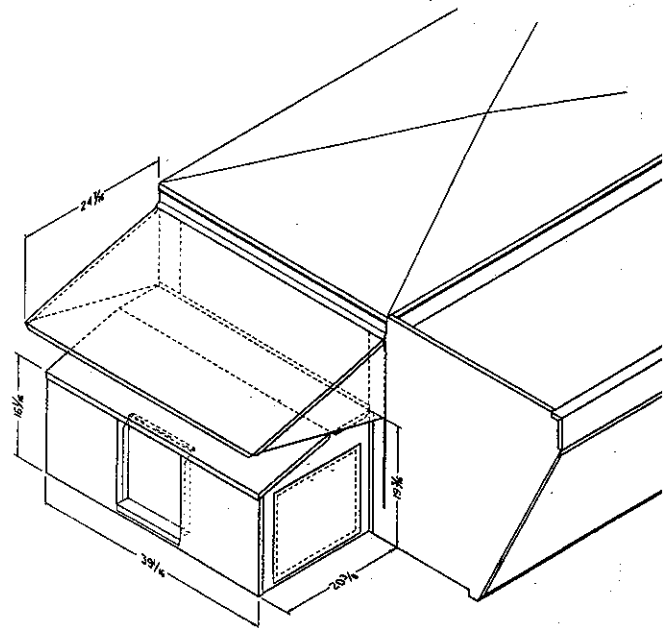
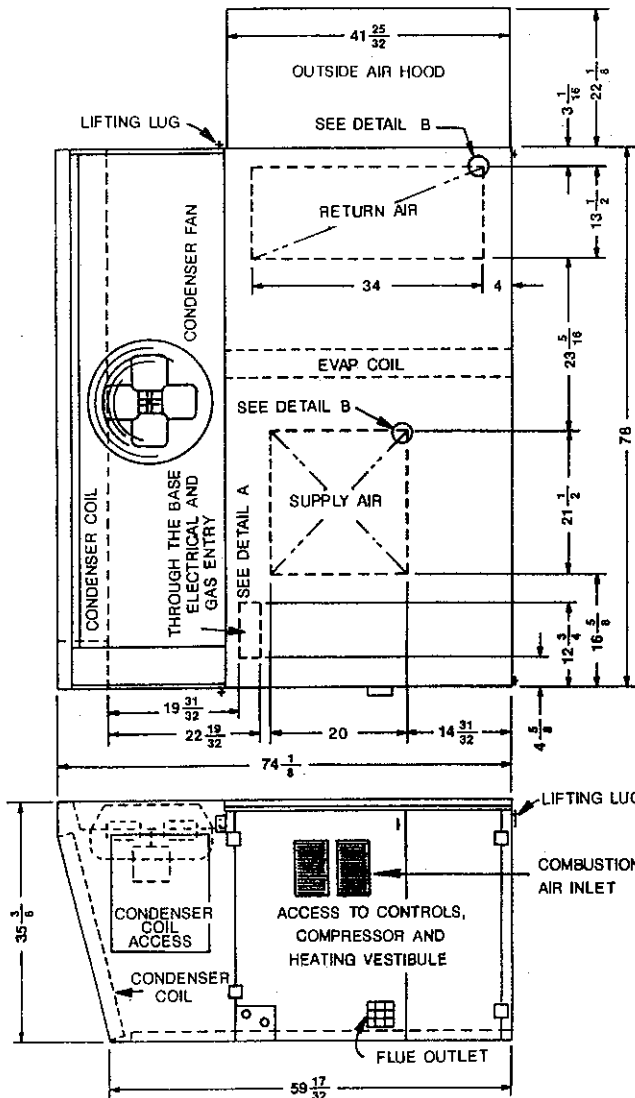
CLEARANCES	
LOCATION	UNIT SIZE • 2 • 3 • 4 • 5 • 6 • 7
RETURN AIR- (BACK)	36
VENT SIDE- (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



DETAIL A



DETAIL B



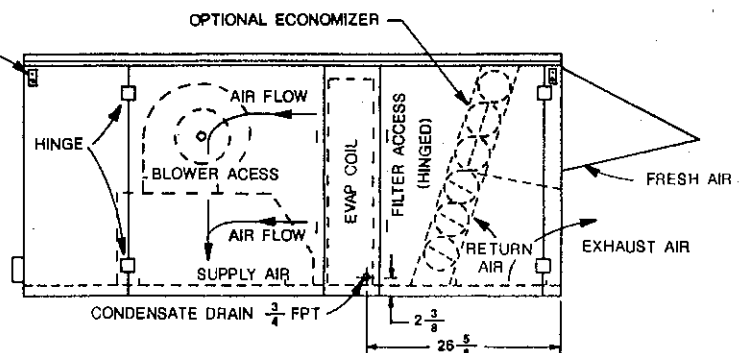
POWER EXHAUST

NUMBER OF CONDENSER FANS

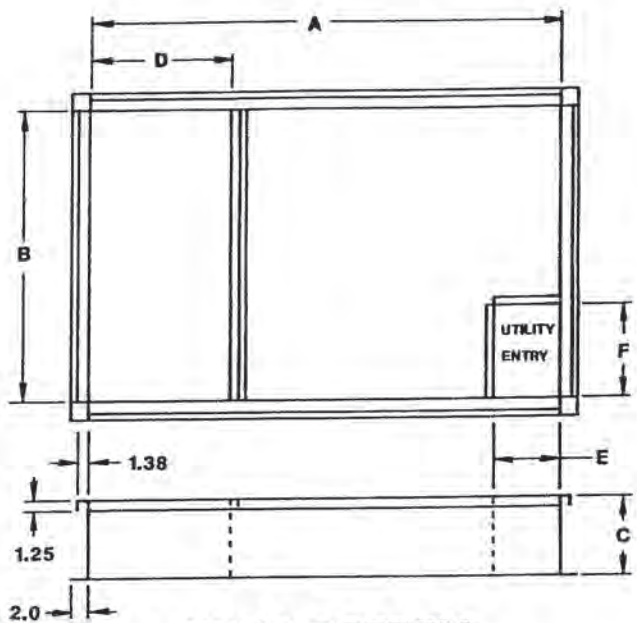
2 - 3 TON - 1 FAN

4 - 5 TON - 1 FAN

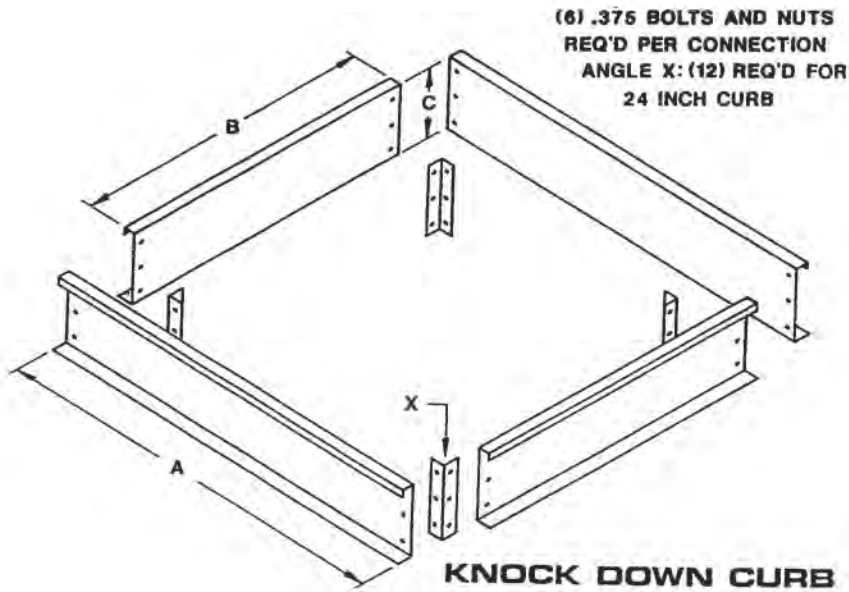
6 - 7 TON - 2 FANS



curb details



SOLID BOTTOM
ACOUSTICAL CURB



KNOCK DOWN CURB

dimensions • A cabinet

CURB TYPE	A	B	C	D	E	F
KNOCK DOWN	73 1/8	51 15/32	14 / 24			
SOLID BOTTOM	73 1/8	51 15/32		25	12	18

notes • A cabinet •

specifications • 'B' cabinet

UNIT FEATURES	RE UNIT SIZE			
	08	10	13	15
NOMINAL CAPACITY TONS	8	10	13	15
EER - FULL LOAD ①	8.35	8.8	8.0	7.7
REFRIGERANT CHARGE total lbs / no. of systems	11.31 (2)	18.37 (2)	20.0 (2)	20-0 (2)
COMPRESSOR (HERMETIC) Quantity	(2)			
CONDENSER COIL	23 / 1 / 16			
Face Area Sq. Ft. / Rows / Fins per inch	23 / 2 / 16			
CONDENSER FANS	(1) / 26"			
Quantity / Diameter	(2) / 26"			
CONDENSER FAN MOTORS	559 / 1100			
Watts / RPM EACH	559 / 1100			
EVAPORATOR COIL - Standard	11.67 / 2 / 12			
Face Area Sq. Ft. / Rows / Fins per inch	11.67 / 3 / 12			
EVAPORATOR COIL - 6 Row	7.50 / 6 / 10			
Face Area Sq. Ft. / Rows / Fins per inch	7.50 / 6 / 8			
EVAPORATOR BLOWER - BELT DRIVE	(1) / 15 x 15 / FC			
Quantity / Wheel D x W / Type	(1) / 15 x 15 / FC			
EVAP. BLOWER MOTOR HP - Standard	(1) 1	(1) 2	(1) 3	
HP - Oversize	(1) 2	(1) 3	(1) 5	
HP - Double Oversize	(1) 3	(1) 5	(1) 7.5	
GAS FURNACES - TYPE	TUBULAR - INDUCED DRAFT /			
Standard Material / Optional Material	ALUMINIZED STEEL / STAINLESS STEEL			
IGNITION	NON-STANDING, AUTOMATIC, SPARK RELIGHT			
GAS CONNECTION (F.P.T.)	.75			
FILTERS - TYPE THROWAWAY	(6) / 16" x 20" x 2"			
QTY / SIZE	(6) / 16" x 20" x 2"			
FILTERS - TYPE PLEATED	(6) / 16" x 20" x 2"			
QTY / SIZE	(6) / 16" x 20" x 2"			
POWER EXHAUST FANS - BELT DRIVE	(2) / 12 x 9 / FC			
Quantity / Wheel D x W / Type	(2) / 12 x 9 / FC			
POWER EXH. FAN MOTOR HP - Standard	(1) 2 HP			
HP - Oversize	(1) 3 HP			
UNIT NET WEIGHTS	08	10	13	15
BASE UNIT (Cooling Only)	952	1120	1200	1200
GAS Heat Exchanger - high heat - Std / SS	185 / 211			
GAS Heat Exchanger - low heat - Std / SS	160 / 183			
ELECTRIC HEAT	75			
HOT WATER OR STEAM COIL	110			
ECONOMIZER	155			
POWER EXHAUST	240			
VAV / VVT	50		85	
CURB WEIGHTS				
KNOCKDOWN CURB - 14" HIGH	160			
KNOCKDOWN CURB - 24" HIGH	320			
ACOUSTICAL CURB - 14" HIGH	200			
ACOUSTICAL CURB - 24" HIGH	360			

① AT STANDARD A.R.I TEST CONDITIONS.

8 ton • mechanical cooling capacities

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 4000 CFM				6 ROW EVAPORATOR @ 4000 CFM *			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	110,200	104,200	96,500	91,200	124,600	117,800	109,100	103,100
		Sensible	89,500	86,600	82,600	78,300	101,400	98,000	93,500	88,600
	80	Total	111,900	105,800	98,000	92,600	126,500	119,600	110,800	104,700
		Sensible	105,700	102,200	97,500	92,400	119,700	115,700	110,400	104,600
	85	Total	114,300	108,100	100,100	94,600	129,200	122,200	113,200	107,000
		Sensible	114,100	108,000	99,900	94,500	128,900	122,100	113,000	106,900
67	75	Total	114,800	108,800	102,800	96,300	127,700	120,400	114,400	107,200
		Sensible	79,400	74,300	71,900	69,300	86,700	85,600	87,600	90,200
	80	Total	116,500	110,500	104,400	97,800	129,600	122,700	116,100	108,800
		Sensible	96,500	90,400	87,400	84,300	105,400	98,700	95,400	92,000
	85	Total	119,000	112,900	106,600	99,900	132,400	125,500	118,600	111,100
		Sensible	114,300	107,100	103,500	99,900	124,900	116,900	113,000	109,000
72	75	Total	120,700	116,300	112,900	104,200	134,300	129,400	125,500	115,900
		Sensible	57,300	54,800	53,200	51,400	56,200	59,900	58,100	56,100
	80	Total	122,500	118,100	114,600	105,800	136,300	131,400	127,400	117,700
		Sensible	71,800	69,600	67,500	65,700	78,400	76,000	73,700	71,700
	85	Total	125,100	120,600	117,100	108,100	139,200	134,200	130,100	120,200
		Sensible	88,000	85,300	83,500	81,200	96,100	93,100	91,100	88,600

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 3200 CFM				6 ROW EVAPORATOR @ 3200 CFM *			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	105,600	99,900	92,600	87,400	117,600	111,200	103,100	97,300
		Sensible	82,000	79,900	76,900	74,500	92,000	89,600	86,300	83,500
	80	Total	107,200	101,400	94,000	88,700	119,400	112,900	104,700	98,800
		Sensible	96,800	94,300	90,800	87,900	108,600	105,800	101,900	98,600
	85	Total	109,500	103,600	96,000	90,600	122,000	115,300	107,000	100,900
		Sensible	109,300	103,500	95,800	90,500	121,800	115,200	106,800	100,800
67	75	Total	111,000	105,700	99,800	93,300	122,500	116,000	110,100	102,900
		Sensible	72,000	68,300	65,200	62,900	77,900	77,600	78,400	81,000
	80	Total	112,700	107,300	101,300	94,700	124,400	118,400	111,800	104,500
		Sensible	87,500	83,000	79,200	76,500	94,700	89,800	85,700	82,800
	85	Total	115,100	109,600	103,500	96,700	127,100	120,900	114,200	106,700
		Sensible	103,700	98,300	93,900	90,600	112,200	106,400	101,500	98,100
72	75	Total	117,300	113,800	109,800	101,200	129,500	125,500	121,300	111,600
		Sensible	52,600	50,400	48,800	46,500	51,500	54,400	52,800	50,400
	80	Total	119,100	115,500	111,500	102,700	131,500	127,400	123,100	113,300
		Sensible	65,900	63,900	61,900	59,400	71,300	69,100	67,000	64,300
	85	Total	121,700	118,000	113,900	104,900	134,300	130,100	125,700	115,700
		Sensible	80,800	78,300	76,500	73,400	87,400	84,700	82,800	79,500

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 2400 CFM				6 ROW EVAPORATOR @ 2400 CFM *			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	98,400	93,600	87,000	82,100	109,800	104,400	97,000	91,500
		Sensible	71,900	70,700	69,000	67,700	78,500	77,200	75,300	73,900
	80	Total	99,900	95,000	88,300	83,300	111,500	106,000	98,500	92,900
		Sensible	84,900	83,400	81,400	79,900	92,700	91,100	88,900	87,300
	85	Total	102,000	97,000	90,200	85,100	113,900	108,300	100,600	94,900
		Sensible	101,800	96,900	90,000	85,000	113,700	108,200	100,400	94,800
67	75	Total	105,200	100,900	95,200	88,700	116,700	111,300	105,700	98,300
		Sensible	63,600	60,400	57,100	55,300	65,300	64,700	64,800	67,400
	80	Total	106,800	102,400	96,700	90,000	118,500	113,600	107,300	99,800
		Sensible	77,300	73,400	69,500	67,200	79,400	75,400	71,400	69,000
	85	Total	109,100	104,600	98,800	91,900	121,000	116,000	109,600	101,900
		Sensible	91,600	87,000	82,400	79,600	94,000	89,300	84,600	81,700
72	75	Total	111,400	109,500	105,100	96,500	123,600	121,500	116,600	107,100
		Sensible	47,500	45,300	43,700	41,900	43,900	46,600	44,900	43,000
	80	Total	113,100	111,200	106,700	98,100	125,500	123,400	118,400	108,700
		Sensible	59,500	57,500	55,500	53,500	61,100	59,100	57,000	54,900
	85	Total	115,500	113,600	109,000	100,100	128,200	126,100	120,900	111,000
		Sensible	72,900	70,500	68,600	66,100	74,900	72,500	70,600	67,800

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS mechanical cooling capacities • 10 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 5000 CFM				6 ROW EVAPORATOR @ 5000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	126,100	120,200	112,500	107,500	136,800	130,200	122,100	116,600
		Sensible	107,900	102,400	96,200	91,900	117,400	111,500	104,800	99,900
	80	Total	128,000	121,800	114,200	109,100	138,900	132,200	124,000	118,400
		Sensible	127,300	120,900	113,600	108,400	138,600	131,600	123,700	118,000
	85	Total	130,800	124,400	116,700	111,400	141,900	135,000	126,700	120,900
		Sensible	130,500	124,300	116,500	111,300	141,600	134,900	126,400	120,800
67	75	Total	135,100	128,600	122,400	115,100	139,200	131,800	126,100	118,600
		Sensible	95,900	91,000	87,900	84,600	100,300	100,000	101,400	103,800
	80	Total	137,200	130,600	124,300	116,900	141,300	134,500	128,000	120,400
		Sensible	116,600	110,700	106,900	102,900	121,900	115,700	111,700	107,500
	85	Total	140,100	133,400	127,000	119,400	144,300	137,400	130,800	123,000
		Sensible	138,100	131,200	126,700	118,800	144,400	137,100	132,400	127,400
72	75	Total	145,200	138,100	131,500	123,700	149,500	142,200	135,400	127,500
		Sensible	80,000	76,200	73,700	68,700	81,200	79,600	77,000	71,800
	80	Total	147,400	140,200	133,500	125,600	151,800	144,400	137,500	129,400
		Sensible	100,200	96,700	93,500	87,700	104,800	101,100	97,700	91,600
	85	Total	150,600	143,200	136,400	128,300	155,100	147,500	140,500	132,200
		Sensible	122,900	118,500	115,600	108,400	128,500	123,900	120,800	113,200

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 4000 CFM				6 ROW EVAPORATOR @ 4000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	120,700	115,000	108,500	103,100	129,700	123,700	116,700	110,900
		Sensible	102,200	96,800	92,600	88,400	110,100	104,300	99,900	95,300
	80	Total	122,500	116,800	110,200	104,700	131,700	125,600	118,500	112,600
		Sensible	120,600	114,300	109,400	104,400	130,000	123,200	117,900	112,500
	85	Total	125,100	119,300	112,600	107,000	134,500	128,300	121,000	115,000
		Sensible	124,800	119,200	112,400	106,900	134,200	128,200	120,800	114,900
67	75	Total	131,100	125,100	118,900	112,100	134,900	128,100	122,300	115,300
		Sensible	87,600	84,000	80,400	77,700	87,600	88,000	88,700	90,900
	80	Total	133,100	127,000	120,700	113,800	137,000	130,700	124,200	117,100
		Sensible	106,500	102,100	97,800	94,500	106,500	102,100	97,800	94,500
	85	Total	136,000	129,700	123,300	116,200	139,900	133,500	126,900	119,600
		Sensible	126,200	121,000	115,900	111,900	126,200	121,000	115,900	112,000
72	75	Total	141,700	135,200	128,500	121,200	145,900	139,200	132,300	124,700
		Sensible	72,300	69,200	66,800	62,700	70,300	69,300	66,800	62,600
	80	Total	143,900	137,300	130,500	123,000	148,100	141,300	134,300	126,600
		Sensible	90,700	87,900	84,800	80,000	90,700	87,900	84,800	80,000
	85	Total	147,000	140,300	133,300	125,600	151,300	144,300	137,200	129,300
		Sensible	111,200	107,800	104,800	98,800	111,200	107,800	104,800	98,900

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 3000 CFM				6 ROW EVAPORATOR @ 3000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	113,200	108,200	102,700	97,100	120,500	115,100	109,300	103,400
		Sensible	90,700	86,800	85,100	81,900	94,600	90,400	88,700	85,500
	80	Total	114,900	109,800	104,300	98,600	122,300	116,900	111,000	105,000
		Sensible	107,000	102,400	100,500	96,700	111,600	106,800	104,800	100,900
	85	Total	117,400	112,200	106,500	100,700	124,900	119,400	113,400	107,300
		Sensible	117,200	112,100	106,300	100,600	124,700	119,300	113,200	107,200
67	75	Total	124,600	119,100	113,400	107,000	128,500	122,200	116,900	110,300
		Sensible	79,000	75,300	72,000	69,700	74,800	74,600	74,800	76,800
	80	Total	126,500	120,900	115,100	108,600	130,500	124,700	118,700	112,000
		Sensible	96,100	91,600	87,500	84,700	91,000	86,700	82,800	80,200
	85	Total	129,200	123,500	117,600	110,900	133,300	127,400	121,300	114,400
		Sensible	113,900	108,500	103,700	100,300	107,800	102,700	98,200	95,000
72	75	Total	136,700	130,600	123,700	116,700	141,100	134,700	127,600	120,400
		Sensible	64,200	61,600	59,400	56,400	58,900	58,300	56,200	53,400
	80	Total	138,800	132,600	125,600	118,500	143,200	136,800	129,500	122,200
		Sensible	80,500	78,200	75,400	72,000	76,200	74,000	71,300	68,200
	85	Total	141,800	135,000	128,300	121,000	146,300	139,700	132,300	124,800
		Sensible	98,700	95,900	93,200	89,000	93,400	90,700	88,100	84,300

13 ton • mechanical cooling capacities

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 8500 CFM				6 ROW EVAPORATOR @ 8500 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	171,700	164,400	152,100	142,100	167,100	160,000	155,900	144,300
		Sensible	146,700	141,100	130,000	122,000	148,500	142,900	131,600	123,400
	80	Total	174,300	166,900	154,400	144,300	177,000	169,400	156,700	146,500
		Sensible	173,200	166,600	153,500	144,000	175,300	168,600	155,400	145,700
	85	Total	178,000	170,500	157,700	147,400	180,800	173,000	160,100	149,600
		Sensible	177,600	170,300	157,400	147,300	180,400	172,800	159,800	149,500
67	75	Total	180,600	171,800	161,200	149,600	183,400	174,300	163,700	151,900
		Sensible	120,900	114,800	111,000	106,100	122,400	116,200	112,300	107,400
	80	Total	183,400	174,400	163,700	151,900	186,200	177,000	166,200	154,200
		Sensible	147,000	139,600	135,000	129,000	148,800	141,300	136,600	130,600
	85	Total	187,300	178,100	167,200	155,200	190,200	180,800	169,800	157,500
		Sensible	174,100	165,400	159,900	152,900	176,300	167,400	161,900	154,700
72	75	Total	193,000	179,800	172,600	158,500	195,900	182,500	175,200	160,900
		Sensible	98,200	93,000	89,500	87,800	99,300	94,100	90,500	88,800
	80	Total	195,900	182,500	175,200	160,900	198,900	185,300	177,900	163,300
		Sensible	123,000	118,000	113,500	112,100	124,500	119,400	114,900	113,400
	85	Total	200,100	186,400	179,000	164,400	203,200	189,300	181,700	166,800
		Sensible	150,800	144,600	140,300	138,600	152,600	146,400	142,000	140,200

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 5200 CFM				6 ROW EVAPORATOR @ 5200 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	163,000	155,100	144,200	135,500	165,500	157,500	146,500	137,600
		Sensible	135,100	131,400	122,400	115,200	136,700	133,100	124,000	116,600
	80	Total	165,500	157,500	146,400	137,600	168,000	159,900	148,700	139,700
		Sensible	159,500	155,200	144,500	136,000	161,400	157,100	146,300	137,700
	85	Total	169,100	160,900	149,500	140,600	171,600	163,300	151,900	142,700
		Sensible	168,800	160,700	149,200	140,500	171,300	163,100	151,600	142,600
67	75	Total	172,900	164,700	154,300	144,000	175,500	167,300	156,600	146,200
		Sensible	109,400	104,800	100,500	96,200	110,700	106,000	101,600	97,400
	80	Total	175,500	167,200	159,600	146,200	178,200	169,800	159,000	148,400
		Sensible	133,000	127,400	122,100	117,000	134,600	128,900	123,600	118,400
	85	Total	179,300	170,800	160,000	149,300	182,000	173,500	162,400	151,600
		Sensible	157,600	151,000	144,700	138,600	159,500	152,800	146,400	140,300
72	75	Total	185,200	174,300	166,600	152,900	188,000	177,000	169,100	155,200
		Sensible	87,000	83,500	79,600	75,700	88,000	84,600	80,500	76,600
	80	Total	188,000	177,000	169,100	155,200	190,900	179,700	171,700	157,600
		Sensible	109,000	106,000	101,000	96,700	110,300	107,300	102,200	97,800
	85	Total	192,000	180,800	172,700	158,500	195,000	183,600	175,400	161,000
		Sensible	133,600	129,900	124,800	119,500	135,200	131,600	126,300	120,900

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 3900 CFM				6 ROW EVAPORATOR @ 3900 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	149,400	141,600	132,000	125,600	151,700	143,800	134,100	127,500
		Sensible	111,800	110,100	105,900	102,500	113,200	111,500	107,200	103,800
	80	Total	151,700	143,800	134,000	127,500	154,000	146,000	136,100	129,400
		Sensible	132,000	130,000	125,000	121,000	133,600	131,600	126,500	122,500
	85	Total	155,000	146,900	136,900	130,200	157,300	149,100	139,000	132,200
		Sensible	154,700	146,800	136,600	130,100	157,000	149,000	138,700	132,100
67	75	Total	161,700	154,000	143,600	135,600	164,200	156,300	145,800	137,700
		Sensible	96,200	90,700	88,200	83,000	97,400	90,400	88,000	84,100
	80	Total	164,200	156,300	145,800	137,700	166,700	158,000	148,000	139,800
		Sensible	117,000	110,300	107,300	101,000	118,400	111,600	108,600	102,200
	85	Total	167,700	159,700	148,900	140,700	170,300	162,100	148,900	142,800
		Sensible	138,600	130,700	127,100	119,700	140,300	130,300	126,700	121,100
72	75	Total	174,000	164,800	156,900	144,800	176,700	167,300	159,300	147,000
		Sensible	75,800	71,700	68,600	65,000	76,700	72,600	69,400	65,800
	80	Total	176,700	167,300	159,300	147,000	179,400	169,800	161,700	149,200
		Sensible	95,000	91,000	87,000	83,000	96,200	92,100	88,100	84,000
	85	Total	180,500	170,900	162,700	150,200	183,300	173,500	165,200	152,400
		Sensible	116,500	111,500	107,500	102,600	117,900	112,900	108,900	103,800

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

mechanical cooling capacities • 15 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 8000 CFM				6 ROW EVAPORATOR @ 8000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	187,500	174,300	165,900	154,400	190,400	177,000	168,400	156,800
		Sensible	149,300	141,900	136,000	128,100	151,100	143,700	137,600	129,700
	80	Total	190,400	177,000	168,400	156,800	193,300	179,700	171,000	159,200
		Sensible	176,300	167,600	160,500	151,300	178,400	169,600	162,500	153,100
	85	Total	194,500	180,800	172,000	160,200	197,500	183,600	174,700	162,600
		Sensible	194,100	180,600	171,700	160,000	197,100	183,400	174,400	162,400
67	75	Total	200,200	187,200	176,800	164,300	203,200	190,000	179,500	166,800
		Sensible	124,500	118,100	113,100	108,000	125,900	119,600	114,500	109,300
	80	Total	203,200	190,000	179,500	166,800	206,300	192,900	182,200	169,300
		Sensible	151,300	143,600	137,500	131,300	153,100	145,400	139,200	132,900
	85	Total	207,600	194,100	183,400	170,400	210,700	197,000	186,100	172,900
		Sensible	179,300	170,200	163,000	155,600	181,400	172,200	164,900	157,400
72	75	Total	215,000	201,100	190,600	179,100	218,300	204,200	193,500	181,800
		Sensible	98,400	91,100	86,300	80,900	99,600	92,200	87,300	81,900
	80	Total	218,300	204,200	193,500	181,800	221,600	207,300	196,400	184,600
		Sensible	123,300	115,600	109,500	103,300	124,800	117,000	110,800	104,600
	85	Total	223,000	208,600	197,700	185,700	226,400	211,800	200,600	188,600
		Sensible	151,100	141,700	135,400	127,700	153,000	143,400	136,900	129,300

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 4500 CFM				6 ROW EVAPORATOR @ 4500 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	178,400	166,200	157,700	145,700	181,100	168,700	160,700	147,800
		Sensible	120,700	116,200	113,000	108,400	122,100	117,500	114,400	109,700
	80	Total	181,100	168,700	160,100	147,900	183,900	171,300	162,500	150,100
		Sensible	142,500	137,100	133,400	128,000	144,200	138,700	135,000	129,500
	85	Total	185,000	172,300	163,500	151,100	187,900	175,000	166,000	153,300
		Sensible	184,600	172,100	163,200	150,900	187,500	174,800	165,700	153,100
67	75	Total	191,200	180,300	169,500	157,500	194,100	183,000	172,100	159,900
		Sensible	100,800	96,300	93,300	88,800	102,000	97,500	94,400	89,900
	80	Total	194,100	183,000	172,100	159,900	197,100	185,800	174,700	162,300
		Sensible	122,500	117,000	113,400	108,000	124,000	118,500	114,800	109,300
	85	Total	198,300	186,900	175,800	163,300	201,300	189,800	178,500	165,800
		Sensible	145,200	138,600	134,400	127,900	146,900	140,400	136,100	129,500
72	75	Total	206,100	194,500	183,300	172,300	209,100	197,500	186,100	174,900
		Sensible	80,200	74,800	72,000	67,400	81,100	75,700	72,900	68,200
	80	Total	209,200	197,500	186,100	174,900	212,300	200,500	188,900	177,600
		Sensible	100,500	95,000	91,400	86,000	101,700	96,100	92,500	87,100
	85	Total	213,700	201,700	190,100	178,700	216,900	204,800	193,000	181,400
		Sensible	123,200	116,400	113,000	106,300	124,700	117,600	114,400	107,600

gas heating capacities

TABLE 30 - 1

CABINET	MODEL	Designation (2 - 3)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	TEMPERATURE RISE RANGE (°F)
B	RE-08	(2)	182.4	147.77	30 - 60
		(3)	225.0	182.25	35 - 65
	RE-10	(2)	228.0	184.68	25 - 55
		(3)	285.0	230.85	35 - 65
	RE-13	(2)	228.0	184.68	20 - 50
		(3)	285.0	230.85	25 - 55
	RE-15	(2)	228.0	184.68	20 - 50
		(3)	285.0	230.85	25 - 55

* AAON HEAT RANGE DESIGNATIONS (2) = MEDIUM HEAT
(3) = HIGH HEAT

- NOTES: 1) To calculate air temperature rise: $\Delta T = \text{Output capacity} / (\text{CFM} \times 1.085)$
 2) Use tabulated ratings for elevations to 2000 FT.
 3) For elevations above 2000 FT. derate 4% for each 1000 FT. above sea level and use the following formula:
 $\Delta T = \text{Output capacity} / (.24 \times 60 \times \text{specific WT of air} \times \text{CFM})$
 4) Gas pressure supply range (inches of water guage): Natural 6 - 10.5 ; Propane 11 - 13.
 5) Gas manifold pressure (inches of water guage): Natural 3.5; Propane 10.5.
 6) Above 2000FT.; Specify "HI ALTITUDE KIT".

