RN Series

Packaged Rooftop Units, Heat Pumps, & Outdoor Air Handlers

Engineering Catalog

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- Stainless Steel Drain Pans

RN Base Model Description

Model Number

R	N	-	0	2	5	-	3	-	0	-	B	B
1	2		3	4	5		6		7		8	9

BASE MODEL

Digit 1, 2: SERIES AND GENERATION
RN

Digit 3, 4, 5: UNIT SIZE
009 = 9 Ton Capacity
011 = 11 Ton Capacity
013 = 13 Ton Capacity
015 = 15 Ton Capacity
016 = 16 Ton Capacity
018 = 18 Ton Capacity
020 = 20 Ton Capacity
025 = 25 Ton Capacity
030 = 30 Ton Capacity
026 = 26 Ton Capacity
031 = 31 Ton Capacity
040 = 40 Ton Capacity
050 = 50 Ton Capacity
060 = 60 Ton Capacity
070 = 70 Ton Capacity

Digit 6: VOLTAGE
1 = 230V/1Φ/60Hz
2 = 230V/3Φ/60Hz
3 = 460V/3Φ/60Hz
4 = 575V/3Φ/60Hz
8 = 208V/3Φ/60Hz
9 = 208V/1Φ/60Hz

Digit 7: INTERIOR PROTECTION
0 = Standard
A = Interior Corrosion Protection

Model Option A: COOLING/HEAT PUMP

Digit 8: REFRIGERANT STYLE
0 = Air Handling Unit
A = R-22
B = R-410A - High Efficiency
C = R-410A - Standard Efficiency
D = R-22 Variable Capacity Scroll Compressor
E = R-410A Variable Capacity Scroll Compressor - High Efficiency
F = R-410A Variable Capacity Scroll Compressor - Standard Efficiency

Digit 9: UNIT CONFIGURATION
0 = No Cooling
A = Air-Cooled Cond. + Std Evap.
B = Air-Cooled Cond. + 6 Row Evap.
J = Water-Cooled Cond. + Std Evap.
K = Water-Cooled Cond. + 6 Row Evap.
P = Air-Cooled Cond. + 6 Row Evap. + Mixed Air Bypass
Q = Air-Cooled Cond. + 6 Row Evap. + Return Air Bypass
R = Water-Cooled Cond. + 6 Row Evap. + Return Air Bypass
T = Water-Cooled Cond. + 6 Row Evap. + Mixed Air Bypass
U = Chilled Water Coil - 4 Row
W = Chilled Water Coil - 6 Row
2 = Non-Compressorized + Std Evap.
4 = Non-Compressorized + 6 Row Evap.
6 = Air-Source Heat Pump
7 = Water-Source Heat Pump

RN Base Model Description

Model Number

0	**2**	-	**3**	**8**
10	11		12	13

Model Option A: COOLING/HEAT PUMP

Digit 10: COIL COATING

0 = Standard
1 = Polymer E-Coated Evap. and Cond.
8 = Polymer E-Coated Cond.
9 = Polymer E-Coated Cooling Coil
A = Stainless Steel Evap. Casing + Polymer E-Coated Cond.
D = Stainless Steel Cooling Coil Casing Only

Digit 11: COOLING/ HEAT PUMP STAGING

0 = No Cooling
2 = 2 Stage
4 = 4 Stage
9 = Modulating - Lead VCC
A = Modulating - All VCC
C = 2 Stage + 1 Stage Auxiliary Heat
D = 4 Stage + 1 Stage Auxiliary Heat
E = Modulating - Lead VCC + 1 Stage Aux. Heat
F = Modulating - All VCC + 1 Stage Aux. Heat
H = Single Serpentine 8 FPI
J = Half Serpentine 8 FPI
K = Single Serpentine 10 FPI
L = Half Serpentine 10 FPI
M = Single Serpentine 12 FPI
N = Half Serpentine 12 FPI
Q = 2 Stage + 2 Stage Auxiliary Heat
R = 4 Stage + 2 Stage Auxiliary Heat
S = Modulating - Lead VCC + 2 Stage Aux. Heat
T = Modulating - All VCC + 2 Stage Aux. Heat
V = 2 Stage + 4 Stage Auxiliary Heat
W = 4 Stage + 4 Stage Auxiliary Heat
Y = Modulating - Lead VCC + 4 Stage Aux. Heat
Z = Modulating - All VCC + 4 Stage Aux. Heat

Model Option B: HEATING

Digit 12: HEATING TYPE

0 = No Heating
1 = Electric Heat
2 = Natural Gas Aluminized
3 = Natural Gas Stainless Steel
4 = High Altitude Natural Gas Aluminized
5 = High Altitude Natural Gas Stainless Steel
6 = LP Gas Aluminized
7 = LP Gas Stainless Steel
8 = High Altitude LP Gas Aluminized
9 = High Altitude LP Gas Stainless Steel
C = Steam Distributing Standard
D = Steam Distributing Polymer E-Coated
E = Hot Water Standard
F = Hot Water Polymer E-Coated

Digit 13: HEATING DESIGNATION

0 = No Heating
2 = Heat 2
3 = Heat 3
4 = Heat 4
6 = Heat 6
7 = Heat 7
8 = Heat 8
9 = Heat 9
A = Heat A
B = Heat B
C = Heat C
D = Heat D
E = Heat E
F = Heat F
G = Heat G
H = 1 Row Coil
J = 2 Row Coil

RN Base Model and Features Description

Model/Feature Number

4	-	**A**
14		15

Model Option B: HEATING

Digit 14: HEATING STAGING

0 = No Heating
1 = 1 Stage
2 = 2 Stage
3 = 3 Stage
4 = 4 Stage
5 = 5 Stage
6 = 6 Stage
7 = 7 Stage
8 = 8 Stage
9 = Modulating Gas/SCR Electric
A = SCR Electric, 0-10V External Control
H = Single Serpentine 8 FPI
J = Half Serpentine 8 FPI
K = Single Serpentine 10 FPI
L = Half Serpentine 10 FPI
M = Single Serpentine 12 FPI
N = Half Serpentine 12 FPI

Feature 1: RETURN/OUTSIDE AIR

Digit 15: RETURN/OUTSIDE AIR SECTION

0 = Manually Adjustable OA Opening + RA Opening
A = Economizer
B = Econ + Power Exhaust
C = Econ + Power Return
D = Econ + PE - Discharge Damper Volume Control
E = Econ + PE - Discharge Damper Volume Control + 0-10V External Control
F = Low CFM Total Energy Recovery Wheel
G = Low CFM Total ERW + Bypass
H = Low CFM Sensible ERW
J = Low CFM Sensible ERW + Bypass
K = 100% Outside Air - No Return Air
L = Motorized Outside Air Damper + RA Opening
M = Motorized Outside Air Damper - No Return Air
N = Empty ERW Option Box - No Power Exhaust
P = Empty ERW Option Box + Power Exhaust
Q = 1% Purge Low CFM Total ERW
R = 1% Purge Low CFM Total ERW + Bypass
S = 1% Purge Low CFM Sensible ERW
T = 1% Purge Low CFM Sensible ERW + Bypass
U = High CFM Total ERW
V = High CFM Total ERW + Bypass
W = High CFM Sensible ERW
Y = High CFM Sensible ERW + Bypass
Z = 1% Purge High CFM Total ERW
1 = 1% Purge High CFM Total ERW + Bypass
2 = 1% Purge High CFM Sensible ERW
3 = 1% Purge High CFM Sensible ERW + Bypass
4 = Single Total Energy Recovery Wheel + Bypass

RN Features Description

Feature Number

0	**0**	**0**	-	**D**	**0**
16	17	18		19	20

Feature 1: RETURN/OUTSIDE AIR

Digit 16: RETURN/EXHAUST AIR BLOWER CONFIGURATION

0 = Standard - None
A = 1 Blower + Standard Eff. Motor
B = 2 Blowers+ Standard Eff. Motors
C = 1 Blower + Premium Eff. Motor
D = 2 Blowers + Premium Eff. Motors
E = 1 Blower + Premium Eff. + 1 VFD
F = 2 Blowers + Premium Eff. + 1 VFD
G = 2 Blowers + Premium Eff. + 2 VFDs

Digit 17: RETURN/EXHAUST AIR BLOWER

0 = Standard - None
A = 12x9 Forward Curved
C = 18.5" Backward Curved Plenum
D = 22" Backward Curved Plenum
F = 27" Backward Curved Plenum
G = 22" Direct Drive Axial Flow
H = 35.5" Direct Drive Axial Flow
K = 18.5" BC Plenum - 70% Width with Banding
L = 22" BC Plenum - 70% Width with Banding
M = 27" BC Plenum - 70% Width with Banding

Digit 18: RETURN/EXHAUST AIR BLOWER MOTOR

0 = Standard - None
C = 1 hp - 1760 rpm
D = 2 hp - 1760 rpm
E = 3 hp - 1760 rpm
F = 5 hp - 1760 rpm
G = 7.5 hp - 1760 rpm
H = 10 hp - 1760 rpm
L = 15 hp - 1760 rpm
M = 20 hp - 1760 rpm
N = 1 hp - 1170 rpm
P = 2 hp - 1170 rpm
Q = 3 hp - 1170 rpm
R = 5 hp - 1170 rpm
S = 7.5 hp - 1170 rpm

Feature 2: OUTSIDE AIR CONTROL

Digit 19:

0 = Standard - None
A = 3 Position Actuator - Sensible Limit
B = 3 Position Actuator - Enthalpy Limit
C = Fully Modulating Actuator - Sensible Limit
D = Fully Modulating Actuator - Enthalpy Limit
E = DDC Actuator
F = Constant Volume Outside Air
G = Options A + F
H = Options B + F
J = Options C + F
K = Options D + F
L = Options E + F
M = 3 Pos. Act. - Sensible Limit + CO_2 Override
N = 3 Pos. Act. - Enthalpy Limit + CO_2 Override
P = Fully Mod. Act. - Sensible + CO_2 Override
Q = Fully Mod. Act. - Enthalpy + CO_2 Override
R = DDC Actuator + CO_2 Override
S = Dual Minimum Position Potentiometers + Fully Mod. Act. - Sensible Limit
T = Dual Minimum Position Potentiometers + Fully Mod. Act. - Enthalpy Limit
U = 2 Position Actuator

Feature 3: HEAT OPTIONS

Digit 20:

0 = Standard
E = Discharge Air Override
L = Auxiliary Heat L
M = Auxiliary Heat M
N = Auxiliary Heat N
P = Auxiliary Heat P
Q = Auxiliary Heat Q
R = Auxiliary Heat R
S = Auxiliary Heat S
T = Auxiliary Heat T
U = Auxiliary Heat U
V = Auxiliary Heat V
W = Auxiliary Heat W

RN Features Description

Feature Number

B	-	**D**	**E**	**H**	-	**0**	**B**	**A**	-
21		22	23	24		25	26	27	

Feature 4: MAINTENANCE OPTIONS

Digit 21:

0 = Standard
A = Field Wired 115V Outlet
B = Factory Wired 115V Outlet
C = Blower Aux. Contact
D = Remote Start/Stop Terminals
E = Options A + C
F = Options A + D
G = Options B + C
H = Options B + D
J = Options A + C + D
K = Options B + C + D
L = Options C + D

Feature 5: SUPPLY AIR OPTIONS

Digit 22: SUPPLY AIR BLOWER CONFIGURATION

0 = 1 Blower + Standard Eff. Motor
A = 2 Blowers + Standard Eff. Motors
B = 1 Blower + Premium Eff. Motor
C = 2 Blowers + Premium Eff. Motors
D = 1 Blower + Premium Eff. + 1 VFD
F = 2 Blowers + Premium Eff. + 1 VFD
G = 2 Blowers + Premium Eff. + 2 VFDs

Digit 23: SUPPLY AIR BLOWER

B = 15” Backward Curved Plenum
C = 18.5” Backward Curved Plenum
D = 24” Backward Curved Plenum
E = 27” Backward Curved Plenum
F = 30” BC Plenum - 90% Width + 1750 rpm Max - Aluminum Wheel
H = 18.5” BC Plenum - 70% Width
L = 30” BC Plenum - 1600 rpm Max - Aluminum Wheel
P = 24” BC Plenum - 60% Width
Q = 27” BC Plenum - 60% Width
R = 22” Backward Curved Plenum
S = 22” BC Plenum - 70% Width

Digit 24: SUPPLY AIR BLOWER MOTOR

C = 1 hp - 1760 rpm
D = 2 hp - 1760 rpm
E = 3 hp - 1760 rpm
F = 5 hp - 1760 rpm
G = 7.5 hp - 1760 rpm
H = 10 hp - 1760 rpm
L = 15 hp - 1760 rpm
M = 20 hp - 1760 rpm
N = 1 hp - 1140 rpm
P = 2 hp - 1140 rpm
Q = 3 hp - 1140 rpm
R = 5 hp - 1140 rpm
S = 7.5 hp - 1140 rpm
T = 10 hp - 1140 rpm
U = 15 hp - 1140 rpm
V = 20 hp - 1140 rpm

Feature 6: FILTERS

Digit 25: PRE FILTER

0 = Standard - None
A = 2” Pleated - 30% Eff. - MERV 7
B = Metal Mesh Outside Air Filter
C = Lint Screen Filter
D = Exhaust Air ERW Filter
F = Options A + D
G = Options B + D

Digit 26: UNIT FILTER

0 = 2” Throwaway
or 2” Pleated - 30% Eff. - MERV 7
A = 2” Pleated - 30% Eff. - MERV 7
B = 4” Pleated - 30% Eff. - MERV 8
C = 2” Permanent Filter + Replaceable Media
F = 4” Pleated - 65% Eff. - MERV 11
G = 4” Pleated - 85% Eff. - MERV 13
H = 4” Pleated - 95% Eff. - MERV 14

Digit 27: FILTER OPTIONS

0 = Standard
A = Clogged Filter Switch
B = Magnehelic Gauge
C = Options A + B

RN Features Description

Feature Number

0	D	0	0
28	29	30	31

Feature 7: REFRIGERATION CONTROL

Digit 28:

0 = Standard
A = 5 Min. Time Delay Relay - Comp. Off
B = 20 Sec. Time Delay Relay - Comp. Staging
C = Fan Cycling
D = Adjustable Lockouts - Each Circuit
E = Freeze Stats - Each Circuit
F = Options A + B
G = Options A + C
H = Options A + D
J = Options A + E
K = Options B + C
L = Options B + D
M = Options B + E
N = Options C + D
P = Options C + E
Q = Options D + E
R = Options A + B + C
S = Options A + B + D
T = Options A + B + E
U = Options A + C + D
V = Options A + C + E
W = Options A + D + E
Y = Options B + C + D
Z = Options B + C + E
1 = Options B + D + E
2 = Options C + D + E
3 = Options A + B + C + D
4 = Options A + B + C + E
5 = Options A + B + D + E
6 = Options A + C + D + E
7 = Options B + C + D + E
8 = Options A + B + C + D + E

Feature 8: REFRIGERATION OPTIONS

Digit 29:

0 = Standard
A = Hot Gas Bypass Lead Stage
B = Hot Gas Bypass Lead and Lag Stages
C = Hot Gas Reheat
D = Modulating Hot Gas Reheat
E = 0°F Low Ambient Lead Stage
F = Options A + C
G = Options B + C
H = Options A + D
J = Options B + D
K = Options A + E
L = Options B + E

Feature 9: REFRIGERATION ACCESSORIES

Digit 30:

0 = Standard
A = Sight Glass
B = Compressor Isolation Valves
C = Options A + B

Feature 10: POWER OPTIONS

Digit 31:

0 = Standard Power Block
A = 100 Amp Power Switch
B = 150 Amp Power Switch
C = 225 Amp Power Switch
D = 400 Amp Power Switch
E = 600 Amp Power Switch
F = 60 Amp Power Switch

RN Features Description

Feature Number

0	**0**	**L**	-	**0**	**0**	-	**0**
32	33	34		35	36		37

Feature 11: SAFETY OPTIONS

Digit 32:

0 = Standard
A = Return and Supply Air Firestat
B = Return Air Smoke Detector
C = Supply Air Smoke Detector
D = Options B + C
E = Options A + B
F = Options A + C
G = Options A + B + C
H = Remote Smoke Detector Terminals

Feature 12: CONTROLS

Digit 33:

0 = Standard
A = Low Limit Controls
B = Phase and Brown Out Protection
C = Energy Recovery Wheel Defrost
D = Energy Recovery Wheel Rotation Detection
E = Compressor Power Factor Correction
F = Options A + B
G = Options A + C
H = Options A + D
J = Options A + E
K = Options B + C
L = Options B + D
M = Options B + E
N = Options C + D
P = Options C + E
Q = Options D + E
R = Options A + B + C
S = Options A + B + D
T = Options A + B + E
U = Options A + C + D
V = Options A + C + E
W = Options A + D + E
Y = Options B + C + D
Z = Options B + C + E
1 = Options B + D + E
2 = Options C + D + E
3 = Options A + B + C + D
4 = Options A + B + C + E
5 = Options A + B + D + E
6 = Options A + C + D + E
7 = Options B + C + D + E
8 = Options A + B + C + D + E

Feature 13: SPECIAL CONTROLS

Digit 34:

0 = Terminal Block
D = VAV Unit Controller
E = Constant Volume Unit Controller
F = Make Up Air Unit Controller
H = Field Installed DDC Controls by Others
J = Factory Installed DDC Controls by Others
K = Factory Installed DDC Controls by Others with Isolation Relays
L = Terminal Block with Isolation Relays
U = Digital Precise Air Controller, D-PAC
V = Precise Air Controller, PAC
W = Terminal Block for Variable Capacity Compressor Thermostat

Feature 14: PREHEAT

Digit 35: PREHEAT CONFIGURATION

0 = Standard - None
A = Steam Distributing Preheat Coil - 1 Row
B = Steam Distributing Preheat Coil - 2 Row
C = Hot Water Preheat Coil - 1 Row
D = Hot Water Preheat Coil - 2 Row

Digit 36: PREHEAT SIZING

0 = Standard - None
A = Single Serpentine 8 FPI
B = Half Serpentine 8 FPI
C = Single Serpentine 10 FPI
D = Half Serpentine 10 FPI
E = Single Serpentine 12 FPI
F = Half Serpentine 12 FPI

Feature 15: BLANK

Digit 37:

0 = Standard

RN Features Description

Feature Number

0	**B**	**0**	**0**	**0**	**0**	**0**	**B**
38	39	40	41	42	43	44	45

Feature 16: INTERIOR CABINET OPTIONS

Digit 38:

0 = Standard
B = Marine Service Lights

Feature 17: EXTERIOR CABINET OPTIONS

Digit 39:

0 = Standard
A = Base Insulation
B = Burglar Bars
C = Condenser Coil Guards
D = Options A + B
E = Options A + C
F = Options B + C
G = Options A + B + C

Feature 18: CUSTOMER CODE

Digit 40:

0 = Standard

Feature 19: CODE OPTIONS

Digit 41:

0 = Standard - ETL U.S.A. Listing
B = Chicago - Cool + Gas
C = Chicago - Cool + Electric Heat
D = Chicago - Cool Only
E = Chicago - Gas Only
F = Chicago - Electric Heat Only
G = Chicago - No Cool + No Heat
H = ETL U.S.A. + Canada Listing

Feature 20: CRATING

Digit 42:

0 = Standard
A = Export Crating
B = Export Crating - No Condenser Section

Feature 21: WATER-COOLED CONDENSER

Digit 43:

0 = None
A = Balancing Valves
B = Water Flow Switch
C = Motorized Shut-off Valve
D = Head Pressure Control
E = Options A + B
F = Options A + C
G = Options A + D
H = Options B + C
J = Options B + D
L = Options A + B + C
M = Options A + B + D

Feature 22: CONTROL VENDORS

Digit 44:

0 = None
A = WattMaster Orion Controls System
B = Tridium Niagara/JACE Controls System
C = WattMaster Orion Controls System with Specials
D = Tridium Niagara/JACE Controls System with Specials

Feature 23: TYPE

Digit 45:

B = Standard - AAON Gray Paint
U = Special Pricing Authorization + Special Paint
X = Special Pricing Authorization + AAON Gray Paint

Model Number

Unit Size

Example: RN-**025**-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

The first number of the model string designates nominal tons of cooling at ARI conditions for RN Series units with air-cooled condensers. Actual capacities will vary with conditions. Refer to the AAONECat32™ software for performance and cooling capacities at design conditions.

