AAON®

RK Series

2 to 60 tons
Packaged Rooftop Conditioners & Air Handlers

• JULY 1999

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EQUIPMENT DESCRIPTION

UNIT SELECTION EXAMPLE: MODEL AND FEATURE NUMBER STRUCTURE

BASE MODEL No.		(14) FEATURE OPTIONS
RK - 10 - 3 - EØ	- 231	Ø / Ø / Ø / A / D / A / D / D / H / Ø / Ø / Ø / Ø / B
BASE UNIT No.		ALL FEATURE NUMBERS MUST BE COMPLETED TO PROPERLY IDENTIFY THE UNIT & TO INSURE PROMPT ORDER PROCESSING.
TOTAL UNIT IDENTIFICATION NUMBER		

STANDARD FEATURES INCLUDE

- CONTROLS & COMPRESSORS AND HEATING COMPONENTS ARE LOCATED IN A SINGLE, ISOLATED COMPARTMENT
- HERMETICALLY SEALED COMPRESSORS
- EXTENSIVE USE OF SCROLL COMPRESSORS
- COMPRESSORS ARE ELEVATED & ISOLATED FOR ACOUSTICAL PURPOSES
- EXTENSIVE USE OF PLENUM FANS
- SINGLE POINT POWER CONNECTION
- 24 v CONTROL CIRCUIT w/ TERMINAL BLOCK
- LOW AMBIENT CONTROL TO 55 DEGREES
- THERMOSTATIC EXPANSION VALVES
- LIQUID LINE FILTER DRIERS
- MANUAL RESET HIGH PRESSURE SWITCHES
- AUTO RESET LOW PRESSURE SWITCHES
- GRIP NOTCH BLOWER DRIVE BELTS
- STAINLESS STEEL PIANO HINGE ON ACCESS DOORS w/ TOOL-LESS ACCESS LATCHES
- DOUBLE WALL ACCESS DOORS
- TOP IS CROSS BROKE & SLOPED FOR DRAINAGE
- 1" INTERIOR INSULATION
- BOTTOM SUPPLY AIR & RETURN AIR
- DIRECT DRIVE CONDENSER FANS
- SLIDE-OUT BLOWER ASSEMBLY
- MANUALLY ADJUSTED OUTSIDE AIR HOOD (0-25%)
- P-TRAP CONDENSATE DRAIN (field installed)

- RUN TEST REPORT, INSTALLATION MANUAL, WIRING DIAGRAM & START-UP FORM ARE LOCATED IN THE CONTROL ACCESS COMPARTMENT.

'RK SERIES' MODELMASTER

MODEL NUMBER

TYPE	GEN.	UNIT SIZE		VOLTAGE		COOLING		HEATING		
R	K	-		-		-		-		

TYPE
R = ROOFTOP

GENERATION
K = SEVENTH GENERATION

NOMINAL UNIT SIZE

TONS / NOM. CFM	CAB.	
02 = 2 / 800	A	
03 = 3 / 1200		
04 = 4 / 1600		
05 = 5 / 2000		
06 = 6 / 2400		
07 = 7 / 2400		
08 = 8 / 3200	B	
10 = 10 / 4000		
13 = 13 / 4800		
15 = 15 / 5000		
16 = 16 / 6200	C	
20 = 20 / 7000		
25 = 25 / 9500		
26 = 26 / 10400	D	
30 = 30 / 12000		
40 = 40 / 16000		
50 = 50 / 20000		
60 = 60 / 20000		

VOLTAGE
1 = 208v / 1ø / 60Hz
2 = 208-230v / 3ø / 60Hz
3 = 460v / 3ø / 60Hz
4 = 575v / 3ø / 60Hz

COOLING

COMPRESSORIZED w/ COIL	= E
COMPRESSORIZED•6 ROW COIL	= F
COMPRESSORIZED•6 ROW COIL w/ Bypass Damper & Operator (Must be ordered w/ HotGasBypass, Opt. 5)	= D
NO CONDENSING SECTION	
NO COOLING (no cond. section)	= Ø
CHILLED WATER • 4 ROW COIL	= 3
CHILLED WATER • 6 ROW COIL	= 4
NON-COMPRESSORIZED w/ DX COIL	= 5
NON-COMPRESSORIZED • 6 ROW COIL	= 6

Ø =	**STANDARD**
1 =	Phenolic Coated Evap. & Cond. Coils*
2 =	Pre-Coated Fin Stock Coils* *with base & condenser section coated.
3 =	Phenolic Coated Condenser Coil (DØ & D3 only available)

HEATING

DESIGNATION

TYPE

Ø =	**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 Heat
8 =	Elect. Heat•Direct Drive

*NOTE: Stainless steel heat exchanger is required for modulating heat.

ELECTRIC HEAT *RATED KW @*

	208v	230v•460v•575v
A =	7.5	10.0
B =	15.0	20.0
C =	22.5	30.0
D =	30.2	40.0
M =	37.5	50.0
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

OR

GAS ; STEAM ; or HOT WATER HEATING

Ø =	**N/A** *(No Heating)*
1 =	** LOW HEAT *GAS*
2 =	** MEDIUM HEAT *HEAT*
3 =	** HIGH HEAT *ONLY*
4 =	2 Row-(Steam Only)
5 =	2 Row-(Hot Water Only)

** AAON GAS HEATING DESIGNATIONS

CAB. SIZE A	B	C	D
1• 2• 3	1• 2• 3	1• 2• 3	1 • 3

AAON ELECT HEAT DESIGNATIONS

VOLTAGE	CABINET 'A' 02•03	04	05	06•07	'B' 08 • 10	13 • 15	'C' 16 • 20 • 25	26	'D' 30• 40• 50 • 60
208-230v Single Phase	A•B	A•B•C•D	B•C•D		B•C•D				
208-230 / 460v Three Phase	A•B	A•B•C•D	B•C•D		B•C•D•M•E		B•D•E•F•G	D•F•H•J	D•F•H•J•K
575v Three Phase		A•B•C•D	B•C•D		B•C•D•M•E		B•D•E•F•G	D•F•H•J	D•F•H•J•K

STAGE

Ø =	**N/A** *(No Heating)*
1 =	1 Stage Gas(1 valve) or Elect.
2 =	2 Stage Gas(1 Valve) or Elect.
4 =	4 Stage (Elect. Heat)
7 =	4 Stage Gas Heat (2 valves)
M =	Modulating Gas Heat*
	GAS HEAT ONLY
5 =	1 Stage Ctl • High Altitude
6 =	2 Stage Ctl • High Altitude
8 =	4 Stage Ctl • High Altitude
N =	Modulating Gas Heat* High Altitiude

*NOTE: Modulating heat available ONLY on natural gas w/ stainless steel heat exchanger.

OPTIONAL FEATURES

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

FEATURE NUMBER

O.S.A	BLWR. MTR.	FILTERS	REFRIG. ELECT.	REFRIG.	POWER	SAFETY
1	2	3	4	5	6	7

OUTSIDE AIR OPTIONS ①

Ø = **STANDARD** - Manual Outside Air (0 - 25% Adjustable)
N = MFA (0 - 25%) **w/ Adjustable Compressor Lockout**
L = 100% O.S.A HOOD **(Non-Motorized - NO RETURN AIR)**
A = 3 POSITION ECONOMIZER **w/ Sensible Limit Control**
B = 3 POSITION ECON. **w/ Enthalpy Limit Control**
C = FULL MODULATING ECON. CONTROL, **Mixed Air,w/ Enthalpy Limit**
K = FULL MODULATING ECON., **DDC Signal - (by others)**
T = FULL MODULATING ECON. CONTROL, **Mixed Air,w/ Sensible Limit**
D = 2 POSITION MOTORIZED O.S.A Damper-(0 - 50%)
E = 2 POSITION MOTORIZED O.S.A Damper-(0 -100% **-NO RETURN AIR**)
F = POWER EXHAUST **w/ "C" Econ., Standard Mtr.**
G = PWR. EXH. **w/ "C" Econ., Oversize Mtr.**
H = PWR. EXH. **w/ "C" Econ., Standard Mtr., ON/OFF Control**
J = PWR. EXH. **w/ "C" Econ., Oversize Mtr., ON/OFF Control**
U = PWR. EXH. **w/ 3 POSITION ECON.,Standard Mtr., ON/OFF Control**
V = PWR. EXH. **w/ 3 POSITION ECON., Oversize Mtr., ON/OFF Control**
M = PROPELLER EXH. (1) Fan w/ "C" Econ., ON/OFF Ctl. **(D Cab. Only)**
R = PROPELLER EXH. (2) Fans w/ "C" Econ., ON/OFF Ctl. **(D Cab. Only)**
P = PROPELLER EXH. (1) Fan w/ "B" Econ., ON/OFF Ctl. **(D Cab. Only)**
Q = PROPELLER EXH. (2) Fans w/ "B" Econ., ON/OFF Ctl. **(D Cab. Only)**
W = HEAT RECOVERY UNIT
Y = HEAT RECOVERY UNIT w/ ECON.
Z = HEAT RECOVERY UNIT w/ ECON.
1 = HEAT RECOVERY UNIT w/ ECON.
2 = 12,000 CFM HEAT RECOVERY UNIT NO ECON. **(D Cab.Units Only)**
3 = 12,000 CFM HEAT RECOVERY UNIT 3 POS. ECON.**(D Cab.Units Only)**
4 = 12,000 CFM HEAT RECOVERY UNIT FULL MOD. ECON. **(D Cab. Only)**
5 = CONSTANT VOLUME OUTSIDE AIR FOR VAV APPLICATIONS
6 = (A+5) 3 POS. ECON. w/ SENSIBLE CTL. + CONST. VOL. OSA
7 = (B+5) 3 POS. ECON. w/ ENTHALPY CTL. + CONST. VOL. OSA
8 = (C+5) FULL MOD.ECON, Mixed Air w/ Enth. Ctl.+ CONST. VOL. OSA
9 = (K+5) FULL MOD.ECON w/ DDC Signal + CONST. VOL. OSA

EVAP. BLOWER MOTOR OPTIONS ②

FEATURE 2
For 40-60 ton units ONLY
- Additional Options -
C • D • E • U • V • W • Y • Z • 1
Double Inlet Plenum Blowers

Ø = STANDARD
A = OVERSIZE MOTOR
B = DOUBLE OVERSIZE MOTOR
F = STANDARD **HIGH EFFICIENCY** MOTOR
G = OVERSIZED **HIGH EFFICIENCY** MOTOR
H = DBLE. OVERSIZED **HIGH EFFICIENCY** MOTOR
J = STANDARD HIGH EFFICIENCY MOTOR **w/ INVERTER CONTROLLER**
K = OVERSIZED HIGH EFFICIENCY MOTOR **w/ INVERTER CONTROLLER**
L = DBLE.OVERSIZED HIGH EFFICIENCY MOTOR **w/ INVERTER CONTROLLER**
M = STANDARD MOTOR **w/ VOLUME CONTROL**
N = OVERSIZED MOTOR **w/ VOLUME CONTROL**
P = DBLE. OVERSIZED MOTOR **w/ VOLUME CONTROL**
R = STANDARD **HIGH EFFICIENCY MTR. w/ VOLUME CONTROL**
S = OVERSIZED **HIGH EFFICIENCY MTR. w/ VOLUME CONTROL**
T = DBLE. OVERSIZED **HIGH EFFICIENCY MTR. w/ VOLUME CONTROL**

FILTER OPTIONS ③

Ø = **STANDARD** ~ 2" Throw Away* / Pleated
A = **2" Permanent Filter Frame w/ Replaceable Media (2" PERM)**
B = **2" PLEATED FILTERS *(Standard for some units)**
C = **4" PLEATED FILTERS ~ Includes Clogged Filter Switch**
D = **2" STANDARD FILTERS w/ CLOGGED FILTER SWITCH**
E = **2" STANDARD FILTERS w/ 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 = **2" STANDARD FILTERS w/ CLOG. FLTR SW + MAG.Ga.**
P = **2" PLEATED w/ LINT FILTER + CFS in 2.5" FILTER CHANNEL**
Q = **2" PLEATED w/ 2" LINT SCREENS in 4" FILTER CHANNEL**

REFRIGERATION CONTROL (ELECTRICAL) ④

Ø = **STANDARD**
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) 20 Amps Max.**
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)**
M = FAN CYCLING (ALL CIRCUITS)
N = FAN CYCLING w/ 20 Amp Outlet **(Field Wired)**
Q = **5** MTDR + Fan Cycling
R = 20 STDR + Fan Cycling
S = 115v GFI Outlet **(Factory 13 Amps.)** + Fan Cycling
T = **5** MTDR + **20** STDR + Fan Cycling
U = **5** MTDR + 115v Outlet **(Factory Wired)** + Fan Cycling
W = **5** MTDR + 115v Outlet **(Field Wired)** + Fan Cycling

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

CTRLS	SPCL CTRLS	OPEN	CODE	CABNT	EXH MOTOR	TYPE
8	9	10	11	12	13	14

Ø = STND (10)

TYPE (14)

- B = **STANDARD** (Includes gray polyurethane paint)
- A = **CORROSION PROTECTED INTERIOR** (Includes 'B' above)
- U = **Special price auth. & special color exterior paint**
- V = **Special price auth. & 'A' + 'U' above**
- X = **SPECIAL PRICE AUTHORIZATION** (Includes 'B' above)
- Z = **(A+X) Special price auth. & 'A' above**

OPTIONS 'U' • 'V' • 'X' • 'Z' REQUIRE FACTORY AUTHORIZATION

CONTROLS (8)

- Ø = **STANDARD CONTROLS**
- B = LOW LIMIT CONTROL **(LLC)**
- D = PHASE & BROWN OUT PROTECTION **(Ph / BOP)**
- K = LowLimit Ctl + Phase & BrnOut Pro.
- M = Comparative Enthalpy Econ. Control
- N = Comparative Ethalpy Econ. Ctl. w/ LowLimit Ctl.

EXHAUST MTR (13)

- Ø = **STANDARD**
- C = STANDARD MOTOR
- D = OVERSIZED MOTOR
- E = Standard Hi-Efficiency Mtr. w/ Inverter
- F = Oversized Hi-Efficiency Mtr. w/ Inverter

SAFETY OPTIONS (7)

- Ø = **STANDARD**
- B = R/A & S/A FIRESTAT **(R/A & S/A FS)**
- D = R/A SMOKE DETECTOR **(R/A S.D)**
- E = S/A SMOKE DETECTOR **(S/A S.D)**
- 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**
- L = R/A & S/A **FS + S/A & R/A SMOKE DETECTOR**

CABINET OPTIONS (12)

- Ø = **STANDARD**
- A = EXPORT CRATING - Full Cabinet
- B = EXPORT CRATING - AirHandler Cabinet
- C = S/A & R/A BURG. BARS (BB)
- D = EX.CRT / FC + S/A & R/A BB
- E = EX.CRT / AHC + S/A & R/A BB
- F = CONDENSER COIL GUARDS
- G = INTERIOR INSULATION LINERS (Double Wall)
- H = INSULATION LINERS + S/A & R/A BB
- J = INSULATION LINERS + COIL GUARDS
- S = STAINLESS STEEL DRAIN PAN (SS)
- K = SS DRAIN PAN + S/A & R/A BB
- L = SS DRAIN PAN + COIL GUARDS
- M = SS DRAIN PAN + INSULATION LINERS
- N = SS + INSULATION LINERS + S/A & R/A BB
- P = SS + INSULATION LINERS + COIL GUARDS
- Q = INSULATION ON UNIT BASE PAN

POWER OPTIONS (6)

- Ø = **STANDARD**
- A = POWER SWITCH - Cooling & Gas Units **(FULL CABINET)**
- B = POWER SWITCH - All But Elect Heat **(No Cond. Section)**
- C = POWER SWITCH - Elect Heat Units **(10 & 20 kw)**
- D = POWER SWITCH - Elect Heat Units **(30 & 40 kw)**
- E = POWER SWITCH - Elect Heat Units **(50, 60 & 80 kw)**
- F = POWER SWITCH - Elect Heat Units **(100 & 120 kw)**
- G = POWER SWITCH - Elect Heat Units **(160 & 200 kw)**

CODE OPTIONS (11)

- Ø = **STANDARD**
- A = M.E.A (NEW YORK)
- B = CHICAGO CODE (CITY)

REFRIGERATION OPTIONS (5)

- Ø = **STANDARD**
- A = HOT GAS BYPASS ~ 1st STAGE **(HGB1)**
- C = HOT GAS REHEAT COIL **(H.G.RHC)**
- D = SIGHT GLASS **(SG)**
- E = HotGasBypass1 + HotGasBypass2
- F = HotGasBypass1 + HotGasBypass2 + SG
- G = HotGasBypass1 + H.G.ReHeatCoil
- H = HotGasBypass1 + SG
- K = HotGasBypass1 + H.G.ReHeatCoil + SG
- M = H.G.ReHeatCoil + SG
- N = Compressor Service Isolation Valves **(CIV)**
- P = Comp. Isolation Valves + HotGasBypass1
- Q = Comp. Isolation Valves + H.G.ReHeatCoil
- R = Comp. Isolation Valves + SG (Both Circuits)
- S = Comp. Isolation Valves + HGB1 + HGB2
- T = Comp. Isolation Valves + HGB1 + HGB2 + SG
- U = Comp. Isolation Valves + HGB1 + H.G.ReHeatCoil
- V = Comp. Isolation Valves + HGB1 + SG
- W = Comp. Isolation Valves + HGB1 + H.G.ReHeatCoil + SG
- Y = Comp. Isolation Valves + SG + H.G.ReHeatCoil
- Z = Zero Degree Amb. Operation **w/** SG (1 Circuit Only)
- 1 = HotGasBypass1 + HotGasBypass2 + H.G.ReHeatCoil
- 2 = HotGasBypass1 + HotGasBypass2 + H.G.ReHeatCoil + SG
- 3 = HotGasBypass1 + HotGasBypass2 + H.G.ReHeatCoil + CIV
- 4 = HGBypass1 + HGBypass2 + H.G.ReHeatCoil + CIV + SG
- 5 = Zero Degree Amb. Operation **w/** SG + HGBypass1
- 6 = Zero Degree Amb. Operation **w/** SG + HGBypass1 + CIV

SPECIAL CONTROLS (9)

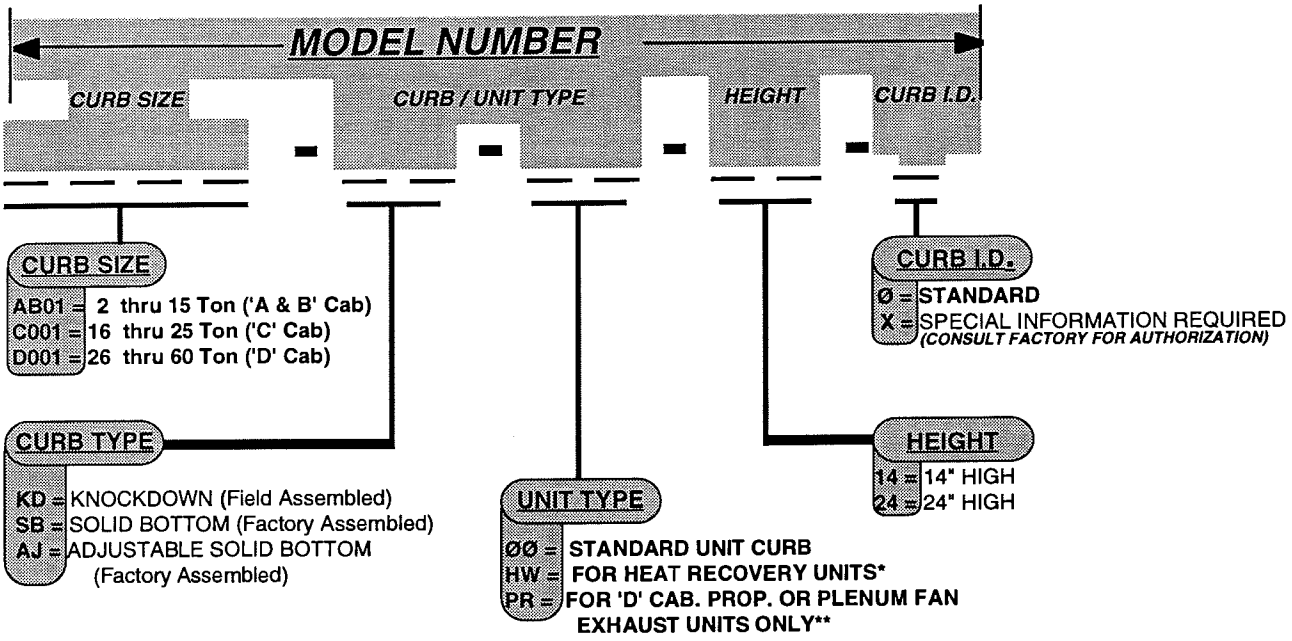
Standard Mechanical Controls

- Ø = **COOLING ONLY, STEAM or HOT WATER HEAT**
- H = ALL GAS HEAT UNITS
- J = ALL ELECTRIC HEAT UNITS
- L = GAS HEAT UNITS w/ GAS PRESSURE REGULATORS

Micro Processor Related Controls

- K = W973 HONEYWELL CONTROLLER
- Q = W7100 HONEYWELL CONTROLLER
- R = W7100 CONTROLLER + EXPANSION BOARD
- D = VAV BLOWER CONTROL (See Feature 2)

roof curbs



CURB TYPE	AVAILABLE IN:	HEIGHT	DESCRIPTION
KNOCKDOWN 'KD'	ALL CABINETS	14"	FULL PERIMETER CURB • FIELD ASSEMBLY REQUIRED
		24"	OPTIONAL DUCT SUPPORT RAILS AVAILABLE
SOLID BOTTOM 'SB' ACOUSTIC CURB	ALL CABINETS	14"	FULLY ASSEMBLED AND INSULATED •
		24"	FIELD CUT S/A AND R/A OPENINGS REQUIRED
ADJUSTABLE SOLID BOTTOM 'AJ'	ALL CABINETS	14"	ADJUSTABLE PITCH FULLY ASSEMBLED AND INSULATED • FIELD CUT S/A AND R/A OPENINGS REQUIRED

* THE SELECTION OF A HEAT RECOVERY UNIT REQUIRES THE USE OF A 'HW' EXTENDED CURB.

** THE SELECTION OF A 26 - 60 TON UNIT WITH PROPELLER OR PLENUM FAN EXHAUST OPTION REQUIRES THE USE OF A 'PR' EXTENDED CURB. NOTE: ADJUSTABLE PITCH CURB (AJ) IS NOT AVAILABLE FOR THIS UNIT.

FOR CURB DETAILS AND DIMENSIONS REFER TO APPENDIX A FOR DRAWING LOCATION.

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ARI Listings

BASE MODEL @ ESP	CFM	MOTOR OPTION	COOLING OPTION					
			STANDARD COIL - COOLING "E" OPTION			6 ROW COIL - COOLING "F" OPTION		
			MBH	EER (*SEER)	IPLV	MBH	EER (*SEER)	IPLV
RK - 02* @ 0.15" WC	800	Ø	27.8	11.2				
		A	27.6	11.0				
RK - 03* @ 0.15" WC	1200	Ø	36.0	11.3		SIX ROW N/A 2&3 TON		
		A or G	36.0	11.2				
		B or H	35.8	11.0				
RK - 04* @ 0.15" WC	1600	Ø	50.0	11.3		52.0	11.0	
		A or G	49.5	11.2		52.0	10.8	
		B or H	49.5	10.9		51.5	10.6	
RK - 05* @ 0.20" WC	2000	Ø or F	62.5	11.2		64.5	10.9	
		A or G	62.5	11.0		64.5	10.6	
		B or H	62.0	11.0		64.5	10.3	
RK - 06 @ 0.20" WC	2400	Ø or F	77.0	10.9		77.0	9.9	
		A or G	77.0	10.8		77.0	9.7	
		B or H	76.0	10.6		76.0	9.5	
RK - 07 @ 0.25" WC	2400	Ø or F	93.0	10.4		92.0	9.3	
		A or G	92.0	10.3		93.0	9.4	
RK - 08 @ 0.25" WC	3200	Ø or F	98.0	11.1	11.6	109.0	11.8	12.4
		A or G	97.0	11.0	11.5	109.0	11.6	12.1
		B or H	97.0	11.0	11.5	109.0	11.6	12.3
RK - 10 @ 0.30" WC	4000	Ø or F	128.0	11.0	11.9	135.0	11.4	12.2
		A or G	128.0	11.0	11.9	135.0	11.4	12.4
		B or H	128.0	11.0	11.9	134.0	11.4	12.2
RK - 13 @ 0.35" WC	4800	Ø or F	156.0	10.5	9.9	160.0	10.6	10.0
		A or G	158.0	10.4	10.6	162.0	10.6	10.7
		B or H	156.0	10.4	10.3	160.0	10.6	10.4
RK - 15 @ 0.35" WC	5000	Ø or F	178.0	10.3	9.5			
		A or G	180.0	10.2	10.3	SIX ROW STANDARD		
		B or H	180.0	10.2	9.9			
RK - 16 @ 0.35" WC	6200	Ø or F	194.0	10.5	10.1	208.0	11.0	10.5
		A or G	196.0	10.5	10.7	210.0	11.0	11.2
		B or H	194.0	10.5	10.4	208.0	11.0	10.9
RK - 20 @ 0.40" WC	7000	Ø or F	234.0	10.9	10.8			
		A or G	236.0	10.9	11.5	SIX ROW STANDARD		
		B or H	236.0	10.9	11.2			

* 2 THROUGH 5 TON UNITS LISTED ARE SEER
ALL LISTINGS REFLECT NET COOLING CAPACITIES AT 80/67 ENTERING THE EVAPORATOR COIL AND 95°F OUTSIDE AIR.
AIRFLOW AND EXTERNAL STATIC PRESSURE ARE GIVEN FOR EACH MODEL.

Certified In Accordance With The ARI Unitary Air-Conditioning Equipment Certification Program Which Is Based On ARI Standard 210.

Certified In Accordance With The ARI Large Unitary Air-Conditioning Equipment Certification Program Which Is Based On ARI Standard 360.

Models Listed Above 250,000 Btu/h Are Rated In Accordance With ARI Standard 360.

All models are certified by ETL in accordance with UL-1995: Standard for Safety, Heating and Cooling Equipment, and ANSI Standard Z21.47.

mechanical cooling capacities

GROSS CAPACITIES (MBH) AT ARI RATING CONDITIONS
80°DB / 67°WB Air Entering Evaporator • 95°DB Outside Air

UNIT SIZE	EVAP CFM	Standard Evaporator		6 Row Evaporator	
		Total	Sensible	Total	Sensible
02	800	29.3	20.1		
	600	27.7	17.7	SIX ROW EVAP IS NOT AVAILABLE ON 2 AND 3 TON UNITS	
03	1200	37.9	26.9		
	900	36.0	23.6		
04	1600	52.3	35.6	54.7	39.7
	1200	49.8	31.6	51.8	34.6
05	2000	66.3	43.9	70.5	49.9
	1500	62.9	39.1	66.6	43.6
06	2400	81.6	55.2	83.9	60.4
	1800	77.3	48.9	79.3	52.6
07	2400	97.1	61.4	100.4	67.1
	1800	91.1	54.8	93.8	58.9
08	3200	102.8	66.1	114.1	83.8
	2400	97.6	59.2	108.0	72.6
10	4000	135.2	93.8	142.8	104.1
	3000	128.4	82.8	134.9	90.2
13	4800	163.6	114.3	169.7	123.3
	3600	155.2	100.7	160.6	107.2
15	5000	SIX ROW EVAP STANDARD FOR 15 TON UNIT		186.3	132.1
	3750			175.5	115.0
16	6200	206.9	139.5	219.6	155.7
	4650	196.7	124.0	207.4	136.1
20	7000			247.9	174.5
	5250	SIX ROW EVAP STANDARD FOR 20 AND 25 TON UNITS		235.9	153.6
25	9500			318.2	224.7
	7125			301.5	197.5
26	10400	319.9	224.9	339.7	258.3
	7800	304.4	198.5	332.0	222.7
30	12000	362.1	253.2	386.9	294.5
	9000	346.0	224.5	368.4	254.5
40	16000	484.5	350.7	506.3	383.9
	12000	464.6	309.3	483.7	333.1
50	20000	610.9	440.2	653.2	487.6
	15000	584.7	388.0	621.3	423.1
60	20000	SIX ROW EVAP STANDARD FOR 60 TON UNIT		690.3	502.2
	15000			657.4	438.3

Use the AAON furnished PC software selection program for fast and easy unit selection and rating at the specific job design conditions.

specifications • 'A' cabinet

UNIT FEATURES		UNIT SIZE					
		02	03	04	05	06	07
NOMINAL CAPACITY TONS		2	3	4	5	6	7
EER - FULL LOAD *①						10.9	10.4
SEER - FULL LOAD *①		11.2	11.3	11.3	11.2		
REFRIGERANT CHARGE lbs. / no. of systems		7.0 (1)	7.0 (1)	6.0 (1)	10.0 (1)	11.0 (1)	13.0 (1)
COMPRESSOR (HERMETIC) Quantity		(1)					
CONDENSER COIL Face Area Sq. Ft. / Rows / Fins per inch		16 / 1 / 13			16 / 2 / 12		16 / 2 / 14
CONDENSER FANS • Quantity / Diameter		(1) / 22"				(2) / 22"	
CONDENSER FAN MOTORS • Watts / RPM ea.		430 / 1100					
EVAPORATOR COIL - Standard Face Area Sq. Ft. / Rows / Fins per inch		5.7 / 2 / 16		7.6 / 2 / 14		7.6 / 3 / 12	
EVAPORATOR COIL - 6 Row Face Area Sq. Ft. / Rows / Fins per inch				4.3 / 6 / 10		4.3 / 6 / 12	
EVAPORATOR BLOWER • BELT DRIVE ② Quantity / Wheel Dia. / Type		(1) / 10 / FC					
		(1) / 15 / BI					
EVAP. BLOWER MOTOR	HP - Standard (Qty 1)	0.3②	0.5 ②		1.0		2.0
	HP - Oversize	0.5②	1.0		2.0		3.0
	HP - Double Oversize	1.0	2.0		3.0		
GAS FURNACES • TYPE Standard Material / Optional Material		TUBULAR - INDUCED DRAFT ALUMINIZED STEEL / STAINLESS STEEL					
IGNITION		NON-STANDING , AUTOMATIC , SPARK RELIGHT					
GAS CONNECTION (F.P.T.)		0.75					
FILTERS - STANDARD QTY / SIZE		(4) / 16" x 20" x 2" Throwaway				(4) / 16" x 20" x 2" Pleated	
FILTERS - OPTIONAL QTY / SIZE		(4) / 16" x 20" x 2" or 4" Pleated				(4) / 16" x 20" x 4" Pleated	
POWER EXHAUST FANS • BELT DRIVE Quantity / Wheel D x W / Type		(1) / 12 x 9 / FC					
POWER EXH. FAN MOTOR	HP - Standard	(1) 1 HP					
	HP - Oversize	N / A					
UNIT NET WEIGHTS		**02**	**03**	**04**	**05**	**06**	**07**
BASE UNIT (Cooling Only)		700	700	750	760	805	875
GAS HEAT EXCHANGER		120					
ELECTRIC HEAT, HOT WATER or STEAM COIL		60					
ECONOMIZER		143					
POWER EXHAUST		120					
HEATWHEEL		240					
VAV (Variable Air Volume)		50					
CURB WEIGHTS							
KNOCKDOWN CURB • 14" / 24" HIGH		160 / 320					
ACOUSTICAL CURB • 14" / 24" HIGH		200 / 360					
ADJUSTABLE PITCH CURB • 14" / 24" HIGH		240 / 400					

① AT STANDARD A.R.I TEST CONDITIONS. CERTIFIED IN ACCORDANCE WITH THE ARI UNITARY AIR CONDITIONING EQUIPMENT CERTIFICATION PROGRAM WHICH IS BASED ON ARI STANDARD 210.

② ALL UNITS BELT DRIVE EXCEPT 1/3 & 1/2 HP DIRECT DRIVE WITH FC FAN.

gas heating capacities

TABLE 5 - 1

CABINET	UNIT SIZE	DESIGNATION (1 • 2 • 3)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	MAX. TEMPERATURE RISE (°F) ALUMINIZED	MAX. TEMPERATURE RISE (°F) STAINLESS STEEL
A	02	(1)	69.0	55.9	70° MAX**	100° MAX**
	03	(1)	69.0	55.9		
	04	(2)	90.0	72.9		
	05	(2)	90.0	72.9		
		(3)	180.0	145.8		
	06	(2)	90.0	72.9		
		(3)	180.0	145.8		
	07	(2)	90.0	72.9		
		(3)	180.0	145.8		

* AAON HEAT RANGE DESIGNATIONS

(1) = LOW HEAT
(2) = MEDIUM HEAT
(3) = HIGH HEAT

**MAXIMUM DISCHARGE AIR TEMPERATURE IS 160°F.

four stage gas heating capacities

TABLE 5 - 2

UNIT SIZE	Option	1st STAGE Input / Output (MBH)	2nd STAGE Input / Output (MBH)	3rd STAGE Input / Output (MBH)	4th STAGE Input / Output (MBH)
02 • 03	212	48.3 / 39.1	69.0 / 55.9		
04	222	63.0 / 51.0	90.0 / 72.9	*NOT AVAILABLE*	
05 • 06 • 07	222	63.0 / 51.0	90.0 / 72.9		
	237	42.0 / 34.0	126.0 / 102.0	144.0 / 116.6	180.0 / 145.8

NOTES: 1) To calculate air temperature rise: ΔT = Output capacity / (CFM x 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:
ΔT = Output capacity / (.24 x 60 x specific WT of air x CFM)(Refer to Table 51-2 for information about Specific Weight of Air)
4) Gas pressure supply range (inches of water gauge): Natural 6-10.5 ; Propane 11-13.
5) Gas manifold pressure (inches of water gauge): Natural 3.5; Propane 10.5.
6) Above 2000FT.; Specify "HI ALTITUDE KIT".
7) For two stage heat options, use the 2nd and 4th stage capacities above for 1st and 2nd stage heat values.

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

electric heating capacities

TABLE 5 - 3

SINGLE PHASE

Heating Designation and Unit Availability			No. of Strips	208 / 60 / 1			230 / 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	44.0
B	B	B	2	51.2	15.0	72.12	68.3	20.0	87.0
	C	C	3	76.8	22.5	108.18	102.4	30.0	130.0
	D	D	4	102.4	30.0	144.20	136.6	40.0	174.0

THREE PHASE

Heating Designation and Unit Availability			No. of Strips	208 / 60 / 3			230 / 60 / 3			460 / 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	21.0	34.1	10.0	25.0	34.1	10.0	12.0	34.1	10.0	10.0
B	B	B	2	51.2	15.0	42.0	68.3	20.0	50.0	68.3	20.0	25.0	68.3	20.0	20.0
	C	C	3	76.8	22.5	62.0	102.4	30.0	75.0	102.4	30.0	38.0	102.4	30.0	30.0
	D	D	4	102.4	30.0	84.0	136.6	40.0	100.0	136.6	40.0	50.0	136.6	40.0	40.0

(1) MODEL 02 AND 03 IS NOT AVAILABLE IN 575 / 60 / 3.

steam heating data

TABLE 6 - 1 • FACE VELOCITY vs. SELECTION FACTOR • 3.3 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 6 - 2

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

TABLE 6 - 3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
200	.031	700	.289
300	.064	800	.366
400	.107	900	.451
500	.159	1000	.543
600	.220		

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 ÷ 3.27 = 611 FPM. (SEE TABLE 6 -6 FOR COIL PARAMETERS)

FROM TABLE 6-1: SF = .493 (by interpolation)

FROM TABLE 6-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .493 (218 - 60) = 77.9°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

CONDENSATE LOAD = BTUH ÷ LATENT HEAT @ OPERATING PSIG.

FROM TABLE 6-2: LATENT HEAT = 966.

CONDENSATE LOAD = (1.085 x 77.9 x 2000) ÷ 966 = 175.0 lbs. / hr.

FROM TABLE 6-3: AIR SIDE PRESSURE DROP = .227 (by interpolation)

hot water coil performance data

TABLE 6 - 4 'A' CABINET • 180° F EWT, 60° F EAT • 3.3 SQ. FT. FACE AREA

C.F.M	ΔP AIR	10 GPM (1.9 ft. ΔP)			15 GPM (3.8 ft. ΔP)			20 GPM (6.7 ft. ΔP)		
		ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH
1000	.07	67.9	14.7	70.2	72.6	10.3	74.8	75.4	8.0	77.4
2000	.25	47.3	20.5	99.7	52.5	15.1	110.1	55.6	12.0	116.3
3000	.50	36.8	24.1	117.3	41.7	18.2	132.4	44.8	14.6	141.8

EXAMPLE: "A" Cabinet with 2000 cfm, 180°F EWT, 60°F EAT, and 10 GPM has a capacity of 99.7 MBH from Table 6-4.
For 190°F EWT and 60°F EAT the correction factor is 1.08, actual coil capacity = 1.08 x 99.7 = 107.7 MBH.

$$\text{NEW } \Delta T\ H_2O = \frac{107{,}700}{(500)\,(GPM)} = \frac{107{,}700}{(500)\,(10)} = 21.5^\circ F$$

$$\text{NEW } \Delta T\ AIR = \frac{107{,}700}{1.08\,(CFM)} = \frac{107{,}700}{1.08\,(2000)} = 49.9^\circ F$$

TABLE 6 - 5

HOT WATER CORRECTION FACTORS For Other Than 180°F HW & 60°F Air							
AIR TEMP.	WATER TEMPERATURE						
	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

TABLE 6 - 6

COIL PHYSICAL DATA May be used with Heatflow Computer Program		
	STEAM COIL	HOT WATER COIL
Qty. / Face Area (Ft^2)	1 / 3.3	
No. of Circuits	14	
Rows Deep	2	
Tubes High	14	
Tube Type	5/8"O.D. x 0.035" Wall • Smooth Tube	
FIN Length	22.5"	
FINS Per Inch	10	
FIN Thickness	0.0075"	
FIN Material	ALUMINUM	
FIN Surface	CORRUGATED	
FITTING	1" MPT	3/4" SWT

coil static pressure drops (in. wg.)

TABLE 7 - 1 • 'A' CABINET • INDOOR COIL• NOTE: 6 ROW COIL N/A 2 & 3 TON - * 6 ROW COIL DATA "ZERO " % BYPASS

C.F.M	2 & 3 TON		4 & 5 TON				6 & 7 TON			
	STANDARD COIL		STANDARD COIL		6 ROW COIL*		STANDARD COIL		6 ROW COIL*	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
500	0.04	0.03								
1000	0.09	0.06	0.06	0.04	0.28	0.24				
1500	0.15	0.11	0.10	0.06	0.48	0.35	0.13	0.08	0.62	0.40
2000			0.15	0.10	0.70	0.55	0.19	0.13	0.91	0.63
2500			0.21	0.14	0.94	0.78	0.26	0.18	1.21	0.89
3000			0.27	0.18	1.04	1.04	0.33	0.24	1.53	1.19
3500							0.41	0.31	1.80	1.49

component static pressure drops (in. wg.)

TABLE 7 - 2 • 'A' CABINET

C.F.M	HEATING SECTION							FILTERS			ECON 100% R/A	Acoustical CURB
	GAS HEAT			ELECTRIC HEAT				2" Throw Away	2" Pleated	4" Pleated		
	* HIGH	** MED	*** LOW	A	B	C	D					
500	0.03	0.03	0.02	0.02	0.03	0.03	0.04	0.01	0.01	0.02	0.01	0.01
1000	0.06	0.06	0.04	0.04	0.06	0.07	0.08	0.03	0.04	0.04	0.02	0.02
1500	0.10	0.10	0.07	0.06	0.08	0.10	0.13	0.05	0.06	0.07	0.04	0.03
2000	0.13	0.13	0.09	0.08	0.11	0.14	0.17	0.07	0.10	0.09	0.05	0.04
2500	0.16	0.16	0.11	0.10	0.14	0.17	0.21	0.09	0.12	0.12	0.07	0.06
3000	0.19	0.19	0.13	0.12	0.17	0.20	0.21		0.15	0.14	0.09	0.07
3500	0.23	0.23		0.14	0.19	0.24	0.29		0.18	0.17	0.10	0.09

* High Heat • 5 - 7 Ton Only
** Medium Heat • 4 Ton Only
*** Low Heat • 2 & 3 Ton Only

blower performance

TABLE 7 - 3 • 2 - 5 TON • DIRECT DRIVE •

C.F.M	TOTAL STATIC PRESSURE (IN. WG.)	
	1/3 HP • 8 POLE MOTOR • 900 RPM (Nominal) 2 TON UNIT ONLY	1/2 HP • 6 POLE MOTOR • 1200 RPM (Nominal) 2 • 3 • 4 TON UNIT ONLY
600	0.70	1.10
800	0.70	1.10
1000	0.66	1.00
1200	0.64	0.98
1400	0.60	0.90
1600	0.45	0.80
1800		0.64
2000		0.58

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.

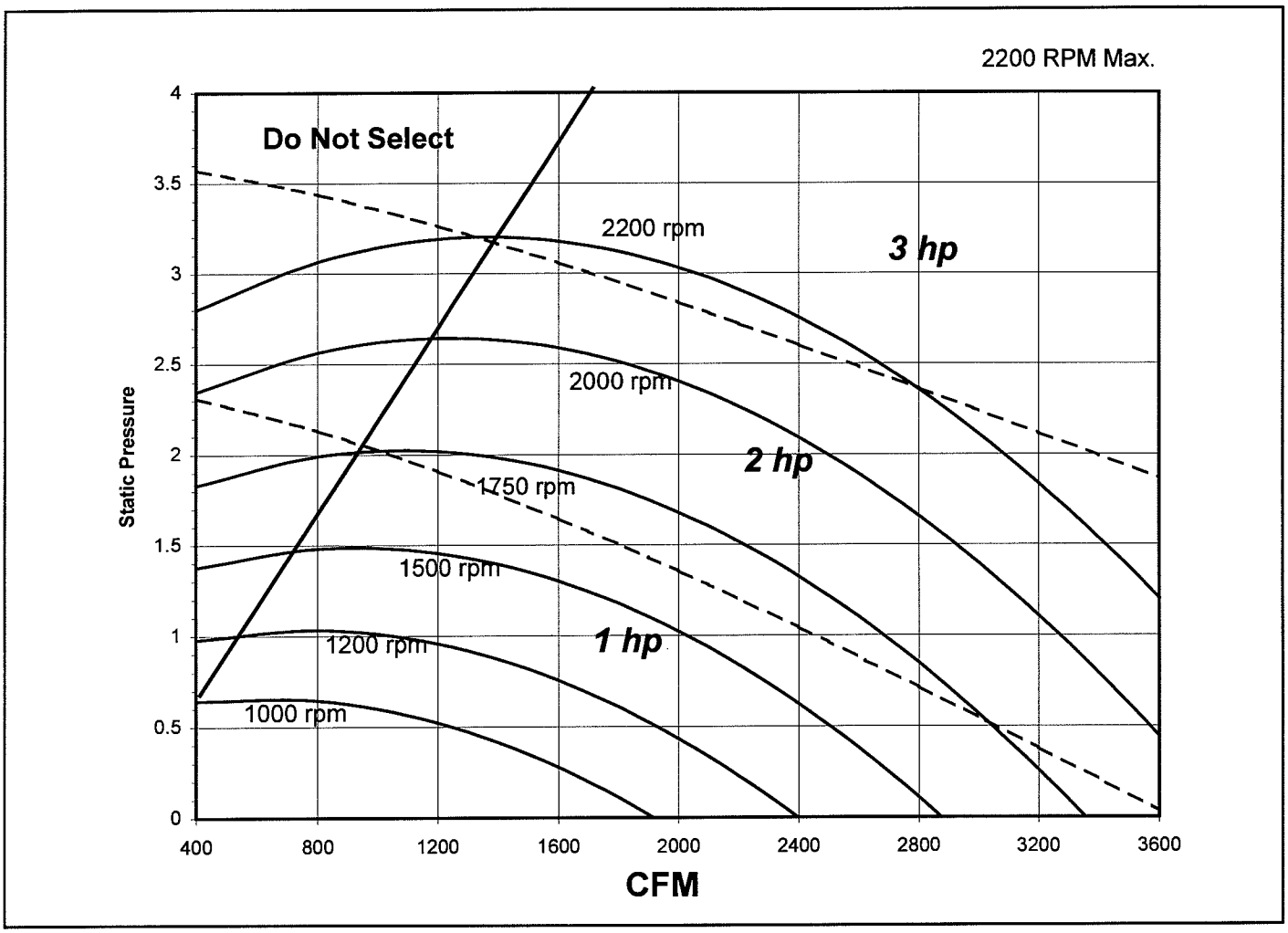
REFER TO TABLE FOR 'HP' TO 'KW' CONVERSION.

INDOOR BLOWER MOTOR DATA				
NOMINAL MOTOR H.P.	PERCENT EFFICIENCY	NOMINAL KW	SERVICE FACTOR	MAXIMUM KW
1/3	62	0.40	1.00	0.40
1/2	68	0.55		0.55
1	81	0.92	1.15	1.06
2	83	1.80		2.07
3	84	2.66		3.06

KW = (0.746 x HP) / (Eff.% / 100)

blower performance

TABLE 8 - 1 • 2 - 7 TON • BELT DRIVE • **one 15" diameter plenum fan**



NOTE: INLET VANES ARE NOT AVAILABLE ON 2 - 7 TON UNITS. FOR BELT DRIVE AIR VOLUME CONTROL VFD IS RECOMMENDED.

power exhaust performance

TABLE 8 - 2 • 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
600	420	1	590	1	690	1	800	1	890	1
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		
2200	760	1	850	1	940	1	NOT AVAILABLE			
2400	820	1	900	1						

TABLE 9 - 1 • 'A' CABINET •

SINGLE PHASE		208 / 1 / 60											
UNIT SIZE		02			03			04			05		
BLOWER MOTOR	(HP)	.33	.50	1.0	.50	1.0	2.0	.50	1.0	2.0	1.0	2.0	3.0
	F.L.A	2.4	4.2	8.8	4.2	8.8	13.2	4.2	8.8	13.2	8.8	13.2	18.7
COMPRESSOR 1	F.L.A (ea)	12.2			14.7			21.8			28.9		
	L.R.A (ea)	61			83			131			169		
CONDENSER FAN MTR.	F.L.A (ea)	(1) 2.3 (1/3 Hp mtr)											
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.9 (1/16 Hp mtr)											
POWER EXH. MOTOR	F.L.A (HP)	8.8 (1 Hp mtr)											
COOLING	F.L.A	17	19	23	21	26	30	28	33	37	40	44	50
	M.C.A	20	22	26	25	29	34	34	38	43	47	52	57
Max. Overcurrent Protection		30		35		40	45	50	60		70	80	
COOLING	F.L.A	26	28	32	30	35	39	37	42	46	49	53	59
w/ POWER EXH.	M.C.A	29	31	35	34	38	43	43	47	52	56	60	66
Max. Overcurrent Protection		40		45	35	50		60		70	80		90
COOLING	F.L.A	27	29	32	31	35	39	38	42	46	49	53	59
w/ HEATWHEEL	M.C.A	30	32	35	35	38	43	44	47	52	56	60	66
Max. Overcurrent Protection		40		45	50			60		70	80		90
ELEC. HEAT	F.L.A	38	40	45	40	45	49	40	45	49	45	49	55
Designation • A •	M.C.A	48	50	56	50	56	61	50	56	61	56	61	68
Max. Overcurrent Protection		50	60				70	60		70	60	70	
ELEC. HEAT	F.L.A	74	76	81	76	81	85	76	81	85	81	85	91
Designation • B •	M.C.A	93	95	101	95	101	106	95	101	106	101	106	113
Max. Overcurrent Protection		100		110	100	110		100	110				125
ELEC. HEAT	F.L.A							112	117	121	117	121	127
Designation • C •	M.C.A							140	146	151	146	151	158
Max. Overcurrent Protection								150		175	150	175	
ELEC. HEAT	F.L.A							148	153	157	153	157	163
Designation • D •	M.C.A							185	191	196	191	196	203
Max. Overcurrent Protection								200			225		

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.

electrical data

TABLE 10 - 1 • 'A' CABINET •

THREE PHASE		208 / 3 / 60																
UNIT SIZE		02			03			04			05			06			07	
BLOWER MOTOR	(HP)	0.33	0.5	1.0	0.5	1.0	2.0	0.5	1.0	2.0	1.0	2.0	3.0	1.0	2.0	3.0	2.0	3.0
	F.L.A	2.4	4.2	4.0	4.2	4.0	7.5	4.2	4.0	7.5	4.0	7.5	10.6	4.0	7.5	10.6	7.5	10.6
COMPRESSOR 1	F.L.A (ea)	7.7			9.6			12.8			17.3			18.6			28.9	
	L.R.A (ea)	55			77			91			137			156			195	
CONDENSER FAN MTR.	F.L.A (ea)	(1) 2.3 (1/3 Hp mtr)												(2) 2.3 (1/3 Hp mtrs)				
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.9 (1/16 Hp mtr)																
POWER EXH. MOTOR.	F.L.A (HP)	4.0 (1 Hp mtr)																
COOLING	F.L.A	12	14	14	16	16	19	19	19	23	24	27	30	27	31	34	41	44
	M.C.A	14	16	16	19	18	22	22	22	26	28	31	35	32	35	38	48	51
Max. Overcurrent Protection		20			25		30	35			45	50					70	80
COOLING	F.L.A	16	18	18	20	20	23	23	23	27	28	31	34	31	35	38	45	48
w/ POWER EXH.	M.C.A	18	20	20	23	22	26	26	26	30	32	35	39	36	39	42	52	55
Max. Overcurrent Protection		25			30			35		40	45	50				60	70	
COOLING	F.L.A	18	19	18	21	20	23	24	23	27	28	31	34	31	35	38	45	48
w/ HEATWHEEL	M.C.A	20	21	20	24	22	26	28	26	30	32	35	39	36	39	42	52	55
Max. Overcurrent Protection		25			30		35	40	35	40	45	50				60	80	
ELEC. HEAT	F.L.A	24	24	24	24	24	28	24	24	28	24	28	31	27	31	34	41	44
Designation • A •	M.C.A	28	30	30	30	30	34	30	30	34	30	34	39	32	35	38	48	51
Max. Overcurrent Protection		30					35	30		35		40		50			70	80
ELEC. HEAT	F.L.A	43	45	45	45	45	48	45	45	48	45	48	52	45	48	52	48	52
Designation • B •	M.C.A	54	56	56	56	56	61	56	56	61	56	61	65	56	61	65	61	65
Max. Overcurrent Protection		60					70	60		70	60	70		60	70			80
ELEC. HEAT	F.L.A							66	66	70	66	70	73	66	70	73	70	73
Designation • C •	M.C.A							83	82	87	82	87	91	82	87	91	87	91
Max. Overcurrent Protection								90					100	90		100	90	100
ELEC. HEAT	F.L.A							87	87	90	87	90	94	87	90	94	90	94
Designation • D •	M.C.A							109	109	113	109	113	117	109	113	117	113	117
Max. Overcurrent Protection								110		125	110	125		110	125			

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.

TABLE 11 - 1 • 'A' CABINET •

THREE PHASE		230 / 3 / 60																
UNIT SIZE		02			03			04			05			06			07	
BLOWER MOTOR	(HP)	0.33	0.5	1.0	0.5	1.0	2.0	0.5	1.0	2.0	1.0	2.0	3.0	1.0	2.0	3.0	2.0	3.0
	F.L.A	3.6	4.2	3.6	4.2	3.6	6.8	4.2	3.6	6.8	3.6	6.8	9.6	3.6	6.8	9.6	6.8	9.6
COMPRESSOR 1	F.L.A (ea)	7.7			9.6			12.8			17.3			18.6			28.9	
	L.R.A (ea)	55			77			91			137			156			195	
CONDENSER FAN MTR.	F.L.A (ea)	(1) 2.3 (1/3 Hp mtr)												(2) 2.3 (1/3 Hp mtrs)				
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.9 (1/16 Hp mtr)																
POWER EXH. MOTOR.	F.L.A (HP)	3.6 (1 Hp mtr)																
COOLING	F.L.A	14	14	14	16	16	19	19	19	22	23	26	29	27	30	33	40	43
	M.C.A	16	16	16	19	18	21	22	22	25	28	31	34	31	35	37	48	50
Max. Overcurrent Protection		20			25		30	35			45			50			70	
COOLING	F.L.A	18	18	18	20	20	23	23	23	26	27	30	33	31	34	37	44	47
w/ POWER EXH.	M.C.A	19	20	19	22	22	25	26	26	29	31	34	37	35	38	41	51	54
Max. Overcurrent Protection		25			30			35		40	45		50			60	80	
COOLING	F.L.A	18	19	18	21	20	23	24	23	26	27	30	33	31	34	37	44	47
w/ HEATWHEEL	M.C.A	19	20	19	23	22	25	27	26	29	31	34	37	35	38	41	51	54
Max. Overcurrent Protection		25			30			40	35	40	45		50			60	80	
ELEC. HEAT	F.L.A	29	29	29	29	29	32	29	29	32	29	32	35	29	32	35	40	43
Designation • A •	M.C.A	36	36	36	36	36	40	36	36	40	36	40	43	36	40	43	48	50
Max. Overcurrent Protection		40									45			50			70	
ELEC. HEAT	F.L.A	54	54	54	54	54	57	54	54	57	54	57	60	54	57	60	57	60
Designation • B •	M.C.A	68	68	68	68	67	71	68	67	71	67	71	75	67	71	75	71	75
Max. Overcurrent Protection		70					80	70		80	70		80	70		80		
ELEC. HEAT	F.L.A							79	79	82	79	82	85	79	82	85	82	85
Designation • C •	M.C.A							99	98	102	98	102	106	98	102	106	102	106
Max. Overcurrent Protection								100		110	100		110	100		110		
ELEC. HEAT	F.L.A							104	104	107	104	107	110	104	107	110	107	110
Designation • D •	M.C.A							130	129	134	129	134	137	129	134	137	134	137
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.

electrical data

TABLE 12 - 1 • 'A' CABINET •

THREE PHASE		460 / 3 / 60																	
UNIT SIZE		02			03			04			05			06			07	
BLOWER MOTOR	(HP)	0.33	0.5	1.0	0.5	1.0	2.0	0.5	1.0	2.0	1.0	2.0	3.0	1.0	2.0	3.0	2.0	3.0
	F.L.A	1.2	2.5	1.8	2.5	1.8	3.4	2.5	1.8	3.4	1.8	3.4	4.8	1.8	3.4	4.8	3.4	4.8
COMPRESSOR 1	F.L.A (ea)	3.9			4.8			6.4			9.0			9.0			14.7	
	L.R.A (ea)	27			35			46			62			70			95	
CONDENSER FAN MTR.	F.L.A (ea)	(1) 1.1 (1/3 Hp mtr)												(2) 1.1 (1/3 Hp mtrs)				
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.5 (1/16 Hp mtr)																
POWER EXH. MOTOR.	F.L.A (HP)	1.8 (1 Hp mtr)																
COOLING	F.L.A	6	7	7	8	8	9	10	9	11	12	14	15	13	15	16	20	22
	M.C.A	7	8	8	10	9	11	12	11	13	14	16	17	15	17	18	24	25
Max. Overcurrent Protection		15									20	25		20	25		35	40
COOLING	F.L.A	8	9	9	10	10	11	12	11	13	14	16	17	15	17	18	22	24
w/ POWER EXH.	M.C.A	9	9	10	11	11	12	13	13	14	16	18	19	17	19	20	26	27
Max. Overcurrent Protection		15						20			25						40	
COOLING	F.L.A	9	10	9	10	10	11	12	11	13	14	16	17	15	17	18	22	24
w/ HEATWHEEL	M.C.A	10	11	10	11	11	12	13	13	14	16	18	19	17	19	20	26	27
Max. Overcurrent Protection		15						20			25						40	
ELEC. HEAT	F.L.A	13	14	14	14	14	15	14	14	15	14	15	17	14	15	17	20	22
Designation • A •	M.C.A	17	17	17	18	17	19	18	17	19	17	19	21	17	19	21	24	25
Max. Overcurrent Protection		20									25			20	25		35	40
ELEC. HEAT	F.L.A	26	28	27	28	27	28	28	27	28	27	28	30	27	28	30	28	30
Designation • B •	M.C.A	33	34	34	34	33	36	34	33	36	33	36	37	33	36	37	36	37
Max. Overcurrent Protection		35					40	35		40	35	40		35	40			
ELEC. HEAT	F.L.A							40	39	40	39	40	42	39	40	42	40	42
Designation • C •	M.C.A							49	48	51	48	51	52	48	51	52	51	52
Max. Overcurrent Protection								50		60	50	60		50	60			
ELEC. HEAT	F.L.A							53	52	53	52	53	55	52	53	55	53	55
Designation • D •	M.C.A							66	65	67	65	67	69	65	67	69	67	69
Max. Overcurrent Protection								70										

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.

TABLE 13 - 1 • 'A' CABINET •

THREE PHASE		575 / 3 / 60										
UNIT SIZE		04			05			06			07	
BLOWER MOTOR	(HP)	0.5	1.0	2.0	1.0	2.0	3.0	1.0	2.0	3.0	2.0	3.0
	F.L.A	1.5	1.4	2.7	1.4	2.7	3.9	1.4	2.7	3.9	2.7	3.9
COMPRESSOR 1	F.L.A (ea)	5.1			7.1			7.4			10.8	
	L.R.A (ea)	37			50			54			80	
CONDENSER FAN MTR.	F.L.A (ea)	(1) 1.1 (1/3 Hp mtr @ 460v)						(2) 1.1 (1/3 Hp mtrs @ 460v)				
COMBUSTION BLOWER MTR.	F.L.A (ea)	0.5 (1/16 Hp mtr @ 460v)										
POWER EXH. MOTOR.	F.L.A (HP)	1.4 (1 Hp mtr)										
COOLING	F.L.A	8	8	9	10	11	12	11	12	14	16	17
	M.C.A	9	9	10	11	13	14	13	14	15	18	20
Max. Overcurrent Protection		15				20					25	30
COOLING	F.L.A	9	9	10	11	12	13	12	13	15	17	18
w/ POWER EXH.	M.C.A	10	10	12	13	14	15	14	16	17	20	21
Max. Overcurrent Protection		15					20				30	
COOLING	F.L.A	9	9	10	11	12	13	12	13	15	17	18
w/ HEATWHEEL	M.C.A	10	10	12	13	14	15	14	16	17	20	21
Max. Overcurrent Protection		15					20				30	
ELEC. HEAT	F.L.A	12	11	13	11	13	14	11	13	14	16	17
Designation • A •	M.C.A	14	14	16	14	16	17	14	16	17	20	21
Max. Overcurrent Protection		20									25	30
ELEC. HEAT	F.L.A	22	21	23	21	23	24	21	23	24	23	24
Designation • B •	M.C.A	27	27	28	27	28	30	27	28	30	28	30
Max. Overcurrent Protection		30					35	30		35	30	35
ELEC. HEAT	F.L.A	32	31	33	31	33	34	31	33	34	33	37
Designation • C •	M.C.A	39	39	41	39	41	42	38	41	42	41	42
Max. Overcurrent Protection		40		45	40	45		40	45			
ELEC. HEAT	F.L.A	42	41	43	41	43	44	41	43	44	43	44
Designation • D •	M.C.A	52	52	53	52	53	55	52	53	55	53	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.