CAUTION: FOR APPLICATIONS OUTSIDE THE TEMPERATURE RANGE SHOWN, CONTACT THE FACTORY.

electric heating capacities

TABLE 30 - 2

THREE PHASE

Heating Designation and Unit Availability	No. of Strips	208 / 60 / 3			240 / 60 / 3			480 / 60 / 3			575 / 60 / 3		
		MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
B	2	51.2	15.0	41.60	68.3	20.0	48.2	68.3	20.0	24.0	68.3	20.0	20.0
D	4	102.4	30.0	83.28	136.6	40.0	96.4	136.6	40.0	48.0	136.6	40.0	40.0
E	6	154.0	45.1	124.8	205.2	60.0	144.6	205.2	60.0	72.0	205.2	60.0	60.0

steam heating data

TABLE 31-1 • FACE VELOCITY vs. SELECTION FACTOR • 5.7 SQ. FT. FACE AREA

FV (fpm)	SF	FV (fpm)	SF	FV (fpm)	SF
200	.707	475	.541	750	.454
225	.684	500	.531	775	.448
250	.664	525	.522	800	.442
275	.646	550	.513	825	.437
300	.629	575	.504	850	.431
325	.613	600	.496	875	.425
350	.599	625	.489	900	.420
375	.586	650	.481	925	.415
400	.574	675	.474	950	.410
425	.562	700	.467	975	.406
450	.551	725	.461	1000	.401

TABLE 31-2

SATURATED STEAM PROPERTIES		
PSIG	TEMPERATURE	LATENT HEAT
2	218	966
5	227	961
7	233	958
10	239	953
15	250	946

TABLE 31-3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
200	.03	700	.43
300	.10	800	.55
400	.16	900	.67
500	.24	1000	.81
600	.33		

EXAMPLE: What is the Expected Leaving Air Temperature with 2 PSIG Saturated Steam and 4000 cfm entering at 60°F ?

The coil face velocity is $4000 \div 5.7 = 702$ FPM.

FROM TABLE 31-1: SF = .467 (by interpolation)

FROM TABLE 31-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .467 (218 - 60) = 73.8°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

FROM TABLE 31-2: LATENT HEAT = 966.

FROM TABLE 31-3: AIR SIDE PRESSURE DROP = .44 (by interpolation)

CONDENSATE LOAD = BTUH ÷ LATENT HEAT @ OPERATING PSIG.

CONDENSATE LOAD = $(1.085 \times 73.8 \times 4000) \div 966 = 331.1$ lbs. / hr.

hot water coil performance data

TABLE 31-4 'B' CABINET • 180° F EWT, 60° F EAT • 5.7 SQ. FT. FACE AREA

C.F.M.	ΔP AIR	15 GPM (.2 ft. ΔP)			20 GPM (.33 ft. ΔP)			30 GPM (.68 ft. ΔP)		
		ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH
3000	.17	50.7	22.6	164.8	53.7	18.0	174.8	57.2	12.8	186.2
4000	.29	42.7	25.4	185.2	45.7	20.4	198.2	49.2	14.6	213.4
5000	.43	37.0	27.5	200.6	39.9	22.3	216.2	43.3	16.1	234.8
6000	.60	32.7	29.2	212.9	35.5	23.7	230.7	38.8	17.3	252.2

EXAMPLE: "B" Cabinet with 5000 cfm, 180°F EWT, 60°F EAT, and 15 GPM has a capacity of 200.6 MBH from Table 31-4.

For 190°F EWT and 60°F EAT, the correction factor is 1.08. Actual capacity = $1.08 \times 200.6 = 216.6$ MBH.

$$\text{NEW } \Delta T_{H_2O} = \frac{216,600}{(500)(\text{GPM})} = \frac{216,600}{(500)(15)} = 28.9^\circ \text{F}$$

$$\text{NEW } \Delta T_{AIR} = \frac{216,600}{(1.08)(\text{CFM})} = \frac{216,600}{(1.08)(5000)} = 39.9^\circ \text{F}$$

CORRECTION FACTORS FOR OTHER THAN 180°F HW ENT. AND 60°F AIR							
AIR TEMP.	WATER TEMP.						
	210	200	190	180	170	160	150
50°	1.38	1.28	1.18	1.08	1.00	0.90	0.82
60°	1.28	1.18	1.08	1.00	0.90	0.82	0.72
70°	1.18	1.08	1.00	0.90	0.82	0.72	0.64

coil static pressure drops (in. wg.)

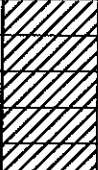
TABLE 32 - 1 • 'B' CABINET

• INDOOR COIL •		NOTE: * 6 ROW COIL DATA "ZERO" % BYPASS							
C.F.M	8 TON UNIT				10 TON UNIT				
	STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*		
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	
2500	.103	.067	.385	.284	.155	.095	.406	.284	
3000	.133	.088	.511	.382	.196	.125	.531	.382	
3500	.166	.111	.654	.494	.241	.159	.669	.494	
4000	.202	.137	.814	.620	.288	.196	.823	.620	
4500	.240	.165	.990	.760	.337	.237	.990	.760	
5000	.281	.196	1.182	.913	.388	.281	1.172	.913	
5500	.325	.229	1.391	1.080	.443	.328	1.368	1.080	
6000	.371	.265	1.617	1.261	.499	.379	1.578	1.261	
6500	.420	.303	1.858	1.456	.558	.433	1.803	1.456	

• INDOOR COIL •		NOTE: * 6 ROW COIL DATA "ZERO" % BYPASS							
C.F.M	13 TON UNIT				15 TON UNIT				
	STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*		
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	
2500	.154	.095	.293	.217	.154	.095	.305	.217	
3000	.200	.125	.389	.293	.200	.125	.401	.293	
3500	.249	.159	.497	.380	.249	.159	.509	.380	
4000	.303	.196	.618	.478	.303	.196	.630	.478	
4500	.361	.237	.750	.587	.361	.237	.762	.587	
5000	.423	.281	.895	.706	.423	.281	.907	.706	
5500	.490	.328	1.052	.836	.490	.328	1.064	.836	
6000	.560	.379	1.221	.978	.560	.379	1.233	.978	
6500	.635	.433	1.403	1.130	.635	.433	1.415	1.130	

component static pressure drops (in. wg.)

TABLE 32 - 2 • 'B' CABINET

C.F.M 8-15 TON	HEATING SECTION					FILTERS			ECON 100% R / A	Acoustical CURB
	GAS HEAT		ELECTRIC HEAT			2" Throw Away	2" Pleated	4" Pleated		
	HIGH	MEDIUM	B	D	E					
2500	.238	.202	.171	.213	.251	.054	.074	.070	.058	.046
3000	.291	.246	.208	.261	.312	.068	.092	.086	.073	.059
3500	.346	.292	.246	.310	.377	.082	.112	.103	.090	.072
4000	.403	.338	.285	.362	.445	.098	.132	.121	.108	.086
4500	.461	.386	.325	.415	.516		.154	.140	.127	.101
5000	.522	.434	.365	.471	.592		.176	.160	.147	.117
5500	.584	.483	.406	.528	.671		.200	.180	.168	.134
6000	.649	.534	.448	.586	.753		.225	.201	.190	.152
6500	.715	.585	.491	.647	.839		.252	.224	.214	.171

blower performance motor input rpm and kw

TABLE 33 - 1 • 'B' CABINET • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.5		1.5		2.5		3.5		4.5	
	RPM	KW	RPM	KW	RPM	KW	RPM	KW	RPM	KW
2500	560	.50	840	1.12	1100	1.90	NOT AVAILABLE			
3000	580 ^{1 hp}	.68	860 ^{1 hp}	1.40	1110 ^{3 hp}	2.25				
3500	620	.92	890	1.70	1120	2.58	1310	3.54	1470	4.48
4000	670	1.24	920	2.02	1140	3.00	1320	3.95	1480	5.00
4500	730 ^{2 hp}	1.58	960	2.48	1160	3.40	1330 ^{5 hp}	4.46	1490	6.10
5000	780	2.00	1000 ^{3 hp}	3.00	1180 ^{5 hp}	3.90	1350	5.08	1500	6.59
5500	840 ^{3 hp}	2.54	1040	3.60	1210	4.55	1370 ^{7 1/2 hp}	5.98	1510 ^{7 1/2 hp}	7.22
6000	900	3.15	1080 ^{5 hp}	4.20	1230	5.04	1400	6.87	NOT AVAILABLE	

NOTE: TOTAL STATIC = INTERNAL STATIC + EXTERNAL STATIC

BLOWER PERFORMANCE TABLES INCLUDE INTERNAL RESISTANCE OF CABINET ONLY.
FOR TOTAL STATIC PRESSURE DETERMINATION, SYSTEM EXTERNAL STATIC PRESSURE
MUST BE ADDED TO THE APPROPRIATE COMPONENT STATIC PRESSURE DROPS.
SEE TABLES 32-1, 32-2, 31-3 AND 31-4 FOR COMPONENT STATIC PRESSURE DROPS.

REFER TO PAGE 82 FOR 'KW' TO 'HP' CONVERSION.

power exhaust performance

TABLE 32 - 2 • 'B' CABINET • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.2		0.4		0.6		0.8		1.0	
	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
1600	NOT AVAILABLE		660	2	760	2	860	2	960	2
2000	500	2	650	2	760	2	850	2	950	2
2400	580	2	680	2	780	2	860	2	940	2
2800	660	2	720	2	800	2	880	2	950	2
3200	740	2	800	2	850	2	910	2	980	2
3600	810	2	860	2	900	2	950	2	1000	2
4000	880	2	910	2	960	2	1000	2	1050	3
4400	940	2	980	2	1010	3	1050	3	1110	3
4800	1010	3	1050	3	1100	3	1120	3	NOT AVAILABLE	

electrical data

TABLE 34 - 1 • 'B' CABINET •

208 - 240 / 3 / 60													
UNIT SIZE		08			10			13			15		
BLOWER MOTOR	(HP)	1.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0	7.5	3.0	5.0	7.5
	F.L.A.	3.6	6.8	9.6	6.8	9.6	15.2	9.6	15.2	22.0	9.6	15.2	22.0
COMPRESSOR 1	F.L.A. (ea)	13.2			16.1			13.2			17.7		
	L.R.A. (ea)	84			105			84			130		
COMPRESSOR 2	F.L.A. (ea)	16.1						26.3			31.4		
	L.R.A. (ea)	105						183			193		
CONDENSER FAN MTR.	F.L.A. (ea)	(1) 6.9						(2) 6.9					
COMBUSTION BLOWER MTR.	F.L.A. (ea)	1.3											
COOLING	F.L.A.	40	43	44	46	49	54	63	69	75	73	78	85
	M.C.A.	44	47	50	50	53	58	70	75	82	80	86	93
Max. Overcurrent Protection		50	60				70	90	100	100	110		125
ELEC. HEAT	F.L.A.	52	55	58	55	58	63	58	63	70	72	78	70
Designation - B -	M.C.A.	65	69	72	69	72	79	72	79	88	80	86	88
Max. Overcurrent Protection		70		80	70	80	100	80	100	110			
ELEC. HEAT	F.L.A.	100	103	106	103	106	112	106	112	118	106	112	118
Designation - D -	M.C.A.	125	129	133	129	133	140	133	140	148	133	140	148
Max. Overcurrent Protection		150								175	150		175
ELEC. HEAT	F.L.A.	148	151	154	151	154	160	154	160	167	154	160	167
Designation - E -	M.C.A.	185	189	193	189	193	200	193	200	208	193	200	208
Max. Overcurrent Protection		200								225	200		225
480 / 3 / 60													
UNIT SIZE		08			10			13			15		
BLOWER MOTOR	(HP)	1.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0	7.5	3.0	5.0	7.5
	F.L.A.	1.8	3.4	4.8	3.4	4.8	7.6	4.8	7.6	11.0	4.8	7.6	11.0
COMPRESSOR 1	F.L.A. (ea)	6.6			8.1			6.6			9.1		
	L.R.A. (ea)	42			55			42			65		
COMPRESSOR 2	F.L.A. (ea)	8.1						13.2			15.7		
	L.R.A. (ea)	55						91			96		
CONDENSER FAN MTR.	F.L.A. (ea)	(1) 3.5						(2) 3.5					
COMBUSTION BLOWER MTR.	F.L.A. (ea)	0.7											
COOLING	F.L.A.	20	22	23	23	25	27	32	34	38	37	39	43
	M.C.A.	22	24	25	25	27	29	35	38	41	41	43	47
Max. Overcurrent Protection		30				35		45	50				60
ELEC. HEAT	F.L.A.	26	27	29	27	29	32	29	32	35	29	39	35
Designation - B -	M.C.A.	32	34	36	34	36	40	36	40	44	36	43	44
Max. Overcurrent Protection		35		40	35	40	50	40	50	60	40	50	60
ELEC. HEAT	F.L.A.	50	52	53	51	53	56	53	56	59	53	56	59
Designation - D -	M.C.A.	62	64	66	64	66	70	66	70	74	66	70	74
Max. Overcurrent Protection		70							80		70		80
ELEC. HEAT	F.L.A.	74	75	77	75	77	80	77	80	83	77	80	83
Designation - E -	M.C.A.	92	94	96	94	96	100	96	100	104	96	100	104
Max. Overcurrent Protection		100								110	100		110

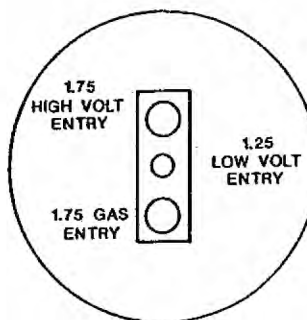
TABLE 35-1 • 'B' CABINET •

575 / 3 / 60													
UNIT SIZE		08			10			13			15		
BLOWER MOTOR	(HP)	1.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0	7.5	3.0	5.0	7.5
	F.L.A	1.5	2.8	3.9	2.8	3.9	6.2	3.9	6.2	9.0	3.9	6.2	9.0
COMPRESSOR 1	F.L.A (ea)	5.1			6.2			5.1			7.3		
	L.R.A (ea)	36			50			36			52		
COMPRESSOR 2	F.L.A (ea)	6.2			6.2			10.5			12.6		
	L.R.A (ea)	50			50			73			77		
CONDENSER FAN MTR.	F.L.A (ea)	(1) 3.5						(2) 3.5					
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.7											
COOLING	F.L.A	16	18	19	19	20	22	27	29	32	31	33	36
	M.C.A	18	19	20	20	21	24	29	31	34	34	36	39
Max. Overcurrent Protection		20	25					35	40	45			50
ELEC. HEAT	F.L.A	22	23	24	23	24	26	24	26	29	24	26	29
Designation - B •	M.C.A	27	29	30	29	30	33	30	33	36	30	33	36
Max. Overcurrent Protection		30					40	35	45	50	35	45	50
ELEC. HEAT	F.L.A	42	43	44	43	44	46	43	46	49	44	46	49
Designation - D •	M.C.A	52	54	55	54	55	58	55	58	61	55	58	61
Max. Overcurrent Protection		60								70	60		70
ELEC. HEAT	F.L.A	62	63	64	63	64	66	64	66	69	64	66	69
Designation - E •	M.C.A	77	79	80	79	80	83	80	83	86	80	83	86
Max. Overcurrent Protection		80					90	80	90	80	90		

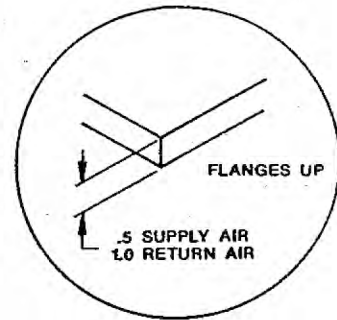
NOTE: THE COOLING ELECTRICAL DATA IS FOR COOLING ONLY AND COOLING WITH GAS HEAT PACKAGE UNITS. THE ELECTRIC HEAT ELECTRICAL DATA IS FOR PACKAGED COOLING WITH ELECTRIC HEAT UNITS. SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN TABLES 34-1 AND 35-1 DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

dimensions • B cabinet • 8 - 15 ton

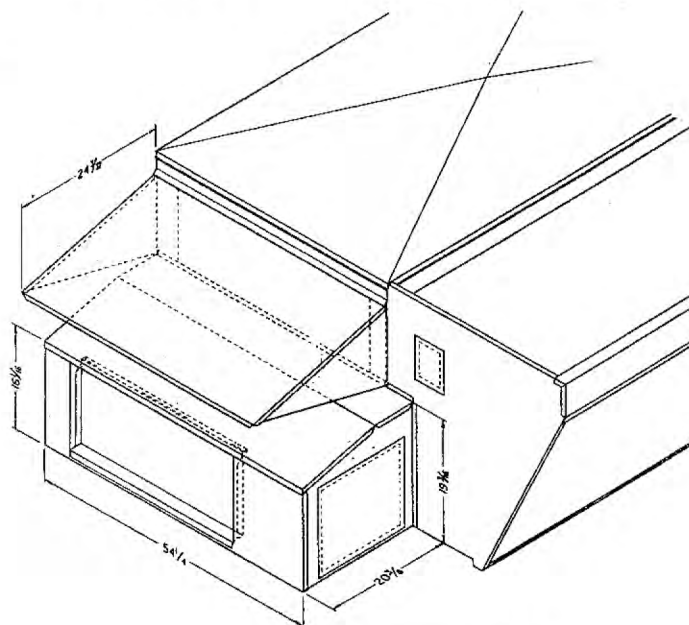
CLEARANCES	
LOCATION	UNIT SIZE
	8 • 10 • 13 • 15 •
RETURN AIR- (BACK)	48
VENT SIDE- (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



DETAIL A



DETAIL B

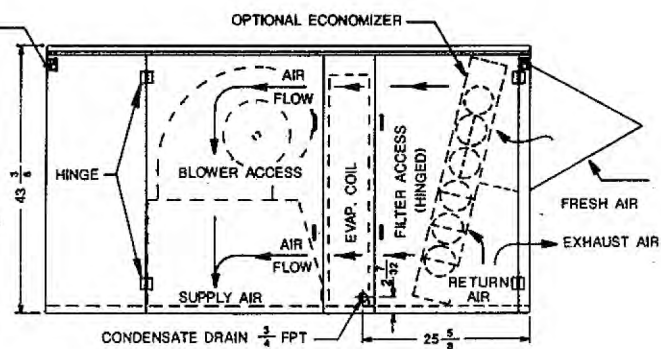
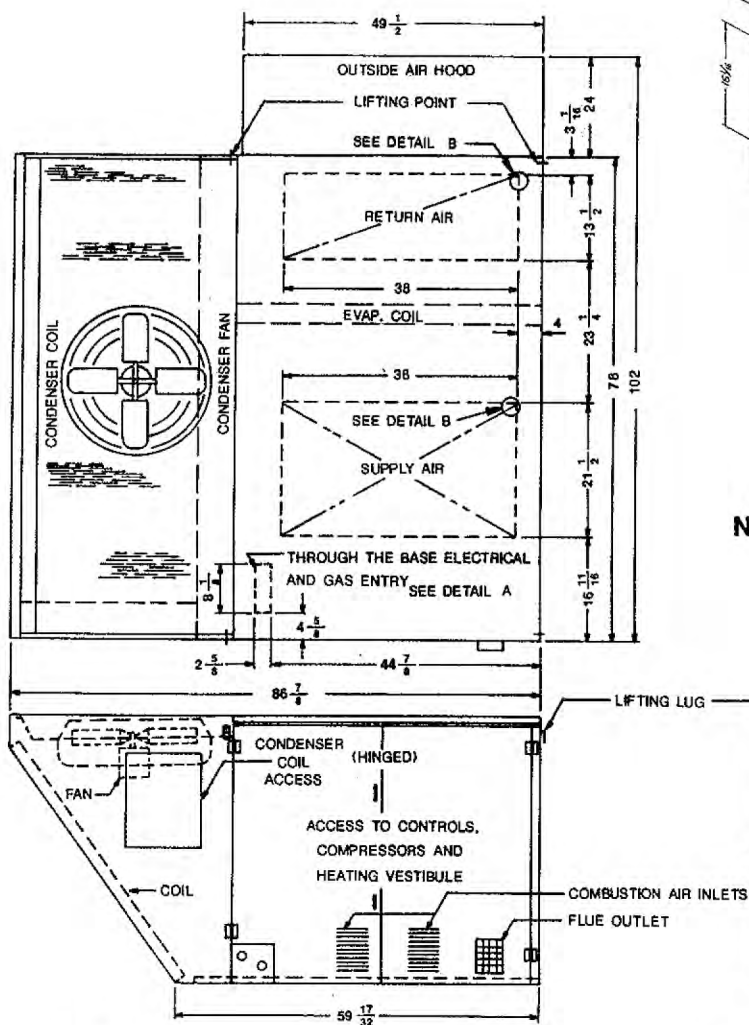


POWER EXHAUST

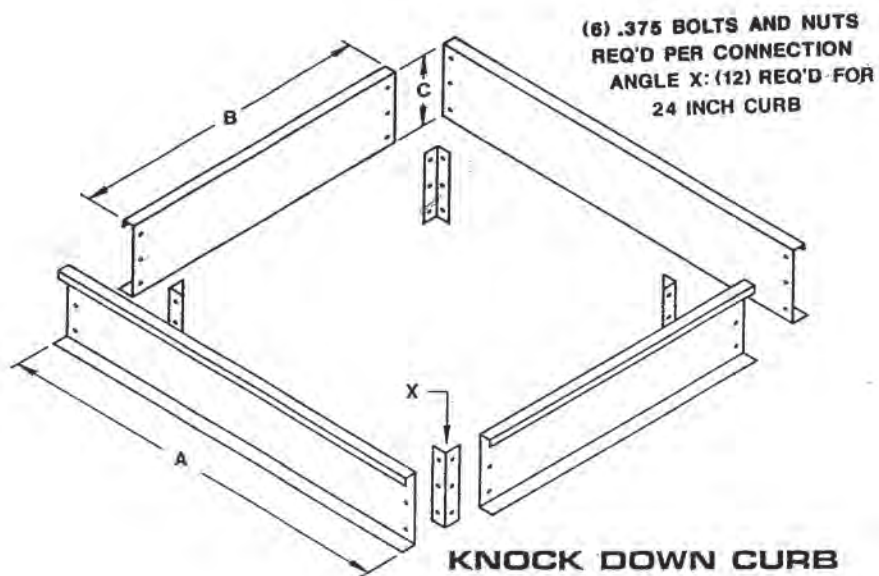
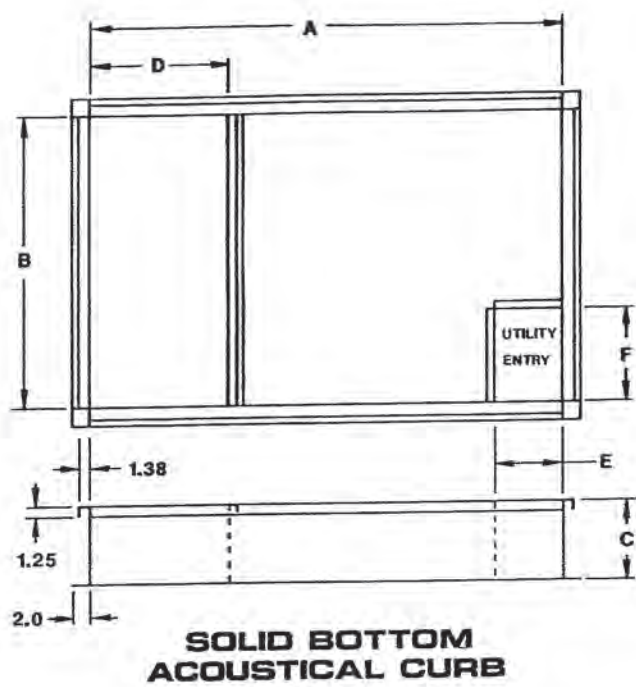
NUMBER OF CONDENSER FANS

8 - 10 TON - 1 FAN

13 - 15 TON - 2 FANS



curb details



dimensions • B cabinet

CURB TYPE	A	B	C	D	E	F
KNOCK DOWN	73 1/8	51 15/32	14 / 24			
SOLID BOTTOM	73 1/8	51 15/32		25	12	18

specifications • 'C' cabinet

UNIT FEATURES		RE UNIT SIZE		
		16	20	24
NOMINAL CAPACITY TONS		16	20	24
EER - FULL LOAD ①		8.8	8.2	8.2
REFRIGERANT CHARGE total lbs / no. of systems		27.0 (2)	41.0 (2)	44.0 (2)
COMPRESSOR (HERMETIC)	Quantity	(2)		
CONDENSER COIL		33.94 / 2 / 13	33.94 / 3 / 16	
Face Area Sq. Ft. / Rows / Fins per inch				
CONDENSER FANS		(2) / 26"		(3) / 26"
Quantity / Diameter				
CONDENSER FAN MOTORS		559 / 1100		
Watts / RPM	EACH			
EVAPORATOR COIL - Standard		16 / 3 / 12	16 / 4 / 12	16 / 6 / 12
Face Area Sq. Ft. / Rows / Fins per inch				
EVAPORATOR COIL - 6 Row		11.66 / 6 / 10		
Face Area Sq. Ft. / Rows / Fins per inch				
EVAPORATOR BLOWER - BELT DRIVE		(2) / 15 x 11 / FC		
Quantity / Wheel D x W / Type				
EVAP. BLOWER MOTOR	HP - Standard	(1) 3	(1) 5	(1) 7.5
	HP - Oversize	(1) 5	(1) 7.5	(1) 10
	HP - Double Oversize	(1) 7.5	(1) 10	(1) 15
GAS FURNACES - TYPE		TUBULAR - INDUCED DRAFT		
Standard Material / Optional Material		ALUMINIZED STEEL / STAINLESS STEEL		
IGNITION		NON-STANDING , AUTOMATIC , SPARK RELIGHT		
GAS CONNECTION (F.P.T.)		.75		
FILTERS - TYPE		PLEATED (2) / 16" x 25" x 2" (4) / 20" x 25" x 2"		
QTY / SIZE				
POWER EXHAUST FANS - BELT DRIVE		(2) / 15 x 11 / FC		
Quantity / Wheel D x W / Type				
POWER EXH. FAN MOTOR	HP - Standard	(1) 3 HP		
	HP - Oversize	(1) 5 HP		
UNIT NET WEIGHTS		16	20	24
BASE UNIT (Cooling Only)		1652	1815	1860
GAS HEAT EXCHANGER - high heat - Std / SS		220 / 251		
GAS HEAT EXCHANGER - low heat - Std / SS		185 / 211		
ELECTRIC HEAT		75		
HOT WATER OR STEAM COIL		125		
ECONOMIZER		228		
POWER EXHAUST		360		
VAV / VVT		85	125	
CURB WEIGHTS				
KNOCKDOWN CURB - 14" HIGH		180		
KNOCKDOWN CURB - 24" HIGH		360		
ACOUSTICAL CURB - 14" HIGH		230		
ACOUSTICAL CURB - 24" HIGH		410		

① AT STANDARD A.R.I TEST CONDITIONS. NO CERTIFICATION PROGRAM APPLICABLE FOR UNITS ABOVE 20 TONS.