Table M1 - Unit Sizes

Model (Nominal Tons)	Cabinet	Compressors/Circuits
RN-**009**	B	2/2
RN-**011**		
RN-**013**		
RN-**015**		
RN-**016**	C	
RN-**018**		
RN-**020**		
RN-**025**		
RN-**030**		
RN-**026**	D	4/4
RN-**031**		
RN-**040**		
RN-**050**		
RN-**060**		
RN-**070**		

Model Number

Voltage

Example: RN-025-**3**-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

All units have single point power connections with grounding lugs and 24 VAC control circuits.

1 = 230V/1Φ/60Hz
2 = 230V/3Φ/60Hz
3 = 460V/3Φ/60Hz
4 = 575V/3Φ/60Hz
8 = 208V/3Φ/60Hz
9 = 208V/1Φ/60Hz

Model Number

Interior Protection

Example: RN-025-3-**0**-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Standard* - Galvanized G90 sheet metal interior.
A = *Interior Corrosion Protection* - All exposed metal surfaces in the air tunnel except the coils, coil casings, and condensate drain pans are spray coated with a two-part polyurethane, heat baked coating. Selection covers coating of the fans, economizer, filter rack, and service door interiors. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand, and wind and is applicable to all corrosive environments where a polyurethane coating is acceptable. Coating exceeds 2,500 hours when tested under ASTM B 117-95 requirements. RN Series condensate drain pans are fabricated of 18 gauge 304 stainless steel. See Model Option A3 for cooling coil and cooling coil casing corrosion protection options and Model Option B1 for heating coil corrosion protection options.

Model Number

Model Option A1 - Refrigerant Style

Example: RN-025-3-0-**B**B02-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Air Handling Unit* - Chilled water coil or heating only air handling unit.
A = *R-22* - DX cooling with R-22 refrigerant.
B = *R-410A* - *High Efficiency* - DX cooling with R-410A refrigerant. For 16-70 ton units, this is the standard R-410A DX option. For 9-15 ton units, this option includes high capacity coils for improved energy efficiency.
C = *R-410A* - *Standard Efficiency* - DX cooling with R-410A refrigerant. Option is available on 9-15 ton units. Unit efficiency and weight will be reduced when compared with option B.
D = *R-22 Variable Capacity Scroll Compressor (VCC)* - Compressorized DX cooling with R-22 refrigerant using a 10-100% variable capacity scroll compressor. Option provides the unit with tighter temperature control, improved humidity control, and energy savings at part load conditions. Part of the D-PAC control system. See Feature 13 and the Controls Section for more D-PAC information. Option is not available on 30, 50, 60, and 70 ton units.
E = *R-410A Variable Capacity Scroll Compressor (VCC)* - *High Efficiency* - Compressorized DX cooling with R-410A refrigerant using 10-100% variable capacity scroll compressors. See Feature A4 for selection of quantity of variable capacity compressors. Option provides the unit with tighter temperature control, improved humidity control, and energy savings at part load conditions. For 16-70 ton units, this is the standard variable capacity R-410A compressor DX option. For 9-15 ton units, this option includes high capacity coils for improved energy efficiency. Part of the D-PAC control system. See Feature 13 and the Controls Section for more D-PAC information.
F = *R-410A Variable Capacity Scroll Compressor (VCC)* - *Standard Efficiency* - Compressorized DX cooling with R-410A refrigerant using 10-100% variable capacity scroll compressors. See Feature A4 for selection of quantity of variable capacity compressors. Option provides the unit with tighter temperature control, improved humidity control, and energy savings at part load conditions. Option is available on 9-15 ton units.

Model Number

Model Option A2 - Unit Configuration

Example: RN-025-3-0-B**B**02-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *No Cooling* - Heating only air handling unit.
A = *Air-Cooled Condenser with Standard Evaporator Coil* - Air-cooled condenser with standard capacity DX evaporator coil.
B = *Air-Cooled Condenser with 6 Row Evaporator Coil* - Air-cooled condenser with six row high capacity DX evaporator coil. High capacity coil improves unit's energy efficiency and dehumidification capability. Option is not available on 70 ton unit because standard coil is six row.
J = *Water-Cooled Condenser with Standard Evaporator Coil* - Brazed plate water-cooled condenser with standard capacity DX evaporator coil. Brazed plate water-cooled condenser improves the unit's energy efficiency and reduces the amount of refrigerant required by the unit.
K = *Water-Cooled Condenser with 6 Row Evaporator Coil* - Brazed plate water-cooled condenser with six row high capacity DX evaporator coil. High capacity coil improves unit's energy efficiency and dehumidification capability. Brazed plate water-cooled condenser improves the unit's energy efficiency and reduces the amount of refrigerant required by the unit. Option is not available on 70 ton unit because standard coil is six row.
P = *Air-Cooled Condenser with 6 Row Evaporator Coil and Mixed Air Bypass* - Air-cooled condenser with six row DX evaporator coil. Option includes a damper with fully modulating actuator above the evaporator coil which allows mixed return and outside air to bypass around the coil. Option is used as single coil humidity control. With Feature 13 as a "Controls by Others" option a 0-10 VDC control signal for the damper actuator is required.
Q = *Air-Cooled Condenser with 6 Row Evaporator Coil and Return Air Bypass* - Air-cooled condenser with six row DX evaporator coil. Option includes a return air bypass economizer with a separate return air bypass damper which allows up to 50% of the return air to bypass around the evaporator coil. The economizer routes of all outside air across the evaporator coil and the return air either through or around the evaporator coil. Option is used as single coil humidity control. Economizer includes outside air, return air, and return air bypass damper sections each with their own fully modulating actuators. Part of the D-PAC and PAC control systems. See Feature 13 and the Controls Section for more D-PAC and PAC information. With Feature 13 as a "Controls by Others" option 0-10 VDC control signals for all three actuators are required.

Model Option A2 - Unit Configuration Continued

R = *Water-Cooled Condenser with 6 Row Evaporator Coil and Return Air Bypass* - Water-cooled condenser with six row DX evaporator coil. Option includes a return air bypass economizer with a separate return air bypass damper which allows up to 50% of the return air to bypass around the evaporator coil. The economizer routes of all outside air across the evaporator coil and the return air either through or around the evaporator coil. Option is used as single coil humidity control. Economizer includes outside air, return air, and return air bypass damper sections each with their own fully modulating actuators. Brazed plate water-cooled condenser improves the unit's energy efficiency and reduces the amount of refrigerant required by the unit. Part of the D-PAC and PAC control systems. See Feature 13 and Controls section for more D-PAC and PAC information. With Feature 13 as a "Controls by Others" option 0-10 VDC control signals for all three actuators are required.
T = *Water-Cooled Condenser with 6 Row Evaporator Coil and Mixed Air Bypass* - Water-cooled condenser with six row DX evaporator coil. Option includes a damper with fully modulating actuator above the evaporator coil which allows mixed return and outside air to bypass around the coil. Option is used as single coil humidity control. Brazed plate water-cooled condenser improves the unit's energy efficiency and reduces the amount of refrigerant required by the unit. With Feature 13 as a "Controls by Others" option a 0-10 VDC control signal for the actuator is required.
U = *Chilled Water Coil - 4 Row* - Four row chilled water cooling coil. No valves or valve controls are included with this option. 50, 60 and 70 ton units include two coils and thus include two inlet and two outlet water connections.
W = *Chilled Water Coil - 6 Row* - Six row chilled water cooling coil. No valves or valve controls are included with this option. 50, 60 and 70 ton units include two coils and thus include two inlet and two outlet water connections.
2 = *Non-Compressorized with Standard Evaporator Coil* - Air handling unit with standard capacity evaporator coil, but no compressors or condenser. Option is used with a remote condensing unit. Thermal expansion valve and hot gas bypass connection are included. 9-25 and 30 ton units include one coil and two circuits. 26, 31 and 40 ton units include one coil and four circuits. 50, 60 and 70 ton units include two coils and four circuits.
4 = *Non-Compressorized with 6 Row Evaporator Coil* - Air handling unit with six row high capacity evaporator coil, but no compressors or condenser coils. Used with a remote condensing unit. Thermal expansion valve and hot gas bypass connection are included. 9-25 and 30 ton units include one coil and two circuits. 26, 31 and 40 ton units include one coil and four circuits. 50 and 60 ton units include two coils and four circuits. Option not available on 70 ton unit because standard coil is six row.
6 = *Air-Source Heat Pump* - Air-source heat pump which can provide energy efficient heating and cooling. Refrigerant piping with reversing valves, filter dryers, check valves, accumulators, and thermal expansion valves is factory installed. See Model Options B1, B2, and B3 for emergency (backup) heat options and Feature 3 and Model Option A4 for auxiliary (supplemental) heat options.

Model Option A2 - Unit Configuration Continued

7 = *Water-Source Heat Pump* - Water-source heat pump which can provide energy efficient heating and cooling. Brazed plate refrigerant to water heat exchanger and refrigerant piping with reversing valves, filter dryers, check valves, and thermal expansion valves are factory installed. See Model Options B1, B2, and B3 for emergency (backup) heat options and Feature 3 and Model Option A4 for auxiliary (supplemental) heat options.

Model Number

Model Option A3 - Coil Coating

Example: RN-025-3-0-BB**0**2-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Standard*
1 = *Polymer E-Coated Evaporator and Condenser Coils* - Polymer e-coating applied to both the condenser and evaporator coils. Complete coil and casing are coated. Coating exceeds a 6,000 hour salt spray test per ASTM B 117-90 requirements, yet is only 0.8-1.2 mils thick and has excellent flexibility. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand, and wind and is applicable to all corrosive environments where a polymer e-coating is acceptable.
8 = *Polymer E-Coated Condenser Coil* - Polymer e-coating is applied only to the condenser coils. Complete coil and casing are coated. Coating exceeds a 6,000 hour salt spray test per ASTM B 117-90 requirements, yet is only 0.8-1.2 mils thick and has excellent flexibility. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand, and wind and is applicable to all corrosive environments where a polymer e-coating is acceptable.
9 = *Polymer E-Coated Cooling Coil* - Polymer e-coating is applied only to the cooling coils. Complete coil and casing are coated. Coating exceeds a 6,000 hour salt spray test per ASTM B 117-90 requirements, yet is only 0.8-1.2 mils thick and has excellent flexibility. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand, and wind and is applicable to all corrosive environments where a polymer e-coating is acceptable.
A = *Stainless Steel Evaporator Coil Casing and Polymer E-Coated Condenser Coil* - 18 gauge 304 stainless steel casing only on the evaporator coils and polymer e-coating applied only to the condenser coils. Coating exceeds a 6,000 hour salt spray test per ASTM B 117-90 requirements, yet is only 0.8-1.2 mils thick and has excellent flexibility. Coating is intended for use in coastal saltwater conditions under the stress of heat, salt, sand, and wind and is applicable to all corrosive environments where a polymer e-coating is acceptable.
D = *Stainless Steel Cooling Coil Casing* - 18 gauge 304 stainless steel casing only on the cooling coils.

Model Number

Model Option A4 - Cooling/Heat Pump Staging

Example: RN-025-3-0-BB0**2**-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *No Cooling* - Heating only air handling unit.
2 = *2 Stage* - Two stage cooling unit or two stage cooling and two stage heat pump heating unit without auxiliary heat. See Model Options B1, B2, and B3 for emergency heat options.
4 = *4 Stage* - Four stage cooling unit or four stage cooling and four stage heat pump heating unit without auxiliary heat. Option is available on 26 and 31-70 ton units. See Model Options B1, B2, and B3 for emergency heat options.
9 = *Modulating - Lead Variable Capacity Compressor* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit without auxiliary heat. 9-25 and 30 ton units include a single 10-100% variable capacity scroll compressor and a single on/off scroll compressor. 26 and 31-70 ton units include two 10-100% variable capacity scroll compressors (Stages 1 and 2) and two on/off scroll compressors. With factory provided controls, on/off compressors are staged on while the variable capacity compressors modulate their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options.
A = *Modulating - All Variable Capacity Compressors* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit without auxiliary heat. 9-25 and 30 ton units include two 10-100% variable capacity scroll compressors. 26 and 31-70 ton units include four 10-100% variable capacity scroll compressors. With factory provided controls, variable capacity compressors are staged on, as efficiently as possible, while modulating their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options.
C = *2 Stage Heat Pump with 1 Stage Auxiliary Heat* - Two stage cooling and two stage heat pump heating with one stage of auxiliary heat available during heat pump heating. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.
D = *4 Stage Heat Pump with 1 Stage Auxiliary Heat* - Four stage cooling and four stage heat pump heating with one stage of auxiliary heat available during heat pump heating. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.
E = *Modulating Heat Pump - Lead Variable Capacity Compressor with 1 Stage Auxiliary Heat* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit one stage of auxiliary heat available during heat pump heating. 9-25 and 30 ton units include a single 10-100% variable capacity scroll compressor and a single on/off scroll compressor. 26 and 31-70 ton units include two 10-100% variable capacity scroll compressors (Stages 1 and 2) and two on/off scroll compressors. With factory provided controls, on/off compressors are staged on while the variable capacity compressors modulate their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.

Model Option A4 - Cooling/Heat Pump Staging Continued

F = *Modulating Heat Pump - All Variable Capacity Compressors with 1 Stage Auxiliary Heat* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit one stage of auxiliary heat available during heat pump heating. 9-25 and 30 ton units include two 10-100% variable capacity scroll compressors. 26 and 31-70 ton units include four 10-100% variable capacity scroll compressors. With factory provided controls, variable capacity compressors are staged on, as efficiently as possible, while modulating their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.
H = *Single Serpentine 8 FPI* - Chilled water coil with single serpentine circuitry and 8 fins per inch. No valves or valve controls are included with this option. 50, 60, and 70 ton units include two coils and thus need two inlet and two outlet water connections.
J = *Half Serpentine 8 FPI* - Chilled water coil with half serpentine circuitry and 8 fins per inch. No valves or valve controls are included with this option. 50, 60, and 70 ton units include two coils and thus need two inlet and two outlet water connections.
K = *Single Serpentine 10 FPI* - Standard chilled water coil option with single serpentine circuitry and 10 fins per inch. No valves or valve controls are included with this option. 50, 60, and 70 ton units include two coils and thus need two inlet and two outlet water connections.
L = *Half Serpentine 10 FPI* - Chilled water coil with half serpentine circuitry and 10 fins per inch. No valves or valve controls are included with this option. 50, 60, and 70 ton units include two coils and thus need two inlet and two outlet water connections.
M = *Single Serpentine 12 FPI* - Chilled water coil with single serpentine circuitry and 12 fins per inch. No valves or valve controls are included with this option. 50, 60, and 70 ton units include two coils and thus need two inlet and two outlet water connections.
N = *Half Serpentine 12 FPI* - Chilled water coil with half serpentine circuitry and 12 fins per inch. No valves or valve controls are included with this option. 50, 60, and 70 ton units include two coils and thus need two inlet and two outlet water connections.
Q = *2 Stage Heat Pump with 2 Stage Auxiliary Heat* - Two stage cooling and two stage heat pump heating with two stages of auxiliary heat available during heat pump heating. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.
R = *4 Stage Heat Pump with 2 Stage Auxiliary Heat* - Four stage cooling and four stage heat pump heating with two stages of auxiliary heat available during heat pump heating. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.
S = *Modulating Heat Pump - Lead Variable Capacity Compressor with 2 Stage Auxiliary Heat* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit two stages of auxiliary heat available during heat pump heating. 9-25 and 30 ton units include a single 10-100% variable capacity scroll compressor and a single on/off scroll compressor. 26 and 31-70 ton units include two 10-100% variable capacity scroll compressors (Stages 1 and 2) and two on/off scroll compressors. With factory provided controls, on/off compressors are staged on while the variable capacity compressors modulate their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.

Model Option A4 - Cooling/Heat Pump Staging Continued

T = *Modulating Heat Pump - All Variable Capacity Compressors with 2 Stage Auxiliary Heat* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit two stages of auxiliary heat available during heat pump heating. 9-25 and 30 ton units include two 10-100% variable capacity scroll compressors. 26 and 31-70 ton units include four 10-100% variable capacity scroll compressors. With factory provided controls, variable capacity compressors are staged on, as efficiently as possible, while modulating their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.

V = *2 Stage Heat Pump with 4 Stage Auxiliary Heat* - Two stage cooling and two stage heat pump heating with four stages of auxiliary heat available during heat pump heating. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.

W = *4 Stage Heat Pump with 4 Stage Auxiliary Heat* - Four stage cooling and four stage heat pump heating with four stages of auxiliary heat available during heat pump heating. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.

Y = *Modulating Heat Pump - Lead Variable Capacity Compressor with 4 Stage Auxiliary Heat* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit four stages of auxiliary heat available during heat pump heating. 9-25 and 30 ton units include a single 10-100% variable capacity scroll compressor and a single on/off scroll compressor. 26 and 31-70 ton units include two 10-100% variable capacity scroll compressors (Stages 1 and 2) and two on/off scroll compressors. With factory provided controls, on/off compressors are staged on while the variable capacity compressors modulate their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.

Z = *Modulating Heat Pump - All Variable Capacity Compressors with 4 Stage Auxiliary Heat* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit four stages of auxiliary heat available during heat pump heating. 9-25 and 30 ton units include two 10-100% variable capacity scroll compressors. 26 and 31-70 ton units include four 10-100% variable capacity scroll compressors. With factory provided controls, variable capacity compressors are staged on, as efficiently as possible, while modulating their capacity as needed. See Model Options B1, B2, and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.