NOTE: 575v N/A FOR 2 AND 3 TON UNITS.

air handling units - chilled water coils

TABLE 14 - 1

COIL PHYSICAL DATA May be used with Heatflow Computer Program	
	CHILLED WATER COIL
Qty / Face Area (Ft^2)	1 / 6.35
No. of Circuits	6 (4 row) • 24 (6 row)
Rows Deep	4 & 6
Tubes High	24
Tube Type	1/2"O.D. x 0.017" Wall • Smooth Tube
FIN Length	30.5"
FINS Per Inch	10
FIN Thickness	0.0045"
FIN Material	ALUMINUM
FIN Surface	SINE WAVE
FITTING	1 5/8" SWT

The application cooling capacities of the rooftop air handling units can be calculated by using the AAON Electronic Program.

notes • A cabinet • 2 - 7 ton

specifications • 'B' cabinet

UNIT FEATURES		UNIT SIZE			
		08	10	13	15
NOMINAL CAPACITY TONS		8	10	13	15
EER - FULL LOAD (1)		11.1	11.0	10.5	10.3
REFRIGERANT CHARGE	lbs. / no. of systems	8.5 (2)	9.0 (2)	11.5 (2)	14.0 (2)
COMPRESSOR (HERMETIC)	Quantity	(2)			
CONDENSER COIL Face Area Sq. Ft. / Rows / Fins per inch		23 / 2 /14		23 / 3 / 12	
CONDENSER FANS Quantity / Diameter		(1) / 26"		(2) / 26"	
CONDENSER FAN MOTORS Watts / RPM	EACH	900 / 1100			
EVAPORATOR COIL - Standard Face Area Sq. Ft. / Rows / Fins per inch		11.67 / 2 / 12	11.67 / 3 / 14	11.67 / 4 / 12	11.67 / 6 / 12
EVAPORATOR COIL - 6 Row Face Area Sq. Ft. / Rows / Fins per inch		11.67 / 6 / 12			
EVAPORATOR BLOWER • BELT DRIVE Quantity / Wheel D ia. / Type		(1) / 18.5 / BI			
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 Standard Material / Optional Material		TUBULAR - INDUCED DRAFT / ALUMINIZED STEEL / STAINLESS STEEL			
IGNITION		NON-STANDING , AUTOMATIC , SPARK RELIGHT			
GAS CONNECTION (F.P.T.)		.75			
FILTERS - STANDARD QTY / SIZE		(6) / 16" x 20" x 2" Throwaway		(6) / 16" x 20" x 2" Pleated	
FILTERS - OPTIONAL QTY / SIZE		(6) / 16" x 20" x 2" Pleated (opt. 4")		(6) / 16" x 20" x 4" Pleated	
POWER EXHAUST FANS • BELT DRIVE Quantity / Wheel D x W / Type		(2) / 12 x 9 / FC			
POWER EXH. FAN MOTOR	HP - Standard	(1) 1 HP	(1) 2 HP		
	HP - Oversize	(1) 2 HP	(1) 3 HP		
UNIT NET WEIGHTS		**08**	**10**	**13**	**15**
BASE UNIT (Cooling Only)		960	1130	1250	1300
GAS HEAT EXCHANGER		211			
ELECTRIC HEAT, HOT WATER or STEAM COIL		110			
ECONOMIZER		155			
POWER EXHAUST		240			
HEATWHEEL		420			
VAV (Variable Air Volume)		50		85	
CURB WEIGHTS					
KNOCKDOWN CURB • 14" HIGH / 24" HIGH		160 / 320			
ACOUSTICAL CURB • 14" HIGH / 24" HIGH		200 / 360			
ADJUSTABLE PITCH CURB • 14" HIGH / 24" HIGH		240 / 400			

(1) AT STANDARD A.R.I TEST CONDITIONS. CERTIFIED IN ACCORDANCE WITH THE ARI UNITARY AIR CONDITIONING EQUIPMENT CERTIFICATION PROGRAM WHICH IS BASED ON ARI STANDARD 210.
CERTIFIED IN ACCORDANCE WITH THE ARI LARGE UNITARY AIR CONDITIONING EQUIPMENT CERTIFICATION PROGRAM WHICH IS BASED ON ARI STANDARD 360.

gas heating capacities

TABLE 16 - 1

CABINET	UNIT SIZE	DESIGNATION (1 • 2 • 3)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	MAX. TEMPERATURE RISE (°F) ALUMINIZED	MAX. TEMPERATURE RISE (°F) STAINLESS STEEL
B	08	(1)	180.0	145.8	70° MAX**	100° MAX**
		(2)	270.0	218.7		
		(3)	351.0	284.3		
	10	(1)	180.0	145.8		
		(2)	270.0	218.7		
		(3)	351.0	284.3		
	13	(1)	180.0	145.8		
		(2)	270.0	218.7		
		(3)	390.0	315.9		
	15	(1)	180.0	145.8		
		(2)	270.0	218.7		
		(3)	390.0	315.9		

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

**MAXIMUM DISCHARGE AIR TEMPERATURE IS 160°F.

four stage gas heating capacities

TABLE 16 - 2

UNIT SIZE	Option	1st STAGE Input / Output (MBH)	2nd STAGE Input / Output (MBH)	3rd STAGE Input / Output (MBH)	4th STAGE Input / Output (MBH)
08 • 10	217	42.0 / 34.0	126.0 / 102.0	144.0 / 116.6	180.0 / 145.8
13 • 15	227	63.0 / 51.0	189.0 / 153.1	216.0 / 175.0	270.0 / 218.7
08 • 10	237	113.4 / 91.8	245.7 / 199.0	294.3 / 238.4	351.0 / 284.3
13 • 15	237	126.0 / 102.1	273.0 / 221.1	327.0 / 264.9	390.0 / 315.9

NOTES: 1) To calculate air temperature rise: ΔT = Output capacity / (CFM x 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:
ΔT = Output capacity / (.24 x 60 x specific WT of air x CFM)(Refer to Table 51-2 for information about Specific Weight of Air)
4) Gas pressure supply range (inches of water gauge): Natural 6-10.5 ; Propane 11-13.
5) Gas manifold pressure (inches of water gauge): Natural 3.5; Propane 10.5.
6) Above 2000FT.; Specify "HI ALTITUDE KIT".
7) For two stage heat options, use the 2nd and 4th stage capacities above for 1st and 2nd stage heat values.

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

electric heating capacities

TABLE 16 - 3

SINGLE PHASE

Heating Designation and Unit Availability 08 • 10	No. of Strips	208 / 60 / 1 MBH	208 / 60 / 1 KW	208 / 60 / 1 AMPS	230 / 60 / 1 MBH	230 / 60 / 1 KW	230 / 60 / 1 AMPS
B	2	51.2	15.0	72.0	68.3	20.0	87.0
C	3	76.8	22.5	108.0	102.4	30.0	130.0
D	4	102.4	30.0	144.0	136.6	40.0	174.0

THREE PHASE

Heating Designation and Unit Availability 08 • 10 • 13 • 15	No. of Strips	208 / 60 / 3 MBH	208 / 60 / 3 KW	208 / 60 / 3 AMPS	230 / 60 / 3 MBH	230 / 60 / 3 KW	230 / 60 / 3 AMPS	460 / 60 / 3 MBH	460 / 60 / 3 KW	460 / 60 / 3 AMPS	575 / 60 / 3 MBH	575 / 60 / 3 KW	575 / 60 / 3 AMPS
B	2	51.2	15.0	42.0	68.3	20.0	50.0	68.3	20.0	25.0	68.3	20.0	20.0
C	3	76.8	22.5	62.0	102.4	30.0	75.0	102.4	30.0	38.0	102.4	30.0	30.0
D	4	102.4	30.0	84.0	136.6	40.0	100.0	136.6	40.0	50.0	136.6	40.0	40.0
M	5	128.0	37.5	104.0	170.7	50.0	125.0	170.7	50.0	63.0	170.7	50.0	50.0
E	6	154.0	45.1	125.0	205.2	60.0	150.0	205.2	60.0	75.0	205.2	60.0	60.0

steam heating data

TABLE 17 - 1 • FACE VELOCITY vs. SELECTION FACTOR • 6.3 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	.031	700	.289
300	.064	800	.366
400	.107	900	.451
500	.159	1000	.543
600	.220		

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 ÷ 6.3 = 635 FPM. (SEE TABLE 17 -6 FOR COIL PARAMETERS)

FROM TABLE 17-1: SF = .486 (by interpolation)

FROM TABLE 17-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .486 (218 - 60) = 76.8°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

CONDENSATE LOAD = BTUH ÷ LATENT HEAT @ OPERATING PSIG.

FROM TABLE 17-2: LATENT HEAT = 966.

CONDENSATE LOAD = (1.085 x 76.8 x 4000) ÷ 966 = 345.0 lbs. / hr.

FROM TABLE 17-3: AIR SIDE PRESSURE DROP = .241 (by interpolation)

hot water coil performance data

TABLE 17 - 4 'B' CABINET • 180 ° F EWT , 60 ° F EAT • 6.3 SQ. FT. FACE AREA

C.F.M	ΔP AIR	15 GPM (2.8 ft. ΔP)			20 GPM (4.9 ft. ΔP)			30 GPM (10.9 ft. ΔP)		
		ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH
3000	.14	49.6	21.4	156.3	53.5	17.3	168.2	58.3	12.5	182.4
4000	.24	41.5	24.1	176.0	45.4	19.7	191.5	50.1	14.5	210.7
5000	.35	35.9	26.2	190.9	39.5	21.6	209.7	44.2	16.0	233.2
6000	.49	31.6	27.8	202.8	35.1	23.1	224.3	39.6	17.3	251.8

EXAMPLE: "B" Cabinet with 5000 cfm, 180°F EWT, 60°F EAT, and 15 GPM has a capacity of 190.9 MBH from Table 17-4.
For 190°F EWT and 60°F EAT, the correction factor is 1.08. Actual capacity = 1.08 x 190.9 = 206.2 MBH .

$$\text{NEW } \Delta T\ H_2O = \frac{206{,}200}{(500)\,(GPM)} = \frac{206{,}200}{(500)\,(15)} = 27.5^\circ F$$

$$\text{NEW } \Delta T\ AIR = \frac{206{,}200}{(1.08)\,(CFM)} = \frac{206{,}200}{(1.08)\,(5000)} = 38.0^\circ F$$

TABLE 17 - 5

HOT WATER CORRECTION FACTORS For Other Than 180°F HW & 60°F Air							
AIR TEMP.	WATER TEMPERATURE						
	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

TABLE 17 - 6

COIL PHYSICAL DATA May be used with Heatflow Computer Program		
	STEAM COIL	HOT WATER COIL
Qty / Face Area (Ft^2)	1 / 6.3	
No. of Circuits	27	
Rows Deep	2	
Tubes High	27	
Tube Type	5/8"O.D. x 0.035" Wall • Smooth Tube	
FIN Length	22.5"	
FINS Per Inch	10	
FIN Thickness	0.0075"	0.0055"
FIN Material	ALUMINUM	
FIN Surface	CORRUGATED	
FITTING	1" MPT	7/8" SWT

coil static pressure drops (in. wg.)

TABLE 18 - 1 • 'B' CABINET

• INDOOR COIL •								
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	0.10	0.06	0.25	0.18	0.18	0.10	0.28	0.19
3000	0.12	0.08	0.31	0.24	0.23	0.14	0.35	0.24
3500	0.15	0.10	0.38	0.31	0.28	0.18	0.42	0.31
4000	0.19	0.13	0.44	0.38	0.33	0.22	0.49	0.38
4500					0.39	0.26	0.57	0.46
5000					0.44	0.31	0.64	0.55

• INDOOR COIL •						
C.F.M	13 TON UNIT				15 TON UNIT	
	STANDARD COIL		6 ROW COIL		6 ROW IS STANDARD COIL	
	WET	DRY	WET	DRY	WET	DRY
2500	0.20	0.11	0.30	0.18	0.31	0.15
3000	0.26	0.16	0.38	0.24	0.39	0.22
3500	0.32	0.21	0.45	0.31	0.48	0.30
4000	0.38	0.26	0.54	0.38	0.56	0.38
4500	0.44	0.31	0.62	0.46	0.65	0.46
5000	0.51	0.36	0.71	0.55	0.74	0.55
5500	0.58	0.42	0.79	0.63	0.84	0.63
6000	0.65	0.49	0.88	0.73	0.93	0.73
6500	0.72	0.55	0.97	0.83	1.03	0.83

component static pressure drops (in. wg.)

TABLE 18 - 2 • 'B' CABINET

C.F.M	HEATING SECTION								FILTERS			ECON 100% R/A	Acoustical CURB
	GAS HEAT			ELECTRIC HEAT					2" Throw Away	2" Pleated	4" Pleated		
	HIGH	MEDIUM	LOW	B	C	D	E	M					
2500	0.09	0.07	0.07	0.04	0.04	0.06	0.07	0.06	0.05	0.07	0.06	0.05	0.05
3000	0.13	0.11	0.11	0.06	0.06	0.09	0.09	0.09	0.07	0.09	0.08	0.07	0.06
3500	0.17	0.14	0.14	0.07	0.08	0.11	0.12	0.12	0.08	0.11	0.10	0.09	0.07
4000	0.20	0.17	0.17	0.09	0.11	0.14	0.15	0.14	0.10	0.14	0.12	0.11	0.09
4500	0.24	0.20	0.20	0.11	0.13	0.16	0.18	0.17		0.16	0.14	0.13	0.10
5000	0.28	0.24	0.24	0.13	0.15	0.19	0.21	0.20		0.18	0.16	0.15	0.12
5500	0.32	0.27	0.27	0.15	0.17	0.22	0.24	0.23		0.20	0.18	0.17	0.13
6000	0.36	0.30	0.30	0.16	0.19	0.24	0.27	0.26		0.23	0.20	0.19	0.15
6500	0.40	0.33	0.33	0.18	0.21	0.27	0.30	0.28		0.25	0.22	0.21	0.17

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.

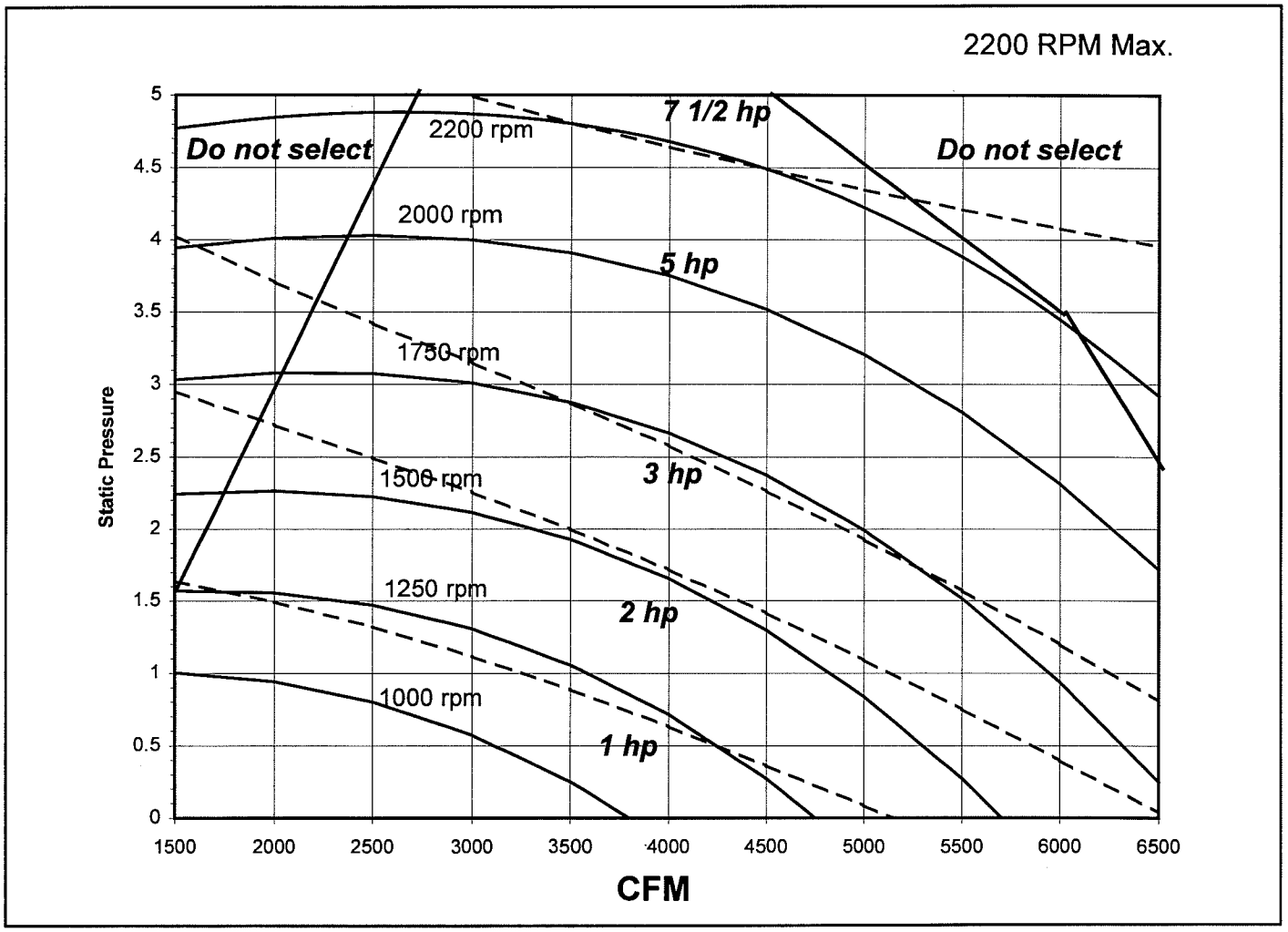
REFER TO TABLE FOR 'HP' TO 'KW' CONVERSION.

INDOOR BLOWER MOTOR DATA				
NOMINAL MOTOR H.P.	PERCENT EFFICIENCY	NOMINAL KW	SERVICE FACTOR	MAXIMUM KW
1	81	0.92	1.15	1.06
2	83	1.80		2.07
3	84	2.66		3.06
5	85	4.39		5.05
7.5	83	6.74		7.75

KW = (0.746 x HP) / (Eff.% / 100)

blower performance

TABLE 19 - 1 • 'B' CABINET • BELT DRIVE • **one 18.5" plenum fan**



***Note:** When inlet vanes are selected, increase the RPM by 6% and recalculate the required motor size at the higher RPM and the same CFM used for the initial selection.*

power exhaust performance

TABLE 19 - 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	1	760	1	860	2	960	2
2000	500	1	650	1	760	2	850	2	950	2
2400	580	1	680	1	780	2	860	2	940	2
2800	660	1	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 20 - 1 • 'B' CABINET •

SINGLE PHASE		208 / 1 / 60				
UNIT SIZE		08			10	
BLOWER MOTOR	(HP)	1.0	2.0	3.0	2.0	3.0
	F.L.A	8.8	13.2	18.7	13.2	18.7
COMPRESSOR 1	F.L.A (ea)	21.8			28.9	
	L.R.A (ea)	131			169	
COMPRESSOR 2	F.L.A (ea)	21.8			28.9	
	L.R.A (ea)	131			169	
CONDENSER FAN MTR	F.L.A (ea)	(1) 5.9 (3/4 Hp mtr)				
COMBUSTION BLOWER MTR	F.L.A (ea)	0.9 (1/16 Hp mtr) or 1.3 (1/4 Hp mtr)				
POWER EXH. MOTOR	F.L.A (HP)	8.8 (1 Hp mtr) or 13.2 (2 Hp mtr)				
COOLING	F.L.A	58	63	68	77	82
	M.C.A	64	68	74	84	90
Max. Overcurrent Protection		80	90		110	
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	67	72	77	86	91
	M.C.A	73	77	82	93	98
	M.O.P	90		100	110	125
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	77	81	86	96	101
	M.C.A	82	87	92	103	108
	M.O.P	100		110	125	
ELEC. HEAT Designation • B •	F.L.A	81	85	91	85	91
	M.C.A	101	106	113	106	113
	M.O.P	110		125	110	125
ELEC. HEAT Designation • C •	F.L.A	117	121	127	121	127
	M.C.A	146	151	158	151	158
	M.O.P	150	175			
ELEC. HEAT Designation • D •	F.L.A	153	157	163	157	163
	M.C.A	191	196	203	196	203
	M.O.P	200		225	200	225

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

TABLE 21 - 1 • 'B' CABINET •

THREE PHASE		208 / 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	4.0	7.5	10.6	7.5	10.6	16.7	10.6	16.7	24.2	10.6	16.7	24.2
COMPRESSOR 1	F.L.A (ea)	12.8			17.3			18.6			22.4		
	L.R.A (ea)	91			137			156			164		
COMPRESSOR 2	F.L.A (ea)	12.8			17.3			18.6			22.4		
	L.R.A (ea)	91			137			156			164		
CONDENSER FAN MTR	F.L.A (ea)	(1) 5.9 (3/4 Hp mtr)						(2) 5.9 (3/4 Hp mtr)					
COMBUSTION BLOWER MTR	F.L.A (ea)	0.9 (1/16 Hp mtr) or 1.3 (1/4 Hp mtr)											
POWER EXH. MOTOR	F.L.A (HP)	4.0 (1 Hp) or 7.5 (2 Hp)			7.5 (2 Hp mtr) or 10.6 (3 Hp mtr)								
COOLING	F.L.A	36	39	42	48	51	57	60	66	73	67	73	81
	M.C.A	39	42	45	52	55	62	64	70	79	73	79	87
Max. Overcurrent Protection		50			70			80		100	90	100	110
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	40	43	46	52	55	61	64	70	77	71	77	85
	M.C.A	43	46	49	56	59	66	68	74	83	77	83	91
	M.O.P	50		60	70		80		90	100	90	100	110
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	47	50	53	59	62	68	71	77	84	78	84	92
	M.C.A	49	53	56	63	66	72	75	81	90	83	90	97
	M.O.P	60			80			90	100	110	100	110	
ELEC. HEAT Designation • B •	F.L.A	45	48	52	48	51	57	60	66	73	67	73	81
	M.C.A	56	61	65	52	55	62	64	70	79	73	79	87
	M.O.P	60	70					80		100	90	100	110
ELEC. HEAT Designation • C •	F.L.A	66	70	73	70	73	79	73	79	86	73	79	86
	M.C.A	82	87	91	87	91	98	91	98	108	91	98	108
	M.O.P	90		100	90	100				110	100	110	
ELEC. HEAT Designation • D •	F.L.A	87	90	94	90	94	100	94	100	107	94	100	107
	M.C.A	109	113	117	113	117	125	117	125	134	117	125	134
	M.O.P	110	125							150	125		150
ELEC. HEAT Designation • M •	F.L.A	108	112	115	112	115	121	115	121	128	115	121	128
	M.C.A	135	139	143	139	143	151	143	151	160	143	151	160
	M.O.P	150					175	150	175		150	175	
ELEC. HEAT Designation • E •	F.L.A	129	132	136	132	136	142	136	142	149	136	142	149
	M.C.A	130	134	138	134	138	146	138	146	155	138	146	155
	M.O.P	150								175	150		175

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

electrical data

TABLE 22 - 1 • 'B' CABINET •

THREE PHASE		230 / 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)	12.8			17.3			18.6			22.4		
	L.R.A (ea)	91			137			156			164		
COMPRESSOR 2	F.L.A (ea)	12.8			17.3			18.6			22.4		
	L.R.A (ea)	91			137			156			167		
CONDENSER FAN MTR	F.L.A (ea)	(1) 5.9 (3/4 Hp mtr)						(2) 5.9 (3/4 Hp mtr)					
COMBUSTION BLOWER MTR	F.L.A (ea)	0.9 (1/16 Hp mtr) or 1.3 (1/4 Hp mtr)											
POWER EXH. MOTOR	F.L.A (HP)	3.6 (1 Hp) or 6.8 (2 Hp)			6.8 (2 Hp mtr) or 9.6 (3 Hp mtr)								
COOLING	F.L.A	35	38	41	47	50	56	59	64	71	66	72	79
	M.C.A	38	42	44	52	54	60	63	69	77	72	77	84
Max. Overcurrent Protection		50			60	70		80		90		100	
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	39	42	45	51	54	60	63	68	75	70	76	83
	M.C.A	42	45	48	55	58	64	67	72	80	75	81	88
	M.O.P	50		60	70		80		90	100	90	100	110
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	45	48	51	57	60	66	69	74	81	76	82	89
	M.C.A	48	51	54	61	64	70	73	78	86	81	87	94
	M.O.P	60			70	80		90		100			110
ELEC. HEAT Designation • B •	F.L.A	54	57	60	57	60	65	61	66	73	66	72	79
	M.C.A	67	71	75	71	75	81	75	81	90	72	77	84
	M.O.P	70	80				90	80	90	100	90	100	
ELEC. HEAT Designation • C •	F.L.A	79	82	85	82	85	90	85	90	97	85	90	97
	M.C.A	98	102	106	102	106	113	103	113	121	103	113	121
	M.O.P	100	110				125	110	125		110	125	
ELEC. HEAT Designation • D •	F.L.A	104	107	110	107	110	115	110	115	122	110	115	122
	M.C.A	129	134	137	134	137	144	137	144	152	137	144	152
	M.O.P	150								175	150		175
ELEC. HEAT Designation • M •	F.L.A	129	132	135	132	135	140	135	140	147	135	140	147
	M.C.A	130	134	137	134	137	144	137	144	152	137	144	152
	M.O.P	150								175	150		175
ELEC. HEAT Designation • E •	F.L.A	154	157	160	157	160	165	160	165	172	160	165	172
	M.C.A	155	159	162	159	162	169	162	169	178	162	169	178
	M.O.P	175								200	175		200

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

TABLE 23 - 1 • 'B' CABINET •

THREE PHASE		460 / 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)	6.4			9.0			9.0			10.9		
	L.R.A (ea)	46			62			70			100		
COMPRESSOR 2	F.L.A (ea)	6.4			9.0			9.0			10.9		
	L.R.A (ea)	46			62			70			100		
CONDENSER FAN MTR	F.L.A (ea)	(1) 2.0 (3/4 Hp mtr)						(2) 2.0 (3/4 Hp mtr)					
COMBUSTION BLOWER MTR	F.L.A (ea)	0.5 (1/16 Hp mtr) or 0.7 (1/4 Hp mtr)											
POWER EXH. MOTOR	F.L.A (HP)	1.8 (1 Hp) or 3.4 (2 Hp)			3.4 (2 Hp mtr) or 4.8 (3 Hp mtr)								
COOLING	F.L.A	17	18	20	23	25	28	27	30	33	31	33	37
	M.C.A	18	20	21	26	27	30	29	32	36	33	36	40
Max. Overcurrent Protection		25			35			40	45		40	45	50
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	19	20	22	25	27	30	29	32	35	33	35	39
	M.C.A	20	22	23	27	29	32	31	34	38	35	38	41
	M.O.P	25			35		40			45			50
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	22	23	25	28	30	33	32	35	38	36	38	42
	M.C.A	23	25	26	30	32	35	34	37	41	38	41	44
	M.O.P	25	30		35	40		45	50		45	50	
ELEC. HEAT Designation • B •	F.L.A	27	28	30	28	30	33	30	33	36	31	33	37
	M.C.A	33	36	37	36	37	41	37	41	45	33	36	40
	M.O.P	35	40				45	40	45	50	40	45	50
ELEC. HEAT Designation • C •	F.L.A	39	40	42	40	42	45	42	45	48	42	45	48
	M.C.A	48	51	52	51	52	56	52	56	60	52	56	60
	M.O.P	50	60					70			60	70	
ELEC. HEAT Designation • D •	F.L.A	52	53	55	53	55	58	55	58	61	55	58	61
	M.C.A	65	67	69	67	69	72	69	72	76	69	72	76
	M.O.P	70					80	70	80		70	80	
ELEC. HEAT Designation • M •	F.L.A	64	65	67	65	67	70	67	70	73	67	70	73
	M.C.A	65	66	68	66	68	71	68	71	76	68	71	76
	M.O.P	70					80	70	80		70	80	
ELEC. HEAT Designation • E •	F.L.A	77	78	80	78	80	83	80	83	86	80	83	86
	M.C.A	78	79	81	79	81	84	81	84	89	81	84	89
	M.O.P	80		90	80	90			100		90		100

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

electrical data

TABLE 24 - 1 • 'B' CABINET •

THREE PHASE		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	1.4	2.7	3.9	2.7	3.9	6.1	3.9	6.1	9.0	3.9	6.1	9.0
COMPRESSOR 1	F.L.A (ea)	5.1			7.1			7.4			8.7		
	L.R.A (ea)	37			50			54			78		
COMPRESSOR 2	F.L.A (ea)	5.1			7.1			7.4			8.7		
	L.R.A (ea)	37			50			54			78		
CONDENSER FAN MTR	F.L.A (ea)	(1) 2.0 (3/4 Hp mtr @ 460v)						(2) 2.0 (3/4 Hp mtr @ 460v)					
COMBUSTION BLOWER MTR	F.L.A (ea)	0.5 (1/16 Hp mtr @ 460v) or 0.7 (1/4 Hp mtr @ 460v)											
POWER EXH. MOTOR	F.L.A (HP)	1.4 (1 Hp) or 2.7 (2 Hp)			2.7 (2 Hp mtr) or 3.9 (3 Hp mtr)								
COOLING	F.L.A	14	15	16	19	20	22	23	25	28	25	28	30
	M.C.A	15	16	17	21	22	24	25	27	30	27	30	33
Max. Overcurrent Protection		20			25			30		35	35		40
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	15	16	17	20	21	23	24	26	29	26	29	31
	M.C.A	16	18	19	22	23	25	26	28	31	29	31	34
	M.O.P	20			25	30		35		40	35	40	
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	18	19	20	23	24	26	27	29	32	29	32	34
	M.C.A	19	20	21	25	26	28	28	31	34	31	34	37
	M.O.P	20	25		30		35			40			45
ELEC. HEAT Designation • B •	F.L.A	21	23	24	23	24	26	24	26	29	25	28	30
	M.C.A	27	28	30	28	30	33	30	33	36	27	30	33
	M.O.P	30		35	30	35				40	35		40
ELEC. HEAT Designation • C •	F.L.A	31	33	34	33	34	36	34	36	39	34	36	39
	M.C.A	39	41	42	41	42	45	42	45	47	42	45	49
	M.O.P	40	45				50	45	50		45	50	
ELEC. HEAT Designation • D •	F.L.A	41	43	44	43	44	46	44	46	49	44	46	49
	M.C.A	52	53	55	53	55	58	55	58	61	55	58	61
	M.O.P	60								70	60		70
ELEC. HEAT Designation • M •	F.L.A	51	53	56	53	54	56	54	56	59	54	56	59
	M.C.A	52	54	55	54	55	58	55	58	61	55	58	61
	M.O.P	60								70	60		70
ELEC. HEAT Designation • E •	F.L.A	61	63	64	63	64	66	64	66	69	64	66	69
	M.C.A	62	64	65	64	65	68	65	68	71	65	68	71
	M.O.P	70								80	70		80

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

TABLE 25 - 1

COIL PHYSICAL DATA May be used with Heatflow Computer Program	
	CHILLED WATER COIL
Qty / Face Area (Ft^2)	1 / 10.83
No. of Circuits	16 (4 row) • 16 (6 row)
Rows Deep	4 & 6
Tubes High	32
Tube Type	1/2"O.D. x 0.017" Wall • Smooth Tube
FIN Length	39.0"
FINS Per Inch	10
FIN Thickness	0.0045"
FIN Material	ALUMINUM
FIN Surface	SINE WAVE
FITTING	1 5/8" SWT

The application cooling capacities of the rooftop air handling units can be calculated by using the AAON Electronic Program.

notes • B cabinet • 8 - 15 ton

specifications • 'C' cabinet

UNIT FEATURES		UNIT SIZE		
		16	20	25
NOMINAL CAPACITY TONS		16	20	25
EER - FULL LOAD (1)		10.5	10.9	10.1
REFRIGERANT CHARGE	lbs. / no. of systems	17.0 (2)	20.0 (2)	20.0 (2)
COMPRESSOR (HERMETIC)	Quantity	(2)		
CONDENSER COIL Face Area Sq. Ft. / Rows / Fins per inch		30 / 3 / 10	30 / 4 / 10	
CONDENSER FANS Quantity / Diameter		(2) / 26"		(3) / 26"
CONDENSER FAN MOTORS Watts / RPM	EACH	900 / 1100		
EVAPORATOR COIL - Standard Face Area Sq. Ft. / Rows / Fins per inch		17.33 / 3 / 12	17.33 / 6 / 9	
EVAPORATOR COIL - 6 Row Face Area Sq. Ft. / Rows / Fins per inch		17.33 / 6 / 9		
EVAPORATOR BLOWER • BELT DRIVE Quantity / Wheel Dia. / Type		(1) 24.5 / BI	(1) 27.0 / BI	
EVAP. BLOWER MOTOR	HP - Standard	(1) 3		(1) 5
	HP - Oversize	(1) 5		(1) 7.5
	HP - Double Oversize	(1) 7.5		(1) 10
GAS FURNACES • TYPE Standard Material / Optional Material		TUBULAR - INDUCED DRAFT ALUMINIZED STEEL / STAINLESS STEEL		
IGNITION		NON-STANDING , AUTOMATIC , SPARK RELIGHT		
GAS CONNECTION (F.P.T.)		.75		
FILTERS - STANDARD QTY / SIZE	PLEATED	(2) / 16" x 25" x 2" (4) / 20" x 25" x 2" (optional 4")		
POWER EXHAUST FANS • BELT DRIVE Quantity / Wheel D x W / Type		(2) / 12 x 9 / FC		
POWER EXH. FAN MOTOR	HP - Standard	(1) 3 HP		
	HP - Oversize	(1) 5 HP		
UNIT NET WEIGHTS		16	20	25
BASE UNIT (Cooling Only)		1652	1815	1860
GAS HEAT EXCHANGER		251		
ELECTRIC HEAT, HOT WATER or STEAM COIL		125		
ECONOMIZER		228		
POWER EXHAUST		360		
HEATWHEEL		630		
VAV (Variable Air Volume)		85	125	
CURB WEIGHTS				
KNOCKDOWN CURB • 14" HIGH / 24" HIGH		180 / 360		
ACOUSTICAL CURB • 14" HIGH / 24" HIGH		230 / 410		
ADJUSTABLE PITCH CURB • 14" HIGH / 24" HIGH		295 / 485		

(1) AT STANDARD A.R.I TEST CONDITIONS. CERTIFIED IN ACCORDANCE WITH THE ARI LARGE UNITARY AIR CONDITIONING EQUIPMENT CERTIFICATION PROGRAM WHICH IS BASED ON ARI STANDARD 360.

MODELS LISTED ABOVE 250,000 BTU/H ARE RATED IN ACCORDANCE WITH ARI STANDARD 360.

gas heating capacities

TABLE 27 - 1

CABINET	UNIT SIZE	DESIGNATION (1 • 2 • 3)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	MAX. TEMPERATURE RISE (°F) ALUMINIZED	MAX. TEMPERATURE RISE (°F) STAINLESS STEEL
C	16	(1)	270.0	218.7	70° MAX**	100° MAX**
		(2)	390.0	315.9		
		(3)	480.0	388.8		
	20	(1)	270.0	218.7		
		(2)	390.0	315.9		
		(3)	480.0	388.8		
	25	(1)	270.0	218.7		
		(2)	390.0	315.9		
		(3)	480.0	388.8		

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

**MAXIMUM DISCHARGE AIR TEMPERATURE IS 160°F.

four stage gas heating capacities

TABLE 27 - 2

UNIT SIZE	Option	1st STAGE Input / Output (MBH)	2nd STAGE Input / Output (MBH)	3rd STAGE Input / Output (MBH)	4th STAGE Input / Output (MBH)
16 • 20 • 25	217	63.0 / 51.0	189.0 / 153.1	216.0 / 175.0	270.0 / 218.7
	227	126.0 / 102.1	273.0 / 221.1	327.0 / 264.9	390.0 / 315.9
	237	168.0 / 136.1	336.0 / 272.2	408.0 / 330.5	480.0 / 388.8

NOTES: 1) To calculate air temperature rise: ΔT = Output capacity / (CFM x 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:
ΔT = Output capacity / (.24 x 60 x specific WT of air x CFM)(Refer to Table 51-2 for information about Specific Weight of Air)
4) Gas pressure supply range (inches of water gauge): Natural 6-10.5 ; Propane 11-13.
5) Gas manifold pressure (inches of water gauge): Natural 3.5; Propane 10.5.
6) Above 2000FT.; Specify "HI ALTITUDE KIT".
7) For two stage heat options, use the 2nd and 4th stage capacities above for 1st and 2nd stage heat values.

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

electric heating capacities

TABLE 27 - 3

THREE PHASE

Heating Designation and Unit Availability 16 • 20 • 25	No. of Strips	208 / 60 / 3			230 / 60 / 3			460 / 60 / 3			575 / 60 / 3		
		MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
B	2	51.2	15.0	42.0	68.3	20.0	50.0	68.3	20.0	25.0	68.3	20.0	20.0
D	4	102.4	30.0	84.0	136.6	40.0	100.0	136.6	40.0	50.0	136.6	40.0	40.0
E	6	154.0	45.1	125.0	205.2	60.0	150.0	205.2	60.0	75.0	205.2	60.0	60.0
F	8	205.2	60.1	167.0	273.2	80.0	200.0	273.2	80.0	100.0	273.2	80.0	80.0
G	10	256.5	75.1	208.0	341.5	100.0	250.0	341.5	100.0	125.0	341.5	100.0	100.0

steam heating data

TABLE 28 - 1 • FACE VELOCITY vs. SELECTION FACTOR • 6.3 SQ. FT. FACE AREA

FV (fpm)	SF	FV (fpm)	SF	FV (fpm)	SF
500	.405	775	.328	1050	.278
525	.396	800	.320	1075	.276
550	.388	825	.316	1100	.274
575	.380	850	.313	1125	.273
600	.373	875	.305	1150	.271
625	.366	900	.300	1175	.269
650	.358	925	.296	1200	.268
675	.350	950	.292	1225	.266
700	.345	975	.288	1250	.265
725	.340	1000	.285	1275	.263
750	.335	1025	.282	1300	.262

TABLE 28 - 2

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

TABLE 28 - 3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
500	.12	1000	.39
600	.16	1100	.46
700	.21	1200	.54
800	.26	1300	.62
900	.32		

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 ÷ 6.3 = 952 FPM. (SEE TABLE 28 - 6 FOR COIL PARAMETERS)

FROM TABLE 28-1: SF = .292 (by interpolation)

FROM TABLE 28-2: SST = 218°F.

TEMPERATURE RISE = SF (SST - EAT) = .292(218 - 60) = 46.1°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT.

CONDENSATE LOAD = BTUH ÷ LATENT HEAT @ OPERATING PSIG.

FROM TABLE 28-2: LATENT HEAT = 966.

CONDENSATE LOAD = (1.085 x 46.1 x 6000) ÷ 966 = 310.7 lbs. / hr.

FROM TABLE 28-3: AIR SIDE PRESSURE DROP = .36 (by interpolation)

hot water coil performance data

TABLE 28 - 4 'C' CABINET • 180 ° F EWT, 60 ° F EAT • 7.3 SQ. FT. FACE AREA

C.F.M	ΔP AIR	30 GPM (2.1 ft. ΔP)			40 GPM (3.0 ft. ΔP)			50 GPM (4.2 ft. ΔP)		
		ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH
5000	.28	51.1	18.4	268.2	53.6	14.4	280.5	55.2	11.9	288.6
6000	.38	46.2	20.1	292.4	48.7	15.8	307.5	50.4	13.1	317.4
7000	.51	42.3	21.5	313.3	44.8	17.0	330.8	46.4	14.1	342.5
8000	.64	39.0	22.7	331.5	41.5	18.1	351.4	43.1	15.0	364.7
9000	.79	36.3	23.8	347.6	38.7	19.0	369.7	40.3	15.8	384.6
10000	.95	33.9	24.8	362.0	36.3	19.9	386.2	37.9	16.6	402.6

EXAMPLE: "C" Cabinet with 6000 cfm, 180°F EWT, 60°F EAT, and 30 GPM has a capacity of 292.4 MBH from Table 28-4.
For 190°F EWT and 60°F EAT, the correction factor is 1.08. Actual capacity = 1.08 x 292.4 = 315.8 MBH.

$$\text{NEW } \Delta T\ H_2O = \frac{315{,}800}{(500)\ (GPM)} = \frac{315{,}800}{(500)\ (30)} = 21.1°\ F$$

$$\text{NEW } \Delta T\ AIR = \frac{315{,}800}{(1.08)\ (CFM)} = \frac{315{,}800}{(1.08)\ (6000)} = 48.5°\ F$$

TABLE 28 - 5

HOT WATER CORRECTION FACTORS For Other Than 180°F HW & 60°F Air							
AIR TEMP.	WATER TEMPERATURE						
	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

TABLE 28 - 6

COIL PHYSICAL DATA May be used with Heatflow Computer Program		
	STEAM COIL	HOT WATER COIL
Qty / Face Area (Ft^2)	1 / 6.3	1 / 7.3
No. of Circuits	15	
Rows Deep	2	
Tubes High	30	
Tube Type	5/8"O.D. x 0.035" Wall • Smooth Tube	
FIN Length	21.5"	23.25"
FINS Per Inch	6	10
FIN Thickness	0.0075"	0.0055"
FIN Material	ALUMINUM	
FIN Surface	CORRUGATED	
FITTING	2" MPT	1 5/8" SWT

coil static pressure drops (in. wg.)

TABLE 29 - 1 • 'C' CABINET

• INDOOR COIL •								
C.F.M	16 TON UNIT				20 TON UNIT		25 TON UNIT	
	STANDARD COIL		6 ROW COIL		6 ROW IS STANDARD COIL		6 ROW IS STANDARD COIL	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY
5000	0.22	0.15	0.31	0.24	0.32	0.25	0.35	0.24
5500	0.25	0.17	0.35	0.28	0.36	0.28	0.40	0.28
6000	0.29	0.20	0.39	0.32	0.41	0.32	0.45	0.32
6500	0.32	0.22	0.43	0.36	0.45	0.36	0.50	0.36
7000	0.35	0.25	0.47	0.40	0.50	0.40	0.56	0.40
7500	0.39	0.28	0.52	0.45	0.55	0.45	0.61	0.45
8000	0.43	0.31	0.57	0.50	0.60	0.50	0.67	0.50
8500	0.46	0.34	0.61	0.55	0.65	0.55	0.73	0.55
9000	0.50	0.37	0.66	0.60	0.70	0.60	0.79	0.60
9500	0.54	0.40	0.71	0.65	0.75	0.65	0.85	0.65

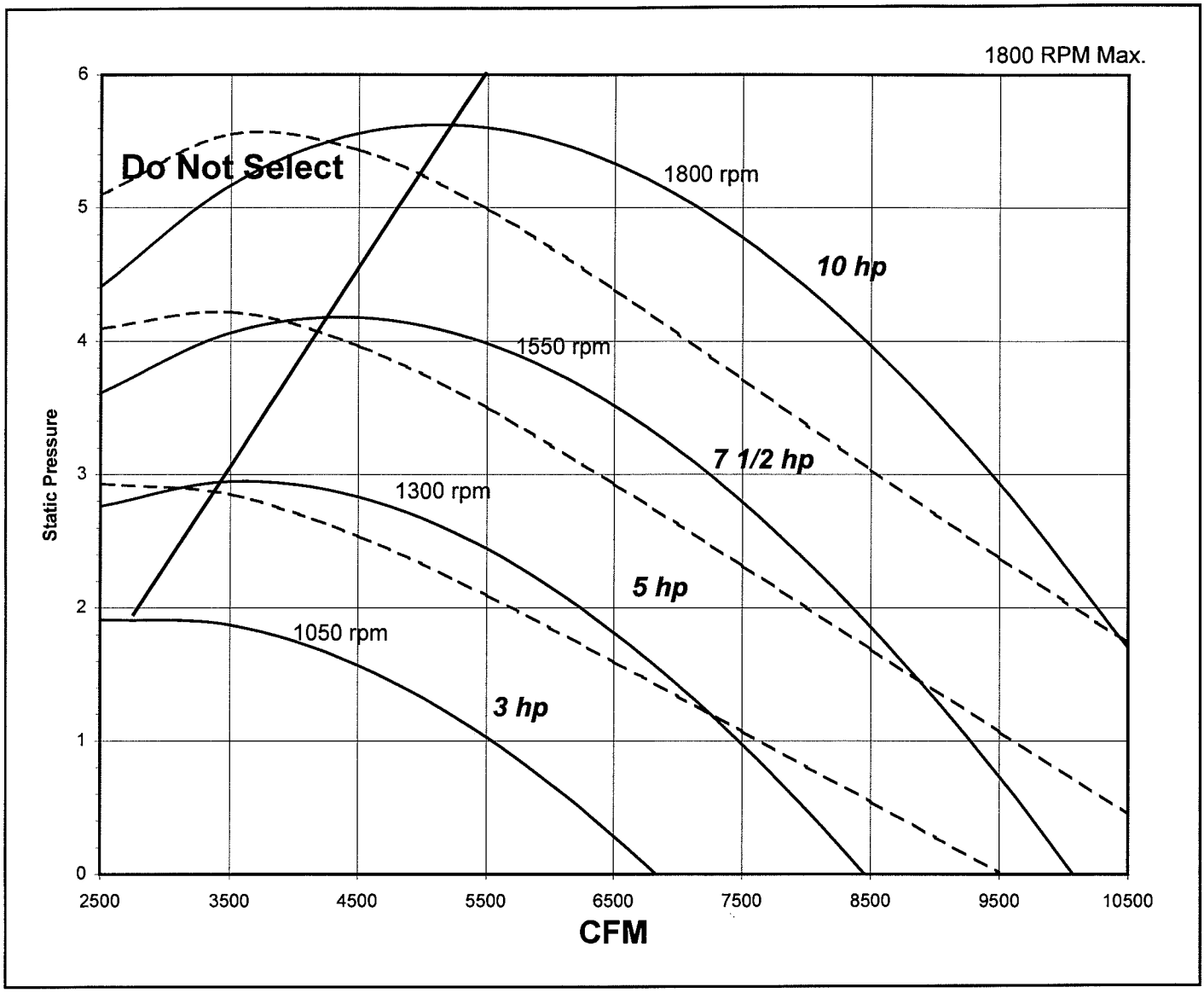
component static pressure drops (in. wg.)

TABLE 29 - 2 • 'C' CABINET

C.F.M	HEATING SECTION								FILTERS		ECON 100% R/A	Acoustical CURB
	GAS HEAT			ELECTRIC HEAT					2" Pleated	4" Pleated		
	HIGH	MEDIUM	LOW	B	D	E	F	G				
5000	0.11	0.08	0.08	0.07	0.09	0.11	0.11	0.12	0.11	0.11	0.07	0.06
5500	0.13	0.10	0.10	0.08	0.10	0.13	0.13	0.14	0.13	0.12	0.08	0.06
6000	0.15	0.12	0.12	0.09	0.12	0.15	0.15	0.16	0.15	0.14	0.09	0.07
6500	0.17	0.13	0.13	0.10	0.14	0.17	0.17	0.18	0.16	0.15	0.10	0.08
7000	0.19	0.15	0.15	0.11	0.15	0.19	0.19	0.21	0.18	0.17	0.11	0.09
7500	0.21	0.16	0.16	0.12	0.17	0.21	0.21	0.23	0.20	0.18	0.12	0.10
8000	0.23	0.18	0.18	0.13	0.19	0.23	0.23	0.25	0.22	0.20	0.13	0.10
8500	0.25	0.20	0.20	0.15	0.20	0.25	0.25	0.27	0.23	0.21	0.14	0.11
9000	0.27	0.21	0.21	0.16	0.22	0.27	0.28	0.29	0.25	0.23	0.15	0.12
9500	0.29	0.23	0.23	0.17	0.23	0.29	0.30	0.32	0.27	0.24	0.16	0.13

blower performance

TABLE 30 - 1 • 'C' CABINET • BELT DRIVE **RK 16 • (1) 24.5" plenum fan**



Note: When inlet vanes are selected, increase the RPM by 6% and recalculate the required motor size at the higher RPM and the same CFM used for the initial selection.

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.

REFER TO TABLE FOR 'HP' TO 'KW' CONVERSION.

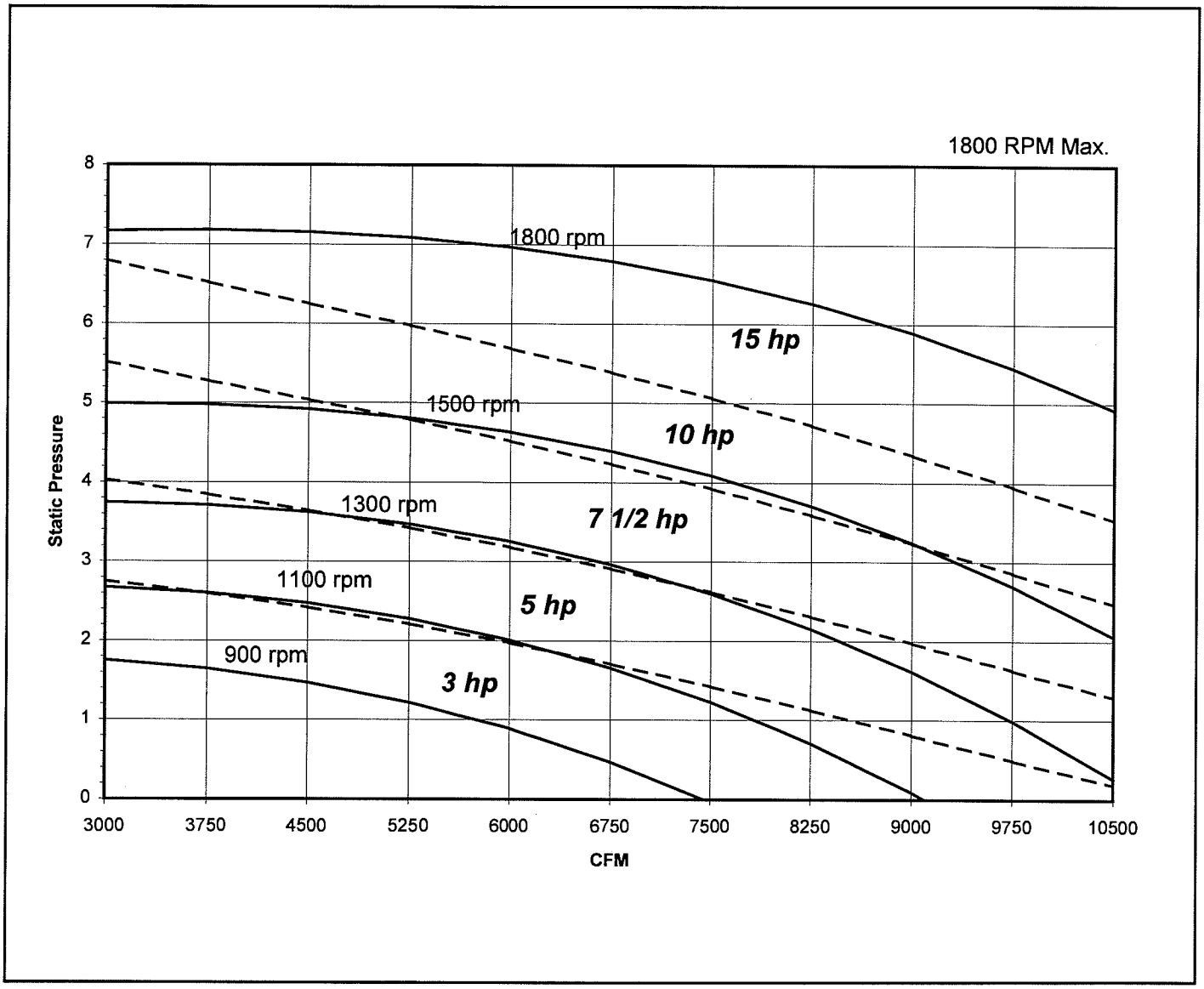
INDOOR BLOWER MOTOR DATA				
NOMINAL MOTOR H.P.	PERCENT EFFICIENCY	NOMINAL KW	SERVICE FACTOR	MAXIMUM KW
3	84	2.66	1.15	3.06
5	85	4.39		5.05
7.5	83	6.74		7.75
10	86	8.67		9.98
15	88	12.72		14.62

KW = (0.746 x HP) / (Eff.% / 100)

blower performance

TABLE 31 - 1 • 'C' CABINET • BELT DRIVE

RK 20 & 25 ton • (1) 27.0" plenum fan



Note: When inlet vanes are selected, increase the RPM by 6% and recalculate the required motor size at the higher RPM and the same CFM used for the initial selection.

TABLE 31 - 2 • 'C' CABINET • BELT DRIVE

power exhaust performance

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 32 - 1 • 'C' CABINET

208 / 3 / 60										
UNIT SIZE		16			20			25		
BLOWER MOTOR	(HP)	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0
	F.L.A	10.6	16.7	24.2	10.6	16.7	24.2	16.7	24.2	30.8
COMPRESSOR 1	F.L.A (ea)	28.9			30.1			41.0		
	L.R.A (ea)	195			225			350		
COMPRESSOR 2	F.L.A (ea)	28.9			30.1			37.8		
	L.R.A (ea)	195			225			244		
CONDENSER FAN MTR	F.L.A (ea)	(2) 5.9 (3/4 Hp mtr)						(3) 5.9 (3/4 Hp mtr)		
COMBUSTION BLOWER MTR	F.L.A (ea)	1.3 (1/4 Hp mtr)								
POWER EXH. MOTOR	F.L.A (HP)	10.6 (3 Hp mtr) or 16.7 (5 Hp mtr)								
COOLING	F.L.A	80	86	94	83	89	96	113	121	127
	M.C.A	87	94	101	90	96	104	123	131	138
Max. Overcurrent Protection		110		125	110	125		150		175
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	88	94	102	90	96	104	120	128	134
	M.C.A	95	101	109	98	104	111	131	138	145
	M.O.P	110	125					150	175	
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	97	103	111	100	106	113	130	138	144
	M.C.A	104	110	118	107	113	120	140	148	154
	M.O.P	125					150	175		
ELEC. HEAT Designation • B •	F.L.A	80	86	94	83	89	96	113	121	127
	M.C.A	87	94	101	90	96	104	123	131	138
	M.O.P	110		125	110	125		150		175
ELEC. HEAT Designation • D •	F.L.A	94	100	107	94	100	107	116	124	130
	M.C.A	117	125	134	117	125	134	126	134	142
	M.O.P	125		150	150		175	150	175	
ELEC. HEAT Designation • E •	F.L.A	136	142	149	136	142	149	142	149	156
	M.C.A	138	146	155	138	146	155	146	155	163
	M.O.P	150		175	150		175	150	175	
ELEC. HEAT Designation • F •	F.L.A	177	183	190	177	183	190	183	190	197
	M.C.A	179	187	196	179	187	196	187	196	204
	M.O.P	200								225
ELEC. HEAT Designation • G •	F.L.A	219	225	232	218	225	232	225	232	239
	M.C.A	221	229	238	221	229	238	229	238	246
	M.O.P	225	250		225	250				

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

TABLE 33 - 1 • 'C' CABINET

230 / 3 / 60										
UNIT SIZE		16			20			25		
BLOWER MOTOR	(HP)	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0
	F.L.A	9.6	15.2	22.0	9.6	15.2	22.0	15.2	22.0	28.0
COMPRESSOR 1	F.L.A (ea)	28.9			30.1			41.0		
	L.R.A (ea)	195			225			350		
COMPRESSOR 2	F.L.A (ea)	28.9			30.1			37.8		
	L.R.A (ea)	195			225			244		
CONDENSER FAN MTR	F.L.A (ea)	(2) 5.9 (3/4 Hp mtr)						(3) 5.9 (3/4 Hp mtr)		
COMBUSTION BLOWER MTR	F.L.A (ea)	1.3 (1/4 Hp mtr)								
POWER EXH. MOTOR	F.L.A (HP)	9.6 (3 Hp mtr) or 15.2 (5 Hp mtr)								
COOLING	F.L.A	79	85	92	82	87	94	112	118	124
	M.C.A	86	92	99	89	95	102	122	129	135
Max. Overcurrent Protection		110		125	110		125	150		175
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	86	92	99	89	94	101	119	125	131
	M.C.A	93	99	106	96	102	108	129	136	142
	M.O.P	110	125					150	175	
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	94	100	107	97	102	109	127	133	139
	M.C.A	102	107	114	104	110	117	137	144	150
	M.O.P	125						175		
ELEC. HEAT Designation • B •	F.L.A	79	85	92	82	87	94	112	118	124
	M.C.A	86	92	99	89	95	102	122	129	135
	M.O.P	110		125	110		125	150		175
ELEC. HEAT Designation • D •	F.L.A	110	115	122	110	115	122	115	122	128
	M.C.A	137	144	152	137	144	152	144	152	160
	M.O.P	150		175	150			175		
ELEC. HEAT Designation • E •	F.L.A	160	165	172	160	165	172	165	172	178
	M.C.A	162	169	178	162	169	178	169	178	185
	M.O.P	175		200	175		200	200		
ELEC. HEAT Designation • F •	F.L.A	210	215	222	210	215	222	215	222	228
	M.C.A	212	219	228	212	219	228	219	228	235
	M.O.P	225		250	225		250	225	250	
ELEC. HEAT Designation • G •	F.L.A	261	266	273	261	265	273	266	273	279
	M.C.A	263	270	278	263	270	278	270	278	286
	M.O.P	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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

electrical data

TABLE 34 - 1 • 'C' CABINET

460 / 3 / 60										
UNIT SIZE		16			20			25		
BLOWER MOTOR	(HP)	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0
	F.L.A	4.8	7.6	11.0	4.8	7.6	11.0	7.6	11.0	14.0
COMPRESSOR 1	F.L.A (ea)	14.7			15.5			21.8		
	L.R.A (ea)	95			114			158		
COMPRESSOR 2	F.L.A (ea)	14.7			15.5			17.2		
	L.R.A (ea)	95			114			125		
CONDENSER FAN MTR	F.L.A (ea)	(2) 2.0 (3/4 Hp mtr)						(3) 2.0 (3/4 Hp mtr)		
COMBUSTION BLOWER MTR	F.L.A (ea)	0.7 (1/4 Hp mtr)								
POWER EXH. MOTOR	F.L.A (HP)	4.8 (3 Hp mtr) or 7.6 (5 Hp mtr)								
COOLING	F.L.A	38	41	44	40	43	46	53	56	59
	M.C.A	42	45	48	44	46	50	58	61	64
Max. Overcurrent Protection		50		60	50		60		80	
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	41	44	47	43	46	49	56	59	62
	M.C.A	45	48	51	47	50	53	61	65	68
	M.O.P	60						80		90
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	46	49	52	48	51	54	61	64	67
	M.C.A	49	52	56	51	54	57	66	69	72
	M.O.P	60		70	60		70	80		90
ELEC. HEAT Designation • B •	F.L.A	38	41	44	40	43	46	53	56	59
	M.C.A	42	45	48	44	46	50	58	61	64
	M.O.P	50		60	50		60		80	
ELEC. HEAT Designation • D •	F.L.A	55	58	61	55	58	61	58	61	64
	M.C.A	69	72	76	69	72	76	72	76	80
	M.O.P	70	80		70	80				90
ELEC. HEAT Designation • E •	F.L.A	80	83	86	80	83	86	83	86	89
	M.C.A	81	84	89	81	84	89	84	89	92
	M.O.P	90		100	90		100	90	100	
ELEC. HEAT Designation • F •	F.L.A	105	108	111	105	108	111	108	111	114
	M.C.A	106	109	114	106	109	114	109	114	118
	M.O.P	110		125	110		125	110	125	
ELEC. HEAT Designation • G •	F.L.A	130	133	136	130	133	136	133	136	139
	M.C.A	131	134	139	131	134	139	134	139	142
	M.O.P	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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

TABLE 35 - 1 • 'C' CABINET

575 / 3 / 60										
UNIT SIZE		16			20			25		
BLOWER MOTOR	(HP)	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0
	F.L.A	3.9	6.1	9.0	3.9	6.1	9.0	6.1	9.0	11.0
COMPRESSOR 1	F.L.A (ea)	10.8			12.1			17.3		
	L.R.A (ea)	80			80			125		
COMPRESSOR 2	F.L.A (ea)	10.8			12.1			12.4		
	L.R.A (ea)	80			80			80		
CONDENSER FAN MTR	F.L.A (ea)	(2) 2.0 (3/4 Hp @ 460v)**						(3) 2.0 (3/4 Hp @ 460v)**		
COMBUSTION BLOWER MTR	F.L.A (ea)	0.7 (1/4 Hp mtr)								
POWER EXH. MOTOR	F.L.A (HP)	3.9 (3 Hp mtr) or 6.1 (5 Hp mtr)								
COOLING	F.L.A	30	32	35	32	34	37	42	45	47
	M.C.A	32	35	37	35	37	40	46	49	51
Max. Overcurrent Protection		40	45		50			60		
COOLING w/ HEATWHEEL STD. EXH. MTR	F.L.A	33	35	38	35	37	40	45	48	50
	M.C.A	35	37	40	38	40	43	49	52	54
	M.O.P	45		50				60		70
COOLING w/ HEATWHEEL O/S EXH. MTR	F.L.A	36	38	41	38	40	43	48	51	53
	M.C.A	38	41	43	41	44	46	52	55	57
	M.O.P	45	50					70		
ELEC. HEAT Designation • B •	F.L.A	30	32	35	32	34	37	42	45	47
	M.C.A	32	35	37	35	37	40	46	49	51
	M.O.P	40	45		50			60		
ELEC. HEAT Designation • D •	F.L.A	44	46	49	44	46	49	46	49	51
	M.C.A	55	58	61	55	58	61	58	61	64
	M.O.P	60		70	60		70	60	70	
ELEC. HEAT Designation • E •	F.L.A	64	66	69	64	66	69	66	69	71
	M.C.A	65	68	71	65	68	71	68	71	74
	M.O.P	70		80	70		80	70	80	
ELEC. HEAT Designation • F •	F.L.A	84	86	89	84	86	89	86	89	91
	M.C.A	85	88	91	85	88	91	88	91	94
	M.O.P	90		100	90		100	90	100	
ELEC. HEAT Designation • G •	F.L.A	104	106	109	104	106	109	106	109	111
	M.C.A	105	108	111	105	108	111	108	111	114
	M.O.P	110		125	110		125	110	125	

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.***

NOTE: ***SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.***

***** 460 VAC CONDENSER AND COMBUSTION BLOWER MOTORS ARE USED WITH A STEP DOWN TRANSFORMER. THE INDICATED 575V VALUE ASSUMES NO LOSS THROUGH TRANSFORMER AND 100% POWER FACTOR.***

air handling units - chilled water coils

TABLE 36 - 1

COIL PHYSICAL DATA May be used with Heatflow Computer Program	
	CHILLED WATER COIL
Qty / Face Area (Ft^2)	1 / 15.83
No. of Circuits	38 (4 row) • 38 (6 row)
Rows Deep	4 & 6
Tubes High	38
Tube Type	1/2"O.D. x 0.017" Wall • Smooth Tube
FIN Length	48.0"
FINS Per Inch	10
FIN Thickness	0.0045"
FIN Material	ALUMINUM
FIN Surface	SINE WAVE
FITTING	2 1/8" SWT

The application cooling capacities of the rooftop air handling units can be calculated by using the AAON Electronic Program.

notes • C cabinet • 16 - 25 ton

specifications • 'D' cabinet

UNIT FEATURES	UNIT SIZE				
	26	30	40	50	60
NOMINAL CAPACITY TONS	26	30	40	50	60
EER - FULL LOAD ①	10.4	9.6	9.7	8.3	8.2
REFRIGERANT CHARGE lbs./ no. of systems	12.5 (4)	12.5 (4)	20.5 (4)	19.0 (4)	26.0 (4)
COMPRESSOR (HERMETIC) Quantity	(4)				
CONDENSER COIL Face Area Sq. Ft. / Rows / Fins per inch	59 / 2 /12		59 / 3 / 12	59 / 4 / 12	
CONDENSER FANS Quantity / Diameter	(2) / 36"			(2) / 36"	
CONDENSER FAN MOTORS HP / RPM EACH	1 HP / 1140	2 HP / 1140		3 HP / 1140	
EVAPORATOR COIL - Standard Face Area Sq. Ft. / Rows / Fins per inch	31.0 / 3 /12		31.0 / 4 /12	38.6 / 4 / 12	38.6 / 6 / 12
EVAPORATOR COIL - 6 Row Face Area Sq. Ft. / Rows / Fins per inch	31.0 / 6 / 12			38.6 / 6 / 12	
EVAPORATOR BLOWER • BELT DRIVE Quantity / Wheel Dia. / Type / Inlet	(2) 24.5 / BI / SINGLE		(2) / 27.0 / BI / SINGLE Optional: (2) / 27.0 / BI / DOUBLE		
EVAP. BLOWER MOTOR HP - Standard	(2) 2	(2) 3		(2) 5	(2) 7.5
EVAP. BLOWER MOTOR HP - Oversize	(2) 3	(2) 5		(2) 7.5	(2) 10
EVAP. BLOWER MOTOR HP - Double Oversize	(2) 5	(2) 7.5		(2) 10	(2) 15
GAS FURNACES • TYPE Standard Material / Optional Material	TUBULAR - INDUCED DRAFT / ALUMINIZED STEEL / STAINLESS STEEL				
IGNITION	NON-STANDING , AUTOMATIC , SPARK RELIGHT				
GAS CONNECTION (F.P.T.)	2 @ .75				
FILTERS - STANDARD QTY / SIZE PLEATED	(10) 20" x 25" x 2" (optional 4")			(12) 20" x 25" x 2" (optional 4")	
POWER EXHAUST • Extended Curb Required • PROPELLER FANS	(1) or (2) 36" DIRECT DRIVE PROP. EXH. FANS (1) or (2) 3 HP MTR. • 1140 RPM EA. •				
POWER EXHAUST • Extended Curb Required • PLENUM FANS Qty. / Wheel Dia. / Type	(2) / 27.0 / BI				
POWER EXHAUST • Extended Curb Required • BELT DRIVE MOTORS	(2) 3 HP - Standard			(2) 5 HP - Standard	
POWER EXHAUST • Extended Curb Required • BELT DRIVE MOTORS	(2) 5 HP - Oversize			(2) 7.5 HP - Oversize	
UNIT NET WEIGHTS	26	30	40	50	60
BASE UNIT (Cooling Only)	3410	3500	3900	4250	4475
GAS HEAT EXCHANGER	370				
ELECTRIC HEAT, HOT WATER or STEAM COIL	250				
ECONOMIZER	383				
POWER EXHAUST • PROP / BI	600 / 900				
HEATWHEEL • 9000 cfm wheel / 12,000 cfm wheel	1150 / 2100				
VAV (Variable Air Volume)	250				
CURB WEIGHTS					
KNOCKDOWN CURB • 14" / 24" HIGH	360 / 710				
ACOUSTICAL CURB • 14" / 24" HIGH	480 / 830				
POWER EXH. EXTENDED CURB • 14" / 24"	580 / 990				
ADJUSTABLE PITCH CURB • 14" / 24" HIGH	600 / 950				

① MODELS LISTED ABOVE 250,000 BTU/H ARE RATED IN ACCORDANCE WITH ARI STANDARD 360.

gas heating capacities

TABLE 38 - 1

CABINET	UNIT SIZE	DESIGNATION (1 • 2 • 3)*	HEATING INPUT (MBH)	OUTPUT CAPACITY (MBH)	MAX. TEMPERATURE RISE (°F) ALUMINIZED	MAX. TEMPERATURE RISE (°F) STAINLESS STEEL
D	26	(1)	540.0	437.4	70° MAX**	100° MAX**
		(3)	780.0	631.8		
	30	(1)	540.0	437.4		
		(3)	780.0	631.8		
	40	(1)	540.0	437.4		
		(3)	780.0	634.8		
	50	(1)	540.0	437.4		
		(3)	780.0	631.8		
	60	(1)	540.0	437.4		
		(3)	780.0	631.8		

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

**MAXIMUM DISCHARGE AIR TEMPERATURE IS 160°F.

four stage gas heating capacities

TABLE 38 - 2

UNIT SIZE	Option	1st STAGE Input / Output (MBH)	2nd STAGE Input / Output (MBH)	3rd STAGE Input / Output (MBH)	4th STAGE Input / Output (MBH)
26 • 30 • 40 50 • 60	217	126.0 / 102.0	378.0 / 306.2	432.0 / 349.9	540.0 / 437.4
	237	252.0 / 204.1	546.0 / 442.3	654.0 / 529.7	780.0 / 631.8

NOTES:
1) To calculate air temperature rise: ΔT = Output capacity / (CFM x 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: ΔT = Output capacity / (.24 x 60 x specific WT of air x CFM)(Refer to Table 51-2 for information about Specific Weight of Air)
4) Gas pressure supply range (inches of water gauge): Natural 6-10.5 ; Propane 11-13.
5) Gas manifold pressure (inches of water gauge): Natural 3.5; Propane 10.5.
6) Above 2000FT.; Specify "HI ALTITUDE KIT".
7) For two stage heat options, use the 2nd and 4th stage capacities above for 1st and 2nd stage heat values.