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS mechanical cooling capacities • 16 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 9000 CFM				6 ROW EVAPORATOR @ 8000 CFM*			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	208,100	196,600	189,400	181,700	226,100	213,500	205,800	197,400
		Sensible	178,800	168,900	162,800	156,300	193,400	182,600	176,100	169,000
	80	Total	211,300	199,600	192,300	184,500	229,500	216,800	208,900	200,400
		Sensible	211,100	199,400	192,200	184,500	228,300	215,600	207,800	199,500
	85	Total	215,800	203,900	196,400	188,500	234,400	221,500	213,400	204,700
		Sensible	215,400	203,700	196,000	188,300	233,900	221,300	213,000	204,500
67	75	Total	220,300	207,200	200,000	189,600	230,400	215,600	209,100	198,300
		Sensible	149,200	139,900	136,700	130,600	169,400	168,100	166,600	166,100
	80	Total	223,700	210,400	203,000	192,500	233,900	220,000	212,300	201,300
		Sensible	181,400	170,100	166,200	158,800	202,500	189,900	185,500	177,300
	85	Total	228,500	214,900	207,400	196,600	238,900	224,700	216,900	205,600
		Sensible	214,900	201,500	197,000	188,100	231,900	224,000	216,400	205,500
72	75	Total	234,500	220,500	212,300	201,400	245,300	230,600	222,000	210,600
		Sensible	119,300	109,700	106,600	101,500	127,300	122,500	119,000	113,400
	80	Total	238,100	223,900	215,500	204,500	249,000	234,100	225,400	213,800
		Sensible	149,500	139,300	135,300	129,700	166,900	155,500	151,000	144,800
	85	Total	243,200	228,700	220,100	208,900	254,400	239,100	230,200	218,400
		Sensible	183,200	170,700	167,200	160,300	204,600	190,600	186,600	179,000

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 5400 CFM				6 ROW EVAPORATOR @ 5400 CFM*			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	200,800	190,100	181,800	173,200	213,700	202,300	193,600	184,300
		Sensible	162,200	154,800	150,500	143,400	179,200	171,000	166,400	158,500
	80	Total	203,900	193,000	184,600	175,800	217,000	205,400	196,500	187,100
		Sensible	191,500	182,700	177,700	169,300	211,600	201,900	196,400	187,100
	85	Total	208,300	197,100	188,600	179,600	221,700	209,800	200,700	191,100
		Sensible	207,900	196,900	188,200	179,400	221,300	209,600	200,300	190,900
67	75	Total	214,000	202,200	192,800	182,800	222,500	209,100	200,300	190,000
		Sensible	136,100	128,500	125,400	119,000	142,400	137,200	135,600	130,800
	80	Total	217,300	205,300	195,700	185,600	222,900	213,400	203,400	192,900
		Sensible	165,500	156,200	152,400	144,700	173,100	163,400	159,400	151,400
	85	Total	222,000	209,700	199,900	189,600	230,800	218,000	207,800	197,000
		Sensible	196,100	185,100	180,600	171,500	205,200	193,600	188,900	179,400
72	75	Total	228,300	215,400	205,300	194,600	237,400	223,900	213,400	202,300
		Sensible	109,500	101,200	98,400	92,900	110,200	105,900	102,900	97,200
	80	Total	231,800	218,700	208,400	197,600	241,000	227,300	216,600	205,400
		Sensible	137,300	128,500	124,900	118,700	143,600	134,400	130,600	124,200
	85	Total	236,800	223,400	212,900	201,800	246,200	232,200	221,300	209,800
		Sensible	168,300	157,500	154,400	146,700	176,000	164,800	161,500	153,500

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 4800 CFM				6 ROW EVAPORATOR @ 4800 CFM*			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	191,000	182,300	173,600	164,900	197,500	188,500	179,500	170,500
		Sensible	130,500	125,800	122,400	118,800	151,800	146,300	142,300	138,100
	80	Total	193,900	185,100	176,200	167,400	200,500	191,400	182,200	173,100
		Sensible	154,100	148,500	144,500	140,200	179,200	172,700	168,000	163,000
	85	Total	198,100	189,100	180,000	171,000	204,800	195,500	186,100	176,800
		Sensible	197,700	188,900	179,600	170,800	204,400	195,300	185,700	176,600
67	75	Total	204,600	194,900	185,300	175,600	211,500	200,500	191,600	181,500
		Sensible	109,900	106,000	102,200	98,300	124,700	122,800	121,100	119,600
	80	Total	207,700	197,900	188,100	178,300	214,700	204,600	194,500	184,300
		Sensible	133,600	128,900	124,200	119,500	145,400	140,300	135,200	130,100
	85	Total	212,200	202,200	192,100	182,100	219,300	209,000	198,700	188,300
		Sensible	158,300	152,800	147,100	141,600	172,300	166,200	160,200	154,200
72	75	Total	218,800	208,400	197,800	187,500	226,200	215,500	204,500	193,800
		Sensible	90,400	85,400	81,600	78,400	95,200	93,000	88,800	85,300
	80	Total	222,100	211,600	200,800	190,400	229,600	218,800	207,600	196,800
		Sensible	113,300	108,400	103,500	100,100	123,300	118,000	112,700	109,000
	85	Total	226,900	216,100	205,100	194,500	234,500	223,500	212,100	201,000
		Sensible	138,900	132,800	127,900	123,700	151,100	144,600	139,300	134,700

20 ton • mechanical cooling capacities NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 8000 CFM				6 ROW EVAPORATOR @ 8000 CFM *			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	252,700	239,200	226,100	212,700	253,900	240,300	227,200	213,700
		Sensible	216,500	203,300	194,400	182,900	216,800	203,600	194,800	183,200
	80	Total	256,500	242,800	229,500	215,900	257,800	244,000	230,700	217,000
		Sensible	255,500	239,900	229,500	215,900	256,000	240,400	230,000	216,300
	85	Total	262,000	248,000	234,400	220,500	263,300	249,200	235,700	221,700
		Sensible	261,500	247,800	233,900	220,300	262,800	249,000	235,200	221,500
67	75	Total	268,200	254,400	240,400	226,300	269,600	255,700	241,600	227,400
		Sensible	180,900	170,800	168,600	160,600	181,300	171,200	168,900	160,900
	80	Total	272,300	258,300	244,100	229,700	273,700	259,600	245,300	230,900
		Sensible	220,000	207,700	205,000	195,200	220,400	208,100	205,400	195,600
	85	Total	278,200	263,900	249,300	234,600	279,600	265,200	250,600	235,900
		Sensible	260,700	246,200	242,900	231,300	261,200	246,600	243,400	231,800
72	75	Total	287,000	272,500	257,300	242,100	288,400	273,800	258,600	243,400
		Sensible	145,800	135,400	131,300	125,200	145,400	135,600	131,500	125,500
	80	Total	291,400	276,600	261,200	245,800	292,800	278,000	262,500	247,100
		Sensible	182,700	171,800	166,600	159,900	183,100	172,100	166,900	160,200
	85	Total	297,700	282,500	266,800	251,100	299,100	284,000	268,100	252,400
		Sensible	224,000	210,600	205,900	197,700	224,400	211,000	206,300	198,000

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 8000 CFM				6 ROW EVAPORATOR @ 8000 CFM *			
			AIR TEMP. ENT. CONDENSER • °F				AIR TEMP. ENT. CONDENSER • °F			
			85	95	105	115	85	95	105	115
62	75	Total	239,600	226,800	211,400	200,800	240,800	228,000	212,500	201,800
		Sensible	195,000	179,900	175,500	169,100	195,200	180,300	175,900	169,500
	80	Total	243,200	230,300	214,600	203,900	244,500	231,500	215,700	204,900
		Sensible	230,100	212,400	207,200	199,700	230,500	212,900	207,600	200,100
	85	Total	248,400	235,300	219,200	208,300	249,800	236,500	220,300	209,300
		Sensible	247,900	235,100	218,800	208,100	249,300	236,300	219,900	209,100
67	75	Total	257,800	243,900	227,600	216,000	259,100	245,100	228,500	217,100
		Sensible	162,500	146,900	148,100	142,400	162,900	151,000	147,800	141,600
	80	Total	261,700	247,600	230,800	219,300	263,000	248,800	232,000	220,400
		Sensible	197,600	183,200	179,300	171,800	198,000	183,600	179,700	172,100
	85	Total	267,300	252,900	235,800	224,000	268,700	254,100	237,000	225,100
		Sensible	234,100	217,100	212,500	203,600	234,700	217,500	212,900	203,900
72	75	Total	278,400	263,600	245,600	233,200	279,700	264,900	246,800	234,400
		Sensible	134,700	121,200	117,500	110,900	134,900	121,400	117,700	111,100
	80	Total	282,600	267,600	249,300	236,800	284,000	268,900	250,600	238,000
		Sensible	168,800	153,800	149,100	141,600	169,100	154,100	149,400	141,900
	85	Total	288,700	273,400	254,700	241,900	290,100	274,700	256,000	243,100
		Sensible	206,900	183,800	185,200	176,500	207,300	188,900	184,700	175,400

mechanical cooling capacities • 24 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 1800 CFM			
			AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115
62	75	Total	274,600	260,200	245,400	231,700
		Sensible	235,700	223,800	210,700	198,200
	80	Total	278,800	264,200	249,100	235,200
		Sensible	278,300	264,200	248,700	234,000
	85	Total	284,800	269,900	254,500	240,300
		Sensible	284,200	269,600	254,000	240,100
67	75	Total	293,100	277,800	262,000	247,300
		Sensible	200,800	194,900	187,100	179,200
	80	Total	297,600	282,000	266,000	251,100
		Sensible	244,200	237,000	227,500	217,900
	85	Total	304,000	288,100	271,700	256,500
		Sensible	289,400	280,900	269,600	256,000
72	75	Total	311,700	295,400	278,600	262,900
		Sensible	162,200	154,100	143,900	137,600
	80	Total	316,400	299,900	282,800	266,900
		Sensible	203,300	195,500	182,600	175,700
	85	Total	323,200	306,300	288,900	272,600
		Sensible	249,200	239,600	225,700	217,100

6 ROW COIL IS STANDARD
IN THE 24 TON UNIT.

CONSULT FACTORY FOR CAPACITIES
FOR 6 ROW COIL WITH BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 7200 CFM			
			AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115
62	75	Total	260,600	245,200	228,200	211,700
		Sensible	216,400	198,100	185,100	171,000
	80	Total	264,600	248,900	232,900	214,900
		Sensible	255,500	233,800	218,500	201,900
	85	Total	270,300	254,300	237,200	219,500
		Sensible	269,800	254,000	236,700	219,300
67	75	Total	282,800	266,000	248,100	229,700
		Sensible	170,500	169,300	157,400	143,400
	80	Total	287,100	270,100	251,900	233,200
		Sensible	207,300	205,900	191,400	174,300
	85	Total	293,300	275,900	257,300	238,200
		Sensible	245,700	244,000	226,800	206,500
72	75	Total	305,100	286,900	267,500	247,700
		Sensible	145,600	135,700	125,300	112,800
	80	Total	309,700	291,300	271,600	251,500
		Sensible	182,500	172,200	159,000	144,000
	85	Total	316,400	297,600	277,400	256,900
		Sensible	223,700	211,100	196,500	178,000

6 ROW COIL IS STANDARD
IN THE 24 TON UNIT.

CONSULT FACTORY FOR CAPACITIES
FOR 6 ROW COIL WITH BYPASS

gas heating capacities

TABLE 42 - 1

CABINET	MODEL	Designation (1 - 3)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	TEMPERATURE RISE RANGE (°F)
C	RE-16	(1)	285.0	230.85	20 - 50
		(3)	350.0	283.50	30 - 60
	RE-20	(1)	285.0	230.85	10 - 40
		(3)	360.0	291.60	20 - 50
	RE-24	(1)	285.0	230.85	10 - 40
		(3)	360.0	291.60	15 - 45

* AAON HEAT RANGE DESIGNATIONS (1) = LOW HEAT
(3) = HIGH HEAT

NOTES: 1) To calculate air temperature rise: $\Delta T = \text{Output capacity} / (\text{CFM} \times 1.085)$
 2) Use tabulated ratings for elevations to 2000 FT.
 3) For elevations above 2000 FT. derate 4% for each 1000 FT. above sea level and use the following formula:
 $\Delta T = \text{Output capacity} / (.24 \times 60 \times \text{specific WT of air} \times \text{CFM})$
 4) Gas pressure supply range (inches of water guage): Natural 6 - 10.5 ; Propane 11 - 13.
 5) Gas manifold pressure (inches of water guage): Natural 3.5; Propane 10.5.
 6) Above 2000FT.; Specify "HI ALTITUDE KIT".

CAUTION: FOR APPLICATIONS OUTSIDE THE TEMPERATURE RANGE SHOWN, CONTACT THE FACTORY.

electric heating capacities

TABLE 42 - 2

THREE PHASE

Heating Designation and Unit Availability 16 - 20 - 24	No. of Strips	208 / 60 / 3			240 / 60 / 3			480 / 60 / 3			575 / 60 / 3		
		MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
B	2	51.2	15.0	41.60	68.3	20.0	48.2	68.3	20.0	24.0	68.3	20.0	20.0
D	4	102.4	30.0	83.28	136.6	40.0	96.4	136.6	40.0	48.0	136.6	40.0	40.0
E	6	154.0	45.1	124.80	205.2	60.0	144.6	205.2	60.0	72.0	205.2	60.0	60.0
F	8	205.2	60.1	166.56	273.2	80.0	192.8	273.2	80.0	96.0	273.2	80.0	80.0
G	10	256.5	75.1	208.13	341.5	100.0	241.0	341.5	100.0	120.0	341.5	100.0	100.0

steam heating data

TABLE 43-1 • FACE VELOCITY vs. SELECTION FACTOR • 6.8 SQ. FT. FACE AREA

FV (fpm)	SF	FV (fpm)	SF	FV (fpm)	SF
200	.707	475	.541	750	.454
225	.684	500	.531	775	.448
250	.664	525	.522	800	.442
275	.646	550	.513	825	.437
300	.629	575	.504	850	.431
325	.613	600	.496	875	.425
350	.599	625	.489	900	.420
375	.586	650	.481	925	.415
400	.574	675	.474	950	.410
425	.562	700	.467	975	.406
450	.551	725	.461	1000	.401

TABLE 43-2

SATURATED STEAM PROPERTIES		
PSIG	TEMPERATURE	LATENT HEAT
2	218	966
5	227	961
7	233	958
10	239	953
15	250	946

TABLE 43-3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
200	.03	700	.43
300	.10	800	.55
400	.16	900	.67
500	.24	1000	.81
600	.33		

EXAMPLE: What is the Expected Leaving Air Temperature with 2 PSIG Saturated Steam and 6000 cfm entering at 60°F ?

The coil face velocity is $6000 \div 6.8 = 882$ FPM.

FROM TABLE 43-1: SF = .424 (by Interpolation)

FROM TABLE 43-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .424(218 - 60) = 67.0°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

FROM TABLE 43-2: LATENT HEAT = 966.

FROM TABLE 43-3: AIR SIDE PRESSURE DROP = .65 (by Interpolation)

CONDENSATE LOAD = BTUH + LATENT HEAT @ OPERATING PSIG.

CONDENSATE LOAD = (1.085 x 67.0 x 6000) + 966 = 526.8 lbs. / hr.

hot water coil performance data

TABLE 43-4 'C' CABINET • 180° F EWT, 60° F EAT • 7.3 SQ. FT. FACE AREA

C.F.M.	ΔP AIR	30 GPM (.9 ft. ΔP)			40 GPM (1.5 ft. ΔP)			50 GPM (2.2 ft. ΔP)		
		ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH
5000	.43	46.0	16.8	251.4	48.1	13.2	263.1	49.5	10.8	270.8
6000	.59	41.6	18.2	272.8	43.7	14.3	286.6	45.1	11.8	295.9
7000	.78	38.0	19.4	291.0	40.1	15.3	306.9	41.5	12.7	317.6
8000	.98	35.1	20.5	307.0	37.1	16.2	324.7	38.5	13.5	336.7
9000	1.21	32.6	21.4	321.1	34.6	17.0	340.6	35.9	14.2	353.8
10000	1.45	30.5	22.2	333.6	32.4	17.7	354.8	33.8	14.8	369.2

EXAMPLE: "C" Cabinet with 6000 cfm, 180°F EWT, 60°F EAT, and 30 GPM has a capacity of 272.6 MBH from Table 43-4. For 190°F EWT and 60°F EAT, the correction factor is 1.06. Actual capacity = 1.06 x 272.6 = 294.6 MBH.

$$\text{NEW } \Delta T_{H_2O} = \frac{294,600}{(500) \text{ (GPM)}} = \frac{294,600}{(500) (30)} = 19.6^\circ \text{F}$$

$$\text{NEW } \Delta T_{AIR} = \frac{294,600}{(1.06) \text{ (CFM)}} = \frac{294,600}{(1.06) (6000)} = 45.5^\circ \text{F}$$

CORRECTION FACTORS FOR OTHER THAN 180° F HW ENT. AND 60° F AIR							
AIR TEMP.	WATER TEMP.						
	210	200	190	180	170	160	150
50°	1.38	1.28	1.18	1.08	1.00	0.90	0.82
60°	1.28	1.18	1.08	1.00	0.90	0.82	0.72
70°	1.18	1.08	1.00	0.90	0.82	0.72	0.64

coil static pressure drops (in. wg.)

TABLE 44-1 • 'C' CABINET

• INDOOR COIL •		NOTE: * 6 ROW COIL DATA "ZERO" % BYPASS								
C.F.M	16 TON UNIT				20 TON UNIT				24 TON UNIT	
	STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*		6 ROW IS STANDARD COIL	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
5000	.252	.177	.581	.433	.346	.227	.602	.433	.501	.341
5500	.289	.207	.672	.506	.395	.262	.696	.506	.570	.392
6000	.328	.239	.770	.584	.446	.300	.797	.584	.643	.447
6500	.370	.273	.873	.668	.500	.340	.904	.668	.720	.505
7000	.414	.309	.982	.757	.556	.382	1.018	.757	.800	.566
7500	.460	.347	1.098	.852	.615	.427	1.137	.852	.884	.631
8000	.508	.387	1.219	.952	.676	.474	1.263	.952	.971	.698
8500	.558	.430	1.347	1.057	.740	.523	1.395	1.057	1.062	.769
9000	.611	.474	1.480	1.168	.807	.575	1.534	1.168	1.157	.843
9500	.666	.521	1.620	1.284	.876	.628	1.678	1.284	1.255	.920

component static pressure drops (in. wg.)

TABLE 44-2 • 'C' CABINET

C.F.M 16-24 TON	HEATING SECTION							FILTERS			ECON 100% R / A	Acoustical CURB
	GAS HEAT		ELECTRIC HEAT					2' Throw Away	2" Pleated	4" Pleated		
	HIGH	LOW	B	D	E	F	G					
5000	.230	.177	.135	.185	.229	.334	.395	.087	.116	.109	.069	.055
5500	.253	.196	.149	.204	.252	.369	.436	.098	.131	.122	.078	.063
6000	.277	.215	.163	.223	.275	.403	.478		.146	.136	.088	.070
6500	.300	.233	.178	.242	.299	.438	.519		.163	.150	.098	.078
7000	.324	.252	.192	.261	.322	.472	.560		.179	.164	.108	.086
7500	.348	.271	.207	.281	.345	.507	.601		.197	.179	.118	.095
8000	.371	.289	.221	.300	.368	.541	.643		.215	.195	.129	.103
8500	.395	.308	.235	.319	.392	.576	.684		.234	.210	.141	.112
9000	.418	.327	.250	.338	.415	.610	.725		.253	.226	.152	.122
9500	.442	.345	.264	.357	.438	.645	.766		.273	.243	.164	.132

blower performance motor input rpm and kw

TABLE 45-1 • 'C' CABINET • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.5		1.5		2.5		3.5		4.5	
	RPM	KW	RPM	KW	RPM	KW	RPM	KW	RPM	KW
5000	610	1.24	880	2.56	1130	4.22	NOT AVAILABLE			
5500	630	1.50	890	2.84	1130	4.51				
6000	660	1.84	910	3.20	1130	4.81	1340	6.61	NOT AVAILABLE	
6500	690	2.20	930	3.59	1140	5.23	1340	6.99		
7000	720	2.60	960	4.07	1160	5.77	1350	7.49	1520	9.72
7500	750	3.02	990	4.58	1170	6.24	1350	7.93	1520	10.23
8000	780	3.48	1010	5.11	1190	6.86	1360	8.52	1520	10.80
8500	810	3.98	1040	5.79	1210	7.53	1370	9.16	1530	11.59

NOTE: TOTAL STATIC = INTERNAL STATIC + EXTERNAL STATIC

BLOWER PERFORMANCE TABLES INCLUDE INTERNAL RESISTANCE OF CABINET ONLY.
FOR TOTAL STATIC PRESSURE DETERMINATION, SYSTEM EXTERNAL STATIC PRESSURE
MUST BE ADDED TO THE APPROPRIATE COMPONENT STATIC PRESSURE DROPS.
SEE TABLES 44-1, 44-2, 43-3 AND 43-4 FOR COMPONENT STATIC PRESSURE DROPS.

REFER TO PAGE 82 FOR 'KW' TO 'HP' CONVERSION.

power exhaust performance

TABLE 45-2 • 'C' CABINET • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.2		0.4		0.6		0.8		1.0	
	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
4000	650	3	700	3	780	3	850	3	940	3
5000	700	3	800	3	880	3	960	3	1040	3
6000	840	3	910	3	1000	3	1080	3	1130	5
7000	1000	5	1080	5	1120	5	1190	5	1230	5
8000	1120	5	1180	5	NOT AVAILABLE					

electrical data

TABLE 46 - 1 • 'C' CABINET

208 - 240 / 3 / 60										
UNIT SIZE		16			20			24		
BLOWER MOTOR	(HP)	3.0	5.0	7.5	5.0	7.5	10.0	7.5	10.0	15.0
	F.L.A	9.6	15.2	22.0	15.2	22.0	28.0	22.0	28.0	42.0
COMPRESSOR 1	F.L.A (ea)	16.1			27.9			31.4		
	L.R.A (ea)	105			183			193		
COMPRESSOR 2	F.L.A (ea)				35.3					
	L.R.A (ea)				207					
CONDENSER FAN MTR.	F.L.A (ea)	(2) 6.9						(3) 6.9		
COMBUSTION BLOWER MTR	F.L.A (ea)	1.3								
COOLING	F.L.A	75	80	87	92	99	105	109	115	129
	M.C.A	84	89	96	101	108	114	118	124	138
Max. Overcurrent Protection		110		125			140	150		
ELEC. HEAT	F.L.A	75	80	87	92	99	105	109	115	129
Designation - B -	M.C.A	84	89	96	101	108	114	118	124	138
Max. Overcurrent Protection		110		125		140	150			
ELEC. HEAT	F.L.A	106	112	118	112	118	124	118	124	138
Designation - D -	M.C.A	133	140	148	140	148	156	148	156	173
Max. Overcurrent Protection		150		175	150	175	200	175	200	250
ELEC. HEAT	F.L.A	154	160	167	160	167	173	167	173	187
Designation - E -	M.C.A	193	200	208	200	208	216	208	216	233
Max. Overcurrent Protection		200		225	200	225	250	225	250	300
ELEC. HEAT	F.L.A	202	208	215	208	215	221	215	221	235
Designation - F -	M.C.A	253	260	269	260	269	276	269	276	294
Max. Overcurrent Protection		300								350
ELEC. HEAT	F.L.A	251	256	263	256	263	269	263	269	283
Designation - G -	M.C.A	313	320	329	320	329	336	329	336	354
Max. Overcurrent Protection		350								400
480 / 3 / 60										
UNIT SIZE		16			20			24		
BLOWER MOTOR	(HP)	3.0	5.0	7.5	5.0	7.5	10.0	7.5	10.0	15.0
	F.L.A	4.8	7.6	11.0	7.6	11.0	14.0	11.0	14.0	21.0
COMPRESSOR 1	F.L.A (ea)	8.1			13.9			15.8		
	L.R.A (ea)	55			91			96		
COMPRESSOR 2	F.L.A (ea)				17.7					
	L.R.A (ea)				104					
CONDENSER FAN MTR.	F.L.A (ea)	(2) 3.5						(3) 3.5		
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.7								
COOLING	F.L.A	38	40	44	46	50	53	55	58	65
	M.C.A	42	45	48	51	54	57	59	62	69
Max. Overcurrent Protection		60			70			80		
ELEC. HEAT	F.L.A	38	40	44	46	50	53	55	58	65
Designation - B -	M.C.A	42	45	48	51	54	57	59	62	69
Max. Overcurrent Protection		60			70			80		
ELEC. HEAT	F.L.A	53	56	59	56	59	62	59	62	69
Designation - D -	M.C.A	66	70	74	70	74	78	74	78	86
Max. Overcurrent Protection		70		90	70	90	100	90	100	125
ELEC. HEAT	F.L.A	77	80	83	80	83	86	83	86	93
Designation - E -	M.C.A	96	100	104	100	104	108	104	108	116
Max. Overcurrent Protection		100		110	100	110	125	110	125	150
ELEC. HEAT	F.L.A	101	104	107	104	107	110	107	110	117
Designation - F -	M.C.A	126	130	134	130	134	138	134	138	146
Max. Overcurrent Protection		150								175
ELEC. HEAT	F.L.A	125	128	131	128	131	134	131	134	141
Designation - G -	M.C.A	156	160	164	160	164	168	164	168	176
Max. Overcurrent Protection		175								200

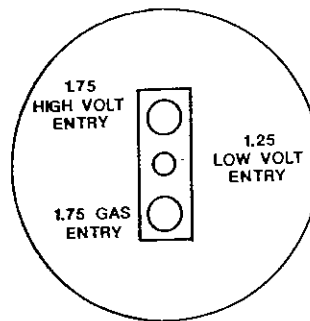
TABLE 47-1 • 'C' CABINET

575 / 3 / 60										
UNIT SIZE		16			20			24		
BLOWER MOTOR	(HP)	3.0	5.0	7.5	5.0	7.5	10.0	7.5	10.0	15.0
	F.L.A	3.9	6.2	9.0	6.2	9.0	11.4	9.0	11.4	17.1
COMPRESSOR 1	F.L.A (ea)	6.2			11.2			12.6		
	L.R.A (ea)	50			73			77		
COMPRESSOR 2	F.L.A (ea)				14.1					
	L.R.A (ea)				82					
CONDENSER FAN MTR.	F.L.A (ea)	(2) 3.5					(3) 3.5			
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.7								
COOLING	F.L.A	31	34	36	39	41	44	45	49	54
	M.C.A	35	37	40	42	45	47	48	52	59
Max. Overcurrent Protection		45	50				60			70
ELEC. HEAT	F.L.A	31	34	36	39	41	44	45	49	54
Designation - B -	M.C.A	34	37	40	42	45	47	48	52	59
Max. Overcurrent Protection		45	50				60			70
ELEC. HEAT	F.L.A	44	46	49	46	49	51	49	51	57
Designation - D -	M.C.A	55	58	61	59	61	64	61	64	71
Max. Overcurrent Protection		60		70	60	70	80	70	80	100
ELEC. HEAT	F.L.A	64	66	69	66	69	71	69	71	77
Designation - E -	M.C.A	80	83	86	83	86	89	86	89	96
Max. Overcurrent Protection		80	90				100	90	100	125
ELEC. HEAT	F.L.A	84	86	89	86	89	91	89	91	97
Designation - F -	M.C.A	105	108	111	108	111	114	111	114	121
Max. Overcurrent Protection		110		125	110	125				
ELEC. HEAT	F.L.A	104	106	109	106	109	111	109	111	117
Designation - G -	M.C.A	130	133	139	133	136	139	136	139	146
Max. Overcurrent Protection		150								

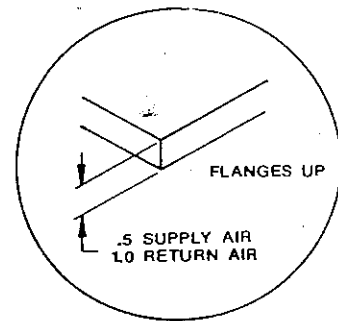
NOTE: THE COOLING ELECTRICAL DATA IS FOR COOLING ONLY AND COOLING WITH GAS HEAT PACKAGE UNITS. THE ELECTRIC HEAT ELECTRICAL DATA IS FOR PACKAGED COOLING WITH ELECTRIC HEAT UNITS. SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN TABLES 46-1 AND 47-1 DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

dimensions • C cabinet • 16 - 24 ton

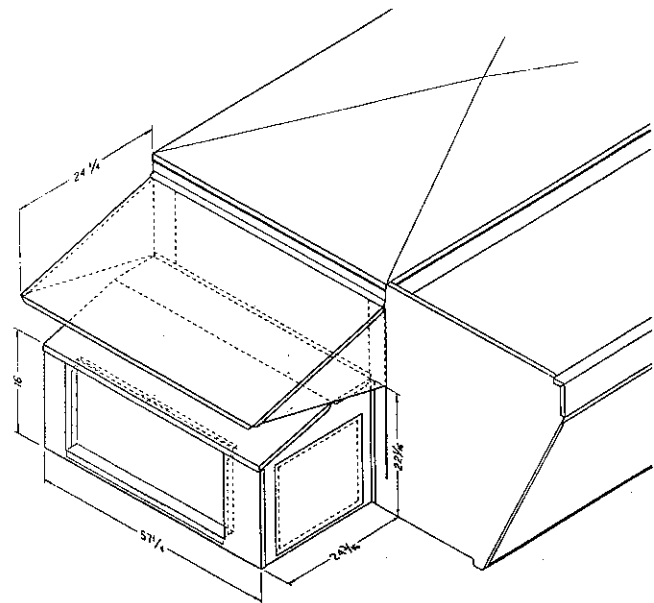
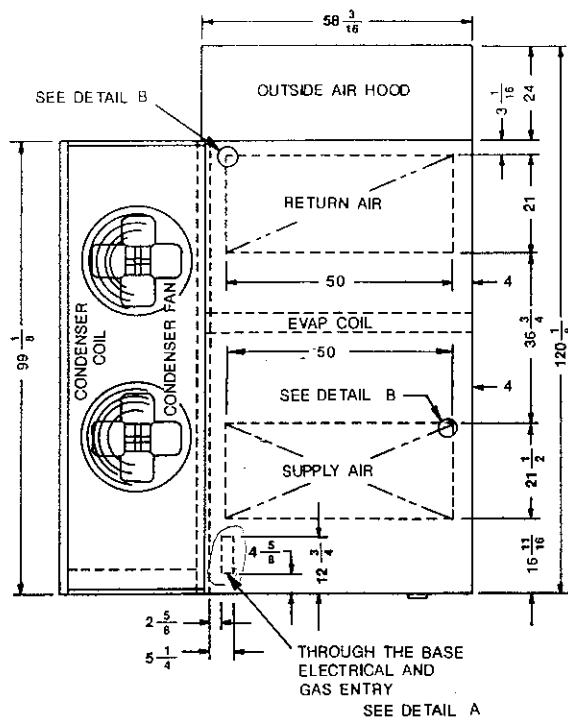
CLEARANCES	
LOCATION	UNIT SIZE
	16 • 20 • 24
RETURN AIR- (BACK)	48
VENT SIDE- (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



DETAIL A

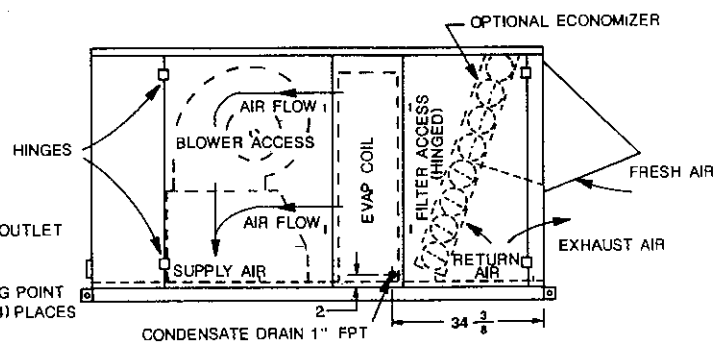
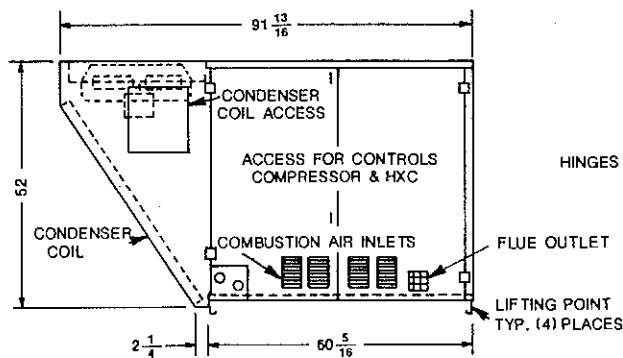