Model Number

Model Option B1 - Heating Type

Example: RN-025-3-0-BB02-**3**84:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *No Heating*
1 = *Electric Heat* - Electric heater with multiple elements.
2 = *Natural Gas Aluminized* - Natural gas heater with aluminized steel heat exchanger with a 15 year non-prorated warranty. The maximum temperature rise across the heater exchanger is 70°F. The maximum outlet temperature is 180°F. All RN Series units require only a single gas connection.
3 = *Natural Gas Stainless Steel* - Natural gas heater with 304 stainless steel heat exchanger with a 25 year non-prorated warranty. Stainless steel heat exchangers are required where the outside air rate is greater than or equal to 50% of the supply CFM and where the temperature rise across the heater exceeds the rating for the aluminized steel option (70°F). The maximum temperature rise for stainless steel heat exchangers is 100°F. The maximum outlet temperature is 200°F. All RN Series units require only a single gas connection.
4 = *High Altitude Natural Gas Aluminized* - Natural gas heater with aluminized steel heat exchanger with a 15 year non-prorated warranty. Burner orifices are chosen based on altitude at or above 2,000 feet as selected in AAONEcat32. The maximum temperature rise across the heater exchanger is 70°F. The maximum outlet temperature is 180°F. All RN Series units require only a single gas connection.
5 = *High Altitude Natural Gas Stainless Steel* - Natural gas heater with 304 stainless steel heat exchanger with a 25 year non-prorated warranty. Burner orifices are chosen based on altitude at or above 2,000 feet as selected in AAONEcat32. Stainless steel heat exchangers are required where the outside air rate is greater than or equal to 50% of the supply CFM and where the temperature rise across the heater exceeds the rating for the aluminized steel option (70°F). The maximum temperature rise for stainless steel heat exchangers is 100°F. The maximum outlet temperature is 200°F. All RN Series units require only a single gas connection.
6 = *LP Gas Aluminized* - Liquid propane gas heater with aluminized steel heat exchanger with a 15 year non-prorated warranty. The maximum temperature rise across the heater is 70°F. The maximum outlet temperature is 180°F. All RN Series units require only a single gas connection.
7 = *LP Gas Stainless Steel* - Liquid propane gas heater with 304 stainless steel heat exchanger with a 25 year non-prorated warranty. Stainless steel heat exchangers are required where the outside air rate is greater than or equal to 50% of the supply CFM and where the temperature rise across the heater exceeds the rating for the aluminized steel option (70°F). The maximum temperature rise for stainless steel heat exchangers is 100°F. The maximum outlet temperature is 200°F. All RN Series units require only a single gas connection.
8 = *High Altitude LP Gas Aluminized* - Liquid propane gas heater with aluminized steel heat exchanger with a 15 year non-prorated warranty. Burner orifices are chosen based on altitude at or above 2,000 feet as selected in AAONEcat32. The maximum temperature rise across the heater is 70°F. The maximum outlet temperature is 180°F. All RN Series units require only a single gas connection.

Model Option B1 - Heating Type Continued

9 = *High Altitude LP Gas Stainless Steel* - Liquid propane gas heater with 304 stainless steel heat exchanger with a 25 year non-prorated warranty. Burner orifices are chosen based on altitude at or above 2,000 feet as selected in AAONEcat32. Stainless steel heat exchangers are required where the outside air rate is greater than or equal to 50% of the supply CFM and where the temperature rise across the heater exceeds the rating for the aluminized steel option (70°F). The maximum temperature rise for stainless steel heat exchangers is 100°F. The maximum outlet temperature is 200°F. All RN Series units require only a single gas connection.
C = *Steam Distributing Standard Coil* - Steam heating coil. No valves or valve controls are included with this option.
D = *Steam Distributing Polymer E-Coated Coil* - Steam heating coil with a polymer e-coating applied to the complete coil and casing. Coating exceeds a 6,000 hour salt spray test per ASTM B 117-90 requirements, yet is only 0.8-1.2 mils thick and has excellent flexibility. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand, and wind and is applicable to all corrosive environments where a polymer e-coating is acceptable. No valves or valve controls are included with this option.
E = *Hot Water Standard Coil* - Hot water coil. No valves or valve controls are included with this option.
F = *Hot Water Polymer E-Coated Coil* - Hot water coil with a polymer e-coating applied to the complete coil and casing. Coating exceeds a 6,000 hour salt spray test per ASTM B 117-90 requirements, yet is only 0.8-1.2 mils thick and has excellent flexibility. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand, and wind and is applicable to all corrosive environments where a polymer e-coating is acceptable. No valves or valve controls are included with this option.

Note: See Table M2 for electric and gas heating capacities.

Model Number

Model Option B2 - Heating Designation

Example: RN-025-3-0-BB02-3**8**4:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *No Heating*

Table M2 - Electric and Gas Heating Capacities

	Gas Heat		Electric Heat Capacity	
	Input Capacity	Output Capacity		
	MBtuh	MBtuh	kW (208V)	kW (230V, 460V, 575V)
2 = *Heat 2*			15.0	20
3 = *Heat 3*			22.5	30
4 = *Heat 4*	270.0	218.7	30.0	40
5 = *Heat 5*			37.5	50
6 = *Heat 6*	390.0	315.9	45.1	60
7 = *Heat 7*			60.1	80
8 = *Heat 8*	405.0	328.1	75.1	100
9 = *Heat 9*			90.1	120
A = *Heat A*			120.2	160
B = *Heat B*			150.5	200
C = *Heat C*	540.0	432.0	180.3	240
D = *Heat D*	810.0	648.0		
E = *Heat E*	1080.0	864.0		
F = *Heat F*	195.0	156.0		
G = *Heat G*	292.5	234.0		

H = *1 Row Coil* - Single row hot water or steam heating coil. No valves or valve controls are included with this option.
J = *2 Row Coil* - Two row hot water or steam heating coil. No valves or valve controls are included with this option.

Note: AAONEcat32 will select the correct heating designation option for gas or electric heat based on the desired leaving air and entering air temperature conditions. For heat pump units this is the emergency or backup heat capacity, which is the capacity of the secondary heater available when heat pump heating is not in use. See General Data section for tonnage specific heating information.

Model Number

Model Option B3 - Heating Staging

Example: RN-025-3-0-BB02-38**4**:A000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *No Heating*
1 = *1 stage* - Single stage heat control.
2 = *2 stage* - Two stage heat control.
3 = *3 stage* - Three stage heat control.
4 = *4 stage* - Four stage heat control.
5 = *5 stage* - Five stage heat control.
6 = 6 *stage* - Six stage heat control.
7 = *7 stage* - Seven stage heat control.
8 = 8 *stage* - Eight stage heat control.
9 = *Modulating Gas - Temperature Control or Modulating/SCR Electric - Potentiometer Control*

Modulating Gas - Temperature Control - Heater gas valve and the speed of the induced draft fan are modulated by a DDC controller. For 9-15 ton units, minimum turndown in 30% of full rated capacity for the 195, 295, and 390 MBtuh heaters. For 16-25 and 30 ton units, minimum turndown is 30% of full rated capacity for the 270 and 540 MBtuh heaters and 20% of full rated capacity for the 405 MBtuh heater. For 26 and 31-70 ton units, minimum turndown is 30% of full rated capacity for the 540 MBtuh heater, 20% of full rated capacity for the 810 MBtuh heater, and 15% of full rated capacity for the 1080 MBtuh heater. Includes a factory wired supply air temperature sensor which is field installed in the supply ductwork. Controller can be used in stand alone applications or connected to a WattMaster unit controller via modular cable (Feature 22 = A or C). In stand alone application, on a call for heating, the controller will modulate gas valve and speed of induced draft blower to maintain a constant supply air temperature setpoint that is set using a DIP switch on the controller. The supply air temperature can be reset to a supply air temperature reset setpoint using a field provided 0-10 VDC reset input signal and another DIP switch on the controller. When the modulating gas heat controller is connected to a WattMaster unit controller (Feature 22 = A or C) supply air temperature setpoint, supply air temperature sensor offset, and supply air high temperature limit setpoint will be set with the unit controller's operator interface. The heat enable signal is provided by the unit controller. Modulating gas heat requires a stainless steel natural gas heat exchanger (Model Option B1 = 3 or 5).

Modulating/SCR Electric - Potentiometer Control - Fully modulating electric heating, controlled by a Silicon Controlled Rectifier (SCR) and DDC controller. Includes a factory wired supply air temperature sensor, which is field installed in the supply ductwork, and a factory wired supply air temperature setpoint adjustment potentiometer, which is field mounted. Potentiometer dial uses variable resistance to provide simple setpoint control.

Model Option B3 - Heating Staging Continued

A = Modulating/*SCR Electric - 0-10V Control Signal* - Fully modulating electric heating, controlled by an SCR and DDC controller. A terminal strip to connect a 0-10 VDC control signal by others is included. Heating elements line voltage is modulated linearly with respect to the control signal.
***H** = *Single Serpentine 8 FPI* - Hot water or steam coil with single serpentine circuitry and 8 fins per inch. No valves or valve controls are included with this option.
***J** = *Half Serpentine 8 FPI* - Hot water coil with half serpentine circuitry and 8 fins per inch. No valves or valve controls are included with this option.
***K** = *Single Serpentine 10 FPI* - Hot water or steam coil with single serpentine circuitry and 10 fins per inch. Standard steam coil option and standard 2 row hot water coil option. No valves or valve controls are included with this option.
***L** = *Half Serpentine 10 FPI* - Hot water coil with half serpentine circuitry and 10 fins per inch. Standard 1 row hot water coil option. No valves or valve controls are included with this option.
***M** = *Single Serpentine 12 FPI* - Hot water or steam coil with single serpentine circuitry and 12 fins per inch. No valves or valve controls are included with this option.
***N** = *Half Serpentine 12 FPI* - Hot water with half serpentine circuitry and 12 fins per inch. No valves or valve controls are included with this option.

Note: For heat pump units this is the number of emergency or backup heat stages, which is the number of stages of the secondary heater available when heat pump heating is not in use. See General Data section for tonnage specific heating information.

Feature 1A

Return/Outside Air Section

Example: RN-025-3-0-BB02-384:**A**000-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Manually Adjustable Outside Air Opening with Return Air Opening* - 0-25% manually adjustable outside air opening. Option includes a return air opening in the unit base.
A = *Economizer* - Extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly with factory installed actuator and barometric relief damper on the return air section. See Feature 2 for actuator control options.
B = *Economizer with Power Exhaust* - Extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly and on/off type power exhaust to control space pressurization during economizer mode of operation. See Feature 2 for actuator control options. Variable speed power exhaust is available with the selection of a VFD in Feature 1B.
C = *Economizer with Power Return* - Extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly and a power return for use with high return static pressure applications. See Feature 2 for actuator control options. Variable speed power return is available with the selection of a VFD in Feature 1B. Option is available on 16-70 ton units.

Feature 1A - Return/Outside Air Section Continued

D = *Economizer with Power Exhaust - Discharge Damper Volume Control* - Extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly with modulating power exhaust. Exhaust air is modulated by a floating point actuator, outlet dampers, and a null pressure switch. Switch provides signal to damper actuator to open or close. See Feature 2 for economizer actuator control options. Option is available on 9-15 ton units.
E = *Economizer with Power Exhaust - Discharge Damper Volume Control with 0-10V Control Signal* - Extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly with modulating power exhaust. Exhaust air is modulated by outlet dampers, actuator, and field provided 0-10 VDC control signal. See Feature 2 for economizer actuator control options. Option is available on 9-15 ton units.
F = *Low CFM Total AAONAIRE Energy Recovery Wheel* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
G = *Low CFM Total AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Outside airflow through the wheel is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
H = *Low CFM Sensible AAONAIRE Energy Recovery Wheel* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Wheel does not have silica gel desiccant on the substrate. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
J = *Low CFM Sensible AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. Wheel does not have silica gel desiccant on the substrate. Outside airflow through the wheel is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
K = *100% Outside Air, No Return Air* - Outside air opening in the unit which can accommodate 100% of the unit airflow. The outside air opening is not adjustable, and the unit will not have a return air opening. Units must have a stainless steel heat exchanger if gas heat is specified. Hot gas bypass on all refrigeration circuits is required with this option.

Feature 1A - Return/Outside Air Section Continued

L = *Motorized Outside Air Dampers with Return Air* - Extruded aluminum, low leakage, aluminum gear driven outside air dampers to control the outside air intake. Option includes a return air opening in the unit base. Dampers open on a call for the supply fan. See Feature 2 for outside air damper actuator control options.
M = *Motorized 100% Outside Air Dampers, No Return Air* - Extruded aluminum, low leakage, gear driven outside air dampers to control the outside air intake. This option is for 100% outside air applications and unit does not include a return air opening. Units must have a stainless steel heat exchanger if gas heat is specified. Hot gas bypass on all refrigeration circuits is required with this option. Dampers open on a call for the supply fan. See Feature 2 for outside air damper actuator control options.
N = *Empty Energy Recovery Wheel Option Box without Power Exhaust* - Factory installed empty energy recovery wheel box with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly for field installation of special options. Option does not include power exhaust. The return air opening and the filter rack are in the standard energy recovery wheel locations. See Feature 2 for economizer actuator control options.
P = *Empty Energy Recovery Wheel Option Box with Power Exhaust* - Factory installed empty energy recovery wheel box with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly for field installation of special options. Option includes power exhaust. The return air opening and the filter rack are in the standard energy recovery wheel locations. See Feature 2 for economizer actuator control options.
Q = *1% Purge Low CFM Total AAONAIRE Energy Recovery Wheel* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
R = *1% Purge Low CFM Total AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow through the wheel is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.

Feature 1A - Return/Outside Air Section Continued

S = *1% Purge Low CFM Sensible AAONAIRE Energy Recovery Wheel* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Wheel does not have silica gel desiccant on the substrate. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
T = *1% Purge Low CFM Sensible AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. Wheel does not have silica gel desiccant on the substrate. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
U = *High CFM Total AAONAIRE Energy Recovery Wheel* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
V = *High CFM Total AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Outside airflow through the wheel is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
W = *High CFM Sensible AAONAIRE Energy Recovery Wheel* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Wheel does not have silica gel desiccant on the substrate. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.

Feature 1A - Return/Outside Air Section Continued

Y = High CFM Sensible *AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. Wheel does not have silica gel desiccant on the substrate. Outside airflow through the wheel is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.

Z = *1% Purge High CFM Total AAONAIRE Energy Recovery Wheel* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.

1 = *1% Purge High CFM Total AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow through the wheel is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.

2 = *1% Purge High CFM Sensible AAONAIRE Energy Recovery* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Wheel does not have silica gel desiccant on the substrate. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.

Feature 1A - Return/Outside Air Section Continued

3 = *1% Purge High CFM Sensible AAONAIRE Energy Recovery Wheel with Bypass Damper* - Factory installed sensible energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. Wheel does not have silica gel desiccant on the substrate. Option includes a field adjustable damper assembly across the return air opening. The damper adjustment should be at maximum outside air flow to achieve negative (0.01 in. w.g.) pressure in the exhaust section of the energy recovery wheel to limit cross contamination of exhaust and incoming air to no more than 1%. Outside airflow is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options.
4 = *Single Total AAONAIRE Energy Recovery Wheel with Large Bypass Damper* - Factory installed total energy recovery wheel with factory installed extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly. Bypass damper with two position actuator allows air to flow around the wheel. Select when the outside airflow is greater than the maximum airflow rating of the wheel or when additional airflow is needed during economizer operation. The wheel's styrene heat transfer material is treated with silica gel desiccant for sensible and latent energy recovery. Outside airflow through the wheel is limited to the maximum airflow rating of the wheel shown in Table M3. See Feature 2 for economizer actuator control options. Option is available on 26-70 ton units.

Feature 1A - Return/Outside Air Section Continued

Table M3 - Energy Recovery Wheel Information

Feature 1A	Cabinet	Model	Energy Recovery Wheel	
			Qty/Diameter/Width	Maximum Airflow Through the Wheel
Low CFM Wheel Options: F, G, H, J, Q, R, S, T	B	RN-009	1/36”/1.5”	2,400 CFM
		RN-011		
		RN-013		
		RN-015		
	C	RN-016	1/52”/1.5”	5,000 CFM
		RN-018		
		RN-020		
		RN-025		
		RN-030		
	D	RN-026	2/52”/1.5”	10,000 CFM
		RN-031		
		RN-040		
		RN-050		
		RN-060		
		RN-070		
High CFM Wheel Options: U, V, W, Y, Z, 1, 2, 3	C	RN-016	1/52”/3.0”	6,600 CFM
		RN-018		
		RN-020		
		RN-025		
		RN-030		
	D	RN-026	2/52”/3.0”	13,200 CFM
		RN-031		
		RN-040		
		RN-050		
		RN-060		
		RN-070		
Single Wheel Option: 4	D	RN-026	1/64”/3.0”	10,000 CFM
		RN-031		
		RN-040		
		RN-050		
		RN-060		
		RN-070		

Feature 1B

Return/Exhaust Air Blower Configuration

Example: RN-025-3-0-BB02-384:A**0**00-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Standard - None*
A = *1 Blower with Standard Efficiency Motor*
B = *2 Blowers with Standard Efficiency Motors*
C = *1 Blower with Premium Efficiency Motor*
D = *2 Blowers with Premium Efficiency Motors*
***E** = *1 Blower with Premium Efficiency Motor with 1 VFD*
***F** = *2 Blowers with Premium Efficiency Motors with 2 Motors on 1 VFD*
***G** = *2 Blowers with Premium Efficiency Motors with 2 Motors on 1 VFDs*

*Power exhaust with VFD requires field supplied control signal.

AAONEcat32 will select the correct available options for Feature 1B based on unit conditions and the input from the fan selection program. When building a fan configuration with AAONEcat32 you must first select a power return, power exhaust, or energy recovery wheel option in Feature 1A. When all of the other features have been selected, you will be prompted to select supply fans, return or exhaust fans, motors, and VFDs under the “Fan Selection” window. In the “Fan Selection” window you will be able to choose the number of fans, VFDs, and motor efficiency. General fan information, fan sound information, and fan curves will be available for viewing in the “Fan Selection” window.

Feature 1C

Return/Exhaust Air Blower

Example: RN-025-3-0-BB02-384:A0**0**0-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Standard - None*
A = *12" x 9" Belt Driven Forward Curved Fan*
C = *18.5" Belt Driven Backward Curved Plenum Fan*
D = *22" Belt Driven Backward Curved Plenum Fan*
F = *27" Belt Driven Backward Curved Plenum Fan*
G = *22" Direct Drive Axial Flow Fan*
H = *35.5" Direct Drive Axial Flow Fan*
K = *18.5" Belt Driven Backward Curved Plenum Fan, 70% Width with Banding*
L = *22" Belt Driven Backward Curved Plenum Fan, 70% Width with Banding*
M = *27" Belt Driven Backward Curved Plenum Fan, 70% Width with Banding*

AAONEcat32 will select the correct available options for Feature 1C based on unit conditions and the input from the fan selection program. When building a fan configuration with AAONEcat32 you must first select a power return, power exhaust, or energy recovery wheel option in Feature 1A. When all of the other features have been selected, you will be prompted to select supply fans, return or exhaust fans, motors, and VFDs under the "Fan Selection" window. In the "Fan Selection" window you will be able to choose the number of fans, VFDs, and motor efficiency. General fan information, fan sound information, and fan curves will be available for viewing in the "Fan Selection" window.

Feature 1D

Return/Exhaust Air Blower Motor

Example: RN-025-3-0-BB02-384:A00**0**-D0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Standard - None*
C = *1.0 hp - 1760 rpm*
D = *2.0 hp - 1760 rpm*
E = *3.0 hp - 1760 rpm*
F = *5.0 hp - 1760 rpm*
G = *7.5 hp - 1760 rpm*
H = *10 hp - 1760 rpm*
L = *15 hp - 1760 rpm*
M = *20 hp - 1760 rpm*
***N** = *1.0 hp - 1170 rpm*
***P** = *2.0 hp - 1170 rpm*
***Q** = *3.0 hp - 1170 rpm*
***R** = *5.0 hp - 1170 rpm*
***S** = *7.5 hp - 1170 rpm*

*Available with axial flow fan options. These options allow selection of motor rpm closest to application requirements, such as VFD applications and high volume, low static applications.