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

electric heating capacities

TABLE 38 - 3

THREE PHASE

Heating Designation and Unit Availability		No. of Strips	208 / 60 / 3			230 / 60 / 3			460 / 60 / 3			575 / 60 / 3		
26	30 • 40 • 50 • 60		MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS	MBH	KW	AMPS
D	D	4	102.4	30.0	84.0	136.6	40.0	100.0	136.6	40.0	50.0	136.6	40.0	40.0
F	F	8	205.2	60.1	167.0	273.2	80.0	200.0	273.2	80.0	100.0	273.2	80.0	80.0
H	H	12	307.7	90.1	250.0	410.1	120.0	300.0	410.1	120.0	150.0	410.1	120.0	120.0
J	J	16	410.1	120.1	333.0	546.4	160.0	400.0	546.4	160.0	200.0	546.4	160.0	160.0
	K	20	512.2	150.2	417.0	683.0	200.0	500.0	683.0	200.0	250.0	683.0	200.0	200.0

steam heating data

TABLE 39 - 1 • FACE VELOCITY vs. SELECTION FACTOR • 12.5 SQ. FT. FACE AREA

FV (fpm)	SF	FV (fpm)	SF	FV (fpm)	SF
500	.405	775	.328	1050	.278
525	.396	800	.320	1075	.276
550	.388	825	.316	1100	.274
575	.380	850	.313	1125	.273
600	.373	875	.305	1150	.271
625	.366	900	.300	1175	.269
650	.358	925	.296	1200	.268
675	.350	950	.292	1225	.266
700	.345	975	.288	1250	.265
725	.340	1000	.285	1275	.263
750	.335	1025	.282	1300	.262

TABLE 39 - 2

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

TABLE 39 - 3

PRESSURE DROP AIR SIDE			
FV (FPM)	ΔP AIR (in. WC)	FV (FPM)	ΔP AIR (in. WC)
500	.12	1000	.39
600	.16	1100	.46
700	.21	1200	.54
800	.26	1300	.62
900	.32		

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 ÷ 12.5 = 800 FPM. (SEE TABLE 39 - 6 FOR COIL PARAMETERS)

FROM TABLE 39-1: SF = .320 (by interpolation)
FROM TABLE 39-2: SST = 218°F. TEMPERATURE RISE = SF (SST - EAT) = .320 (218 - 60) = 50.6°F.

CONDENSATE GENERATED

BTUH = 1.085 x CFM x ΔT. CONDENSATE LOAD = BTUH ÷ LATENT HEAT @ OPERATING PSIG.
FROM TABLE 39-2: LATENT HEAT = 966. CONDENSATE LOAD = (1.085 x 50.6 x 10,000) ÷ 966 = 568.3 lbs. / hr.
FROM TABLE 39-3: AIR SIDE PRESSURE DROP = .26

hot water coil performance data

TABLE 39 - 4 • 'D' CABINET • 180° F EWT, 60° F EAT • 14.5 SQ. FT. FACE AREA

C.F.M	ΔP AIR	50 GPM (3.5 ft. ΔP)			75 GPM (5.6 ft. ΔP)			100 GPM (8.3 ft. ΔP)		
		ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH	ΔT AIR	ΔT H_2O	MBH
8000	.19	55.5	19.1	464.3	59.2	13.6	493.7	61.3	10.5	510.1
10000	.28	49.3	21.3	518.2	53.1	15.3	555.9	55.2	11.9	577.3
12000	.39	44.4	23.2	563.1	48.2	16.7	608.6	50.4	13.1	634.8
14000	.51	40.5	24.7	601.3	44.2	17.9	654.3	46.4	14.1	684.9
16000	.65	37.3	26.1	634.5	41.0	19.0	694.4	43.1	15.0	729.4
18000	.78	34.6	27.3	663.7	38.2	20.0	730.1	40.3	15.8	769.4
20000	.94	32.3	28.4	689.7	35.8	20.9	762.2	37.9	16.6	805.2

EXAMPLE: "D" Cabinet with 14,000 cfm, 180°F EWT, 60°F EAT, and 75 GPM has a capacity of 654.3 MBH from Table 39-4.
For 190°F EWT and 60°F EAT, the correction factor is 1.08. Actual capacity = 1.08 x 654.3 = 706.6 MBH.

$$\text{NEW } \Delta T\ H_2O = \frac{706{,}600}{(500)\,(GPM)} = \frac{706{,}600}{(500)\,(75)} = 18.8^\circ F \qquad \text{NEW } \Delta T\ AIR = \frac{706{,}600}{(1.08)\,(CFM)} = \frac{706{,}600}{(1.08)\,(14{,}000)} = 46.5^\circ F$$

TABLE 39 - 5

HOT WATER CORRECTION FACTORS For Other Than 180°F HW & 60°F Air							
AIR TEMP.	WATER TEMPERATURE						
	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

TABLE 39 - 6

COIL PHYSICAL DATA May be used with Heatflow Computer Program		
	STEAM COIL	HOT WATER COIL
Qty / Face Area (Ft^2)	(2) / 5.25 ea.	(2) / 7.26 ea.
No. of Circuits	15	
Rows Deep	2	
Tubes High	30	
Tube Type	5/8"O.D. x 0.035" Wall • Smooth Tube	
FIN Length	21.5"	23.25"
FINS Per Inch	6	10
FIN Thickness	0.0075"	
FIN Material	ALUMINUM	
FIN Surface	CORRUGATED	
FITTING	2" MPT	1 5/8" SWT

coil static pressure drops (in. wg.)

TABLE 40 - 1 • 'D' CABINET

CFM	• INDOOR COIL •																	
	26 TON				30 TON				40 TON				50 TON				60 TON	
	STANDARD		6 ROW		STANDARD		6 ROW		STANDARD		6 ROW		STANDARD		6 ROW		6 ROW	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
8000	0.18	0.12	0.33	0.25	0.19	0.12	0.35	0.25	0.27	0.14	0.39	0.22	0.12	0.09	0.18	0.12		
9000	0.21	0.15	0.38	0.30	0.22	0.15	0.41	0.30	0.32	0.19	0.45	0.28	0.15	0.10	0.21	0.13		
10000	0.24	0.17	0.43	0.35	0.26	0.17	0.46	0.35	0.36	0.23	0.52	0.35	0.18	0.11	0.25	0.15	0.25	0.15
11000	0.27	0.20	0.48	0.41	0.29	0.20	0.51	0.41	0.41	0.27	0.59	0.41	0.21	0.13	0.29	0.17	0.29	0.17
12000	0.31	0.23	0.53	0.47	0.33	0.23	0.57	0.47	0.46	0.31	0.65	0.47	0.24	0.14	0.33	0.20	0.33	0.20
13000	0.34	0.26	0.57	0.53	0.37	0.26	0.63	0.53	0.51	0.35	0.72	0.53	0.27	0.16	0.38	0.23	0.38	0.23
14000	0.38	0.30	0.62	0.59	0.40	0.30	0.68	0.59	0.57	0.40	0.79	0.59	0.30	0.18	0.42	0.27	0.42	0.27
15000	0.42	0.33	0.67	0.66	0.44	0.53	0.74	0.66	0.62	0.44	0.86	0.66	0.34	0.20	0.47	0.30	0.47	0.30
16000	0.45	0.37	0.79	0.73	0.48	0.37	0.79	0.73	0.68	0.49	0.93	0.73	0.37	0.23	0.52	0.34	0.52	0.34
17000	0.44	0.40	0.87	0.81	0.53	0.40	0.89	0.81	0.74	0.54	1.01	0.81	0.41	0.25	0.57	0.38	0.57	0.38
18000	0.53	0.44	0.96	0.88	0.57	0.44	0.99	0.88	0.80	0.59	1.08	0.88	0.45	0.28	0.62	0.42	0.62	0.42
19000													0.49	0.31	0.68	0.46	0.68	0.46
20000													0.54	0.34	0.73	0.50	0.73	0.50
21000													0.58	0.37	0.79	0.55	0.79	0.55
22000													0.63	0.40	0.85	0.60	0.85	0.60
23000													0.67	0.43	0.91	0.65	0.91	0.65
24000													0.72	0.47	0.97	0.70	0.98	0.70

component static pressure drops (in. wg.)

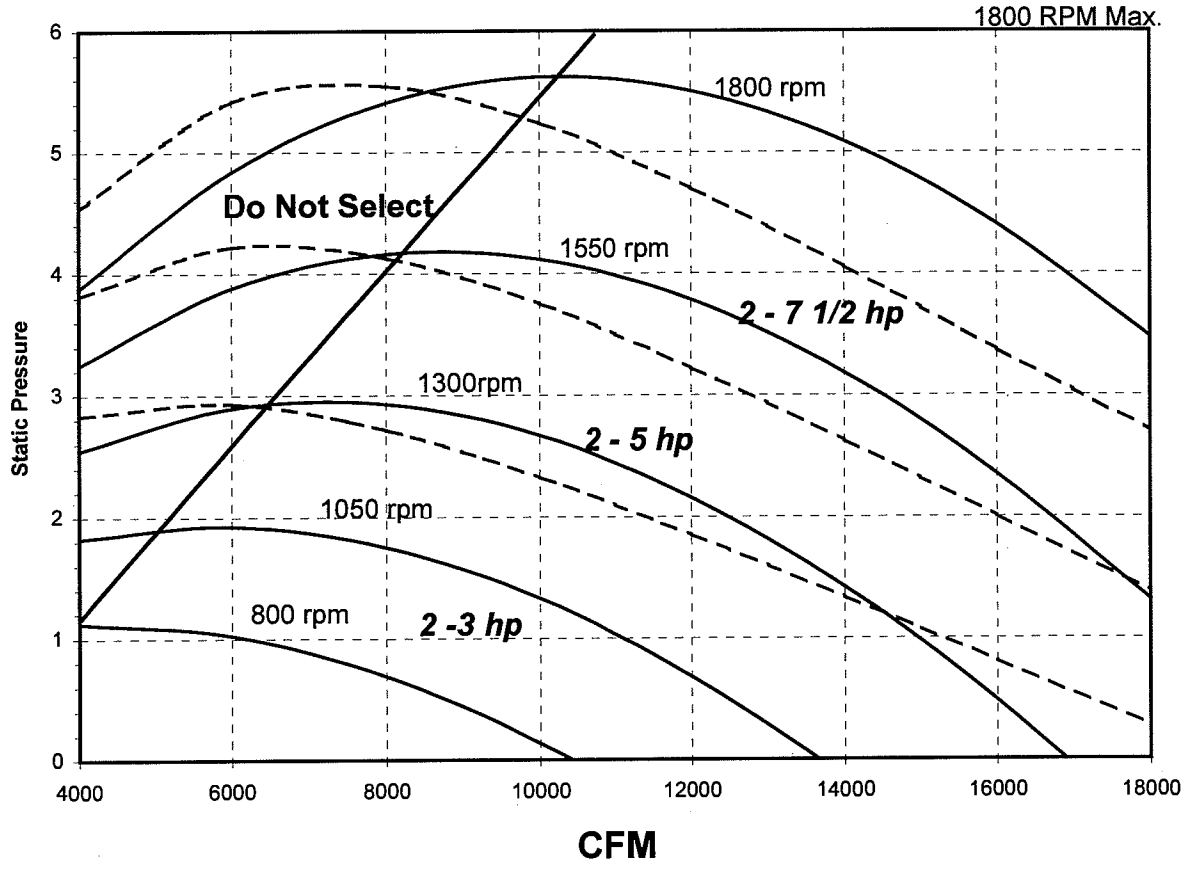
TABLE 40 - 2 • 'D' CABINET

C.F.M	HEATING SECTION							FILTERS				ECON	Acoustical
	GAS HEAT		ELECTRIC HEAT					2" Pleated		4" Pleated		100% R/A	CURB
	HIGH	LOW	D	F	H	J	K						
26 - 60								26 • 40	50 • 60	26 • 40	50 • 60		
8000	0.10	0.07	0.07	0.08	0.11	0.14	0.15	0.08		0.07		0.04	0.05
9000	0.11	0.07	0.07	0.09	0.12	0.15	0.17	0.10		0.09		0.05	0.06
10000	0.12	0.08	0.08	0.10	0.14	0.17	0.19	0.13	0.08	0.12	0.07	0.06	0.06
11000	0.13	0.09	0.09	0.11	0.15	0.19	0.21	0.15	0.10	0.14	0.09	0.07	0.07
12000	0.15	0.10	0.10	0.12	0.17	0.21	0.23	0.17	0.12	0.17	0.11	0.08	0.08
13000	0.16	0.10	0.10	0.13	0.18	0.22	0.25	0.19	0.13	0.18	0.12	0.09	0.09
14000	0.17	0.11	0.11	0.14	0.19	0.24	0.27	0.22	0.15	0.22	0.14	0.10	0.10
15000	0.18	0.12	0.12	0.15	0.21	0.26	0.29	0.24	0.17	0.23	0.16	0.11	0.11
16000	0.19	0.13	0.13	0.16	0.22	0.27	0.31	0.27	0.19	0.26	0.18	0.12	0.12
17000	0.21	0.13	0.13	0.17	0.23	0.29	0.33	0.29	0.20	0.28	0.20	0.13	0.13
18000	0.22	0.14	0.14	0.18	0.25	0.31	0.35	0.31	0.22	0.30	0.21	0.14	0.14
19000	0.23	0.15	0.15	0.19	0.26	0.32	0.36		0.24		0.23	0.15	0.15
20000	0.24	0.16	0.16	0.20	0.28	0.34	0.38		0.25		0.24	0.16	0.16
21000	0.25	0.16	0.17	0.21	0.29	0.36	0.40		0.27		0.26	0.18	0.18
22000	0.27	0.17	0.17	0.22	0.30	0.38	0.42		0.29		0.28	0.19	0.19
23000	0.28	0.18	0.18	0.23	0.32	0.39	0.44		0.31		0.30	0.20	0.20
24000	0.29	0.18	0.19	0.24	0.33	0.41	0.46		0.33		0.32	0.21	0.21

blower performance

two motors of the 'hp' shown are used.

TABLE 41 - 1 • 'D' CABINET • BELT DRIVE **RK 26 & 30 ton • two 24.5" plenum fans**



Note: When inlet vanes are selected, increase the RPM by 6% and recalculate the required motor size at the higher RPM and the same CFM used for the initial selection.

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.

REFER TO TABLE FOR 'HP' TO 'KW' CONVERSION.

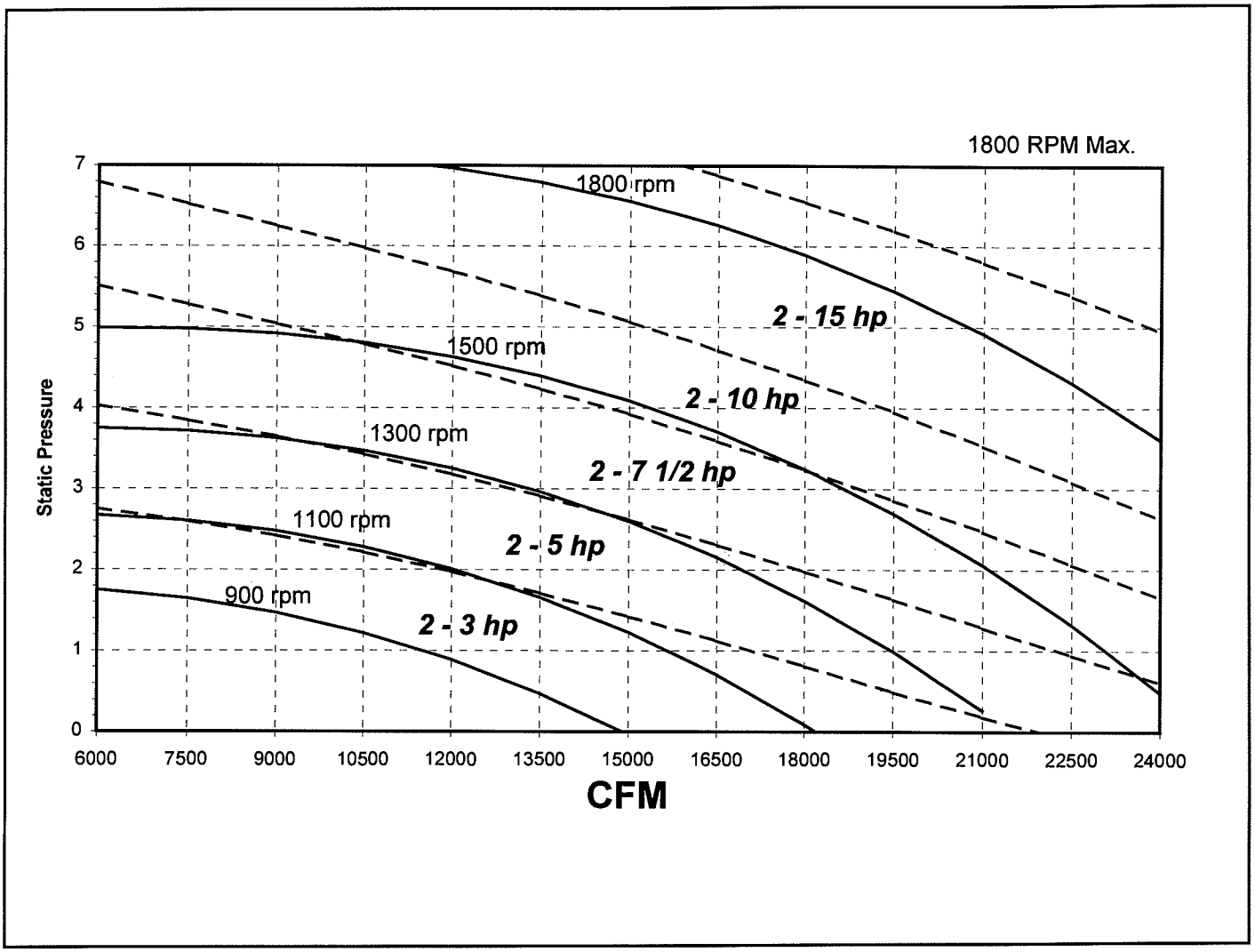
INDOOR BLOWER MOTOR DATA				
NOMINAL MOTOR H.P.	PERCENT EFFICIENCY	NOMINAL KW	SERVICE FACTOR	MAXIMUM KW
2	83	1.80	1.15	2.07
3	84	2.66		3.06
5	85	4.39		5.05
7.5	83	6.74		7.75
10	86	8.67		9.98
15	88	12.72		14.62

KW = (0.746 x HP) / (Eff.% / 100)

single inlet plenum blower performance

two motors of the 'hp' shown are used.

TABLE 42 - 1 • 'D' CABINET • BELT DRIVE **RK 40, 50 & 60 ton • two 27" plenum fans**



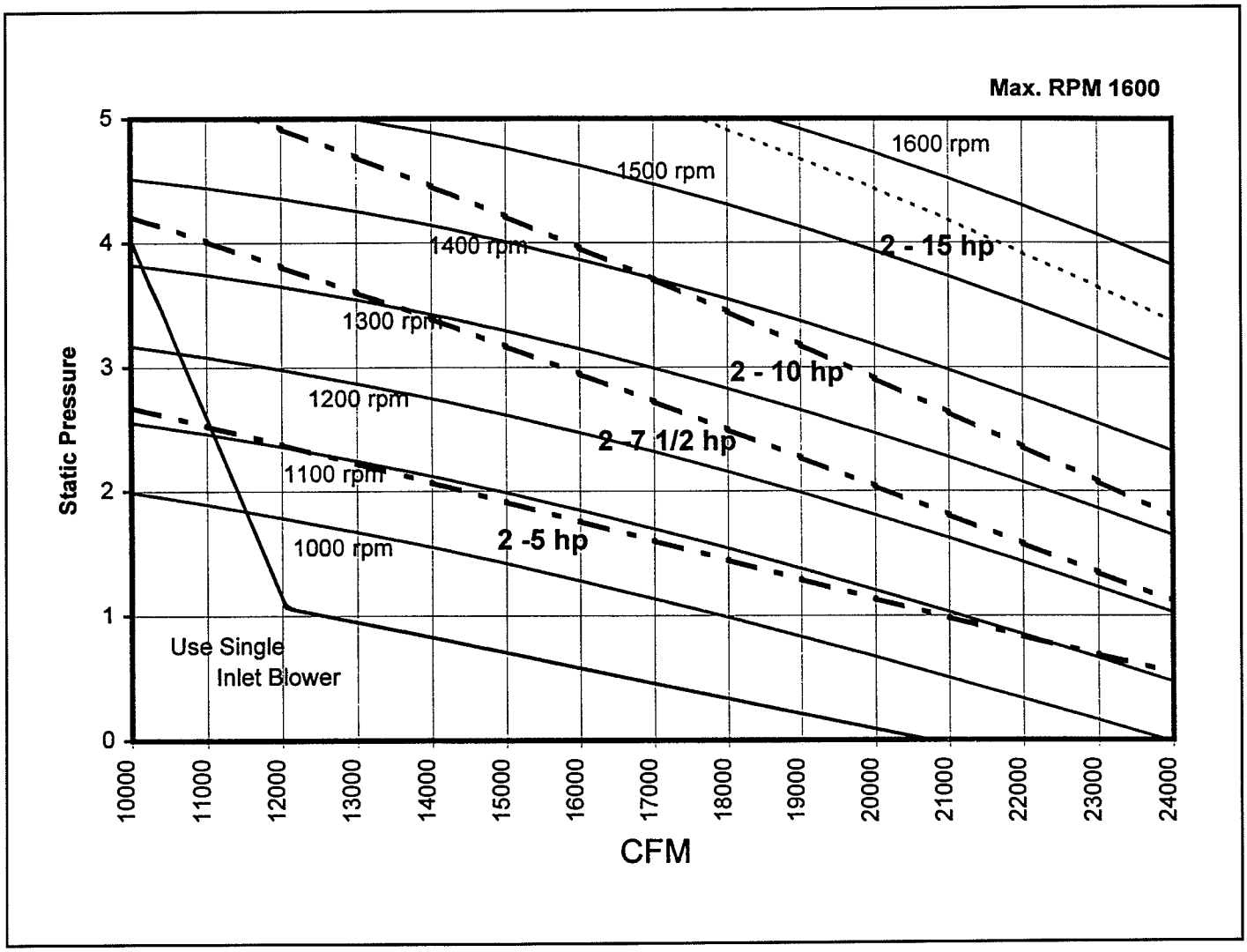
Note: When inlet vanes are selected, increase the RPM by 6% and recalculate the required motor size at the higher RPM and the same CFM used for the initial selection.

SEE NEXT PAGE FOR OPTIONAL DOUBLE INLET BLOWERS - PROVIDES LOWER BLOWER SPEEDS AT LOWER STATIC PRESSURES.

double inlet plenum blower performance

• optional construction for lower blower speeds at lower static pressures • two motors of the 'hp' shown are used.

TABLE 43 - 1 • 'D' CABINET • BELT DRIVE **RK 40, 50 & 60 ton • two 27" plenum fans**



SEE PREVIOUS PAGE FOR STANDARD CONSTRUCTION ON ALL MODELS.
NOTE: Inlet vane control IS NOT AVAILABLE on these optional double inlet blower assemblies.

When compared to the standard construction with a single inlet blower, these double inlet blower assemblies provide greatly reduced blower speed at a given airflow and static pressure. Using 20,000 CFM and 2 inches total static pressure, as an example, the blower speed is reduced by 212 RPM, from 1443 to 1231. This would result in a sound level reduction of approximately 5db that would be typical of other operating points.

power exhaust performance

TABLE 44 - 1 • 'D' CABINET • DIRECT DRIVE PROPELLER EXHAUST FAN(S)

26 - 60 Ton Direct Drive Propeller	TOTAL STATIC PRESSURE				
	0.1	0.2	0.3	0.4	0.5
	CFM	CFM	CFM	CFM	CFM
STANDARD (1) @ 3 HP 1140 RPM • (1) FAN	18,900	17,700	16,100	14,000	11,000
OVERSIZE (2) @ 3 HP 1140 RPM EA. • (2) FANS	37,800	35,400	32,200	28,000	22,000

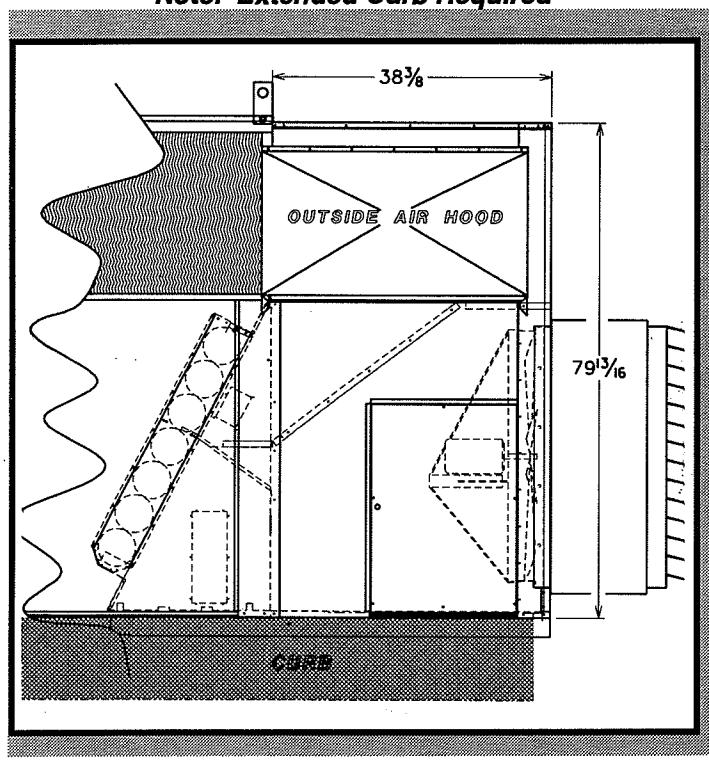
TABLE 44 - 2 • 'D' CABINET • BELT DRIVE

RK 26 - 60 ton • two 27" plenum fans

26 - 60 Ton Belt Drive	TOTAL STATIC PRESSURE									
	0.2		0.4		0.6		0.8		1.0	
C.F.M	RPM	HP ①	RPM	HP ①	RPM	HP ①	RPM	HP ①	RPM	HP ①
6000	576	3.0	622	3.0	667	3.0	711	3.0	755	3.0
8000	632	3.0	674	3.0	716	3.0	758	3.0	799	3.0
10000	704	3.0	743	3.0	782	3.0	820	3.0	858	3.0
12000	789	3.0	825	3.0	861	3.0	897	3.0	932	3.0
14000	886	3.0	919	3.0	952	3.0	985	3.0	1017	3.0
16000	993	3.0	1023	3.0	1053	3.0	1083	3.0	1113	5.0
18000	1107	3.0	1135	3.0	1162	5.0	1189	5.0	1216	5.0
20000	1227	5.0	1252	5.0	1276	5.0	1300	5.0	1324	5.0
22000	1351	5.0	1372	5.0	1394	7.5	1415	7.5	1436	7.5
24000	1475	7.5	1494	7.5	1513	7.5	1531	7.5	1550	7.5

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

DIRECT DRIVE PROPELLER EXHAUST FAN(S)
Note: Extended Curb Required



BELT DRIVE PLENUM FANS
Note: Extended Curb Required

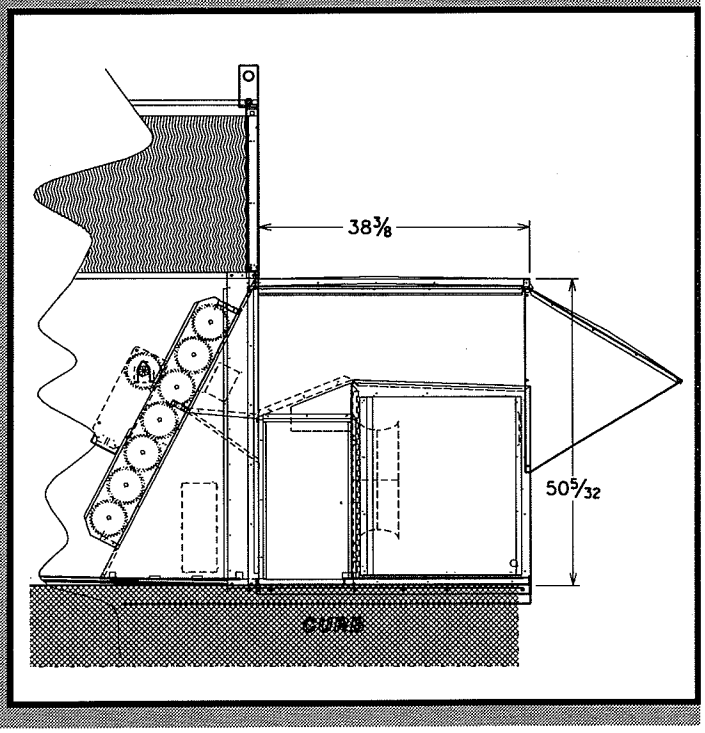


TABLE 45 - 1 • 'D' CABINET

208 / 3 / 60																
UNIT SIZE		26			30			40			50			60		
BLOWER Mtr 1 & 2	(HP)	2.0	3.0	5.0	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0	7.5	10.0	15.0
	F.L.A (ea)	7.5	10.6	16.7	10.6	16.7	24.2	10.6	16.7	24.2	16.7	24.2	30.8	24.2	30.8	46.2
COMPRESSOR 1 & 2	F.L.A (ea)	18.6			22.4			30.1			41.0			52.6		
	L.R.A (ea)	156			164			225			350			425		
COMPRESSOR 3 & 4	F.L.A (ea)	18.6			22.4			30.1			41.0			41.0		
	L.R.A (ea)	156			164			225			350			350		
CONDENSER FAN MOTOR	F.L.A (ea)	(2) 3.4 (1 Hp)			(2) 7.2 (2 Hp mtr)						(2) 10.6 (3 Hp mtr)					
COMBUSTION BLOWER MOTOR	F.L.A TOTAL	2.6 (1/4 Hp mtr)														
PROPELLER EXH. DIRECT DRIVE	F.L.A (HP)	10.6 (3 Hp mtr) each														
CENTRIFUGAL P.E BELT DRIVE	F.L.A (HP)	10.6 (3 Hp Std. mtr) ea. or 16.7 (5 Hp Oversize mtr) ea.									16.7 (5Hp Std. mtr) ea. or 24.2 (7.5 Hp Oversize mtr) ea.					
COOLING	F.L.A	96	102	115	125	137	152	156	168	183	219	234	247	257	270	301
	M.C.A	101	107	119	131	143	158	164	176	191	229	244	257	270	283	314
Max. Overcurrent Protection		110	125		150		175		200		250		300			350
COOLING w/ HEATWHEEL (1) STD. EXH. MTR	F.L.A	113	119	132	142	154	169	173	185	200	236	251	264	274	287	318
	M.C.A	118	124	136	147	160	175	180	192	207	246	261	274	287	300	331
	M.O.P	125		150		175	200			225	250	300		350		
COOLING w/ HEATWHEEL (1) O/S EXH. MTR	F.L.A	120	126	139	149	161	176	180	192	207	243	258	271	281	294	325
	M.C.A	125	131	143	155	167	183	188	200	215	253	268	281	294	307	338
	M.O.P	125	150		175		200		225		300			350		
COOLING w/ HEATWHEEL (2) STD. EXH. MTR	F.L.A	129	135	148	158	170	185	189	201	216	252	267	280	290	303	334
	M.C.A	134	140	153	164	176	192	197	209	224	262	277	290	303	317	347
	M.O.P	150		175		200		225		250	300			350		400
COOLING w/ HEATWHEEL (2) O/S EXH. MTR	F.L.A	144	150	163	173	185	200	204	216	231	267	282	295	305	318	349
	M.C.A	149	155	168	179	191	207	212	224	239	277	292	305	318	332	362
	M.O.P	150	175		200		225		250		300			350		400
ELEC. HEAT Designation • D •	F.L.A	98	119	116	125	137	152	156	168	183	219	234	247	257	270	301
	M.C.A	121	128	141	131	143	158	164	176	191	229	244	257	270	283	314
	M.O.P	125	150			175		200			250		300			350
ELEC. HEAT Designation • F •	F.L.A	181	187	199	187	199	214	187	199	214	219	234	247	257	270	301
	M.C.A	183	190	204	190	204	220	190	204	220	229	244	257	270	283	314
	M.O.P	200		225	200	225		200	225		250		300			350
ELEC. HEAT Designation • H •	F.L.A	265	271	283	271	283	298	271	283	298	283	298	312	298	312	342
	M.C.A	267	274	288	274	288	304	274	288	304	288	304	319	304	319	354
	M.O.P	300					350	300		350	300	350				400
ELEC. HEAT Designation • J •	F.L.A	348	354	366	354	366	381	354	366	381	366	381	395	381	395	425
	M.C.A	350	357	371	357	371	387	357	371	387	381	387	402	387	402	437
	M.O.P	350	400										450	400	450	
ELEC. HEAT Designation • K •	F.L.A				437	449	464	437	449	464	449	464	478	464	478	508
	M.C.A				440	454	470	440	454	470	454	470	485	470	485	520
	M.O.P				450	500		450	500							600

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

electrical data

TABLE 46 - 1 • 'D' CABINET

230 / 3 / 60																
UNIT SIZE		26			30			40			50			60		
BLOWER Mtr 1 & 2	(HP)	2.0	3.0	5.0	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0	7.5	10.0	15.0
	F.L.A (ea)	6.8	9.6	15.2	9.6	15.2	22.0	9.6	15.2	22.0	15.2	22.0	28.0	22.0	28.0	42.0
COMPRESSOR 1 & 2	F.L.A (ea)	18.6			22.4			30.1			41.0			52.6		
	L.R.A (ea)	156			164			225			350			425		
COMPRESSOR 3 & 4	F.L.A (ea)	18.6			22.4			30.1			41.0			41.0		
	L.R.A (ea)	156			164			225			350			350		
CONDENSER FAN MOTOR	F.L.A (ea)	(2) 3.4 (1 Hp)			(2) 7.2 (2Hp mtr)						(2) 10.6 (3Hp mtr)					
COMBUSTION BLOWER MOTOR	F.L.A TOTAL	2.6 (1/4 Hp mtr)														
PROPELLER EXH. DIRECT DRIVE	F.L.A (HP)	10.6 (3 Hp mtr) each														
CENTRIFUGAL P.E BELT DRIVE	F.L.A (HP)	9.6 (3 Hp Std. mtr) ea. or 15.2 (5 Hp Oversize mtr) ea.									15.2 (5 Hp Std. mtr) ea. or 22.0 (7.5 Hp Oversize mtr) ea.					
COOLING	F.L.A	95	100	112	123	134	148	154	165	179	216	229	241	252	264	292
	M.C.A	99	105	116	129	140	154	162	173	186	226	239	251	266	278	306
Max. Overcurrent Protection		110		125	150		175		200		250		300			350
COOLING w/ HEATWHEEL (1) STD. EXH. MTR	F.L.A	110	118	127	138	149	163	169	180	194	231	244	256	267	279	307
	M.C.A	115	120	131	144	155	169	177	188	202	241	255	267	281	293	321
	M.O.P	125		150		175		200		225	250		300			350
COOLING w/ HEATWHEEL (1) O/S EXH. MTR	F.L.A	117	122	134	145	156	170	176	187	201	238	251	263	274	286	314
	M.C.A	121	127	138	151	162	176	184	195	208	248	261	273	288	300	328
	M.O.P	125	150		175		200		225		250		300		350	
COOLING w/ HEATWHEEL (2) STD. EXH. MTR	F.L.A	125	130	142	153	164	178	184	195	209	246	259	271	282	294	322
	M.C.A	130	135	147	159	170	184	192	203	217	256	270	282	296	308	336
	M.O.P	150			175		200		225		300				350	
COOLING w/ HEATWHEEL (2) O/S EXH. MTR	F.L.A	139	144	156	167	178	192	198	209	223	260	273	285	296	308	336
	M.C.A	143	149	160	173	184	198	206	217	230	270	283	295	310	322	350
	M.O.P	150		175		200		225		250	300			350		400
ELEC. HEAT Designation • D •	F.L.A	114	119	130	123	134	148	154	165	179	216	229	241	252	264	292
	M.C.A	140	147	159	129	140	154	162	173	186	226	239	251	266	278	306
	M.O.P	150		175	150		175		200		250		300			350
ELEC. HEAT Designation • F •	F.L.A	214	219	230	219	230	244	219	230	244	230	244	256	252	264	292
	M.C.A	215	222	234	222	234	250	222	234	250	234	250	263	266	278	306
	M.O.P	225		250	225		250	225		250			300			350
ELEC. HEAT Designation • H •	F.L.A	315	320	331	320	331	345	320	331	345	331	345	357	345	357	385
	M.C.A	316	323	335	323	335	350	323	335	350	335	350	364	350	364	396
	M.O.P	350					400	350		400	350			400		
ELEC. HEAT Designation • J •	F.L.A	415	420	431	420	431	445	420	431	445	431	445	457	445	457	485
	M.C.A	416	423	435	423	435	450	423	435	450	435	450	464	450	464	496
	M.O.P	450					500	450		500	450			500		
ELEC. HEAT Designation • K •	F.L.A				521	532	546	521	532	546	532	546	558	546	558	586
	M.C.A				524	536	552	524	536	552	536	552	565	552	565	596
	M.O.P				600											

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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

TABLE 47 - 1 • 'D' CABINET

460 / 3 / 60																
UNIT SIZE		26			30			40			50			60		
BLOWER Mtr 1 & 2	(HP)	2.0	3.0	5.0	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0	7.5	10.0	15.0
	F.L.A (ea)	3.4	4.8	7.6	4.8	7.6	11.0	4.8	7.6	11.0	7.6	11.0	14.0	11.0	14.0	21.0
COMPRESSOR 1 & 2	F.L.A (ea)	9.0			10.9			15.5			21.8			23.7		
	L.R.A (ea)	70			100			114			158			187		
COMPRESSOR 3 & 4	F.L.A (ea)	9.0			10.9			15.5			21.8			21.8		
	L.R.A (ea)	70			100			114			158			158		
CONDENSER FAN MOTOR	F.L.A (ea)	(2) 1.7 (1 Hp)			(2) 3.3 (2Hp mtr)						(2) 4.8 (3Hp mtr)					
COMBUSTION BLOWER MOTOR	F.L.A TOTAL	0.7 (1/4 Hp mtr)														
PROPELLER EXH. DIRECT DRIVE	F.L.A (HP)	4.8 (3 Hp mtr) each														
CENTRIFUGAL P.E BELT DRIVE	F.L.A (HP)	4.8 (3 Hp Std. mtr) ea. or 7.6 (5 Hp Oversize mtr) ea.									7.6 (5 Hp Std. mtr) ea. or 11.0 (7.5 Hp Oversize mtr) ea.					
COOLING	F.L.A	46	49	55	60	65	72	78	84	91	112	119	125	123	129	143
	M.C.A	48	51	57	63	68	75	82	88	94	117	124	130	129	135	149
Max. Overcurrent Protection		50	60		70		80	90	100	110	125	150				
COOLING w/ HEATWHEEL (1) STD. EXH. MTR	F.L.A	54	57	63	68	73	80	86	92	99	120	127	133	131	137	151
	M.C.A	56	59	64	70	76	83	90	95	102	125	132	138	136	142	156
	M.O.P	60		70	80		90	100	110		150					175
COOLING w/ HEATWHEEL (1) O/S EXH. MTR	F.L.A	57	60	66	71	76	83	89	95	102	123	130	136	134	140	154
	M.C.A	59	62	68	74	79	86	93	99	105	128	135	141	140	146	160
	M.O.P	60	70		80	90		100	110		150					175
COOLING w/ HEATWHEEL (2) STD. EXH. MTR	F.L.A	61	64	70	75	80	87	93	99	106	127	134	140	138	144	158
	M.C.A	64	66	72	78	83	90	97	103	110	133	139	145	144	150	164
	M.O.P	70		80	90	100		110		125	150				175	
COOLING w/ HEATWHEEL (2) O/S EXH. MTR	F.L.A	68	71	77	82	87	94	100	106	113	134	141	147	145	151	165
	M.C.A	70	73	79	85	90	97	104	110	116	139	146	152	151	157	171
	M.O.P	70	80		90	100		110	125		150		175			
ELEC. HEAT Designation • D •	F.L.A	57	60	65	60	65	72	78	84	91	112	119	125	123	129	143
	M.C.A	70	73	80	63	68	75	82	88	94	117	124	130	129	135	149
	M.O.P	80			70		80	90		100	125		150			
ELEC. HEAT Designation • F •	F.L.A	107	110	115	110	115	122	110	115	122	115	122	128	123	129	143
	M.C.A	108	111	117	111	117	125	111	117	125	117	125	132	129	135	149
	M.O.P	110	125									150				
ELEC. HEAT Designation • H •	F.L.A	157	160	165	160	165	172	160	165	172	165	172	178	172	178	192
	M.C.A	158	161	167	161	167	175	161	167	175	167	175	182	175	182	197
	M.O.P	175										200				
ELEC. HEAT Designation • J •	F.L.A	207	210	215	210	215	222	210	215	222	215	222	228	222	228	242
	M.C.A	208	211	217	211	217	225	211	217	225	217	225	232	225	232	247
	M.O.P	225										250				
ELEC. HEAT Designation • K •	F.L.A				261	266	273	261	266	273	266	273	279	273	279	293
	M.C.A				262	268	276	262	268	276	268	276	282	276	282	298
	M.O.P				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.

NOTE: SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.

electrical data

TABLE 48 - 1 • 'D' CABINET

575 / 3 / 60																	
UNIT SIZE		26			30			40			50			60			
BLOWER Mtr 1 & 2	(HP)	2.0	3.0	5.0	3.0	5.0	7.5	3.0	5.0	7.5	5.0	7.5	10.0	7.5	10.0	15.0	
	F.L.A (ea)	2.7	3.9	6.1	3.9	6.1	9.0	3.9	6.1	9.0	6.1	9.0	11.0	9.0	11.0	17.0	
COMPRESSOR 1 & 2	F.L.A (ea)	7.4			8.7			12.1			17.3			20.5			
	L.R.A (ea)	54			78			80			123			148			
COMPRESSOR 3 & 4	F.L.A (ea)	7.4			8.7			12.1			17.3			17.3			
	L.R.A (ea)	54			78			80			123			123			
CONDENSER FAN MOTOR	F.L.A (ea)	(2) 1.4 (1 Hp)			(2) 2.6 (2 Hp mtr)						(2) 3.6 (3 Hp mtr)						
COMBUSTION BLOWER MOTOR	F.L.A TOTAL	0.7 (1/4 Hp mtr @ 460v)															
PROPELLER EXH. DIRECT DRIVE	F.L.A (HP)	3.6 (3 Hp mtr) each															
CENTRIFUGAL P.E BELT DRIVE	F.L.A (HP)	3.9 (3 Hp Std. mtr) ea. or 6.1 (5 Hp Oversize mtr) ea.									6.1 (5 Hp Std. mtr) ea. or 9.0 (7.5 Hp Oversize mtr) ea.						
COOLING	F.L.A	38	40	45	48	52	58	61	66	72	89	94	98	101	105	117	
	M.C.A	40	42	46	50	54	60	64	69	75	93	99	103	106	110	122	
Max. Overcurrent Protection		45		50	60		70		80		110			125			
COOLING w/ HEATWHEEL (1) STD. EXH. MTR	F.L.A	44	46	51	54	58	64	67	72	78	95	100	104	107	111	123	
	M.C.A	46	48	53	56	60	66	71	75	81	99	105	109	112	116	128	
	M.O.P	50		60		70		80		90	110			125		150	
COOLING w/ HEATWHEEL (1) O/S EXH. MTR	F.L.A	47	49	54	57	61	67	70	75	81	98	103	107	110	114	126	
	M.C.A	49	51	55	59	63	69	73	78	84	102	108	112	115	119	131	
	M.O.P	50		60		70		80		90	110		125			150	
COOLING w/ HEATWHEEL (2) STD. EXH. MTR	F.L.A	62	64	69	72	76	82	85	90	96	101	106	110	113	117	129	
	M.C.A	64	66	71	74	79	85	89	93	99	105	111	115	118	122	134	
	M.O.P	70		80		90		100		110	125					150	
COOLING w/ HEATWHEEL (2) O/S EXH. MTR	F.L.A	74	76	81	84	88	94	97	102	108	107	112	116	119	123	135	
	M.C.A	76	78	82	86	90	96	100	105	111	111	117	121	124	128	140	
	M.O.P	80		90		100		110			125				150		
ELEC. HEAT Designation • D •	F.L.A	45	48	52	48	52	58	61	66	72	89	94	98	101	105	117	
	M.C.A	56	59	64	50	54	60	64	69	75	93	99	103	106	110	122	
	M.O.P	60		70	60		70		80		110			125			
ELEC. HEAT Designation • F •	F.L.A	85	88	92	88	92	98	88	92	98	92	98	102	101	105	117	
	M.C.A	86	89	94	89	94	100	89	94	100	94	100	105	106	110	122	
	M.O.P	90		100	90	100	110	90	100	110	100	110		125			
ELEC. HEAT Designation • H •	F.L.A	125	128	132	128	132	138	128	132	138	132	138	142	138	142	154	
	M.C.A	126	129	134	129	134	140	129	134	140	134	140	145	140	145	158	
	M.O.P	150														175	
ELEC. HEAT Designation • J •	F.L.A	165	168	172	168	172	178	168	172	178	172	178	172	178	182	194	
	M.C.A	166	169	174	169	174	180	169	174	180	174	180	185	180	185	198	
	M.O.P	175			200			175		200	175			200			
ELEC. HEAT Designation • K •	F.L.A				208	212	218	208	212	218	212	218	222	218	222	234	
	M.C.A				209	214	220	209	214	220	214	220	225	220	225	238	
	M.O.P				225								250	225	250		

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.***

NOTE: ***SINCE THE POWER EXHAUST FAN OPERATES ONLY DURING ECONOMIZER CYCLE, THE ELECTRICAL DATA IN THE TABLE ABOVE DOES NOT CHANGE WITH THE ADDITION OF THE POWER EXHAUST OPTION.***

***** THE COMBUSTION BLOWER MOTOR IS USED WITH A STEP DOWN TRANSFORMER. THE INDICATED 575V VALUE ASSUMES NO LOSS THROUGH TRANSFORMER AND 100% POWER FACTOR.***

TABLE 49 - 1

COIL PHYSICAL DATA May be used with Heatflow Computer Program		
	CHILLED WATER COIL	
	26 - 40 TON	**50 - 60 TON**
Qty / Face Area (Ft^2)	1 / 28.37	2 / 18.6 ea.
No. of Circuits	38 (4 row) • 38 (6 row)	24 (4 row) • 24 (6 row)
Rows Deep	10	
Tubes High	38	24
Tube Type	1/2"O.D. x 0.017" Wall • Smooth Tube	
FIN Length	86.0"	89.25"
FINS Per Inch	10	
FIN Thickness	0.0045"	
FIN Material	ALUMINUM	
FIN Surface	SINE WAVE	
FITTING	2 5/8" SWT	2 1/8" SWT

The application cooling capacities of the rooftop air handling units can be calculated by using the AAON Electronic Program.

notes • D cabinet • 26 - 60 ton

UNIT SELECTION PROCEDURE

It is faster and easier to use the AAON furnished PC software program for equipment selection and performance data at the design conditions for the job. The following sample selection is presented for your information and is based on the following conditions:

UNIT WITH STANDARD EVAPORATOR

SUMMER DESIGN DATA:

- OUTDOOR DESIGN CONDITIONS = **95° DB / 76° WB**
- TOTAL COOLING LOAD = **190,000 Btuh**
- SENSIBLE COOLING LOAD = **124,000 Btuh**
- RETURN AIR TEMPERATURE = **80° DB / 67° WB**

AIR DELIVERY DATA:

- SUPPLY AIR VOLUME = **6,200 CFM**
- EXTERNAL STATIC PRESSURE = **1.2 Inches WG**

UNIT ACCESSORIES:

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

STEP 1 - NOMINAL UNIT SIZE SELECTION

From the Gross Cooling Capacity Table (Pg.3) for the 16 ton unit with Standard Evaporator at 80° DB / 67° WB return air, 95° DB outdoor ambient, and 6,200 cfm supply air - total cooling capacity is 206,900 Btuh. Therefore; a nominal **16 Ton unit with Standard Evaporator** is selected.

STEP 2 - BLOWER MOTOR HEAT GAIN

Having selected a nominal 16 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 29):

- EXTERNAL STATIC PRESSURE = **1.2 IN. WG**
- DX STANDARD EVAPORATOR COIL STATIC PRESSURE DROP = **0.29 in.wg.**
- GAS HEAT EXCHANGER STATIC PRESSURE DROP = **0.15 in. wg.**
- 2 INCH THROW AWAY FILTER STATIC PRESSURE DROP = **0.15 in. wg.**
- ECONOMIZER STATIC PRESSURE DROP = **0.09 in. wg.**
- BASE CURB STATIC PRESSURE DROP = **0.07 in. wg.**
- ***UNIT TOTAL STATIC PRESSURE = 1.95 INCHES WG***

Blower Motor Heat Gain & Size Determination:

Using supply air of 6,200 cfm and unit total static pressure of 1.95 in. wg. enter the 'C' Cabinet Blower Performance graph (Pg. 30), which shows a blower speed of 1295 rpm. A 5 HP Motor is required.
Therefore, from the "Indoor Blower Motor Data" table, the nominal KW input to the motor is 4.39 and the motor heat gain to the airstream is 4.39 x 3,414 or 14,987 BtuH.

STEP 3 - TOTAL REQUIRED COOLING CAPACITY

Req. Capacity = Total Peak Load + Blower Mtr Heat = 190,000 + 14,987 = **204,987 Btuh.**

STEP 4 - UNIT GROSS TOTAL CAPACITY

From the Gross Cooling Capacity Tables (Pg. 3) at 80.0° DB / 67.0° WB entering the evaporator, 6,200 supply air cfm, and 95°DB outdoor ambient; total capacity for a 16 Ton unit with Standard Evaporator = **206,900 Btuh.**

STEP 5 - UNIT GROSS SENSIBLE CAPACITY

Similar to step 4; at 80.0° DB / 67.0° WB entering the evaporator, 6,200 supply air cfm, and 95°DB outdoor ambient; sensible capacity for the 16 Ton unit with Standard Evaporator = **139,500 Btuh.**

STEP 6 - SUPPLY AIR TEMPERATURE

Unit sensible capacity corrected for blower heat = 139,500 - 14,987 = **124,513 Btuh.**
S/A dry bulb temperature difference = (Corrected Sensible Capacity) / (1.085 x Supply Cfm) =124,513 / (1.085 x 6,200) = **18.5°F.**
Supply air dry bulb temperature = 80.0 - 18.5 = **61.5° DB.**

UNIT NET TOTAL CAPACITY = Unit Gross Total Capacity - Blower Motor Heat = 206,900 - 14,987 = **191,913 Btuh.**
Unit enthalpy difference = (Unit Net Total Capacity) / (4.5 x Supply Cfm) = 191,913 / (4.5 x 6,200) = **6.88 Btu/lb.**
Supply Enthalpy =Entering Enthalpy (67.0° WB) - Unit Enthalpy Difference =31.62 Btu/lb - 6.88 Btu/lb = **24.74 Btu/lb.**
Supply air wet bulb temperature = **57.4° F.**

heat content of air - enthalpy

TABLE 51-1 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

TABLE 51-2 SPECIFIC WT. OF AIR AT ALTITUDE (At Standard Conditions)

ALTITUDE	BAROMETRIC PRESSURE (In. HG)	SPECIFIC WT. OF AIR
- 0 -	29.92	0.0752
1000	28.86	0.0723
2000	27.82	0.0697
3000	26.81	0.0672
4000	25.84	0.0648
5000	24.89	0.0624
6000	23.98	0.0601
7000	23.09	0.0579
8000	22.20	0.0537

mechanical cooling formulas

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

Net Total Capacity = Gross Capacity - Indoor (ID) Fan Motor Heat = Gross Capacity - (motor KW x 3.414)

For Net Sensible Capacitiy, deduct same Indoor Fan Motor Heat from Gross Sensible.

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

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

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 Evap. Coil.

FAN LAWS

$$HP = \frac{CFM \times \text{Static Pressure, Ins. } H_2O}{6350 \times \text{Efficiency}}$$

CFM = varies directly as the speed ratio.

$$CFM_2 = CFM_1 \left(\frac{RPM_2}{RPM_1} \right)$$

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

$$SP_2 = SP_1 \left(\frac{RPM_2}{RPM_1} \right)^2$$

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

$$HP_2 = HP_1 \left(\frac{RPM_2}{RPM_1} \right)^3$$

electrical formulas

In some cases, it possible that the determined **MAXIMUM OVERCURRENT PROTECTION** is less than the **MINIMUM CIRCUIT AMPACITY**. In such a case, increase the Maximum Overcurrent Protection to equal the Minimum Circuit Ampacity. If this value does not correspond to a standard fuse size, further increase the Maximum Overcurrent Protection to the closest (but larger) standard size. (SEE NEC 240-6 for a list of standard sizes.)

COOLING & COOLING WITH GAS HEAT (Standard sequence of operation)

Minimum Circuit Ampacity
MCA = 1.25 (Full Load (Rated Load) of the Largest Load [Motor or Compressor]) + Remaining Compressor Rated Load Amps + Supply Fan Full Load Amps + Condenser Fan Full Load Amps + (Exhaust Fan Full Load Amps**).

Maximum Overcurrent Protection
MOP = 2.25 (Full Load (Rated Load) of the Largest Load [Motor or Compressor]) + Remaining Compressor Rated Load Amps + Remaining Supply Fan Full Load Amps + Condenser Fan Full Load Amps + (Exhaust Fan Full Load Amps**).

Standard Ampere Ratings for Fuses
From the NEC Handbook - The standard ratings for fuses shall be considered 15, 20 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600 700, 800 and 1000 amperes.

Select the standard fuse rating (SEE NEC 240-6) equal to the calculated Maximum Overcurrent value. If the MOP value does not equal a standard rating, select the next LOWER rating. The unit MOP value should always equal or exceed the unit MCA value.

Recommended Dual Element Fuse Size
RFS = 1.5 (Full Load (Rated Load) of the Largest Load [Motor or Compressor]) + Remaining Compressor Rated Load Amps + Remaining Supply Fan Full Load Amps + Condenser Fan Full Load Amps + (Exhaust Fan Full Load Amps**).

Select the standard fuse rating equal to the calculated Recommended Fuse Size value. If the RFS value does not equal a standard rating, select the next HIGHER rating.

Disconnect (Power) Switch Size
DSS = 1.15 (Rated Load Amps of the Compressor(s) + Full Load Amps of the Supply Fan(s) + Condenser Fan Full Load Amps + (Exhaust Fan Full Load Amps**).

Select the standard switch size rating equal to the calculated Disconnect Switch Size value. If this value does not equal a standard size, select the next LARGEST size.

** This value should be added only to 7 ton and smaller units. Do not add the exhaust fan ampacity to 8 through 60 ton units with the standard exhaust sequence of operation which will not allow the exhaust fan(s) and the second stage compressor to operate simultaneously.

ELECTRIC HEATING

The following equations provide data for **AIR HANDLING UNITS WITH ELECTRIC HEATING**. To determine values for mechanical cooling units with electric heat, calculate the cooling only values as indicated above and also calculate the heating only values as indicated below. The total unit values will be equal to the largest value from each calculation.

Electric Heat Full Load Ampacities

$$\text{3 Phase FLA} = \frac{\text{KW x 1000}}{\left(\text{230 or 460 VAC}\sqrt{3}\right)} \qquad \text{1 Phase FLA} = \frac{\text{KW x 1000}}{\text{230 or 460 VAC}}$$

Minimum Circuit Ampacity
For 40KW and smaller Electric Heat configurations:
MCA = 1.25 (Full Load Amps of Electric Heat + Full Load Amps of Supply Fan) + Remaining Full Load Amps of Motors.

For 50KW and larger Electric Heat configurations:
MCA = 1.25 (Full Load Amps of Supply Fan) + Full Load Amps of Electric Heat + Remaining Full Load Amps of Motors.

Maximum Overcurrent Protection
MOP = 2.25 (Full Load Amps of 1 Supply Fan) + Remaining Supply Fan Full Load Amps + Full Load Amps of Electric Heat.

Standard Ampere Ratings for Fuses
From the NEC Handbook - The standard ratings for fuses shall be considered 15, 20 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600 700, 800 and 1000 amperes.

As with Cooling, select the standard fuse rating equal to the calculated Maximum Overcurrent value. If the MOP value does not equal a standard rating, select the next LOWER rating. If the next lower rating is less than MCA value, select the next highest fuse rating for MOP. The unit MOP value should always equal or exceed the unit MCA value.