DETAIL B

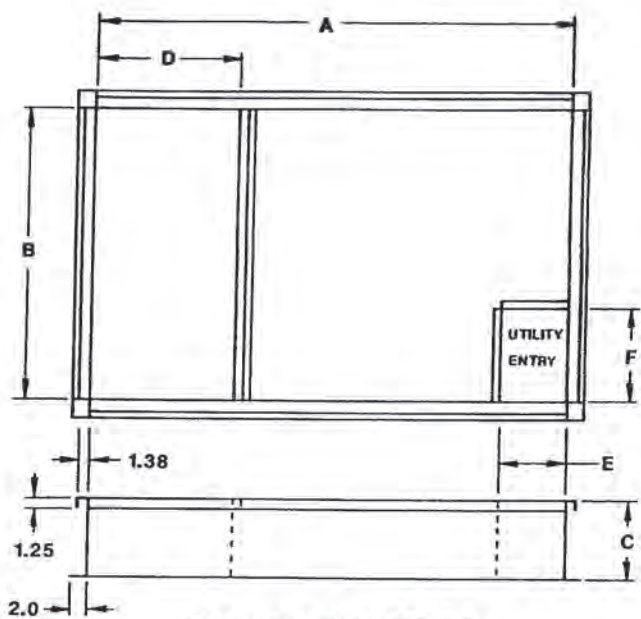


POWER EXHAUST

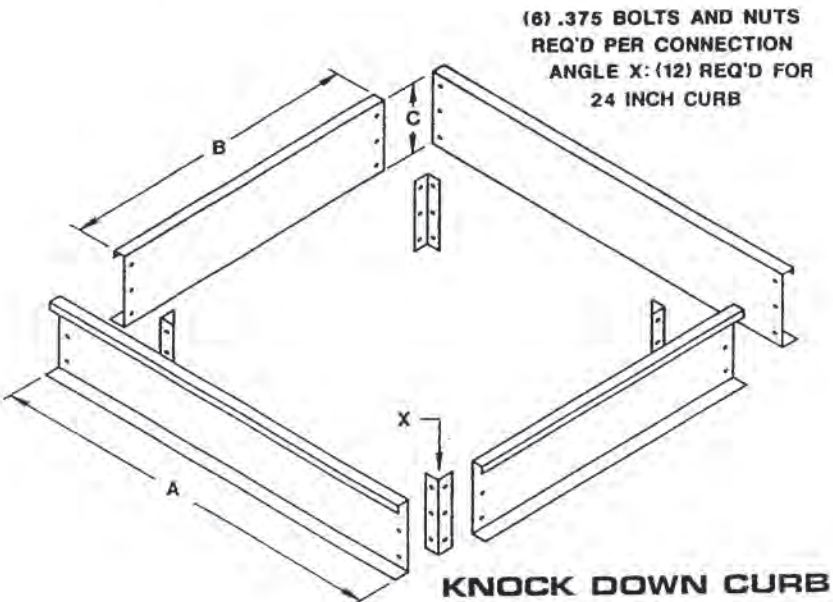
NUMBER OF CONDENSER FAN
 16 - 20 TON - 2 FANS
 24 TON - 3 FANS



curb details



SOLID BOTTOM
ACOUSTICAL CURB



KNOCK DOWN CURB

dimensions • C cabinet

CURB TYPE	A	B	C	D	E	F
KNOCK DOWN	94 1/8	51 1/4	14 / 24	35	12	10
SOLID BOTTOM	94 1/8	51 1/4				

specifications • 'D' cabinet

UNIT FEATURES		RE UNIT SIZE		
		26	32	40
NOMINAL CAPACITY TONS		26	32	40
EER - FULL LOAD ①		8.5	8.7	8.4
REFRIGERANT CHARGE total lbs./ no. of systems		48.0 (4)	66.0 (4)	98.0 (4)
COMPRESSOR (HERMETIC)	Quantity	(4)		
CONDENSER COIL	Quantity	(2)	(2)	(2)
Face Area Sq. Ft. / Rows / Fins per Inch		23 / 2 / 16	33.9 / 2 / 13	33.9 / 3 / 16
CONDENSER FANS		(4) / 26"		(6) / 26"
Quantity / Diameter				
CONDENSER FAN MOTORS		559 / 1100		
Watts / RPM	EACH			
EVAPORATOR COIL - Standard	Quantity	(2)	(2)	(2)
Face Area Sq. Ft. / Rows / Fins per Inch		11.67 / 3 / 12	16 / 3 / 12	16 / 4 / 12
EVAPORATOR COIL - 6 Row		(2)	(2)	
Face Area Sq. Ft. / Rows / Fins per Inch		7.50 / 6 / 8	11.66 / 6 / 10	
EVAPORATOR BLOWER - BELT DRIVE		(2) / 15 x 15 / FC	(4) / 15 x 11 / FC	
Quantity / Wheel D x W / Type				
EVAP. BLOWER MOTOR	HP - Standard	(2) 3	(2) 3	(2) 5
	HP - Oversize	(2) 5	(2) 5	(2) 7.5
	HP - Double Oversize	(2) 7.5	(2) 7.5	(2) 10
GAS FURNACES - TYPE		TUBULAR - INDUCED DRAFT		
Standard Material / Optional Material		ALUMINIZED STEEL / STAINLESS STEEL		
IGNITION		NON-STANDING , AUTOMATIC , SPARK RELIGHT		
GAS CONNECTION (F.P.T.)		(2) @ .75		
FILTERS - TYPE				
QTY / SIZE		PLEATED	(10) / 20" x 25" x 2"	
POWER EXHAUST FANS - BELT DRIVE		(4) / 15 x 11 / FC		
Quantity / Wheel D x W / Type				
POWER EXH. FAN MOTOR	HP - Standard	(2) 3 HP		
	HP - Oversize	(2) 5 HP		
UNIT NET WEIGHTS		26	32	40
BASE UNIT (Cooling Only)		3410	3500	3900
GAS Heat Exchanger - high heat - Std / SS		370 / 421		
GAS Heat Exchanger - low heat - Std / SS		320 / 365		
ELECTRIC HEAT		150		
HOT WATER OR STEAM COIL		250		
ECONOMIZER		383		
POWER EXHAUST		600		
VAV / VVT		170	250	
CURB WEIGHTS				
KNOCKDOWN CURB - 14" HIGH		360		
KNOCKDOWN CURB - 24" HIGH		710		
ACOUSTICAL CURB - 14" HIGH		480		
ACOUSTICAL CURB - 24" HIGH		830		

① AT STANDARD A.R.I TEST CONDITIONS. NO CERTIFICATION PROGRAM APPLICABLE FOR UNITS ABOVE 20 TONS.

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS mechanical cooling capacities • 26 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 13,000 CFM				6 ROW EVAPORATOR @ 13,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	343,400	328,800	304,100	284,300	348,600	333,800	308,700	288,600
		Sensible	293,500	281,500	260,100	244,000	297,000	285,700	263,200	246,900
	80	Total	348,600	333,800	308,700	288,600	353,900	338,900	313,400	293,000
		Sensible	346,400	332,300	307,000	288,000	350,600	337,300	310,700	291,500
	85	Total	356,100	341,000	315,300	294,800	361,500	346,200	320,100	299,300
		Sensible	355,400	340,700	314,700	294,500	360,800	345,900	319,500	299,000
67	75	Total	361,800	343,600	322,500	299,200	366,800	348,800	327,400	303,800
		Sensible	241,800	229,700	222,100	212,200	244,800	232,400	224,800	214,800
	80	Total	366,800	348,800	327,400	303,800	372,400	354,100	332,400	308,400
		Sensible	294,000	279,200	270,000	258,000	297,600	282,600	273,300	261,100
	85	Total	374,700	356,300	334,400	310,300	380,400	361,700	339,500	315,000
		Sensible	348,400	330,800	319,900	305,700	352,600	334,900	323,800	309,400
72	75	Total	385,900	359,500	345,100	317,000	391,800	365,000	350,400	321,800
		Sensible	196,300	186,000	178,900	175,500	198,600	188,200	181,000	177,600
	80	Total	391,800	365,000	350,400	321,800	397,800	370,600	355,700	326,700
		Sensible	246,000	236,000	227,000	224,100	249,000	238,900	229,700	226,800
	85	Total	400,200	372,800	357,900	328,700	406,400	378,600	363,300	333,700
		Sensible	301,500	289,300	280,500	277,000	305,300	292,900	283,900	280,300

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 10,400 CFM				6 ROW EVAPORATOR @ 10,400 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	326,000	310,300	288,500	271,100	331,000	315,000	292,800	275,200
		Sensible	270,200	263,000	244,800	230,400	273,600	266,200	247,700	233,200
	80	Total	331,000	315,000	292,900	275,200	336,000	319,800	297,300	279,400
		Sensible	319,000	310,400	289,000	272,000	322,900	314,200	292,500	275,300
	85	Total	338,100	321,800	299,200	281,100	343,200	326,700	303,700	285,400
		Sensible	337,400	321,500	298,600	280,800	342,500	326,400	303,100	285,100
67	75	Total	345,700	329,500	308,500	288,000	351,100	334,500	313,200	292,400
		Sensible	218,800	209,600	200,800	192,400	221,400	213,800	203,300	194,700
	80	Total	351,000	334,500	313,200	292,400	356,400	339,600	318,000	296,900
		Sensible	266,000	254,800	244,200	234,000	262,200	260,000	247,200	236,800
	85	Total	358,500	341,700	319,900	298,700	364,100	346,900	324,800	303,300
		Sensible	315,200	301,900	289,300	277,300	319,000	308,100	292,900	280,600
72	75	Total	370,400	348,700	333,100	305,700	376,000	354,000	338,200	310,400
		Sensible	174,000	167,100	159,200	151,300	176,000	169,100	161,000	153,300
	80	Total	376,000	354,000	338,200	310,400	381,700	359,400	343,400	315,100
		Sensible	218,000	212,000	202,000	193,300	220,600	214,600	204,400	195,700
	85	Total	384,100	361,600	345,500	317,100	389,900	367,100	350,800	321,900
		Sensible	267,200	259,900	249,700	238,900	270,400	263,000	252,700	241,900

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 7800 CFM				6 ROW EVAPORATOR @ 7800 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	298,800	283,300	264,000	251,200	303,400	287,600	268,000	255,000
		Sensible	223,600	220,300	211,800	205,000	226,400	222,900	214,300	207,400
	80	Total	303,400	287,600	268,000	255,000	308,000	292,000	272,100	258,900
		Sensible	264,000	260,000	250,000	242,000	267,200	263,200	253,000	244,900
	85	Total	309,900	293,800	273,800	260,500	314,600	298,300	278,000	264,500
		Sensible	309,300	293,500	273,300	260,200	314,000	298,000	277,400	264,200
67	75	Total	323,500	307,900	287,200	271,300	328,400	312,600	291,600	275,400
		Sensible	192,500	181,400	176,500	166,200	194,800	180,900	176,000	168,200
	80	Total	328,400	312,600	291,600	275,400	333,400	317,400	296,000	279,600
		Sensible	234,000	220,500	214,600	202,000	236,800	223,300	217,200	204,500
	85	Total	335,500	319,300	297,900	281,300	340,600	324,200	297,900	285,600
		Sensible	277,300	261,400	254,300	239,300	280,600	260,600	253,600	242,300
72	75	Total	348,100	329,600	313,800	289,600	353,400	334,600	318,600	294,000
		Sensible	151,600	143,400	137,100	130,100	153,400	145,100	138,700	131,600
	80	Total	353,400	334,600	318,600	294,000	358,800	339,700	323,500	298,500
		Sensible	190,000	182,000	174,000	166,100	192,300	184,200	176,100	168,100
	85	Total	361,000	341,800	325,400	300,300	366,500	347,000	330,500	304,900
		Sensible	232,900	223,100	215,000	205,300	235,700	225,800	217,700	207,800

32 ton • mechanical cooling capacities

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 18,000 CFM				6 ROW EVAPORATOR @ 18,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	416,300	393,200	378,800	363,400	452,100	427,100	411,400	394,700
		Sensible	354,100	336,000	324,300	311,100	384,900	365,300	352,500	338,100
	80	Total	422,600	399,200	384,600	368,900	459,000	433,600	417,700	400,700
		Sensible	418,000	396,700	382,900	367,200	454,400	431,200	416,200	391,100
	85	Total	431,700	407,800	392,900	376,800	468,900	442,900	426,700	409,300
		Sensible	430,800	407,400	392,100	376,400	468,000	442,500	425,800	408,900
67	75	Total	440,700	414,500	399,900	379,100	460,800	431,200	418,100	396,500
		Sensible	298,400	279,900	273,400	261,200	333,000	332,100	336,300	338,900
	80	Total	447,400	420,800	406,000	384,900	467,800	440,000	424,500	402,500
		Sensible	362,800	340,300	332,400	317,600	404,900	379,800	371,000	354,500
	85	Total	457,000	429,800	414,700	393,200	477,900	449,500	433,600	411,200
		Sensible	429,900	403,200	393,800	376,400	479,800	450,100	439,600	420,100
72	75	Total	479,100	441,100	424,500	402,900	490,400	461,200	443,800	421,300
		Sensible	238,700	219,500	213,200	203,200	254,700	245,000	238,000	226,800
	80	Total	476,200	447,800	431,000	409,000	497,900	468,200	450,600	427,700
		Sensible	299,100	278,600	270,600	259,500	333,800	310,900	302,000	289,600
	85	Total	486,400	457,400	440,300	417,800	508,600	478,300	460,300	436,900
		Sensible	366,600	341,500	334,500	320,800	409,200	381,100	373,300	358,000

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 12,000 CFM				6 ROW EVAPORATOR @ 12,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	401,700	380,200	363,700	346,300	427,500	404,600	387,000	368,600
		Sensible	324,400	309,600	301,200	286,900	358,300	342,000	332,700	317,000
	80	Total	407,800	386,000	369,200	351,600	434,000	410,800	392,900	374,200
		Sensible	382,900	365,500	355,500	338,700	423,000	403,800	392,800	374,200
	85	Total	416,600	394,300	377,100	359,200	443,300	419,600	401,300	382,200
		Sensible	415,800	393,900	376,300	358,800	442,400	419,200	400,500	381,800
67	75	Total	428,100	404,400	385,500	365,700	444,900	418,300	400,700	380,100
		Sensible	272,300	256,900	250,700	238,000	284,800	284,500	291,100	291,400
	80	Total	434,600	410,600	391,400	371,300	451,700	426,800	406,800	385,900
		Sensible	331,000	312,400	304,800	289,400	346,300	326,800	318,800	302,700
	85	Total	443,900	419,400	399,800	379,300	461,400	436,000	415,500	394,200
		Sensible	392,200	370,200	361,200	342,900	410,300	387,300	377,700	358,700
72	75	Total	456,600	430,800	410,500	389,300	474,600	447,900	426,700	404,500
		Sensible	219,100	202,500	196,800	185,900	220,500	211,800	205,900	194,400
	80	Total	463,600	437,400	416,800	395,200	481,800	454,700	433,200	410,700
		Sensible	274,600	257,000	249,800	237,400	287,300	268,800	261,300	248,300
	85	Total	473,600	446,800	425,800	403,700	492,200	464,500	442,500	419,500
		Sensible	336,600	315,000	308,800	293,400	352,200	329,500	323,000	306,900

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 9600 CFM				6 ROW EVAPORATOR @ 9600 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	382,800	364,600	347,100	329,800	395,000	377,100	358,900	341,000
		Sensible	261,000	251,600	244,800	237,600	303,500	292,600	284,700	276,300
	80	Total	387,800	370,200	352,400	334,800	401,000	382,800	364,400	346,200
		Sensible	308,100	297,000	289,000	280,500	358,300	345,400	336,100	326,200
	85	Total	396,100	378,200	360,000	342,000	409,600	391,000	372,200	353,600
		Sensible	395,300	377,800	359,300	341,700	408,800	390,600	371,500	353,200
67	75	Total	409,200	389,900	370,600	351,300	423,100	401,000	383,100	363,300
		Sensible	219,800	212,100	204,200	196,500	239,100	242,300	245,500	249,100
	80	Total	415,400	395,800	376,200	356,700	429,500	409,200	388,900	368,000
		Sensible	267,200	257,900	248,300	239,000	290,700	280,600	270,200	260,000
	85	Total	424,300	404,300	384,300	364,400	438,700	418,000	397,300	376,700
		Sensible	316,600	305,600	294,200	283,200	344,400	332,500	320,200	308,100
72	75	Total	437,500	416,900	395,600	375,100	452,400	430,900	409,000	387,800
		Sensible	180,800	170,900	163,100	156,800	190,200	186,000	177,500	170,600
	80	Total	444,200	423,200	401,600	380,800	459,300	437,500	415,200	393,700
		Sensible	226,600	216,900	207,000	200,200	246,500	236,000	225,300	217,800
	85	Total	453,800	432,300	410,200	389,000	469,200	446,900	424,100	402,200
		Sensible	277,800	265,900	255,800	247,500	302,200	289,300	278,500	269,200

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

mechanical cooling capacities • 40 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 15,000 CFM				6 ROW EVAPORATOR @ 15,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	483,900	470,400	457,300	443,900	486,400	472,800	459,600	446,200
		Sensible	371,400	366,700	349,400	337,900	372,200	367,400	350,100	338,600
	80	Total	491,300	477,600	464,300	450,700	493,800	480,000	466,600	453,000
		Sensible	438,500	432,900	412,500	398,900	439,400	433,700	413,300	399,700
	85	Total	501,900	487,900	474,300	460,400	504,400	490,300	476,600	462,700
		Sensible	500,900	487,400	473,400	459,900	503,400	489,800	475,600	462,200
67	75	Total	499,500	485,700	471,700	457,500	502,100	488,200	474,100	459,900
		Sensible	331,500	326,300	319,100	311,000	332,100	327,000	338,700	311,700
	80	Total	507,100	493,100	478,900	464,500	509,700	495,600	481,300	466,800
		Sensible	403,000	396,700	388,000	378,200	403,800	397,500	388,800	379,000
	85	Total	518,000	503,700	489,200	474,500	520,700	506,300	492,000	476,800
		Sensible	477,500	470,100	459,800	448,200	478,500	471,100	461,900	449,100
72	75	Total	518,300	503,700	488,600	473,400	520,900	506,300	491,000	475,800
		Sensible	291,800	284,300	275,500	268,500	292,400	284,900	276,000	269,100
	80	Total	526,200	511,400	496,000	480,600	528,800	514,000	498,500	483,000
		Sensible	365,700	360,800	349,600	342,900	366,400	361,500	350,300	343,600
	85	Total	537,500	522,400	506,700	490,900	540,200	525,100	509,200	493,400
		Sensible	448,300	442,300	432,100	423,800	449,200	443,200	433,000	424,700

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 12,000 CFM				6 ROW EVAPORATOR @ 12,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	470,800	458,100	442,700	432,100	473,200	460,400	444,900	434,300
		Sensible	349,900	338,900	331,300	325,600	350,600	339,600	332,000	326,200
	80	Total	478,000	465,100	449,400	438,700	480,400	467,400	451,700	440,900
		Sensible	413,100	400,100	391,100	384,400	413,900	400,900	391,900	385,100
	85	Total	488,300	475,100	459,100	448,100	490,700	477,400	461,400	450,400
		Sensible	487,300	474,600	458,200	447,700	489,700	476,900	460,500	449,900
67	75	Total	489,100	475,200	458,600	447,300	491,500	477,500	460,900	449,600
		Sensible	313,100	302,400	298,600	293,000	313,700	302,900	299,200	293,600
	80	Total	496,500	482,400	465,600	454,100	499,000	484,800	467,900	456,400
		Sensible	380,600	367,600	363,100	356,200	381,400	368,300	363,800	356,900
	85	Total	507,200	492,800	475,600	463,900	509,700	495,200	478,000	466,200
		Sensible	451,000	435,600	430,200	422,100	451,900	436,400	431,100	422,900
72	75	Total	509,600	494,900	476,800	413,500	512,200	497,300	479,300	415,600
		Sensible	280,700	267,100	262,200	255,100	281,200	267,600	262,800	255,700
	80	Total	517,400	502,400	484,100	419,800	520,000	504,900	486,600	421,900
		Sensible	351,800	338,900	325,800	325,800	352,500	339,600	333,500	326,500
	85	Total	528,500	513,200	494,500	428,800	531,200	515,800	497,100	431,000
		Sensible	431,200	415,400	411,300	402,700	432,100	416,300	412,200	403,600

gas heating capacities

TABLE 54 - 1

CABINET	MODEL	Designation (1 - 2)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	TEMPERATURE RISE RANGE (°F)
D	RE-26	(1)	456.0	369.36	(3 hp) 20 - 50 (5 & 7.5 hp) 15 - 45
		(2)	570.0	461.70	(3 hp) 25 - 55 (5 & 7.5 hp) 20 - 50
	RE-32	(1)	456.0	369.36	(3 hp) 15 - 45 (5 & 7.5 hp) 05 - 35
		(2)	570.0	461.70	(3 hp) 20 - 50 (5 & 7.5 hp) 15 - 45
	RE-40	(2)	570.0	461.70	10 - 40

* AAON HEAT RANGE DESIGNATIONS (1) = LOW HEAT
(2) = MEDIUM HEAT

- NOTES: 1) To calculate air temperature rise: $\Delta T = \text{Output capacity} / (\text{CFM} \times 1.085)$
 2) Use tabulated ratings for elevations to 2000 FT.
 3) For elevations above 2000 FT. derate 4% for each 1000 FT. above sea level and use the following formula:
 $\Delta T = \text{Output capacity} / (.24 \times 60 \times \text{specific WT of air} \times \text{CFM})$
 4) Gas pressure supply range (inches of water guage): Natural 6 - 10.5 ; Propane 11 - 13.
 5) Gas manifold pressure (inches of water guage): Natural 3.5; Propane 10.5.
 6) Above 2000FT.; Specify "HI ALTITUDE KIT".

CAUTION: FOR APPLICATIONS OUTSIDE THE TEMPERATURE RANGE SHOWN, CONTACT THE FACTORY.

electric heating capacities

TABLE 54 - 2

THREE PHASE

Heating Designation and Unit Availability		No. of Strips	208 / 60 / 3			240 / 60 / 3			480 / 60 / 3			575 / 60 / 3		
26	32 - 40		MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
D	D	4	102.4	30.0	83.28	136.6	40.0	96.4	136.6	40.0	48.0	136.6	40.0	40.0
F	F	8	205.2	60.1	166.56	273.2	80.0	192.8	273.2	80.0	96.0	273.2	80.0	80.0
H	H	12	307.7	90.1	249.84	410.1	120.0	289.2	410.1	120.0	144.0	410.1	120.0	120.0
J	J	16	410.1	120.1	333.12	546.4	160.0	385.6	546.4	160.0	192.0	546.4	160.0	160.0
	K	20	512.2	150.2	416.40	683.0	200.0	482.0	683.0	200.0	240.0	683.0	200.0	200.0

steam heating data

TABLE 55-1 • FACE VELOCITY vs. SELECTION FACTOR • 14.5 SQ. FT. FACE AREA

FV (fpm)	SF	FV (fpm)	SF	FV (fpm)	SF
200	.707	475	.541	750	.454
225	.684	500	.531	775	.448
250	.664	525	.522	800	.442
275	.646	550	.513	825	.437
300	.629	575	.504	850	.431
325	.613	600	.496	875	.425
350	.599	625	.489	900	.420
375	.586	650	.481	925	.415
400	.574	675	.474	950	.410
425	.562	700	.467	975	.406
450	.551	725	.461	1000	.401

TABLE 55-2

SATURATED STEAM PROPERTIES		
PSIG	TEMPERATURE	LATENT HEAT
2	218	966
5	227	961
7	233	958
10	239	953
15	250	946

TABLE 55-3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
200	.03	700	.43
300	.10	800	.55
400	.16	900	.67
500	.24	1000	.81
600	.33		

EXAMPLE: What is the Expected Leaving Air Temperature with 2 PSIG Saturated Steam and 10,000 cfm entering at 60°F?
The coil face velocity is $10,000 \div 14.5 = 690$ FPM.

FROM TABLE 55-1: SF = .470 (by interpolation)

FROM TABLE 55-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .470 (218 - 60) = 74.3°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

CONDENSATE LOAD = BTUH ÷ LATENT HEAT @ OPERATING PSIG.

FROM TABLE 55-2: LATENT HEAT = 966.

CONDENSATE LOAD = $(1.085 \times 74.3 \times 10,000) \div 966 = 834.5$ lbs. / hr.

FROM TABLE 55-3: AIR SIDE PRESSURE DROP = .16 (by interpolation)

hot water coil performance data

TABLE 55-4 • 'D' CABINET • 180° F EWT, 60° F EAT • 14.5 SQ. FT. FACE AREA

C.F.M.	ΔP AIR	50 GPM (.6 H. ΔP)			75 GPM (1.3 H. ΔP)			100 GPM (2.2 H. ΔP)		
		ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH
8000	.29	49.9	17.4	436.2	53.3	12.4	466.0	55.2	9.7	482.7
10000	.43	44.2	19.3	483.5	47.6	13.9	520.6	49.5	10.8	541.6
12000	.59	39.8	20.9	522.7	43.2	15.1	566.6	45.1	11.8	591.7
14000	.78	36.3	22.2	566.1	39.6	16.2	606.2	41.5	12.7	635.1
16000	.98	33.4	23.4	585.0	36.6	17.1	640.9	38.5	13.5	673.4
18000	1.21	31.0	24.4	610.4	34.1	17.9	671.7	35.9	14.2	707.6
20000	1.45	28.9	25.3	633.0	32.0	18.6	699.3	33.8	14.8	738.3

EXAMPLE: "D" Cabinet with 14,000 cfm, 180°F EWT, 60°F EAT, and 75 GPM has a capacity of 606.2 MBH from Table 55-4.
For 190°F EWT and 60°F EAT, the correction factor is 1.08. Actual capacity = $1.08 \times 606.2 = 654.7$ MBH.

$$\text{NEW } \Delta T_{H_2O} = \frac{654,700}{(500) (\text{GPM})} = \frac{654,700}{(500) (75)} = 17.5^\circ \text{F}$$

$$\text{NEW } \Delta T_{AIR} = \frac{654,700}{(1.08) (\text{CFM})} = \frac{654,700}{(1.08) (14,000)} = 43.3^\circ \text{F}$$

CORRECTION FACTORS FOR OTHER THAN 180° F HW ENT. AND 60° F AIR							
AIR TEMP.	WATER TEMP.						
	210	200	190	180	170	160	150
50°	1.38	1.28	1.18	1.08	1.00	0.90	0.82
60°	1.28	1.18	1.08	1.00	0.90	0.82	0.72
70°	1.18	1.08	1.00	0.90	0.82	0.72	0.64

coil static pressure drops (in. wg.)

TABLE 56 - 1 • 'D' CABINET

• INDOOR COIL •												
C.F.M.	26 TON UNIT				32 TON UNIT				40 TON UNIT			
	STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
8000	.303	.196	.618	.478	.184	.124	.416	.303	.257	.163	.431	.303
9000	.361	.237	.750	.587	.217	.150	.495	.365	.300	.194	.513	.365
10000	.423	.281	.895	.706	.252	.177	.581	.433	.346	.227	.602	.433
11000	.490	.328	1.052	.836	.289	.207	.672	.506	.395	.262	.696	.506
12000	.560	.379	1.221	.978	.328	.239	.770	.584	.446	.300	.797	.584
13000	.635	.433	1.403	1.130	.370	.273	.873	.668	.500	.340	.904	.668
14000	.715	.491	1.597	1.293	.414	.309	.982	.757	.556	.382	1.018	.757
15000	.798	.552	1.803	1.466	.460	.347	1.098	.852	.615	.427	1.137	.852
16000	.886	.616	2.021	1.651	.508	.387	1.219	.952	.676	.474	1.263	.952
17000	.978	.684			.558	.430	1.347	1.057	.740	.523	1.395	1.057
18000	1.074	.755			.611	.474	1.480	1.168	.807	.575	1.534	1.168
19000					.666	.521	1.620	1.284	.876	.628	1.678	1.284
20000					.722	.570	1.766	1.406	.947	.685	1.829	1.406

component static pressure drops (in. wg.)

TABLE 56 - 2 • 'D' CABINET

C.F.M	HEATING SECTION							FILTERS			ECON 100% R / A	Acoustical CURB
	GAS HEAT		ELECTRIC HEAT					2" Throw Away	2" Pleated	4" Pleated		
	MEDIUM	* LOW	D	F	H	J	K					
26 TON												
8000	.403	.338	.285	.362	.445	.514			.099	.090	.061	.049
9000	.461	.386	.325	.415	.516	.597			.115	.105	.070	.056
10000	.522	.434	.365	.471	.592	.685			.132	.120	.080	.064
11000	.584	.483	.406	.528	.671	.776			.150	.136	.091	.072
12000	.649	.534	.448	.586	.753	.872			.169	.152	.101	.081
13000	.715	.585	.491	.647	.839	.971			.188	.169	.113	.090
32-40 TON												
10000	.177	.097	.135	.185	.229	.334	.395		.132	.120	.080	.064
11000	.196	.108	.149	.204	.252	.369	.436		.150	.136	.091	.072
12000	.215	.119	.163	.223	.275	.403	.478		.169	.152	.101	.081
13000	.233	.130	.178	.242	.299	.438	.519		.188	.169	.113	.090
14000	.252	.142	.192	.261	.322	.472	.560		.208	.187	.124	.100
15000	.271	.153	.207	.281	.345	.507	.601		.229	.205	.137	.109
16000	.289	.164	.221	.300	.368	.541	.643		.251	.224	.149	.119
17000	.308	.175	.235	.319	.392	.576	.684		.273	.244	.162	.130
18000	.327	.186	.250	.338	.415	.610	.725		.297	.264	.176	.141
19000	.345	.197	.264	.357	.438	.645	.766		.321	.285	.190	.152
20000	.364	.208	.279	.377	.461	.679	.808		.346	.306	.204	.163

* 26 & 32 TON ONLY

motor input rpm and kw (total for two motors) blower performance
two motors of the 'hp' shown are used.

TABLE 57 - 1 • 'D' CABINET • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.5		1.5		2.5		3.5		4.5	
	RPM	KW	RPM	KW	RPM	KW	RPM	KW	RPM	KW
26 TON										
8000	670	2.48	920	4.04	1140 ^{3 hp}	6.00	1320 ^{5 hp}	7.90	1480	10.00
9000	730 ^{3 hp}	3.16	960 ^{3 hp}	4.96	1160	6.80	1330	8.92	1490	11.16
10000	780	4.00	1000	6.00	1180 ^{5 hp}	7.80	1350	10.16	1500	12.50
11000	840	5.08	1040	7.20	1210	9.10	1380	11.60	1520 ^{7 1/2 hp}	13.92
12000	900 ^{5 hp}	6.30	1080 ^{5 hp}	8.40	1240 ^{7 1/2 hp}	10.50	1400	13.20	1540	15.70
13000	980 ^{5 hp}	8.00	1130	9.90	1290 ^{7 1/2 hp}	12.40	1420	14.90	NOT AVAILABLE	
32-40 TON										
10000	220	1.39	660	4.18	1040	6.98	NOT AVAILABLE			
11000	220	1.51	670 ^{3 hp}	4.59	1050 ^{5 hp}	7.64				
12000	230 ^{3 hp}	1.70	690 ^{3 hp}	5.11	1060 ^{5 hp}	8.46	1230	11.47	NOT AVAILABLE	
13000	240 ^{3 hp}	1.92	710	5.67	1070	8.68	1230 ^{7 1/2 hp}	11.64		
14000	250	2.15	740	6.37	1080	10.16	1240 ^{7 1/2 hp}	13.25	1400 ^{10 hp}	16.34
15000	260	2.41	780 ^{5 hp}	7.23	1090 ^{7 1/2 hp}	11.09	1250	14.32	1410 ^{10 hp}	17.64
16000	270	2.69	820 ^{5 hp}	8.18	1110 ^{7 1/2 hp}	12.29	1270 ^{10 hp}	15.67	1420	19.02
17000	290 ^{3 hp}	3.10	880	9.42	1130	13.57	1280 ^{10 hp}	16.88	1430	20.45
18000	320	3.67	970 ^{7 1/2 hp}	11.14	1150	14.94	1300	16.92	1440	21.96
19000	360	4.42	1020 ^{7 1/2 hp}	12.76	1170 ^{10 hp}	16.38	1320	20.00	1460 ^{15 hp}	23.86
20000	430	5.64	1050	14.38	1200 ^{10 hp}	18.15	1350	21.92 ^{15 hp}	1470	25.50

NOTE: TOTAL STATIC = INTERNAL STATIC + EXTERNAL STATIC

BLOWER PERFORMANCE TABLES INCLUDE INTERNAL RESISTANCE OF CABINET ONLY.
FOR TOTAL STATIC PRESSURE DETERMINATION, SYSTEM EXTERNAL STATIC PRESSURE
MUST BE ADDED TO THE APPROPRIATE COMPONENT STATIC PRESSURE DROPS.
SEE TABLES 56-1, 56-2, 55-3 AND 55-4 FOR COMPONENT STATIC PRESSURE DROPS.