AAONEcat32 will select the correct available options for Feature 1D based on unit conditions and the input from the fan selection program. When building a fan configuration with AAONEcat32 you must first select a return/exhaust fan or energy recovery wheel in Feature 1A. When all of the other features have been selected, you will be prompted to select supply fans, return or exhaust fans, motors, and VFDs under the "Fan Selection" window. In the "Fan Selection" window you will be able to choose the number of fans, VFDs, and motor efficiency. General fan information, fan sound information, and fan curves will be available for viewing in the "Fan Selection" window.

Feature 2

Outside Air Control

Example: RN-025-3-0-BB02-384:A000-**D**0B-DEH-0BA-0D0000L-00-00B00000B

0 = *Standard - None* - No economizer or motorized outside air dampers.
A = *3 Position Actuator with Sensible Limit* - Economizer actuator with three positions. Position one is the closed position. Position two is the minimum outside air position, which is activated when there is a call for fan operation. Position three is the economizer mode position with outside air dampers fully open. The minimum outside air position can be field adjusted for the desired amount of outside air. The range for the changeover control is 45°F to 95°F and responds to sensible temperature only. The actuator is spring return closed. During economizer mode supply air temperature will vary with outside air temperature.

Feature 2 - Outside Air Control Continued

B = *3 Position Actuator with Enthalpy Limit* - Economizer actuator with three positions. Position one is the closed position. Position two is the minimum outside air position, which is activated when there is a call for fan operation. Position three is the economizer mode position with outside air dampers fully open. The minimum outside air position can be field adjusted for the desired amount of outside air. Changeover control responds to sensible and latent heat of the ambient air. See Figure M1, Enthalpy Changeover Dial, and Table M4, Enthalpy Changeover Adjustment. The actuator is spring return closed.
C = *Fully Modulating Actuator with Sensible Limit* - Fully modulating economizer actuator with two positions. Position one is the closed position. Position two is the minimum outside air position, which is activated when there is a call for fan operation. During the economizer mode actuator modulates between minimum outside air position and having the outside air dampers fully open to maintain a discharge temperature of 55°F. The minimum outside air position can be field adjusted for the desired amount of outside air. The range for the changeover control is 45°F to 95°F and responds to sensible temperature only. The actuator is spring return closed.
D = *Fully Modulating Actuator with Enthalpy Limit* - Fully modulating economizer actuator with two positions. Position one is the closed position. Position two is the minimum outside air position, which is activated when there is a call for fan operation. During the economizer mode actuator modulates between minimum outside air position and having the outside air dampers fully open to maintain a discharge temperature of 55°F. The minimum outside air position can be field adjusted for the desired amount of outside air. Changeover control responds to sensible and latent heat of the ambient air. See Figure M1, Enthalpy Changeover Dial, and Table M4, Enthalpy Changeover Adjustment. The actuator is spring return closed.
E = *DDC Actuator* - Economizer actuator with terminal strip (EC1 and EC2) in the controls compartment for a field supplied outside air control signal. Actuator is factory configured for a 4-20 mA control signal, but can be configured for a 0-10 VDC control signal by removing the resistor between the terminals, EC1 and EC2. Use this option where customer supplied controls are employed for unit and economizer functions. All economizer functions will be by others. AAON supplies the damper assembly and actuator only. Part of the D-PAC and PAC control systems. See Feature 13 and Controls section for more D-PAC and PAC information.
F = *Constant Volume Outside Air* - Maintains a minimum amount of outside air in VAV units. Velocity pressure of the air entering the unit is measured and the dampers are adjusted to maintain constant pressure, and thus a constant volume, of fresh air regardless of the supply air volume. Minimum supply air setting on the VFD control should be greater than or equal to outside air requirement. If economizer mode is required, select from options G, H, J, K, L.
G = *Constant Volume Outside Air + 3 Position Actuator with Sensible Limit* - Options F + A
H = *Constant Volume Outside Air + 3 Position Actuator with Enthalpy Limit* - Options F + B
J = *Constant Volume Outside Air + Fully Modulating Actuator with Sensible Limit* - Options F + C
K = *Constant Volume Outside Air + Fully Modulating Actuator with Enthalpy Limit* - Options F + D
L = *Constant Volume Outside Air + DDC Actuator* - Options F + E

Feature 2 - Outside Air Control Continued

M = *CO_2 Override + 3 Position Actuator with Sensible Limit* - Option A + CO_2 ventilation controller that senses the return air stream through a pitot tube. Used for demand controlled ventilation applications where outside air ventilation is based on actual not assumed demand, for energy savings. The sensor is self-calibrating with a 14-day log that will automatically correct for sensor drift and has onboard push buttons with LCD display for specifying CO_2 setpoint. This option works best with air velocities in the 600 to 1200 fpm range.
N = *CO_2 Override + 3 Position Actuator with Enthalpy Limit* - Option B + CO_2 ventilation controller that senses the return air stream through a pitot tube. Used for demand controlled ventilation applications where outside air ventilation is based on actual not assumed demand, for energy savings. The sensor is self-calibrating with a 14-day log that will automatically correct for sensor drift and has onboard push buttons with LCD display for specifying CO_2 setpoint. This option works best with air velocities in the 600 to 1200 fpm range.
P = *CO_2 Override + Fully Modulating Actuator with Sensible Limit* - Option C + CO_2 ventilation controller that senses the return air stream through a pitot tube. Used for demand controlled ventilation applications where outside air ventilation is based on actual not assumed demand, for energy savings. The sensor is self-calibrating with a 14-day log that will automatically correct for sensor drift and has onboard push buttons with LCD display for specifying CO_2 setpoint. This option works best with air velocities in the 600 to 1200 fpm range.
Q = *CO_2 Override + Fully Modulating Actuator with Enthalpy Limit* - Option D + CO_2 ventilation controller that senses the return air stream through a pitot tube. Used for demand controlled ventilation applications where outside air ventilation is based on actual not assumed demand, for energy savings. The sensor is self-calibrating with a 14-day log that will automatically correct for sensor drift and has onboard push buttons with LCD display for specifying CO_2 setpoint. This option works best with air velocities in the 600 to 1200 fpm range.
R = *CO_2 Override + DDC Actuator* - Option E + CO_2 ventilation controller that senses the return air stream through a pitot tube. Used for demand controlled ventilation applications where outside air ventilation is based on actual not assumed demand, for energy savings. The sensor is self-calibrating with a 14-day log that will automatically correct for sensor drift and has onboard push buttons with LCD display for specifying CO_2 setpoint. This option works best with air velocities in the 600 to 1200 fpm range.
S = *Dual Minimum Position Potentiometers with Fully Modulating Actuator with Sensible Limit* - Fully modulating economizer with sensible limit actuator with two minimum position potentiometers. Remote contact closure will allow the outside air to open the second minimum setting. During the economizer mode actuator modulates between minimum outside air position and having the outside air dampers fully open to maintain a discharge temperature of 55°F. The minimum outside air positions can be field adjusted for the desired amount of outside air. The range for the changeover control is 45°F to 95°F and responds to sensible temperature only. The actuator is spring return closed.

Feature 2 - Outside Air Control Continued

T = *Dual Minimum Position Potentiometers with Fully Modulating Actuator with Enthalpy Limit* - Fully modulating economizer with enthalpy limit actuator with two minimum position potentiometers. Remote contact closure will allow the outside air to open the second minimum setting. During the economizer mode actuator modulates between minimum outside air position and having the outside air dampers fully open to maintain a discharge temperature of 55°F. The minimum outside air positions can be field adjusted for the desired amount of outside air. Changeover control responds to sensible and latent heat of the ambient air. See Figure M1, Enthalpy Changeover Dial, and Table M4, Enthalpy Changeover Adjustment. The actuator is spring return closed.
U = *2 Position Actuator* - Used with motorized outside air options in Feature 1. Position one is the closed position. Position two is the fully open position, which is activated when there is a call for fan operation.

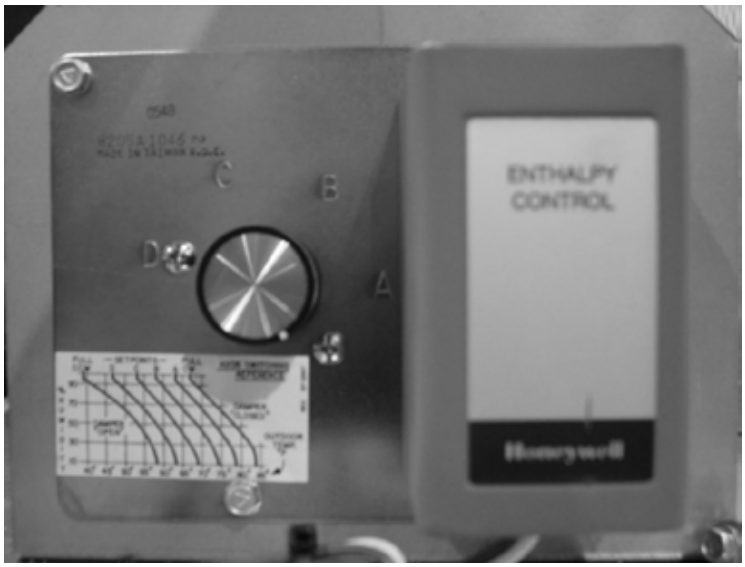


Figure M1 - Enthalpy Changeover Dial

Table M4 - Enthalpy Changeover Adjustment

Dial Setting	20% RH		50% RH		80% RH	
	°F	°C	°F	°C	°F	°C
A (Max)	78	26	73	23	68	20
B	73	23	68	20	63	17
C	68	20	63	17	59	15
D (Min)	62	17	58	14	53	12

Feature 3

Heat Options

Example: RN-025-3-0-BB02-384:A000-D**0**B-DEH-0BA-0D0000L-00-00B00000B

***0** = *Standard* - For heat pump units, the auxiliary gas heat capacity is equal to the emergency gas heat capacity shown in Model Option B2.
E = *Discharge Air Override* - This option is used to prevent temperature swings common with space thermostats on make up air applications where large amounts of untreated air are permitted to enter prior to space thermostat reaction. A supply air temperature sensor and thermostat are wired to the heat terminals. If the supply air temperature falls below the field adjustable setpoint, heat is energized to prevent cold outside air introduction to the space. A timer is provided to be field adjusted to the amount of time the heater will operate before the space thermostat initiates a call for heat.

Table M5 - Auxiliary Electric Heating Capacities

	kW (208V)	kW (230V, 460V, 575V)
***L** = *Heat L*	15.0	20
***M** = *Heat M*	22.5	30
***N** = *Heat N*	30.0	40
***P** = *Heat P*	37.5	50
***Q** = *Heat Q*	45.1	60
***R** = *Heat R*	60.1	80
***S** = *Heat S*	75.1	100
***T** = *Heat T*	90.1	120
***U** = *Heat U*	120.2	160
***V** = *Heat V*	150.5	200
***W** = *Heat W*	180.3	240

*****AAONEcat32 will select the correct auxiliary or supplemental heating designation option for gas or electric heat based on the desired leaving air and entering air temperature conditions. This is the auxiliary heat capacity, which is the capacity of the secondary heater available when heat pump heating is in use. See General Data section for tonnage specific heating information.

Feature 4

Maintenance Options

Example: RN-025-3-0-BB02-384:A000-D0**B**-DEH-0BA-0D0000L-00-00B00000B

0 = *Standard*
A = *Field Wired 115V Convenience Outlet* - Field wired 2x4 electrical box with ground fault interrupter receptacle, located inside the unit controls cabinet. Receptacle is rated for 20 amps. The outlet must be field wired to a 115 VAC power supply.
B = *Factory Wired 115V Convenience Outlet* - Factory wired 2x4 electrical box with ground fault interrupter receptacle, located inside the unit controls cabinet. The circuit is rated at 13 amps and is factory wired to a step-down transformer, fuse block, and outlet disconnect. The circuit is wired to the line side of the unit power block, permitting use of the outlet while power to the unit is shut off. **Caution: When the power to the unit is disconnected at the factory installed unit power switch, the convenience outlet will remain live.**
C = *Blower Auxiliary Contact* **-** Contacts on the low voltage terminal block that close when the fan is energized. This option is used to interface with other devices or to indicate unit operation.
D = *Remote Start/Stop Terminals* - Remote start/stop terminals labeled ST1 and ST2. This option is normally used with a remote time clock or space type thermostat with occupied/unoccupied capability. Field supplied contact closure is needed for unit operation. When contacts are open, the low voltage circuit is broken and the unit will not operate.
E = *Field Wired 115V Convenience Outlet + Blower Aux. Contact* - Options A + C
F = *Field Wired 115V Convenience Outlet + Remote Start/Stop Terminals* - Options A + D
G = *Factory Wired 115V Convenience Outlet + Blower Aux. Contact* - Options B + C
H = *Factory Wired 115V Convenience Outlet + Remote Start/Stop Terminals* - Options B + D
J = *Field Wired 115V Convenience Outlet + Blower Aux. Contact + Remote Start/Stop Terminals* - Options A + C + D
K = *Factory Wired 115V Convenience Outlet + Blower Aux. Contact + Remote Start/Stop Terminals* - Options B + C + D
L = *Blower Auxiliary Contact + Remote Start/Stop Terminals* - Options C + D

Figure M2 - Factory Wired Convenience Outlet

Feature 5A

Supply Air Blower Configuration

Example: RN-025-3-0-BB02-384:A000-D0B-**D**EH-0BA-0D0000L-00-00B00000B

0 = *1 Blower with Standard Efficiency Motor*
***A** = *2 Blowers with Standard Efficiency Motors*
B = *1 Blower with Premium Efficiency Motor*
***C** = *2 Blowers with Premium Efficiency Motors*
D = *1 Blower with Premium Efficiency Motor with One VFD*
***F** = *2 Blowers with Premium Efficiency Motors with Two Motors on One VFD*
***G** = *2 Blowers with Premium Efficiency Motors with Two Motors on Two VFDs*

*Available on 26 and 31-70 ton units.

AAONEcat32 will select the correct available options for Feature 5A based on unit conditions and the input from the fan selection program. When all of the other features have been selected, you will be prompted to select supply fans, return or exhaust fans, motors, and VFDs under the "Fan Selection" window. In the "Fan Selection" window you will be able to choose the number of fans, VFDs, and motor efficiency. General fan information, fan sound information, and fan curves will be available for viewing in the "Fan Selection" window.

Feature 5B

Supply Air Blower

Example: RN-025-3-0-BB02-384:A000-D0B-D**E**H-0BA-0D0000L-00-00B00000B

B = *15" Direct Drive Backward Curved Plenum Fan*
C = *18.5" Direct Drive Backward Curved Plenum Fan*
D = *24" Direct Drive Backward Curved Plenum Fan*
E = *27" Direct Drive Backward Curved Plenum Fan*
F = *30" Direct Drive Backward Curved Plenum Fan, 90% Width, 1750 rpm Max*
H = *18.5" Direct Drive Backward Curved Plenum Fan, 70% Width*
L = *30" Direct Drive Backward Curved Plenum Fan, 1600 rpm Max*
P = *24" Direct Drive Backward Curved Plenum Fan, 60% Width*
Q = *27" Direct Drive Backward Curved Plenum Fan, 60% Width*
R = *22" Direct Drive Backward Curved Plenum Fan*
S = *22" Direct Drive Backward Curved Plenum Fan, 70% Width*

AAONEcat32 will select the correct available options for Feature 5B based on unit conditions and the input from the fan selection program. When all of the other features have been selected, you will be prompted to select supply fans, return or exhaust fans, motors, and VFDs under the "Fan Selection" window. In the "Fan Selection" window you will be able to choose the number of fans, VFDs, and motor efficiency. General fan information, fan sound information, and fan curves will be available for viewing in the "Fan Selection" window.

Feature 5C

Supply Air Blower Motor

Example: RN-025-3-0-BB02-384:A000-D0B-DE**H**-0BA-0D0000L-00-00B00000B

C = *1.0 hp - 1760 rpm*
D = *2.0 hp - 1760 rpm*
E = *3.0 hp - 1760 rpm*
F = *5.0 hp - 1760 rpm*
G = *7.5 hp - 1760 rpm*
H = *10 hp - 1760 rpm*
L = *15 hp - 1760 rpm*
M = *20 hp - 1760 rpm*

***N** = *1.0 hp - 1140 rpm*
***P** = *2.0 hp - 1140 rpm*
***Q** = *3.0 hp - 1140 rpm*
***R** = *5.0 hp - 1140 rpm*
***S** = *7.5 hp - 1140 rpm*
***T** = *10 hp - 1140 rpm*
***U** = *15 hp - 1140 rpm*
***V** = *20 hp - 1140 rpm*

*Options allow selection of motor rpm closest to application requirements, such as VFD applications and high volume, low static applications.

AAONEcat32 will select the correct available options for Feature 5C based on unit conditions and the input from the fan selection program. When all of the other features have been selected, you will be prompted to select supply fans, return or exhaust fans, motors, and VFDs under the "Fan Selection" window. In the "Fan Selection" window you will be able to choose the number of fans, VFDs, and motor efficiency. General fan information, fan sound information, and fan curves will be available for viewing in the "Fan Selection" window.

Feature 6A

Pre Filter

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-**0**BA-0D0000L-00-00B00000B

0 = *Standard - None*
A = *2" Pleated Pre Filter - 30% Efficient* - 2 inch pleated, 30% efficient, MERV 7 pre filters mounted adjacent and upstream of the 4" high efficiency unit filters (Feature 6B).
B = *Metal Mesh Outside Air Pre Filter* - Washable expanded aluminum mesh filters mounted over the outside air intake. Initial resistance is 0.088 in. w.g. at 520 fpm. Filters are coated for adhesion. Option is used to filter large particles in the outside air and to prevent moisture carryover in humid environments. Meets requirements of UL Class 2.
C = *Lint Screen Pre Filter* - 5/16 inch galvanized steel filter frame with 16 wires per inch aluminum mesh filter media upstream of the unit filters. Option is used to reduce surface loading on the pleated filters in environments where lint and other large particles are prevalent.

Feature 6A - Pre Filter Continued

D = *Energy Recovery Wheel 2" Pleated Exhaust Air Filter - 30% Efficient* - 2 inch pleated, 30% efficient, MERV 7 filters mounted adjacent and upstream of the energy recovery wheel in the exhaust air stream. With this option, the outside air energy recovery wheel filters are 2 inch pleated, 30% efficient, MERV 7 filters.
F = *2" Pleated Pre Filter + Energy Recovery Wheel 2" Pleated Exhaust Air Filter* - Options A + D
G = *Metal Mesh Outside Air Pre Filter + Energy Recovery Wheel 2" Pleated Exhaust Air Filter* - Options B + D

Feature 6B

Unit Filter

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0**B**A-0D0000L-00-00B00000B

0 = *2" Throwaway Unit Filter- 25% Efficient or 2" Pleated Unit Filter- 30% Efficient* - 9 and 11 ton units include 2 inch throwaway, 25% efficient, MERV 4 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. 13-70 ton units include 2 inch pleated, 30% efficient, MERV 7 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings.
A = *2" Pleated Unit Filter -30% Efficient* - 2 inch pleated, 30% efficient, MERV 7 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. Option is available for 9 and 11 ton units.
B = *4" Pleated Unit Filter - 30% Efficient* - 4 inch pleated, 30% efficient, MERV 8 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings.
C = *2" Permanent Filter Frame with Replaceable Media* - 2 inch metal frame replaceable media filters. Media is a filter pad, 2 inches thick, with non woven polyester bonded fiber, rated to 500 fpm.
F = *4" Pleated Unit Filter - 65% Efficient - MERV 11* - 4 inch pleated, 65% efficient, MERV 11 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. 2 inch pleated, 30% efficient, MERV 7 pre filters are standard with this option (Feature 6A = A). Not available on 9-25, 30 and 50-70 ton units with the return air bypass option (Model Option A2) and 9-25 and 30 ton units with preheat (Feature 14).