Disconnect (Power) Switch Size
DSS = 1.15 (Full Load Amps of Electric Heat + Full Load Amps of Supply Fan(s)).

Select the standard switch size equal to the calculated Disconnect Switch Size value. If this value is not a standard size, select the next LARGEST size.

INDOOR AIR QUALITY

The Problem

Indoor air quality has long been a topic for debate! We all know of the sick building syndrome and of how stuffy and smelly a room can get after a long period of occupation. After extensive research, ASHRAE revised its ventilation standards with ASHRAE 62-1989.

With the introduction of ventilation standard ASHRAE 62-1989, there was a major revision in the ventilation required for buildings. Since its introduction, the standard has been adopted by ANSI and by many state building codes.

The result of these sweeping changes is that in new or renovated buildings much more outside air has to be introduced to meet the standard and maintain the level of indoor air quality. HVAC systems now see more load due to ventilation. In most cases, simply increasing the amount of outside air would substantially increase the size and operating cost of the system.

The Solution

Increased HVAC system capacity is one obvious solution to this change. The problem with this solution is that the size of HVAC equipment must increase to handle the extremes of the building load. The increase in tonnage is only used at maximum design and in many parts of the USA, most of that tonnage is used to remove moisture from the outside air before entering the building. First cost and running cost increase quite dramatically!

A Better Idea. By capturing and using the exhaust air stream and utilizing the difference between it and the outside air, excessive energy use can be avoided and equipment can be down sized compared to conventional approaches to HVAC equipment. If you ventilate, you must exhaust the air, air that you have already paid to be treated which is then discarded to the outside, either through leakage in the building and/or through exhaust. If you exhaust, you should salvage the energy available in that air during both cooling and heating.

INDOOR HUMIDITY CONTROL

The problem

Increased ventilation increases the amount of humidity introduced into the building. In most HVAC equipment, once the space temperature is satisfied the cooling system is shut off, yet air is still being introduced to the space to satisfy ventilation requirements!

Often, the outside moisture level is significantly greater than the indoor moisture level. This results in large quantities of moisture being introduced into the building causing the humidity level of the space to go out of control.

The Solution

By capturing and using the exhaust air stream and utilizing the difference between it and the outside air, latent energy (moisture) can be transferred from the outside air to the exhaust air, thus minimizing the effect of outside air moisture in the building. The result is much better humidity control of the space.

The *AAON®* Solution Works

AAON has taken an already proven design and developed the AAONAIRE (U.S. Patent No. 5,826,641) energy recovery option (see the unit drawings). The heat recovery option utilizes a total energy recovery heat wheel which transfers energy between room air exhaust and outside air being introduced into the building. Both sensible and latent (moisture) heat is transferred, thereby reducing the summer cooling load and the winter heating load.
Some of the features of the energy recovery option are:

- Total energy recovery heat wheel transferring both latent and sensible heat.
- Easy service of the heat wheel — slide in/slide out feature and washable media.
- 4 available model sizes covering 800 through 12,000 cfm outside air.
- 4 inch outside air filters.
- Exhaust backdraft damper.
- Available economizer option.
- Outside air/return air balancing dampers - motorized to isolate the outside air during periods of off cycle.

APPLICATION EXAMPLE

Consider the flow and psychrometrics of a 10-ton unit with a heat wheel option operating in St. Louis, MO.
See the following pages for airflow and the Energy Analysis samples of this example.

The unit is delivering 4000 cfm to the space with 1500 cfm of outside air (38% outside air). There is 1350 cfm of exhaust air from the space with 2500 cfm recirculated. With 97°/75° outside air (OA) and 75°/61° exhaust air (RA), the heat wheel cools the outside air to 81.9°/66.3° (After the Wheel). When mixed with the 2500 cfm of recirculated air, the air entering the evaporator coil is 77.6°/63.1° (MA) (the moisture content at this point is almost 1/3 lower than the outside air). Using the electronic program for a 10 ton unit, the leaving air from the unit is 53.9°/52.6° (SA) with a total capacity of 171.0 MBH and a sensible capacity of 124.4 MBH.

Note, with the addition of a heat wheel, we have a 10 ton unit performing 14.25 tons of cooling! (the heat wheel contributes 50.2 MBH total and 21.3 MBH sensible).

The same unit as above operating in the winter time recovers 69.2 MBH of sensible energy which would normally be lost. Some moisture is captured for a total energy of 104.1 MBH.

Note the first cost savings due to the reduced unit size and the year round continuing energy savings that are accomplished in all future years with the use of the AAONAIRE energy recovery heatwheel.

Samples of *AAONAIRE®* Energy Savings Reports

AAON, INC. — **Heat Wheel Rating**

2425 South Yukon Ave
Tulsa, Oklahoma 74107-2728
Ph. (918) 583-2266 Fax (918) 583-6094

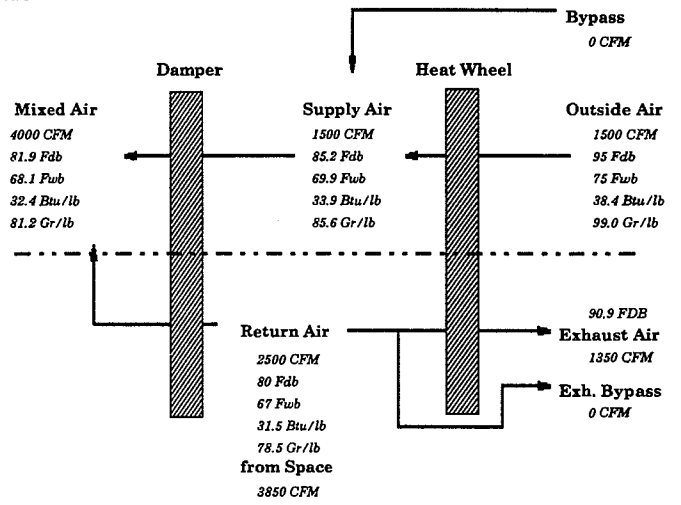
AAON Rep. Release
AAONECat Database 5.07

Job Information

Job Name:	*New Addition*	Order for:	*ABC Mechanical*
Job Number:	*Job #1*	AAON Contact:	*Friendly Rep Firm*
Site Altitude:	*0'*	Order Date:	*Jun 24, 1999*

RK-10-3-E0-232:WG000000H000CB - Summer

RTU# 1



Altitude:	*0 Feet*	Velocity:	*360.2*
QT:	*30,471 BTUH*	QS:	*15,990 BTUH*
Efficiency:	*72.8%*	Effectiveness:	*65.5% Supply Side*

Data file: C:\AAON97\AAONECAT\AAONDATA.MDB — *PrintOut Date: 7/9/99*

Report of the summertime heatwheel performance at the selected design conditions for the individual job.

AAON, INC. — **Heat Wheel Rating**

2425 South Yukon Ave
Tulsa, Oklahoma 74107-2728
Ph. (918) 583-2266 Fax (918) 583-6094

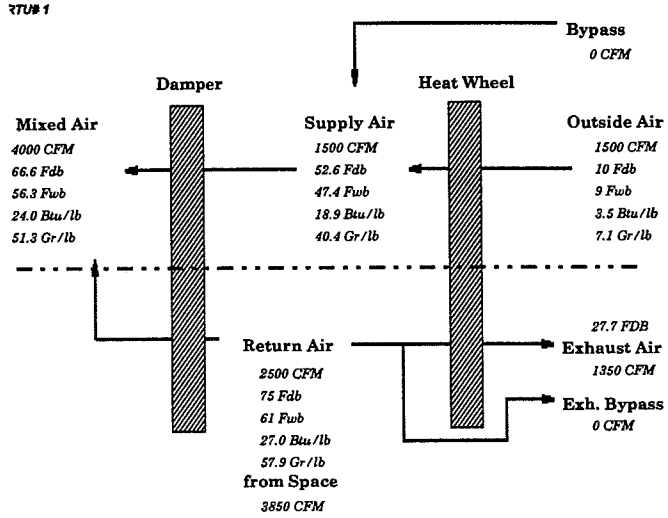
AAON Rep. Release
AAONECat Database 5.07

Job Information

Job Name:	*New Addition*	Order for:	*ABC Mechanical*
Job Number:	*Job #1*	AAON Contact:	*Friendly Rep Firm*
Site Altitude:	*0'*	Order Date:	*Jun 24, 1999*

RK-10-3-E0-232:WG000000H000CB - Winter

RTU# 1



Altitude:	*0 Feet*	Velocity:	*360.2*
QT:	*(104,189) BTUH*	QS:	*(69,291) BTUH*
Efficiency:	*72.8%*	Effectiveness:	*65.5% Supply Side*

Data file: C:\AAON97\AAONECAT\AAONDATA.MDB — *PrintOut Date: 7/9/99*

Report of the wintertime heatwheel performance at the selected design conditions for the individual job.

AAONAIRE® Heatwheel Performance Calculation

AAON, INC. — **Energy Recovery Analysis**

3425 South Yukon Ave
Tulsa, Oklahoma 74107-3729
Ph. (918) 583-2266 Fax (918) 583-6094

AAON Rep. Release
AAONEcat v3.00.0010
AAONECat Database 1.07

RK-10-3-E0-232:WG000000H000CB
RTU# 1

Project Information

Project:	New Addition	Analysis For:	ABC Mechanical
Location:	St. Louis, Missouri	AAON Contact:	Friendly Rep Firm
Heat Source:	Gas	Run Time:	16 Hours
	0.085 $ Per KWH		
	0.6 $ Per THERM		

	OUTDOOR		INDOOR	
Design Conditions	Winter	Summer	Winter	Summer
Dry Bulb	10	95	75	80
Wet Bulb	9	75	61	67

Temp Range	Hours	MCWB	Enthalpy	Load w/o HW MBtu	Savings w/ HW MBtu	Load w/ HW MBtu	$ Saved w/ HW
107	1	76	39.2	52.3	34.2	18.0	$0
102	10	74	37.4	396.4	259.7	136.8	$2
97	47	75	38.4	2,180.2	1,428.0	752.2	$13
92	165	74	37.5	6,649.3	4,355.3	2,294.0	$39
87	340	72	35.7	9,592.4	6,283.0	3,309.4	$56
82	521	70	34.0	8,684.8	5,688.5	2,996.2	$51
77	551	67	.0	0.0	0.0	0.0	$0
72	544	64	.0	0.0	0.0	0.0	$0
67	466	60	26.4	-9,814.0	-6,428.1	-3,385.8	$48
62	394	56	23.8	-11,489.0	-7,525.3	-3,963.7	$56
57	362	51	20.8	-13,488.1	-8,834.7	-4,653.4	$66
52	372	46	18.1	-16,873.9	-11,052.4	-5,821.5	$83
47	351	42	16.2	-18,764.5	-12,290.7	-6,473.7	$92
42	397	38	14.3	-24,439.3	-16,007.8	-8,431.6	$120
37	427	34	12.6	-29,744.8	-19,482.9	-10,262.0	$146
32	371	30	10.9	-28,849.0	-18,896.1	-9,952.9	$142
27	229	25	8.9	-19,661.9	-12,878.6	-6,783.4	$97
22	126	20	7.1	-11,839.0	-7,754.5	-4,084.4	$58
17	76	15	5.4	-7,756.6	-5,080.5	-2,676.0	$38
12	53	11	4.1	-5,838.5	-3,824.2	-2,014.3	$29
7	23	6	2.6	-2,720.0	-1,781.6	-938.4	$13
2	11	2	1.4	-1,390.0	-910.4	-479.5	$7
-3	3	-3	.0	-403.4	-264.2	-139.2	$2
-8	0	-99	.0	0.0	0.0	0.0	$0
-13	0	-99	.0	0.0	0.0	0.0	$0
-18	0	-99	.0	0.0	0.0	0.0	$0

Total Savings Due to Heat Wheel: $ 1,159

Data file: C:\AAON97\AAONECAT\AAONDATA.MDB — PrintOut Date: 7/9/99

Report of the seasonal performance at the selected conditions and job location. Note the energy consumption and savings are calculated by the "5 degree bin method".

WINTER SAVINGS - Note the actual heating dollars saved are calculated by taking the difference in the BTUs to heat the 1500 CFM of outside air, with and without the heatwheel. This BTU savings is multiplied by the energy cost of the gas at $0.60 per 100,000 BTU and divided by the burner efficiency.

SUMMER SAVINGS - In a similar way the cooling savings are calculated by taking the difference in the BTUs to cool the 1500 CFM of outside air, with and without the heatwheel. This BTU savings is multiplied by the energy cost of the electricity at $0.085 per 1000 watts and divided by the EER of the unit.

It is faster and easier to use the AAON, Inc. furnished PC software for equipment selection, as well as, the unit and heatwheel performance data. The following is presented for your information.

Effectiveness (as defined by ASHRAE) is the amount of energy recovered (i.e., sensible, latent, or enthalpy) divided by the maximum amount that could theoretically be recovered.

Balanced air flow (supply air & exhaust air are equal) — Look up the efficiency (E) from Table 57-1, and read the corresponding value .

To calculate the temperature of air leaving the heat wheel (*tsa(db)*). $tsa(db)=toa(db) - E\,[toa(db)-tra(db)]$.

To calculate the enthalpy of air leaving the heat wheel (*hsa*). $hsa=hoa - E\,[hoa-hra]$.

Using a psychrometric chart, lookup the corresponding wet bulb temperature where *tsa(db)* and *hsa* intersect.

Unbalance air flow (supply air and exhaust air are not equal)

Maximum unbalance $\frac{Vmin}{Vmax} \geq 0.8$. Lookup the efficiency (*E*) Table 57-1, using the *smaller* air flow (*Vmin*).

To calculate the temperature of air leaving the heat wheel (*tsa(db)*). $tsa(db)=toa(db) - E\frac{Vmin}{Vmax}\,[toa(db)-tra(db)]$.

To calculate the enthalpy of air leaving the heat wheel (*hsa*). $hsa=hoa - E\,\frac{Vmin}{Vmax}\,[hoa-hra]$.

Using a psychrometric chart, lookup the corresponding wet bulb temperature where *tsa(db)* and *hsa* intersect.

Energy recovered

Sensible (btuh) = $Vmax.\ 1.085\,[toa(db)-tsa(db)]$

Latent (btuh) = $Vmax.\ 4.5\,[hoa-hsa]$

Where:

- *Vmin* - *Lowest air volume, usually the exhaust*
- *Vmax* - *Largest air volume, usually the supply*
- *tsa(db)* - *Temperature supply air (from wheel), dry bulb*
- *toa(db)* - *Temperature outside air, dry bulb*
- *tra(db)* - *Temperature return air, dry bulb*
- *hsa* - *Enthalpy supply air, Btu/Lb*
- *hoa* - *Enthalpy outside air, Btu/Lb*
- *hra* - *Enthalpy return air, Btu/Lb*

AAONAIRE® Heatwheel Efficiency & Pressure Drop

TABLE 57 - 1

A Cabinet • 2-7 ton			B Cabinet • 8-15 ton			C Cabinet • 16-25 ton		
CFM	EFFICIENCY	In.WC	CFM	EFFICIENCY	In.WC	CFM	EFFICIENCY	In.WC
300	.851	.280	1000	.752	.541	2000	.755	.430
400	.841	.370	1250	.741	.646	2250	.749	.484
500	.827	.460	1500	.728	.752	2500	.743	.537
600	.810	.550	1750	.712	.857	2750	.736	.590
700	.791	.640	2000	.694	.963	3000	.728	.643
800	.768	.730	2250	.673	1.069	3250	.720	.696
			2500	.650	1.174	3500	.711	.750
						3750	.701	.803
						4000	.691	.856
						4250	.680	.909
						4500	.668	.962

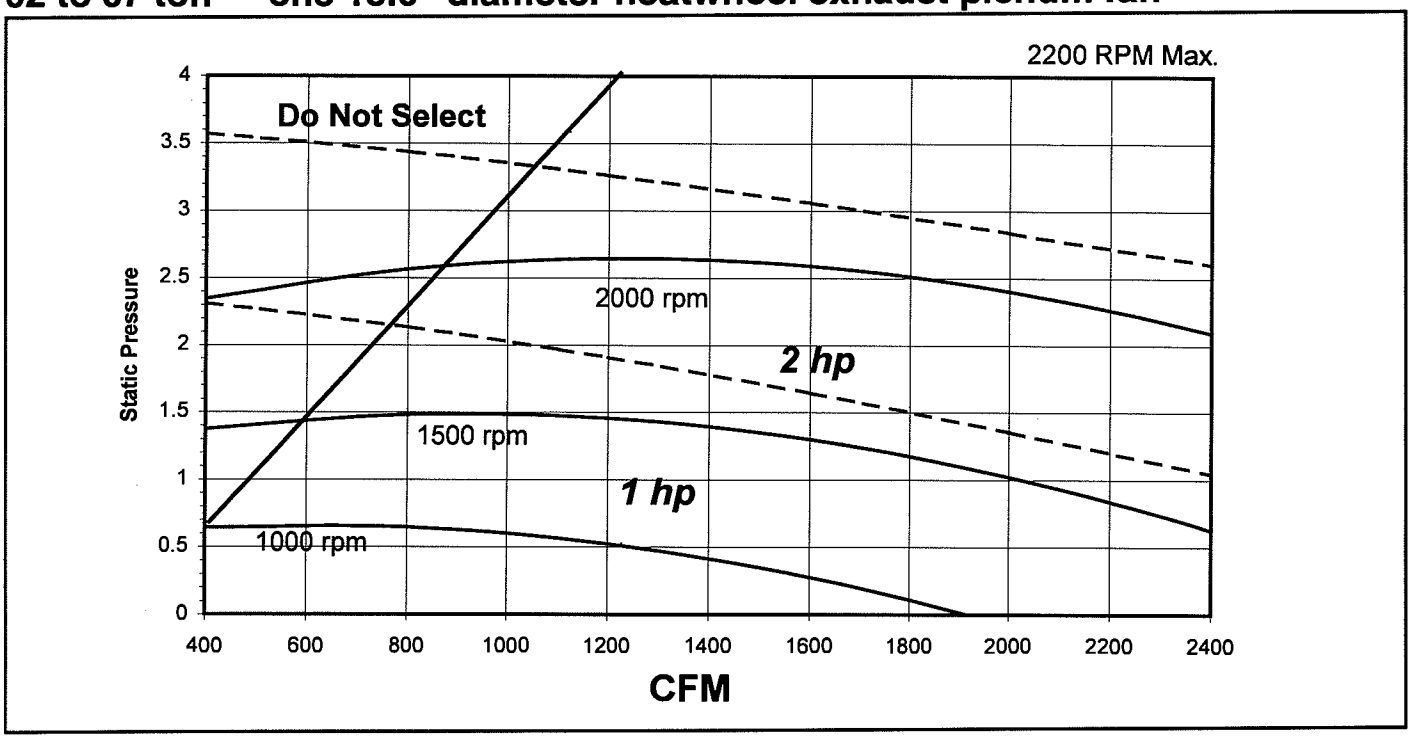
D Cabinet • 26-60 ton • 9,000 cfm wheel			D Cabinet • 26-60 ton • 12,000 cfm wheel		
CFM	EFFICIENCY	In.WC	CFM	EFFICIENCY	In.WC
4000	.755	.430	4500	.845	.435
4500	.749	.484	5000	.825	.486
5000	.743	.537	5500	.808	.537
5500	.736	.590	6000	.793	.588
6000	.728	.643	6500	.779	.638
6500	.720	.696	7000	.766	.689
7000	.711	.750	7500	.755	.740
7500	.701	.803	8000	.744	.791
8000	.691	.856	8500	.734	.842
8500	.680	.909	9000	.725	.893
9000	.668	.962	9500	.717	.943
9500	.656	1.016	10000	.709	.994
10000	.643	1.069	10500	.701	1.045
			11000	.694	1.096
			11500	.687	1.147
			12000	.681	1.198

Heatwheel Exhaust Blower Performance

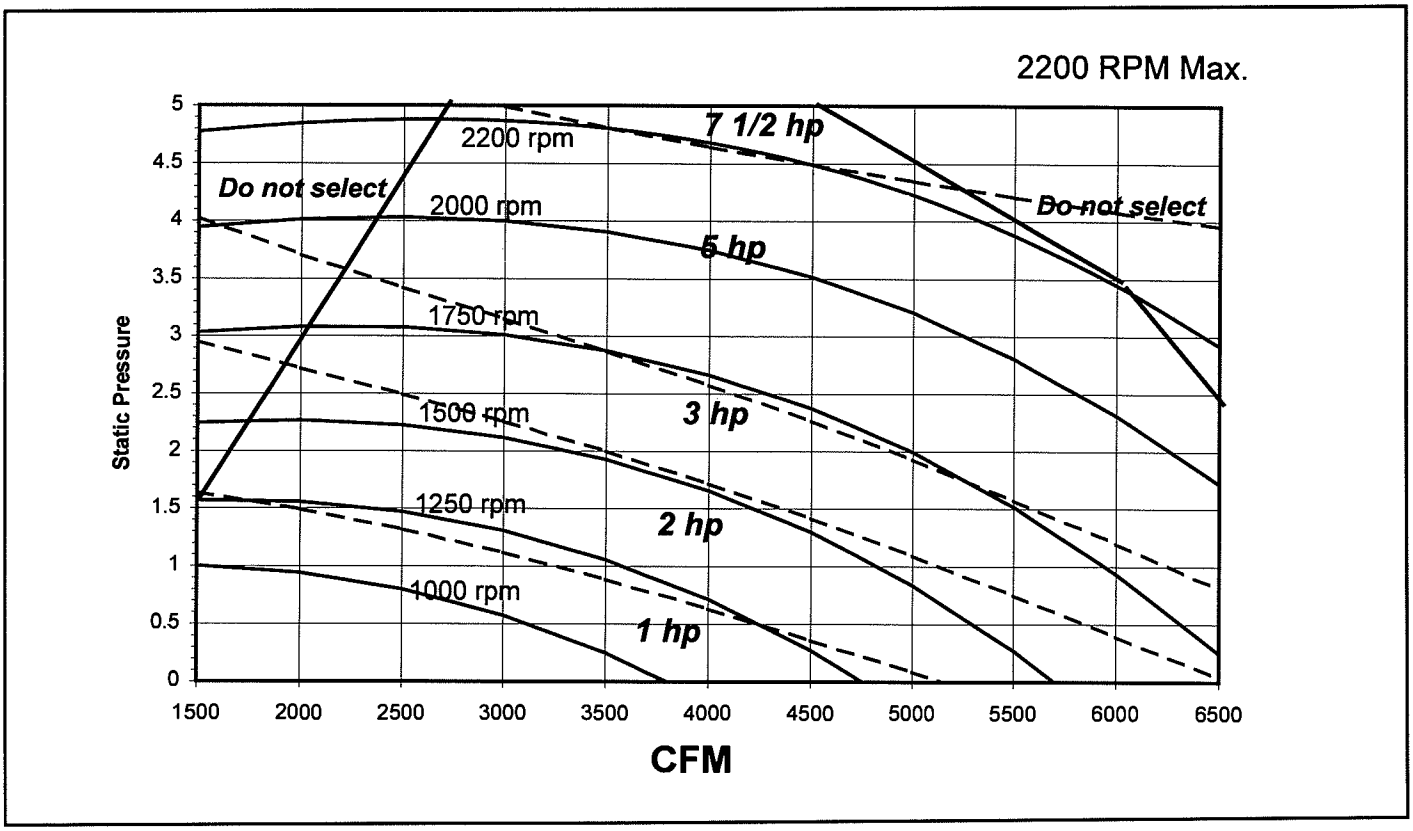
Blower performance curves include internal resistance of the cabinet only. For total static pressure determination, system external static pressure must be added to the appropriate heat wheel static pressure drop.

To determine the exhaust blower motor HP and RPM, calculate the total static pressure required and the exhaust air volume. Then, use the curves below to lookup the fan RPM and the required motor HP for the appropriate cabinet size.

02 to 07 ton • one 15.0" diameter heatwheel exhaust plenum fan

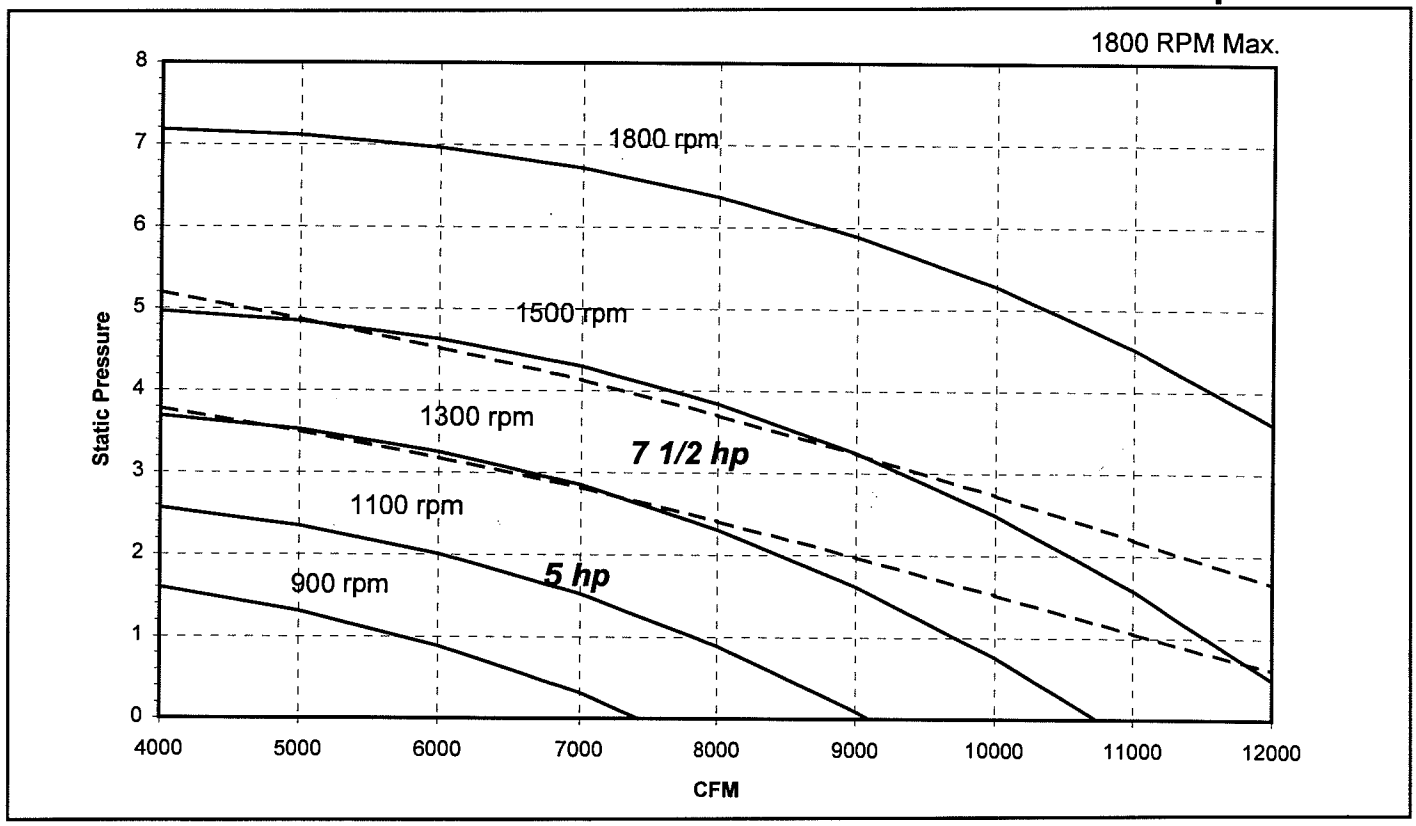


08 to 25 ton • one 18.5" diameter heatwheel exhaust plenum fan

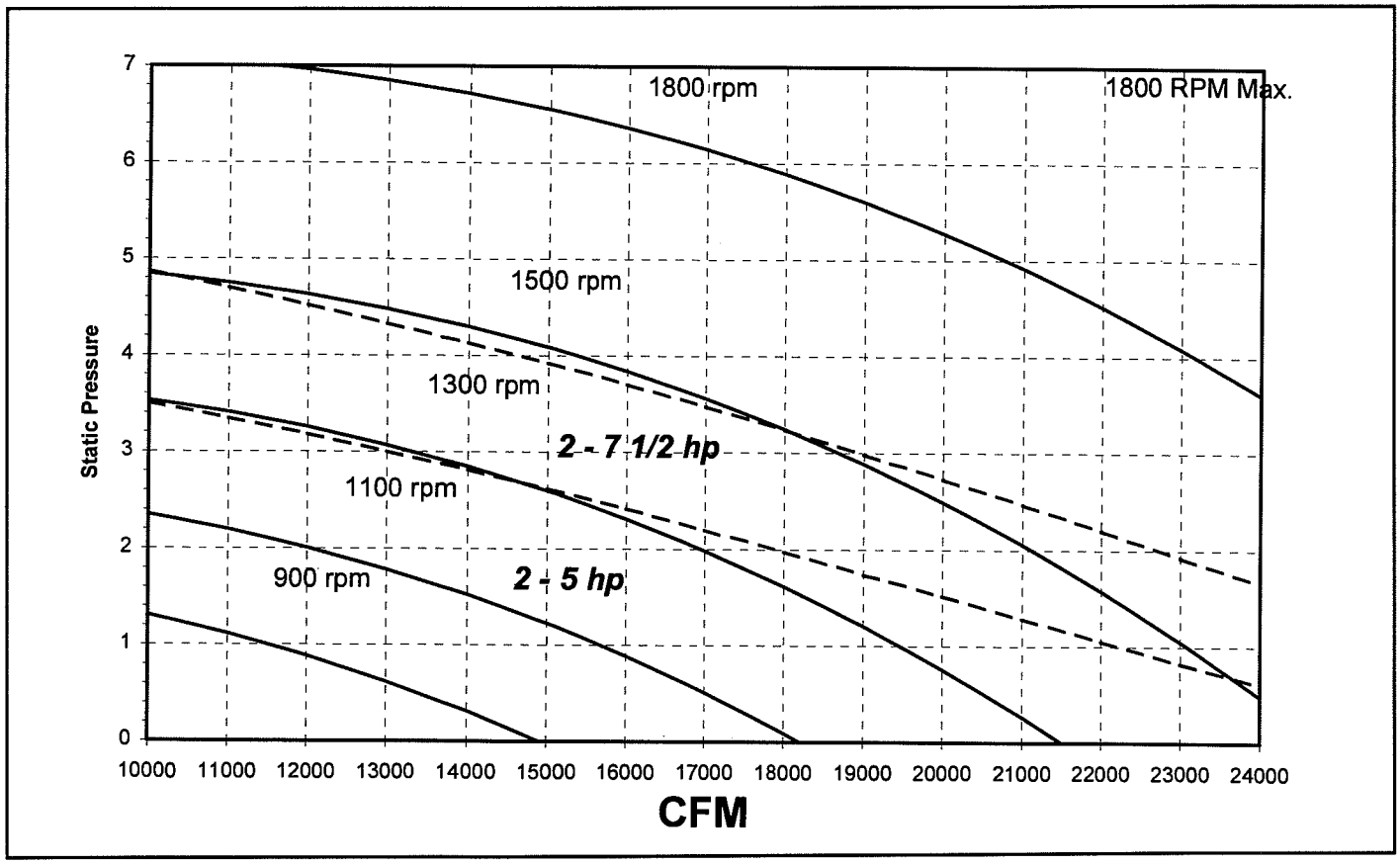


Heatwheel Exhaust Blower Performance - cont.

26 to 60 ton • one 27.0" diameter heatwheel exhaust plenum fan



26 to 60 ton • two 27.0" diameter heatwheel exhaust plenum fans



Design Conditions & Control Strategies

Standard temperature control

The unit can be configured with normal air flows and controls but still have the benefit of a large amount of makeup air, better humidity control and lower operating cost than a unit without a heat wheel. The energy recovery unit operates in four (4) basic modes; fan only; economizer; cooling and heating. Each of these modes has specific functions as defined below.

Fan only mode: When the unit supply fan is started, and there is no call for cooling or heating, the unit economizer moves to its minimum position, the heatwheel is activated and the heatwheel fan is started. If the unit is equipped with heatwheel bypass dampers, these are closed.

Economizer mode: With the unit supply fan in operation and a call for cooling is made, if the outdoor air temperature and humidity are below the enthalpy setpoint, the heatwheel exhaust fan is activated, the heatwheel is deactivated and the economizer modulates to maintain the mixed air setpoint. If the unit is equipped with heatwheel bypass dampers, these are opened to accommodate the increase in outside air volume.

Cooling mode: With the unit supply fan in operation and a call for cooling is made, if the outdoor air temperature and humidity are above the enthalpy setpoint, the economizer moves to its minimum position and mechanical cooling is activated. The heatwheel is activated and the heatwheel exhaust fan is started. If the unit is equipped with heatwheel bypass dampers, these are closed.

Heating mode: Upon a call for heat, the heating function is activated, the supply fan is activated and the economizer moves to its minimum position. The heatwheel is activated and the heatwheel exhaust fan is started. If the unit is equipped with heatwheel bypass dampers, these are closed.

Notice that in all four (4) basic above modes, the operation of the heatwheel is determined by the position of the economizer. With the exception of unit shutdown or a night setback mode, the heatwheel exhaust fan is in operation.

When control systems are "by others", all of the above modes of operation must be considered.

OPTIONS

Frost control

The formation of frost on a heat wheel is a function of the available moisture in the exhaust air stream and the outside air temperature. For an exhaust air stream of 30% relative humidity, the frost threshold is zero (0) degF outside air temperature. This is the temperature at which frost will start to form on the wheel. At higher exhaust humidities and lower outside air temperatures, the frost threshold will be higher.

During the winter, with outside air below freezing, indoor humidities tend to be low. Because of this, we (AAON) do not feel frost control is necessary in most conditions.

In the event that there will be unusually low outside air temperatures or high exhaust humidities (in excess of 30% RH exhaust combined with outside air temperatures less than five (5) degF), AAON offers two forms of defrost control.

The first, opens the economizer damper around the heat wheel thereby using the exhaust air to remove frost — this operates on a timer and is activated by outside temperature.

The second, simply stops the heat wheel periodically and uses the exhaust air to remove frost — this would operate, also, on a timer and be activated by outside air temperature.

High latent removal

The units can be run at low air flow (200 cfm/ton) to act as a two stage dehumidifier. First stage is at the minimum outside air quantity and to reduce humidity load using the heat wheel. The second stage is to run the refrigeration at low air flow to maximize moisture removal.

The unit would primarily operate to satisfy temperature in the space. Once temperature is satisfied, a humidistat would run the compressors for dehumidification if the humidity is too high. If a reheat coil were installed, it would come on with the compressors to minimize overcooling of the space. The reheat coil would cycle off if cooling is called for. Supplemental heating would come on in response to the heating thermostat, which would maintain space temperature.

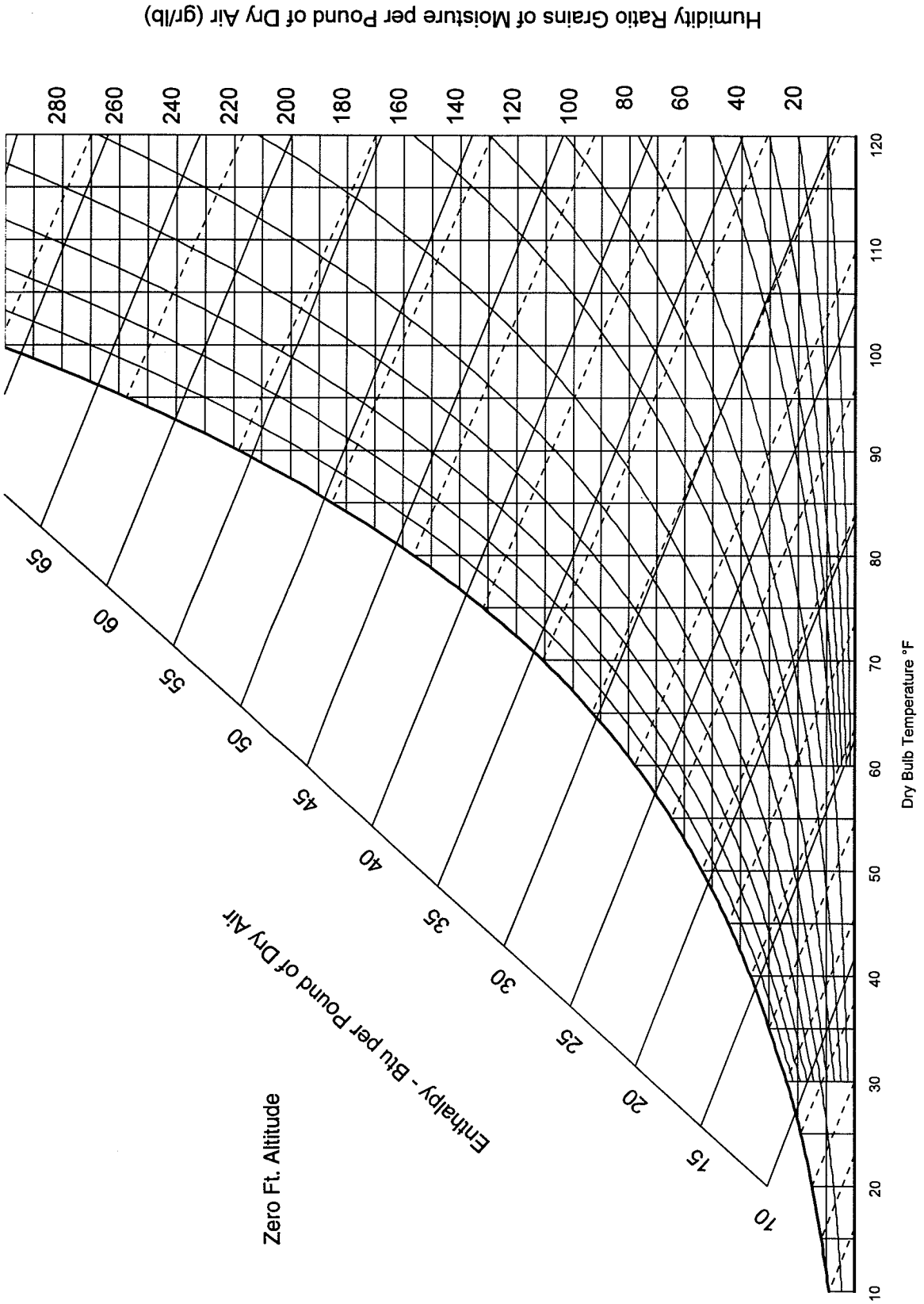
Reheat

In this case, a reheat coil using condenser heat, is added after the evaporator to act as the first stage of heating.

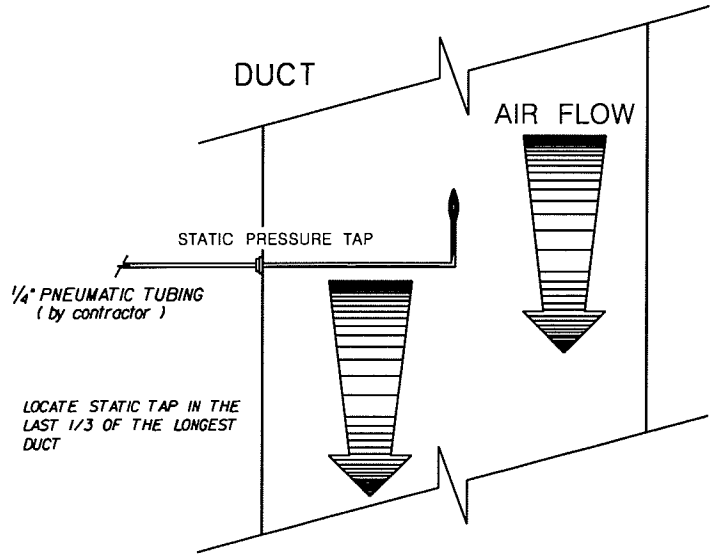
Hot gas bypass

In applications where the unit air flow is low (less than 250 cfm/ton), the use of hot gas bypass is required to prevent the evaporator coil from freezing in conditions of unusually low load.

Psychrometric Chart

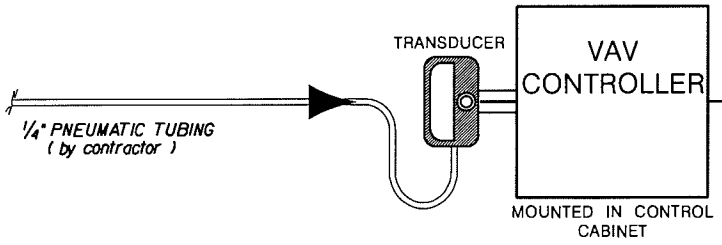


vav control



– AILERON CONTROL –

DAMPER MOUNTED IN FAN DISCHARGE IS MODULATED TO VARY AIR FLOW.



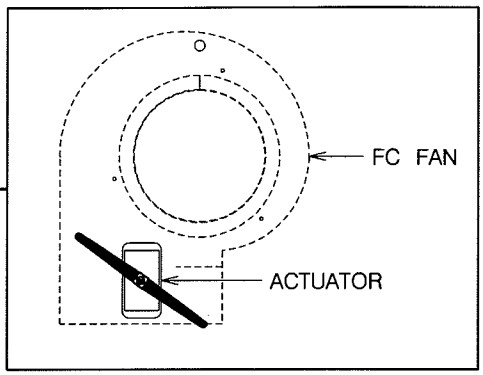
– INLET VANE CONTROL –

ADJUSTABLE INLET VANE ASSEMBLY IS MODULATED TO VARY AIR FLOW.

– VARIABLE FREQUENCY DRIVE –

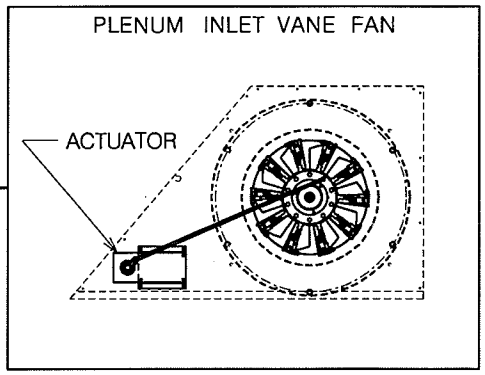
MOTOR SPEED IS MODULATED TO VARY FAN SPEED AND AIR FLOW.

02–04 TON
AILERON CONTROL



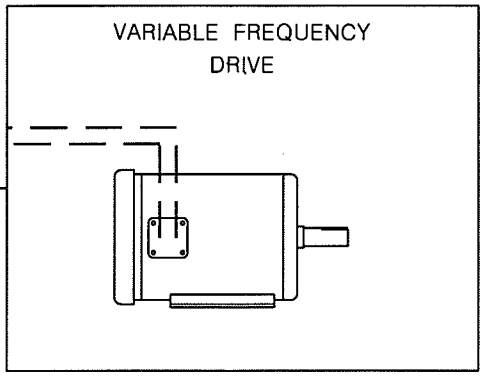
OR

08–60 TON
INLET VANE CONTROL

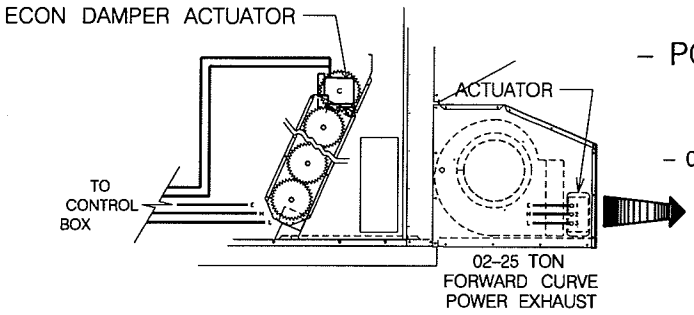


OR

02–60 TON VFD
FAN SPEED CONTROL



power exhaust diagram



– POWER EXHAUST SEQUENCE OF OPERATION –

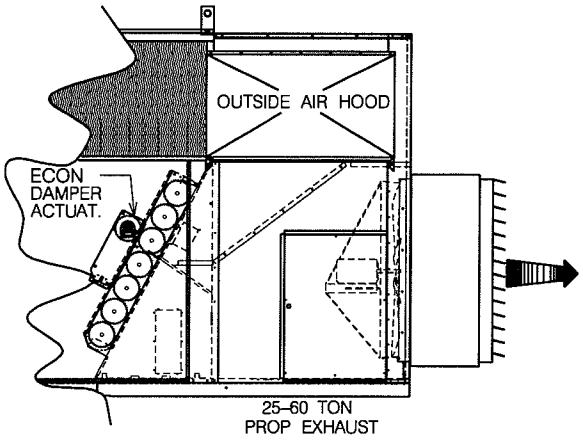
STANDARD CONTROL

– 02–25 TON FORWARD CURVE OR 26–60 TON PROP EXHAUST –

AN END SWITCH IS MOUNTED ON THE ECONOMIZER GEARING AND IT'S POSITION IS FACTORY SET, BUT FIELD AJUSTABLE. WHEN THE END SWITCH MAKES, THE POWER EXHAUST MOTOR IS ENGAGED. THE GRAVITY DAMPER IS FORCED OPEN BY THE EXHAUSTER AIR FLOW.

– 26–60 TON PLENUM FAN –

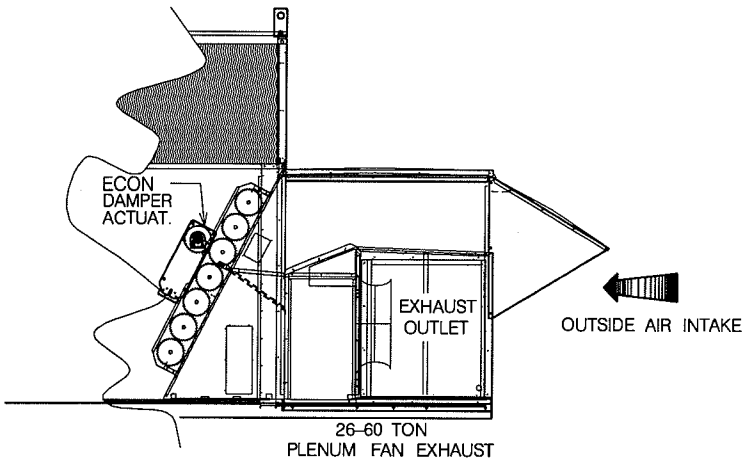
AN END SWITCH IS MOUNTED ON THE ECONOMIZER GEARING AND IT'S POSITION IS FACTORY SET, BUT FIELD ADJUSTABLE WHEN THE END SWITCH MAKES, THE POWER EXHAUST MOTOR IS ENGAGED. THE GRAVITY DAMPER IS FORCED OPEN BY THE EXHAUSTER AIR FLOW.



OPTIONAL CONTROL

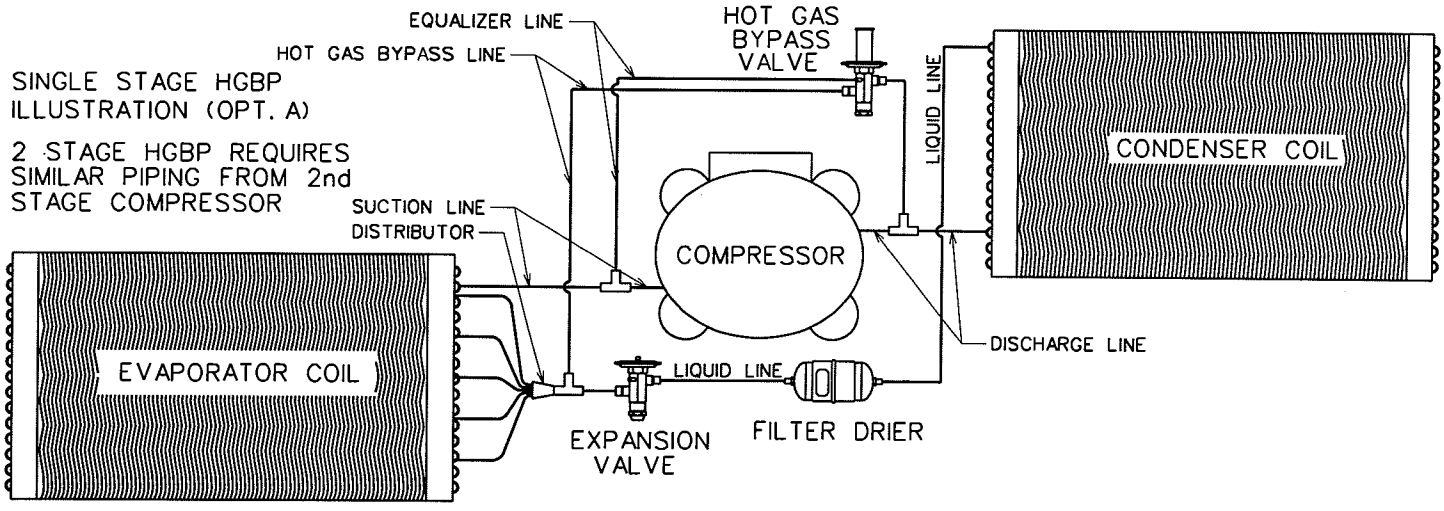
– 26–60 TON PLENUM FAN –

AN END SWITCH IS MOUNTED ON THE ECONOMIZER GEARING AND IT'S POSITION IS FACTORY SET, BUT FIELD ADJUSTABLE. WHEN THE END SWITCH MAKES, THE POWER EXHAUST MOTOR IS ENGAGED. A NULL PRESSURE SWITCH, SENSING BUILDING PRESSURE, DRIVES THE INLET VANES TO A POSITION WHICH SATISFIES THE ADJUSTABLE PRESSURE SETPOINT.



NOTE: HGBP IS REQUIRED ON LEAD COMPRESSOR(S) FOR VAV / VVT AND MAKE UP AIR UNITS.

hot gas by-pass example



'RK' 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 210/240-89 or 360-85.
- Units up to 20 tons shall carry the ARI compliance label.
- Unit **MINIMUM** cooling efficiency, including the standard supply air blower motor shall be as shown on the plans.
- Unit shall have a minimum heating system efficiency of 80%.
- Units shall be safety certified in accordance with UL Standard UL1995, and ANSI Standard Z21.47.
- Unit shall be safety certified by an accredited testing laboratory.
- Unit nameplate shall carry the label 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, 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 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.
- Air side access doors will have an internal metal liner to protect the door insulation.
- Unit exterior shall be painted with polyurethane paint over a primer and a G90 type galvanized steel.
- Paint finish shall be capable of withstanding at least 2000 hours, with no visible corrosive effects, when tested in a salt spray and fog atmosphere in accordance with ASTM B 117-95 test procedure.
- All wiring shall be color coded.
- The interior air side of the cabinet shall be entirely insulated on all exterior panels with 1" thick, 1.5 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 shall be in color and marked to match the color and markings of the wires and shall be both "point-to-point" and "ladder" diagrams.
- Diagrams shall also be laminated in plastic and permanently fixed to the control compartment door.
- Installation and maintenance manuals shall be supplied with each unit, located in a metal pocket in the control access compartment.
- Unit exterior to be "Grey" in color.

  OPTIONS

  1) Special coatings shall be on all coils and cabinet surfaces.
  2) Unit exterior to be "Tan" in color.
  3) Double wall interior insulation liners.
  4) Base pan insulation for units not mounted on a curb.

BLOWERS

- Blower(s) shall be entirely self contained on a slide deck for service and removal from the cabinet.
- All belt drive blower(s) shall have backward inclined airfoil blades.
- All direct drive blower(s) shall have forward curved blades.
- Adjustable V-belt drive shall be provided with a minimum rating of 140% of the motor nameplate brake horsepower when the adjustable pulley is at the minimum RPM.
- Blowers, drives and motors shall be dynamically balanced.

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 ensure 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 ensure 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 ensure 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 ensure 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 ensure 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

- The control shall be on-off (optional modulating damper controlled by building pressure) 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 with a top suction connection.
- Evaporator coils for multi-compressor units shall be circuited with one circuit and expansion valve per compressor.

OPTIONS: (Select One)

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

OPTION:

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

REFRIGERATION SYSTEM

- Compressor(s) shall be of the hermetic scroll type with internal thermal overload protection and mounted on the compressor manufacturer's 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(s) shall be provided with hot gas bypass.
2) Lag circuit(s) shall be provided with hot gas bypass.
3) All circuits shall be provided with hot gas bypass.
4) All circuits 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.
9) Unit shall be equipped with low ambient control to zero degrees.

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 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 corrosion resistant coating.

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 (stainless steel) heat exchanger with multiple concavities, 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. Heat exchanger tubes with separate internal turbulators are not acceptable.
- 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 15 year non pro-rated warranty.

GAS HEATING SECTION (con't)

OPTIONS:

1) Unit shall heat using natural gas fuel and with two stages of heat capacity on each heat exchanger.
2) Unit shall heat using natural gas fuel and two, two stage valves per heat exchanger.
3) Unit shall heat using Liquid Propane gas fuel and with one stage of heat capacity.
4) Unit shall be equipped with a Stainless Steel tubular heat exchanger with a 25 year non pro-rated warranty.
5) Unit shall heat using natural gas and be equipped with a modulating gas valve, adjustable speed combustion blower and stainless steel tubular heat exchanger. The heat exchanger shall have a 25 year non pro-rated warranty. The completely factory mounted gas heating assembly shall be capable of operating at any firing rate between 100% and 30% of rated capacity. The combustion air and gas firing rate shall both be capable of modulation. A discharge air sensor shall be provided for field installation in the supply air ductwork to sense the discharge air temperature. The discharge air setpoint shall be adjusted at the electronic controller within the rooftop unit control compartment.
   Heating control shall be capable of operation initiated by:
   a) a "W1" call for heat from a thermostat.
   b) a 0 to 10 volt signal from a DDC control system.

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, with copper tubing and aluminum fins mechanically bonded to the tubes.

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.

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 <u>field wired</u> 115 volt, 13 amp ground fault service receptacle.

FILTERS

- Unit to be furnished with 2" pleated throw away supply air filters.
  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" , 30% 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.

TEMPERATURE CONTROL

- VAV unit control of supply air flow modulation shall be by factory installed: (A) Aileron control; (B) Inlet vanes; or (C) VFD speed control; controlled by a field installed duct 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.
  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.

OPTIONAL CONTROLS

1) Single zone standard mechanical, T874 or equivalent.
2) Single zone electronic with night set back, T7300 or equivalent.
3) VAV electronic controller.
4) VVT electronic controller.
5) Remote monitoring and/or control panels, W950 or equivalent.
6) Staging and/or step control for electric heat.

HEAT RECOVERY OPTION

The rooftop unit shall have a factory mounted and tested heat wheel. The heat wheel shall be mounted in a rigid frame containing the wheel drive motor, drive belt, wheel seals and bearings. These components will form a cassette which shall be removable from the unit.

The energy recovery cassette shall contain a total energy recovery heat wheel constructed of a light weight polymer material with permanently bonded desiccant coating. The energy recovery wheel media shall be capable of removal from the cassette and replacement without the use of tools. Wheel media shall be cleanable using hot water or light detergent without degrading the latent efficiency.

The exhaust fan shall have backward inclined airfoil blades wiht an adjustable V-belt drive. A backdraft damper shall be included with the exhaust fan.

Outside air filters shall be disposable. The filter track shall be capable of either 2" or 4" filters.

OPTIONAL ROOF CURBS

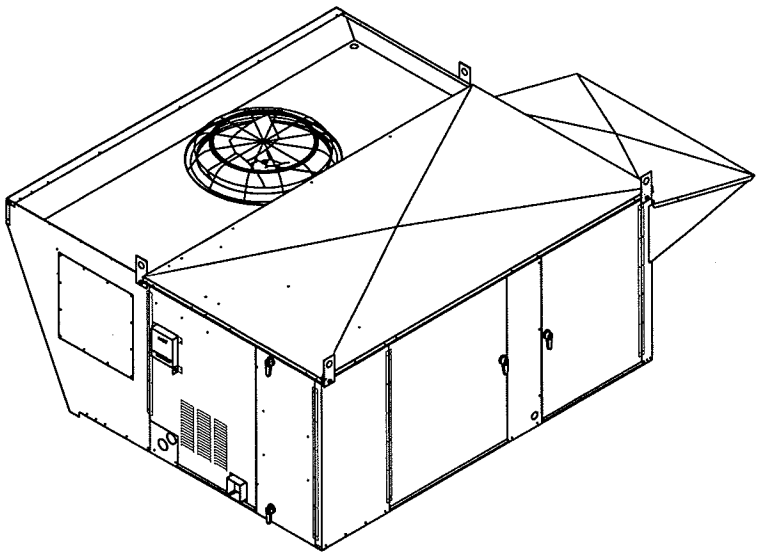
- Roof curbs shall be constructed of galvanized steel. Curbs are to be fully gasketed between the curb top and unit bottom with the curb providing full perimeter support, cross structure support and air seal for the unit.
  OPTIONS: (Select one)
  1) Unit shall be mounted on a factory furnished, knocked down and field assembled roof curb.
  2) Unit shall be mounted on a factory furnished acoustical style solid bottom roof curb, fully lined with 1" of neoprene coated, fiberglass insulation and with a wood nailer strip.
  3) Unit shall be mounted on a factory furnished acoustical style solid bottom roof curb, fully lined with 1" of neoprene coated, fiberglass insulation and with a wood nailer strip. The curb shall be adjustable up to 3/4" per foot to allow for a sloped roof.

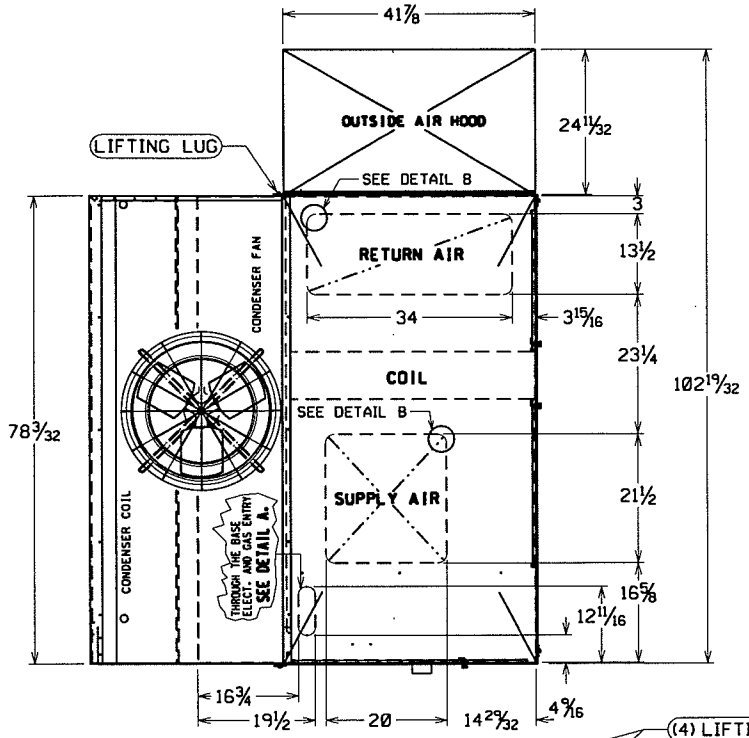
APPENDIX A

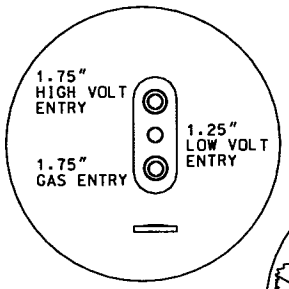
A-CABINET STANDARD ~ 2-7 TON

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







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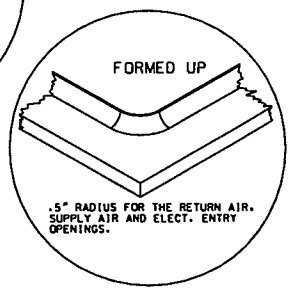
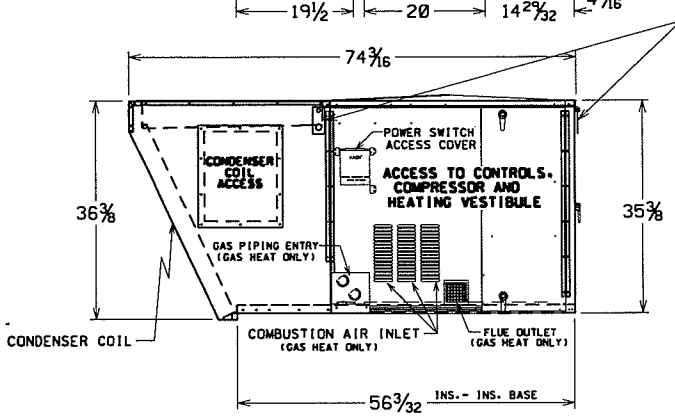
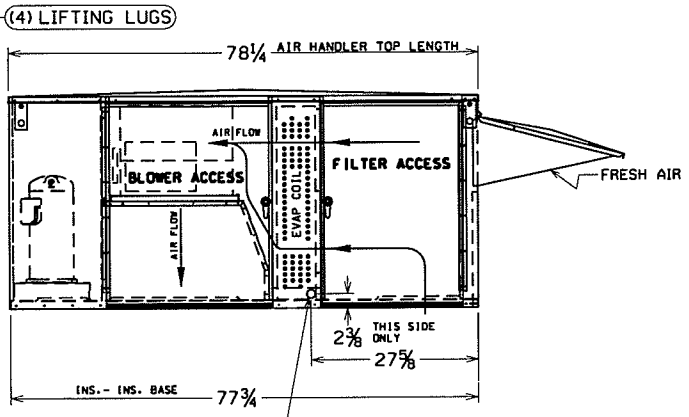


DETAIL B

NUMBER OF CONDENSER FANS
2-5 TON - 1 FAN
6-7 TON - 2 FANS



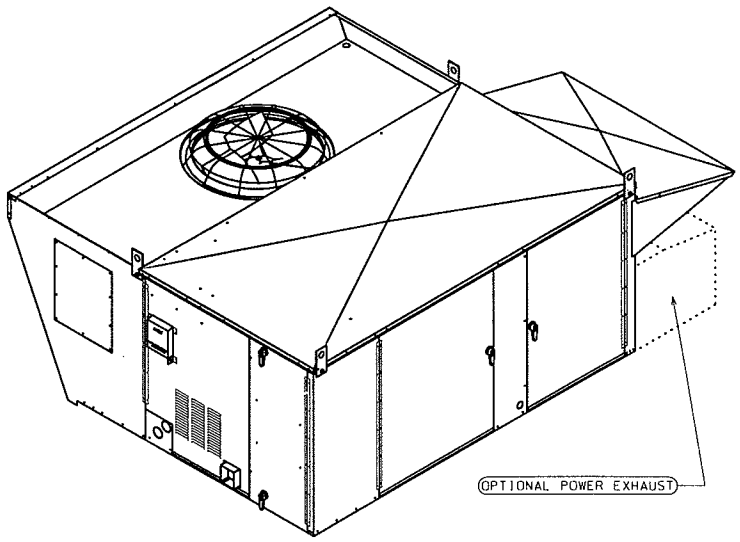


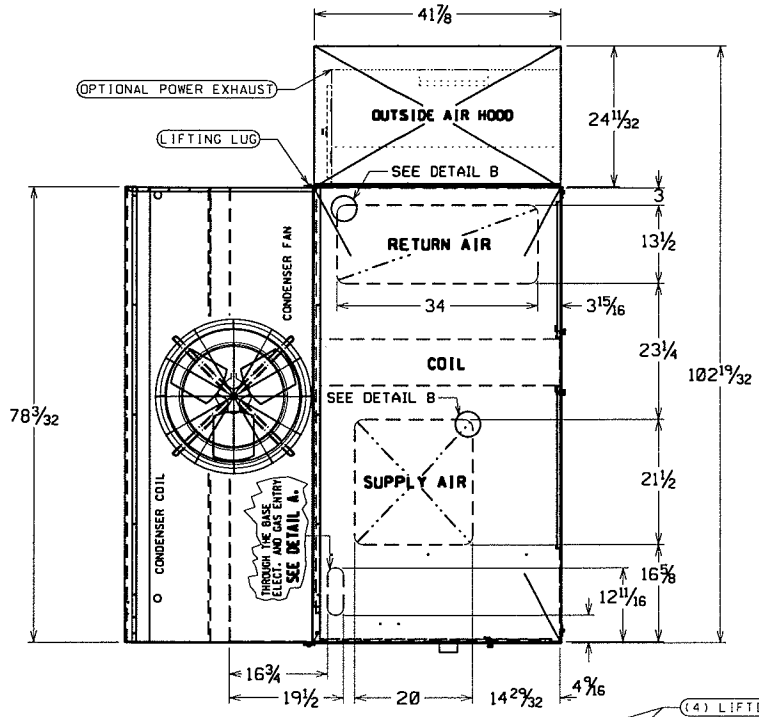
CONDENSATE DRAIN
1" NPT GALV. 'P' TRAP FURNISHED BY MANUFACTURER FOR DRAIN CONNECTION.