REFER TO PAGE 82 FOR 'KW' TO 'HP' CONVERSION.

power exhaust performance

TABLE 57 - 2 • 'D' CABINET • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.2		0.4		0.6		0.8		1.0	
	RPM	HP (1)	RPM	HP (1)	RPM	HP (1)	RPM	HP (1)	RPM	HP (1)
6000	500	3	610	3	740	3	850	3	950	3
8000	580	3	680	3	780	3	880	3	970	3
10000	660	3	750	3	820	3	910	3	980	3
12000	760	3	820	3	900	3	950	5	1000	5
14000	880	5	920	5	960	5	1000	5	1080	5
16000	980	5	1010	5	1050	5	1100	5		
18000	1080	5	NOT AVAILABLE							

① (2) MOTORS OF THE HP SHOWN ARE USED.

electrical data

TABLE 58 - 1 • 'D' CABINET

208 - 240 / 3 / 60										
UNIT SIZE		26			32			40		
(HP)		3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0
BLOWER Mtr 1 & 2	F.L.A. (aa)	9.6	15.2	22.0	9.6	15.2	22.0	15.2	22.0	28.0
COMPRESSOR #1 & 3	F.L.A.	13.2			16.1			27.9		
	L.R.A.	84			105			183		
COMPRESSOR #2 & 4	F.L.A.	27.9			35.3			31.4		
	L.R.A.	183			207			193		
CONDENSER FAN MTR	F.L.A. (aa)	(4) 6.9						(6) 6.9		
COMBUSTION BLOWER MTR	F.L.A. total	2.6								
COOLING	F.L.A.	129	140	154	150	161	174	190	204	216
	M.C.A.	136	147	161	158	170	183	198	219	223
Max. Overcurrent Protection		150	175		200		225		250	
ELEC. HEAT	F.L.A.	116	127	154	150	161	174	190	204	216
	Designation - D - M.C.A.	145	159	161	158	170	183	198	219	224
Max. Overcurrent Protection		150	175		200		225		250	
ELEC. HEAT	F.L.A.	212	223	237	212	223	237	223	237	249
	Designation - F - M.C.A.	265	279	296	265	279	296	279	296	311
Max. Overcurrent Protection		300								350
ELEC. HEAT	F.L.A.	308	320	333	308	320	333	320	333	345
	Designation - H - M.C.A.	386	400	417	386	400	417	400	417	432
Max. Overcurrent Protection		400		450	400		450	400	450	
ELEC. HEAT	F.L.A.	405	416	430	405	416	430	416	430	442
	Designation - J - M.C.A.	506	520	537	506	520	537	520	537	552
Max. Overcurrent Protection		600								
ELEC. HEAT	F.L.A.	n/a			501	512	526	512	526	538
	Designation - K - M.C.A.				627	641	658	641	658	673
Max. Overcurrent Protection		700								
480 / 3 / 60										
UNIT SIZE		26			32			40		
(HP)		3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0
BLOWER Mtr #1 & 2	F.L.A.	4.8	7.6	11.0	4.8	7.6	11.0	7.6	11.0	14.0
COMPRESSOR #1 & 3	F.L.A.	6.6			8.1			13.9		
	L.R.A.	42			55			91		
COMPRESSOR #2 & 4	F.L.A.	13.9			17.7			15.8		
	L.R.A.	91			104			96		
CONDENSER FAN MTR	F.L.A. (aa)	(4) 3.5						(6) 3.5		
COMBUSTION BLOWER MTR	F.L.A. total	1.3								
COOLING	F.L.A.	65	71	77	75	81	88	96	102	108
	M.C.A.	68	74	80	80	85	92	100	106	112
Max. Overcurrent Protection		80		90	100		110		125	
ELEC. HEAT	F.L.A.	58	63	77	75	81	88	96	102	108
	Designation - D - M.C.A.	72	79	80	80	85	92	100	106	112
Max. Overcurrent Protection		80		90	100		110		125	
ELEC. HEAT	F.L.A.	106	111	118	106	111	118	111	118	124
	Designation - F - M.C.A.	132	139	148	132	139	148	139	148	155
Max. Overcurrent Protection		150								175
ELEC. HEAT	F.L.A.	154	159	166	154	159	166	159	166	172
	Designation - H - M.C.A.	192	199	208	192	199	208	199	208	215
Max. Overcurrent Protection		200		225	200		225	200	225	
ELEC. HEAT	F.L.A.	202	207	214	202	207	214	207	214	220
	Designation - J - M.C.A.	252	259	268	252	259	268	259	268	275
Max. Overcurrent Protection		300								
ELEC. HEAT	F.L.A.	n/a			250	255	262	255	262	268
	Designation - K - M.C.A.				312	319	328	319	328	335
Max. Overcurrent Protection		350								

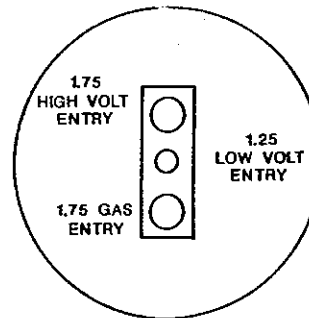
TABLE 59 - 1 • 'D' CABINET

575 / 3 / 60										
UNIT SIZE		26			32			40		
(HP)		3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0
BLOWER Mir 1 & 2 F.L.A. (ea)		3.9	6.2	9.0	3.9	6.2	9.0	6.2	9.0	11.4
COMPRESSOR #1 & 3	F.L.A.	5.1			6.2			11.2		
	L.R.A.	36			50			73		
COMPRESSOR #2 & 4	F.L.A.	11.2			14.1			12.6		
	L.R.A.	73			82			77		
CONDENSER FAN MTR.	F.L.A. (ea)	(4) 3.5						(6) 3.5		
COMBUSTION BLOWER MTR.	F.L.A. total	1.3								
COOLING	F.L.A.	54	59	63	62	67	71	81	87	91
	M.C.A.	57	62	65	66	71	74	84	90	95
Max. Overcurrent Protection		60	70		80			90	100	
ELEC. HEAT	F.L.A.	48	52	63	62	67	71	81	87	91
Designation - D -	M.C.A.	60	66	65	66	71	74	84	90	95
Max. Overcurrent Protection		60	70		80			90	100	
ELEC. HEAT	F.L.A.	88	92	98	88	92	98	92	98	103
Designation - F -	M.C.A.	110	116	123	110	116	123	116	123	129
Max. Overcurrent Protection		110	125		110	125			150	
ELEC. HEAT	F.L.A.	128	132	138	128	132	138	132	138	143
Designation - H -	M.C.A.	160	166	173	160	166	173	166	173	179
Max. Overcurrent Protection		175								200
ELEC. HEAT	F.L.A.	168	172	178	168	172	178	172	178	183
Designation - J -	M.C.A.	210	216	223	210	216	223	216	223	229
Max. Overcurrent Protection		225								250
ELEC. HEAT	F.L.A.		n/a		208	212	218	212	218	223
Designation - K -	M.C.A.				260	266	273	266	273	279
Max. Overcurrent Protection		300								

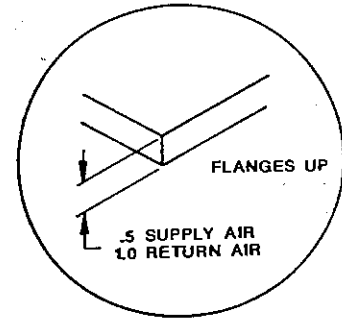
NOTE: THE COOLING ELECTRICAL DATA IS FOR COOLING ONLY AND COOLING WITH GAS HEAT PACKAGE UNITS. THE ELECTRIC HEAT ELECTRICAL DATA IS FOR PACKAGED COOLING WITH ELECTRIC HEAT UNITS. SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN TABLES 58-1 AND 59-1 DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

dimensions • D cabinet • 26 - 40 ton

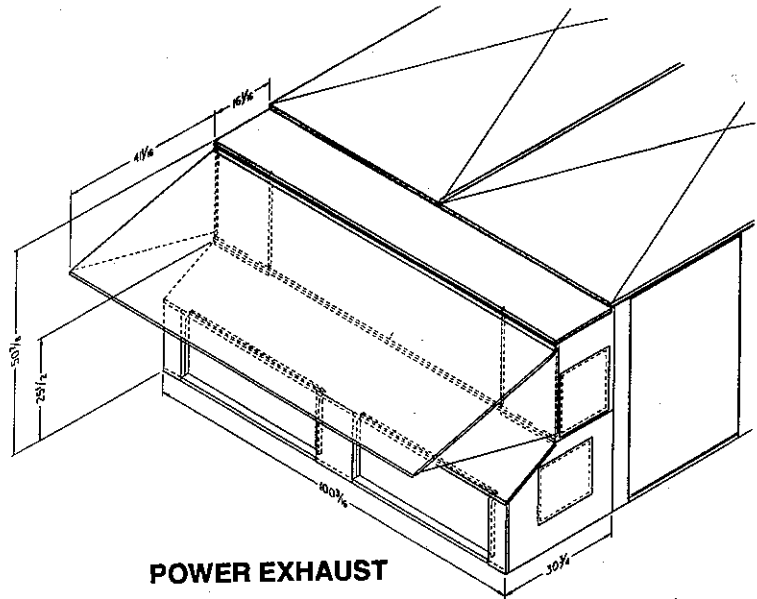
CLEARANCES	
LOCATION	UNIT SIZE 26 • 32 • 40
RETURN AIR- (BACK)	60
VENT SIDE- (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



DETAIL A

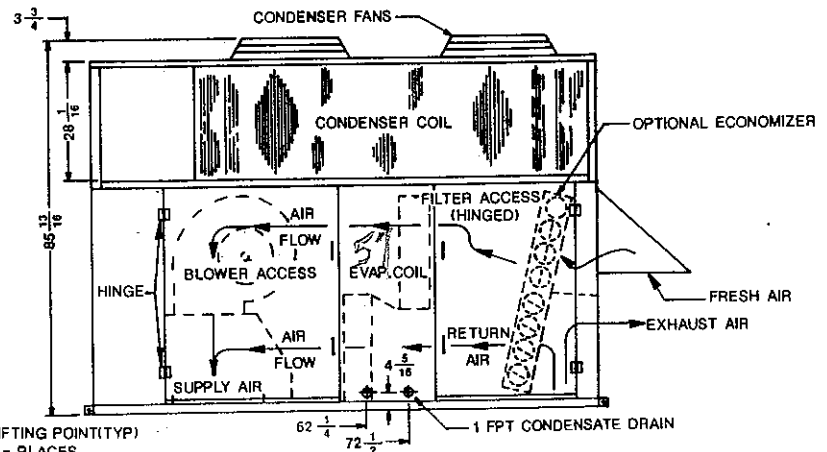
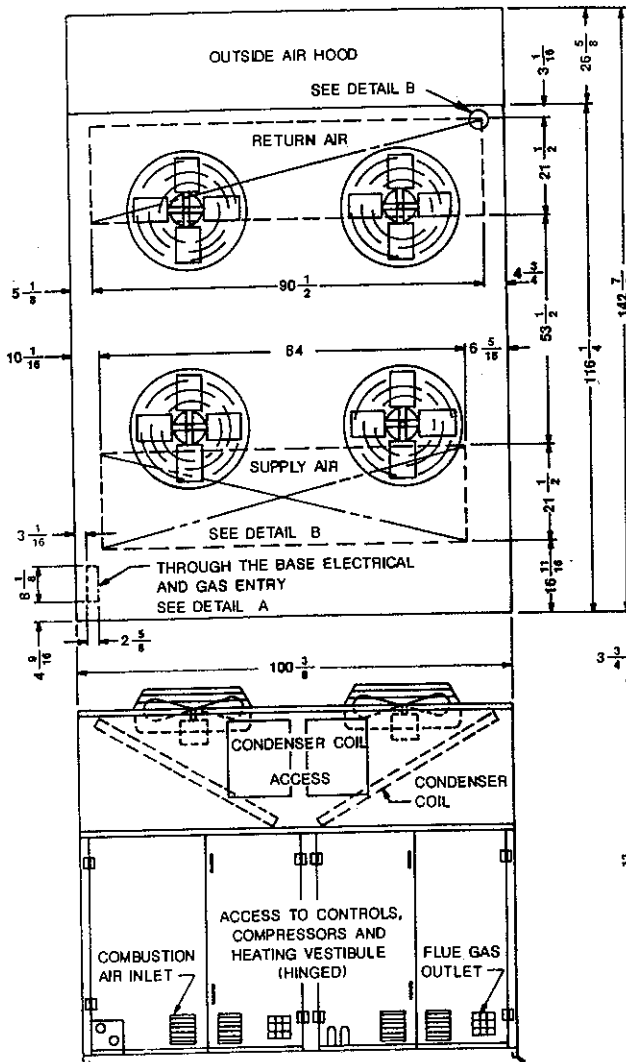


DETAIL B



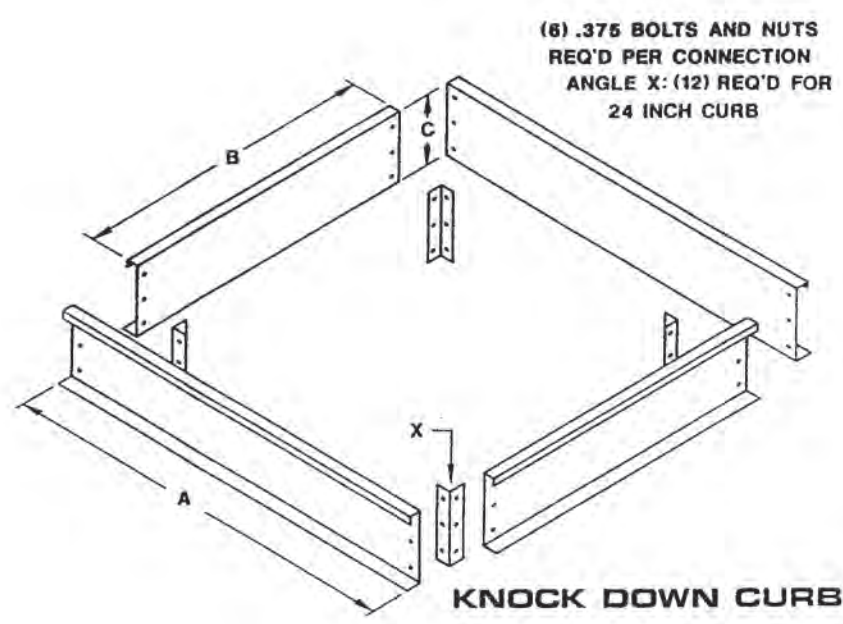
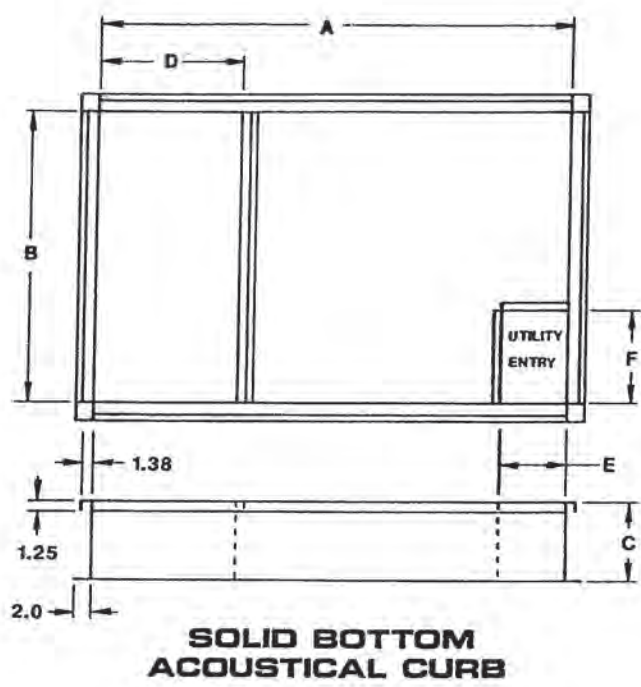
POWER EXHAUST

NUMBER OF CONDENSER FANS
26 - 32 TON - 4 FANS
40 TON - 6 FANS



LIFTING POINT(TYP)
4 - PLACES

curb details



dimensions • D cabinet

CURB TYPE	A	B	C	D	E	F
KNOCK DOWN	108 23/32	93 3/8	14 / 24			
SOLID BOTTOM	108 23/32	93 3/8		35	12	10

specifications • 'E' cabinet

UNIT FEATURES		RE UNIT SIZE		
		50	56	63
NOMINAL CAPACITY TONS		50	56	63
EER - FULL LOAD ①		8.5	8.5	8.7
REFRIGERANT CHARGE total lbs./ no. of systems		141.0 (4)	158.0 (4)	200.0 (4)
COMPRESSOR (HERMETIC)	Quantity	(4)		
CONDENSER COIL	Quantity	(4)		
Face Area Sq. Ft. / Rows / Fins per Inch		31.3 / 3 / 16		
CONDENSER FANS		(8) / 26"		
Quantity / Diameter				
CONDENSER FAN MOTORS		559 / 1100		
Watts / RPM	EACH			
EVAPORATOR COIL - Standard	Quantity	(2)		
Face Area Sq. Ft. / Rows / Fins per Inch		20 / 4 / 12		
EVAPORATOR COIL - 6 Row	Quantity	(2)		
Face Area Sq. Ft. / Rows / Fins per Inch		13.3 / 6 / 8		
EVAPORATOR BLOWER - BELT DRIVE		(4) / 15 x 11 / FC		
Quantity / Wheel D x W / Type				
EVAP. BLOWER MOTOR	HP - Standard	(2) 10	(2) 10	(2) 15
	HP - Oversize	(2) 15	(2) 15	(2) 20
	HP - Double Oversize	(2) 20	(2) 20	(2) 25
GAS FURNACES - TYPE		TUBULAR - INDUCED DRAFT		
Standard Material / Optional Material		ALUMINIZED STEEL / STAINLESS STEEL		
IGNITION		NON-STANDING , AUTOMATIC , SPARK RELIGHT		
GAS CONNECTION (F.P.T.)		(2) @ .75		
FILTERS - TYPE		PLEATED		
QTY / SIZE		(12) / 20" x 25" x 2"		
POWER EXHAUST FANS - BELT DRIVE		(4) / 15 x 11 / FC		
Quantity / Wheel D x W / Type				
POWER EXH. FANS MOTOR	HP - Standard	(2) 5 HP		
	HP - Oversize	(2) 7.5 HP		
UNIT NET WEIGHTS		50	56	63
BASE UNIT (Cooling Only)		4250	4450	4600
GAS Heat Exchanger - high heat - Std / SS		370		
GAS Heat Exchanger - low heat - Std / SS				
ELECTRIC HEAT		150		
HOT WATER OR STEAM COIL		250		
ECONOMIZER		383		
POWER EXHAUST		600		
VAV / VVT		250		
CURB WEIGHTS				
KNOCKDOWN CURB - 14" HIGH		360		
KNOCKDOWN CURB - 24" HIGH		710		
ACOUSTICAL CURB - 14" HIGH		480		
ACOUSTICAL CURB - 24" HIGH		830		

① AT STANDARD A.R.I. TEST CONDITIONS. NO CERTIFICATION PROGRAM APPLICABLE FOR UNITS ABOVE 20 TONS.

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS mechanical cooling capacities • 50 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 20,000 CFM				6 ROW EVAPORATOR @ 20,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	594,500	581,200	568,400	555,300	597,500	584,200	571,300	558,100
		Sensible	443,100	430,100	421,500	410,200	444,000	431,000	422,400	411,000
	80	Total	603,600	590,100	577,100	563,800	606,600	593,100	580,000	566,600
		Sensible	523,100	507,800	497,600	484,300	524,200	508,800	498,600	485,200
	85	Total	616,600	602,800	589,500	575,900	619,600	605,900	592,500	578,800
		Sensible	615,400	602,200	588,300	575,300	618,400	605,300	591,300	578,200
67	75	Total	609,800	596,200	582,500	568,600	612,900	599,300	585,500	571,500
		Sensible	401,600	391,700	389,500	381,600	402,500	392,500	390,400	382,400
	80	Total	619,100	605,300	591,400	577,300	622,200	608,400	594,400	580,200
		Sensible	488,300	476,300	473,600	464,000	489,300	477,200	474,600	464,900
	85	Total	632,400	618,300	604,100	589,700	635,600	621,500	607,200	592,700
		Sensible	578,600	564,400	561,200	549,800	579,800	565,500	562,400	550,900
72	75	Total	628,100	614,000	599,100	584,200	631,400	617,000	602,100	587,200
		Sensible	360,400	347,600	343,600	336,300	361,200	348,200	344,200	337,000
	80	Total	637,700	623,300	608,200	593,100	641,000	626,400	611,300	596,100
		Sensible	451,800	441,100	436,000	429,400	452,700	441,900	436,800	430,300
	85	Total	651,400	636,700	621,300	605,900	654,800	639,900	624,400	608,900
		Sensible	553,800	540,700	538,900	530,800	554,900	541,700	539,900	531,800

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 15,000 CFM				6 ROW EVAPORATOR @ 15,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	581,700	569,200	554,100	543,700	584,600	572,100	556,800	546,500
		Sensible	422,000	413,300	402,000	394,800	422,900	414,200	402,800	395,700
	80	Total	590,600	577,900	562,500	552,000	593,500	580,800	565,300	554,800
		Sensible	498,200	487,900	474,500	466,100	499,200	488,900	475,500	467,100
	85	Total	603,300	590,300	574,600	563,900	606,300	593,300	577,500	566,700
		Sensible	602,100	589,700	573,500	563,300	605,100	592,700	576,300	566,100
67	75	Total	599,600	585,900	569,700	558,600	602,500	588,800	572,600	561,500
		Sensible	383,500	377,700	367,800	360,900	384,300	378,500	368,600	361,700
	80	Total	608,700	594,800	578,400	567,100	611,700	597,800	581,300	570,000
		Sensible	466,300	459,200	447,200	438,800	467,300	460,200	448,100	439,700
	85	Total	621,800	607,600	590,800	579,300	624,900	610,700	593,800	582,300
		Sensible	552,500	544,100	529,900	520,000	553,800	545,400	531,000	521,100
72	75	Total	619,700	605,200	587,600	575,500	622,800	608,200	590,500	578,400
		Sensible	349,600	339,200	329,200	320,400	350,200	339,800	329,800	321,100
	80	Total	629,100	614,400	596,500	584,300	632,300	617,500	599,500	587,200
		Sensible	438,100	430,400	417,700	409,200	439,000	431,200	418,500	410,100
	85	Total	642,600	627,600	609,300	596,900	645,900	630,800	612,400	599,800
		Sensible	537,000	527,600	516,300	505,800	538,100	528,600	517,300	506,900

56 ton • mechanical cooling capacities

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 22,400 CFM				6 ROW EVAPORATOR @ 22,400 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	679,700	666,400	653,500	640,400	683,100	669,700	656,800	643,600
		Sensible	515,900	503,000	494,200	483,000	516,900	503,900	495,300	483,900
	80	Total	690,000	676,500	663,500	650,200	693,500	679,900	666,800	653,400
		Sensible	609,000	593,700	583,500	570,200	610,200	594,900	584,700	571,300
	85	Total	704,800	691,000	677,800	664,200	708,400	694,500	681,100	667,400
		Sensible	703,400	690,300	676,400	663,500	707,000	693,800	679,700	666,700
67	75	Total	694,900	681,300	667,600	653,700	698,400	684,800	671,000	657,000
		Sensible	472,300	462,400	460,200	452,200	473,200	463,300	461,100	453,200
	80	Total	705,500	691,700	677,800	663,700	709,000	695,200	681,200	667,000
		Sensible	574,200	562,200	559,500	549,900	575,300	563,300	560,600	551,000
	85	Total	720,700	706,600	692,400	678,000	724,200	710,100	695,800	681,300
		Sensible	680,400	666,200	663,000	651,600	681,700	667,400	664,200	652,900
72	75	Total	713,200	699,100	684,200	669,300	716,900	702,500	687,600	672,700
		Sensible	429,000	415,300	411,300	403,500	429,800	416,100	412,000	404,400
	80	Total	724,100	709,700	694,600	679,500	727,800	713,200	698,100	682,900
		Sensible	537,700	527,000	521,900	515,300	538,700	528,000	522,900	516,400
	85	Total	739,700	725,000	709,500	694,100	743,400	728,500	713,100	697,600
		Sensible	659,100	646,000	645,000	636,900	660,300	647,200	646,300	638,300

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 16,800 CFM				6 ROW EVAPORATOR @ 16,800 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	666,800	654,300	639,200	628,800	670,200	657,600	642,400	632,000
		Sensible	494,800	487,900	474,500	467,000	495,700	488,900	475,400	468,000
	80	Total	677,000	664,300	648,900	638,400	680,400	667,600	652,200	641,600
		Sensible	584,100	576,000	560,100	551,300	582,200	577,100	561,200	552,400
	85	Total	691,600	678,600	662,900	652,100	695,000	682,000	666,200	655,400
		Sensible	690,200	677,900	661,600	651,400	693,600	681,300	664,900	654,700
67	75	Total	684,700	671,000	654,800	643,700	688,100	674,400	658,100	646,900
		Sensible	454,200	450,200	438,200	431,000	455,100	451,000	439,100	431,800
	80	Total	659,100	681,200	664,800	653,500	698,600	684,700	668,100	656,800
		Sensible	552,200	547,300	532,800	524,000	553,300	548,400	533,800	525,000
	85	Total	710,000	695,800	679,100	667,600	713,600	699,400	682,500	670,900
		Sensible	654,300	648,500	631,300	621,000	655,600	649,800	632,600	622,100
72	75	Total	704,800	690,300	672,700	660,600	708,300	693,800	676,100	664,000
		Sensible	418,100	408,600	396,500	387,100	418,900	409,300	397,300	387,900
	80	Total	715,500	700,800	682,900	670,700	719,100	704,400	686,400	674,100
		Sensible	524,000	518,500	503,200	494,400	525,100	519,500	504,200	495,400
	85	Total	730,900	715,900	697,600	685,100	734,600	719,500	701,200	688,600
		Sensible	642,300	635,600	622,000	611,100	643,700	636,800	623,200	612,300

NOTE: * 6 ROW COIL DATA 'ZERO' % BYPASS mechanical cooling capacities • 63 ton

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 25,000 CFM				6 ROW EVAPORATOR @ 25,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	771,200	757,900	745,100	732,000	775,000	761,700	748,800	735,600
		Sensible	561,400	548,400	539,800	528,500	562,500	549,500	540,900	529,500
	80	Total	782,900	769,400	756,400	743,100	786,800	773,300	760,200	746,800
		Sensible	662,700	647,400	637,200	623,900	664,000	648,700	638,500	625,100
	85	Total	799,700	785,900	772,700	759,100	803,700	789,900	776,500	762,900
		Sensible	798,100	785,100	771,200	758,300	802,100	789,100	774,900	762,100
67	75	Total	786,400	772,800	759,100	745,300	790,400	776,800	763,000	749,000
		Sensible	516,400	506,500	504,300	496,500	517,400	507,600	505,300	497,400
	80	Total	798,400	784,600	770,700	756,600	802,400	788,600	774,600	760,400
		Sensible	627,900	615,900	613,200	603,600	629,100	617,100	614,400	604,800
	85	Total	815,600	801,500	787,300	772,900	819,700	805,600	791,300	776,700
		Sensible	744,100	729,800	726,600	715,300	745,500	731,300	728,100	716,600
72	75	Total	804,700	790,600	775,700	760,800	808,900	794,500	779,600	764,700
		Sensible	471,800	457,600	453,600	445,600	472,700	458,500	454,400	446,500
	80	Total	817,000	802,600	787,500	772,400	821,200	806,600	791,500	776,300
		Sensible	591,400	580,700	575,600	569,000	592,500	581,800	576,700	570,200
	85	Total	834,600	819,900	804,400	789,000	838,900	823,900	808,500	793,000
		Sensible	725,000	711,900	711,400	703,300	726,300	713,100	712,800	704,800

W.B. TEMP. ENT. EVAP.	D.B. TEMP. ENT. EVAP.	COOLING CAPACITY	STANDARD EVAPORATOR @ 15,000 CFM				6 ROW EVAPORATOR @ 15,000 CFM *			
			AIR TEMP. ENT. CONDENSER - °F				AIR TEMP. ENT. CONDENSER - °F			
			85	95	105	115	85	95	105	115
62	75	Total	758,400	745,800	730,700	720,300	762,100	749,600	734,300	724,000
		Sensible	540,300	534,600	519,700	512,100	541,300	535,600	520,800	513,200
	80	Total	769,900	757,200	741,800	731,300	773,700	761,000	745,500	735,000
		Sensible	637,800	631,100	613,500	604,600	639,000	632,300	614,800	605,800
	85	Total	786,500	773,500	757,700	747,000	790,300	777,400	761,500	750,800
		Sensible	784,900	772,700	756,200	746,300	788,700	776,600	760,000	750,000
67	75	Total	776,200	762,500	746,300	735,200	780,100	766,300	750,100	738,900
		Sensible	498,400	495,500	482,100	474,700	499,400	496,400	483,100	475,700
	80	Total	788,000	774,100	757,700	746,400	792,000	778,000	761,500	750,200
		Sensible	605,900	602,400	586,200	577,200	607,200	603,600	587,400	578,400
	85	Total	804,900	790,700	774,000	762,400	809,000	794,700	777,900	766,300
		Sensible	717,900	713,800	694,600	683,900	719,500	715,200	696,100	685,300
72	75	Total	796,300	781,800	764,200	752,100	800,300	785,700	768,000	755,900
		Sensible	460,900	452,000	438,600	428,900	461,900	452,800	439,500	429,800
	80	Total	808,400	793,700	775,800	763,600	812,500	797,700	779,700	767,400
		Sensible	577,700	573,600	556,600	547,700	578,900	574,700	557,800	548,800
	85	Total	825,800	810,800	792,500	780,000	830,000	814,900	796,500	783,900
		Sensible	708,200	703,100	688,000	677,000	709,600	704,500	689,500	678,300

gas heating capacities

TABLE 66 - 1

CABINET	MODEL	Designation (2)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	TEMPERATURE RISE RANGE (°F)
E	RE-50	(2)	570.0	461.70	05 - 35
	RE-56	(2)	570.0	461.70	05 - 35
	RE-63	(2)	570.0	461.70	05 - 35

* AAON HEAT RANGE DESIGNATIONS (2) = MEDIUM HEAT

- NOTES: 1) To calculate air temperature rise: $\Delta T = \text{Output capacity} / (\text{CFM} \times 1.085)$
 2) Use tabulated ratings for elevations to 2000 FT.
 3) For elevations above 2000 FT. derate 4% for each 1000 FT. above sea level and use the following formula:
 $\Delta T = \text{Output capacity} / (.24 \times 60 \times \text{specific WT of air} \times \text{CFM})$
 4) Gas pressure supply range (inches of water guage): Natural 6 - 10.5 ; Propane 11 - 13.
 5) Gas manifold pressure (inches of water guage): Natural 3.5; Propane 10.5.
 6) Above 2000 FT.; Specify "HI ALTITUDE KIT".