Feature 6B - Unit Filter Continued

G = *4" Pleated Unit Filter - 85% Efficient - MERV 13* - 4 inch pleated, 85% efficient, MERV 13 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. 2 inch pleated, 30% efficient, MERV 7 pre filters are standard with this option (Feature 6A = A). Not available on 9-25, 30 and 50-70 ton units with the return air bypass option (Model Option A2) and 9-25 and 30 ton units with preheat (Feature 14).
H = *4" Pleated Unit Filter - 95% Efficient - MERV 14* - 4 inch pleated, 95% efficient, MERV 14 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. 2 inch pleated, 30% efficient, MERV 7 pre filters are standard with this option (Feature 6A = A). Not available on 9-25, 30 and 50-70 ton units with the return air bypass option (Model Option A2) and 9-25 and 30 ton units with preheat (Feature 14).

Feature 6C

Filter Options

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0B**A**-0D0000L-00-00B00000B

0 = *Standard*
***A** = *Clogged Filter Switch* - Adjustable differential pressure switch sensing pressure drop across the filter bank and cooling coil. The range of adjustment is 0.17 to 5.0 in. W.C. with contact closure on rise. The switch is mounted in the fan compartment with terminal connections in the low voltage control section. Normally open dry contacts (C1 and C2) are provided for clogged filter indication.
***B** = *Magnehelic Gauge* - Magnehelic gauge reading pressure drop across the filter bank and cooling coil. The gauge reads from 0 to 3 in. W.C. in 0.10 in. graduations, and is mounted in the control cabinet.
***C** = *Clogged Filter Switch + Magnehelic Gauge* - Options A + B

*A Special Pricing Authorization (SPA) is required if the CFS or Magnehelic gauge is to be used to respond to the pressure drop across the energy recovery wheel or only the cooling coil.

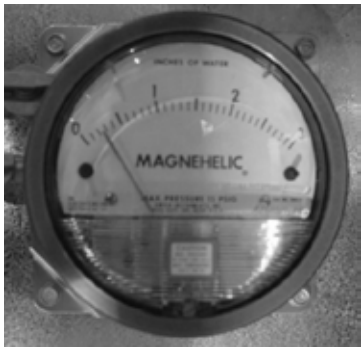


Figure M3 - Magnehelic Gauge

Feature 7

Refrigeration Control

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-**0**D0000L-00-00B00000B

0 = *Standard* - 55°F fixed compressor cooling lockout. Heat pump units also include an adjustable compressor heating lockout (-10 to 70°F). See Model Option A2 for heat pump options.
A = *5 Minute Time Delay Relay - Compressor Off Time* - Time delay relays which guarantee a 5 minute compressor "off time" to prevent short cycling of the compressors, which causes undue stress and wear. The delay timers are located in the low voltage section of the controls cabinet and there are no field adjustments. Option is recommended where electromechanical thermostats are used. Use with some programmable thermostats or DDC controllers may cause excessive time delay. Not available on 26, 31, 40, and 50 ton units because these units include a Comfort Alert™ module for each compressor which provides compressor diagnostics and includes a 3 minute anti-short cycle timer.
B = *20 Second Time Delay Relay - Compressor Staging Delay* - 20 second time delay relays that prevent multiple cooling stages from starting simultaneously. The delay timers are located in the low voltage section of the controls cabinet and the range of adjustment is 6 to 300 seconds. The timers limit current draw during cooling cycle start up. Option is recommended where electromechanical thermostats are used. Use with some programmable thermostats or DDC controllers may cause excessive time delay.
C = *Fan Cycling* - Device which cycles the condenser fans to maintain refrigerant circuit head pressures at acceptable levels during cooling operation down to 35°F ambient. This option is required when ordering any 0°F low ambient option (Feature 8). An adjustable compressor lockout (-10 to 70°F) for the first refrigeration circuit is included with this selection.
D = *Adjustable Compressor Lockouts on Each Circuit* - Adjustable compressor lockouts (-10 to 70°F) on each refrigeration circuit, located behind the near the outside air opening. Hot gas bypass on the lead compressors are required for this selection on units without variable capacity scroll compressors. Hot gas bypass on the lag compressor is strongly recommended. When fan cycling (option C) is selected an adjustable compressor lockout is included on the first refrigeration circuit. Option is recommended if cooling operation is required at less than 55°F ambient.
E = *Freeze Stats on Each Circuit* - Adjustable temperature sensor (-10 to 70°F) mounted on the tubing of the first cooling circuit and wired to de-energize all cooling circuits if tubing temperature falls below setpoint. Option is used to prevent freezing of evaporator coil.
F = *5 MTDR + 20 STDR* - Options A + B
G = *5 MTDR + Fan Cycling* - Options A + C
H = *5 MTDR + Adjustable CLO* - Options A + D
J = *5 MTDR + Freeze Stat* - Options A + E
K = *20 STDR + Fan Cycling* - Options B + C
L = *20 STDR + Adjustable CLO* - Options B + D
M = *20 STDR + Freeze Stat* - Options B + E

Feature 7 - Refrigeration Control Continued

N = *Fan Cycling + Adjustable CLO* - Options C + D
P = *Fan Cycling + Freeze Stat* - Options C + E
Q = *Adjustable CLO + Freeze Stat* - Options D + E
R = *5 MTDR + 20 STDR + Fan Cycling* - Options A + B + C
S = *5 MTDR + 20 STDR + Adjustable CLO* - Options A + B + D
T = *5 MTDR + 20 STDR + Freeze Stat* - Options A + B + E
U = *5 MTDR + Fan Cycling + Adjustable CLO* - Options A + C + D
V = *5 MTDR + Fan Cycling + Freeze Stat* - Options A + C + E
W = *5 MTDR + Adjustable CLO + Freeze Stat* - Options A + D + E
Y = *20 STDR + Fan Cycling + Adjustable CLO* - Options B + C + D
Z = *20 STDR + Fan Cycling + Freeze Stat* - Options B + C + E
1 = *20 STDR + Adjustable CLO + Freeze Stat* - Options B + D + E
2 = *Fan cycling + Adjustable CLO + Freeze Stat* - Options C + D + E
3 = *5 MTDR + 20 STDR + Fan Cycling + Adjustable CLO* - Options A + B + C + D
4 = *5 MTDR + 20 STDR + Fan Cycling + Freeze Stat* - Options A + B + C + E
5 = *5 MTDR + 20 STDR + Adjustable CLO + Freeze Stat* - Options A + B + D + E
6 = *5 MTDR + Fan Cycling + Adjustable CLO + Freeze Stat* - Options A + C + D + E
7 = *20 STDR + Fan Cycling + Adjustable CLO + Freeze Stat* - Options B + C + D + E
8 = *5 MTDR + 20 STDR + Fan Cycling + Adjustable CLO + Freeze Stat* - Options A + B + C + D + E

Feature 8

Refrigeration Options

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0**D**0000L-00-00B00000B

0 = *Standard* - Each refrigeration circuit includes a manual reset high pressure cutout, an automatic reset low pressure cutout, compressor overload protection, and a thermal expansion valve.

A = *Hot Gas Bypass on the Lead Stage or Hot Gas Bypass on the Lag Stage with Lead Stage Variable Capacity Compressor* - Field adjustable pressure activated bypass valve on the lead refrigeration circuits factory setup to divert hot compressor discharge gas to the evaporator coil if pressure on the evaporator side of the valve drops below 60 psi for R-22 or 105 psi for R-410A (34°F at sea level). The bypass valve is at full capacity after six degrees of differential (28°F at sea level). This option is used to prevent coil freeze-up during periods of low airflow or cold entering coil conditions without cycling of the compressors on and off. Option is required on all Variable Air Volume (VAV) and Make Up Air (MUA) units without variable capacity scroll compressors. This option is used for refrigeration system protection only and cannot be used for cooling capacity modulation. 9-25 and 30 ton units include a bypass valve on the first refrigeration circuit. 26 and 31-70 ton units include bypass valves on first and second stage refrigeration circuits. When lead circuits include variable capacity scroll compressors, this option includes hot gas bypass on the lag circuits (Model Option A1 = D, E, F).

B = *Hot Gas Bypass on the Lead and Lag Stages* - Field adjustable pressure activated bypass valves on the lead and lag refrigeration circuits factory setup to divert hot compressor discharge gas to the evaporator coil if the pressure on the evaporator side of the valve drops below 60 psi for R-22 or 105 psi for R-410A (34°F at sea level). The bypass valve is at full capacity after six degrees of differential (28°F at sea level). This option prevents coil freeze-up during periods of low airflow or cold entering coil conditions without cycling of the compressors on and off. This option is used for refrigerant system protection only and cannot be used for cooling capacity modulation. 9-25 and 30 ton units include bypass valves on the first and second stage refrigeration circuits. 26 and 31-70 ton units include bypass valves on the first, second, third, and forth stage refrigeration circuits.

C = *Hot Gas Reheat* - Reheat coil mounted downstream of the evaporator and piped to the lead cooling circuits and on/off controls which provide the unit with a dehumidification mode of operation for when the cooling load has been satisfied. A terminal contact (RH1) is included for connecting a humidistat. Upon a dry contact closure signal from the humidistat and no call for cooling or heating from the thermostat, the lead compressors are activated. After 3 minutes, the reheat coil is energized along with the lag compressors. A call for cooling or heating will deactivate the reheat coil, returning all refrigerant to the condenser coils. A wall mounted humidistat is available as an accessory. Receiver tanks are standard with this option.

Feature 8 - Refrigeration Options Continued

D = *Modulating Hot Gas Reheat* - Reheat coil mounted downstream of the evaporator and piped to the lead cooling circuits which provides the unit with a dehumidification mode of operation for when the cooling load has been satisfied. Option includes modulating condenser control valve, modulating reheat control valve, supply air temperature sensor, and DDC controller to maintain the supply air temperature during the dehumidification mode of operation. A terminal contact (RH1) is included for connecting a humidistat. A wall mounted humidistat is available as an accessory. Receiver tanks are standard with this option. This option provides constant supply air temperature control during dehumidification, which prevents space temperature swings and is ideal for VAV and MUA applications. Part of the D-PAC and PAC control systems. See Feature 13 and Controls section for more D-PAC and PAC information.
E = *0°F Low Ambient Lead Stage* - Factory installed, flooded condenser, head pressure control option which allows cooling operation down to 0°F ambient. When the ambient temperature drops, the condensing pressure drops. A 3-way pressure activated valve then allows discharge gas to bypass around the condenser. Mixing of the discharge gas with liquid creates a high pressure at the condenser outlet, reducing the flow and causing liquid to back up into the condenser. Flooding the condenser reduces the area available for condensing, resulting in a rise in condensing pressure. Additional option components include a receiver tank, sight glass and access port. Fan cycling is required with this option (Feature 7). It is highly recommended that hot gas bypass be selected with this option. Hot gas reheat and modulating hot gas reheat are not available with this option. Used for low ambient applications such as computer equipment rooms.
F = *HGB Lead + HGR* - Options A + C
G = *HGB Lead and Lag + HGR* - Options B + C
H = *HGB Lead + MHGR* - Options A + D
J = *HGB Lead and Lag + MHGR* - Options B + D
K = *HGB Lead + Low Ambient* - Options A + E
L = *HGB Lead Lag + Low Ambient* - Options B + E

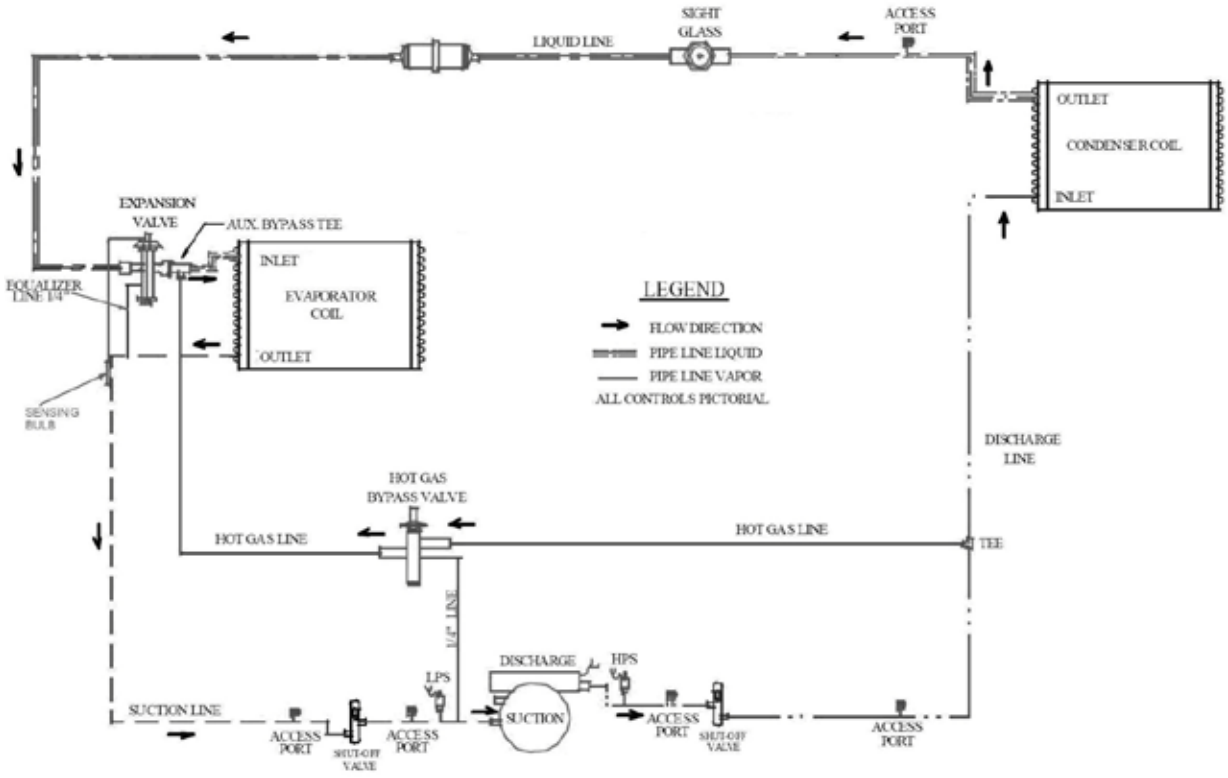


Figure M4 - Hot Gas Bypass Piping Schematic

Feature 9

Refrigeration Accessories

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D**0**000L-00-00B00000B

0 = *Standard*
A = *Sight Glass* - Moisture indication sight glass attached to the refrigeration circuit liquid lines. A green color refrigerant indicates a dry condition, a chartreuse color (green with a yellow tint or bright green) indicates caution and a yellow color indicates a wet condition. The sight glass is not a charge indicator.

Feature 9 - Refrigeration Accessories Continued

B = *Compressor Isolation Valves* - Ball type service valves mounted on the refrigeration circuit discharge and suction lines permitting isolation of the compressor for service or replacement. This option can reduce the amount of refrigerant that must be recovered during compressor service or replacement. The valves are located close to the compressors and work through a quarter turn from open to closed. Teflon seals and gaskets are used with a nylon cap gasket to prevent accidental loss.
C = *Sight Glass + Compressor Isolation Valves* - Options A + B

Table M6 - Moisture Content in the Refrigerant

Refrigerant / Indicator Color	75° F Liquid Line Temperature	
	R-22	R-410A
Green DRY	Below 30 ppm	Below 75 ppm
Chartreuse CAUTION	30 - 90 ppm	75-150 ppm
Yellow WET	Above 90 ppm	Above 150 ppm

Feature 10

Power Options

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0**0**00L-00-00B00000B

0 = *Standard Power Block*

A = *100 Amp Power Switch*

B = *150 Amp Power Switch*

C = *225 Amp Power Switch*

D = *400 Amp Power Switch*

E = *600 Amp Power Switch*

F = *60 Amp Power Switch*

Individual components within the controls compartment are fused. Switch options include molded case, non-fused, disconnect switch inside the unit controls compartment. The switch is accessible from the exterior of the unit and protected by a cast metal, lockable cover. The switch disconnects high voltage service to the unit. To add a switch, choose any switch and after all options have been selected and the fan program is completed AAONEcat32 will automatically calculate the minimum allowable ampacity and choose the correct size switch.

Feature 11

Safety Options

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D00**0**0L-00-00B00000B

0 = *Standard*
A = *Return and Supply Air Firestats* - Bimetallic snap-action safety switches sensing temperature only, mounted in both the supply and return airstreams. The supply air switch is rated to 200°F, the return air switch is rated to 125°F. Both switches manually reset and are wired to shut down the 24V control circuit. Firestats are non-addressable.
B = *Return Air Smoke Detector* - Photoelectric type smoke detector factory mounted in the return air section of the unit. Detector is wired to shut down the 24V control circuit upon detector activation, thereby shutting off the unit. Relay contacts are provided for interfacing the detector with alarm panels. A test magnet is supplied in the unit controls cabinet. Smoke detectors are non-addressable.
C = *Supply Air Smoke Detector* - Photoelectric type smoke detector factory mounted in the filter/economizer section with sensor mounted to the fan/heating compartment, sensing the supply air downstream of the fan. Detector is wired to shut down the 24V control circuit upon detector activation, thereby shutting off the unit. Relay contacts are provided for interfacing the detector with alarm panels. A test magnet is supplied in the unit controls cabinet. Smoke detectors are non-addressable.
D = *Return and Supply Air Smoke Detectors* - Options B + C
E = *Return and Supply Air Firestats + Return Air Smoke Detector* - Options A + B
F = *Return and Supply Air Firestats + Supply Air Smoke Detector* - Options A + C
G = *Return and Supply Air Firestats + Return and Supply Air Firestats* - Options A + D
H = *Remote Smoke Detector Terminals* - Low voltage terminals labeled BI1 and BI2 for wiring to a field installed smoke detector. When contacts are open the unit 24V control circuit is broken and the unit will not operate. Remove the factory supplied jumper before installing smoke detectors.