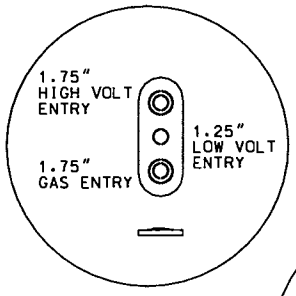
A-CABINET WITH ECONOMIZER ~ 2-7 TON

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







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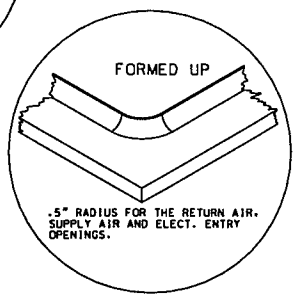
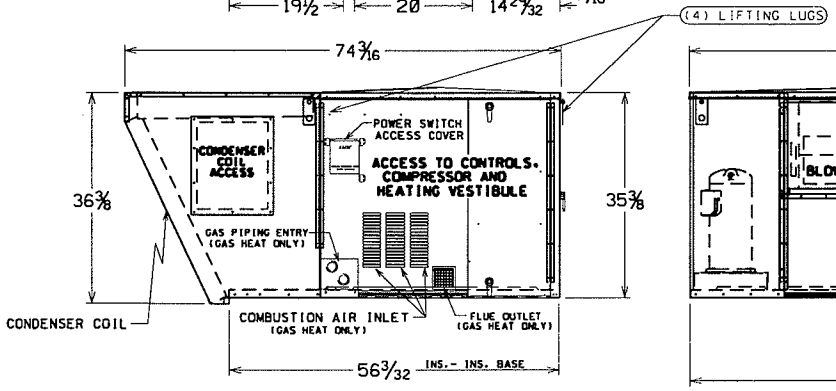
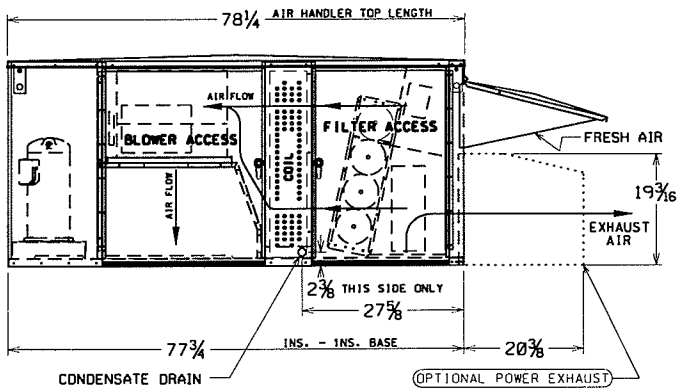


DETAIL B

NUMBER OF CONDENSER FANS
2-5 TON - 1 FAN
6-7 TON - 2 FANS

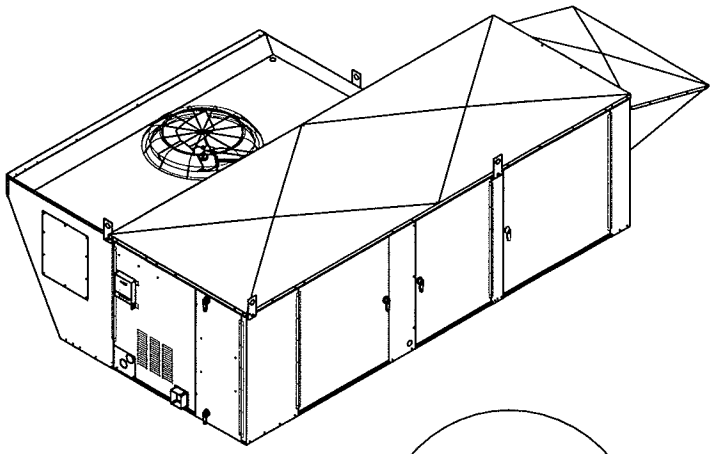


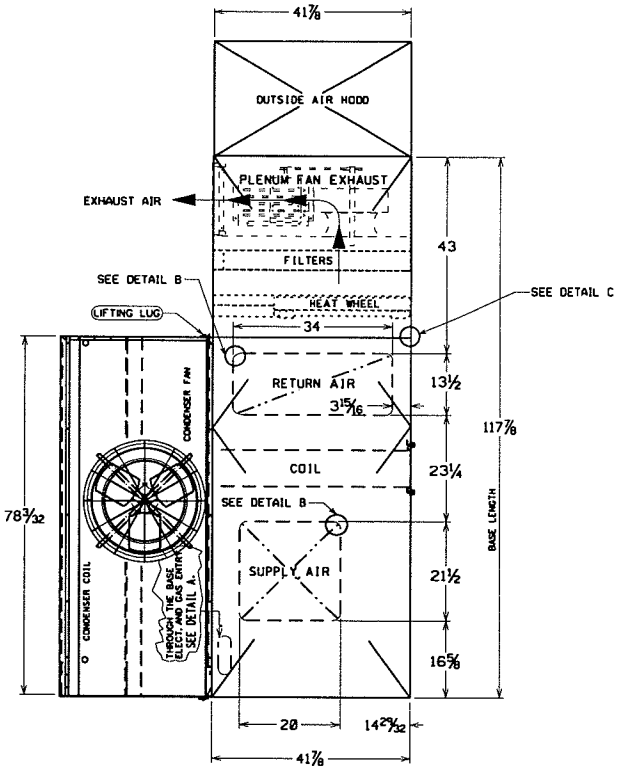


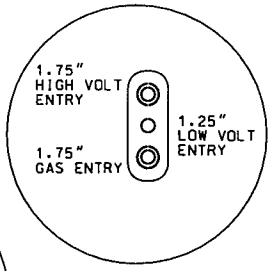
A-CABINET WITH ECONOMIZER & HEAT RECOVERY ~ 2-7 TON

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







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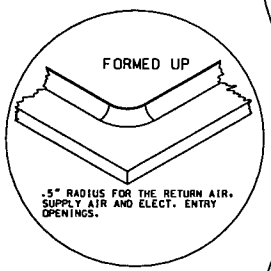

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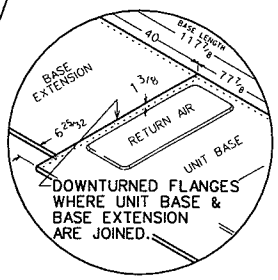
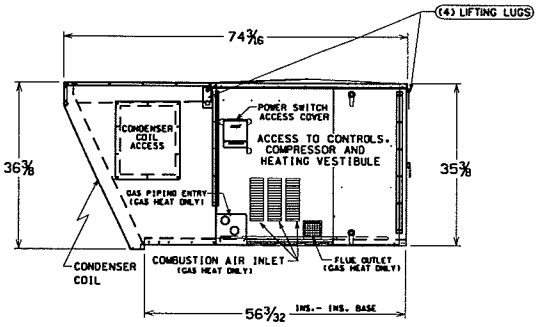
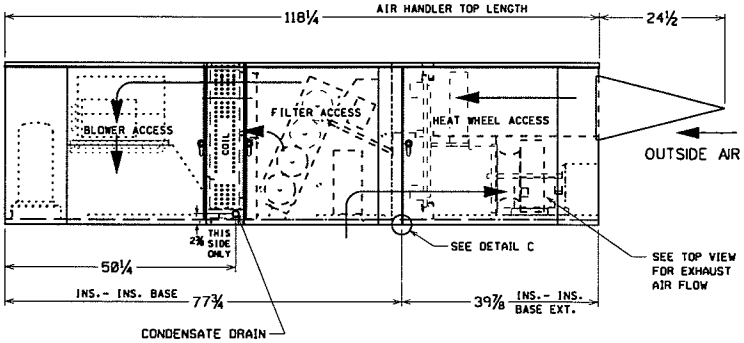


DETAIL C

NUMBER OF CONDENSER FANS
2-5 TON - 1 FAN
6-7 TON - 2 FANS

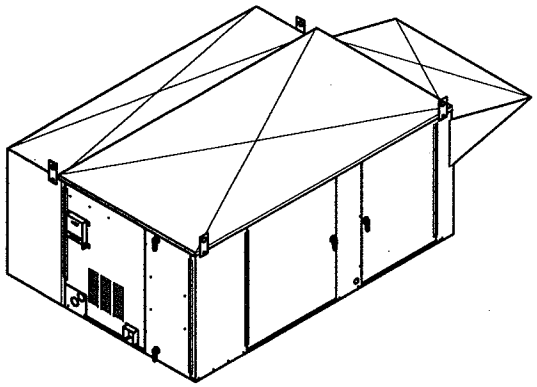


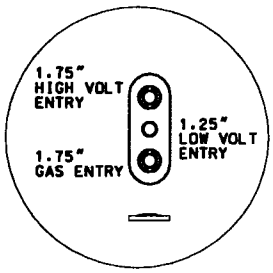


A-CABINET AIR HANDLER ~ 2-7 TON

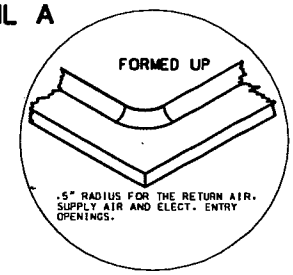
CLEARANCES

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



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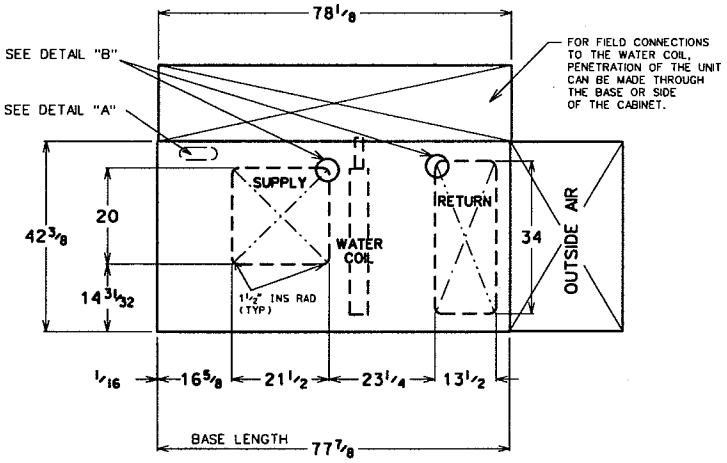
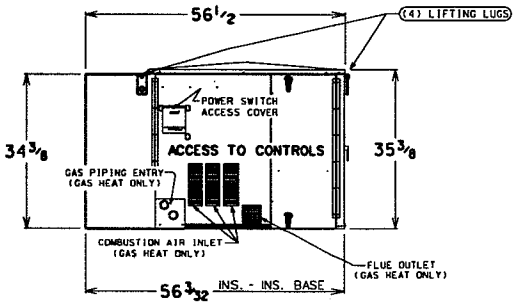
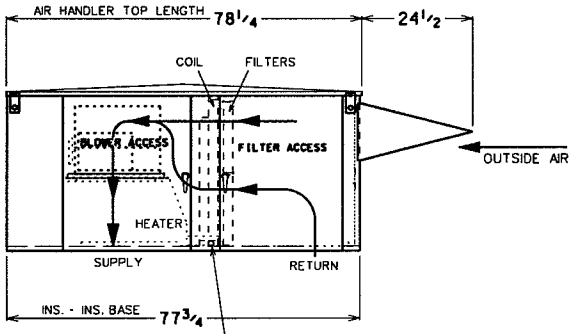




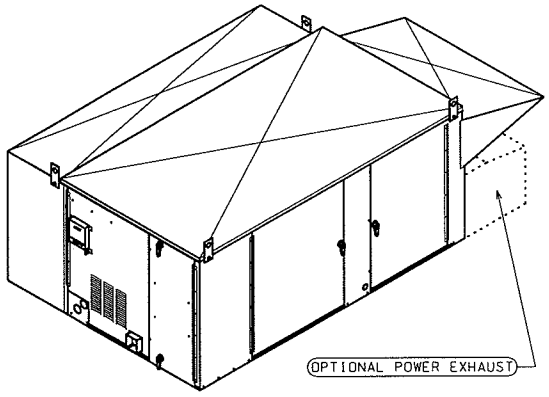


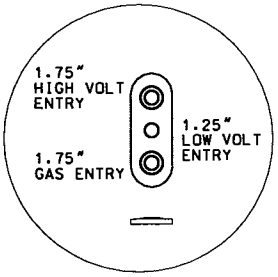
CONDENSATE DRAIN
1" NPT GALV. 'P' TRAP FURNISHED BY MANUFACTURER FOR DRAIN CONNECTION.

A-CABINET AIR HANDLER WITH ECONOMIZER ~ 2-7 TON

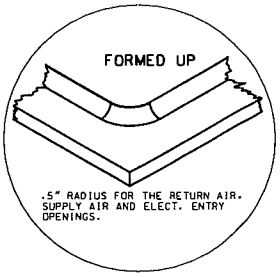
CLEARANCES

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



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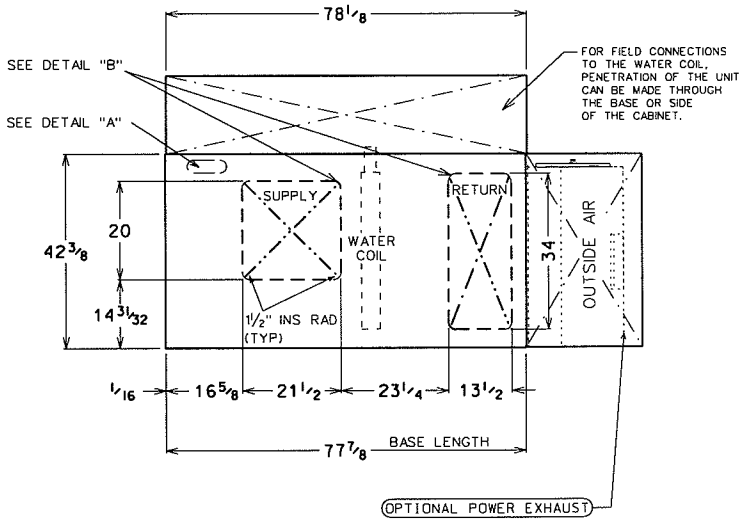
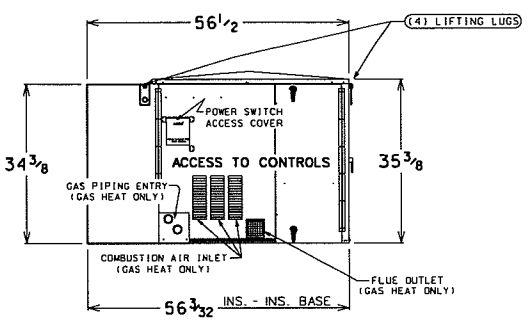
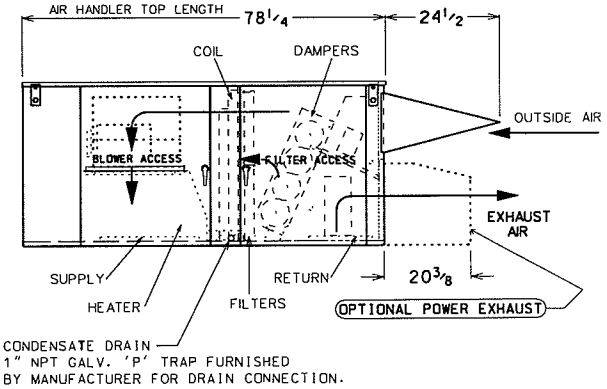


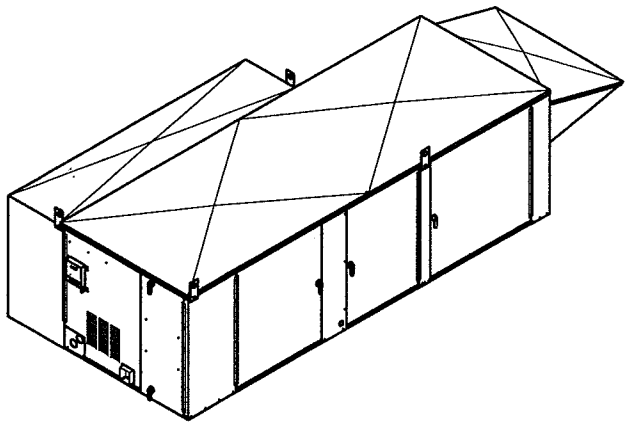


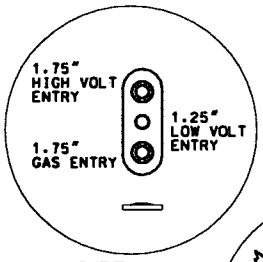


A-CABINET AIR HANDLER WITH ECONOMIZER & HEAT RECOVERY ~ 2-7 TON

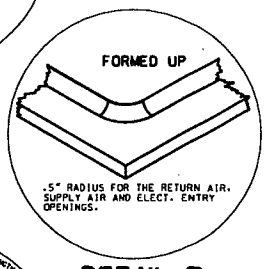
CLEARANCES

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



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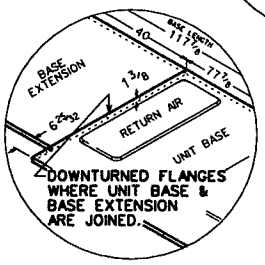
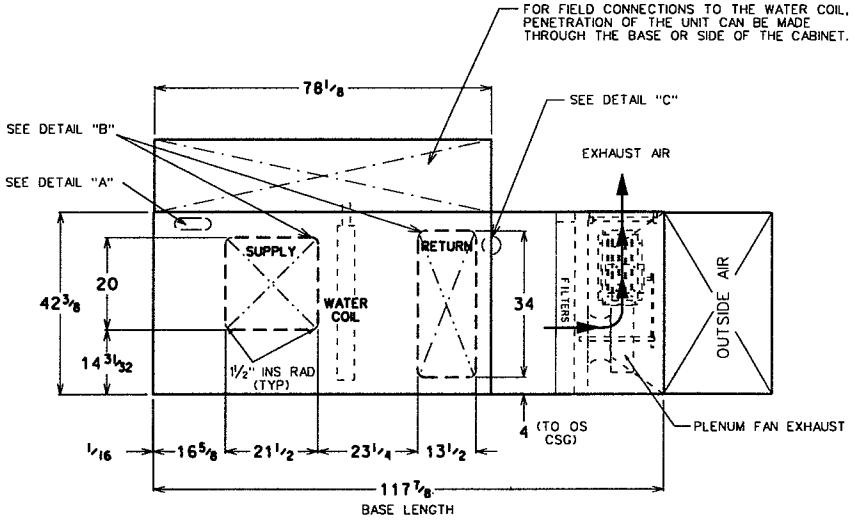
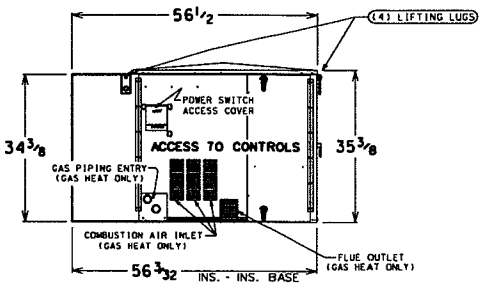
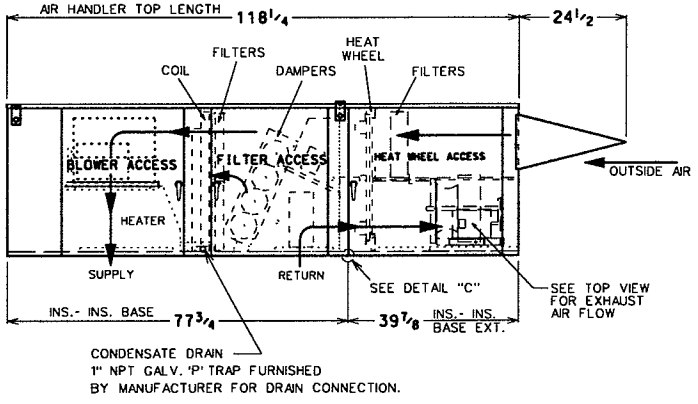


DETAIL C



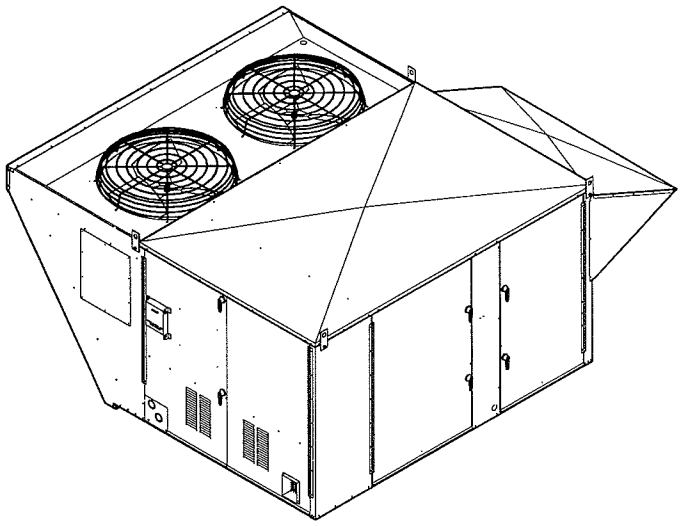


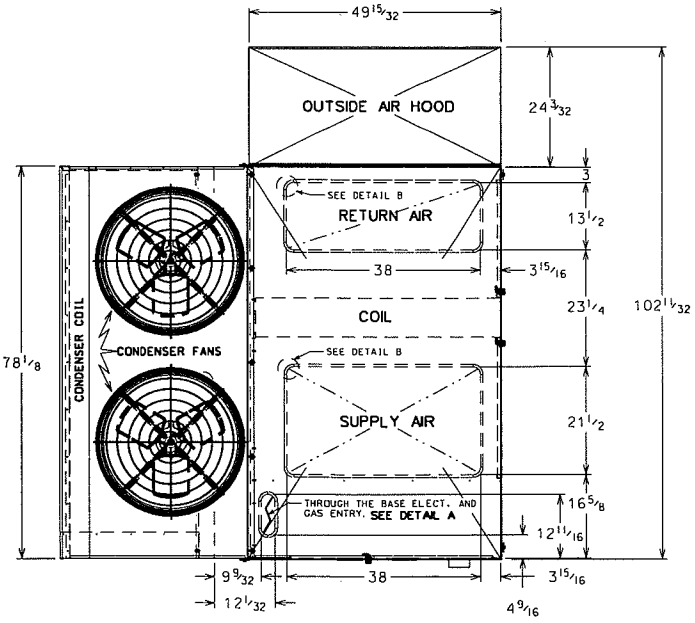


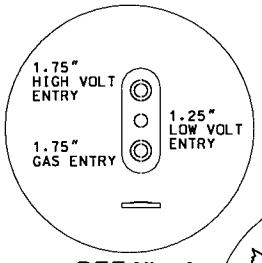
B-CABINET STANDARD ~ 8-15 TON

CLEARANCES

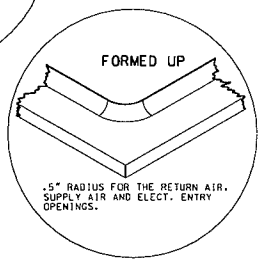
LOCATION	•UNIT SIZE• 8 • 10 • 13 • 15
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED





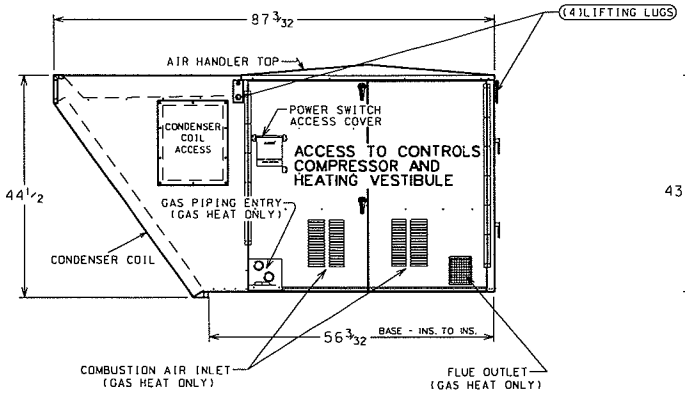


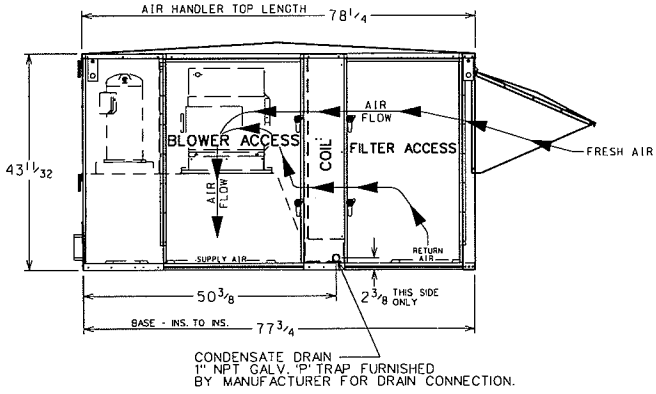
DETAIL A



DETAIL B

NUMBER OF CONDENSER FANS
8-10 TON - 1 FAN
13-15 TON - 2 FANS

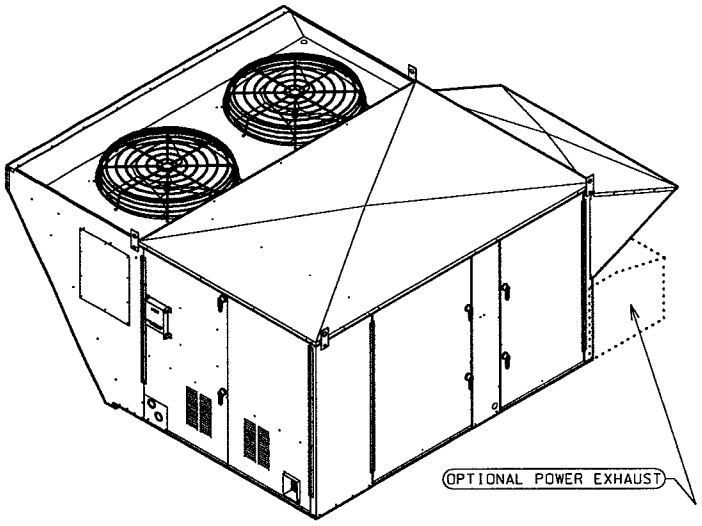


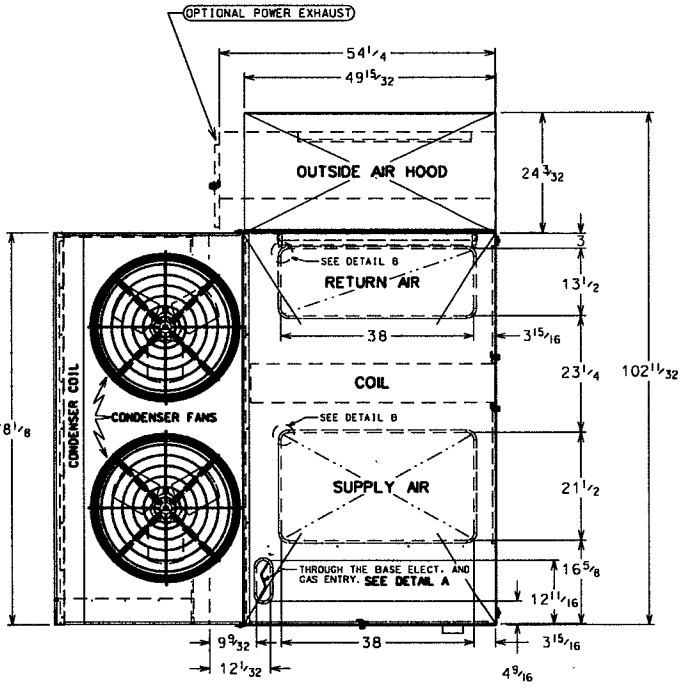


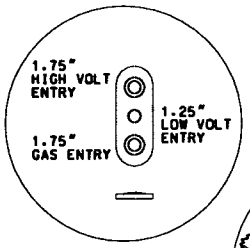
B-CABINET WITH ECONOMIZER ~ 8-15 TON

CLEARANCES

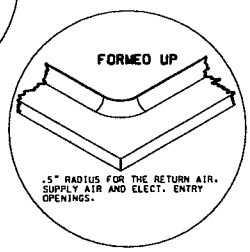
LOCATION	•UNIT SIZE• 8 • 10 • 13 • 15
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED





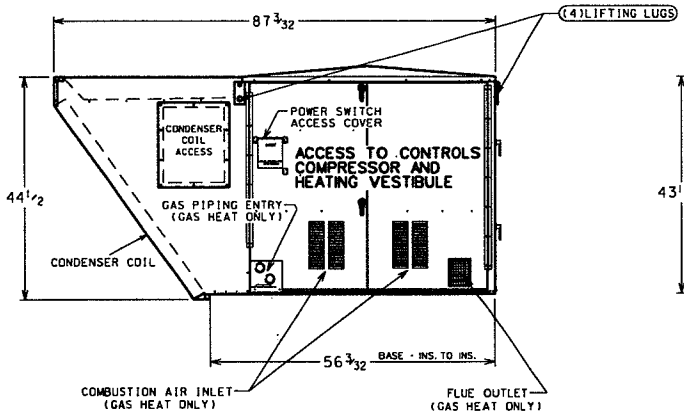


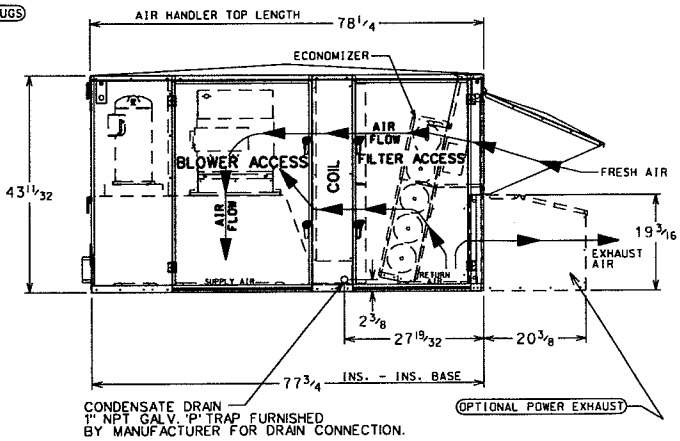
DETAIL A



DETAIL B

NUMBER OF CONDENSER FANS
8-10 TON - 1 FAN
13-15 TON - 2 FANS

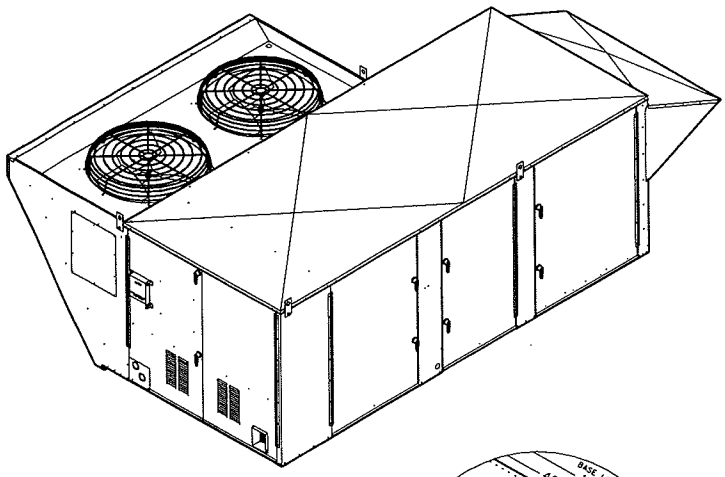


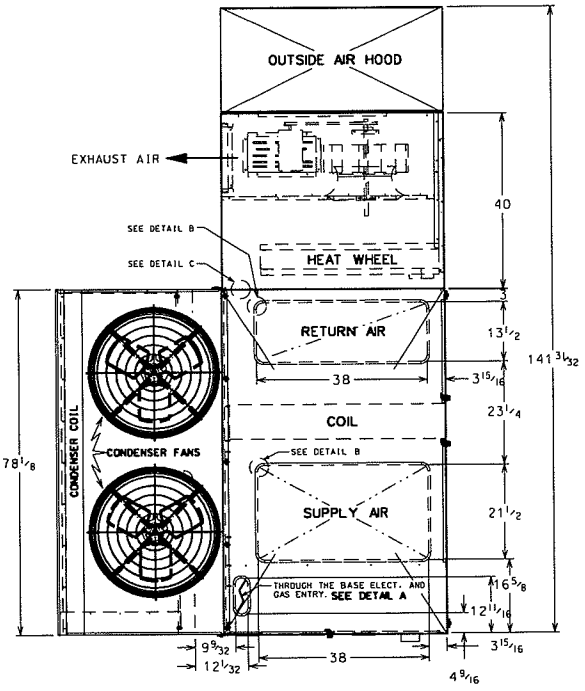


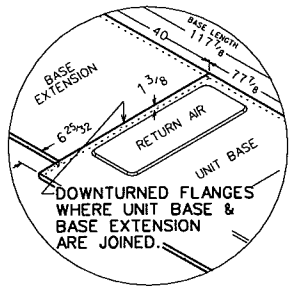
B-CABINET WITH
ECONOMIZER & HEAT RECOVERY ~ 8-15 TON

CLEARANCES

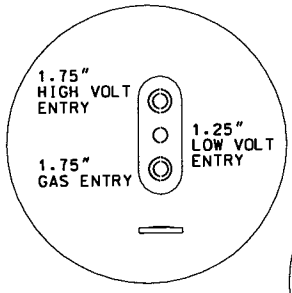
LOCATION	•UNIT SIZE• 8 • 10 • 13 • 15
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



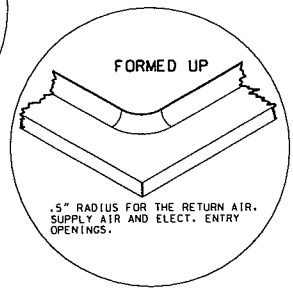




DETAIL C

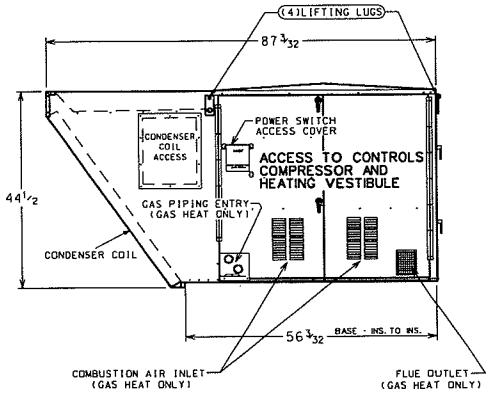


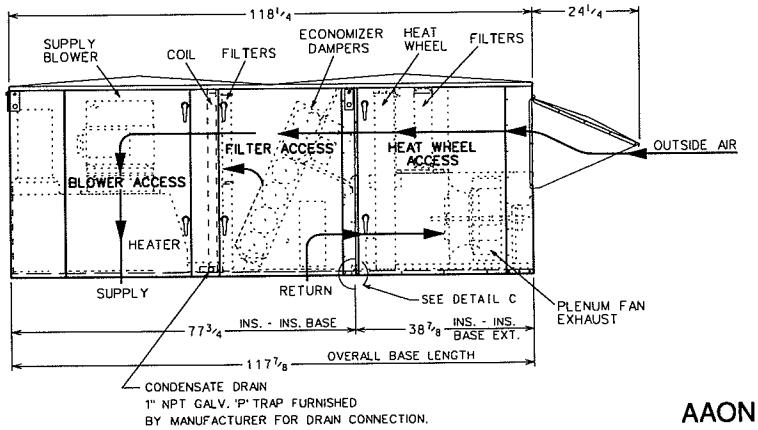
DETAIL A



DETAIL B

NUMBER OF CONDENSER FANS
8-10 TON - 1 FAN
13-15 TON - 2 FANS

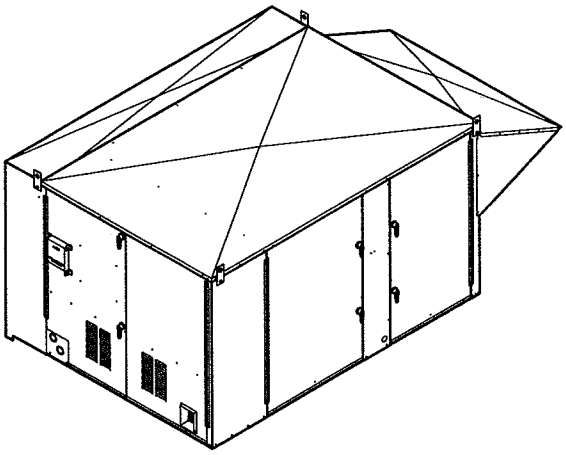


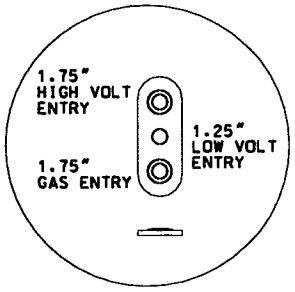


B-CABINET AIR HANDLER ~ 8-15 TON

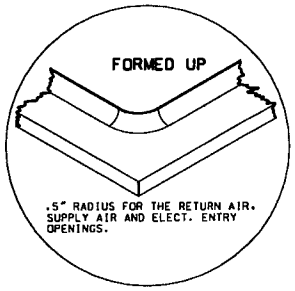
CLEARANCES

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

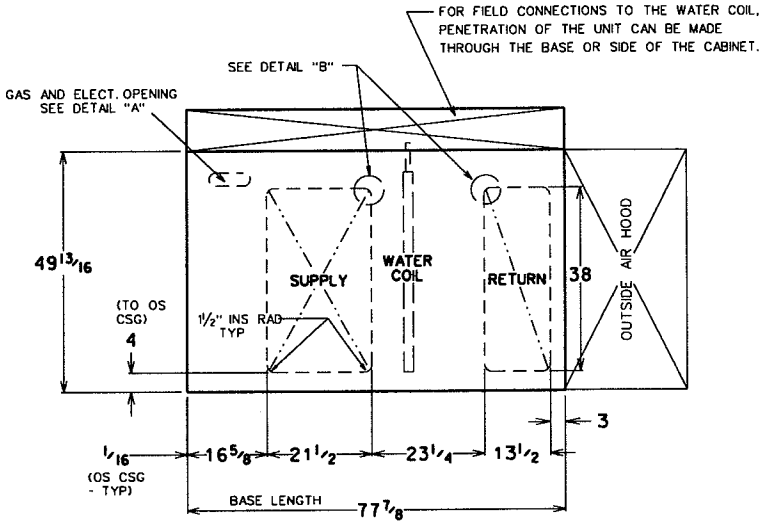


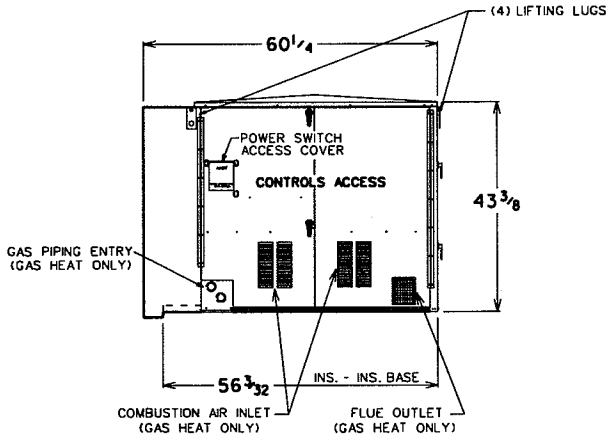


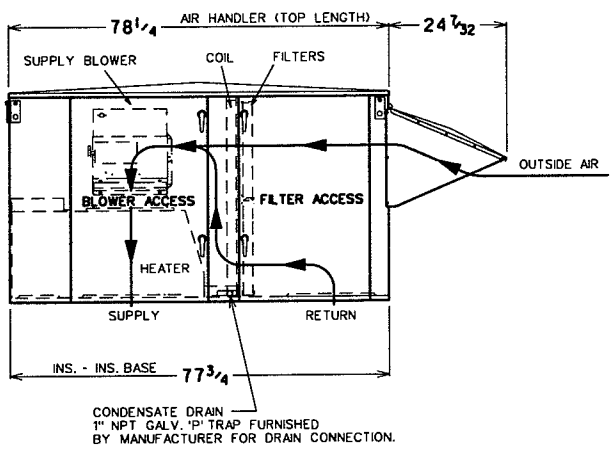
DETAIL A



DETAIL B



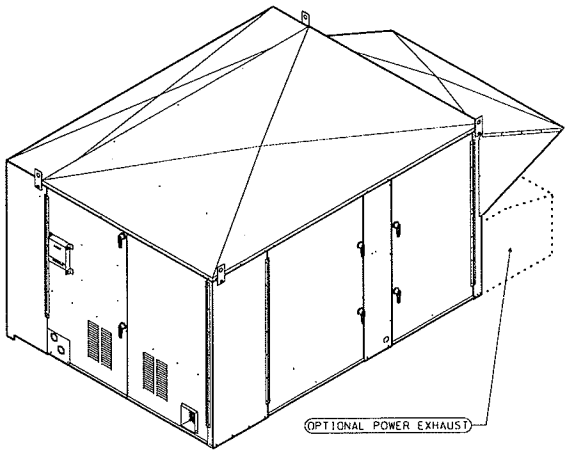


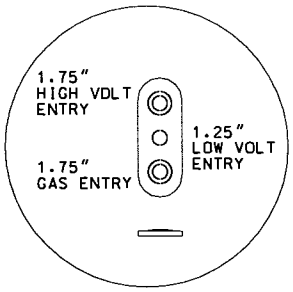


B-CABINET AIR HANDLER WITH ECONOMIZER ~ 8-15 TON

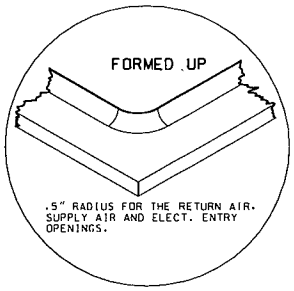
CLEARANCES

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

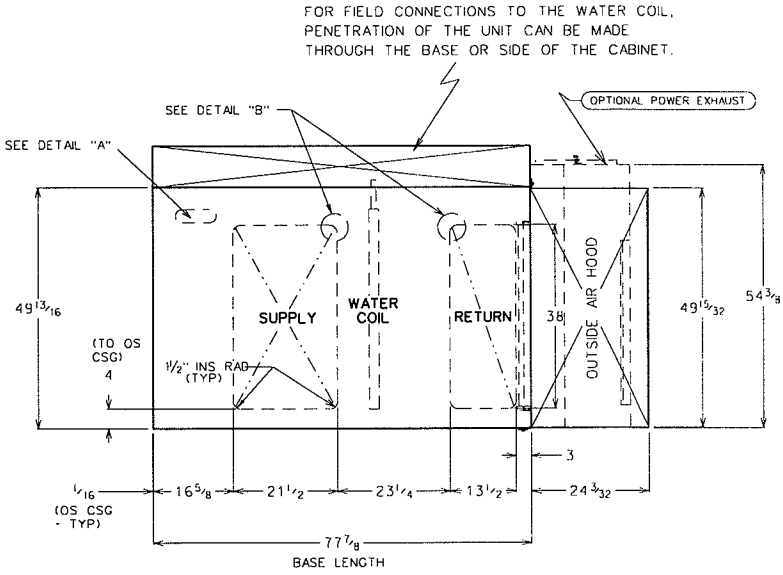


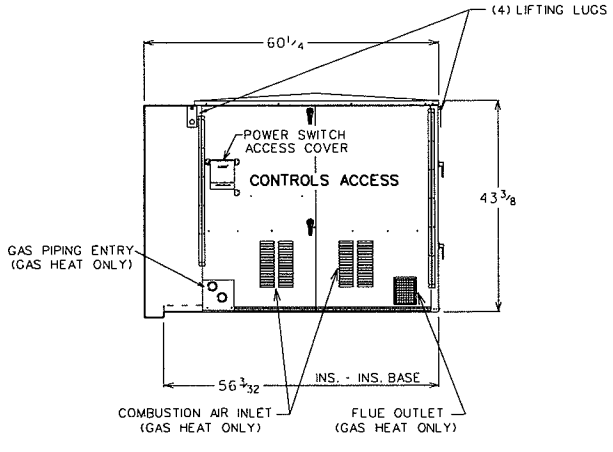


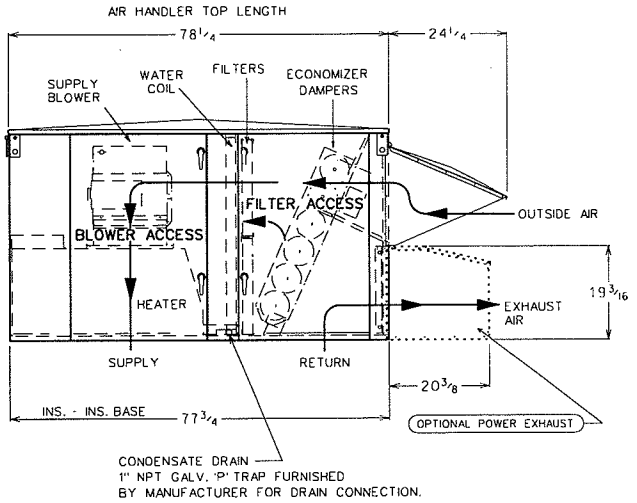
DETAIL A



DETAIL B



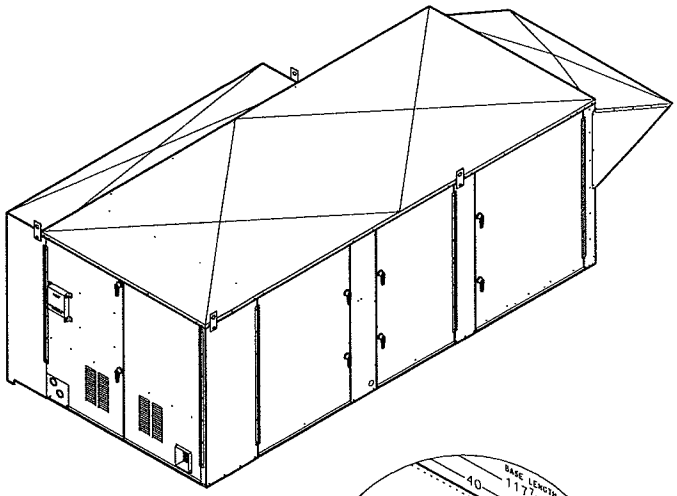


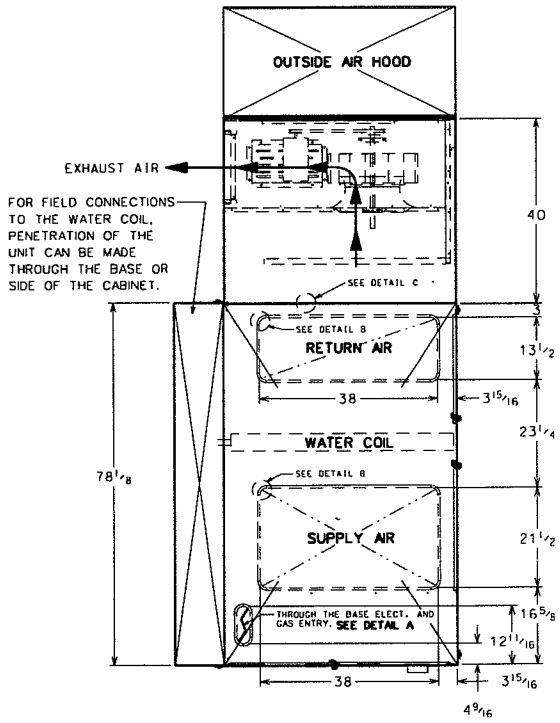


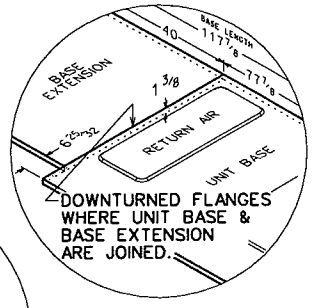
B-CABINET AIR HANDLER WITH ECONOMIZER & HEAT RECOVERY ~ 8-15 TON

CLEARANCES

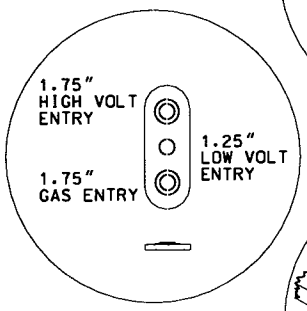
LOCATION	•UNIT SIZE• 8 • 10 • 13 • 15
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



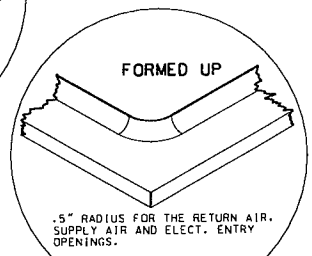




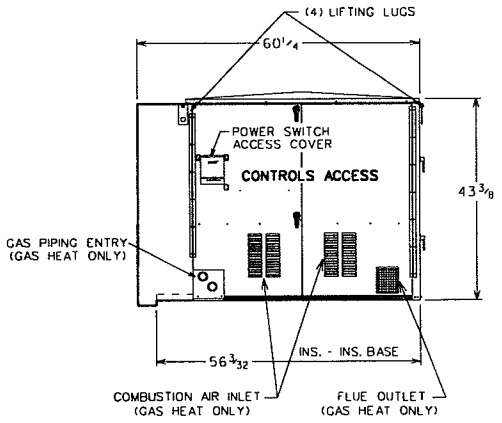
DETAIL C

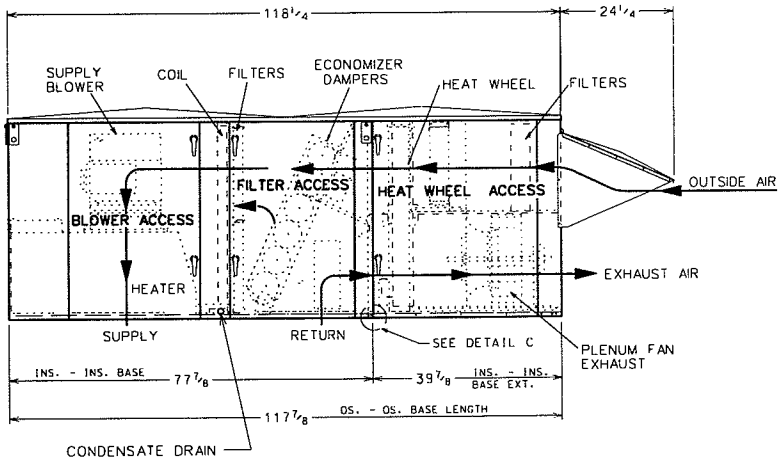


DETAIL A



DETAIL B



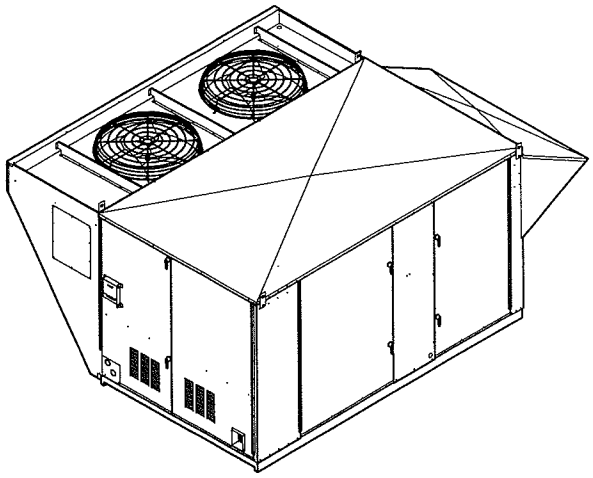


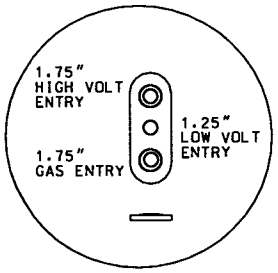
CONDENSATE DRAIN
1" NPT GALV. 'P' TRAP FURNISHED BY MANUFACTURER FOR DRAIN CONNECTION.