CAUTION: FOR APPLICATIONS OUTSIDE THE TEMPERATURE RANGE SHOWN, CONTACT THE FACTORY.

electric heating capacities

TABLE 66 - 2

THREE PHASE

Heating Designation and Unit Availability 50 - 56 - 63	No. of Strips	208 / 60 / 3			240 / 60 / 3			480 / 60 / 3			575 / 60 / 3		
		MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
D	4	102.4	30.0	83.28	136.6	40.0	96.4	136.6	40.0	48.0	136.6	40.0	40.0
F	8	205.2	60.1	166.56	273.2	80.0	192.8	273.2	80.0	96.0	273.2	80.0	80.0
H	12	307.7	90.1	249.84	410.1	120.0	289.2	410.1	120.0	144.0	410.1	120.0	120.0
J	16	410.1	120.1	333.12	546.4	160.0	385.6	546.4	160.0	192.0	546.4	160.0	160.0
K	20	512.2	150.2	416.40	683.0	200.0	482.0	683.0	200.0	240.0	683.0	200.0	200.0

steam heating data

TABLE 67-1 • FACE VELOCITY vs. SELECTION FACTOR • 14.5 SQ. FT. FACE AREA

FV (fpm)	SF	FV (fpm)	SF	FV (fpm)	SF
200	.707	475	.541	750	.454
225	.684	500	.531	775	.448
250	.664	525	.522	800	.442
275	.646	550	.513	825	.437
300	.629	575	.504	850	.431
325	.613	600	.496	875	.425
350	.599	625	.489	900	.420
375	.586	650	.481	925	.415
400	.574	675	.474	950	.410
425	.562	700	.467	975	.406
450	.551	725	.461	1000	.401

TABLE 67-2

SATURATED STEAM PROPERTIES		
PSIG	TEMPERATURE	LATENT HEAT
2	218	966
5	227	961
7	233	958
10	239	953
15	250	946

TABLE 67-3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
200	.03	700	.43
300	.10	800	.55
400	.16	900	.67
500	.24	1000	.81
600	.33		

EXAMPLE: What is the Expected Leaving Air Temperature with 2 PSIG Saturated Steam and 14,000 cfm entering at 60°F ?

The coil face velocity is $14,000 \div 25.0 = 966$ FPM.

FROM TABLE 67-1: SF = .408 (by interpolation)

FROM TABLE 67-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .408 (218 - 60) = 64.5°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

FROM TABLE 67-2: LATENT HEAT = 966.

CONDENSATE LOAD = BTUH ÷ LATENT HEAT @ OPERATING PSIG.

CONDENSATE LOAD = $(1.085 \times 64.5 \times 14,000) \div 966 = 1014.2$ lbs. / hr.

FROM TABLE 67-3: AIR SIDE PRESSURE DROP = .77 (by interpolation)

hot water coil performance data

TABLE 67-4 • 'E' CABINET • 180° F EWT, 60° F EAT • 14.5 SQ. FT. FACE AREA

C.F.M.	ΔP AIR	50 GPM (.6 ft. ΔP)			75 GPM (1.3 ft. ΔP)			100 GPM (2.2 ft. ΔP)		
		ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH	ΔT AIR	ΔT H ₂ O	MBH
8000	.29	49.9	17.4	436.2	53.3	12.4	466.0	55.2	9.7	482.7
10000	.43	44.2	19.3	483.5	47.6	13.9	520.6	49.5	10.8	541.6
12000	.59	39.8	20.9	522.7	43.2	15.1	566.6	45.1	11.8	591.7
14000	.78	36.3	22.2	566.1	39.6	16.2	606.2	41.5	12.7	635.1
16000	.98	33.4	23.4	585.0	36.6	17.1	640.9	38.5	13.5	673.4
18000	1.21	31.0	24.4	610.4	34.1	17.9	671.7	35.9	14.2	707.6
20000	1.45	28.9	25.3	633.0	32.0	18.6	699.3	33.8	14.8	738.3

EXAMPLE: "E" Cabinet with 18,000 cfm, 180°F EWT, 60°F EAT, and 100 GPM has a capacity of 707.6 MBH from Table 67-4.

For 190°F EWT and 60°F EAT, the correction factor is 1.08. Actual capacity = $1.08 \times 707.6 = 764.2$ MBH.

$$\text{NEW } \Delta T_{H_2O} = \frac{764,200}{(500)(\text{GPM})} = \frac{764,200}{(500)(100)} = 15.3^\circ \text{F}$$

$$\text{NEW } \Delta T_{AIR} = \frac{764,200}{(1.08)(\text{CFM})} = \frac{764,200}{(1.08)(18,000)} = 39.3^\circ \text{F}$$

CORRECTION FACTORS FOR OTHER THAN 180° F HW ENT. AND 60° F AIR							
AIR TEMP.	WATER TEMP.						
	210	200	190	180	170	160	150
50°	1.38	1.28	1.18	1.08	1.00	0.90	0.82
60°	1.28	1.18	1.08	1.00	0.90	0.82	0.72
70°	1.18	1.08	1.00	0.90	0.82	0.72	0.64

coil static pressure drops (in. wg.)

TABLE 68 - 1 • 'E' CABINET

• INDOOR COIL • NOTE: * 6 ROW COIL DATA "ZERO" % BYPASS												
C.F.M.	50 TON UNIT				56 TON UNIT				63 TON UNIT			
	STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
15000	.424	.150	.717	.540	.456	.150	.767	.540	.483	.150	.781	.540
16000	.464	.166	.783	.598	.500	.166	.837	.598	.529	.166	.853	.598
17000	.505	.182	.851	.658	.545	.182	.911	.658	.576	.182	.928	.658
18000	.547	.200	.922	.721	.593	.200	.986	.721	.626	.200	1.004	.721
19000	.590	.218	.994	.786	.641	.218	1.064	.786	.677	.218	1.084	.786
20000	.635	.237	1.069	.855	.692	.237	1.144	.855	.729	.237	1.166	.855
21000	.682	.257	1.147	.925	.744	.257	1.227	.925	.783	.257	1.250	.925
22000	.729	.277	1.226	.999	.798	.277	1.312	.999	.839	.277	1.336	.999
23000	.778	.299	1.308	1.075	.854	.299	1.399	1.075	.897	.299	1.425	1.075
24000	.828	.321	1.392	1.154	.911	.321	1.489	1.154	.956	.321	1.517	1.154
25000	.880	.344	1.478	1.235	.970	.344	1.581	1.235	1.017	.344	1.611	1.235
26000	.933	.367	1.566	1.319	1.030	.367	1.676	1.319	1.080	.367	1.707	1.319

component static pressure drops (in. wg.)

TABLE 68 - 2 • 'E' CABINET

C.F.M. 50-63 TON	HEATING SECTION						FILTERS			ECON 100% R / A	Acoustical CURB
	GAS HEAT MEDIUM	ELECTRIC HEAT					2" Throw Away	2" Pleated	4" Pleated		
15000	.271	.207	.281	.345	.507	.601		.174	.164	.137	.109
16000	.289	.221	.300	.368	.541	.643		.189	.178	.149	.119
17000	.308	.235	.319	.392	.576	.684		.205	.192	.162	.130
18000	.327	.250	.338	.415	.610	.725		.221	.206	.176	.141
19000	.345	.264	.357	.438	.645	.766		.237	.221	.190	.152
20000	.364	.279	.377	.461	.679	.808		.254	.236	.204	.163
21000	.383	.293	.396	.485	.714	.849		.271	.251	.219	.175
22000	.401	.307	.415	.508	.748	.890		.289	.267	.234	.187
23000	.420	.322	.434	.531	.783	.931		.307	.283	.250	.200
24000	.439	.336	.453	.554	.818	.973		.326	.300	.266	.213
25000	.457	.351	.473	.577	.852	1.014		.345	.317	.283	.226
26000	.476	.365	.492	.601	.887	1.055		.365	.334	.300	.240

motor input rpm and kw (total for two motors) **blower performance**
 two motors of the 'hp' shown are used.

TABLE 69 - 1 • 'E' CABINET

C.F.M	TOTAL STATIC PRESSURE									
	1.0		2.0		3.0		5.0		7.0	
	RPM	KW	RPM	KW	RPM	KW	RPM	KW	RPM	KW
15000	520	4.82	1010	9.47	1170	12.70	1480	19.70	NOT AVAILABLE	
16000	550	5.48	1030	10.60	1190	13.98	1480	20.81		
17000	590	6.31	1050	11.80	1200	15.12	1490	22.28	1740	29.91
18000	650	7.46	1070	13.10	1220	16.56	1500	23.83	1750	31.64
19000	730	8.96	1100	14.69	1250	18.31	1520	25.79	1760	33.50
20000	860	11.29	1120	16.15	1270	19.93	1530	27.51	1770	35.47
21000	1010	14.28	1150	17.96	1300	21.90	1550	29.68	1780	37.58
22000	1050	16.31	1190	20.14	1320	23.70	1560	31.61	1790	39.84
23000	1100	18.75	1220	22.18	1350	25.88	1580	34.04	1810	42.80
24000	1140	21.06	1260	24.63	1370	27.89	1600	36.63	1820	45.56
25000	1180	23.50	1290	26.90	1400	30.29	1620	39.39	1840	49.07
26000	1220	26.08	1320	29.29	1420	32.73	1640	42.35	1850	52.23

NOTE: TOTAL STATIC = INTERNAL STATIC + EXTERNAL STATIC

BLOWER PERFORMANCE TABLES INCLUDE INTERNAL RESISTANCE OF CABINET ONLY.
 FOR TOTAL STATIC PRESSURE DETERMINATION, SYSTEM EXTERNAL STATIC PRESSURE
 MUST BE ADDED TO THE APPROPRIATE COMPONENT STATIC PRESSURE DROPS.
 SEE TABLES 68-1, 68-2, 67-3 AND 67-4 FOR COMPONENT STATIC PRESSURE DROPS.

REFER TO PAGE 82 FOR 'KW' TO 'HP' CONVERSION.

power exhaust performance

TABLE 69 - 2 • 'E' CABINET • BELT DRIVE

C.F.M	TOTAL STATIC PRESSURE									
	0.2		0.4		0.6		0.8		1.0	
	RPM	HP ①	RPM	HP ①	RPM	HP ①	RPM	HP ①	RPM	HP ①
12000	660	3	820	3	900	3	950	5	1000	5
14000	880	5	920	5	960	5	1000	5	1080	5
16000	980	5	1010	5	1050	5	1100	5	1150	7.5
18000	1080	5	1110	7.5	1160	7.5	1200	7.5	1240	7.5
20000	1200	7.5	1220	7.5	1250	7.5	NOT AVAILABLE			

① (2) MOTORS OF THE HP SHOWN ARE USED.

electrical data

TABLE 70-1 • 'E' CABINET

208 - 240 / 3 / 60										
UNIT SIZE		50			56			63		
(HP)		10.0	15.0	20.0	10.0	15.0	20.0	15.0	20.0	25.0
BLOWER Mir 1 & 2	F.L.A. (ea)	28.0	42.0	54.0	28.0	42.0	54.0	42.0	54.0	68.0
COMPRESSOR #1 & 3	F.L.A.	35.3						50.7		
	L.R.A.	207						234		
COMPRESSOR #2 & 4	F.L.A.	35.3			50.7					
	L.R.A.	207			234					
CONDENSER FAN MTR.	F.L.A. (ea)	(8) 6.9								
COMBUSTION BLOWER MTR.	F.L.A. total	2.6								
COOLING	F.L.A.	252	280	304	283	311	335	342	366	394
	M.C.A.	261	291	318	296	324	349	355	380	411
Max. Overcurrent Protection		300		350	300	350	400		450	
ELEC. HEAT	F.L.A.	252	280	304	283	311	311	342	366	394
Designation - D -	M.C.A.	261	291	318	296	324	324	355	380	411
Max. Overcurrent Protection		300		350	300	350		400		450
ELEC. HEAT	F.L.A.	249	277	301	249	277	301	342	366	394
Designation - F -	M.C.A.	311	346	376	311	346	376	355	380	411
Max. Overcurrent Protection		350	400	450	350	400	450	400		450
ELEC. HEAT	F.L.A.	345	373	397	345	373	397	373	397	425
Designation - H -	M.C.A.	432	465	497	432	465	497	467	497	532
Max. Overcurrent Protection		450	500		450	500				600
ELEC. HEAT	F.L.A.	442	470	494	442	470	494	470	494	522
Designation - J -	M.C.A.	552	587	617	552	587	617	587	617	652
Max. Overcurrent Protection		600		700	600		700	600	700	
ELEC. HEAT	F.L.A.	538	566	590	538	566	590	566	590	618
Designation - K -	M.C.A.	673	708	738	673	708	738	708	738	773
Max. Overcurrent Protection		700	800		700	800				
480 / 3 / 60										
UNIT SIZE		50			56			63		
(HP)		10.0	15.0	20.0	10.0	15.0	20.0	15.0	20.0	25.0
BLOWER Mir 1 & 2	F.L.A. (ea)	14.0	21.0	27.0	14.0	21.0	27.0	21.0	27.0	34.0
COMPRESSOR #1 & 3	F.L.A.	17.7						25.3		
	L.R.A.	104						117		
COMPRESSOR #2 & 4	F.L.A.	17.7			25.3					
	L.R.A.	104			117					
CONDENSER FAN MTR.	F.L.A. (ea)	(8) 3.5								
COMBUSTION BLOWER MTR.	F.L.A.	1.3								
COOLING	F.L.A.	127	141	153	142	156	168	171	183	197
	M.C.A.	131	146	160	148	162	175	178	190	206
Max. Overcurrent Protection		175	200	300	200	175	200		225	
ELEC. HEAT	F.L.A.	127	141	152	142	156	168	171	183	197
Designation - D -	M.C.A.	131	146	160	148	162	175	178	190	206
Max. Overcurrent Protection		175	200	300	200	175	200		225	
ELEC. HEAT	F.L.A.	124	138	150	124	138	150	171	183	197
Designation - F -	M.C.A.	155	173	188	155	173	188	178	190	206
Max. Overcurrent Protection		175	200	225	175	200	225	200		225
ELEC. HEAT	F.L.A.	172	186	198	172	186	198	186	198	212
Designation - H -	M.C.A.	215	233	248	215	233	248	233	248	265
Max. Overcurrent Protection		225	250		225	250				300
ELEC. HEAT	F.L.A.	220	234	246	220	234	246	234	246	260
Designation - J -	M.C.A.	275	293	308	275	293	308	293	308	325
Max. Overcurrent Protection		300		350	300		350	300	350	
ELEC. HEAT	F.L.A.	268	282	294	268	282	294	282	294	308
Designation - K -	M.C.A.	335	353	368	335	353	368	353	368	385
Max. Overcurrent Protection		350	400		350	400				

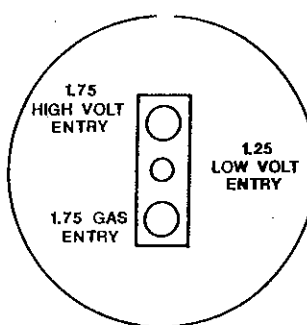
TABLE 71-1 • 'E' CABINET

575 / 3 / 60										
UNIT SIZE		50			56			63		
(HP)		10.0	15.0	20.0	10.0	15.0	20.0	15.0	20.0	25.0
BLOWER MTR 1 & 2	F.L.A. (ea)	11.4	17.1	22.0	11.4	17.1	22.0	17.1	22.0	27.8
COMPRESSOR #1 & 3	F.L.A.	14.1						20.3		
	L.R.A.	82						94		
COMPRESSOR #2 & 4	F.L.A.	14.1			20.3					
	L.R.A.	82			94					
CONDENSER FAN MTR	F.L.A. (ea)	(8) 3.5								
COMBUSTION BLOWER MTR	F.L.A. (total)	1.3								
COOLING	F.L.A.	107	119	128	120	131	141	143	153	165
	M.C.A.	111	123	134	125	136	146	148	159	172
Max. Overcurrent Protection		125	150	175	125	150		200		225
ELEC. HEAT	F.L.A.	107	119	128	120	131	141	143	153	165
	M.C.A.	111	123	134	125	136	146	148	159	172
Max. Overcurrent Protection		125	150	175	125	150		200		225
ELEC. HEAT	F.L.A.	103	114	124	103	114	124	143	153	165
	M.C.A.	129	143	155	129	143	155	148	159	172
Max. Overcurrent Protection		150		175	150		175	150	200	225
ELEC. HEAT	F.L.A.	143	154	164	143	154	164	154	164	176
	M.C.A.	179	193	205	179	193	205	193	205	220
Max. Overcurrent Protection		200		225	200		225	200	225	250
ELEC. HEAT	F.L.A.	183	194	204	183	194	204	194	204	216
	M.C.A.	229	243	255	229	243	255	243	255	270
Max. Overcurrent Protection		250		300	250		300	250	300	
ELEC. HEAT	F.L.A.	223	234	244	223	234	244	234	244	256
	M.C.A.	279	293	305	279	293	305	293	305	320
Max. Overcurrent Protection		300		350	300		350	300	350	

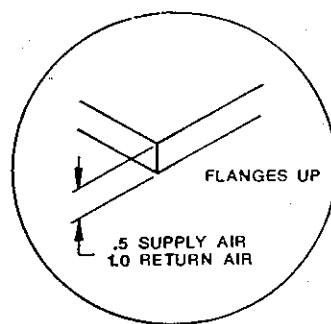
NOTE: THE COOLING ELECTRICAL DATA IS FOR COOLING ONLY AND COOLING WITH GAS HEAT PACKAGE UNITS. THE ELECTRIC HEAT ELECTRICAL DATA IS FOR PACKAGED COOLING WITH ELECTRIC HEAT UNITS. SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN TABLES 70-1 AND 71-1 DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

dimensions • E cabinet • 50 - 63 ton

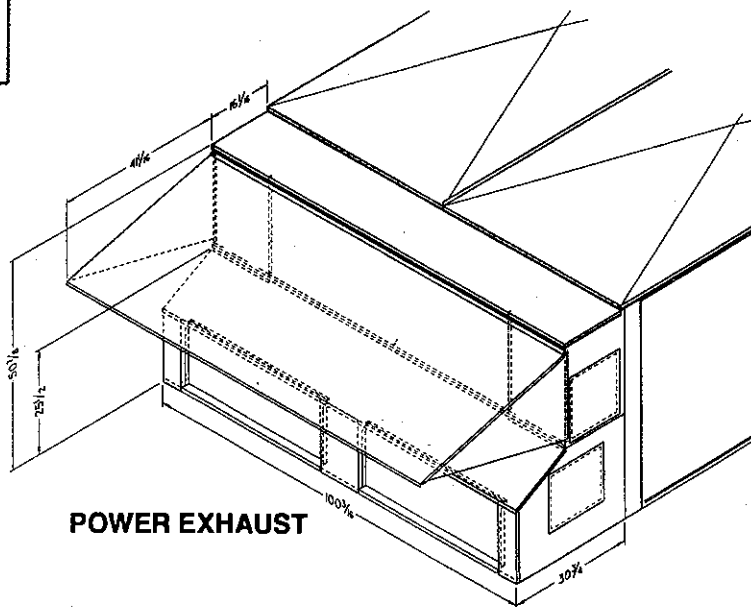
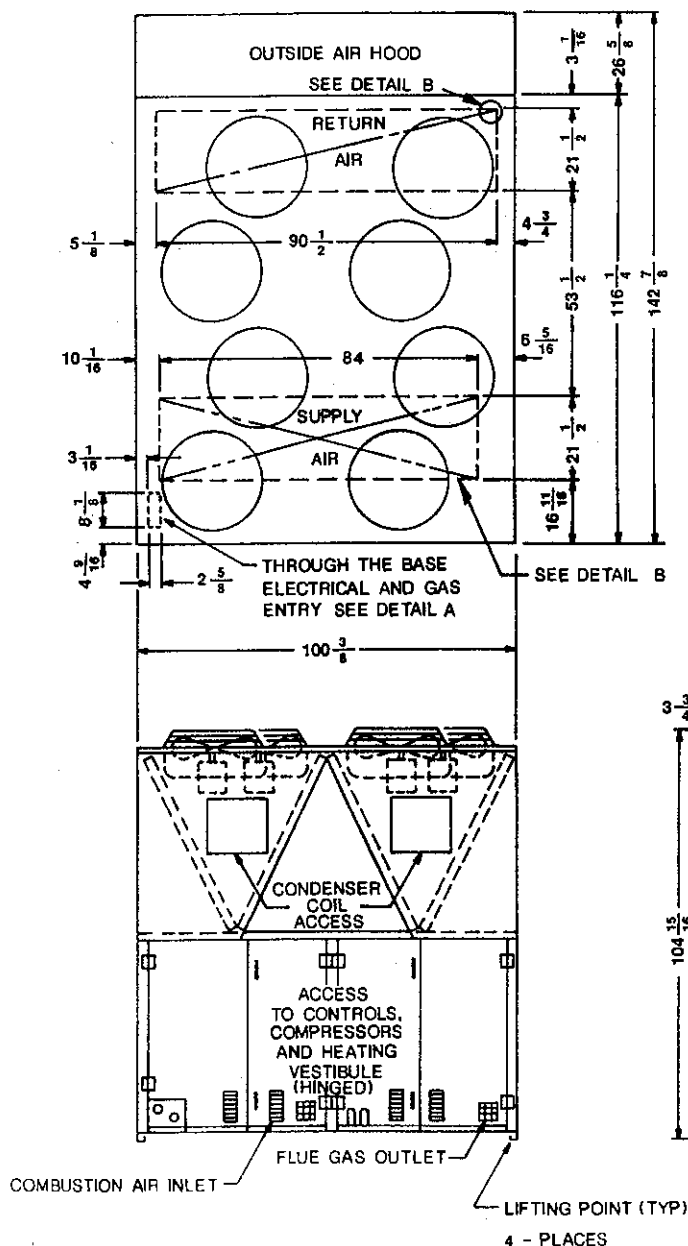
CLEARANCES	
LOCATION	UNIT SIZE
	50 • 56 • 63
RETURN AIR- (BACK)	60
VENT SIDE- (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



DETAIL A

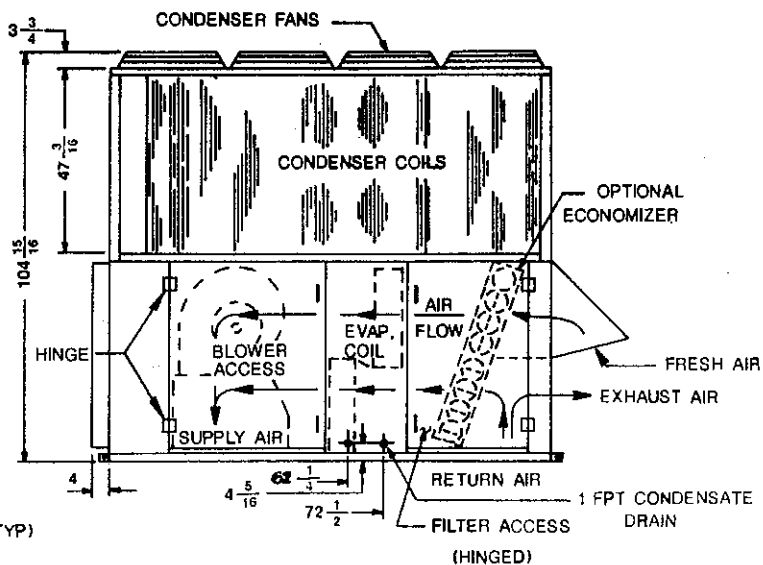


DETAIL B

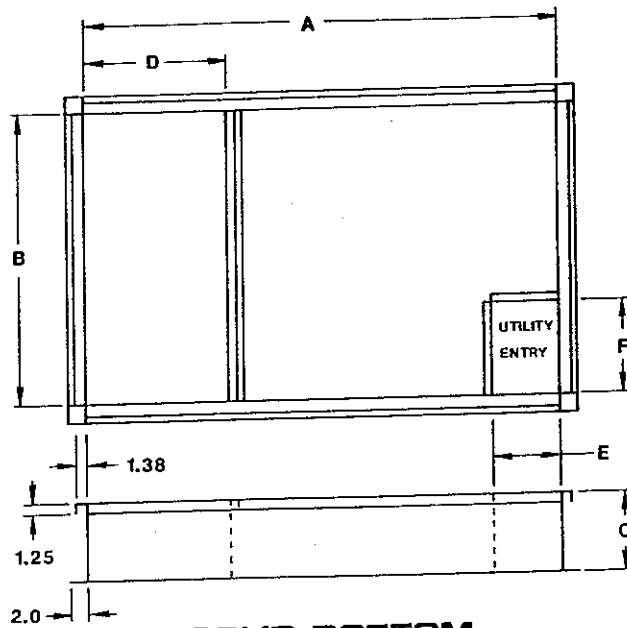


POWER EXHAUST

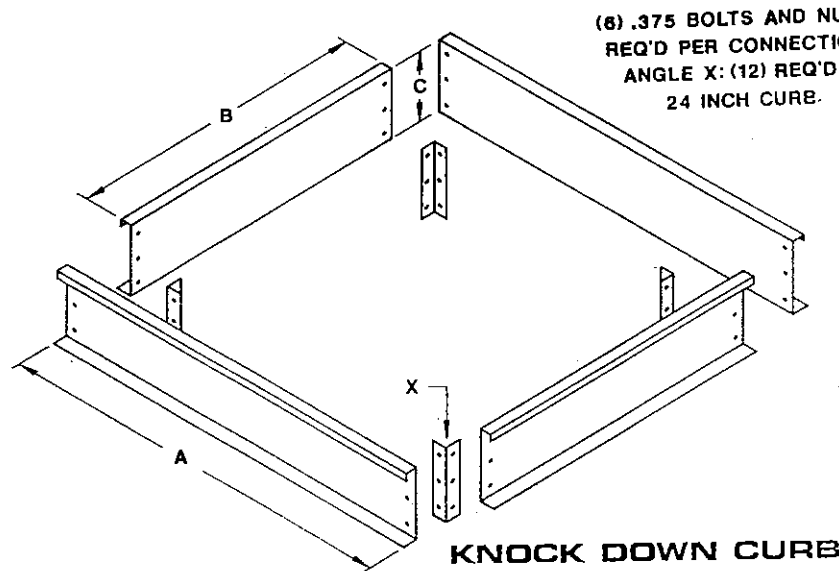
NUMBER OF CONDENSER FANS
50 - 63 TON - 8 FANS



curb details



**SOLID BOTTOM
ACOUSTICAL CURB**



(8) .375 BOLTS AND NUTS
REQ'D PER CONNECTION
ANGLE X: (12) REQ'D FOR
24 INCH CURB.