Feature 12

Controls

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D000**0**L-00-00B00000B

0 = *Standard*
A = *Low Limit Controls* - Temperature limit switch factory mounted in the unit supply air to shut off the unit when discharge temperature reaches setpoint. The switch is adjustable from -30°F to 100°F, and is manually reset by disconnecting power to the unit.
B = *Phase and Brown Out Protection* - Three phase power monitor that shuts down the unit if the supplied power phases are out of balance, over/under voltage, or in case of a phase loss. Option is used to protect motors and compressors from electrical phase loss or low voltage brownout. Reset is automatic.
C = *Energy Recovery Wheel Defrost* - Adjustable temperature sensor and timer wired to periodically stop the wheels rotation and allow warm exhaust air to defrost the wheel.
D = *Energy Recovery Wheel Rotation Detection* - Wheel rotation sensor and speed switch output module mounted in the energy recovery wheel section. The module contains a normally open and a normally closed set of contacts wired to the low voltage terminal block for field indication of wheel rotation.
E = *Compressor Power Factor Correction* - Power factor correction capacitors applied to the compressors only. Maximum correction factor is 0.9. Option is not available for variable capacity scroll compressors.
F = *Low Limit Controls + Phase and Brown Out Protection* - Options A + B
G = *Low Limit Controls + ERW Defrost* - Options A + C
H = *Low Limit Controls + ERW Rotation Detection* - Options A + D
J = *Low Limit Controls + PF Correction* - Options A + E
K = *Phase and Brown Out Protection + ERW Defrost* - Options B + C
L = *Phase and Brown Out Protection + ERW Rotation Detection* - Options B + D
M = *Phase and Brown Out Protection + PF Correction* - Options B + E
N = *ERW Defrost + ERW Rotation Detection* - Options C + D
P = *ERW Defrost + PF Correction* - Options C + E
Q = *ERW Rotation Detection + PF Correction* - Options D + E
R = *Low Limit Controls + Phase and Brown Out Protection + ERW Defrost* - Options A + B + C
S = *Low Limit Controls + Phase and Brown Out Protection + ERW Rotation Detection* - Options A + B + D
T = *Low Limit Controls + Phase and Brown Out Protection + PF Correction* - Options A + B + E
U = *Low Limit Controls + ERW Defrost + ERW Rotation Detection* - Options A + C + D
V = *Low Limit Controls + ERW Defrost + PF Correction* - Options A + C + E
W = *Low Limit Controls + ERW Rotation Detection + PF Correction* - Options A + D + E
Y = *Phase and Brown Out Protection + ERW Defrost + ERW Rotation Detection* - Options B + C + D

Feature 12 - Controls Continued

Z = *Phase and Brown Out Protection + ERW Defrost + PF Correction* - Options B + C + E
1 = *Phase and Brown Out Protection + ERW Rotation Detection + PF Correction* - Options B + D + E
2 = *ERW Defrost + ERW Rotation Detection + PF Correction* - Options C + D + E
3 = *Low Limit Controls + Phase and Brown Out Protection + ERW Defrost + ERW Rotation Detection* - Options A + B + C + D
4 = *Low Limit Controls + Phase and Brown Out Protection + ERW Defrost + PF Correction* - Options A + B + C + E
5 = *Low Limit Controls + Phase and Brown Out Protection + ERW Rotation Detection + PF Correction* - Options A + B + D+ E
6 = *Low Limit Controls + ERW Defrost + ERW Rotation Detection + PF Correction* - Options A + C + D + E
7 = *Phase and Brown Out Protection + ERW Defrost + ERW Rotation Detection + PF Correction* - Options B + C + D + E
8 = *Low Limit Controls + Phase and Brown Out Protection + ERW Defrost + ERW Rotation Detection + PF Correction* - Options A + B + C + D + E

Feature 13

Special Controls

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000**L**-00-00B00000B

0 = *Terminal Block* - Terminal strip for use with electromechanical thermostats. See Controls section for more information.
D = *Variable Air Volume (VAV) Unit Controller* - Return and outside air temperature sensors are factory mounted and wired. Supply air static pressure probe and space temperature sensor are supplied for field installation. Space temperature sensor is only provided with WattMaster VCM controller. Supply air duct temperature sensor is factory wired in the unit control cabinet for field installation. A building static pressure sensor is also supplied if power exhaust with a VFD is selected. See Controls section for more information.
E = *Constant Volume Unit Controller* - Outside air temperature sensor is factory mounted and wired. Supply duct temperature sensor is factory wired in the unit control cabinet for field installation. Space temperature sensor is supplied for field installation. A building static pressure sensor is also supplied if power exhaust with VFD is provided by the factory. See Controls section for more information.
F = *Make Up Air (MUA) Unit Controller* - Outside air temperature sensor is factory mounted and wired. Supply duct temperature sensor is factory wired in the unit control cabinet for field installation. See Controls section for more information.
H = *Field Installed DDC Controls by Others* - Provides a terminal strip to interface with controls by others. See Controls section for more information.

Feature 13 - Special Controls Continued

J = *Factory Installed DDC Controls Furnished by Others* - Requires a Special Pricing Authorization (SPA) issued by the Applications Department. AAON sales representative must provide a controls parts list, cut sheets, and wiring diagrams before the SPA will be issued. Once the order is entered a completed Special Parts Request Form is sent to the sales rep with control numbers assigned. The sales rep must then forward the form to the controls supplier who must then transfer these numbers to all parts and boxes that are sent to AAON. Proper routing of customer supplied parts to units in production will be delayed if this procedure is not followed. AAON will not deal directly with the controls provider. The AAON sales rep must be the information conduit. See the "Policy Manual for Sales Representatives" for more detailed information on the proper procedure.

K = *Factory Installed DDC Controls by Others with Isolation Relays* - Factory installed controls with factory installed isolation relays to prevent a voltage drop in the controls circuit. Requires a Special Pricing Authorization (SPA) issued by the Applications Department. AAON sales representative must provide a controls parts list, cut sheets, and wiring diagrams before the SPA will be issued. Once the order is entered a completed Special Parts Request Form is sent to the sales rep with control numbers assigned. The sales rep must then forward the form to the controls supplier who must then transfer these numbers to all parts and boxes that are sent to AAON. Proper routing of customer supplied parts to units in production will be delayed if this procedure is not followed. AAON will not deal directly with the controls provider. The AAON sales rep must be the information conduit. See the "Policy Manual for Sales Representatives" for more detailed information on the proper procedure.

L = *Terminal Block with Isolation Relays* - Standard terminal strip for use with electromechanical thermostats with factory installed isolation relays to prevent voltage drop in the controls circuit. This option is strongly recommended on applications where there is a question about the length of thermostat wiring. See Controls section for more information.

U = *D-PAC, Digital Precise Air Controller* - Factory installed constant volume DDC controller which allow the unit to provide energy efficient temperature and humidity control under extended loading conditions that are not at the design point. Option requires variable capacity compressor (Model Option A1), return air bypass (Model Option A2), modulating hot gas reheat (Feature 8), and DDC actuator (Feature 2). See Controls section for more information.

V = *PAC, Precise Air Controller* - Factory installed constant volume DDC controller which allow the unit to provide energy efficient temperature and humidity control under extended loading conditions that are not at the design point. Option does not include variable capacity compressor (Model Option A1). Option requires return air bypass (Model Option A2), modulating hot gas reheat (Feature 8), and DDC actuator (Feature 2). See Controls section for more information.

Feature 14A

Preheat Configuration

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-**0**0-00B00000B

0 = *Standard - None*
A = *Steam Distributing Preheat Coil - 1 Row* - One row steam distributing preheat coil. 9-25 and 30 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. 26 and 31-70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is available on 9-25 and 30 ton units without DX cooling. Option is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or controls are included with this option.
B = *Steam Distributing Preheat Coil - 2 Row* - Two row steam distributing preheat coil. 9-25 and 30 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. 26 and 31-70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is available on 9-25 and 30 ton units without DX cooling. Option is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or controls are included with this option.
C = *Hot Water Coil - 1 Row* - One row hot water preheat coil. 9-25 and 30 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. 26 and 31-70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is only available on 9-25 and 30 ton units without DX cooling. Option is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or controls are included with this option.
D = *Hot Water Coil - 2 Row* - Two row hot water preheat coil. 9-25 and 30 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. 26 and 31-70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is only available on 9-25 and 30 ton units without DX cooling. Option is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or controls are included with this option.

Feature 14B

Preheat Sizing

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-0**0**-00B00000B

0 = *Standard* - No preheat.
***A** = *Single Serpentine 8 FPI* - Steam or hot water coil with single serpentine circuitry and 8 fins per inch. Preheat is only available on 9-25 and 30 ton units without DX cooling. Preheat is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or valve controls are included with this option.
***B** = *Half Serpentine 8 FPI* - Hot water coil with half serpentine circuitry and 8 fins per inch. Preheat is only available on 9-25 and 30 ton units without DX cooling. Preheat is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or valve controls are included with this option.
***C** = *Single Serpentine 10 FPI* - Standard steam and hot water preheat coil option with single serpentine circuitry and 10 fins per inch. Preheat is only available on 9-25 and 30 ton units without DX cooling. Preheat is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or valve controls are included with this option.
***D** = *Half Serpentine 10 FPI* - Hot water coil with half serpentine circuitry and 10 fins per inch. Preheat is only available on 9-25 and 30 ton units without DX cooling. Preheat is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or valve controls are included with this option.
***E** = *Single Serpentine 12 FPI* - Steam or hot water coil with single serpentine circuitry and 12 fins per inch. Preheat is only available on 9-25 and 30 ton units without DX cooling. Preheat is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or valve controls are included with this option.
***F** = *Half Serpentine 12 FPI* - Hot water coil with half serpentine circuitry and 12 fins per inch. Preheat is only available on 9-25 and 30 ton units without DX cooling. Preheat is only available on 26 and 31-70 ton units with DX cooling and the power exhaust, power return, or empty energy recovery wheel options, or with chilled water cooling and the empty energy recovery wheel options. No valves or valve controls are included with this option.

Feature 15

Blank

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-**0**0B00000B

0 = *Standard*

Feature 16

Interior Cabinet Options

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-0**0**B00000B

0 = *Standard* - Unit construction consists of rigid double wall 2 inch thick closed cell polyurethane foam insulated composite panels with a minimum R-value of 13. A thermal break between the inside and outside of the cabinet is included. Drain pans are fabricated of 18 gauge 304 stainless steel, include 1 inch of fiberglass insulation under the drain pan, and are double sloped to meet ASHRAE 62.1, Indoor Air Quality guidelines.
B = *Marine Service Lights* - Marine type protected service lights included in the controls and compressor compartments. The circuit is wired to the line side of the unit power block, permitting use of the lights while the power to the unit is shut off.

Feature 17

Exterior Cabinet Options

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00**B**00000B

0 = *Standard* - Unit is fabricated of double wall high performance composite foam panels with G90 galvanized sheet metal on the exterior which is spray coated with a two-part polyurethane, heat baked exterior paint. The paint is capable of withstanding at least 2,500 hours, with no visible corrosive effects, when tested in a salt spray and fog atmosphere in accordance with the ASTM B 117-95 test procedure.
A = *Base Insulation* - 1/2 inch foam insulation is added to the bottom of the air tunnel base pan. Option is available on 9-25 and 30 ton units which only include a G90 galvanized sheet metal unit base pan as standard. 26 and 31-70 ton units include a 1 inch double wall high performance foam panel base pan as standard. Select this option if the unit is to be supported on rails or similar structure, or if the unit air tunnel base is exposed to the outside air and subject to sweating.
B = *Burglar Bars* - 1/2 inch diameter welded steel bars crosshatched 6-8 inches apart across the unit base pan supply and return air openings.
C = *Condenser Coil Guards* - Condenser coil guards fabricated from galvanized sheet metal, painted and factory mounted across the condenser coil face. Option is available on 9-25 and 30 ton units.
D = *Base Insulation + Burglar Bars* - Options A + B
E = *Base Insulation + Condenser Coil Guards* - Options A + C
F = *Burglar Bars + Condenser Coil Guards* - Options B + C
G = *Base Insulation + Burglar Bars + Condenser Coil Guards* - Options A + B + C

Figure M5 - Condenser Coil Guard Option

Feature 18

Customer Code

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B**0**0000B

0 = *Standard - None*

Used for national account customers.

Feature 19

Code Options

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B0**0**000B

0 = *Standard - ETL U.S.A. Listing* - All AAON equipment is ETL listed and tested in accordance with the latest revision of UL 1995. If a Special Pricing Authorization (SPA) is applied there may be additional costs incurred to secure the ETL label.
B = *Chicago - Cool and Gas* - Chicago code for a unit with cooling and gas heat. Chicago code states that unit wiring to the condenser fan motors must be in flexible conduit and refrigerant pressure relief valves must be supplied.
C = *Chicago - Cool and Electric* - Chicago code for a unit with cooling and electric heat.
D = *Chicago - Cool Only* - Chicago code for a cooling only unit.
E = *Chicago - Gas Only* - Chicago code for a gas heat only unit.
F = *Chicago - Electric Only* - Chicago code for an electric heat only unit.
G = *Chicago - No Cool and No Heat* - Chicago code for a unit with no cooling and no heat.
H = *ETL U.S.A. and Canada Listing* - Canadian and USA listings for export. The nameplate, safety labels and warnings will be in English and French.

Feature 20

Crating

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B00**0**00B

0 = *Standard*
A = *Export Crating* - Crating for units with condensers for overseas shipping. Crate fabricated from blocked, braced, and banded dimensional lumber and 3/8 inch plywood.
B = *Export Crating - No Condenser Section* - Crating for units without condensers for overseas shipping. Crate is fabricated from blocked, braced, and banded dimensional lumber and 3/8 inch plywood.

Feature 21

Water-Cooled Condenser

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B000**0**0B

0 = *Standard - None* - Unit without a water-cooled condenser or refrigerant to water heat exchanger.
A = *Balancing Valves* - Factory installed ball type valve in the condenser plumbing with pressure taps on either side of the valve for water balancing.
B = *Water Flow Switch* - Factory installed flow switch which shuts down the unit's compressors if the water flow to the condenser is interrupted.
C = *Motorized Shut-off Valve* - Factory installed two position motorized valve which shut off water flow to the condenser when the unit is off.
D = *Head Pressure Control* - Factory installed modulating head pressure control condenser water valve which allows operation below 65°F condenser water temperature.
E = *Balancing Valves + Water Flow Switch* - Options A + B
F = *Balancing Valves + Motorized Shut-off Valve* - Options A + C
G = *Balancing Valves + Head Pressure Control* - Options A + D
H = *Water Flow Switch + Motorized Shut-off Valve* - Options B + C
J = *Water Flow Switch + Head Pressure Control* - Options B + D
L = *Balancing Valves + Water Flow Switch + Motorized Shut-off Valve* - Options A + B + C
M = *Balancing Valves + Water Flow Switch + Head Pressure Control* - Options A + B + D

Feature 22

Control Vendors

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B0000**0**B

0 = *Standard - None* - No factory provided controls.
A = *WattMaster Orion Controls System* - AAON supplied and factory installed WattMaster VCM controller (Feature 13). Option requires the selection of an operator interface in AAONEcat32 to set up controller. See Controls section for more information.
B = *Tridium Niagara/JACE Controls System* - AAON supplied controller (Feature 13) manufacturer standard controller. See Controls section for more information.
C = *WattMaster Orion Controls System with Specials* - AAON supplied and factory installed WattMaster VCM controller (Feature 13) with additional features for controller. Use AAONEcat32 to select these features. Option requires the selection of an operator interface in AAONEcat32 to set up controller. See Controls section for more information.
D = *Tridium Niagara/JACE Controls System with Specials* - AAON supplied controller (Feature 13) manufacturer standard controller with additional features for controller. Use AAONEcat32 to select these features. See Controls section for more information.

Feature 23

Type

Example: RN-025-3-0-BB02-384:A000-D0B-DEH-0BA-0D0000L-00-00B00000**B**

B = *Standard* - Cabinet exterior is primer washed then spray coated with a two-part polyurethane, heat-baked exterior paint. The paint is gray in color and capable of withstanding at least 2,500 hours, with no visible corrosive effects, when tested in a salt spray and fog atmosphere in accordance with the ASTM B 117-95 test procedure.
U = *Special Price Authorization with Special Paint* - If a special paint color is specified, a set-up charge and price add per unit is required. Use this designation if other special paint options are necessary. The Applications Department must issue a Special Pricing Authorization (SPA) to include a non-standard option.
X = *Special Price Authorization with Standard Paint* - The Applications Department must issue a Special Pricing Authorization (SPA) to include a non-standard option.

General Data

Unit Information

Table G1 - B Cabinet (9-15 Tons) DX Cooling Information

	Model			
	009	011	013	015
Compressors				
Quantity/Nominal Tons				
R-410A	2/4	2/5	2/6	2/7
R-410A Lead Variable Capacity Scroll Compressor	1/4, 1/4 Var.	1/5, 1/5 Var.	1/5, 1/5 Var.	1/7, 1/7 Var.
R-410A All Variable Capacity Scroll Compressors	2/4 Var.	2/5 Var.	2/5 Var.	2/7 Var.
R-22	2/4	2/5	2/6	2/7
R-22 with Variable Capacity Scroll Compressor	1/4, 1/4 Var.	1/5, 1/5 Var.	1/6, 1/6 Var.	1/7, 1/6 Var.
Capacity Steps (%)	100/50 or 5-100% with variable capacity scroll compressors			
Evaporator Coil				
Number of Circuits	2, Interlaced			
R-22 Standard Coil and R-410 High Efficiency Coil				
Quantity/Face Area	1/14.6 ft^2			
Rows/FPI	2/14	3/14	4/14	
R-410A Standard Efficiency Coil				
Quantity/Face Area	1/14.6ft^2			
Rows/FPI	2/14		3/14	4/14
6 Row Coil				
Quantity/Face Area	1/14.6 ft^2			
Rows/FPI	6/12			
Return Air Bypass Coil				
Quantity/Face Area	1/11.8 ft^2			
Rows/FPI	6/12			
Mixed Air Bypass Coil				
Quantity/Face Area	1/11.8 ft^2			
Rows/FPI	6/12			
Water-Cooled Condenser				
Minimum GPM	12.25	16.00	19.25	23.00
Maximum GPM	53.00	67.00	80.00	95.00

Table G2 - B Cabinet (9-15 Tons) Heating and Hydronic Cooling Information

	Model			
	009	011	013	015
Electric Heat				
Capacity (kW)				
230/460/575V 3Φ	20, 30, 40, 50, 60, 80			
208V 3Φ	15.0, 22.5, 30.0, 37.5, 45.1, 60.1			
Capacity Steps (kW)	20 kW - 2 or Fully Modulating with SCR 30 kW - 2, 3, or Fully Modulating with SCR 40 kW - 2, 3, 4, or Fully Modulating with SCR 50 kW - 2, 3, 4, 5, or Fully Modulating with SCR 60 kW - 2, 3, 4, 5, 6, or Fully Modulating with SCR 80 kW - 2, 3, 4, 5, 6, 7, or Fully Modulating with SCR			
Gas Heat				
Input (MBtuh)	195, 292.5, 390			
Natural Gas Capacity Steps (MBtuh)	195.0 MBtuh - 195/136.5, 195/136.5/97.5/68.25, or 30-100% of rated capacity 292.5 MBtuh - 292.5/204.75, 292.5/204.75/146.25/102.375, or 30-100% of rated capacity 390 MBtuh - 390/273, 390/273/195/136.5, or 30-100% of rated capacity			
LP Gas Capacity Steps (MBtuh)	195.0 MBtuh - 195/136.5 292.5 MBtuh - 292.5/204.75 390 MBtuh - 390/273			
Hot Water Heating Coil				
Quantity/Face Area	1/5.83 ft^2			
Rows/FPI	1 or 2/8, 10, or 12 (Single or Half Serpentine)			
Standard Coil	1 Row Half Serpentine with 10 FPI or 2 Row Single Serpentine with 10 FPI			
Steam Heating Coil				
Quantity/Face Area	1/5.75 ft^2			
Rows/FPI	1 or 2/8, 10, or 12 (Single Serpentine)			
Standard Coil	Single Serpentine with 10 FPI			
Chilled Water Cooling Coil				
Quantity/Face Area	1/13.1 ft^2			
Rows/FPI	4 or 6/8, 10, or 12 (Single or Half Serpentine)			
Standard Coil	Single Serpentine with 10 FPI			