C-CABINET STANDARD ~ 16-25 TON

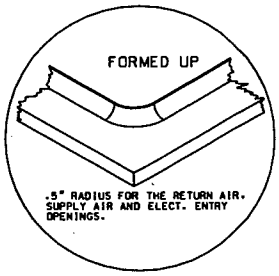
CLEARANCES

LOCATION	•UNIT SIZE• 16 • 20 • 25
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

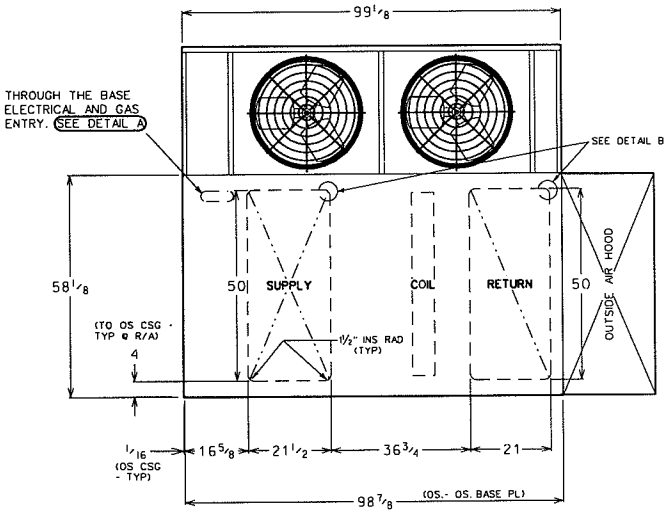




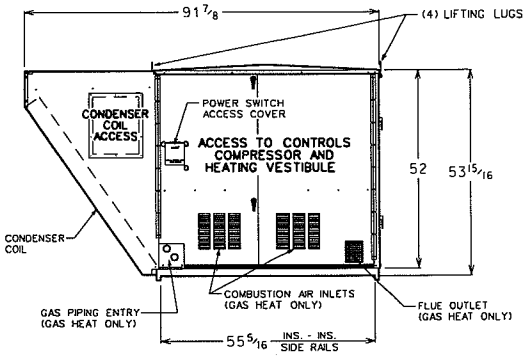
DETAIL A

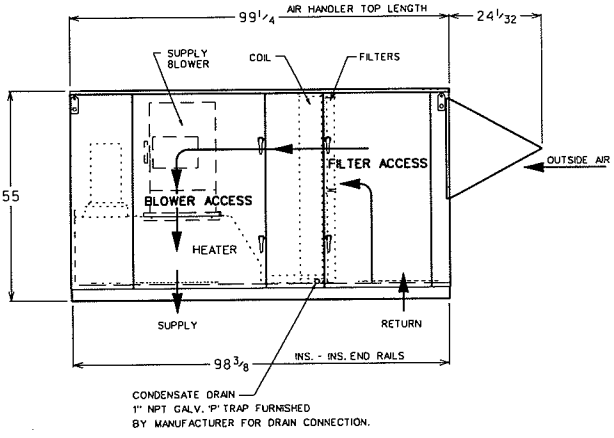


DETAIL B



NUMBER OF CONDENSER FANS
16-20 TON - 2 FANS
25 TON - 3 FANS

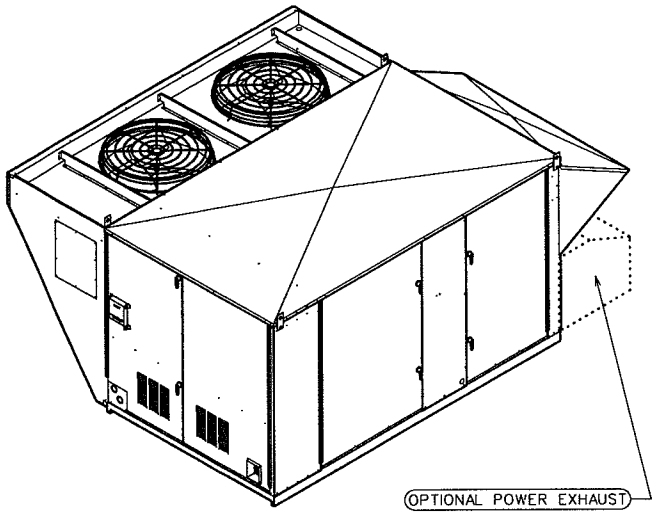


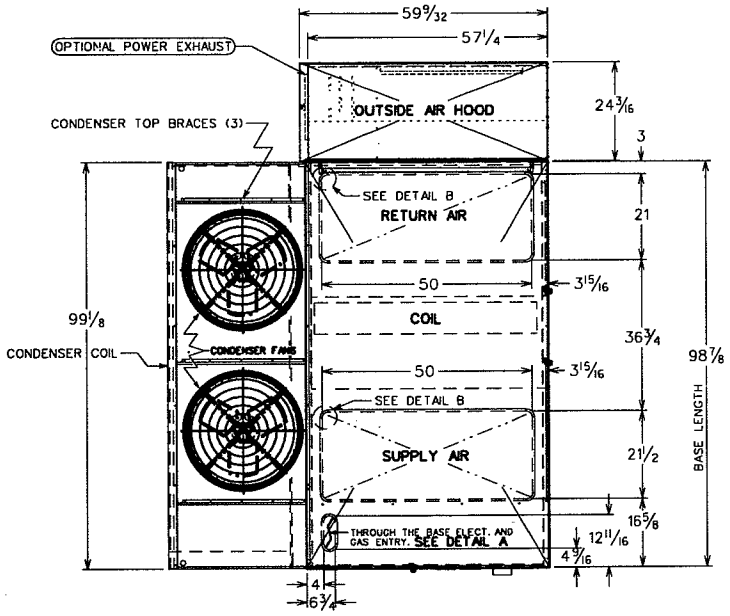


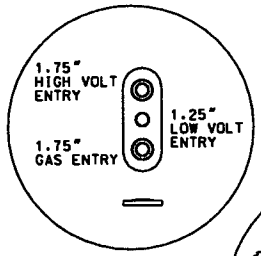
C-CABINET WITH ECONOMIZER ~ 16-25 TON

CLEARANCES

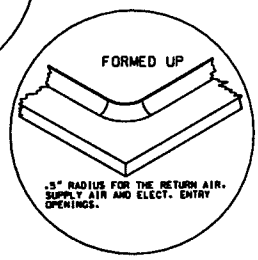
LOCATION	•UNIT SIZE• 16 • 20 • 25
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED





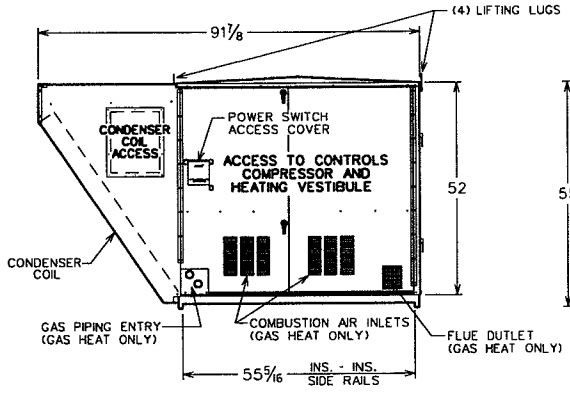


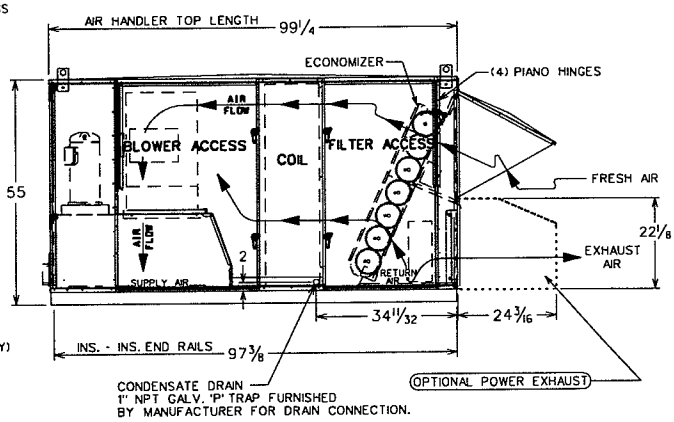
DETAIL A



DETAIL B

NUMBER OF CONDENSER FANS
16-20 TON - 2 FANS
25 TON - 3 FANS

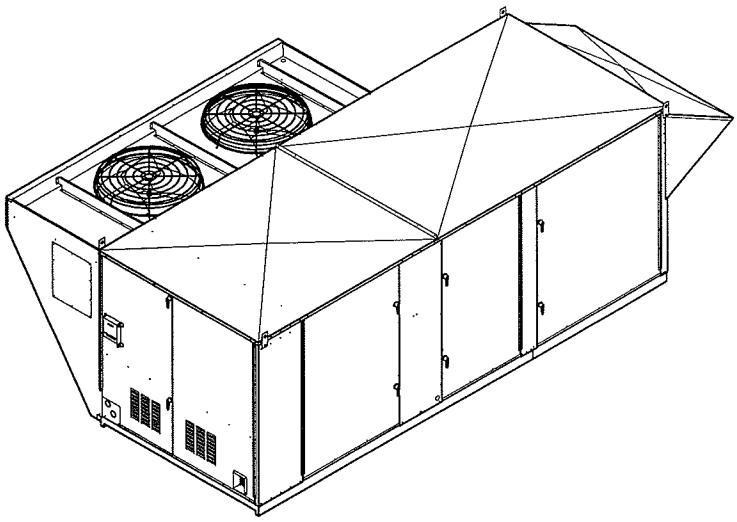


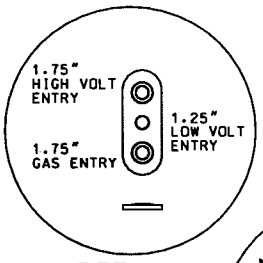


C-CABINET WITH
ECONOMIZER & HEAT RECOVERY ~ 16-25 TON

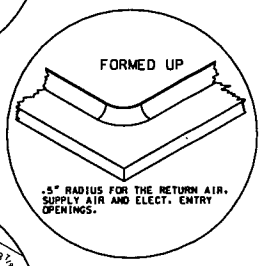
CLEARANCES

LOCATION	•UNIT SIZE• 16 • 20 • 25
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

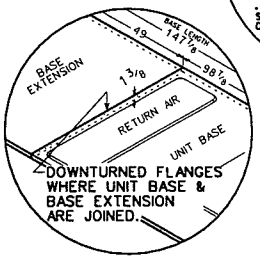




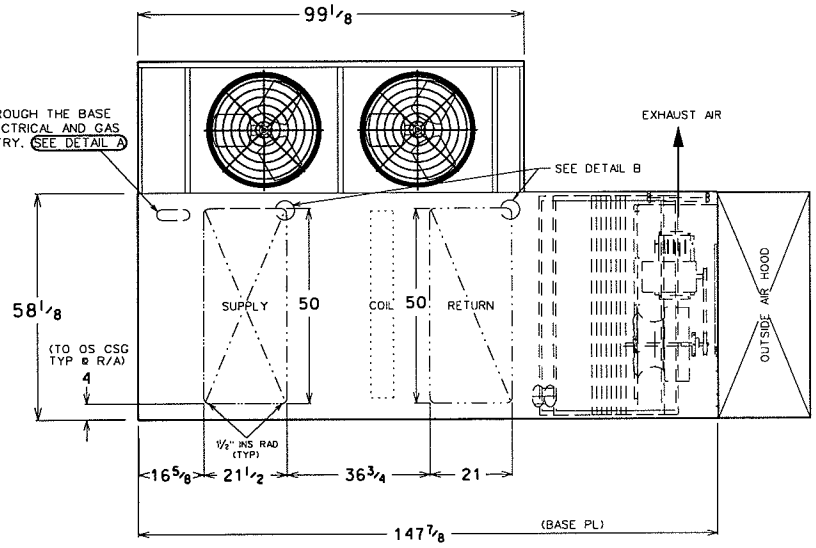
DETAIL A



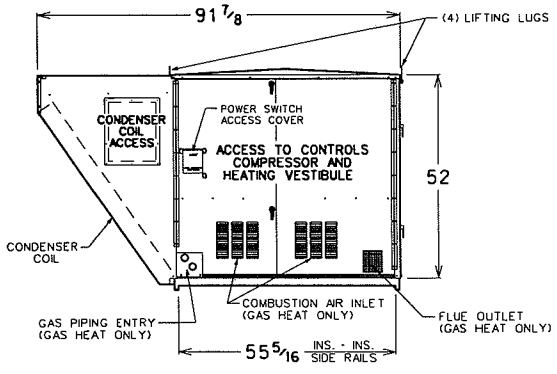
DETAIL B

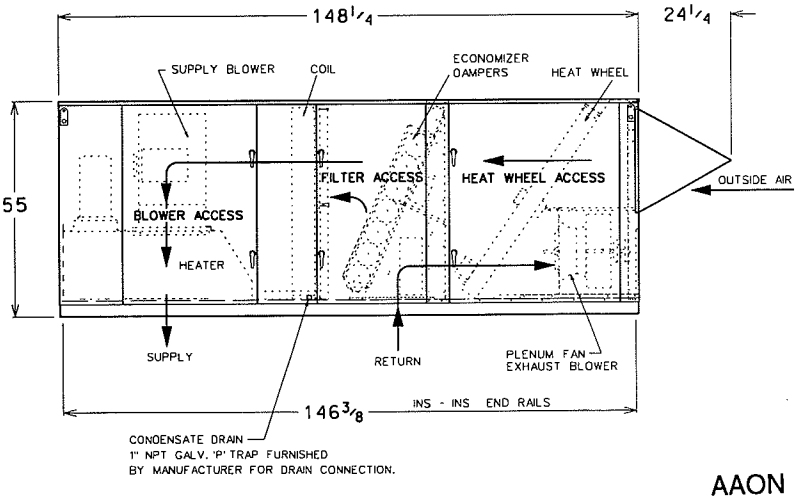


DETAIL C



NUMBER OF CONDENSER FANS
16-20 TON - 2 FANS
25 TON - 3 FANS

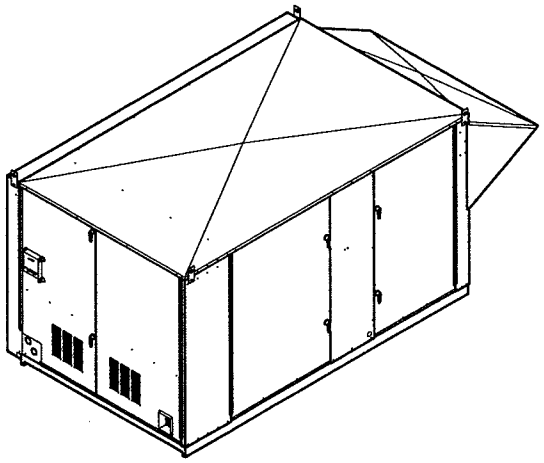


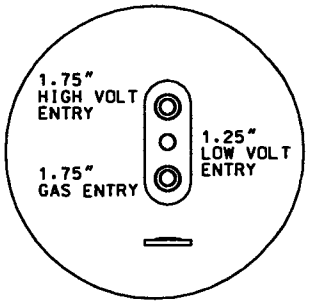


C-CABINET AIR HANDLER ~ 16-25 TON

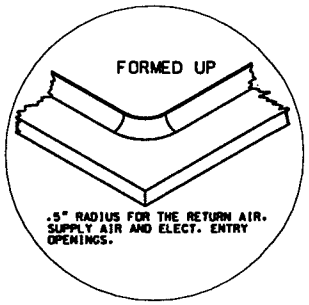
CLEARANCES

LOCATION	•UNIT SIZE• 16 • 20 • 25
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

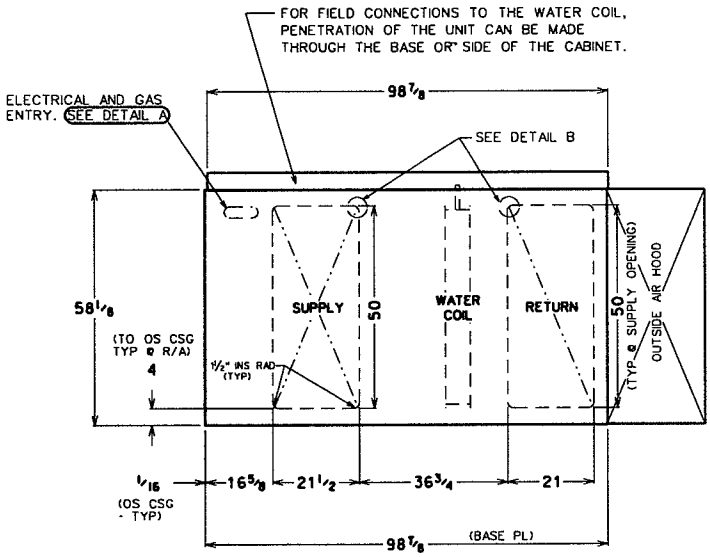


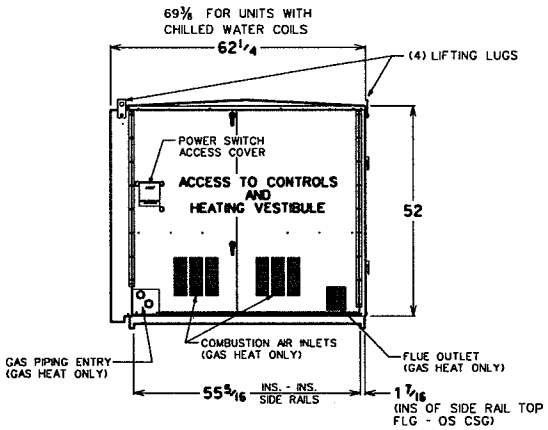


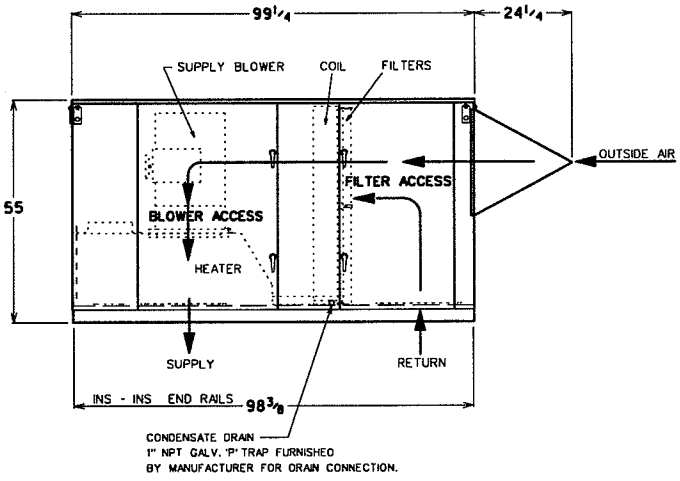
DETAIL A



DETAIL B



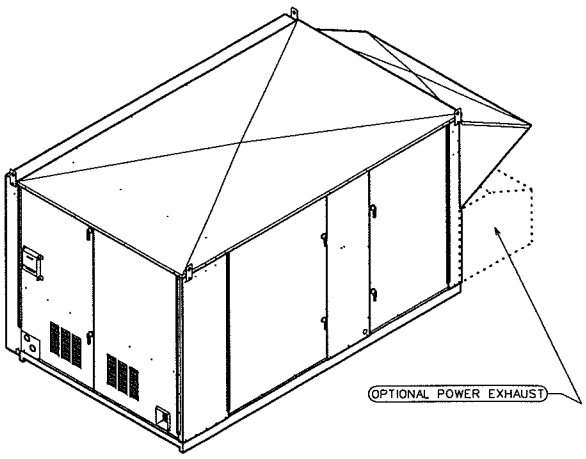


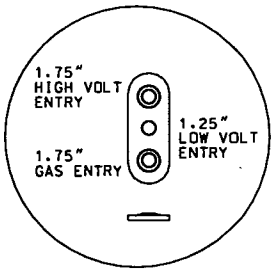


C-CABINET AIR HANDLER WITH ECONOMIZER ~ 16-25 TON

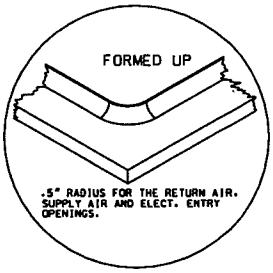
CLEARANCES

LOCATION	•UNIT SIZE• 16 • 20 • 25
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

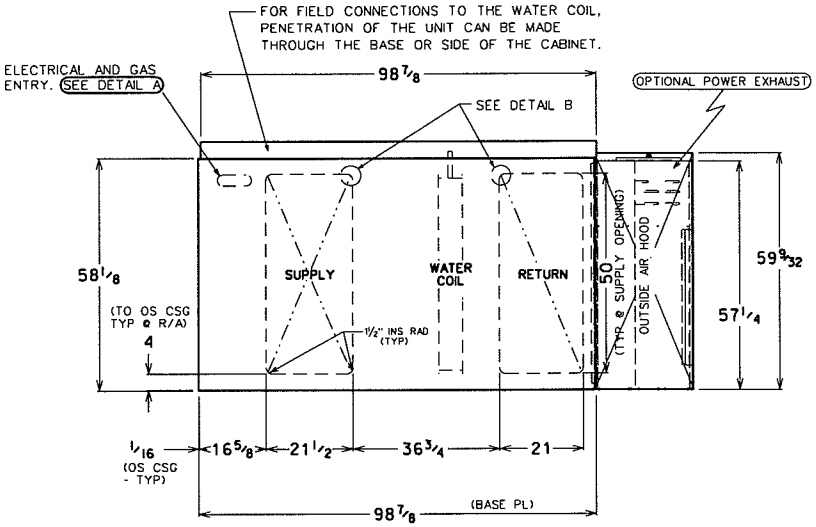


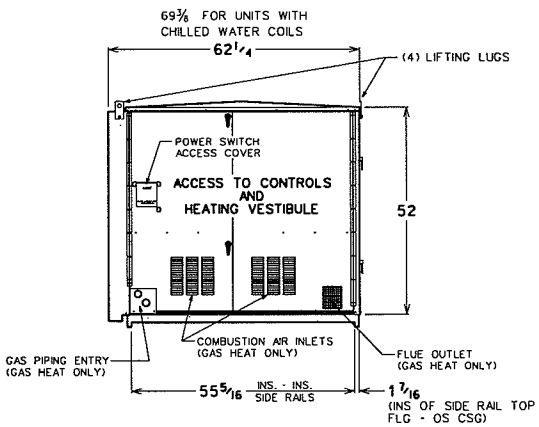


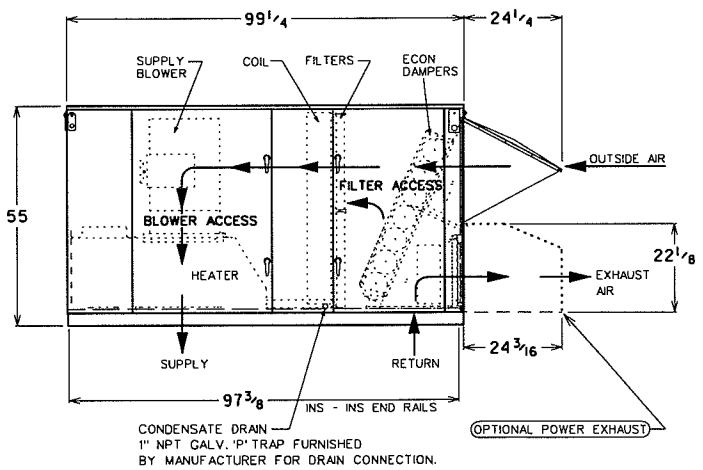
DETAIL A



DETAIL B



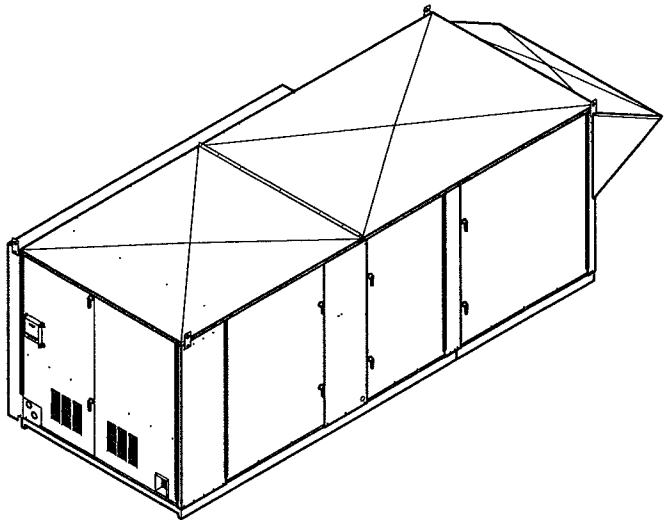


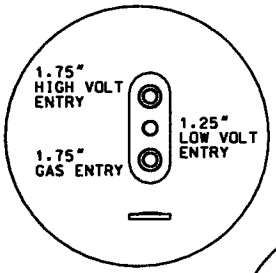


C-CABINET AIR HANDLER WITH ECONOMIZER & HEAT RECOVERY ~ 16-25 TON

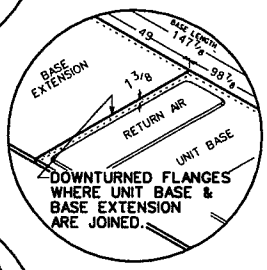
CLEARANCES

LOCATION	•UNIT SIZE• 16 • 20 • 25
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

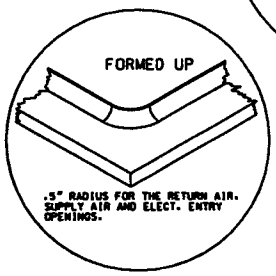




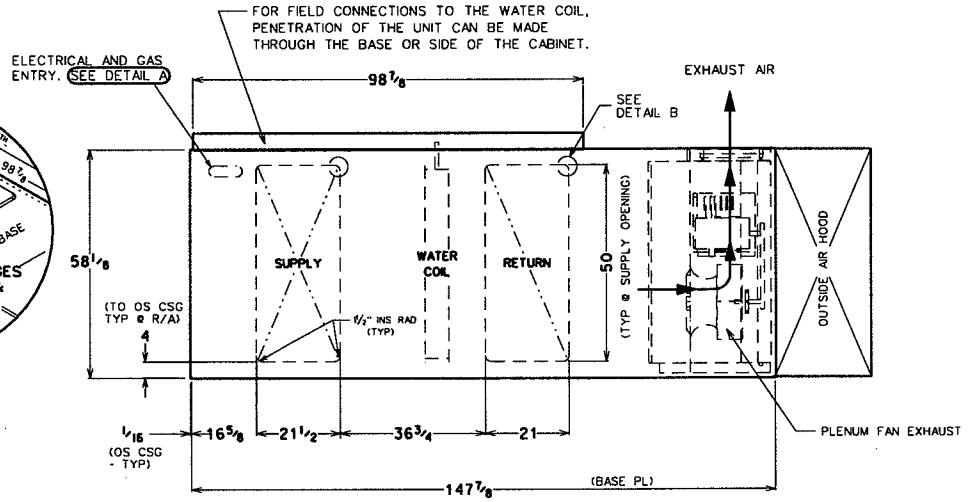
DETAIL A

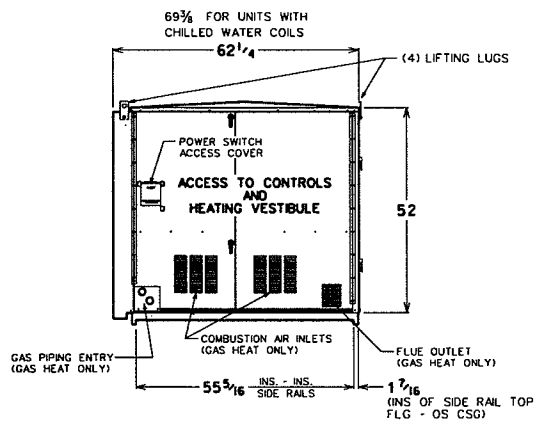


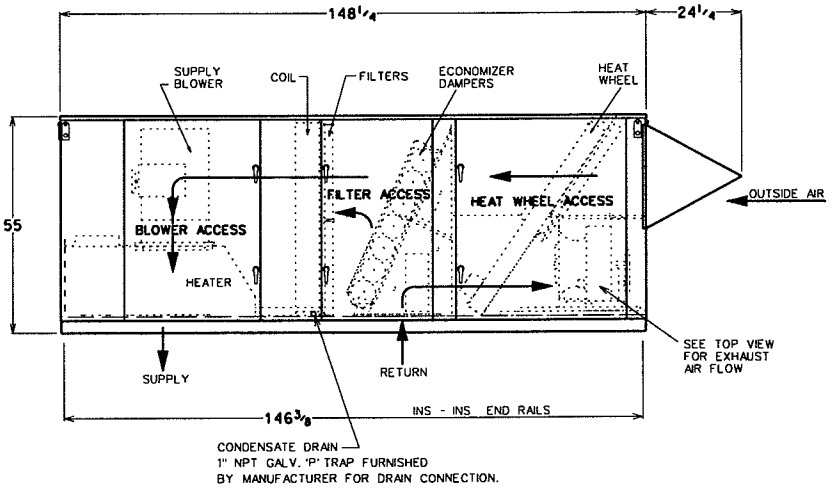
DETAIL C



DETAIL B



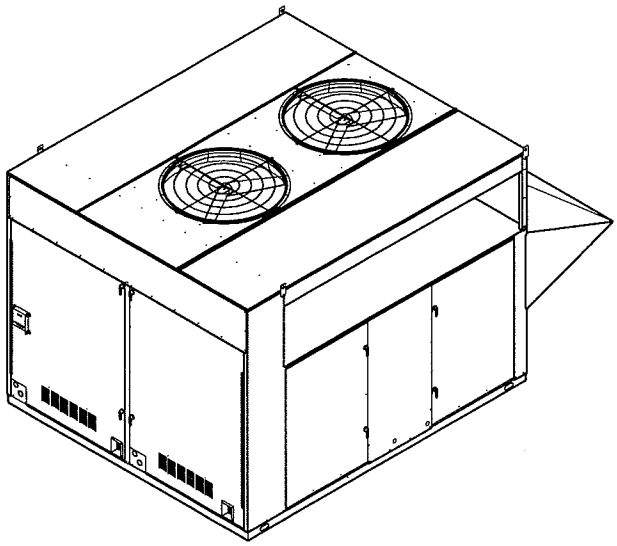


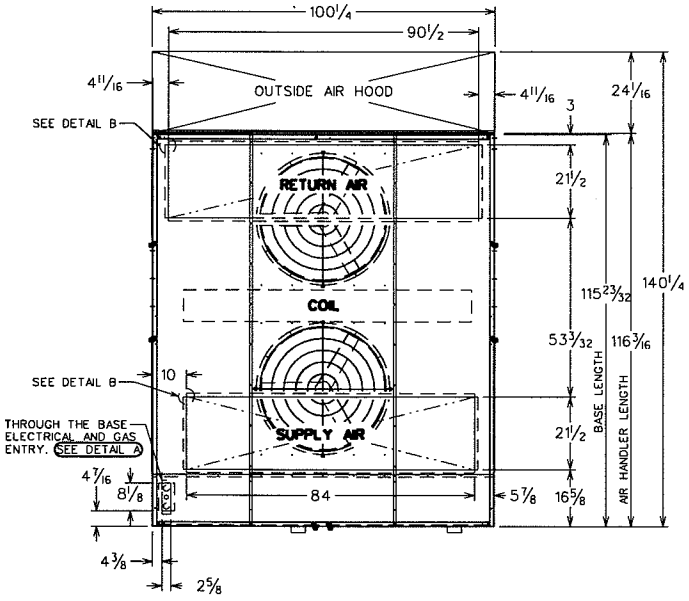


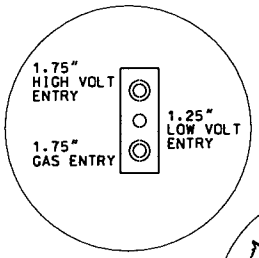
D-CABINET STANDARD ~ 26-60 TON

CLEARANCES

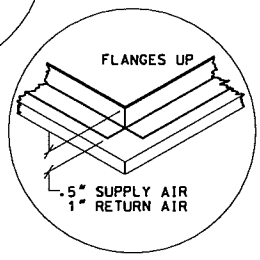
LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED





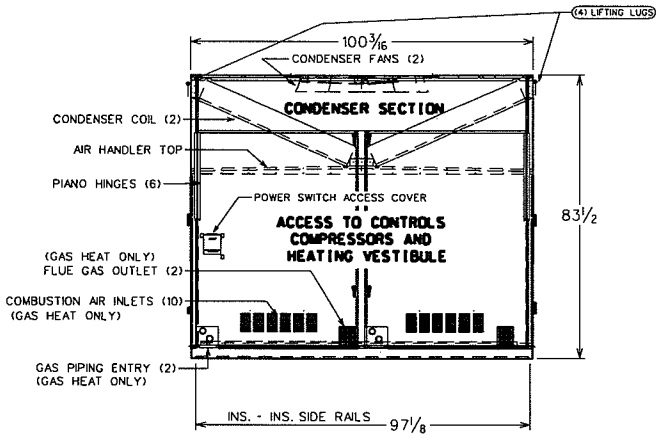


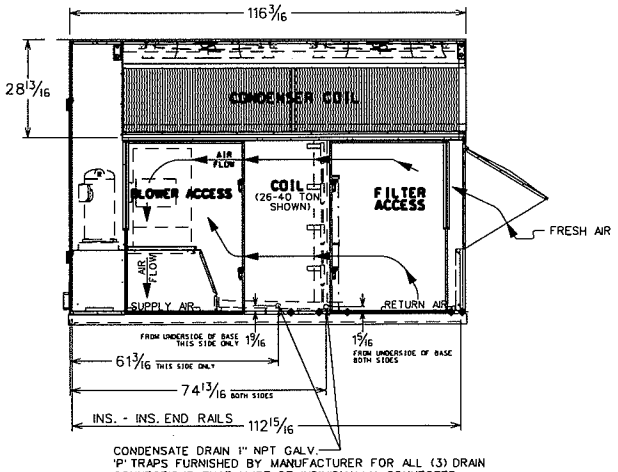
DETAIL A



DETAIL B

NUMBER OF CONDENSER FANS
26-60 TON - 2 FANS



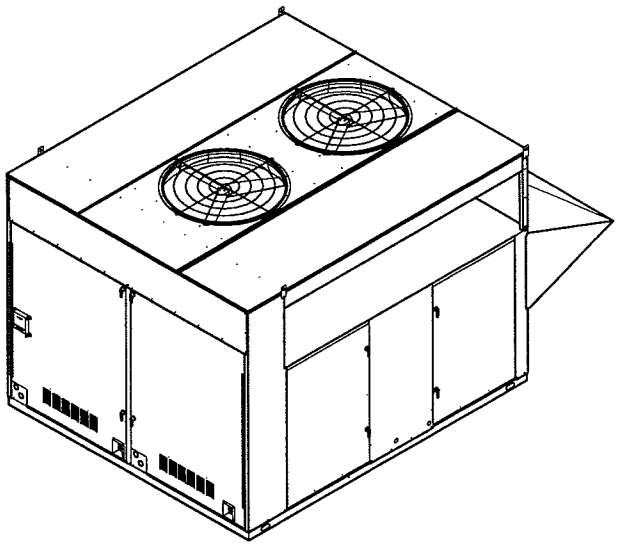


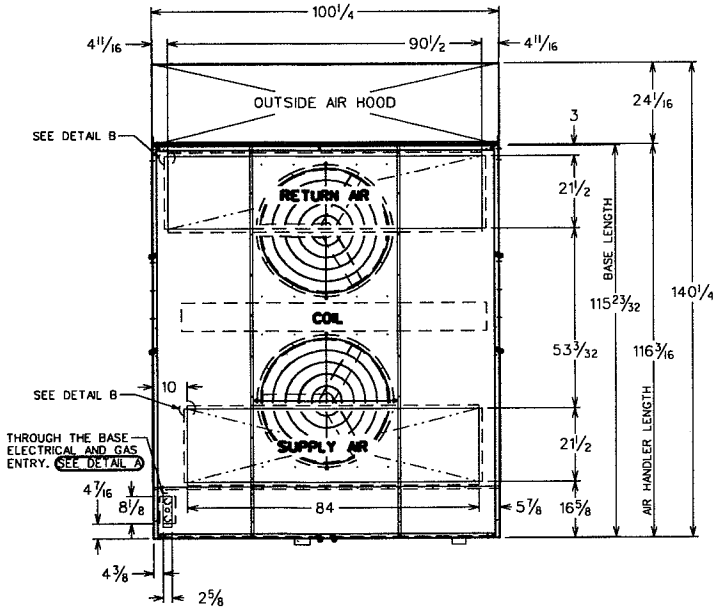
CONDENSATE DRAIN 1" NPT GALV.
'P' TRAPS FURNISHED BY MANUFACTURER FOR ALL (3) DRAIN CONNECTIONS THAT MUST BE INDIVIDUALLY CONNECTED.

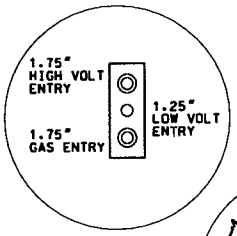
D-CABINET WITH ECONOMIZER ~ 26-60 TON

CLEARANCES

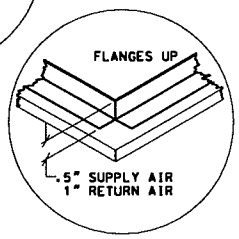
LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED





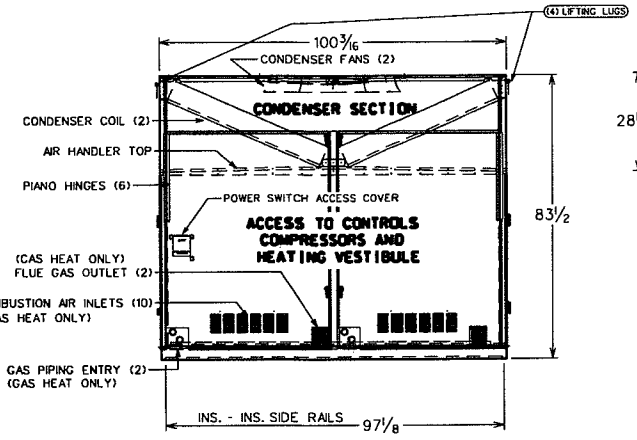


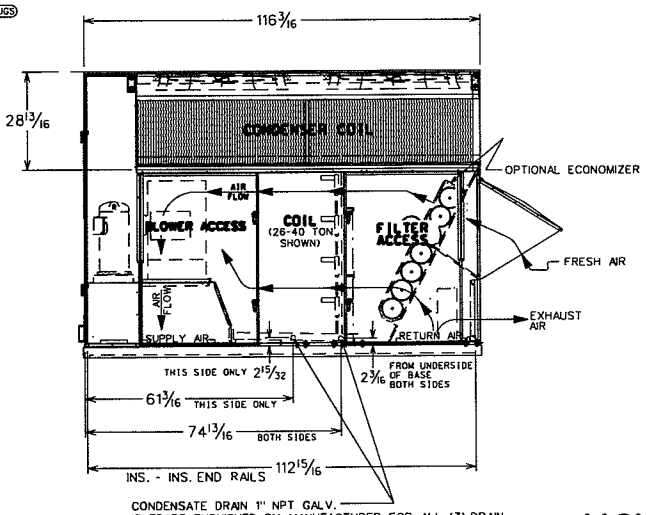
DETAIL A



DETAIL B

NUMBER OF CONDENSER FANS
26-60 TON - 2 FANS

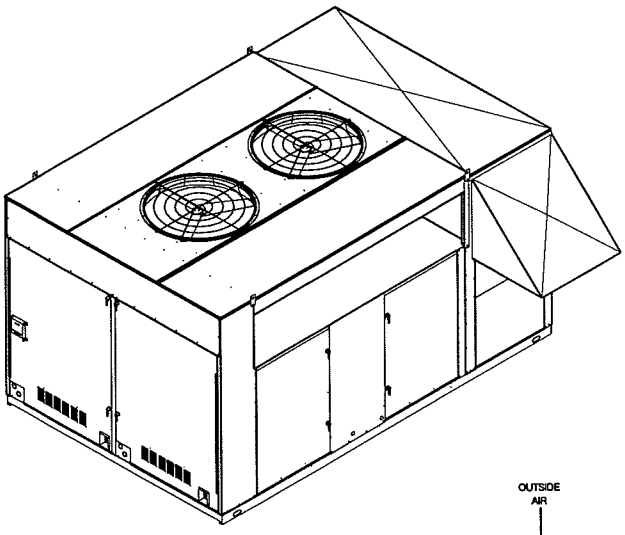


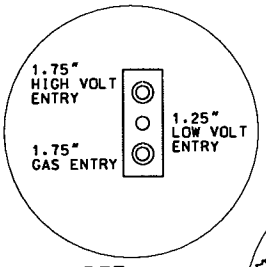


D-CABINET WITH ECONOMIZER & PROP EXHAUST ~ 26-60 TON

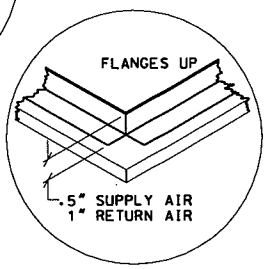
CLEARANCES

LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



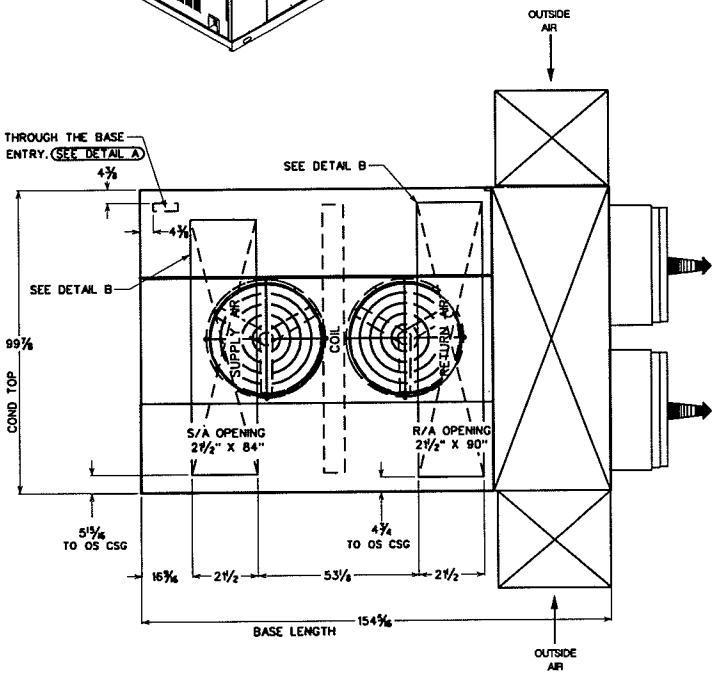


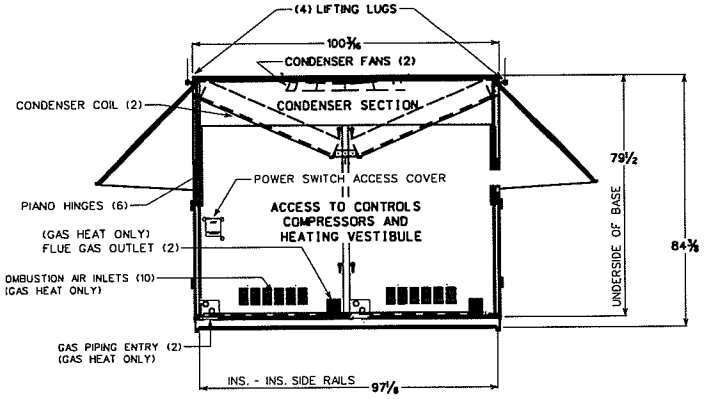
DETAIL A

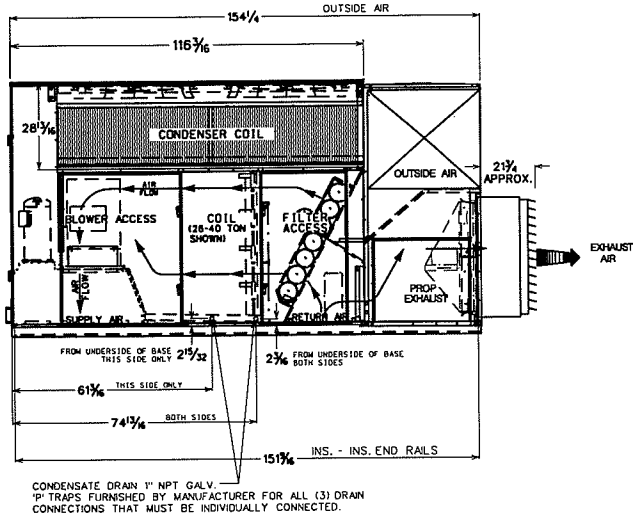


DETAIL B

NUMBER OF CONDENSER FANS
26-60 TON - 2 FANS



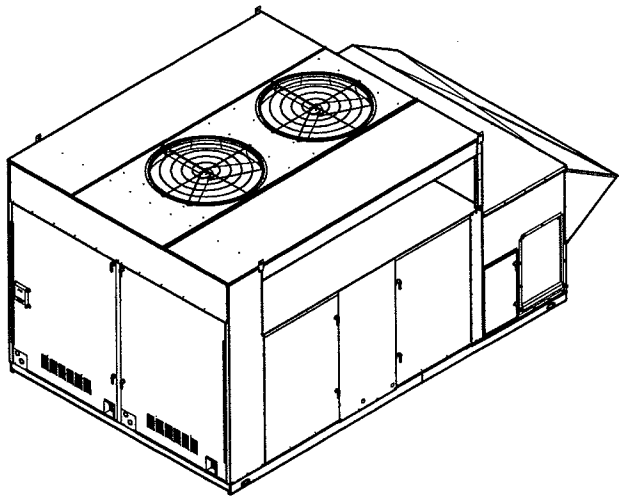


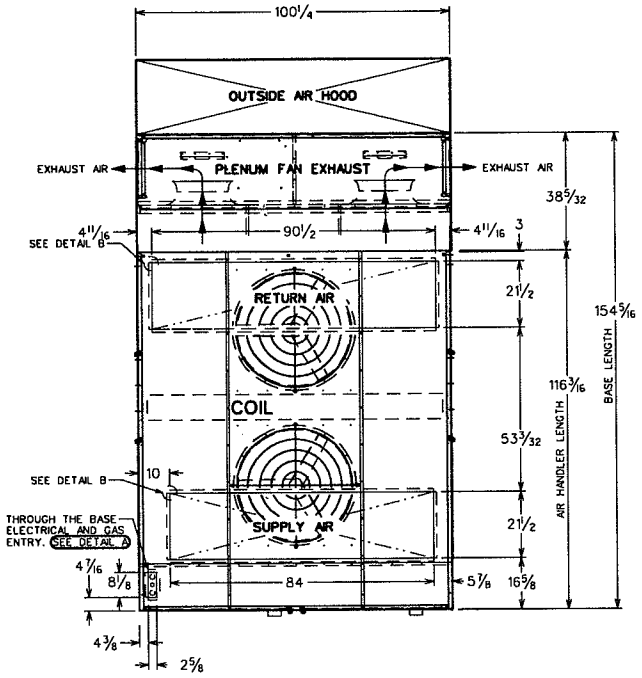


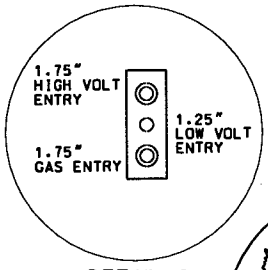
D-CABINET WITH
ECONOMIZER & PLENUM FAN EXHAUST ~ 26-60 TON

CLEARANCES

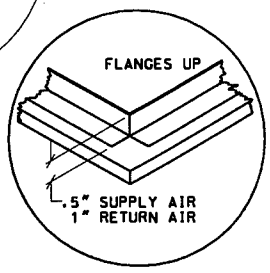
LOCATION	• UNIT SIZE • 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED





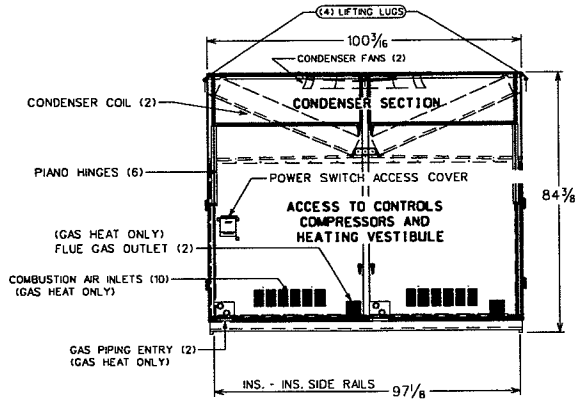


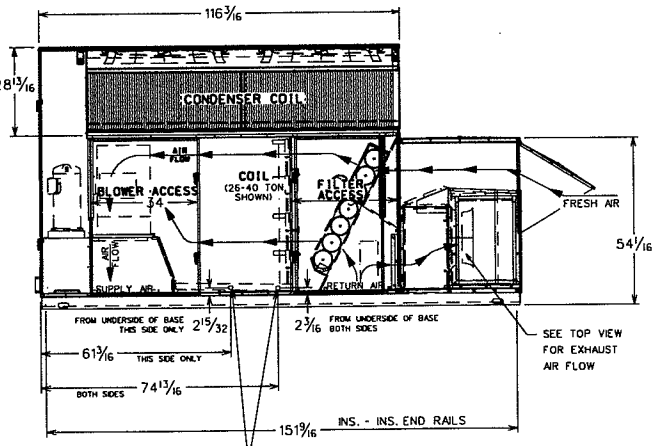
DETAIL A



DETAIL B

NUMBER OF CONDENSER FANS
26-60 TON - 2 FANS



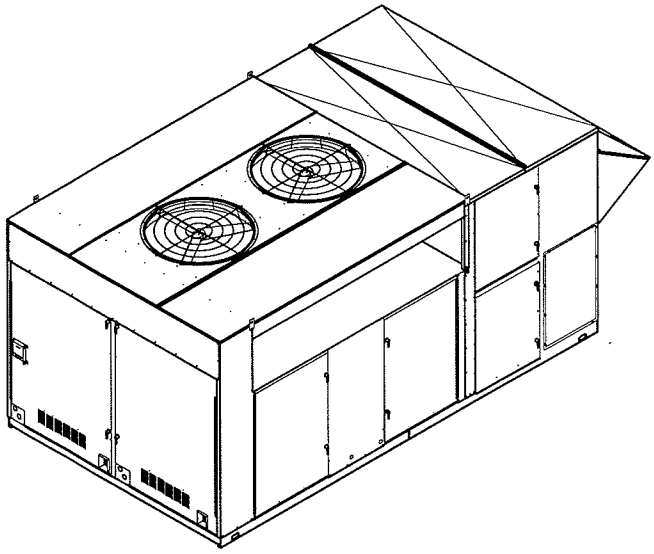


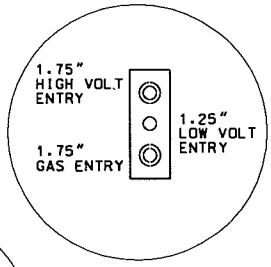
CONDENSATE DRAIN 1" NPT GALV.
'P' TRAPS FURNISHED BY MANUFACTURER FOR ALL (3) DRAIN CONNECTIONS THAT MUST BE INDIVIDUALLY CONNECTED.

D-CABINET WITH
ECONOMIZER & HEAT RECOVERY ~ 26-60 TON

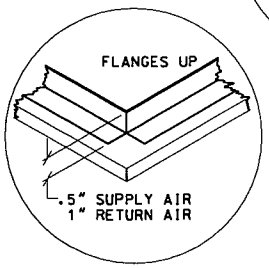
CLEARANCES

LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



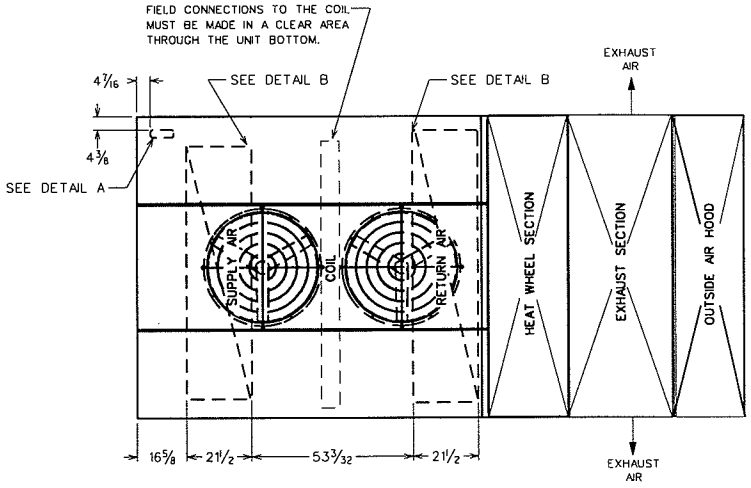


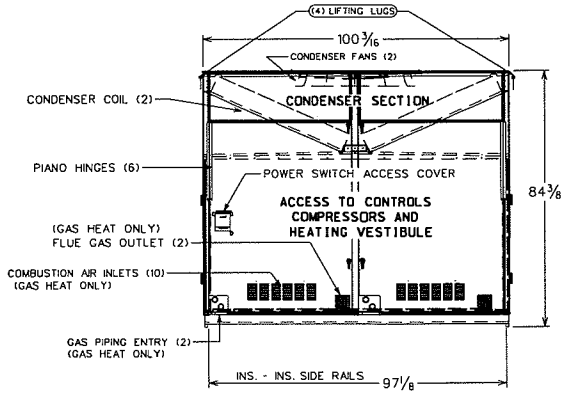
DETAIL A

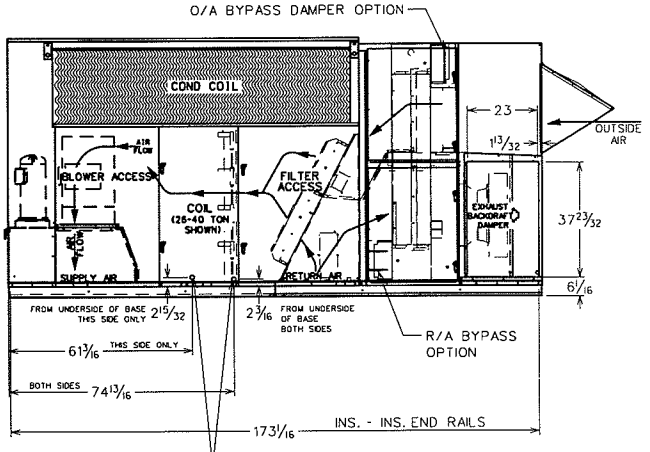


DETAIL B

NUMBER OF CONDENSER FANS
26-60 TON - 2 FANS





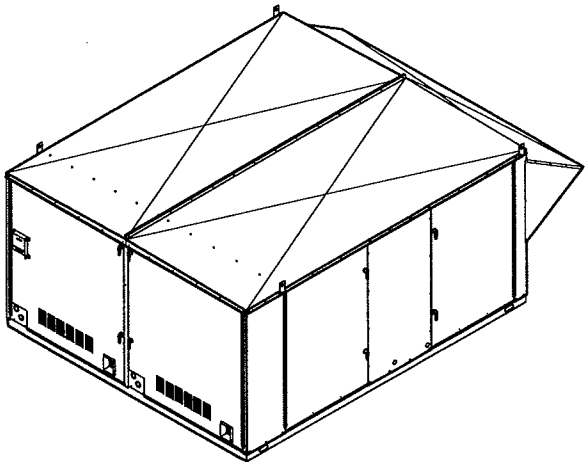


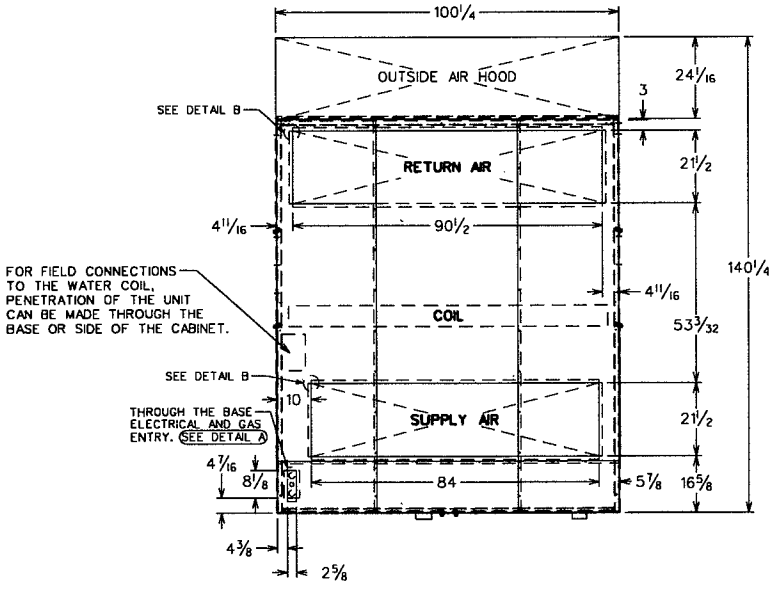
CONDENSATE DRAIN 1" NPT GALV.
'P' TRAPS FURNISHED BY MANUFACTURER FOR ALL (3) DRAIN CONNECTIONS THAT MUST BE INDIVIDUALLY CONNECTED.

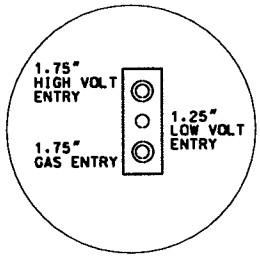
D-CABINET AIR HANDLER ~ 26-60 TON

CLEARANCES

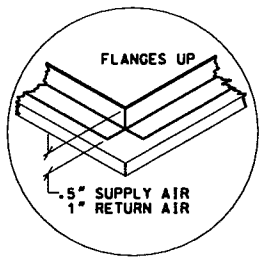
LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



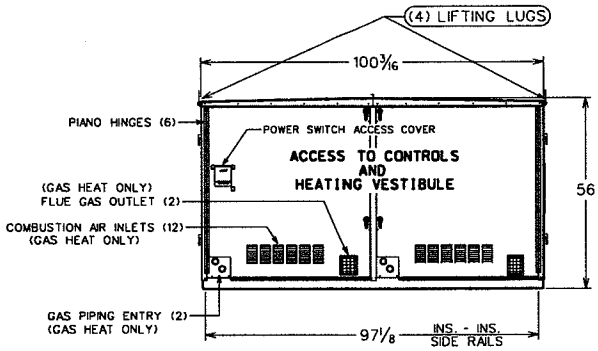


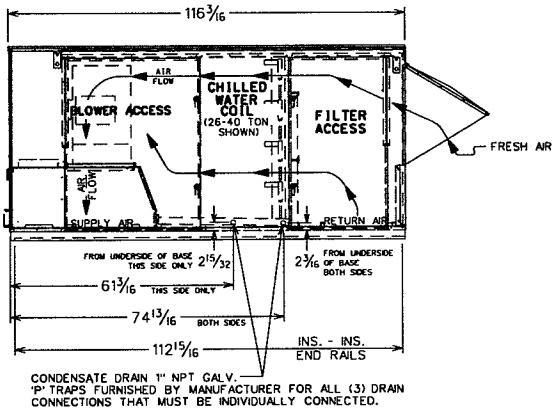


DETAIL A



DETAIL B



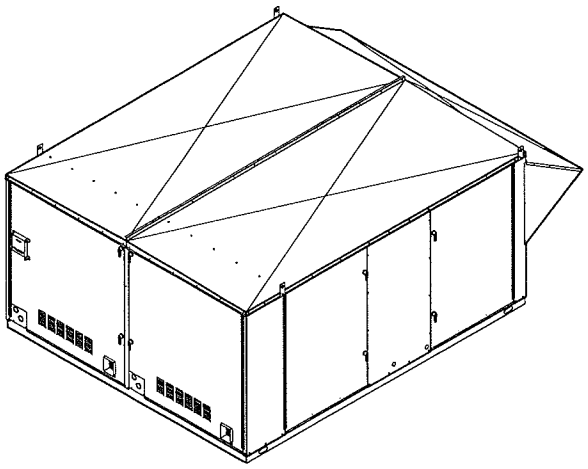


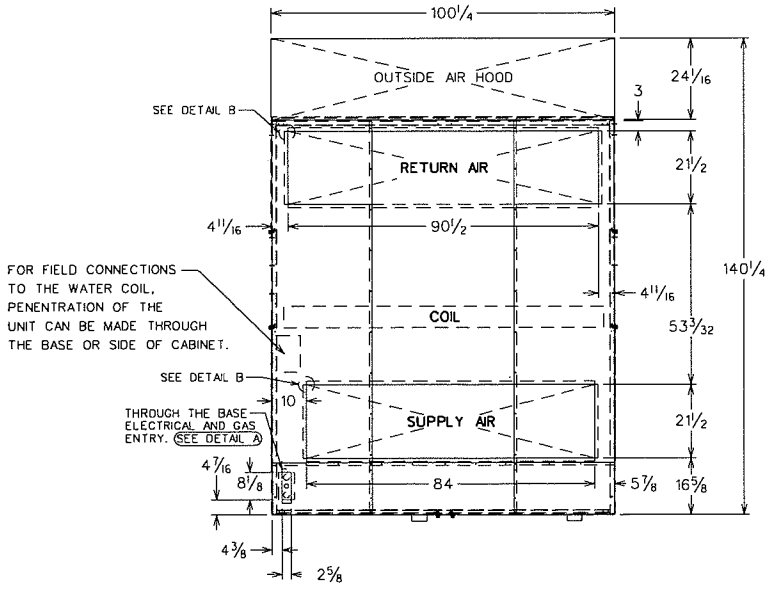
CONDENSATE DRAIN 1" NPT GALV.
'P' TRAPS FURNISHED BY MANUFACTURER FOR ALL (3) DRAIN CONNECTIONS THAT MUST BE INDIVIDUALLY CONNECTED.

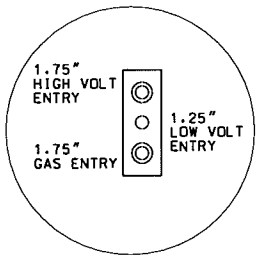
D-CABINET AIR HANDLER WITH ECONOMIZER ~ 26-60 TON

CLEARANCES

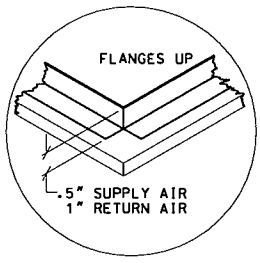
LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



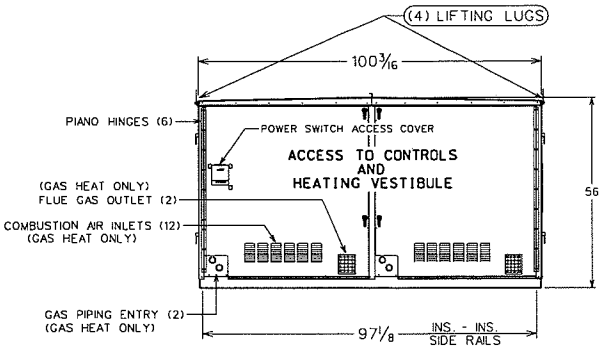


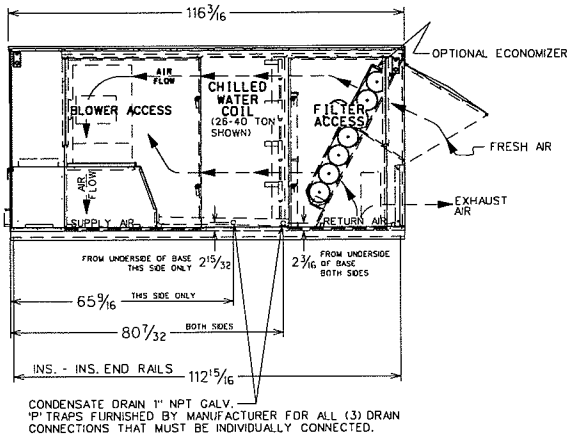


DETAIL A



DETAIL B

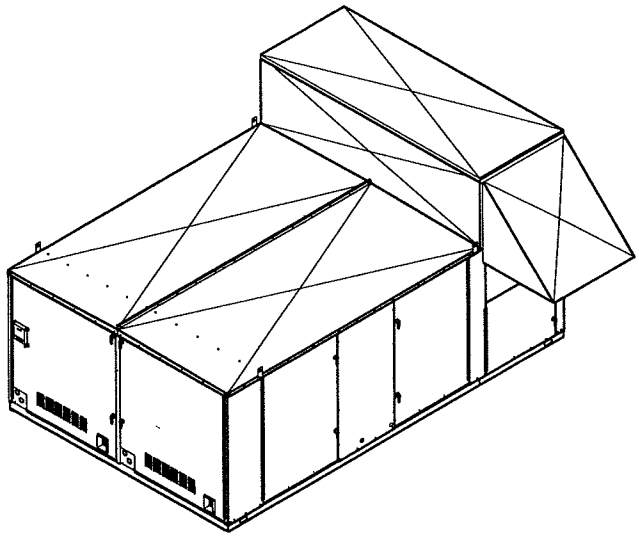


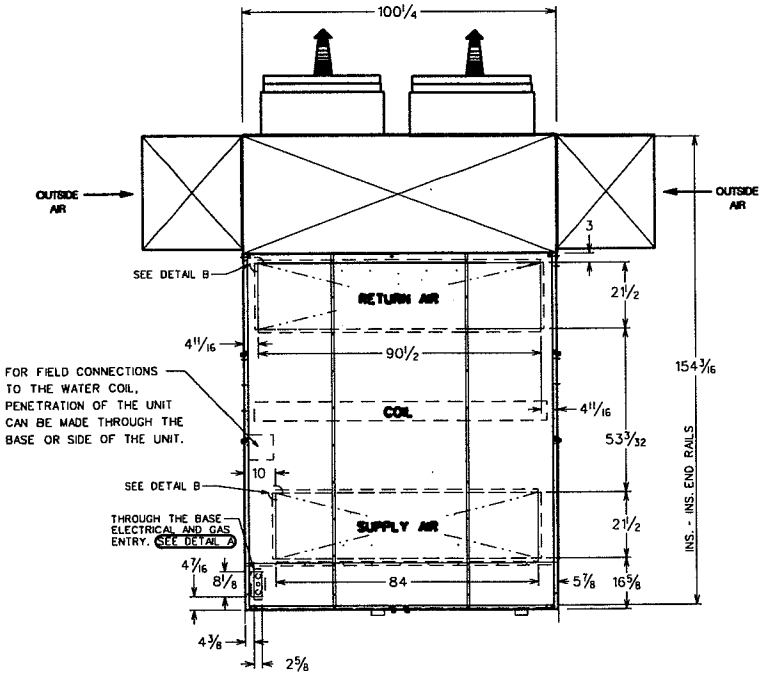


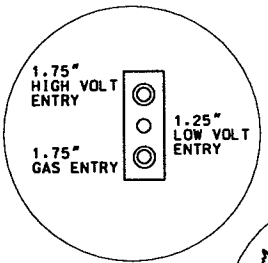
D-CABINET AIR HANDLER WITH ECONOMIZER & PROP EXHAUST ~ 26-60 TON

CLEARANCES

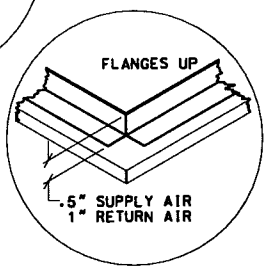
LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



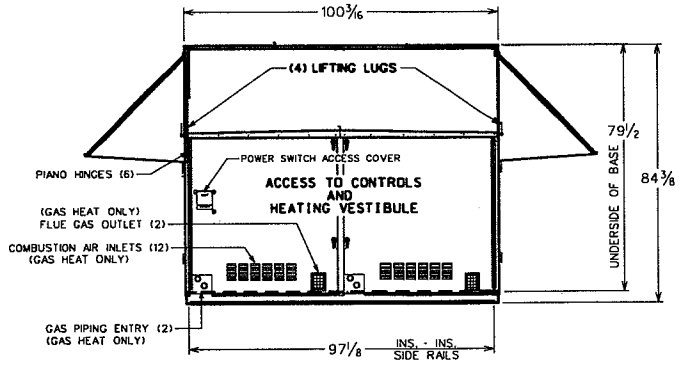


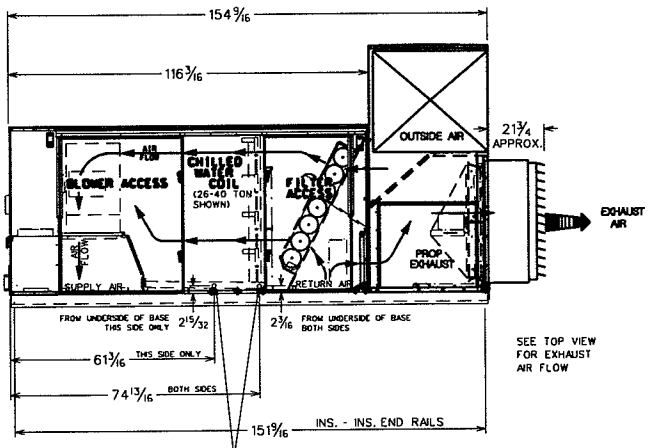


DETAIL A



DETAIL B



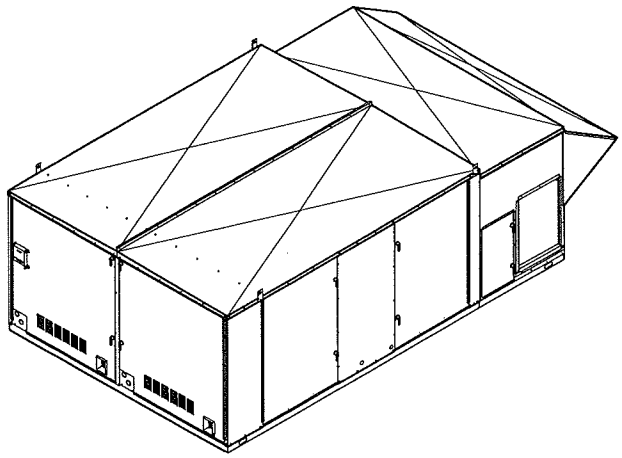


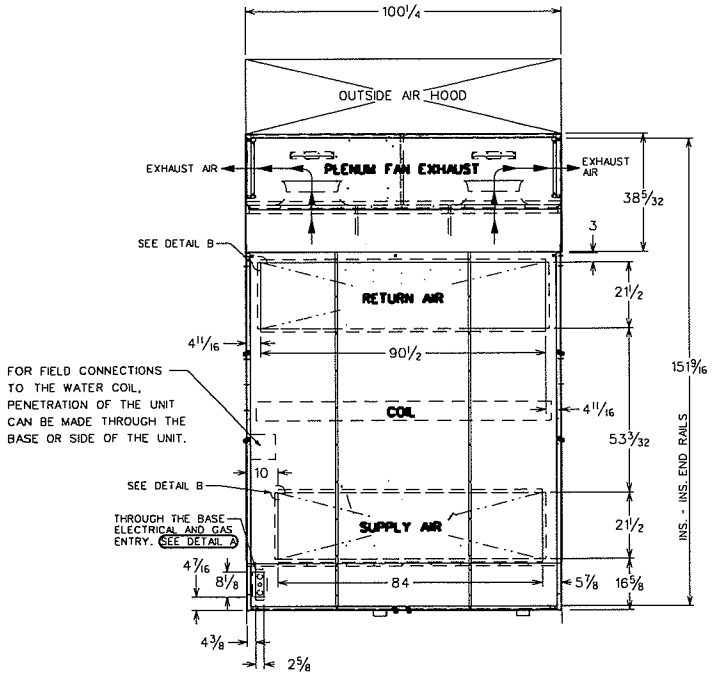
CONDENSATE DRAIN 1" NPT GALV.
'P' TRAPS FURNISHED BY MANUFACTURER FOR ALL (3) DRAIN CONNECTIONS THAT MUST BE INDIVIDUALLY CONNECTED.