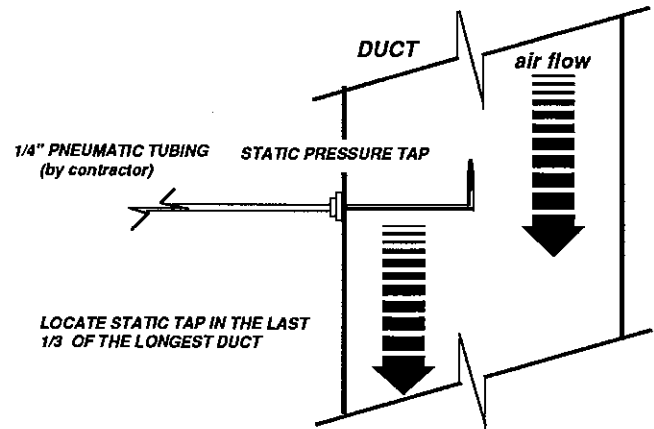
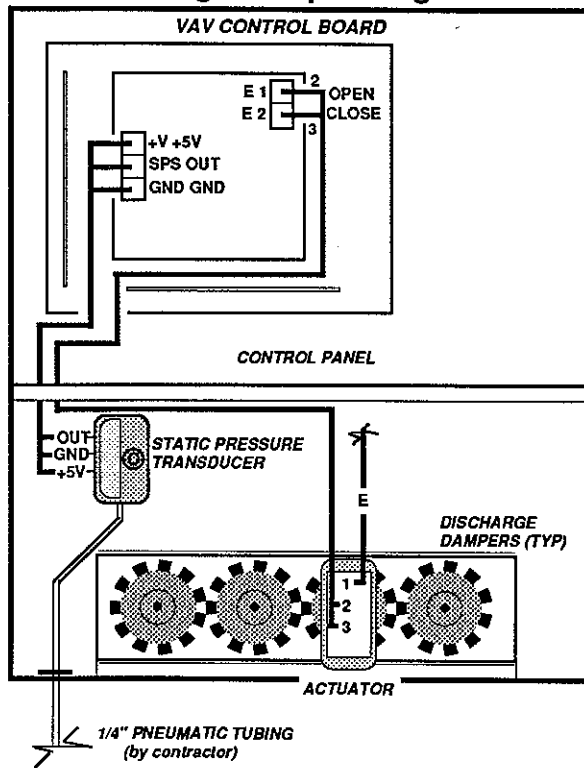
KNOCK DOWN CURB

dimensions • E cabinet

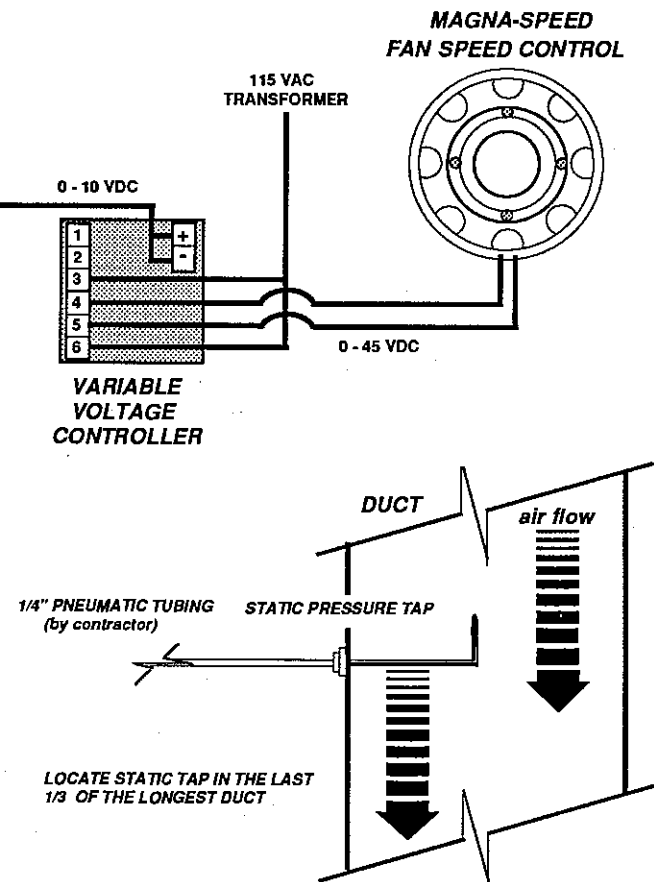
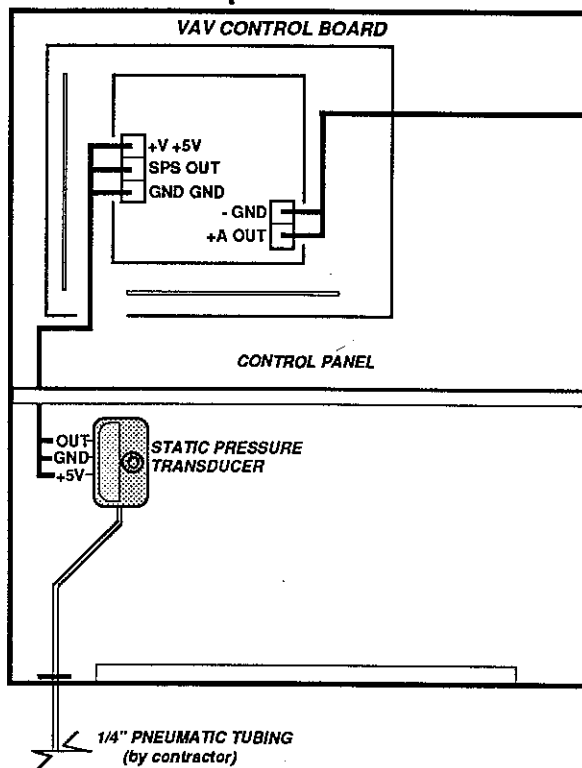
CURB TYPE	A	B	C	D	E	F
KNOCK DOWN	108 23/32	93 3/8	14 / 24	35	12	10
SOLID BOTTOM	108 23/32	93 3/8				

vav control

2 - 15 ton • control panel (typical) discharge damper diagram



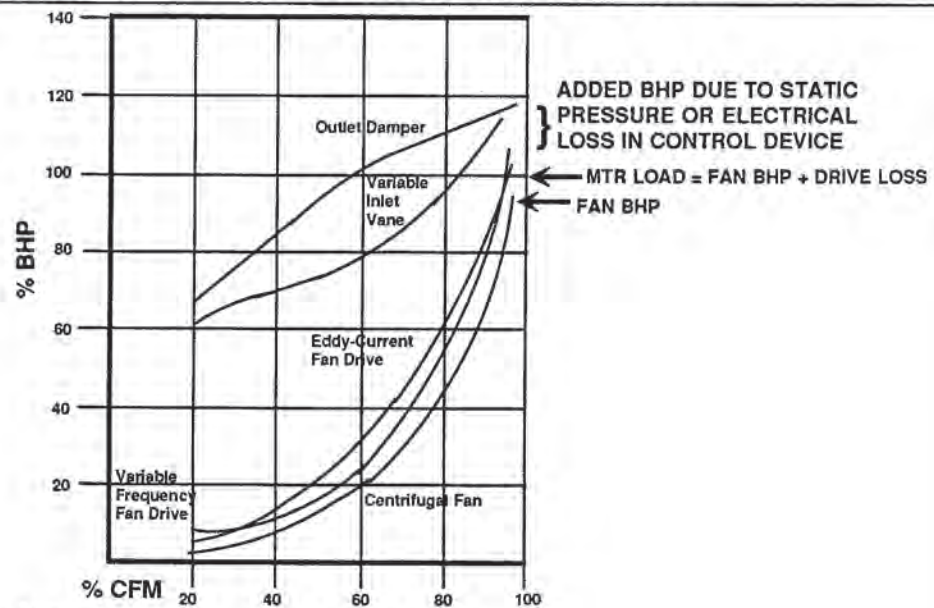
16 - 63 ton • control panel (typical) fan speed control



magna-speed centrifugal fan drive

% SPEED RPM	HORSEPOWER	REQUIRED OUTPUT KW / HP	DRIVE EFFICIENCY	REQUIRED INPUT KW / HP
100	100.0%	.746	.90%	.828
90	72.9%	.544	.84%	.647
80	51.2%	.382	.78%	.489
70	34.3%	.256	.72%	.355
60	21.6%	.161	.64%	.251
50	12.5%	.093	.54%	.172
40	6.4%	.048	.40%	.120
30	2.7%	.020	.29%	.068

POWER CONSUMPTION - INCLUDES MOTOR AND FAN SYSTEM LOSSES.

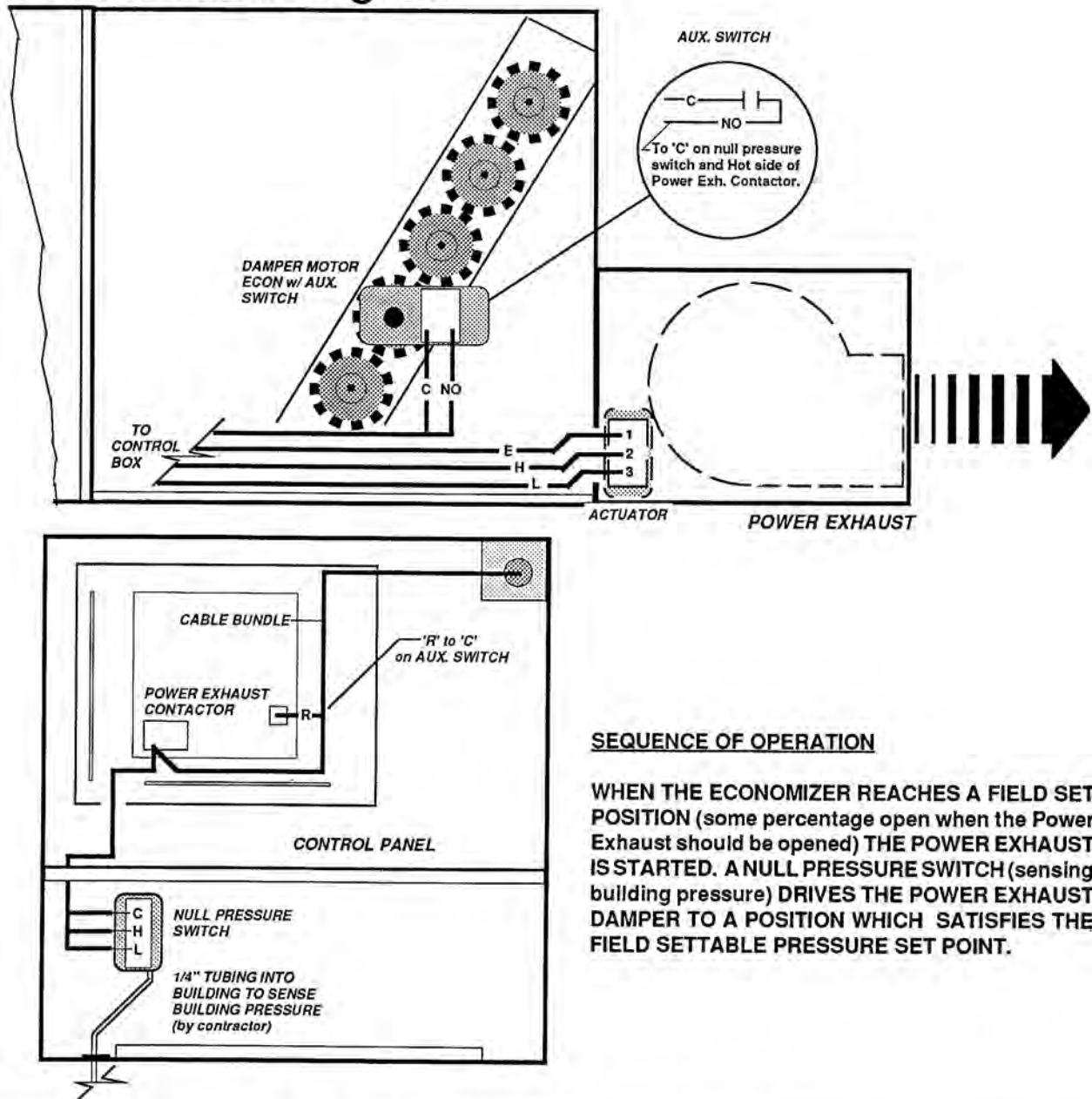


adjustable frequency fan drive

% SPEED RPM	HORSEPOWER	REQUIRED OUTPUT KW / HP	DRIVE EFFICIENCY	REQUIRED INPUT KW / HP
100	100.0%	.746	.86%	.867
90	72.9%	.544	.85%	.640
80	51.2%	.382	.82%	.465
70	34.3%	.256	.80%	.320
60	21.6%	.161	.74%	.217
50	12.5%	.093	.62%	.150
40	6.4%	.048	.43%	.111
30	2.7%	.020	.25%	.080

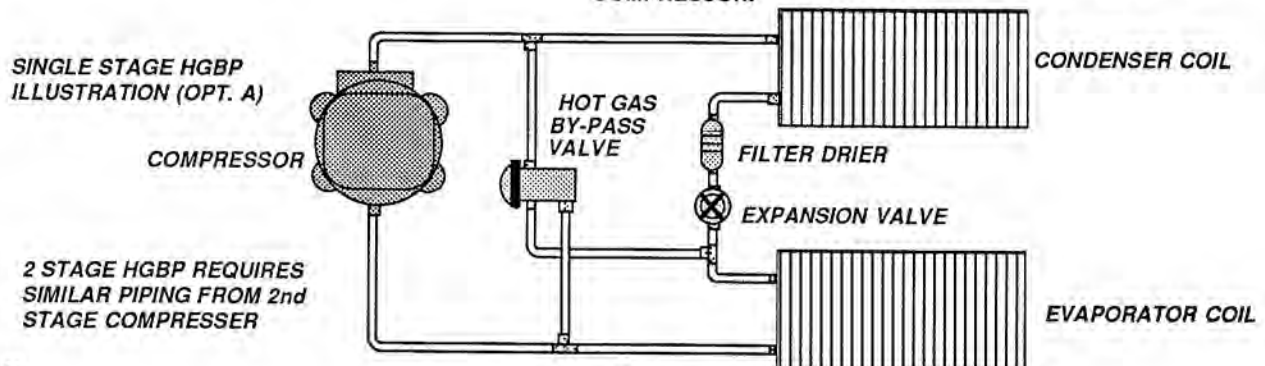
POWER CONSUMPTION - INCLUDES MOTOR AND FAN SYSTEM LOSSES.

power exhaust diagram



hot gas bypass example

NOTE: HGBP IS REQUIRED ON LEAD COMPRESSOR FOR VAV / VVT UNITS w/ 1 OR 2 COMPRESSORS. UNITS w/ MORE THAN 2 COMPRESSORS HGBP IS OPTIONAL. HOWEVER, IF USED, IT IS RECOMMENDED ON THE LEAD COMPRESSOR.



UNIT SELECTION PROCEDURE

Step-By-Step Procedure For Unit Selection Using Blower/Cooling Performance Tables To Select An AAON 'RE' Series Rooftop Unit. The Sample Selection Is Based On The Following Conditions:

UNIT WITH STANDARD EVAPORATOR

SUMMER DESIGN DATA:

- OUTDOOR DESIGN CONDITIONS = 95° DB / 76° WB
- TOTAL COOLING LOAD = 200,000 Btuh
- SENSIBLE COOLING LOAD = 174,000 Btuh
- OUTDOOR AIR VENTILATION LOAD = 30,000 Btuh
- RETURN AIR TEMPERATURE = 80° DB / 65° WB

AIR DELIVERY DATA:

- SUPPLY AIR VOLUME = 7,500 CFM
- EXTERNAL STATIC PRESSURE = 1.2 Inches WG
- MINIMUM OUTDOOR VENTILATION = 750 CFM (10%)

UNIT ACCESSORIES:

- GAS HEAT SECTION - HIGH HEAT CAPACITY
- 2 INCH THROW AWAY AIR FILTERS
- ECONOMIZER

STEP 1 - NOMINAL UNIT SIZE SELECTION

A Summation of the peak cooling load and the outside air ventilation load shows:
 $200,000 \text{ Btuh} + 30,000 \text{ Btuh} = 230,000 \text{ Btuh}$ required unit capacity. From the Cooling Capacity Tables (Pg.40) for the 20 ton unit with Standard Evaporator at 80° DB / 65° WB return air, 95° DB outdoor ambient, and 7,500 cfm supply air - total cooling capacity is 249,300 Btuh. Therefore; a nominal **20 Ton unit with Standard Evaporator** is selected.

STEP 2 - EVAPORATOR COIL ENTERING CONDITIONS

Mixed air dry bulb temperature determination:

Using minimum outdoor air ventilation of 750 cfm (10%), the mixed air dry bulb temperature entering the evaporator = $80^\circ \text{ DB} + 0.10 \times (95^\circ \text{ DB} - 80^\circ \text{ DB}) = 80 + 1.5 = 81.5^\circ \text{ DB}$.

Approximate mixed air wet bulb temperature determination:

Mixed air wet bulb temperature entering the evaporator = $65^\circ \text{ WB} + 0.10 \times (76^\circ \text{ WB} - 65^\circ \text{ WB}) = 65 + 1.1 = 66.1^\circ \text{ WB}$.

A psychrometric chart can be used to more accurately determine the mixed air conditions entering the evaporator coil.

STEP 3 - BLOWER MOTOR HEAT GAIN

Having selected a nominal 20 Ton unit, the blower motor kw can be calculated. The motor size must be selected and the motor heat gain considered in final determination of unit capacity.

Determine unit total static pressure at design blower cfm from Air Delivery Data (above) and 'C' Cabinet Component Static Pressure Drop Tables (pg 43 & 44):

- EXTERNAL STATIC PRESSURE = 1.2 IN. WG
- DX STANDARD EVAPORATOR COIL STATIC PRESSURE DROP = 0.62 IN. WG
- GAS HEAT EXCHANGER STATIC PRESSURE DROP = 0.35 IN. WG
- 2 INCH THROW AWAY FILTER STATIC PRESSURE DROP = 0.15 IN. WG
- ECONOMIZER STATIC PRESSURE DROP = 0.12 IN. WG
- BASE CURB STATIC PRESSURE DROP = 0.10 IN. WG
- **UNIT TOTAL STATIC PRESSURE = 2.54 INCHES WG**

Blower Motor Heat Gain & Size Determination:

Using supply air of 7,500 cfm and unit total static pressure of 2.54 in. wg enter the 'C' Cabinet Blower Performance Table (Pg. 45), which shows a blower speed of 1170 rpm, and a Motor Input of 6.24 kw is required. Therefore, motor heat gain = $6.24 \times 3,414 = 21,300 \text{ Btuh}$.

From the Indoor Blower Motor Data Table (Pg. 82); for motor input of 6.24 kw a **10 hp blower motor** is selected.

STEP 4 - TOTAL REQUIRED COOLING CAPACITY

Required Capacity = Total Peak Load + Ventilation Load + Blower Motor Heat = $200,000 + 30,000 + 21,000 = 251,000 \text{ Btuh}$.

unit selection procedure • con't.

STEP 5 - UNIT GROSS TOTAL CAPACITY

From the Cooling Capacity Tables (Pg. 40) at 81.5° DB / 66.1° WB entering the evaporator, 7,500 supply air cfm, and 95°DB outdoor ambient; total capacity for a 20 Ton unit with Standard Evaporator = 254,400 Btuh.

STEP 6 - UNIT SENSIBLE CAPACITY

Similar to step 5; at 81.5° DB / 66.1° WB entering the evaporator, 7,500 supply air cfm, and 95°DB outdoor ambient; sensible capacity for the 20 Ton unit with Standard Evaporator = 215,900 Btuh.

Design Sensible / Total (S/T) ratio = $174,000 / 200,000 = 0.87$, and unit S/T ratio = $215,900 / 254,400 = 0.85$. Therefore; a 20 Ton unit with Standard Evaporator remains the selection.

STEP 7 - SUPPLY AIR TEMPERATURE

Unit sensible capacity corrected for blower heat = $215,900 - 21,000 = 194,900$ Btuh.

Supply air dry bulb temperature difference = (Corrected Sensible Capacity) / (1.085 x Supply Cfm) = $194,900 / (1.085 \times 7,500) = 24.0^\circ\text{F}$.

Supply air dry bulb temperature = $81.5 - 24.0 = 57.5^\circ\text{DB}$.

UNIT NET TOTAL CAPACITY = Unit Gross Total Capacity - Blower Motor Heat = $254,400 - 21,000 = 233,400$ Btuh.

Unit enthalpy difference = (Unit Net Total Capacity) / (4.5 x Supply Cfm) = $233,400 / (4.5 \times 7,500) = 6.92$ Btu/lb.

Supply Enthalpy = Entering Enthalpy (66.1° WB) - Unit Enthalpy Difference = $30.91 \text{ Btu/lb} - 6.92 \text{ Btu/lb} = 23.99 \text{ Btu/lb}$.

Supply air wet bulb temperature = 56.2°F .

TABLE 78-1 BTU CONTENT OF 1 LB. OF DRY AIR WITH WATER VAPOR TO SATURATE IT
(Standard Atmospheric Pressure 29.921" W.G.)

WET BULB °F	TENTHS OF DEGREES									
	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
50	20.30	20.36	20.41	20.47	20.52	20.58	20.64	20.69	20.75	20.81
51	20.86	20.92	20.98	21.03	21.09	21.15	21.21	21.26	21.32	21.38
52	21.44	21.49	21.55	21.61	21.67	21.73	21.79	21.84	21.90	21.96
53	22.02	22.08	22.14	22.20	22.26	22.32	22.38	22.44	22.50	22.56
54	22.61	22.68	22.74	22.80	22.86	22.92	22.98	23.04	23.10	23.16
55	23.22	23.28	23.34	23.41	23.47	23.53	23.59	23.65	23.72	23.78
56	23.84	23.90	23.97	24.03	24.10	24.16	24.22	24.29	24.35	24.42
57	24.48	24.54	24.61	24.67	24.74	24.80	24.86	24.93	24.99	25.06
58	25.12	25.19	25.25	25.32	25.38	25.45	25.52	25.58	25.65	25.71
59	25.78	25.85	25.92	25.98	26.05	26.12	26.19	26.26	26.32	26.39
60	26.46	26.53	26.60	26.67	26.74	26.80	26.87	26.94	27.01	27.08
61	27.15	27.22	27.29	27.36	27.43	27.50	27.57	27.64	27.71	27.78
62	27.85	27.92	27.99	28.07	28.14	28.21	28.28	28.35	28.43	28.50
63	28.57	28.64	28.72	28.79	28.87	28.94	29.01	29.09	29.16	29.24
64	29.31	29.38	29.46	29.53	29.61	29.68	29.76	29.83	29.91	29.98
65	30.06	30.14	30.21	30.29	30.37	30.44	30.52	30.60	30.68	30.75
66	30.83	30.91	30.99	31.07	31.15	31.22	31.30	31.38	31.46	31.54
67	31.62	31.70	31.78	31.86	31.94	32.02	32.10	32.18	32.26	32.34
68	32.42	32.50	32.59	32.67	32.75	32.83	32.92	33.00	33.08	33.17
69	33.25	33.33	33.42	33.50	33.59	33.67	33.75	33.84	33.92	34.00
70	34.09	34.18	34.26	34.35	34.43	34.52	34.61	34.69	34.79	34.86
71	34.95	35.13	35.13	35.21	35.30	35.39	35.48	35.57	35.65	35.74
72	35.83	35.92	36.01	36.10	36.19	36.28	36.38	36.47	36.56	36.65
73	36.74	36.83	36.92	37.02	37.11	37.20	37.29	37.38	37.48	37.57
74	37.66	37.75	37.85	37.94	38.04	38.13	38.23	38.32	38.42	38.51
75	38.61	38.71	38.80	38.90	39.00	39.09	39.19	39.28	39.38	39.47
76	39.57	39.67	39.77	39.87	39.98	40.07	40.17	40.27	40.37	40.47
77	40.57	40.67	40.77	40.87	40.97	41.07	41.18	41.28	41.38	41.48
78	41.58	41.68	41.79	41.89	42.00	42.10	42.20	42.31	42.41	42.52
79	42.62	42.73	42.83	42.94	43.05	43.15	43.26	43.37	43.48	43.58

unit selection procedure • *con't.*

UNIT WITH 6 ROW EVAPORATOR COIL & BYPASS DAMPER

SUMMER DESIGN DATA:

- OUTDOOR DESIGN CONDITIONS = 95° DB / 76° WB
- TOTAL COOLING LOAD = 200,000 Btuh
- SENSIBLE COOLING LOAD = 125,000 Btuh
- OUTDOOR AIR VENTILATION LOAD = 30,000 Btuh
- RETURN AIR TEMPERATURE = 80° DB / 70° WB

AIR DELIVERY DATA:

- SUPPLY AIR VOLUME = 7,500 CFM
- EXTERNAL STATIC PRESSURE = 1.2 Inches WG
- MINIMUM OUTDOOR VENTILATION = 750 CFM (10%)

UNIT ACCESSORIES:

- GAS HEAT SECTION - HIGH HEAT CAPACITY
- 2 INCH THROW AWAY AIR FILTERS
- ECONOMIZER

STEP 1 - NOMINAL UNIT SIZE SELECTION

A Summation of the peak cooling load and the outside air ventilation load shows:
 $200,000 \text{ Btuh} + 30,000 \text{ Btuh} = 230,000 \text{ Btuh}$ required unit capacity. From the Cooling Capacity Tables (Pg.40) for the 20 ton unit with 6 Row Evaporator at 80° DB / 70° WB return air, 95° DB outdoor ambient, and 5,630 cfm (25% bypass) evaporator air - total cooling capacity is 249,500 Btuh. Therefore; a nominal **20 Ton unit with 6 Row Evaporator and 25% Bypass** is selected.

STEP 2 - EVAPORATOR COIL ENTERING CONDITIONS

Mixed air dry bulb temperature determination:

Using minimum outdoor air ventilation of 750 cfm (10%), the mixed air dry bulb temperature entering the evaporator = $80^\circ \text{ DB} + 0.10 \times (95^\circ \text{ DB} - 80^\circ \text{ DB}) = 80 + 1.5 = 81.5^\circ \text{ DB}$.

Approximate mixed air wet bulb temperature determination:

Mixed air wet bulb temperature entering the evaporator = $70^\circ \text{ WB} + 0.10 \times (76^\circ \text{ WB} - 70^\circ \text{ WB}) = 70 + 0.6 = 70.6^\circ \text{ WB}$.

A psychrometric chart can be used to more accurately determine the mixed air conditions entering the evaporator coil.

STEP 3 - BLOWER MOTOR HEAT GAIN

Having selected a nominal 20 Ton unit, the blower motor kw can be calculated. The motor size must be selected and the motor heat gain considered in final determination of unit capacity.

Determine unit total static pressure at design blower cfm from Air Delivery Data (above) and 'C' Cabinet Component Static Pressure Drop Tables (pg 7-10):

- EXTERNAL STATIC PRESSURE = 1.2 IN. WG
- DX 6 ROW EVAPORATOR COIL STATIC PRESSURE DROP @ 5630 CFM = 1.50 IN. WG
- GAS HEAT EXCHANGER STATIC PRESSURE DROP = 0.25 IN. WG
- 2 INCH THROW AWAY FILTER STATIC PRESSURE DROP = 0.15 IN. WG
- ECONOMIZER STATIC PRESSURE DROP = 0.12 IN. WG
- BASE CURB STATIC PRESSURE DROP = 0.10 IN. WG
- **UNIT TOTAL STATIC PRESSURE = 3.32 INCHES WG**

Blower Motor Heat Gain & Size Determination:

Using supply air of 7,500 cfm and unit total static pressure of 3.32 in. wg enter the 'C' Cabinet Blower Performance Table (Pg 5), which shows a blower speed of 1320 rpm, and a Motor Input of 7.63 kw is required. Therefore, motor heat gain = $7.63 \times 3,414 = 26,000 \text{ Btuh}$.

From the Indoor Blower Motor Data Table (Pg 64); for motor input of 7.63 kw a **10 hp blower motor** is selected.

unit selection procedure • *con't.*

STEP 4 - TOTAL REQUIRED COOLING CAPACITY

Required Capacity = Total Peak Load + Ventilation Load + Blower Motor Heat = 200,000 + 30,000 + 26,000 = 256,000 Btuh.

STEP 5 - UNIT GROSS TOTAL CAPACITY

From the Cooling Capacity Tables (Pg. 40) at 81.5° DB / 70.6° WB entering the evaporator, 5,630 evaporator air cfm, and 95°DB outdoor ambient; total capacity for a 20 Ton unit with 6 Row Evaporator = 254,100 Btuh.

STEP 6 - UNIT SENSIBLE CAPACITY

Similar to step 5; at 81.5° DB / 70.6° WB entering the evaporator, 5,630 evaporator air cfm, and 95°DB outdoor ambient; sensible capacity for the 20 Ton unit with 6 Row Evaporator = 147,400 Btuh.

Design Sensible / Total (S/T) ratio = 125,000 / 200,000 = 0.63, and unit S/T ratio = 147,400 / 254,100 = 0.58. Therefore; a 20 Ton unit with 6 Row Evaporator remains the selection.

STEP 7 - EVAPORATOR LEAVING AIR TEMPERATURE

Evaporator leaving air dry bulb temperature difference = (Unit Sensible Capacity) / (1.085 x Supply Cfm)
= 147,400 / (1.085 x 5,630) = 24.1°F.

Evaporator leaving air dry bulb temperature = 81.5 - 24.1 = 57.4° DB.

Evaporator air enthalpy difference = (Unit Gross Total Capacity) / (4.5 x Supply Cfm) = 254,100 / (4.5 x 5,630)
= 10.03 Btu/lb.

Evaporator leaving air Enthalpy = Entering Air Enthalpy (70.6° WB) - Unit Enthalpy Difference = 34.61 Btu/lb - 10.03 Btu/lb = 24.58 Btu/lb

Evaporator Leaving Air wet bulb temperature = 57.2°F

A psychrometric chart can be used to more accurately determine the mixed air conditions entering the evaporator coil.

STEP 8 - MIXED AIR TEMPERATURE AFTER EVAPORATOR

Mixed air dry bulb temperature determination:

Using evaporator bypass air volume of 1,870 Cfm (25%), the mixed air dry bulb temperature after evaporator = 57.4° DB + 0.25 x (81.5° DB - 57.4° DB) = 57.4 + 6.0 = 63.4° DB.

Approximate mixed air wet bulb temperature determination:

Mixed air wet bulb temperature after the evaporator = 57.2° WB + 0.25 x (70.6° WB - 57.2° WB)
= 57.2 + 3.4 = 60.6° WB.

STEP 9 - SUPPLY AIR TEMPERATURE

Supply air dry bulb temperature = mixed air dry bulb temperature after evaporator + (blower motor heat) / (1.085 x supply Cfm) = 63.4° DB + 26,000 / (1.085 x 7,500) = 63.4 + 3.2 = 66.6° DB.

Supply air enthalpy = Enthalpy of mixed air leaving evaporator + (blower motor heat) / (4.5 x supply Cfm)
= (26,000) / (4.5 x 7,500) = 26.87 + 0.77 = 27.64 Btuh/lb.

From Enthalpy Table (pg. 63); Supply air wet bulb temperature = 61.7° WB.

SECTION 1

COOLING

Minimum Circuit Ampacity

MCA = 1.25 (#1 Compressor Full Load Amps) + Remaining Compressor Full Load Amps + Supply Fan Full Load Amps + Exhaust Fan Full Load Amps + Condenser Fan Full Load Amps.

Maximum Fuse Size

MFS = 2.25 (#1 Compressor Full Load Amps) + Remaining Compressor Full Load Amps + Supply Fan Full Load Amps + Exhaust Fan Full Load Amps + Condenser Fan Full Load Amps.

Select standard fuse rating equal to maximum fuse size or next lower standard fuse rating.

HEATING

Recommended Dual Element Fuse Size

RDE = 1.5 (#1 Compressor Full Load Amps) + Remaining Compressor Full Load Amps + Supply Fan Full Load Amps + Exhaust Fan Full Load Amps + Condenser Fan Full Load Amps.

Disconnect Switch Size

Disconnect Switch = 1.15 (#1 Compressor Full Load Amps) + Remaining Compressor Full Load Amps + Supply Fan Full Load Amps + Exhaust Fan Full Load Amps + Condenser Fan Full Load Amps.

Minimum Circuit Ampacity

MCA = 1.25 (Electric Heat Full Load Ampacity)

Maximum Fuse Size

MFS = Same as Minimum Circuit Ampacity

Select standard fuse rating equal to maximum fuse size or next larger standard fuse rating.

Disconnect Switch Size

Disconnect Switch = 1.15 (Electric Heat Full Load Ampacity)

SECTION 2

Determine Largest Load:

1. If all Compressor Full Load Amps + Condenser Full Load Amps are greater than or equal to Electric Heat Full Load Amps, use Sizing Procedure as described in Section 1.

2. If all Compressor Full Load Amps + Condenser Full Load Amps are less than Electric Heat Full Load Amps:

Minimum Circuit Ampacity

MCA = 1.25 (Electric Coil Full Load Amps + Supply Fan Full Load Amps + Exhaust Fan Full Load Amps.)

MFS = Same as Minimum Circuit Ampacity.

Select standard fuse rating equal to maximum fuse size or next larger standard fuse rating.

Recommended Dual Element Fuse Size

RDE = (Electric Heat Full Load Amps) + 1.5 (Supply Fan Full Load Amps) + (Exhaust Fan Full Load Amps)

Fuse rating selected must exceed Maximum Fuse Size selected.