Table G3 - B Cabinet (9-15 Tons) Preheat and Fan Information

	Model			
	009	011	013	015
Hot Water Preheat Coil				
Quantity/Face Area	1/13.06 ft^2 (Mixed Air Preheat)			
Rows/FPI	1 or 2/8, 10, or 12 (Single of Half Serpentine)			
Standard Coil	2 Row Single Serpentine with 10 FPI			
Steam Preheat Coil				
Quantity/Face Area	1/13.06 ft^2 (Mixed Air Preheat)			
Rows/FPI	1 or 2/8, 10 or 12 (Single Serpentine)			
Standard Coil	Single Serpentine with 10 FPI			
Supply Fans				
Quantity/Type	1/Direct Drive Backward Curved Plenum			
Air-Cooled Condenser Fans				
Quantity	1		2	
Type/hp	30” Propeller Fan/0.75			
Power Exhaust Fans				
Quantity/Type	1/Belt Driven Forward Curved Fan			
hp	1, 2, 3			
Energy Recovery Wheel Exhaust Fans				
Quantity/Type	1/Belt Driven Backward Curved Plenum			
hp	1, 2, 3			

Table G1 - C Cabinet (16-25 and 30 Tons) DX Cooling Information

	Model				
	016	018	020	025	030
Compressors					
Quantity/Nominal Tons					
R-410A	2/7	2/8	2/9	2/11	2/13
R-410A Lead Variable Capacity Scroll Compressor	1/7, 1/7 Var.	1/7, 1/7 Var.	1/8, 1/10 Var.	1/11, 1/11 Var.	1/13, 1/13 Var.
R-410A All Variable Capacity Scroll Compressors	2/7 Var.	2/7 Var.	1/7 Var., 1/10 Var.	2/11 Var.	2/13 Var.
R-22	2/7	2/8	2/9	2/12	2/13
R-22 with Variable Capacity Scroll Comp	1/7, 1/7 Var.	1/8, 1/8 Var.	1/8, 1/10 Var.	1/12, 1/10 Var.	
Capacity Steps (%)	100/50 or 5-100% with variable capacity scroll compressors				
Evaporator Coil					
Number of Circuits	2, Interlaced				
Standard Coil					
Quantity/Face Area	1/19.9 ft^2				
Rows/FPI	3/14	4/14			
6 Row Coil					
Quantity/Face Area	1/19.9 ft^2				
Rows/FPI	6/12				
Return Air Bypass Coil					
Quantity/Face Area	1/16.0 ft^2				
Rows/FPI	6/12				
Mixed Air Bypass Coil					
Quantity/Face Area	1/16.0 ft^2				
Rows/FPI	6/12				
Water-Cooled Condenser					
Minimum GPM	21.60	24.30	27.00	33.75	40.50
Maximum GPM	86.40	97.20	108.00	135.00	162.00

Table G2 - C Cabinet (16-25 and 30 Tons) Heating and Hydronic Cooling Information

	Model				
	016	018	020	025	030
Electric Heat					
Capacity (kW)					
230/460/575V	20, 40, 60, 80, 100, 120				
208V	15, 30, 45.1, 60.1, 75.1, 90.1				
Stages	20 kW - 2 or Fully Modulating with SCR 40 kW - 2, 3, 4, or Fully Modulating with SCR 60 kW - 2, 3, 4, 5, 6, or Fully Modulating with SCR 80 kW - 2, 3, 4, 5, 6, 7, or Fully Modulating with SCR 100 kW & 120 kW - 2, 4, 6, 7, 8, or Fully Modulating with SCR				
Gas Heat					
Input (MBtuh)	270, 405, 540				
Natural Gas Capacity Steps (MBtuh)	270 MBtuh: 2 stage - 270/189, 4 stage - 270/189/135/94.5, or Modulating - 30-100% of rated capacity 405 MBtuh: 2 stage - 405/283.5, 4 stage - 405/283.5/189/94.5, or Modulating - 20-100% of rated capacity 540 MBtuh: 2 stage - 540/378, 4 stage - 540/378/270/189, or Modulating - 30-100% of rated capacity				
LP Gas Capacity Steps (MBH)	270 MBH: 2 stage - 270/189 405 MBH: 2 stage - 405/283.5 540 MBH: 2 stage - 540/378				
Hot Water Heating Coil					
Quantity/Face Area	1/7.27 ft^2				
Rows/FPI	1 or 2/8, 10, or 12 (Single or Half Serpentine)				
Standard Coil	1 Row Half Serpentine with 10 FPI or 2 Row Single Serpentine with 10 PFI				
Steam Heating Coil					
Quantity/Face Area	1/7.31 ft^2				
Rows/FPI	1 or 2/8, 10, or 12 (Single Serpentine)				
Standard Coil	Single Serpentine with 10 PFI				
Chilled Water Coil					
Quantity/Face Area	1/19.1 ft^2				
Rows/FPI	4 or 6/8, 10, or 12 (Single or Half Serpentine)				
Standard Coil	Single Serpentine with 10 FPI				

Table G3 - C Cabinet (16-25 and 30 Tons) Preheat and Fan Information

	Model				
	016	018	020	025	030
Hot Water Preheat Coil					
Quantity/Face Area	1/18.75 ft^2 (Mixed Air Preheat)				
Rows/FPI	1 or 2/8, 10 or 12 (Single or Half Serpentine)				
Standard Coil	2 Row Single Serpentine with 10 FPI				
Steam Preheat Coil					
Quantity/Face Area	1/19.13ft^2 (Mixed Air Preheat)				
Rows/FPI	1 or 2/8, 10 or 12 (Single Serpentine)				
Standard Coil	Single Serpentine with 10 PFI				
Supply Fans					
Quantity/Type	1/Direct Drive Backward Curved Plenum Fan				
Air-Cooled Condenser Fans					
Quantity	2			3	
Type/hp	30” Propeller Fan/0.75				
Power Exhaust Blowers					
Quantity/Type	1/Belt Driven Backward Curved Plenum Fan				
hp	1, 2, 3, 5, 7.5, 10				
Energy Recovery Wheel Exhaust Blowers					
Quantity/Type	1/Belt Driven Backward Curved Plenum Fan				
hp	1, 2, 3, 5, 7.5				
Power Return Fans					
Quantity/Type	1 or 2/Direct Drive Axial Flow Fan				
hp	1, 2, 3, 5, 7.5				

Table G4 - D Cabinet (26 and 31-70 Tons) DX Cooling Information

	Unit Size (Tons)					
	026	031	040	050	060	070
Compressors						
Quantity/Nominal Tons						
R-410A	4/6	4/7	4/9	4/11	4/13	4/15
R-410A Lead Variable Capacity Scroll Compressors	2/6, 2/5 Var.	2/7, 2/7 Var.	2/8, 2/10 Var.	2/11, 2/11 Var.	2/13, 2/13 Var.	2/15, 2/15 Var.
R-410A All Variable Capacity Scroll Compressors	4/5 Var.	7/7 Var.	2/7 Var., 2/10 Var.	4/11 Var.	4/13 Var.	4/15 Var.
R-22	4/6	4/7	4/9	4/12	4/13	4/16
R-22 with Variable Capacity Scroll Comp	2/6, 2/6 Var.	2/7, 2/7 Var.	2/8, 2/10 Var.			
Capacity Steps (%)	100/50, 100/75/50/25, or 5-100% with variable capacity scroll compressors					
Evaporator Coil						
Number of Circuits	4, Interlaced			2 (per coil), Interlaced		
Standard Coil						
Quantity/Face Area	1/31.9 ft^2			2/21.9 ft^2 (43.8 ft^2 total)		
Rows/FPI	3/14	4/14				6/12
6 Row Coil						
Quantity/Face Area	1/31.9 ft^2			2/21.9 ft^2 (43.8 ft^2 total)		
Rows/FPI	6/12					
Return Air Bypass Coil						
Quantity/Face Area	1/30.0 ft^2			2/18.75 ft^2 (37.5 ft^2 total)		
Rows/FPI	6/12					
Mixed Air Bypass Coil						
Quantity/Face Area	1/26.9 ft^2			2/17.2 ft^2 (34.4 ft^2 total)		
Rows/FPI	6/12					
Water-Cooled Condenser						
Minimum GPM	35.10	41.85	54.00	67.50	81.00	94.50
Maximum GPM	140.40	167.40	216.00	270.00	324.00	378.00

Table G5 - D Cabinet (26 and 31-70 Tons) Heating and Hydronic Cooling Information

	Unit Size (Tons)					
	026	031	040	050	060	070
Electric Heat						
Capacity (kW)						
230/460/575V	40, 80, 120, 160	40, 80, 120, 160, 200, 240				
208V	30, 60.1, 90.1, 120.2	30, 60.1, 90.1, 120.2, 150.5, 180.3				
Stages	40 kW - 2 or Fully Modulating with SCR 80 kW & 120kW - 2, 4 or Fully Modulating with SCR 160 kW, 200 kW & 240 kW - 2, 4, 8 or Fully Modulating with SCR					
Gas Heat						
Input (MBtuh)	540, 810, 1080					
Natural Gas Capacity Steps (MBtuh)	540 MBtuh: 2 stage - 540/378, 4 stage - 540/378/270/189, or Modulating - 30-100% of rated capacity 810 MBtuh: 2 stage - 810/567, 4 stage - 810/567/405/283.5, or Modulating - 20-100% of rated capacity 1080 MBtuh: 2 stage - 1080/756, 4 stage - 540/456/540/378, or Modulating - 15-100% of rated capacity					
LP Gas Capacity Steps (MBtuh)	540 MBtuh: 2 stage 810 MBtuh: 2 stage 1080 MBtuh: 2 stage					
Hot Water Heating Coil						
Quantity/Face Area	1/18.75 ft^2					
Rows/FPI	1 or 2/8, 10 or 12 (Single or Half Serpentine)					
Standard Coil	1 Row Half Serpentine with 10 FPI or 2 Row Single Serpentine with 10 PFI					
Steam Heating Coil						
Quantity/Face Area	1/18.75 ft^2					
Rows/FPI	1 or 2/8, 10 or 12 (Single Serpentine)					
Standard Coil	Single Serpentine with 10 PFI					
Chilled Water Coil						
Quantity/Face Area	1/31.9 ft^2					
Rows/FPI	4 or 6/8, 10, or 12 (Single or Half Serpentine)					
Standard Coil	Single Serpentine with 10 FPI					

Table G6 - D Cabinet (26 and 31-70 Tons) Preheat and Fan Information

	Unit Size (Tons)					
	026	031	040	050	060	070
Hot Water Preheat Coil						
Quantity/Face Area	1/10.83 ft^2 (Outside Air Preheat)					
Rows/FPI	1 or 2/8, 10 or 12 (Single or Half Serpentine)					
Standard Coil	2 Row Single Serpentine with 10 FPI					
Steam Preheat Coil						
Quantity/Face Area	1/10.83 ft^2 (Outside Air Preheat)					
Rows/FPI	1 or 2/8, 10 or 12 (Single Serpentine)					
Standard Coil	Single Serpentine with 10 PFI					
Supply Blowers						
Quantity/Type	1 or 2/Direct Drive Backward Curved Plenum Fan					
Air-Cooled Condenser Fans						
Quantity	4			6		
Type/hp	30” Propeller Fan/0.75					
Power Exhaust Blowers						
Quantity/Type	1 or 2/Direct Drive Axial Flow Fan					
hp	1, 2, 3, 5, 7.5, 10, 15, 20					
Energy Recovery Wheel Exhaust Blowers						
Quantity/Type	1 or 2/Belt Driven Backward Curved Plenum Fan					
hp	1, 2, 3, 5, 7.5, 10					
Power Return Fans						
Quantity/Type	1 or 2/Direct Drive Axial Flow Fan					
hp	1, 2, 3, 5, 7.5, 10, 15, 20					

Curb Information

Acoustical Solid Bottom Curbs

Acoustical solid bottom curbs are lined with 1" 1.5 lb/ft^3 sound attenuating, flexible, resilient, blanket-type insulation which does not support microbial growth. The fibers of the insulation are incombustible and non-hygroscopic. The curbs are available in 14" or 24" tall sizes. Supply and return air connection openings must be field cut into the bottom of the curb for the duct connection. 9-25 and 30 ton unit curbs are composed of 18 gauge galvanized steel and 26 and 31-70 ton curbs are composed of 16 gauge galvanized steel.

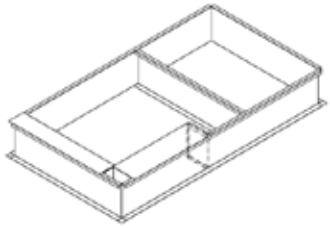


Figure C1 - Example Solid Bottom Curb

Adjustable Pitch Solid Bottom Curbs

Adjustable pitch acoustical solid bottom curbs are available only with 9-25 and 30 ton RN Series units, without water-cooled condensers. The curbs are available in 14" or 24" tall sizes. The supply and return air connection openings must be field cut into the bottom of the curb for the duct connection. The maximum pitch adjustment is 0.75 inch per foot in either direction. 9-25 and 30 ton unit curbs are composed of 18 gauge galvanized steel and 26 and 31-70 ton curbs are composed of 16 gauge galvanized steel.

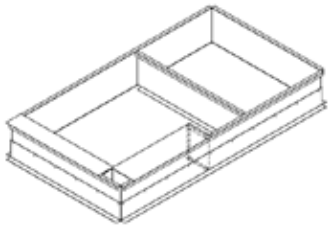


Figure C2 - Example Adjustable Pitch Solid Bottom Curb

Knock Down Curbs with Duct Support Rails

Knock down curbs are shipped disassembled for field construction. The curbs are available in 14" or 24" tall sizes. Duct support rail kits are purchased separately from knock down curbs. 9-25 and 30 ton unit curbs are composed of 18 gauge galvanized steel and 26 and 31-70 ton curbs are composed of 16 gauge galvanized steel.

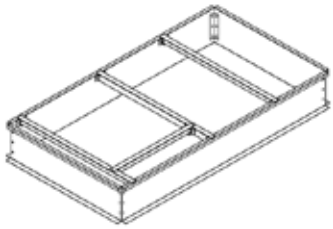


Figure C3 - Example Knock Down Curb (Shown with Duct Support Rail Kit)

Horizontal Discharge Acoustical Solid Bottom Curb Applications

RN series acoustical solid bottom curb can be used in applications requiring horizontal return and supply openings. Supply air horizontal connection opening and crossover opening are cut into the curb, while the return air horizontal opening is cut into the unit below the outside air opening in the return air section of the unit. Unit should be ordered without a return air opening. Contact the Applications Department for more information.

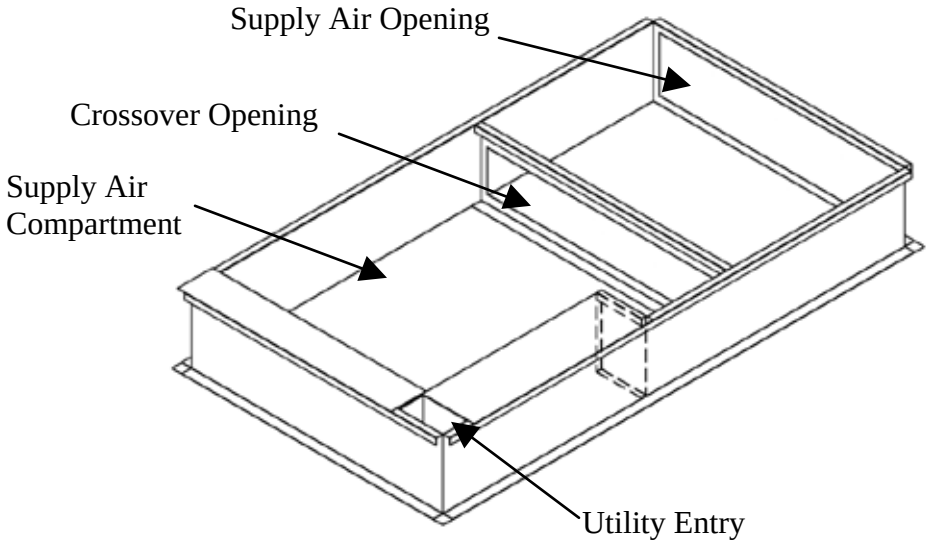


Figure C4 - Acoustical Solid Bottom Curb with Horizontal Discharge Openings

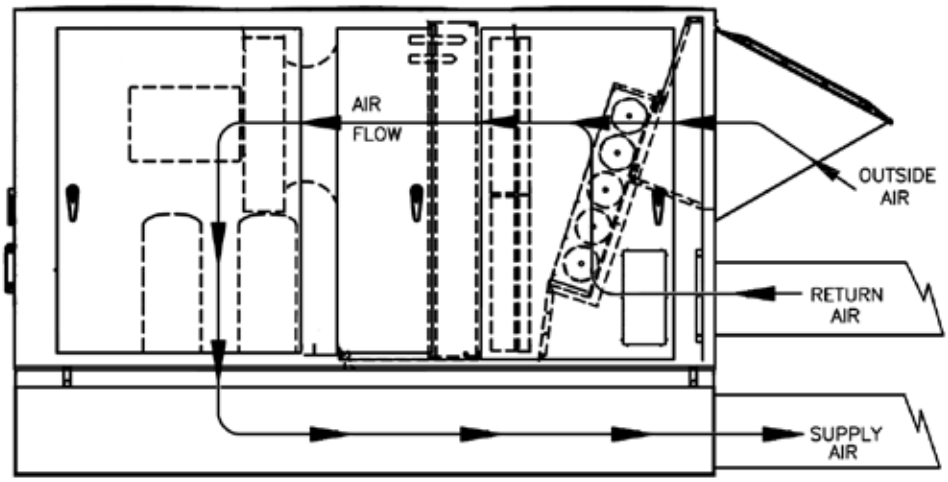


Figure C5 - Example Unit and Curb with Horizontal Return and Supply Openings

Filter Information

(RAB = Return Air Bypass, PE = Power Exhaust, PR = Power Return)

Table F1 - 9-15 Ton Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A	4 / 20” x 25” x 2”	Pleated, 30% Eff, MERV 7
B	3 / 20” x 25” x 1”	Metal Mesh, Outside Air
C	2 / 49” x 20” x 5/16” with RAB, Feature A2 = Q, R 3 / 47” x 12” x 5/16”	Lint Screen

Table F2 - 16-25 and 30 Ton Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A	6 / 20” x 25” x 2”	Pleated, 30% Eff, MERV 7
B	3 / 20” x 25” x 1”	Metal Mesh, Outside Air
C	2 / 55” x 25” x 5/16” with RAB, Feature A2 = Q, R 3 / 55” x 16” x 5/16”	Lint Screen

Table F3 - 26, 31 and 40 Ton Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A	8 / 24” x 24” x 2” with RAB, Feature A2 = Q, R 16 / 12” x 24” x 2”	Pleated, 30% Eff, MERV 7
B	6 / 16” x 25” x 1” with PE or PR, Feature 1A = B, C 4 / 16” x 25” x 2”	Metal Mesh, Outside Air
C	8 / 24” x 24” x 5/16”	Lint Screen

Table F4 - 50, 60 and 70 Ton Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A	24 / 12” x 24” x 2”	Pleated, 30% Eff, MERV 7
B	6 / 16” x 25” x 1” with PE or PR, Feature 1A = B, C 4 / 16” x 25” x 2”	Metal Mesh, Outside Air
C	12 / 47” x 12” x 5/16”	Lint Screen

Table F5 - 9 and 11 Ton Unit Filters

Feature 6B	Quantity / Size	Type
0	4 / 20” x 25” x 2” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 2”	Fiberglass Throwaway, 25% Eff, MERV 4
A	4 / 20” x 25” x 2” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 2”	Pleated, 30% Eff, MERV 7
B	4 / 20” x 25” x 4” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 4”	Pleated, 30% Eff, MERV 8
C	4 / 20” x 25” x 2” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 2”	Permanent Filter Frame - Replaceable Media
F	4 / 20” x 25” x 4”	Pleated, 65% Eff, MERV 11
G		Pleated, 85% Eff, MERV 13
H		Pleated, 95% Eff, MERV 14