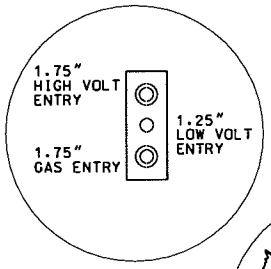
D-CABINET AIR HANDLER WITH ECONOMIZER & PLENUM FAN EXHAUST ~ 26-60 TON

CLEARANCES

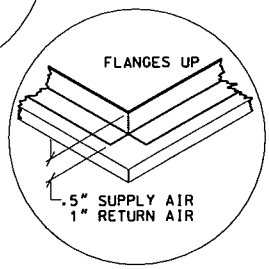
LOCATION	• UNIT SIZE • 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	60
VENT SIDE (FRONT)	48
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED



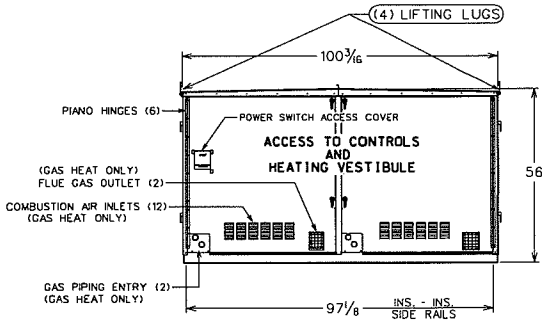


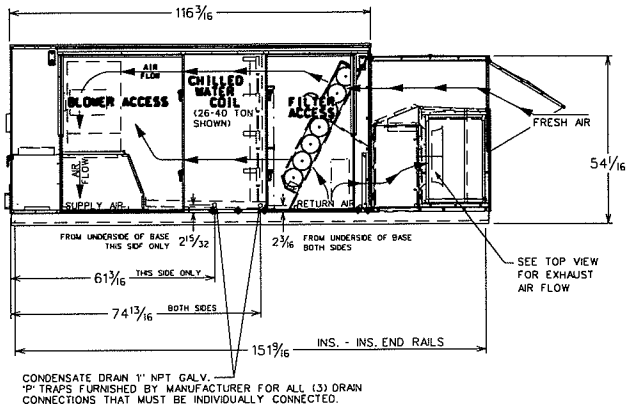


DETAIL A



DETAIL B

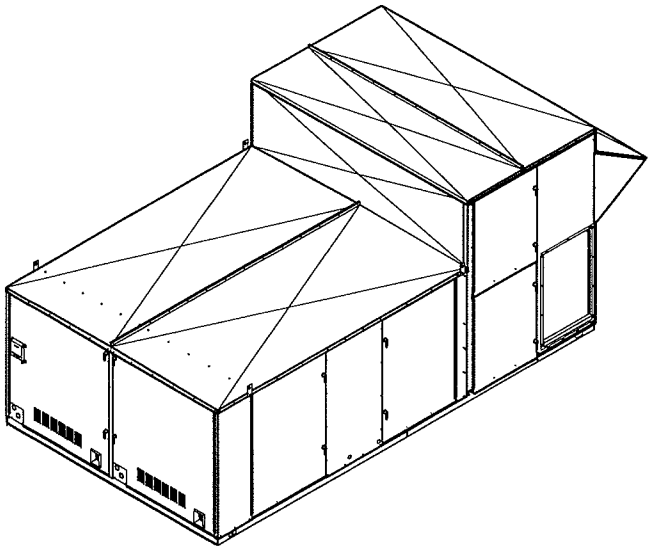


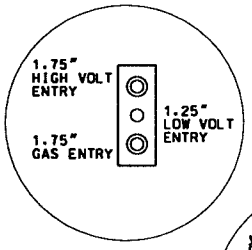


D-CABINET AIR HANDLER WITH ECONOMIZER & HEAT RECOVERY ~ 26-60 TON

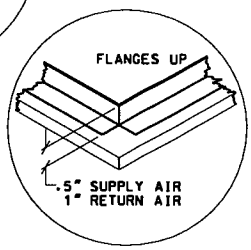
CLEARANCES

LOCATION	•UNIT SIZE• 26 • 30 • 40 • 50 • 60
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	60
LEFT SIDE	60
RIGHT SIDE	60
TOP	UNOBSTRUCTED

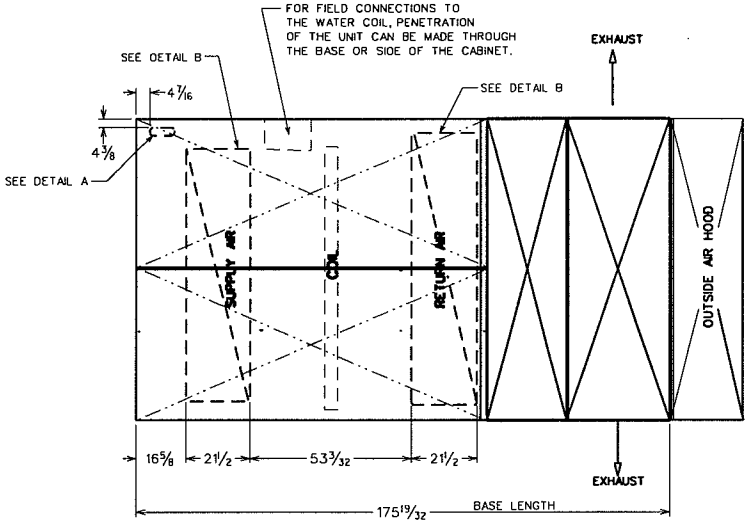


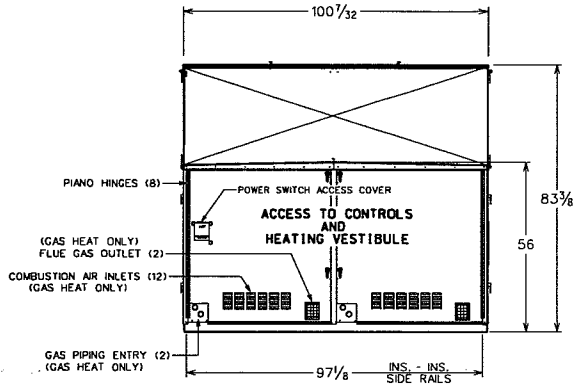


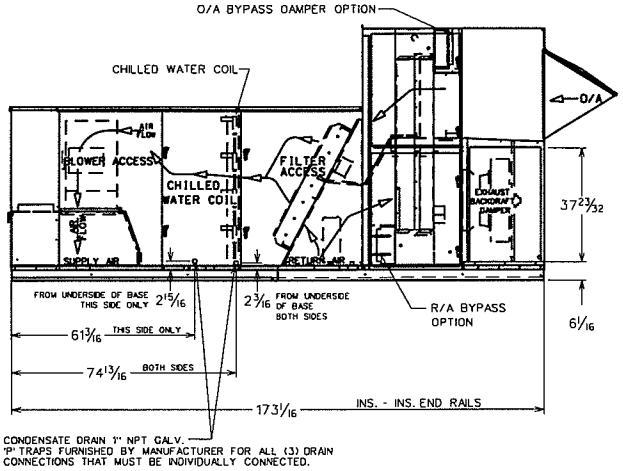
DETAIL A



DETAIL B

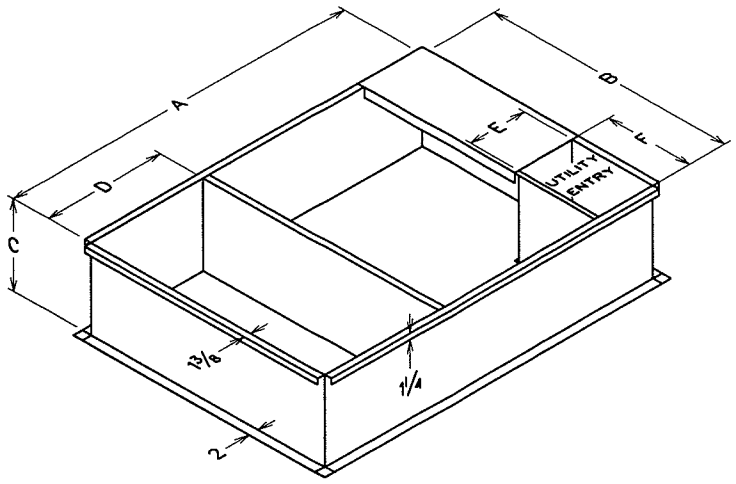






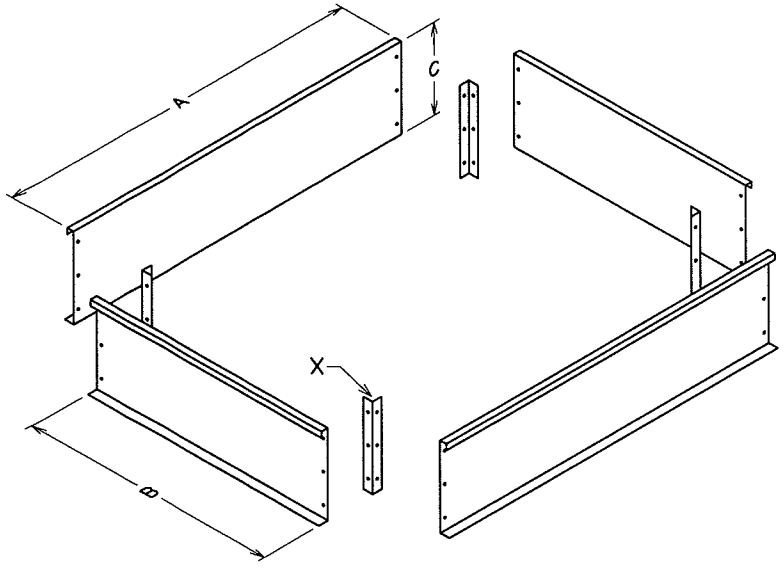
CURB DETAILS

ACOUSTICAL SOLID BOTTOM CURB



KNOCK DOWN CURB

(6) .375 BOLTS AND NUTS REQ'D PER CONNECTION ANGLE X: (12) REQ'D FOR 24 INCH CURB



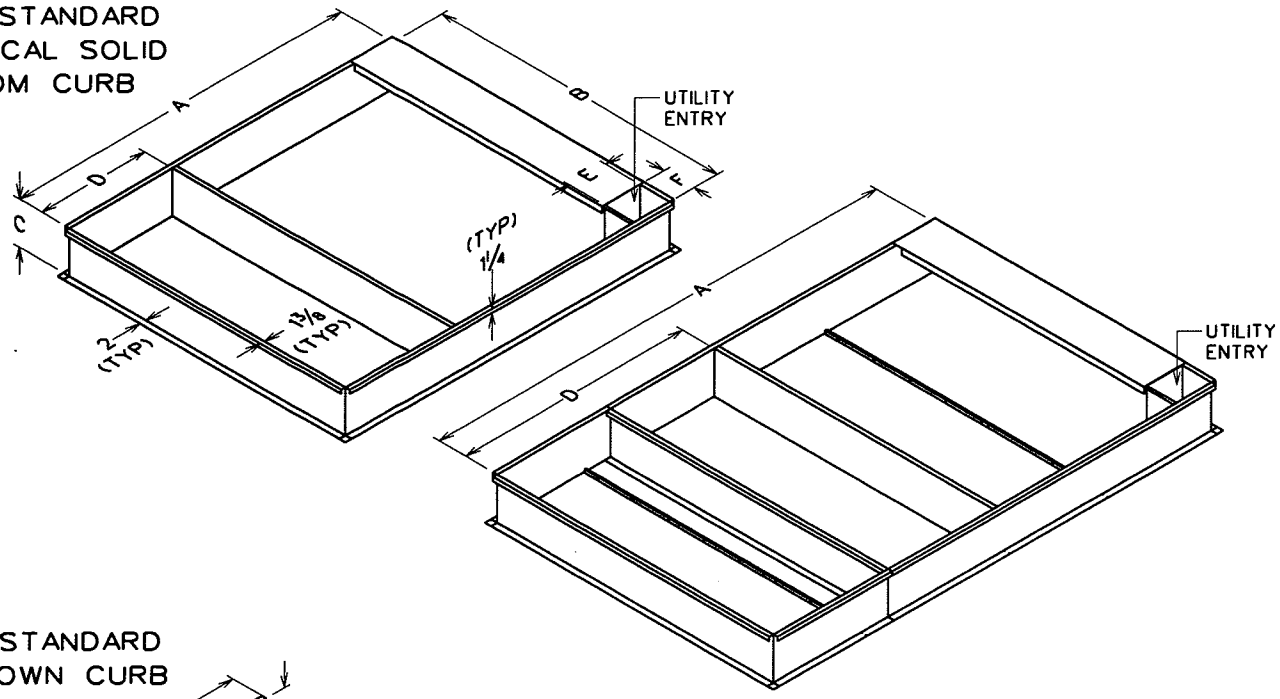
DIMENSIONS:

UNITS	CURB TYPE								
	KNOCK DOWN			ACOUSTICAL SOLID BOTTOM CURB					
	A	B	C	A	B	C	D	E	F
A/B CABINET (2-15 TON)	73 1/8	51 15/32	14/24	73 1/8	51 15/32	14/24	25	12	18
C CABINET (16-25 TON)	94 1/8	51 1/4	14/24	94 1/8	51 1/4	14/24	35	12	10

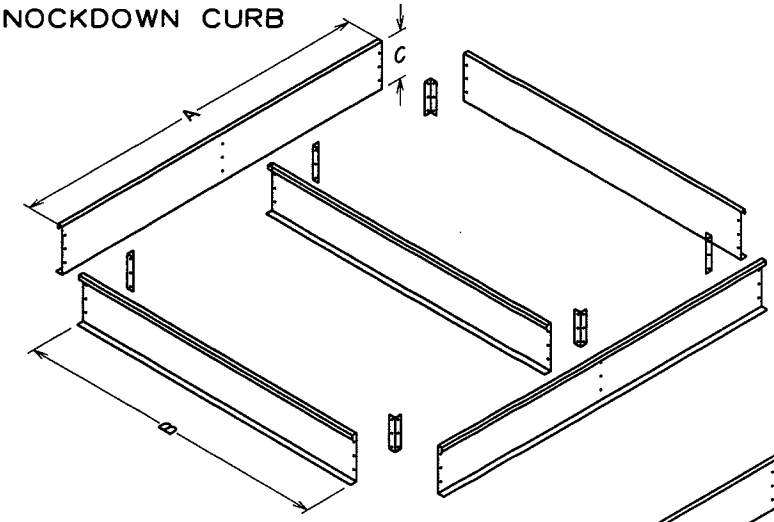
NOTE: SEE THE FOLLOWING PAGES FOR KNOCK DOWN CURB DUCT SUPPORT RAIL DIMENSIONS. DUCT SUPPORT RAILS ARE OPTIONAL AND NEED TO BE ORDERED BY KIT NUMBER.

CURB DETAILS

D-BOX STANDARD
ACOUSTICAL SOLID
BOTTOM CURB



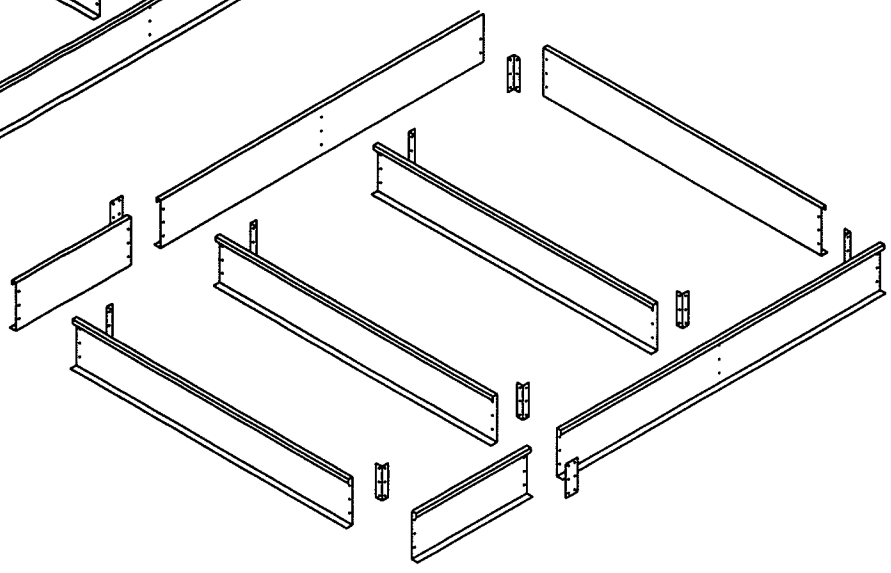
D-BOX STANDARD
KNOCKDOWN CURB



(6) .375 BOLTS AND NUTS REQ'D PER CONNECTION ANGLE X: (12) REQ'D FOR 24 INCH CURB

D-BOX PROP / PLENUM EXH.
ACOUSTICAL SOLID
BOTTOM CURB

D-BOX PROP / PLENUM EXH.
KNOCKDOWN CURB

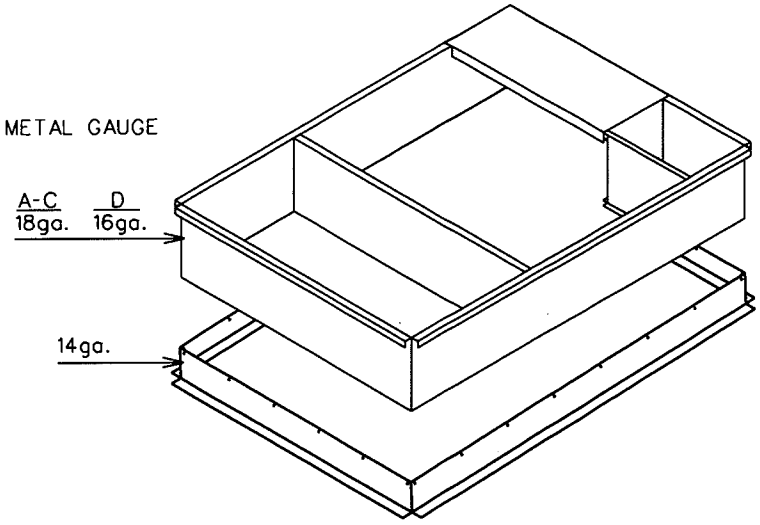


DIMENSIONS:

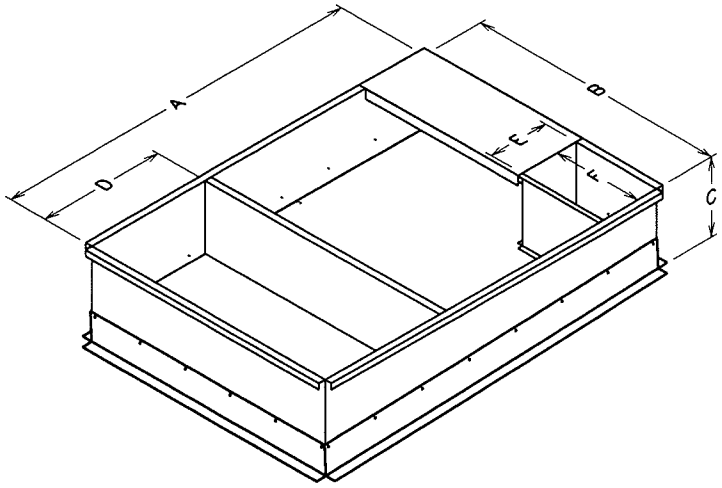
UNITS	CURB TYPE								
	KNOCK DOWN			ACOUSTICAL SOLID BOTTOM CURB					
	A	B	C	A	B	C	D	E	F
D CABINET (26-60 TON)	108 23/32	93 3/8	14/24	108 23/32	93 3/8	14/24	35	12	10
D CABINET (PROP OR PLENUM FAN EXHST	147	93 3/8	14/24	147	93 3/8	14/24	73 9/32	12	10

NOTE: SEE THE FOLLOWING PAGES FOR KNOCK DOWN CURB DUCT SUPPORT RAIL DIMENSIONS.
DUCT SUPPORT RAILS ARE OPTIONAL AND NEED TO BE ORDERED BY KIT NUMBER.

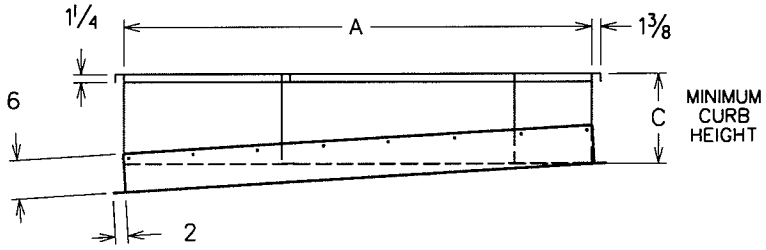
CURB DETAILS



ADJUSTABLE PITCH
ACOUSTICAL
SOLID BOTTOM CURB



MAXIMUM PITCH ADJUSTMENT IS
3/4" PER FOOT IN EITHER DIRECTION



DIMENSIONS:

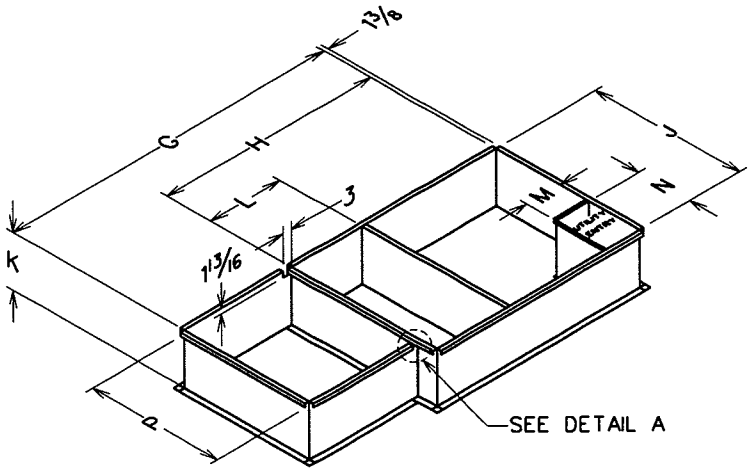
UNITS	CURB TYPE						
	ADJUSTABLE PITCH ACOUSTICAL SOLID BOTTOM CURB						
	A	B	C	D	E	F	MAX.SLOPE PER FOOT
A/B CABINET (2-15 TON)	73 1/8	51 15/32	14/24	25	12	18	3/4"
C CABINET (16-25 TON)	94 1/8	51 1/4	14/24	35	12	10	3/4"
D CABINET (26-60 TON)	108 23/32	93 3/8	14/24	35	12	10	3/4"

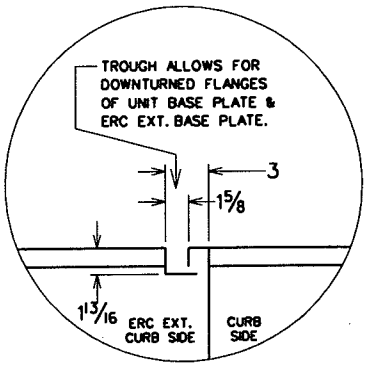
NOTE: ADJUSTABLE PITCH CURB NOT AVAILABLE FOR
RK D-CABINET PROP / PLENUM EXHAUST UNITS.

CURB DETAILS

HEAT RECOVERY UNIT CURBS

A & B BOX ACOUSTICAL SOLID BOTTOM CURB

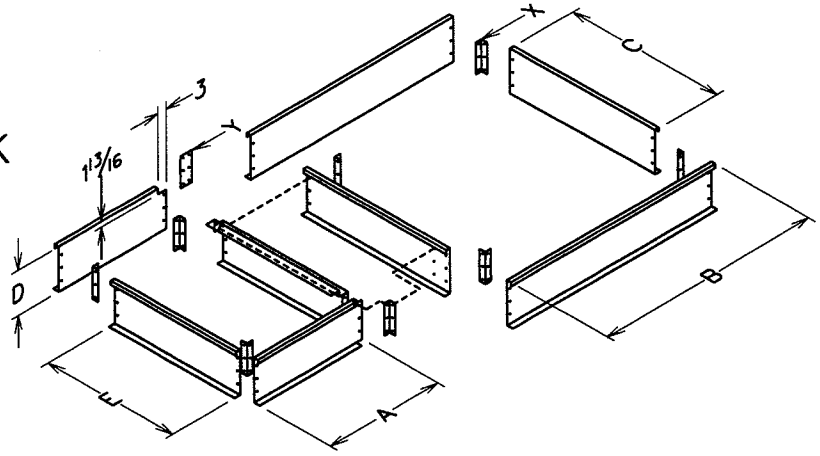




DETAIL A

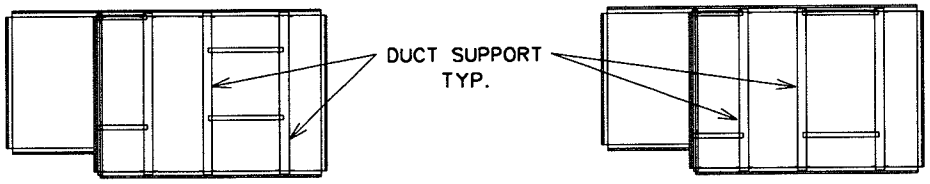
A & B BOX KNOCK DOWN CURB

(6) .375 BOLTS AND NUTS REQ'D PER CONNECTION OF ANGLE X & SPLICE PLATE (Y): (12) REQ'D FOR 24 INCH CURB



DIMENSIONS:

UNITS	CURB TYPE												
	KNOCK DOWN					ACOUSTICAL SOLID BOTTOM CURB							
	A	B	C	D	E	G	H	J	K	L	M	N	P
A/B CABINET (2-15 TON)	40	73 1/8	51 15/32	14/24	37 1/16	113 1/8	73 1/8	51 15/32	14/24	25	12	18	37 1/16



2-7 KD CURB DUCT SUPPORT RAILS

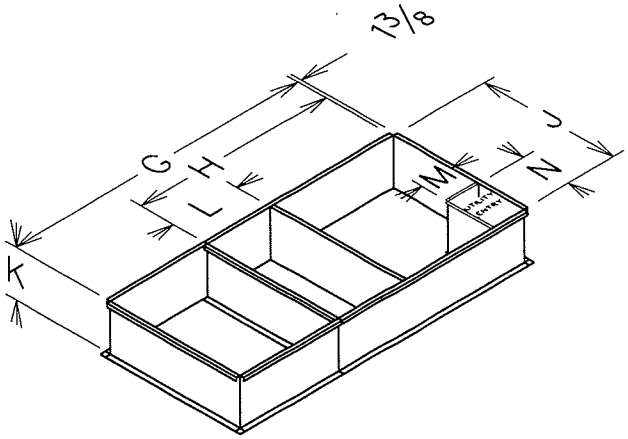
8-15 KD CURB DUCT SUPPORT RAILS

NOTE: THIS IS A DETAIL OF THE KNOCK DOWN CURBS W/DUCT SUPPORT RAILS. THESE DUCT SUPPORT RAILS ARE OPTIONAL AND NEED TO BE ORDERED BY KIT NUMBER. SEE PAGES FOLLOWING FOR DIMENSIONS.

NOTE: ALL DIMENSIONS ARE INSIDE TO INSIDE UNLESS SHOWN OTHERWISE.

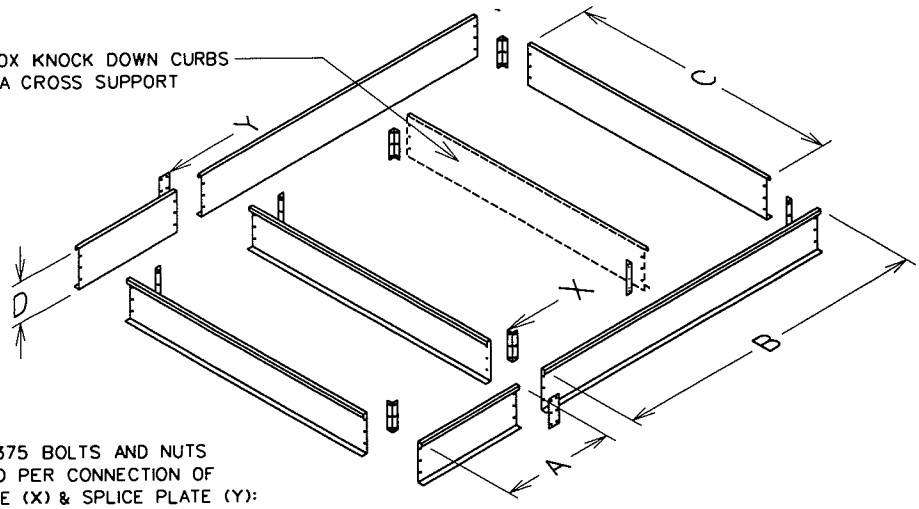
CURB DETAILS

HEAT RECOVERY UNIT CURBS



C & D BOX ACOUSTICAL SOLID BOTTOM CURB

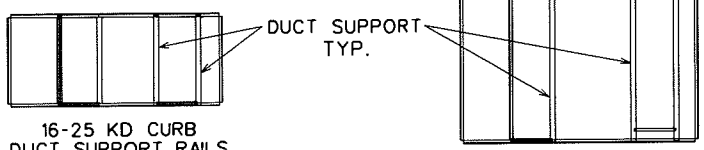
C & D BOX KNOCK DOWN CURB



(6) .375 BOLTS AND NUTS REQ'D PER CONNECTION OF ANGLE (X) & SPLICE PLATE (Y): (12) REQ'D FOR 24 INCH CURB

DIMENSIONS:

UNITS	CURB TYPE										
	KNOCK DOWN				ACOUSTICAL SOLID BOTTOM CURB						
	A	B	C	D	G	H	J	K	L	M	N
C CABINET (16-25 TON)	47 7/8	94 1/8	51 1/4	14/24	142	94 1/8	51 1/4	14/24	35	12	10
D CABINET (26-60 TON)	56 3/4	108 23/32	93 3/8	14/24	165 15/32	108 23/32	93 3/8	14/24	35	12	10



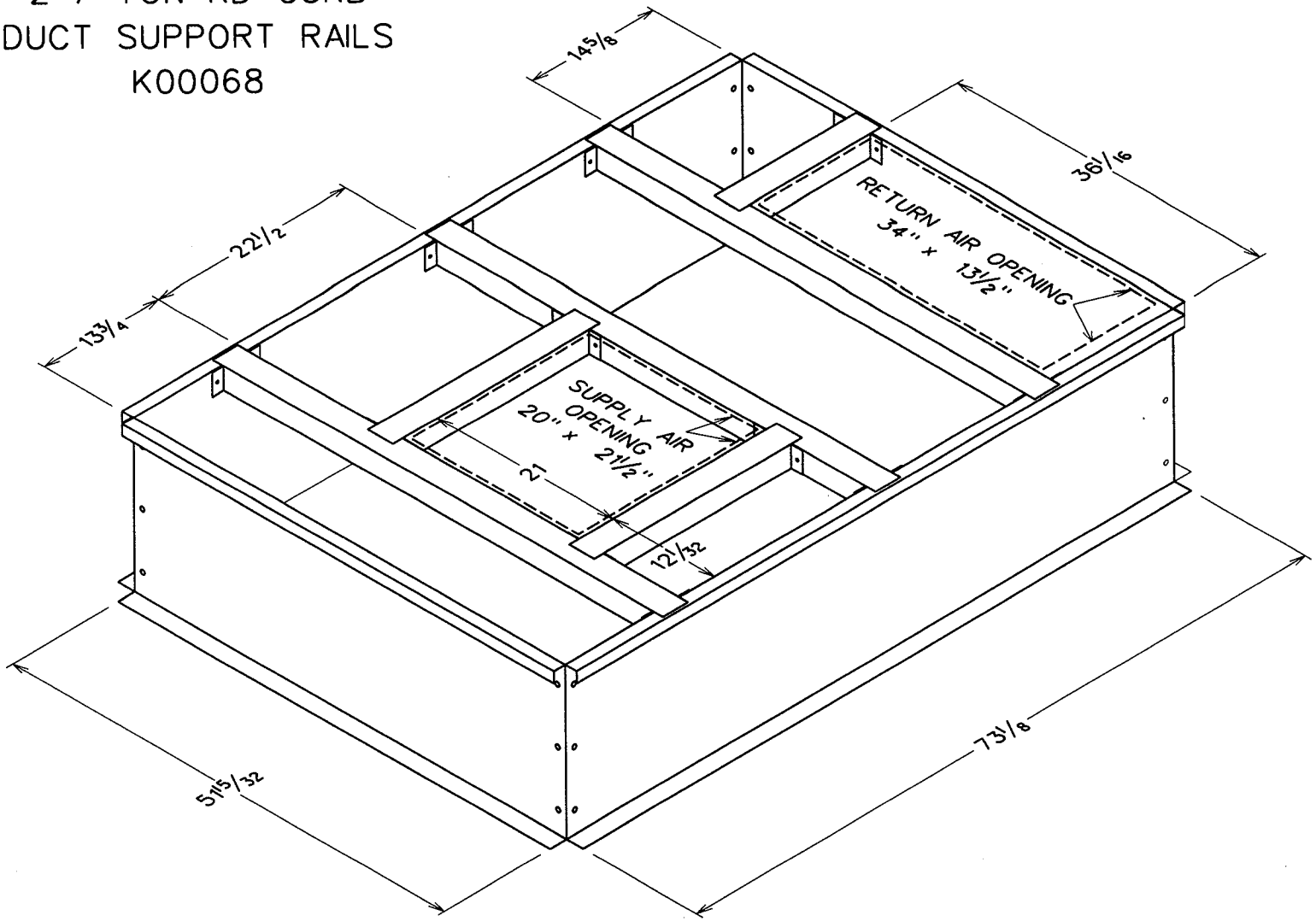
16-25 KD CURB DUCT SUPPORT RAILS

26-60 KD CURB DUCT SUPPORT RAILS

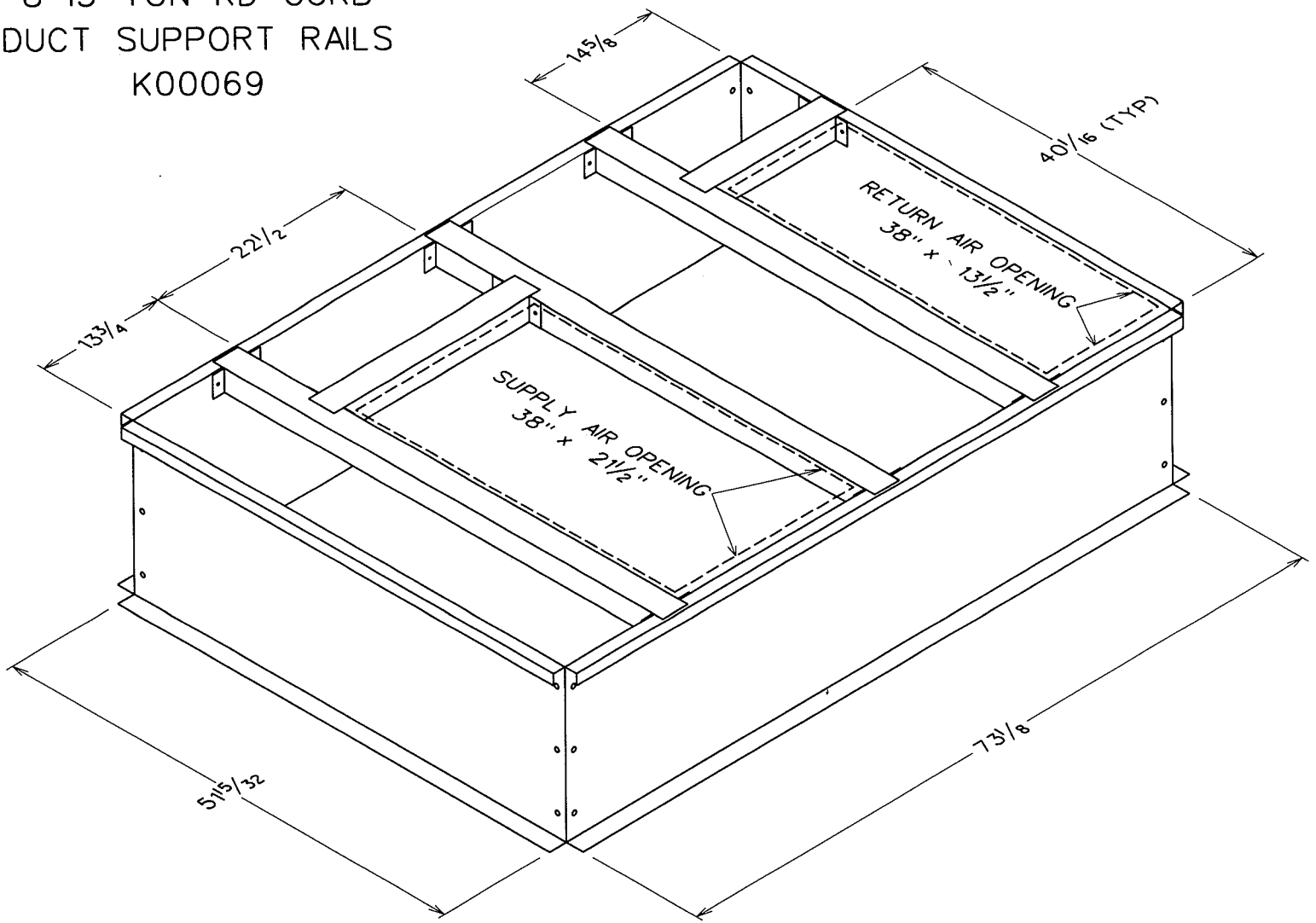
NOTE: THIS IS A DETAIL OF THE KNOCK DOWN CURBS W/DUCT SUPPORT RAILS. THESE DUCT SUPPORT RAILS ARE OPTIONAL AND NEED TO BE ORDERED BY KIT NUMBER. SEE PAGES FOLLOWING FOR DIMENSIONS.

NOTE: ALL DIMENSIONS ARE INSIDE TO INSIDE UNLESS SHOWN OTHERWISE.

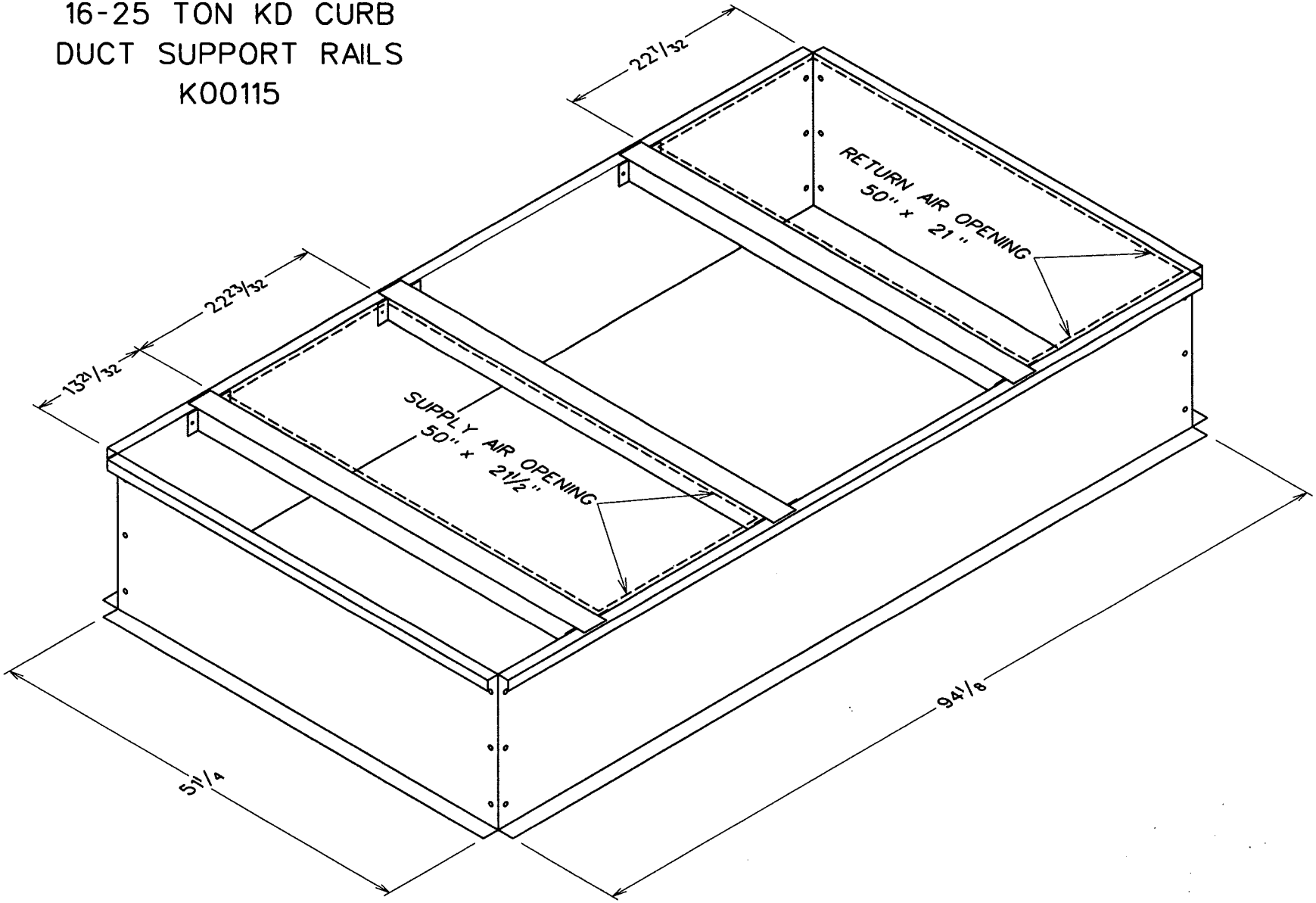
2-7 TON KD CURB
DUCT SUPPORT RAILS
K00068



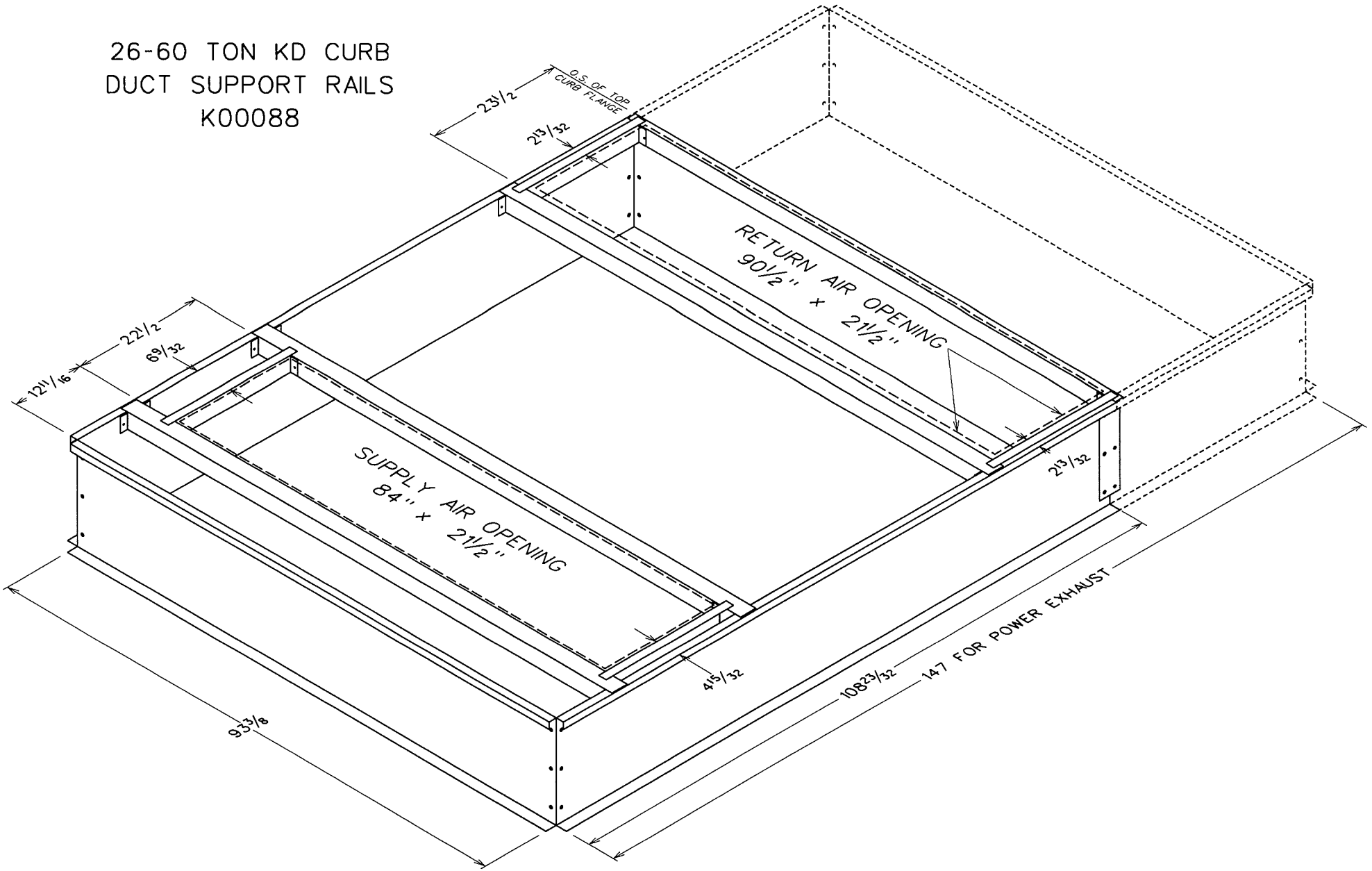
8-15 TON KD CURB
DUCT SUPPORT RAILS
K00069



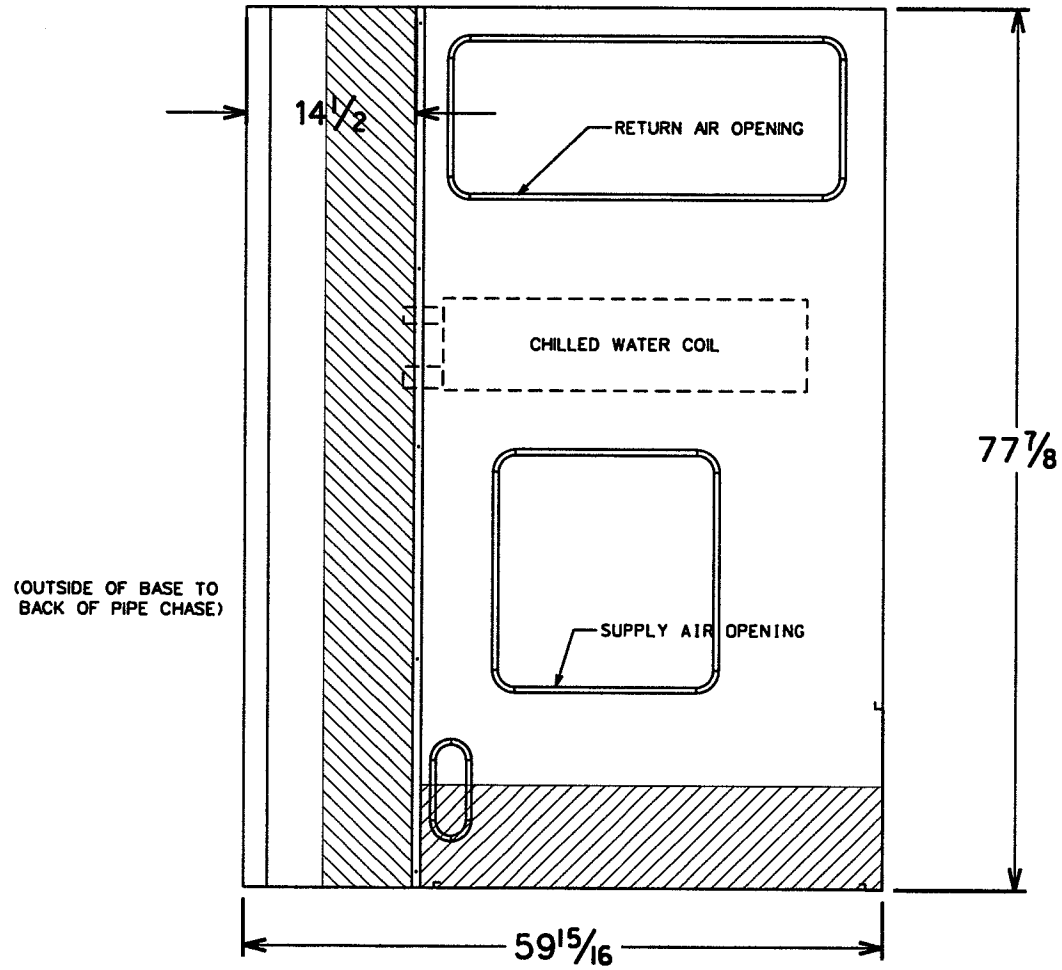
16-25 TON KD CURB
DUCT SUPPORT RAILS
K00115



26-60 TON KD CURB DUCT SUPPORT RAILS K00088

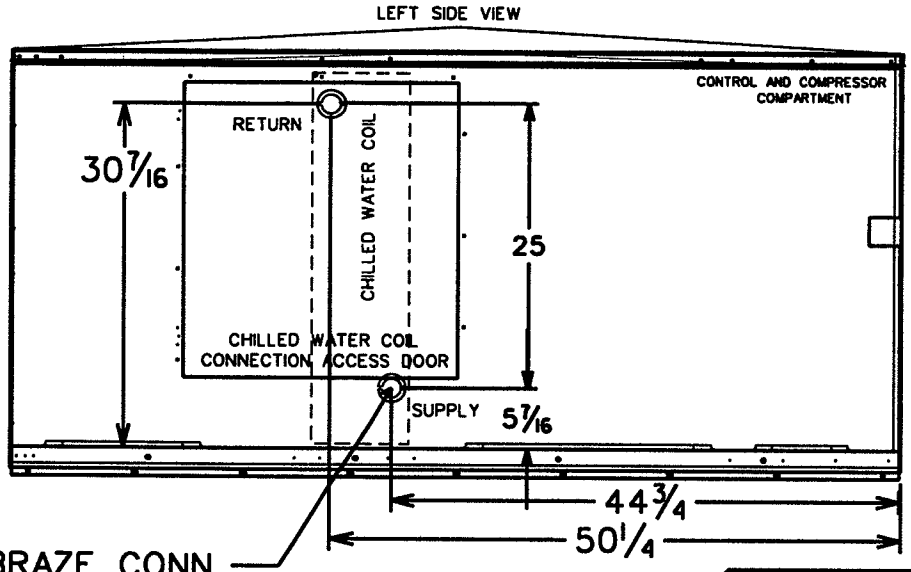


TOP VIEW



NOTE: Coil piping can be brought up through service entry, base or curb. Shaded area represents possible routing for piping.

LEFT SIDE VIEW



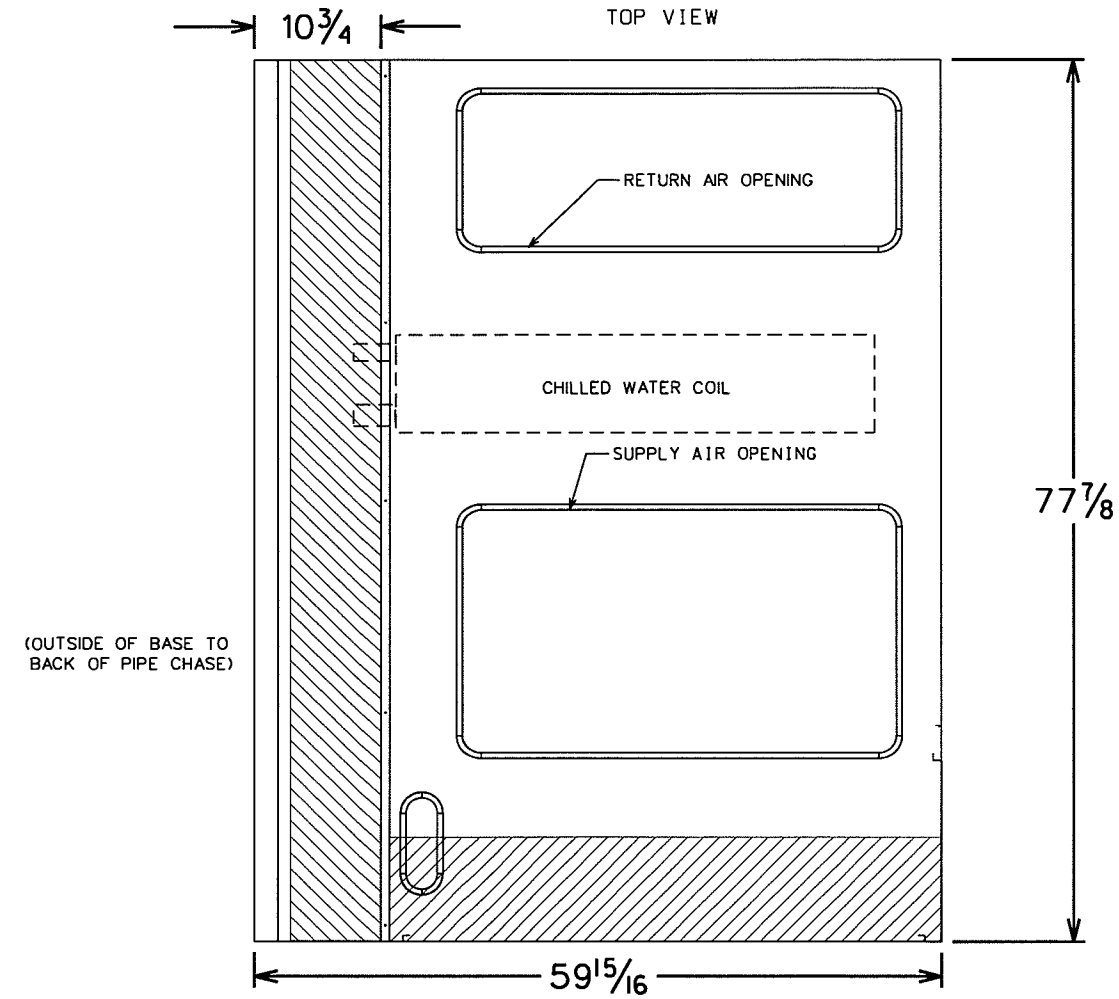
1 5/8" O.D. BRAZE CONN. TYP. 2 PLCS.

ALL DIMENSIONS SHOWN ARE IN INCHES
DIMENSIONS ARE FOR REFERENCE ONLY

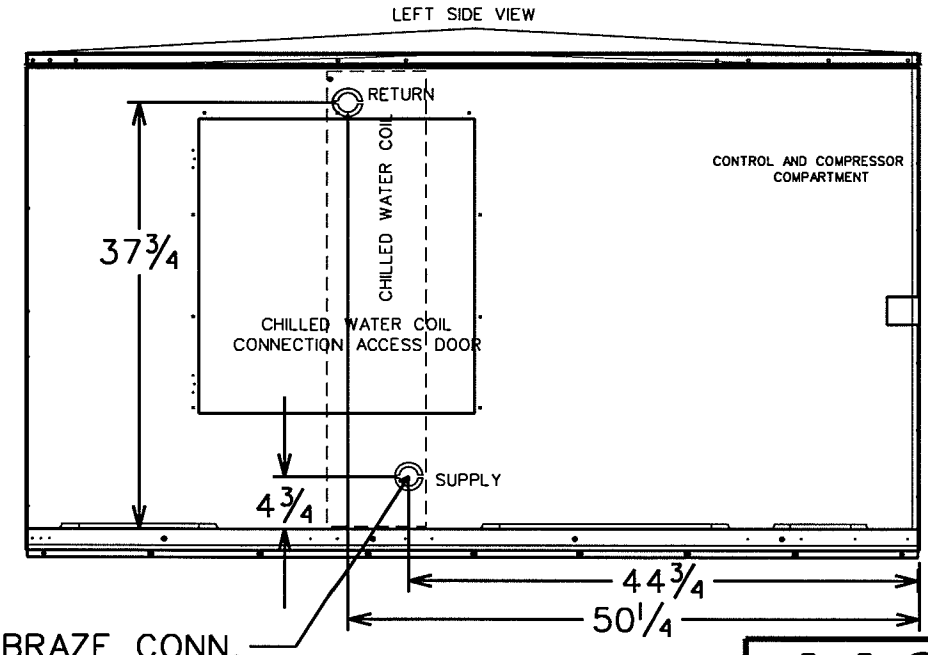
AAON
A-38

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

RK 02 THRU 07 TON
SHOWN WITH CHILLED WATER OPTION



NOTE: Coil piping can be brought up through service entry, base or curb. Shaded area represents possible routing for piping.