Disconnect Switch Size

Disconnect Switch = 1.15 (Electric Heat Full Load Amps + Supply Fan Full Load Amps + Exhaust Fan Full Load Amps)

mechanical cooling capacities formulas

Cooling Capacities are Gross Capacities and do not account for indoor fan motor heat. Determine Net Capacity using the following formula:

$$\text{Net Total Capacity} = \text{Gross Capacity} - \text{ID Fan Motor Heat} = \text{Gross Capacity} - (\text{KW} \times 3.414)$$

For Net Sensible Capacity, deduct same ID Fan Motor Heat from Gross Sensible.

$$\text{TLDB} = \text{TEDB} - \frac{\text{NET SENSIBLE CAPACITY (BTUH)}}{1.085 \times \text{CFM}}$$

$$\text{HLWB} = \text{HEWB} - \frac{\text{NET TOTAL CAPACITY (BTUH)}}{4.5 \times \text{CFM}}$$

WHERE: TLDB and TEDB = Dry Bulb Temperature Leaving and Entering Evaporator Coil.

HLWB and HEWB = Enthalpy of air corresponding to Wet Bulb Temperature Leaving and Entering Evaporator Coil.

FAN LAWS

$$\text{HP} = \frac{\text{CFM} \times \text{Static Pressure, Ins. H}_2\text{O}}{6350 \times \text{Efficiency}}$$

CFM = varies directly as the speed ratio.

$$\text{CFM}_2 = \text{CFM}_1 \left(\frac{\text{RPM}_2}{\text{RPM}_1} \right)$$

Static Pressure varies as the sq. of the speed ratio.

$$\text{SP}_2 = \text{SP}_1 \left(\frac{\text{RPM}_2}{\text{RPM}_1} \right)^2$$

H.P. varies as the cube of the speed ratio.

$$\text{HP}_2 = \text{HP}_1 \left(\frac{\text{RPM}_2}{\text{RPM}_1} \right)^3$$

INDOOR BLOWER MOTOR DATA

NOMINAL MOTOR H.P.	% EFFICIENCY	MAXIMUM KW	SERVICE FACTOR
.5	68	.55	1.00
1	81	1.06	1.15
2	83	2.07	
3	84	3.06	
5	85	5.05	
10	86	9.98	
15	88	14.62	
20	88	19.50	
25	88	24.38	

$$\text{BHP} = \frac{\text{KW} \times \text{EFF}}{0.746}$$

NOTE: UNITS 26 - 63 TON
Blower Performance Charts
Show Total (KW) for (2) Motors;
To Use Above Table Multiply By 2 .

NOTES

'RE' ROOFTOP HVAC UNIT SPECIFICATIONS

Rooftop units shall be accordance with the following specifications and capacities as shown on the plans.

UNIT PERFORMANCE

- Unit cooling capacities shall be in accordance with and tested to ARI standard 210/240-84 & 360-85.
- Unit nameplate shall carry the ARI compliance sticker.
- Unit minimum cooling efficiency including all items except the supply air blower motor be:

65,000 BTU/HR or less..... 9.5 SEER

66,000 BTU/HR or greater.....8.0 EER

- Unit shall have a minimum heating system efficiency of 80%.
- Units shall be safety certified in accordance with UL Standard UL465, UL559 and/or ANSI Standard Z21.47.
- Unit shall be safety certified by an accredited testing laboratory.
- Unit nameplate shall carry the sticker of the certification agency.
- Unit shall be shipped completely assembled by the manufacturer including all standard items and optional items.
- Unit shall be 100% run tested by the manufacturer with a copy of the run test report shipped with the unit.

UNIT CONSTRUCTION

- Unit shall be completely factory assembled, piped and wired and shipped in one piece.
- Unit shall be specifically designed for outdoor rooftop application with a fully weatherproof cabinet.
- Unit design shall be dedicated bottom supply / return air style system for mounting on a roof curb.
- Cabinet shall be constructed entirely of G90 wt. galvanized metal with the exterior constructed of 18 gauge or heavier material.
- The unit roof shall be cross broken and / or sloped to assure drainage.
- Access to compressor(s), controls, filters, blower, heating section, and other items needing periodic checking or maintenance shall be through hinged access doors with a quarter turn latch (door fastening screws are not acceptable).
- Air side service access doors shall be fully gasketed with rain break overhangs.
- Filter access door will have an internal metal liner to protect the doors insulation.
- Unit exterior shall be painted with epoxy-polyester paint over a wash primer and a paint lock type galvanized steel.
- The interior air side of the cabinet shall be entirely insulated on all exterior panels with 1" thick, three quarter pound density, neoprene coated, fiberglass insulation.
- To guarantee no leakage of conditioned air from the cabinet all of the cabinet under positive pressure, downstream from the supply air blower, shall have a separate internal cabinet contained within, and separate from, the exterior cabinet by an air gap. The internal cabinet shall be guaranteed to hold a static pressure of up to 12 inches water column.
- All openings through the base pan of the unit shall have upturned flanges of at least 1/2" in height around the opening through the base pan.
- Unit shall have decals and tags to indicate unit lifting - rigging, service areas and caution areas. Wiring diagrams, installation and maintenance manuals shall be supplied with each unit.

Options: (select one)

1. Unit exterior to be "Tan" in color.
2. Unit exterior to be "Grey" in color.

BLOWERS

- Blower(s) shall be entirely self contained on a slide deck for service and removal from the cabinet.
- Adjustable V-belt drive shall be provided with a minimum rating of 140% of the motor nameplate brake horsepower.
- Blowers, drives and motors shall be dynamically balanced.

'RE' ROOFTOP HVAC UNIT SPECIFICATIONS (Continued)

OUTSIDE AIR: (Select One)

- 1) Shall be 0-25% with a manually adjustable damper.
- 2) Shall be 0-50% with an adjustable, motor operated outside air damper constructed of extruded aluminum, hollow core, air foil blades with rubber edge seals and aluminum end seals. Damper blades shall be gear driven and designed to have no more than 25 CFM of leakage per square foot of damper area when subjected to 2" WG air pressure differential across the damper. Damper motor shall be spring return to insure closing of outdoor air damper during periods of unit shut down or power failure.
- 3) Shall be 0-100% with a motor operated outside air damper constructed of extruded aluminum, hollow core, air foil blade with rubber edge seals and aluminum end seals. Damper blades shall be gear driven and designed to have no more than 25 CFM of leakage per square foot of damper area when subjected to 2" WG air pressure differential across the damper. Damper motor shall be spring return to insure closing of outdoor air damper during periods of unit shut down or power failure.
- 4) Shall be 3-position dry bulb activated economizer with multi-stage integrated economizer and compressor operation controlled by the conditioned space controller for maximum benefit. The economizer shall consist of a motor operated outdoor air damper and return air damper constructed of extruded aluminum, hollow core, air foil blades with rubber edge seals and aluminum end seals. Damper blades shall be gear driven and designed to have no more than 25 CFM of leakage per square foot of damper area when subjected to 2" WG air pressure differential across the damper. A pressure relief damper sized for 100% relief air shall be provided as part of the economizer. Damper motor shall be spring return to insure closing of outdoor air damper during periods of unit shut down or power failure.
- 5) Shall be 3-position enthalpy activated economizer with multi-stage integrated economizer and compressor operation controlled by the conditioned space controller for maximum benefit. The economizer shall consist of a motor operated outdoor air damper and return air damper constructed of extruded aluminum, hollow core, air foil blades with rubber edge seals and aluminum end seals. Damper blades shall be gear driven and designed to have no more than 25 CFM of leakage per square foot of damper area when subjected to 2" WG air pressure differential across the damper. Damper motor shall be spring return to insure closing of outdoor air damper during periods of unit shut down or power failure. A pressure relief damper sized for 100% relief air shall be provided as part of the economizer.
- 6) Shall be a modulating enthalpy controlled economizer with multi-stage integrated economizer and compressor operation for maximum benefit. The economizer shall consist of a motor operated outdoor air damper and return air damper constructed of extruded aluminum, hollow core, air foil blades with rubber edge seals and aluminum end seals. Damper blades shall be gear driven and designed to have no more than 25 CFM of leakage per square foot of damper area when subjected to 2" WG air pressure differential across the damper. Damper motor shall be spring return to insure closing of outdoor air damper during periods of unit shut down or power failure. A pressure relief damper sized for 100% relief air shall be provided as part of the economizer.

POWER EXHAUST

- Shall be provided by belt drive, forward curve, centrifugal blower(s) that are factory installed. The control shall be on-off (modulating control option) and all controls shall be factory installed.

CONDENSING SECTION

- The condensing section shall be equipped with direct drive, vertical discharge condenser fan(s). The condenser coil shall be sloped at least 30 degrees from horizontal to protect the coil from damage.

EVAPORATOR COIL

- Evaporator coil(s) shall be copper tube with aluminum fins mechanically bonded to the tubes.
- Evaporator coils to have galvanized steel end casings.
- Evaporator coils to have equalizing type vertical tube distributors.
- Evaporator coils for multi-compressor units shall be circuited with one circuit and expansion valve per compressor.

'RE' ROOFTOP HVAC UNIT SPECIFICATIONS (Continued)

OPTIONS: (Select One)

- 1) Evaporator coil(s) shall be copper tube with aluminum fins mechanically bonded to the tubes and with a baked on phenolic corrosion resistant coating.
- 2) Evaporator coil(s) shall be a six row copper tube coil with aluminum fins mechanically bonded to the tubes and with a manually adjustable supply air by-pass damper.
- 3) Evaporator coil(s) shall be a six row copper tube coil with aluminum fins mechanically bonded to the tubes, a manually adjustable supply air by-pass damper and with a baked on phenolic corrosion resistant coating.

CONDENSER COIL

- Condenser coil(s) shall be copper tube with aluminum fins mechanically bonded to the tubes.
- Condenser coil(s) to be sized for a minimum of 10 degrees sub-cooling.

OPTIONS: (Select One)

- 1) Condenser coil(s) shall be copper tube aluminum fins mechanically bonded to the tubes and with a baked-on phenolic corrosion resistant coating.

REFRIGERATION SYSTEM

- Compressor(s) shall be of the hermetic reciprocating type with crankcase heater(s), internal thermal overload protection, internal spring isolators and mounted on the compressor manufacturer recommended rubber vibration isolators.
- All units over 7 tons shall be multiple stage and shall have a minimum of 2 stages of capacity control.
- Compressor(s) shall be mounted in an isolated compartment to permit operation of the unit without affecting air flow when the compressor compartment is open.
- Compressor(s) shall be isolated from the base pan and supply air to avoid any transmission of noise from the compressor into the building area.
- System shall be equipped with thermostatic expansion valve(s) type refrigerant flow control.
- System shall be equipped with automatic re-set low pressure and manual reset high pressure refrigerant controls.
- Unit shall be equipped with Schrader type service fittings on both the high side and low pressure sides of the system.
- Unit shall be equipped with refrigerant liquid line driers.
- Unit shall be fully factory charged with refrigerant R-22.

OPTIONS: (Multiple selections are permissible)

- 1) Lead circuit shall be provided with hot gas bypass.
- 2) Lag circuit shall be provided with hot gas bypass.
- 3) Both circuits shall be provided with hot gas bypass.
- 4) All circuit(s) shall be equipped with liquid line sight glasses.
- 5) Unit shall be provided with a hot gas reheat coil piped to the lead refrigerant system.
- 6) Unit shall be provided with a hot gas reheat coil for field piping to another units refrigerant system.
- 7) Unit shall be equipped with a 5 minute anti-short cycle delay timer for each compressor.
- 8) Unit shall be equipped with 20 second between stage delay timer for each compressor.

AIR HANDLING UNIT ONLY (Select One)

- 1) Units shall be furnished with a DX coil complete with thermostatic expansion valve but with no other cooling side components. See "Evaporator Coil" specifications for coil selection options.
- 2) Units shall be furnished with a 4 row chilled water coil, copper tube with aluminum fins mechanically bonded to the tubes.
- 3) Units shall be furnished with a 4 row chilled water coil, copper tube with aluminum fins mechanically bonded to the tubes and with a baked-on phenolic corrosion resistant coating.
- 4) Units shall be furnished with a 6 row chilled water coil, copper tube with aluminum fins mechanically bonded to the tubes.
- 5) Units shall be furnished with a 6 row chilled water coil, copper tube with aluminum fins mechanically bonded to the tubes and with a baked-on phenolic corrosion resistant coating.

'RE' ROOFTOP HVAC UNIT SPECIFICATIONS (Continued)

GAS HEATING SECTION

- Unit shall heat using natural gas fuel and with one stage of heat capacity.
- Unit shall be provided with a gas heating furnace consisting of an aluminized steel tubular heat exchanger, an induced draft blower and an electric pressure switch to lockout the gas valve until the combustion chamber is purged and combustion air flow is established.
- Unit shall be provided with a gas ignition system consisting of an electronic ignitor to a pilot system, which will be continuous when the heater is operating, but will shut off the pilot when heating is not required.
- Unit shall have gas supply piping entrances in the unit base for through the curb gas piping and in the outside cabinet wall for across the roof gas piping.
- Units tubular gas heat exchanger will carry a 10 year warranty.

OPTIONS: (Multiple selections are permissible)

- 1) Unit shall heat using natural gas fuel and with two stages of heat capacity.
- 2) Unit shall heat using Liquid Propane gas fuel and with one stage of heat capacity.
- 3) Unit shall be equipped with a Stainless Steel tubular heat exchanger.

ELECTRIC HEAT

- Unit shall be provided with an electric heating section complete with fuses, a resettable high temperature limit switch and heating capacities as shown on the plans.

HOT WATER COIL

- Unit shall be provided with a 2 Row Hot Water Heating Coil, 5/8" copper tube with aluminum fins mechanically bonded to the tubes.

OPTIONS:

- 1) Unit shall be provided with a 2 Row Hot Water Heating Coil, 5/8" copper tube with aluminum fins mechanically bonded to the tubes and with a baked-on phenolic corrosion resistant coating.

STEAM COIL

- Unit shall be provided with a tube-in-tube "non-freeze type" steam coil, 5/8" copper tube with aluminum fins mechanically bonded to the tubes.

OPTIONS:

Unit shall be provided with a tube-in-tube "non-freeze type" steam coil, 5/8" copper tube with aluminum fins mechanically bonded to the tubes and with a baked-on phenolic corrosion resistant coating.

FILTERS

- Unit to be furnished with 2" throw away supply air filters.

OPTIONS: (Multiple selections are permissible)

- 1) Unit to be furnished with 2" permanent frame filter with replaceable media.
- 2) Unit to be furnished with 2" , 30% efficient, pleated, throw away supply air filters.
- 3) Unit to be furnished with 4" , 60% efficient, pleated, throw away supply air filters and clogged filter switch.
- 4) Unit to be provided with a clogged filter switch.
- 5) Unit to be provided with a direct dial reading magnehelic gauge mounted in the control compartment.

VAV UNIT CONTROL

- Control of supply air flow modulation shall be by factory installed blower speed controller or an air flow modulator controlled by a factory installed system pressure controller and a field installed building pressure sensing device.
- Unit shall be equipped with a discharge air temperature controller. Controller to be multi-stage on multi-compressor units. Controller to include compressor anti-short cycle protection for each compressor.

'RE' ROOFTOP HVAC UNIT SPECIFICATIONS (Continued)

OPTIONS: (Multiple selections are permissible)

- 1) Unit shall be equipped with hot gas by-pass control on lead refrigeration stage to protect against evaporator frosting at low air flows and suction pressures.
- 2) Unit to be equipped with an electronic supply air discharge temperature controller. Controller to be multi-stage on multi-compressor units. Controller to include compressor anti-short cycle protection for each compressor.
- 3) Unit shall be equipped with morning warm up thermostat controller.
- 4) Unit shall be equipped with morning warm up thermostat controller and a night set back temperature controller with a cooling lock-out function.
- 5) Unit shall be equipped with morning warm up thermostat controller integrated to the units electric or gas heating section. Units heating section to have supply air flow override/by-pass control to maintain minimum furnace air flow requirements.
- 6) Unit shall be equipped with morning warm up thermostat controller and a night set back temperature controller with a cooling lock-out function. Controllers to be integrated with the units electric or gas heating section. Units heating section to have supply air flow override/by-pass control to maintain minimum furnace air flow requirements.

SMOKE DETECTOR: (Select one each)

- 1) Unit shall be provided with a smoke detector(s) sensing in the: (A) return air; (B) supply air; or (C) both the return and supply air portion of the unit wired to: (a) shut off the supply fan; or (b) shut off the unit control circuit.

POWER OPTION: (Multiple selections are permissible)

- 1) Unit shall be provided with a factory installed and wired internal disconnect switch with fusing.
- 2) Unit shall be provided with phase and brown-out protection to shut down all motors in the unit if the phases are more than 10% out of balance on voltage, or the voltage is more than 10% under design voltage.
- 3) Unit shall be provided with a factory installed and wired 115 volt, 13 amp ground fault service receptacle.
- 4) Unit shall be provided with a factory installed and field wired 115 volt, 13 amp ground fault service receptacle.

OPTIONAL ROOF CURBS

- Roof curbs shall be constructed of galvanized steel with a wood nailer strip. Curbs are to be fully gasketed between the curb top and unit bottom with the curb providing full perimeter support, cross structure support and air seal for the unit.

OPTIONS: (Select one)

- 1) Unit shall be mounted on a factory furnished, knocked down and field assembled roof curb.
- 2) Unit shall be mounted on a factory furnished solid bottom acoustical style roof curb, fully lined with 1" of neoprene coated, fiberglass insulation.

OPTIONAL CONTROLS

- A) Single zone standard mechanical, T874 or equivalent.
- B) Single zone electronic with night set back, T7300 or equivalent.
- C) Single zone electronic with night set back & integrated modulating economizer function, T7400 or equivalent.
- D) VAV electronic controller.
- E) VVT electronic controller.
- F) Night set back, time of day & day of week function other than above electronic thermostats.
- G) Remote monitoring and/or control panels, W950 or equivalent.
- H) Staging and/or step control for electric heat.
- J) Modulating gas heat specifications and control.
- K) Low ambient operation option to 45 degrees.

RE SERIES

02 ton through 63 ton

rooftop units

engineering data catalog

MADE IN THE U.S.A

• 2425 SOUTH YUKON AVE •
TULSA, OKLAHOMA 74107 • (918) 583-2266

RE SERIES

ROOFTOP UNITS

Feature Option Descriptions

AAOON, Inc

Effective September 1, 1991

2425 SOUTH YUKON • TULSA, OKLAHOMA 74107

FEATURE DESCRIPTION INFORMATION

The following is intended to briefly describe the various feature options in the AAON RE series product line.

Feature Option No. 1 OUTSIDE AIR

O - Standard-Manual O.S.A (MFA)

This no-option selection provides the customer with a sliding outside air damper that is manually adjusted for 0 to 25% of the units design air flow. Adjustment by two 5/16" screws, external to the unit, below the outdoor air hood.

A - 3 Position Economizer

This option selection provides gear-driven outside air & return air dampers. Position one--closed during off-cycle. Position two--minimum outside air position, adjustable from 10% to 90%, activated by fan operation. Position three--100% outside air, subject to ambient sensible limit control adjustable from 45 to 95 degrees F. Damper motor utilizes spring return. See "Control Manual" for more information.

B - 3 Position Econ. w/Enthalphy Control

Same as A option above, with an enthalpy limit control which allows outside air based on temperature and humidity.

C - Full Modulating Econ. w/Enthalphy Control

Provides modulated outside air/return air to achieve a constant mixed air temperature between 50 degrees & 56 degrees F, non-adjustable, with an enthalpy limit based on temperature and humidity. Outside air dampers close upon unit shut-down. Damper motor utilizes spring return. For VAV applications, see selection K.

D - Motorized O.S.A - (0-50%)

This option provides a motorized damper mounted in the outside air opening, adjustable at the unit from 0 to 50% of the unit air flow. Dampers close upon unit shut-down.

E - Motorized O.S.A - (0-100% O.S.A Only)

Similar to D. Dampers open to 100% outside air when fan is activated and close upon unit shut down. These units have blanked off return openings.

Feature Description Information (Continued)

F - Power Exhaust

A belt-drive blower exhausts building air based on static pressure, adjustable over a range of .01" to .2" WC. A full modulating economizer is included with this option. The power exhaust is activated when the economizer opens to a designated position, adjustable from 0% to 100%, and modulates the exhaust dampers to maintain the building pressure setpoint. This selection is for constant volume applications. Current design utilizes outlet dampers on A & B cabinets and inlet dampers on C, D, & E cabinets. Future design will have outlet dampers on all cabinets.

G - Power Exhaust

Same as F except larger exhaust motor (see specifications).

H - Power Exhaust

Same as F but for VAV. Price is reduced because economizer & exhaust are controlled by the VAV controller.

J - Power Exhaust

Same as H, but with larger blower motor.

K - Full Modulating Economizer

For VAV applications, this selection is less expensive than C because the dampers are controlled by the VAV control board. Operation is identical to C.

L - 100% O.S.A. Hood

Similar to option O, MFA, but with the return opening in the unit base blanked off & no O.S.A. adjustment. Includes an outside air hood with bird screen. Use this option for make-up air units that don't require motorized dampers.

Feature Option No. 2 BLOWER MOTOR OPTIONS (evaporator)

O - Standard

Refer to engineering catalog or price list for numbers and horsepowers for evaporator motors. For 2-5 tons this selection is a direct drive motor. Above 5 tons, this selection is a belt drive motor and adjustable pitch drive.

A & B - Oversize Motor and Double Oversize Motor

Same as above except motor horsepowers are larger (see price list or engineering catalog). On 2-5 ton units, this selects a belt drive motor. Belt drive is now available on 2 & 3 ton units.

Feature Description Information (Continued)

C - Standard w/VAV

This selection is available only on 16 ton & larger units. Blower speed is varied over a range of 0 to 100% by a motor-shaft-mounted electromagnetic clutch. See feature option 9D for VAV controls.

D and E

Same as C except larger horsepower motors (see price list or engineering catalog).

Feature Option No. 3 FILTER OPTIONS

O - Standard

Above 10 tons, these are 2" pleated filters. Ten tons & below, these are throwaway fiber mesh filters.

A - 2" Perm Filter Frame w/Replaceable Media

This selection is a 2" hinged aluminum frame filter with replaceable media. Sizes and numbers vary with unit size (see engineering catalog).

B - 2" Pleated Filters

Available on 2 through 10 tons, this selection is a 2" pleated filter option. Efficiency is rated is at 30%.

C - 4" Pleated Filters

Four inch pleated filters with a differential pressure switch (see D below) for clogged filter indication. Efficiency rated at 30%.

D - Clogged Filter Switch

This selects a differential pressure switch for clogged filter indication. Provides dry contact closure upon pressure rise, adjustable from 0 to 4" W.C., with automatic reset. Filters provided are 2" standard.

E - Magnahelic Gauge

This selects a dial-reading magnahelic filter gauge mounted in the control compartment indicating pressure differential across the filter bank. The range is 0 to 3" W.C. in 0.1" increments.

F through N

These selections are multiples of options A thru E.

Feature Description Information (Continued)

Feature Option No. 4 REFRIGERATION CONTROL

O - Standard

For all RE units this includes a low voltage (24 VAC) transformer, terminal strip with standard control markings, manual reset high pressure safety, auto reset low pressure safety, crankcase heaters, compressor current/temperature overload protection, and compressor lockout. Compressor lockout is fixed at 45 degrees F on MFA units, and adjustable from 35 degrees to 85 degrees F on economizer units.

A - 5 Min. Time Delay Relay

This selection provides 5 minutes of compressor off-time between refrigeration cycles. Not needed with most programmable thermostats or VAV controls. Prevents compressor short cycling which can reduce the service life of the compressor(s).

B - 20 Second Time Delay Relay

This option provides 20 seconds of delay between compressor stages on multiple compressor units (8 tons and larger), thereby minimizing unit start current.

C - 115v GFI Outlet (Field Wired)

A 115 volt AC ground fault interrupter receptacle, 13 amp rated, factory installed but not wired. Use this or option D to satisfy BOCA code M-407.2 convenience outlet requirements.

D - 115 volt GFI Outlet (Factory Wired)

Same as above, but wired to a unit mounted, factory installed step-down transformer. NOTE: When power to the unit is shut off, this outlet will be de-energized. Use this option, or C to satisfy BOCA code M-407.2 convenience outlet requirements.

E through L

Multiples of previous selections.

Feature Option No. 5 REFRIGERATION OPTIONS

O - Standard

For all RE units the standard includes hermetic compressors, liquid line filter driers, schrader-core service ports, thermostatic expansion valves, and row split evaporator coils (above 7 tons) with independent circuits.

Feature Description Information (Continued)

A - Hot Gas Bypass - 1st Stage

A bypass valve diverts compressor gas to the first stage evaporator circuit to protect against coil frosting at low air flows & temperatures. Must be selected on VAV & make-up air applications.

B - Hot Gas Bypass - 2nd Stage

Operation is the same as A except on 2nd stage refrigeration circuit.

C - Hot Gas Reheat Coil

This selection provides a reheat coil mounted after the evaporator coil and piped via solenoid valve to the 1st stage compressor discharge. Provides reheat using hot compressor gas. This option can be controlled by a spdt humidistat.

D - Sight Glass

All refrigeration circuits provided with brass sight glasses for visual refrigerant inspection. Sight glass incorporates moisture indication by color change.

E through M

Multiples of selection A through D.

Feature Option No. 6 POWER SWITCH OPTIONS

O - Standard

A single point wiring block mounted in the control cabinet with wiring access through the unit base.

A - Power Switch

This selection is for cooling only and gas heat units. Consists of a molded case power switch and fuse block with cartridge fuses mounted in the control cabinet, with external access & lockable cover.

B through F

Same as A but for various electric heat options (see price list).

Feature Description Information (Continued)

Feature Option No. 7 SAFETY OPTIONS

O - Standard

All motors below 5hp utilize internal overload protection. Five hp and above utilize external overload protection. On electric heat units heat elements are fused according to NEC specs.

A - Standard (For Units w/ Econs)

This selection must be included when an economizer or power exhaust is selected under feature option No.1.

B - Return Air and Supply Air Firestat

Manual reset firestats rated at 120 degrees F for return air and 200 degrees F for supply air are factory mounted in the supply and return airstreams within the unit. Senses temperature only.

C - R/A and S/A Firestats (For Units w/Econs)

Firestats, selected with an economizer or power exhaust.

D - Return Air Smoke Detector

An ionization-type smoke detector is mounted in the unit sensing return air. Unit manufactured by BRK. Dry contact closure available for fire panel interface.

E - Supply Air Smoke Detector

Same as D but mounted in the supply air. NOTE: Available factory mounted only on cooling only units. For units with heat the smoke detector and sampling tube are shipped separate from the unit and a wiring terminal is provided. See Control Accessory page at end of price list.

F - S/A Smoke Detector (For Units w/Econs)

Same as E but for units with economizers.

G - Return Air and Supply Air Smoke Detector

Same as D but two detectors factory mounted, subject to limitations noted in E above.

H through L

Multiples of A thru G.

Feature Description Information (Continued)

Feature Option No. 8 CONTROL OPTIONS

A - Night Setback

On constant volume units, this selection provides a 24 volt relay mounted in the control cabinet for selecting between duct or space thermostats, when activated by a remote time clock. Thermostats and time clock by others. On VAV units, this selection provides a space sensor and programming for night setback mode.

B - Low Limit Control

This selection is a temperature limit adjustable from 45 degrees to 85 degrees F and mounted in the supply airstream. Shuts off the unit when discharge temperature reaches setpoint. Limit is manually reset by shutting off power to unit.

D - Phase & Brown-Out Protection

This selection provides a Time Mark 3-phase power monitor which shuts down all motors if the supplied power phases are more than 10% out of balance, or 10% under design voltage. Monitor is automatic reset.

Feature Option No. 9 SPECIAL CONTROLS

O - Cooling Only Units

Select this designation for cooling only units. No price add. Includes control terminals R,E,G,Y1,Y2.

H - All Gas and 1 Stage Electric Heat Units

This selection provides controls and safeties for gas heat units and one-stage electric heat units. This option must be selected for these units. Electric and gas heat units have control terminals R,E,G,W1,W2.

J - 2 Stage Electric Heat Units

This selection covers additional relays and electrical components necessary for two-stage electric heater control. This option must be selected for these units.

K - W973

This selection is the Honeywell single zone control for heating, cooling and economizer, factory mounted in the unit control cabinet. Use this selection for four stage electric heat or modulating gas heat. See thermostat section of "Control Manual" for additional information.

Feature Description Information (continued)

B - W7400

This selection is the Honeywell economizer control module companion to the T7400 programmable thermostat, factory mounted in the unit control cabinet. See thermostat section of "Control Manual" for additional information.

D - VAV Blower Control

This selection provides a digital, programmable controller with LCD & keypad mounted in unit control compartment which controls air flow based on static pressure, controls discharge air temperature, outside air modulation, occupied/unoccupied times and morning warm-up. On units below 16 tons, this option pricing includes the discharge damper section. Pricing includes duct pressure tap (tubing by others) and unit mounted pressure transducer.

Feature Option No. 10 OPEN

O - Standard

Reserved for future expansion of features and options.

Feature Option No. 11 CODE OPTIONS

A - M.E.A (New York)

These selections provide an approval tag designating the unit complies with M.E.A. requirements.

B - G Chicago (City)

This selection provides wiring in flexible conduit to condenser fan motors, and pressure relief valves on refrigeration system.

Feature Option No. 12 CABINET OPTIONS

A & B Export Crating

This selection provides an ocean box fabricated from dimensional lumber and 3/8" ply, blocked, braced and banded.

C - S/A & R/A Burq Bars

This provides 1/2" rebar spaced 8" apart and crosshatched across the unit air openings. Bars are welded to the air opening flanges so an alternate duct attachment method is necessary.

Feature Description Information (continued)

D & E

Multiples of A through C.

Feature Option No. 13 SYSTEM PACKAGE

O - Standard

Units are shipped on 2 X 4 skids to facilitate handling with a forklift, and tops of units are protected by cardboard sheets on A, B & C cabinet units. D & E cabinet units have field removed 2 X 4s bolted inside of base pan for structural rigidity, but do not allow forklift handling.

A - Nameplates - Canadian

For shipment to Canada, this selection provides unit labels in French.

Feature Option No. 14 TYPE

B - Standard

Option B is now standard. Gray color paint, 2-part polyester/epoxy.

O - Beige Exterior Paint

Available at extra cost.

A - Corrosion Protected Interior

Provides a rust resistant phenolic coating applied to all unpainted metal surfaces exposed to conditioned and ambient air. Similar to the coated coil option, except sprayed on instead of dipped.

X - Special Information Required

This designates a feature option not found in the standard list of options. Clearly state what is desired when ordering. Factory approval needed. Pricing done on an individual sale basis.

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