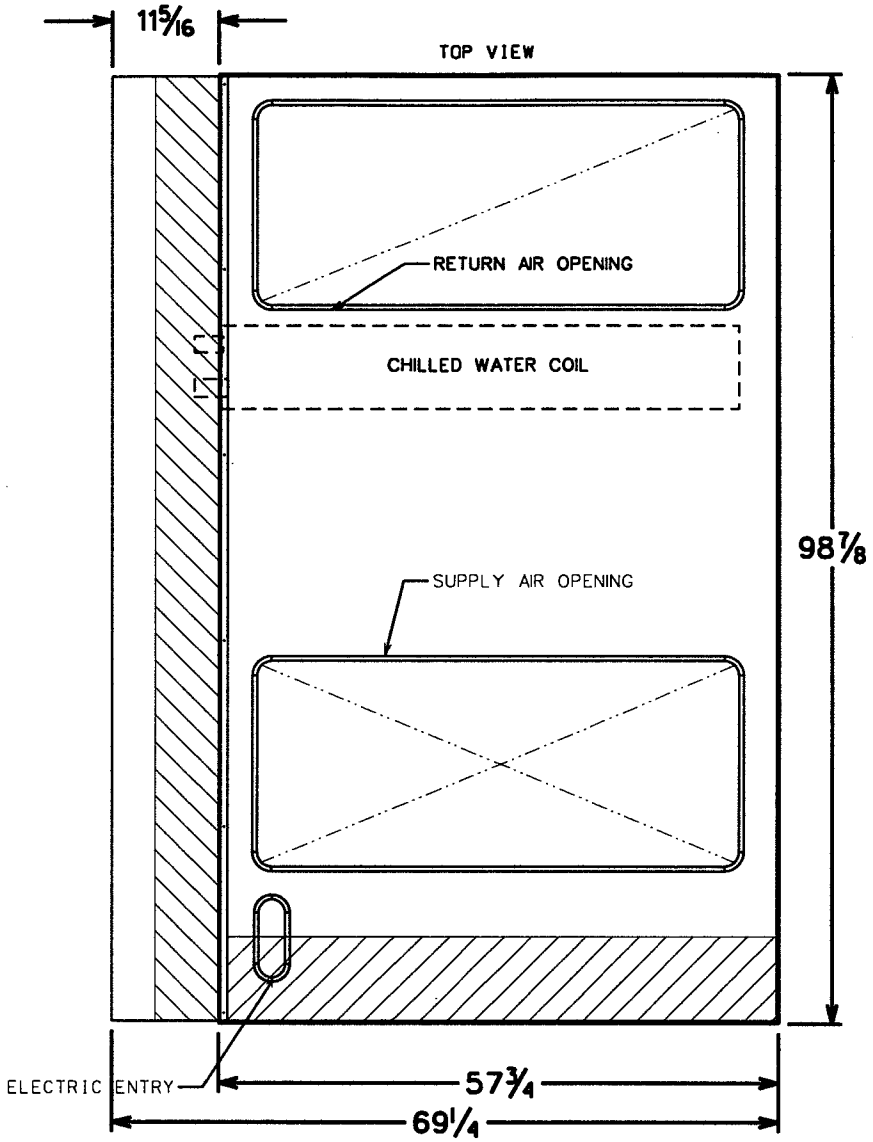


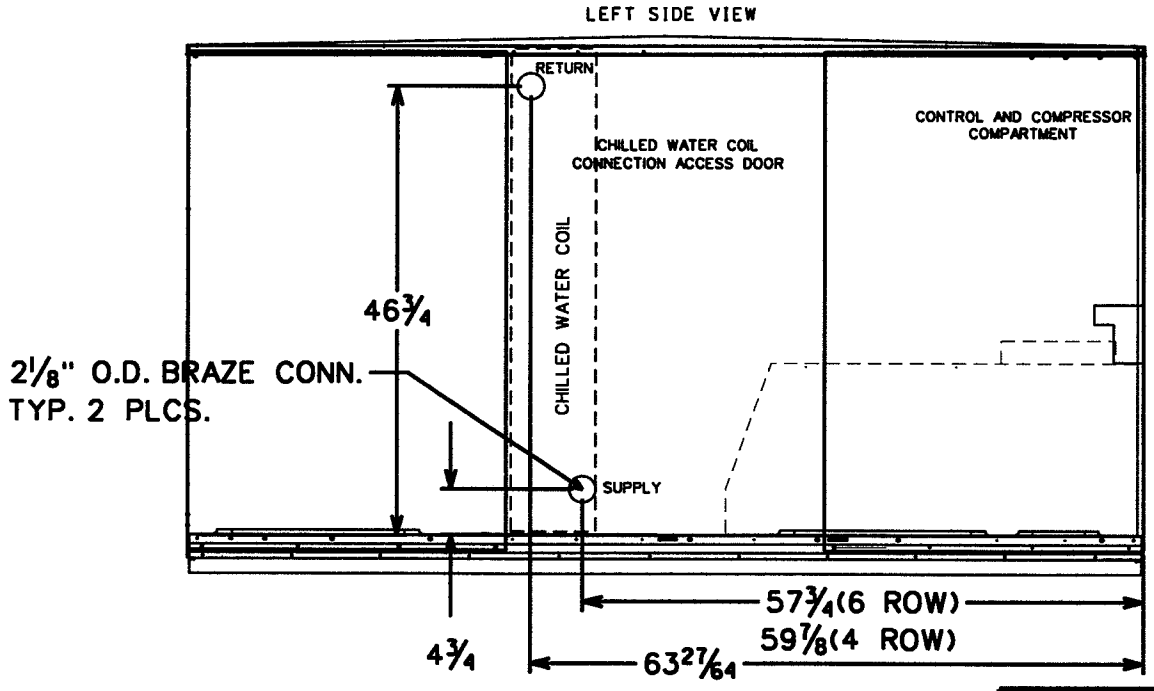
ALL DIMENSIONS SHOWN ARE IN INCHES
DIMENSIONS ARE FOR REFERENCE ONLY

AAON
A-39

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

RK 08 THRU 15 TON
SHOWN WITH CHILLED WATER OPTION



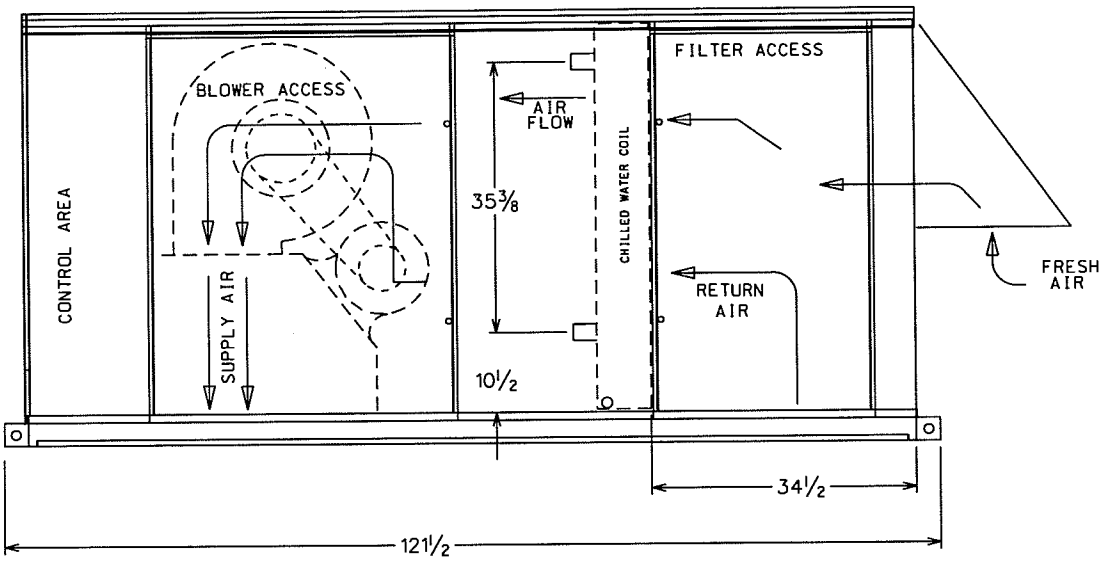


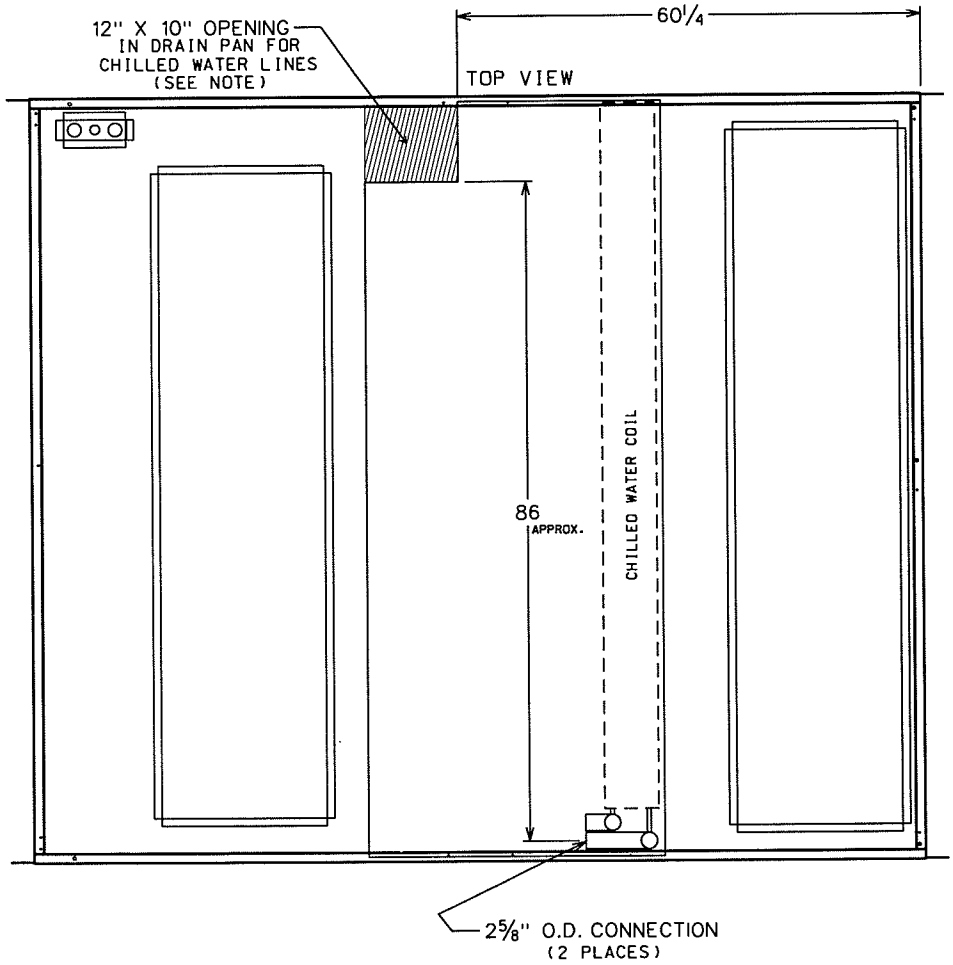
AAON
A-40

NOTE: Coil piping can be brought up through service entry, base or curb. Shaded area represents possible routing for piping.

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA
RK 16 THRU 25 TON
SHOWN WITH CHILLED WATER OPTION

SIDE VIEW





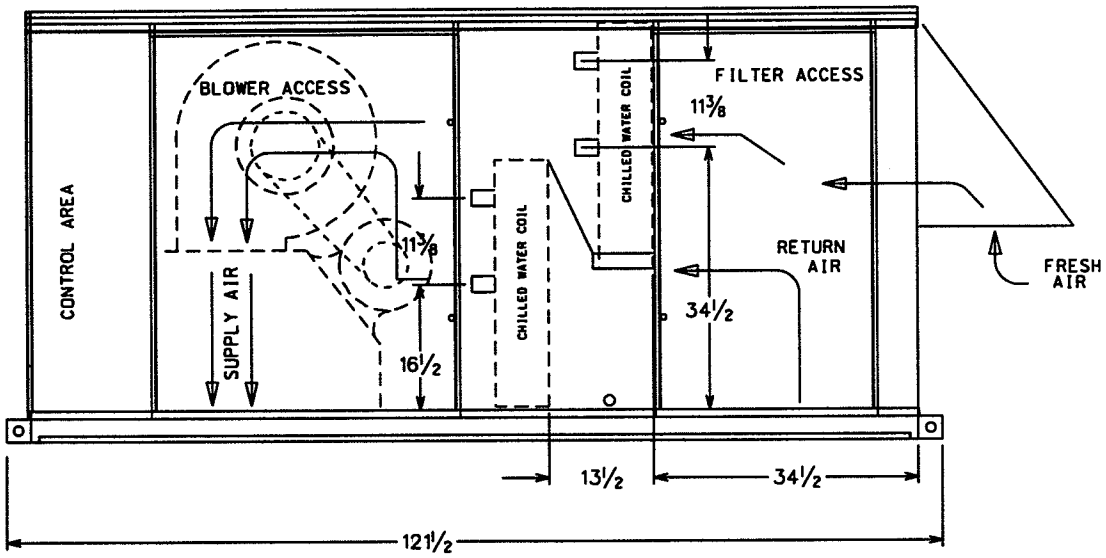
NOTE: UNIT BASE DOES NOT CONTAIN OPENINGS FOR CHILLED WATER LINE CONNECTIONS. HOLES WILL HAVE TO BE ADDED TO THE BASE FOR WATER LINES.
NO PIPING FROM WATER COIL INCLUDED.

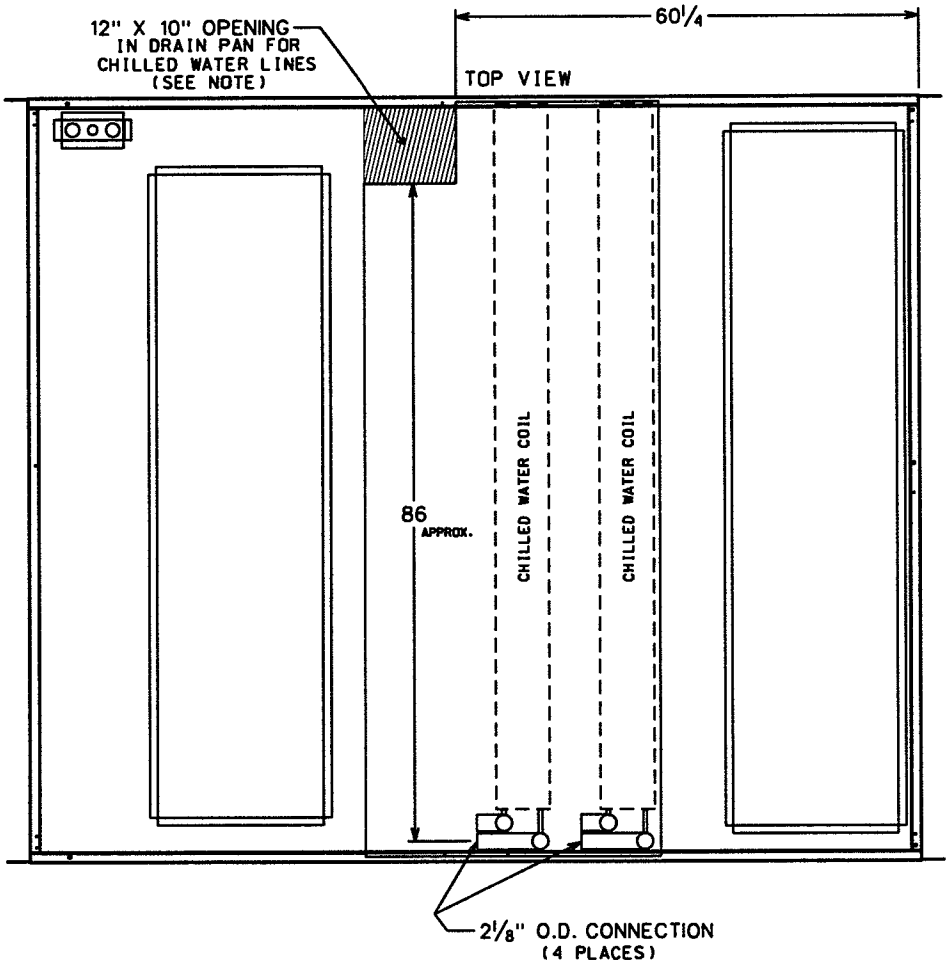
AAON
A-41

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

RK 26 THRU 40 TON
SHOWN WITH CHILLED WATER OPTION

SIDE VIEW





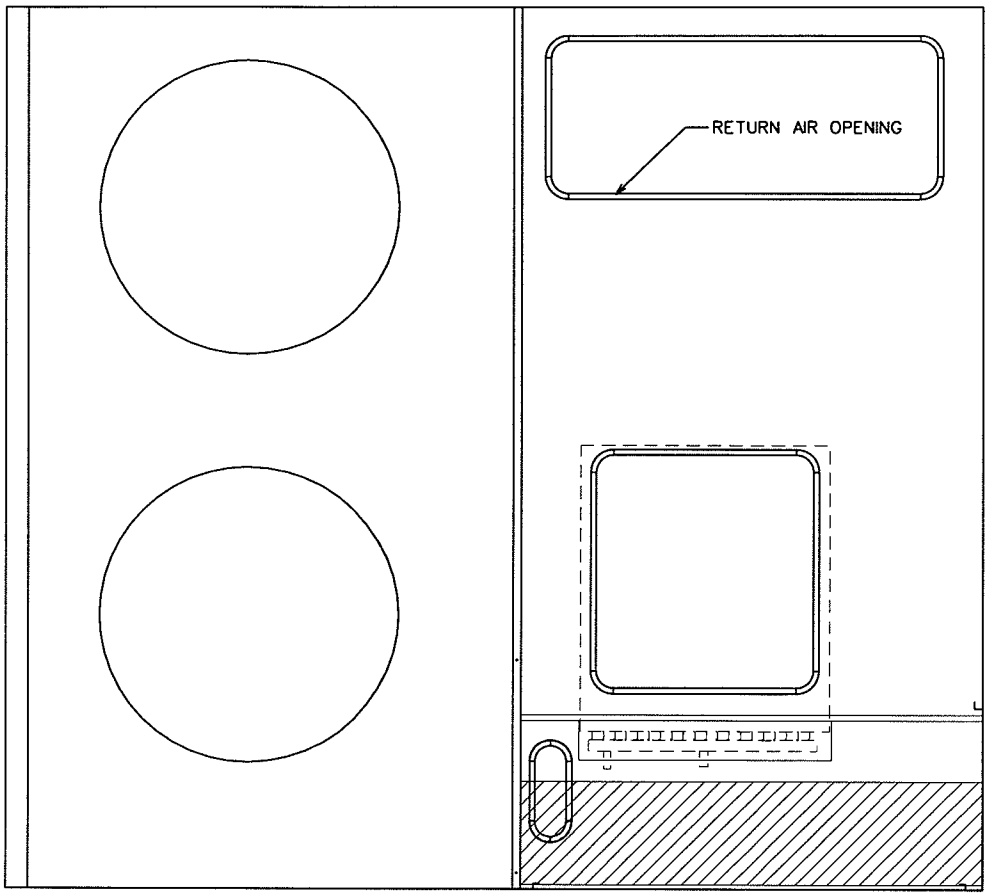
NOTE: UNIT BASE DOES NOT CONTAIN OPENINGS FOR CHILLED WATER LINE CONNECTIONS. HOLES WILL HAVE TO BE ADDED TO THE BASE FOR WATER LINES.
NO PIPING FROM WATER COIL INCLUDED.

AAON
A-42

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

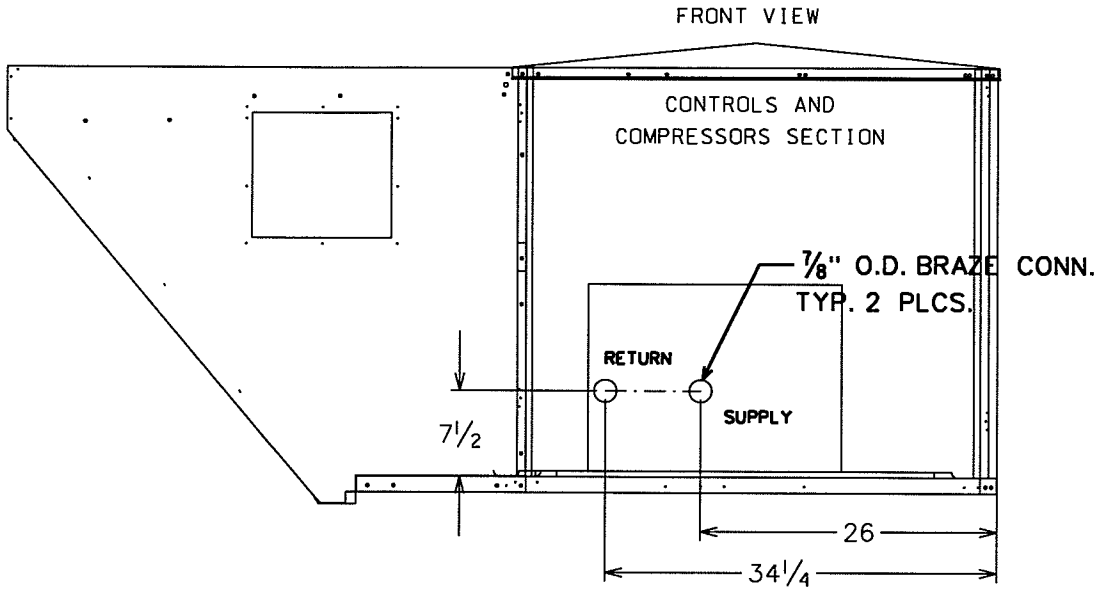
RK 50 THRU 60 TON
SHOWN WITH CHILLED WATER OPTION

TOP VIEW



NOTE: COIL IS SLOPED TO THE HEADER SIDE

FRONT VIEW



TE: Coil piping can be brought up through the service entry. Shaded area represents possible routing for piping.

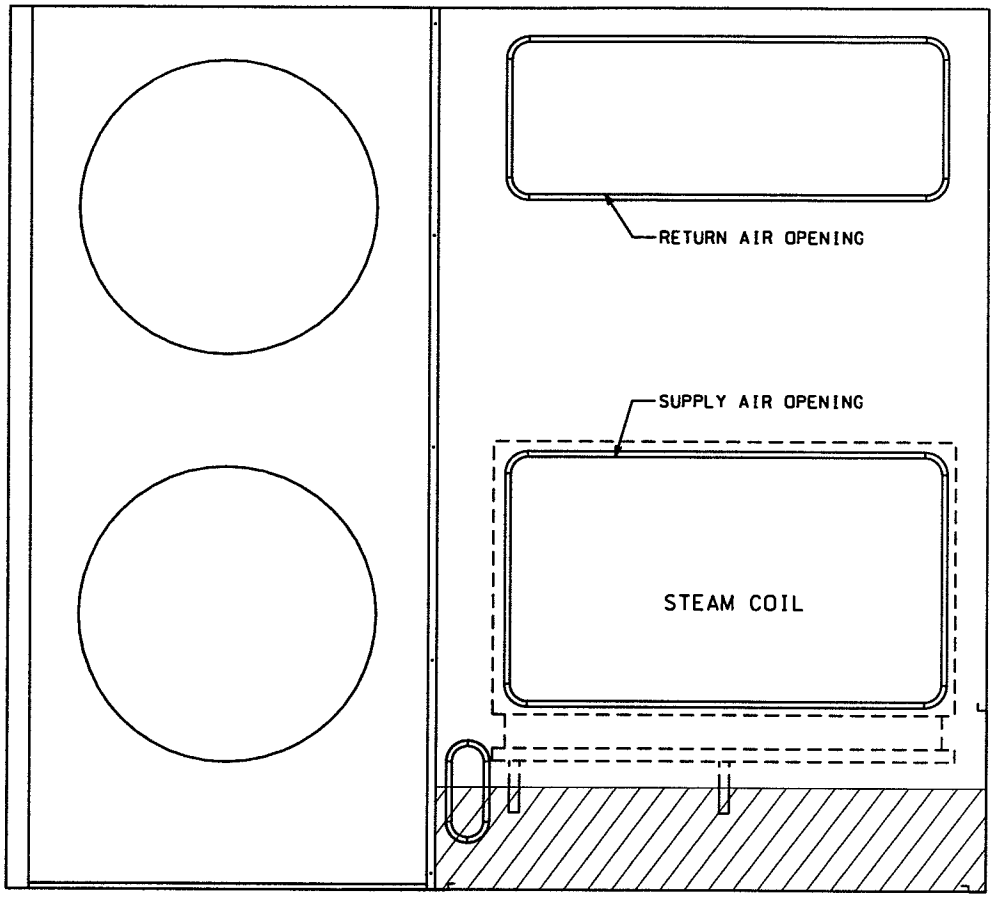
AAON
A-43

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

RK 02 THRU 07 TON

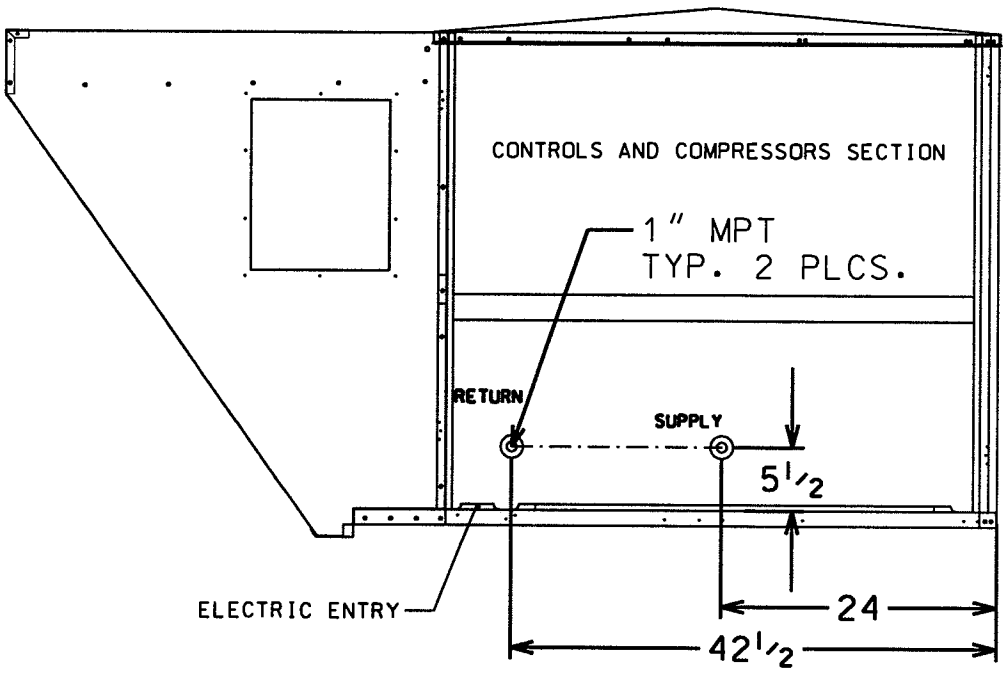
SHOWN WITH STEAM OPTION

TOP VIEW



NOTE: COIL IS SLOPED TO THE HEADER SIDE

FRONT VIEW



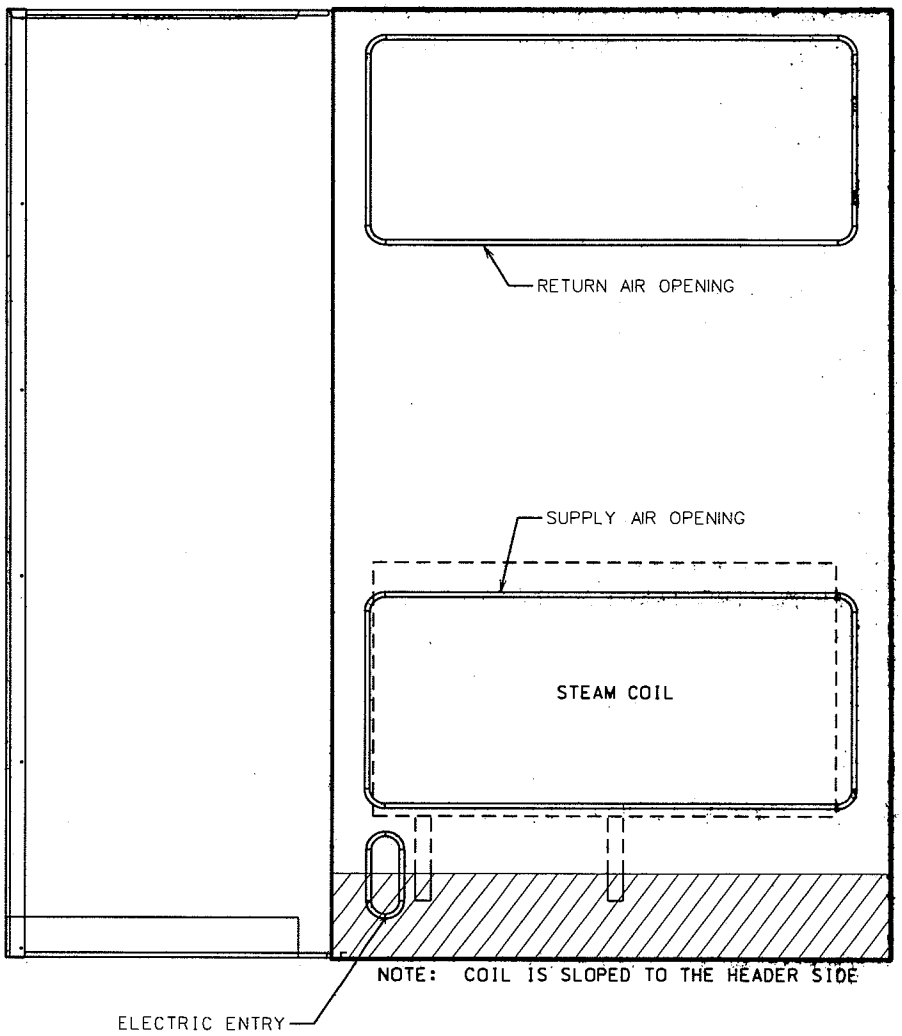
NOTE: Coil piping can be brought up through the service entry. Shaded area represents possible routing for piping.

AAON
A-44

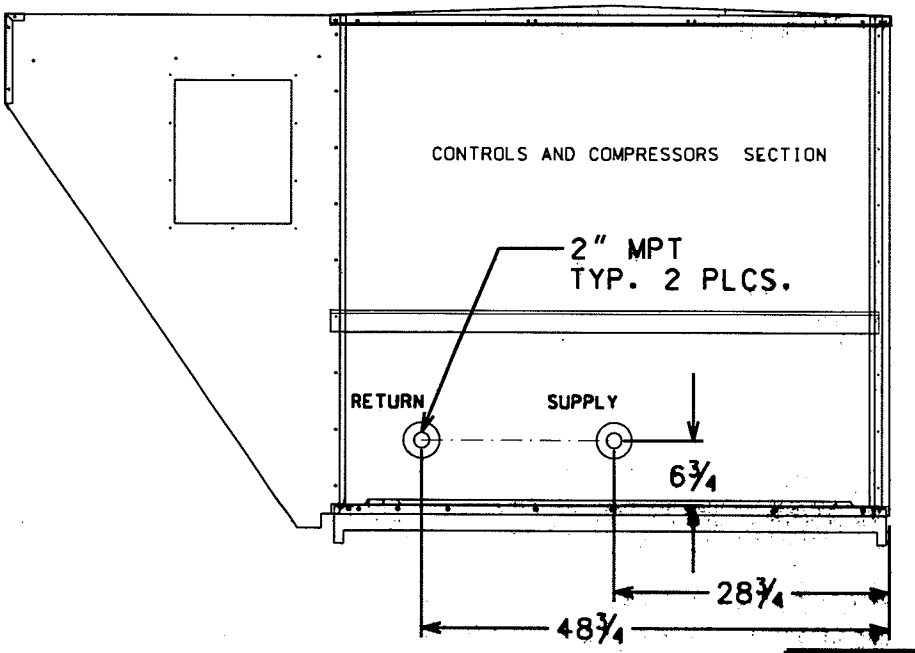
AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

RK 8 THRU 15 TON
SHOWN WITH STEAM HEAT OPTION

TOP VIEW



FRONT VIEW



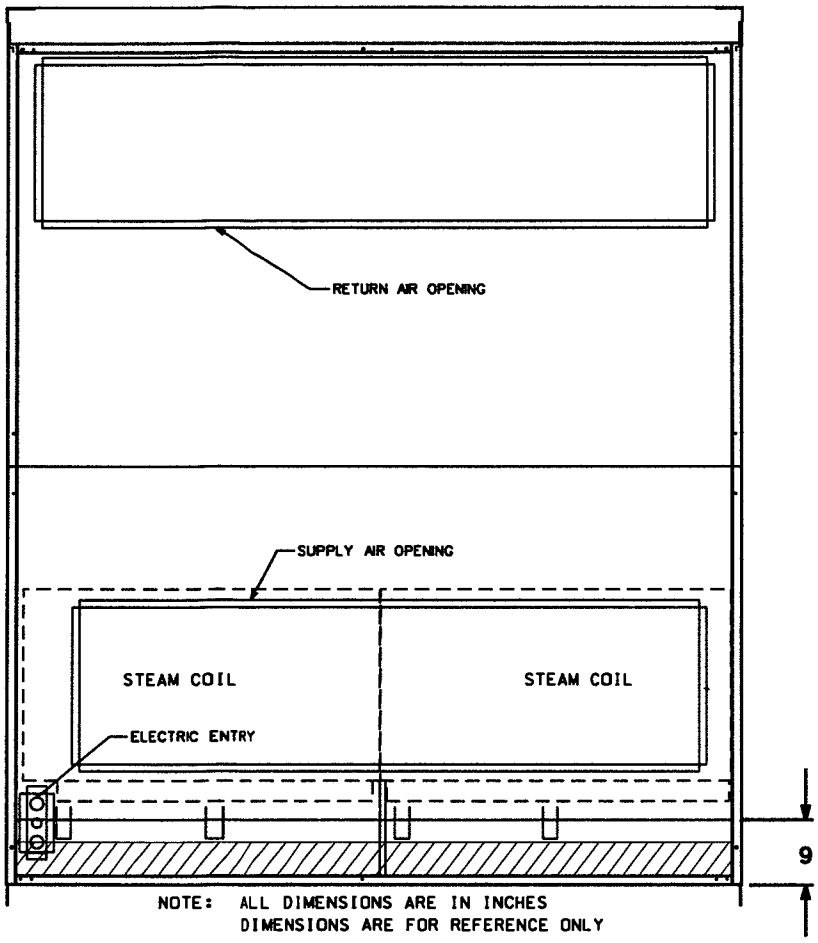
AAON
A-45

NOTE: Coilpiping con be brought up through the service entry. Shaded area represents possible routing for piping.

ALL DIMENSIONS SHOWN ARE IN INCHES
DIMENSIONS ARE FOR REFERENCE ONLY

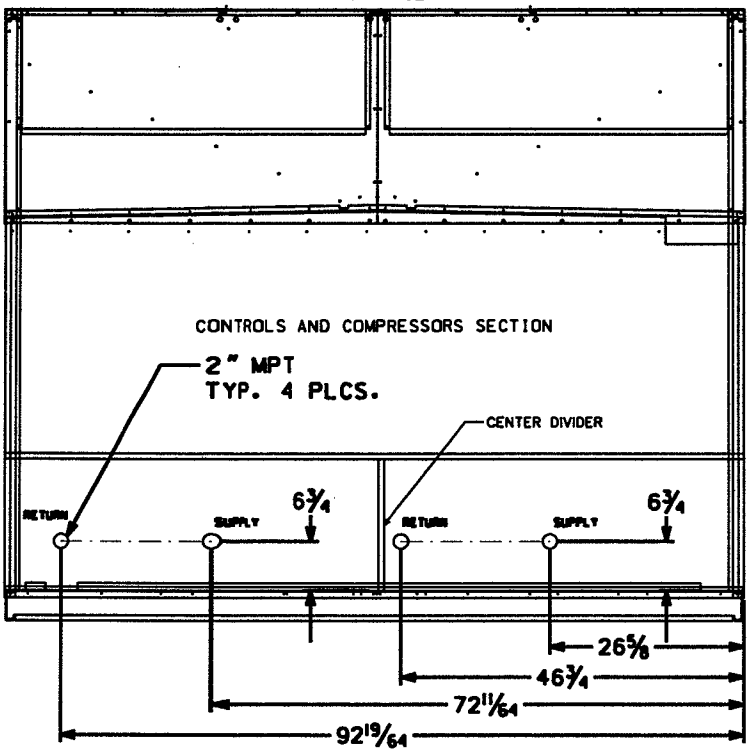
AAON INC.
2425 S. YUKON TULSA, OKLAHOMA
RK 16 THRU 25 TON
SHOWN WITH STEAM HEAT OPTION

TOP VIEW



NOTE: ALL DIMENSIONS ARE IN INCHES
DIMENSIONS ARE FOR REFERENCE ONLY

FRONT VIEW

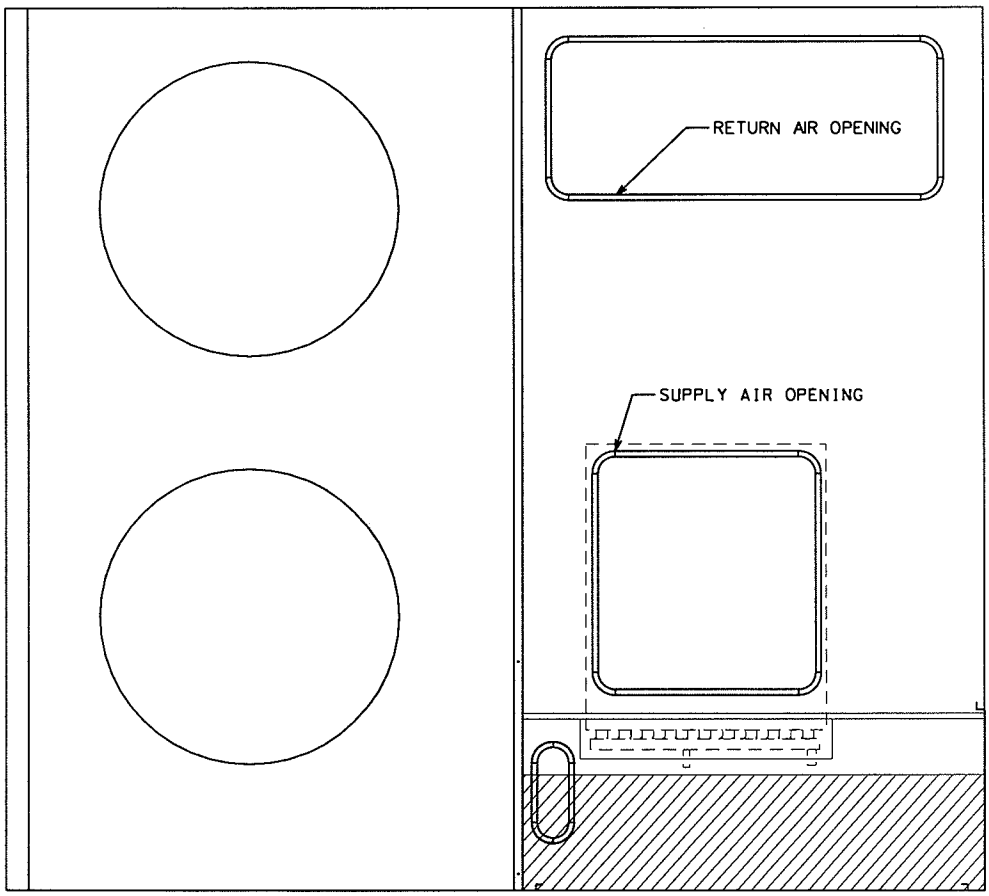


NOTE: THERE IS A TOTAL OF TWO STEAM HEAT COILS SEPERATED BY A CENTER DIVIDER
THE COILS ARE SLOPED TO THE HEADER SIDE

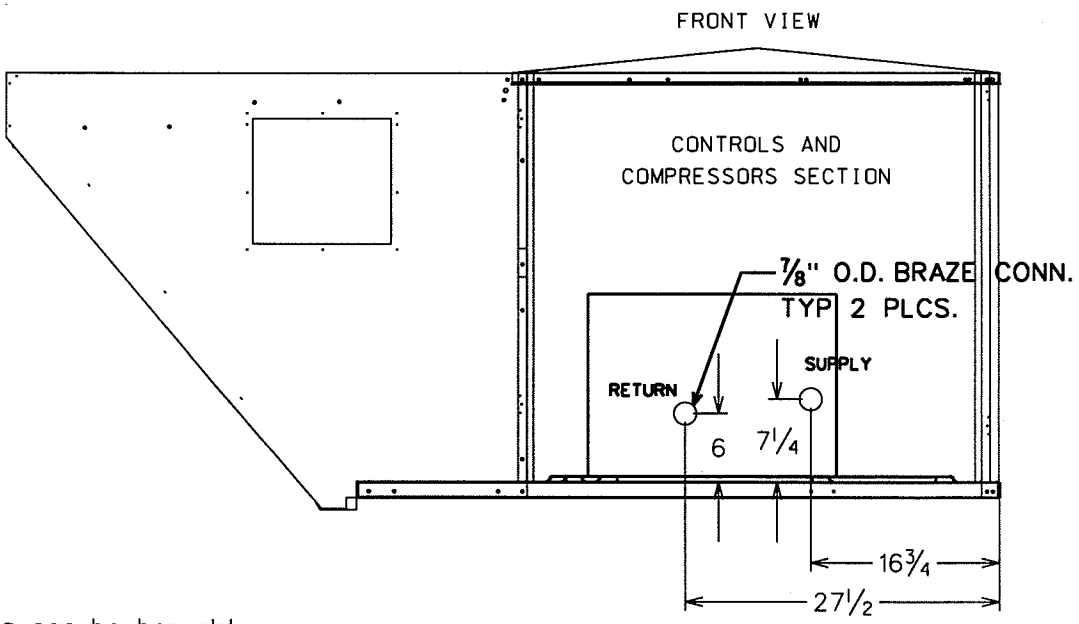
NOTE: Coil piping can be brought up through the service entry.
Shaded area represents possible routing for piping.

AAON
A-46

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA
RK 26 THRU 60 TON
SHOWN WITH STEAM HEAT OPTION



NOTE: COIL IS SLOPED TO THE HEADER SIDE

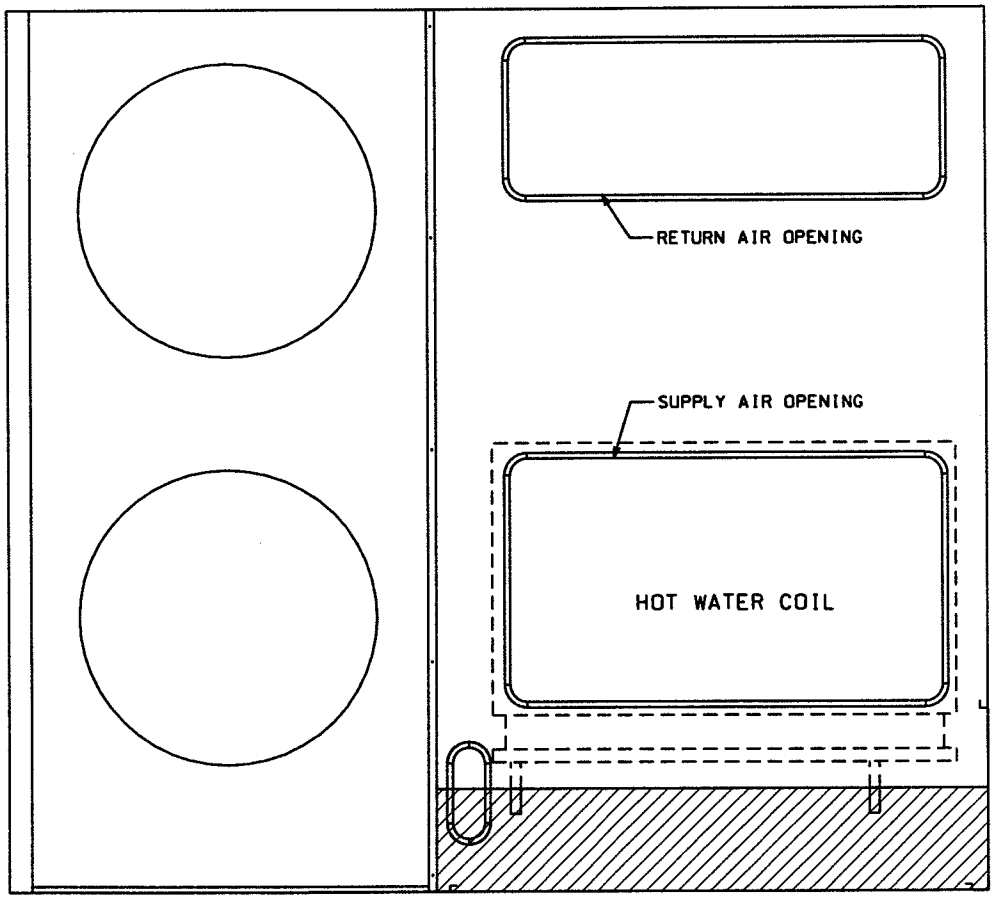


AAON
A-47

NOTE: Coil piping can be brought up through the service entry. Shaded area represents possible routing for piping.

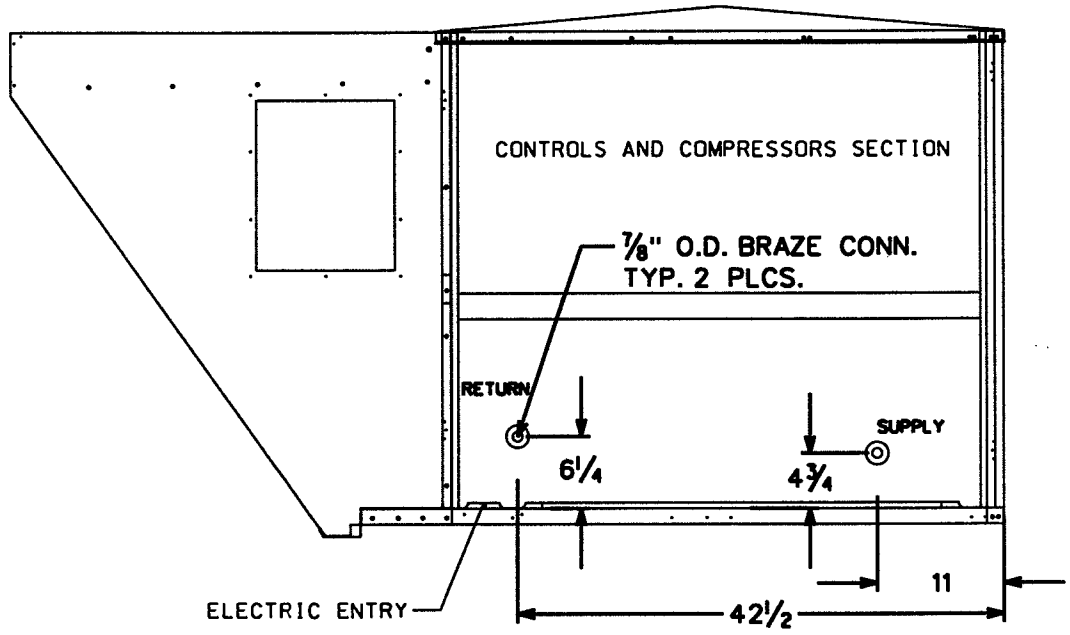
AAON INC.
2425 S. YUKON TULSA, OKLAHOMA
RK 02 THRU 07 TON
SHOWN WITH HOT WATER OPTION

TOP VIEW



NOTE: COIL IS SLOPED TO THE HEADER SIDE

FRONT VIEW



AAON
A-48

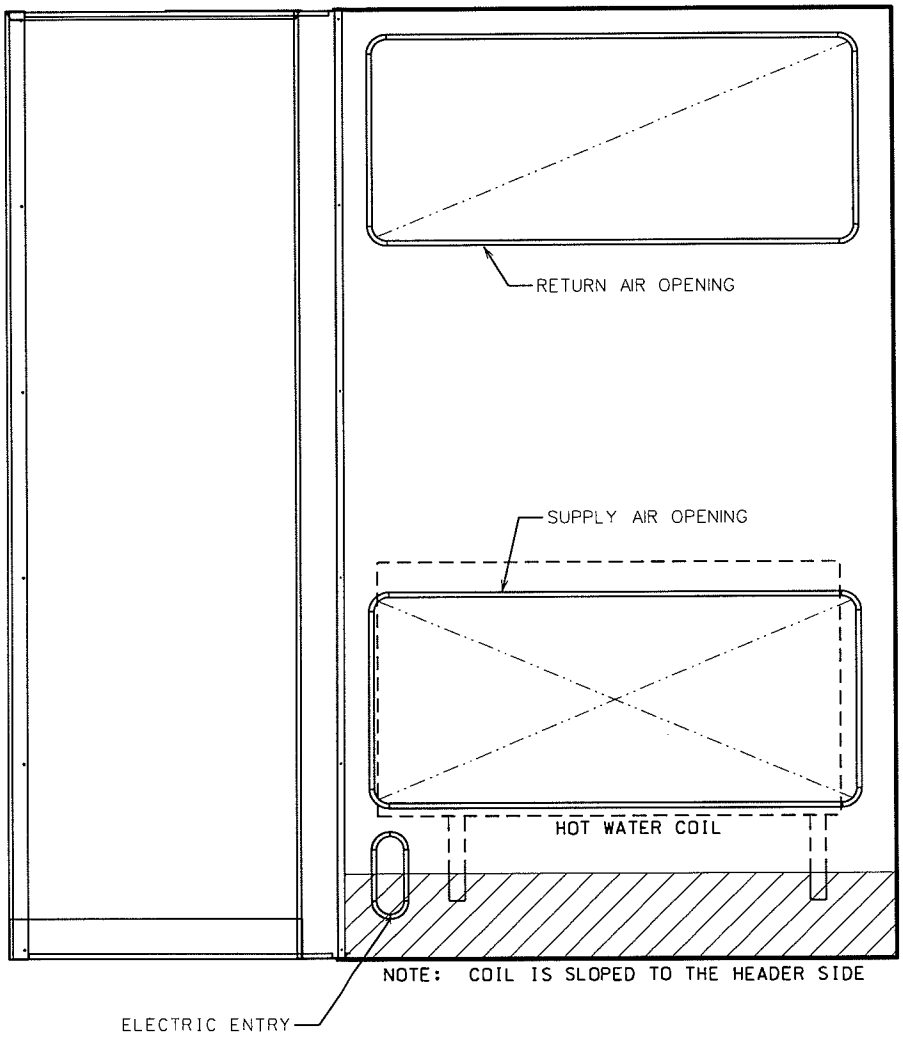
NOTE: Coil piping can be brought up through the service entry. Shaded area represents possible routing for piping.

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

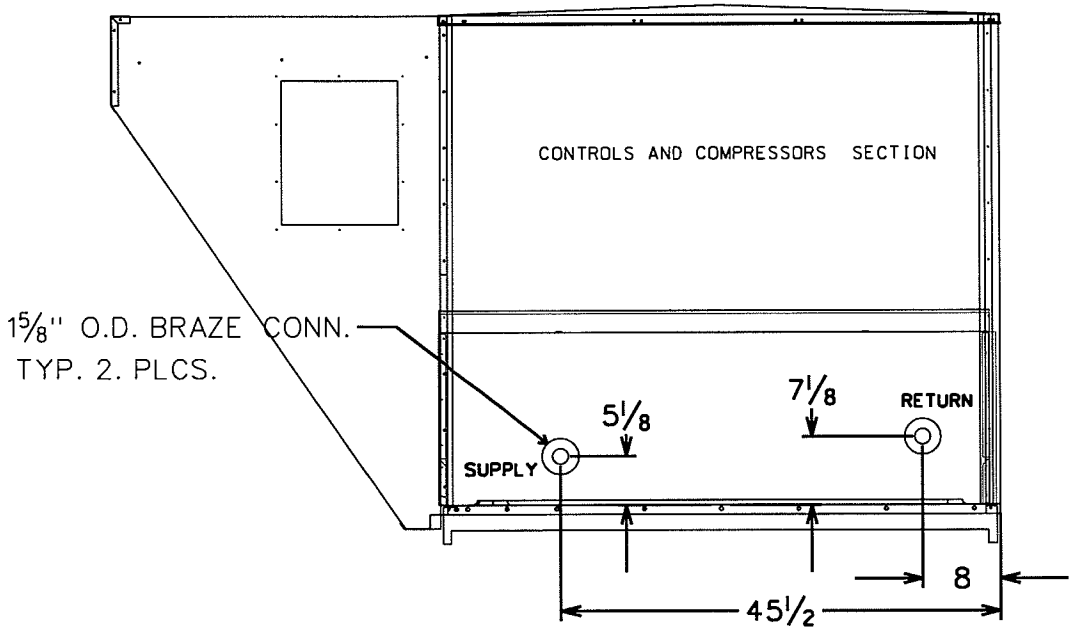
RK 08 THRU 15 TON

SHOWN WITH HOT WATER OPTION

TOP VIEW



FRONT VIEW



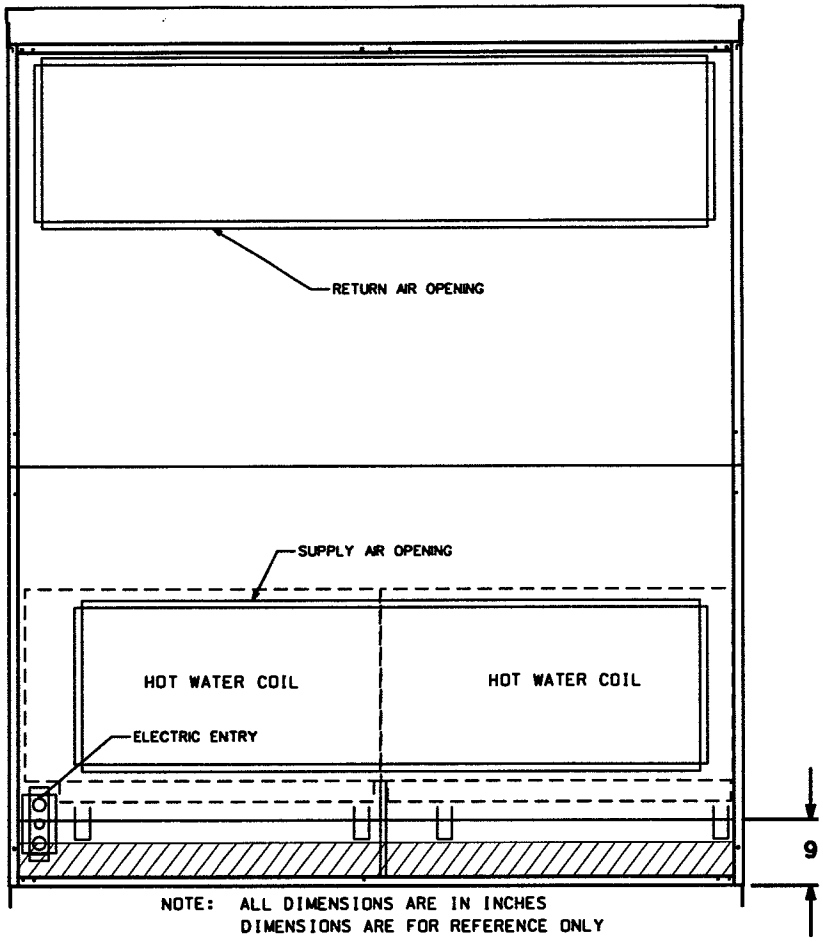
AAON
A-49

NOTE: Coil piping can be brought up through the service entry. Shaded area represents possible routing for piping.

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

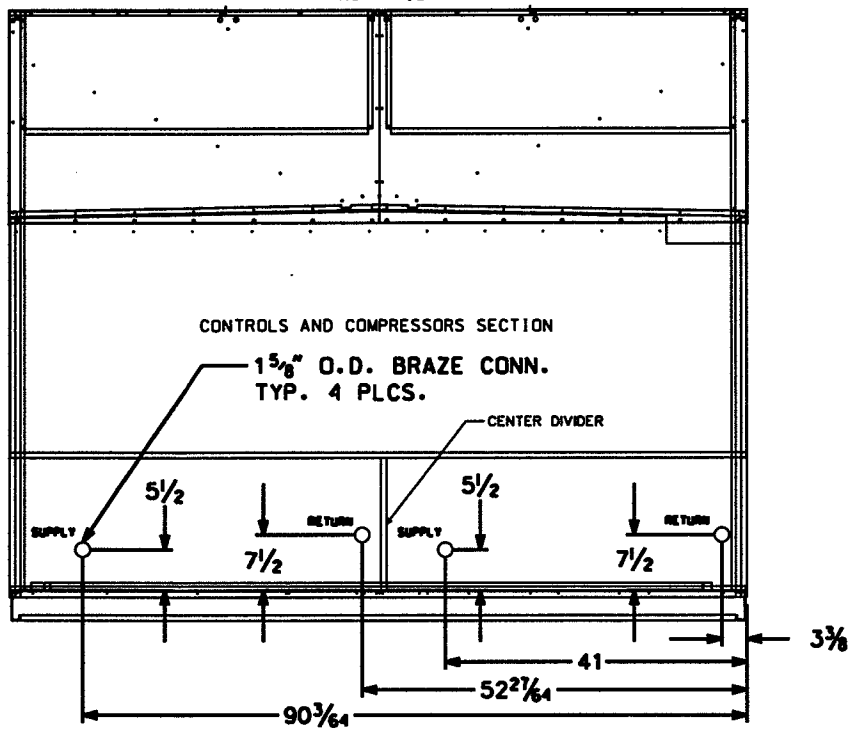
RK 16 THRU 25 TON
SHOWN WITH HOT WATER OPTION

TOP VIEW



NOTE: ALL DIMENSIONS ARE IN INCHES
DIMENSIONS ARE FOR REFERENCE ONLY

FRONT VIEW



NOTE: THERE IS A TOTAL OF TWO HOT WATER COILS SEPERATED BY A CENTER DIVIDER
THE COILS ARE SLOPED TO THE HEADER SIDE

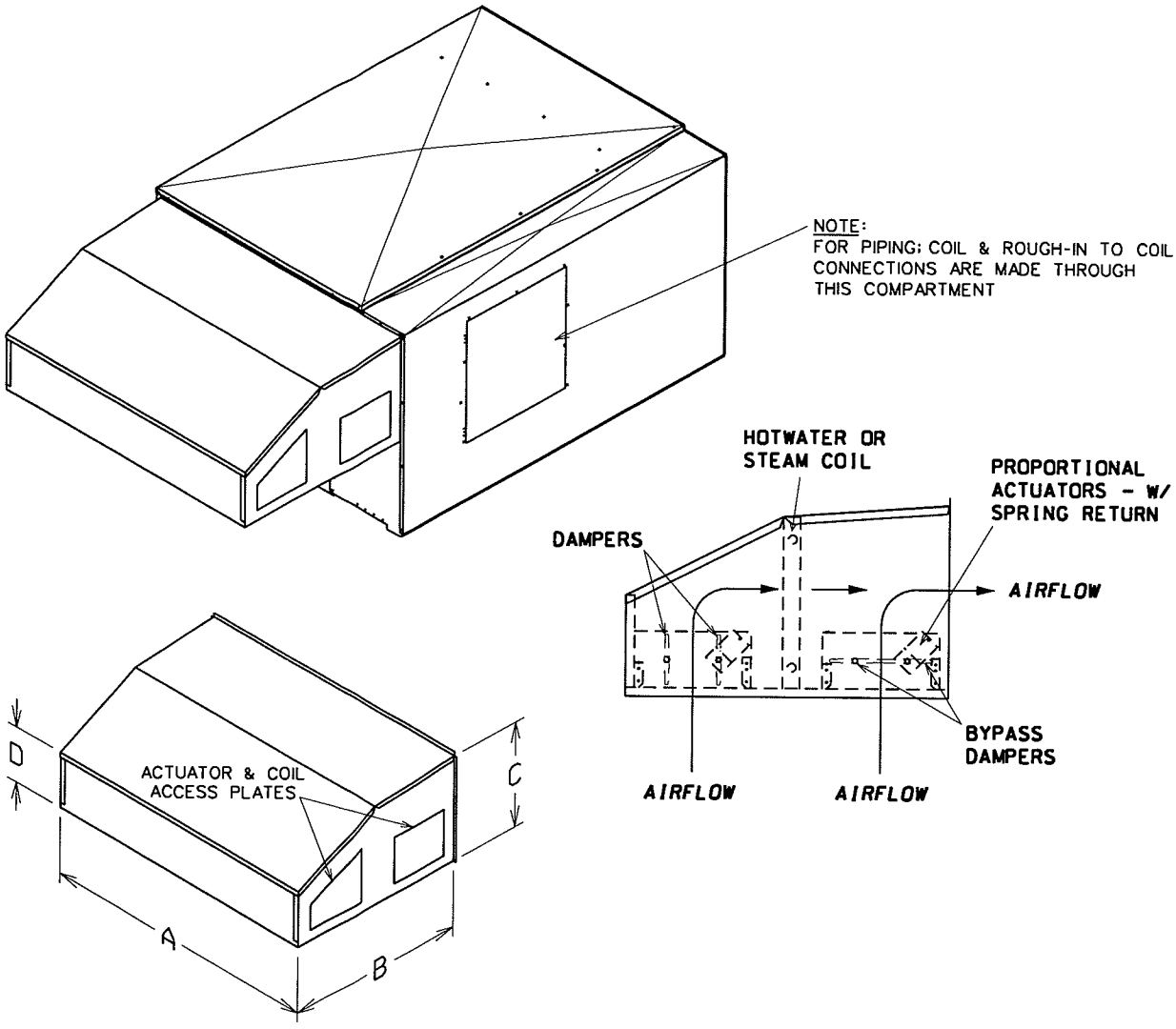
NOTE: Coil piping can be brought up through the service entry.
Shaded area represents possible routing for piping.

AAON
A-50

AAON INC.
2425 S. YUKON TULSA, OKLAHOMA

RK 26 THRU 60 TON
SHOWN WITH HOT WATER OPTION

O/A HOOD PREHEAT OPTION ~ 2-60 TON AIR HANDLER UNITS



DIMENSIONS: (in inches)

PREHEAT O/A HOOD				
UNITS	A	B	C	D
A-CABINET (2-7 TON)	55	25½	15½	12
B-CABINET (8-15 TON)	58½	37½	22½	12
C-CABINET (16-25 TON)	60½	37½	28½	16½
D-CABINET (26-60 TON)	100	37½	28½	16½

HEAT TYPE	UNITS	QTY	COIL CONFIGURATION
HOT WATER	A-CAB	1	CP01-10.00-033.00-A10SRN
	B-CAB	1	CP01-17.50-036.00-A10SRN
	C-CAB	1	CP01-22.50-045.00-A10SRN
	D-CAB	2	CP01-22.50-045.00-A10SRN
NON-FREEZE STEAM	A-CAB	1	C501-10.50-033.00-B10CRN
	B-CAB	1	C501-18.00-036.00-B10CRN
	C-CAB	1	C501-22.50-045.00-B10CRN
	D-CAB	2	C501-22.50-045.00-B10CRN

AAON
INCORPORATED

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Tulsa, Oklahoma 74107
Ph: (918) 583-2266
Fax: (918) 583-6094

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