Table F6 - 13 and 15 Ton Unit Filters

Feature 6B	Quantity / Size	Type
0	4 / 20” x 25” x 2” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 2”	Pleated, 30% Eff, MERV 7
B	4 / 20” x 25” x 4” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 4”	Pleated, 30% Eff, MERV 8
C	4 / 20” x 25” x 2” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 2”	Permanent Filter Frame - Replaceable Media
F	4 / 20” x 25” x 4”	Pleated, 65% Eff, MERV 11
G		Pleated, 85% Eff, MERV 13
H		Pleated, 95% Eff, MERV 14

Table F7 - 16-25 and 30 Ton Unit Filters

Feature 6B	Quantity / Size	Type
0	6 / 20” x 25” x 2” with RAB, Feature A2 = Q, R 9 / 16” x 20” x 2”	Pleated, 30% Eff, MERV 7
B	6 / 20” x 25” x 4” with RAB, Feature A2 = Q, R 9 / 16” x 20” x 4”	Pleated, 30% Eff, MERV 8
C	6 / 20” x 25” x 2” with RAB, Feature A2 = Q, R 9 / 16” x 20” x 2”	Permanent Filter Frame - Replaceable Media
F	6 / 20” x 25” x 4”	Pleated, 65% Eff, MERV 11
G		Pleated, 85% Eff, MERV 13
H		Pleated, 95% Eff, MERV 14

Table F8 - 26, 31 and 40 Ton Unit Filters

Feature 6B	Quantity / Size	Type
0	8 / 24” x 24” x 2” with RAB, Feature A2 = Q, R 16 / 12” x 24” x 2”	Pleated, 30% Eff, MERV 7
B	8 / 24” x 24” x 4” with RAB, Feature A2 = Q, R 16 / 12” x 24” x 4”	Pleated, 30% Eff, MERV 8
C	8 / 24” x 24” x 2” with RAB, Feature A2 = Q, R 16 / 12” x 24” x 2”	Permanent Filter Frame - Replaceable Media
F	8 / 24” x 24” x 4” with RAB, Feature A2 = Q, R 16 / 12” x 24” x 4”	Pleated, 65% Eff, MERV 11
G	8 / 24” x 24” x 4” with RAB, Feature A2 = Q, R 16 / 12” x 24” x 4”	Pleated, 85% Eff, MERV 13
H	8 / 24” x 24” x 4” with RAB, Feature A2 = Q, R 16 / 12” x 24” x 4”	Pleated, 95% Eff, MERV 14

Table F9 - 50, 60 and 70 Ton Unit Filters

Feature 6B	Quantity / Size	Type
0	24 / 12” x 24” x 2”	Pleated, 30% Eff, MERV 7
B	24 / 12” x 24” x 4”	Pleated, 30% Eff, MERV 8
C	24 / 12” x 24” x 2”	Permanent Filter Frame - Replaceable Media
F	24 / 12” x 24” x 4”	Pleated, 65% Eff, MERV 11
G		Pleated, 85% Eff, MERV 13
H		Pleated, 95% Eff, MERV 14

Table F10 - 9-15 Ton Energy Recovery Wheel Filters

Feature 1A	Quantity / Size	Type
F, G, H, J, Q, R, S, T	2 / 16” x 20” x 4”	Pleated, 30% Eff, MERV 8
	With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, F, G OA - 2 / 16” x 20” x 2” EA - 2 / 16” x 20” x 2”	Pleated, 30% Eff, MERV 7

Table F11 - 16-25 and 30 Ton Energy Recovery Wheel Filters

Feature 1A	Quantity / Size	Type
F, G, H, J, Q, R, S, T, U, V, W, Y, Z, 1, 2, 3	3 / 20” x 25” x 4”	Pleated, 30% Eff, MERV 8
	With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, F, G OA - 3 / 20” x 25” x 2” EA - 6 / 14” x 20” x 2”	Pleated, 30% Eff, MERV 7

Table F12 - 26 and 31-70 Ton Energy Recovery Wheel Filters

Feature 1A	Quantity / Size	Type
F, G, H, J, Q, R, S, T, U, V, W, Y, Z, 1, 2, 3	4 / 24” x 24” x 4”	Pleated, 30% Eff, MERV 8
4	3 / 24” x 24” x 4”	

Table F13 - 26 and 31-70 Ton Preheat Filters

Feature		Quantity / Size	Type
14A	14B		
A, B, C, D	A, B, C, D, E, F	6 / 16” x 25” x 1”	Metal Mesh, Outside Air
		with PE or PR, Feature 1A = B, C 4 / 16” x 25” x 1”	

Component Static Pressure Drops

At Minimum, Median, and Maximum CFM
Refer to AAONEcat32 for static pressure drops at specific unit conditions.

Table S1 - B Cabinet (9-15 tons) Evaporator Coil Static Pressure Drops
95°F Ambient, 80°F EDB, 67°F EWB

Model	CFM	High Efficiency Coil (in. w.g.)	6 Row Coil (in. w.g.)
RN-009	1,300	0.02	0.06
	4,400	0.12	0.25
	7,500	0.26	0.59
RN-011	1,500	0.05	0.07
	4,500	0.21	0.30
	7,500	0.41	0.69
RN-013	1,800	0.08	0.10
	4,650	0.30	0.36
	7,500	0.57	0.65
RN-015	2,300	0.13	0.15
	4,900	0.35	0.41
	7,500	0.63	0.72

Table S2 - B Cabinet (9-15 tons) Electric Heating Static Pressure Drops

Model	CFM	Electric Heat [kW] (in. w.g.)					
		20	30	40	50	60	80
RN-009	1,300	0.02	0.02	0.02	0.02	0.02	NA
	4,400	0.02	0.02	0.03	0.03	0.03	0.04
	7,500	0.10	0.11	0.13	0.15	0.17	0.19
RN-011	1,500	0.02	0.02	0.02	0.02	0.02	0.02
	4,500	0.02	0.02	0.03	0.03	0.04	0.04
	7,500	0.10	0.11	0.13	0.15	0.17	0.19
RN-013	1,800	0.02	0.02	0.02	0.02	0.02	0.02
	4,650	0.02	0.03	0.03	0.04	0.04	0.04
	7,500	0.10	0.11	0.13	0.15	0.17	0.19
RN-015	2,300	0.02	0.02	0.02	0.02	0.02	0.02
	4,900	0.03	0.03	0.04	0.04	0.05	0.05
	7,500	0.10	0.11	0.13	0.15	0.17	0.19

Table S3 - B Cabinet (9-15 tons) Economizer, Refrigerant Reheat Coil, and Gas Heating Static Pressure Drops

Model	CFM	Economizer (in. w.g.)	Reheat Coil (in. w.g.)	Gas Heat [MBtuh] (in. w.g.)		
				195	292.5	390
RN-009	1,300	0.13	0.00			
	4,400	0.13	0.04	0.06	0.09	0.12
	7,500	0.41	0.12	0.29	0.35	0.42
RN-011	1,500	0.14	0.00	0.00		
	4,500	0.14	0.04	0.07	0.09	0.12
	7,500	0.41	0.12	0.29	0.35	0.42
RN-013	1,800	0.16	0.01	0.00		
	4,650	0.16	0.05	0.08	0.10	0.13
	7,500	0.41	0.12	0.29	0.35	0.42
RN-015	2,300	0.18	0.01	0.00		
	4,900	0.18	0.05	0.09	0.12	0.15
	7,500	0.41	0.12	0.29	0.35	0.42

Table S4 - B Cabinet (9-15 tons) Filter Static Pressure Drops

Model	CFM	2” 30% Throw-away (in.w.g.)	2” 30% Pleated (in.w.g.)	4” 30% Pleated (in.w.g.)	4” 65% Pleated (in.w.g.)	4” 85% Pleated (in.w.g.)	4” 95% Pleated (in.w.g.)	2” Permanent (in. w.g.)
RN-009	1,300	0.06	0.00	0.01	0.05	0.05	0.09	0.01
	4,400	0.12	0.08	0.11	0.09	0.10	0.30	0.12
	7,500	0.30	0.23	0.31	0.50	0.51	0.67	0.28
RN-011	1,500	0.06	0.01	0.01	0.05	0.06	0.09	0.02
	4,500	0.12	0.09	0.12	0.23	0.24	0.34	0.12
	7,500	0.30	0.23	0.31	0.50	0.51	0.67	0.28
RN-013	1,800		0.06	0.02	0.02	0.03	0.07	0.03
	4,650		0.13	0.12	0.21	0.22	0.33	0.13
	7,500		0.23	0.31	0.50	0.51	0.67	0.28
RN-015	2,300		0.07	0.03	0.05	0.05	0.11	0.04
	4,900		0.14	0.14	0.23	0.23	0.34	0.14
	7,500		0.23	0.31	0.50	0.51	0.67	0.28

Table S5 - C Cabinet (16-25 and 30 tons) Evaporator Coil Static Pressure Drops
95°F Ambient, 80°F EDB, 67°F EWB

Model	CFM	Standard Coil (in. w.g.)	6 Row Coil (in. w.g.)
RN-016	2,400	0.06	0.09
	7,500	0.26	0.38
	12,600	0.53	0.77
RN-018	2,400	0.07	0.09
	7,500	0.34	0.39
	12,600	0.66	0.77
RN-020	2,800	0.10	0.11
	7,700	0.37	0.44
	12,600	0.72	0.83
RN-025	3,800	0.16	0.19
	8,200	0.46	0.54
	12,600	0.84	0.95
RN-030	4,400	0.20	0.24
	8,500	0.51	0.59
	12,600	0.88	1.01

Table S6 - C Cabinet (16-25 and 30 tons) Electric Heating Static Pressure Drops

Model	CFM	Electric Heat [kW] (in. w.g.)					
		20	40	60	80	100	120
RN-016	2,400	0.00	0.00	0.00	0.00	0.00	0.00
	7,500	0.12	0.17	0.21	0.21	0.23	0.28
	12,600	0.25	0.34	0.41	0.42	0.45	0.57
RN-018	2,400	0.00	0.00	0.00	0.00	0.00	0.00
	7,500	0.12	0.17	0.21	0.21	0.23	0.28
	12,600	0.25	0.34	0.41	0.42	0.45	0.57
RN-020	2,800	0.01	0.02	0.02	0.02	0.02	0.03
	7,700	0.13	0.18	0.22	0.22	0.24	0.30
	12,600	0.25	0.34	0.41	0.42	0.45	0.57
RN-025	3,800	0.04	0.05	0.06	0.06	0.07	0.08
	8,200	0.14	0.19	0.24	0.24	0.26	0.32
	12,600	0.25	0.34	0.41	0.42	0.45	0.57
RN-030	4,400	0.05	0.07	0.08	0.09	0.09	0.11
	8,500	0.15	0.20	0.23	0.26	0.27	0.34
	12,600	0.25	0.34	0.41	0.42	0.45	0.57

Table S7 - C Cabinet (16-25 and 30 tons) Economizer, Refrigerant Reheat Coil, and Gas Heating Static Pressure Drops

Model	CFM	Economizer (in. w.g.)	Reheat Coil (in. w.g.)	Gas Heat [MBtuh] (in. w.g.)		
				270	405	540
RN-016	2,400	0.15	0.01	0.04		
	7,500	0.15	0.07	0.27	0.27	0.29
	12,600	0.35	0.19	0.70	0.70	0.75
RN-018	2,400	0.16	0.01	0.04		
	7,500	0.16	0.07	0.27	0.27	0.29
	12,600	0.35	0.19	0.70	0.70	0.75
RN-020	2,800	0.17	0.01	0.05		
	7,700	0.17	0.07	0.29	0.29	0.30
	12,600	0.35	0.19	0.70	0.70	0.75
RN-025	3,800	0.23	0.02	0.09	0.09	
	8,200	0.23	0.08	0.32	0.32	0.34
	12,600	0.35	0.19	0.70	0.70	0.75
RN-030	4,400	0.28	0.02	0.11	0.11	0.11
	8,500	0.28	0.09	0.34	0.34	0.36
	12,600	0.35	0.19	0.70	0.70	0.75

Table S8 - C Cabinet (16-25 and 30 tons) Filter Static Pressure Drops

Model	CFM	2” 30% Pleated (in. w.g.)	4” 30% Pleated (in. w.g.)	4” 65% Pleated (in. w.g.)	4” 85% Pleated (in. w.g.)	4” 95% Pleated (in. w.g.)	2” Permanent (in. w.g.)
RN-016	2,400	0.06	0.01	0.01	0.01	0.05	0.02
	7,500	0.15	0.14	0.23	0.24	0.35	0.15
	12,600	0.38	0.38	0.50	0.51	0.68	0.33
RN-018	2,400	0.06	0.01	0.01	0.01	0.04	0.02
	7,500	0.15	0.14	0.23	0.24	0.35	0.15
	12,600	0.38	0.38	0.50	0.51	0.68	0.33
RN-020	2,800	0.06	0.02	0.09	0.09	0.14	0.03
	7,700	0.15	0.15	0.24	0.25	0.37	0.15
	12,600	0.38	0.38	0.50	0.51	0.68	0.33
RN-025	3,800	0.07	0.04	0.06	0.07	0.13	0.05
	8,200	0.17	0.17	0.27	0.27	0.40	0.17
	12,600	0.38	0.38	0.50	0.51	0.68	0.33
RN-030	4,400	0.08	0.05	0.09	0.09	0.16	0.06
	8,500	0.18	0.18	0.28	0.29	0.42	0.18
	12,600	0.38	0.38	0.50	0.51	0.68	0.33

Table S9 - D Cabinet (26 and 31-70 tons) Evaporator Coil Static Pressure Drops
95°F Ambient, 80°F EDB, 67°F EWB

Model	CFM	Standard Coil (in. w.g.)	6 Row Coil (in. w.g.)
RN-026	4,300	0.06	0.10
	12,500	0.28	0.40
	20,700	0.56	0.94
RN-030	4,500	0.09	0.11
	12,600	0.37	0.43
	20,700	0.71	0.81
RN-040	6,100	0.15	0.18
	13,400	0.45	0.53
	20,700	0.82	0.94
RN-050	8,000	0.14	0.14
	18,200	0.46	0.47
	28,400	0.89	0.87
RN-060	9,400	0.18	0.18
	18,900	0.50	0.51
	28,400	0.92	0.92
RN-070	9,900	0.21	
	19,150	0.56	
	28,400	0.99	

Table S10 - D Cabinet (26 and 31-70 tons) Electric Heating Static Pressure Drops

Model	CFM	Electric Heat [kW] (in. w.g.)					
		40	80	120	160	200	240
RN-026	4,300	0.01	0.01	0.01	0.01		
	12,500	0.10	0.10	0.10	0.07		
	20,700		0.26	0.26	0.19		
RN-030	4,500	0.01	0.01	0.01	0.01	0.01	0.01
	12,600		0.10	0.10	0.07	0.07	0.07
	20,700		0.26	0.26	0.19	0.19	0.19
RN-040	6,100	0.02	0.02	0.02	0.02	0.02	0.02
	13,400	0.11	0.11	0.11	0.08	0.08	0.08
	20,700		0.26	0.26	0.19	0.19	0.19
RN-050	8,000	0.04	0.04	0.04	0.03	0.03	0.03
	18,200	0.20	0.20	0.20	0.15	0.15	0.15
	28,400		0.40	0.40	0.36	0.36	0.36
RN-060	9,400	0.05	0.05	0.05	0.04	0.04	0.04
	18,900		0.22	0.22	0.16	0.16	0.16
	28,400		0.40	0.40	0.36	0.36	0.36
RN-070	9,900	0.06	0.06	0.06	0.04	0.04	0.04
	19,150		0.23	0.23	0.16	0.16	0.16
	28,400		0.40	0.40	0.36	0.36	0.36

Table S11 - D Cabinet (26 and 31-70 tons) Gas Heating and Refrigerant Reheat Coil Static Pressure Drops

Model	CFM	Reheat Coil (in. w.g.)	Gas Heat [MBtuh] (in. w.g.)		
			540	810	1080
RN-026	4,300	0.01	0.04	0.05	
	12,500	0.07	0.06	0.13	0.16
	20,700	0.20	0.23	0.37	0.44
RN-030	4,500	0.01	0.04	0.06	
	12,600	0.07	0.06	0.14	0.16
	20,700	0.20	0.23	0.37	0.44
RN-040	6,100	0.02	0.05	0.06	
	13,400	0.08	0.08	0.15	0.19
	20,700	0.20	0.23	0.37	0.44
RN-050	8,000	0.02	0.06	0.07	0.03
	18,200	0.08	0.17	0.28	0.35
	28,400	0.20	0.45	0.74	0.77
RN-060	9,400	0.02	0.07	0.08	0.07
	18,900	0.09	0.18	0.31	0.37
	28,400	0.20	0.45	0.74	0.77
RN-070	9,900	0.02	0.07	0.09	0.08
	19,150	0.09	0.19	0.31	0.38
	28,400	0.20	0.45	0.75	0.77

Table S12 - D Cabinet (26 and 31-70 tons) Filter Static Pressure Drops

Model	CFM	2” 30% Pleated (in. w.g.)	4” 30% Pleated (in. w.g.)	4” 65% Pleated (in. w.g.)	4” 85% Pleated (in. w.g.)	4” 95% Pleated (in. w.g.)	2” Permanent (in. w.g.)
RN-026	4,300	0.09	0.05	0.07	0.08	0.12	0.03
	12,500	0.19	0.15	0.31	0.31	0.43	0.17
	20,700	0.48	0.42	0.66	0.67	0.85	0.37
RN-030	4,500	0.09	0.05	0.08	0.08	0.13	0.03
	12,600	0.20	0.15	0.31	0.32	0.44	0.17
	20,700	0.48	0.42	0.66	0.67	0.85	0.37
RN-040	6,100	0.12	0.06	0.11	0.12	0.18	0.05
	13,400	0.22	0.17	0.34	0.35	0.48	0.19
	20,700	0.48	0.42	0.66	0.67	0.85	0.37
RN-050	8,000	0.11	0.05	0.12	0.12	0.18	0.04
	18,200	0.19	0.14	0.29	0.30	0.42	0.16
	28,400	0.40	0.35	0.58	0.58	0.75	0.32
RN-060	9,400	0.12	0.06	0.12	0.12	0.19	0.05
	18,900	0.20	0.15	0.31	0.32	0.44	0.17
	28,400	0.40	0.35	0.58	0.58	0.75	0.32
RN-070	9,900	0.12	0.06	0.13	0.13	0.20	0.06
	19,150	0.20	0.16	0.32	0.32	0.45	0.17
	28,400	0.40	0.35	0.58	0.58	0.75	0.32

AAONAIRE® Factory Installed Energy Recovery Wheel Application Capacities

AAON provides RN rooftop units with optional energy recovery wheels that are certified under ARI Standard 1060 for Energy Recovery Ventilation Equipment and ARI Standards 210 and 360. In the examples below, the outside air quantity passing through the wheel is 50% of the supply air quantity as specified. In heating mode, the outside air is assumed to be 20°F DB and 14°F WB and the return air from the conditioned space is assumed at 70°F DB and 56°F WB. In cooling mode, the outside air is assumed to be 95°F DB and 78°F WB and the return air from the conditioned space is assumed at 75°F DB and 62°F WB. The altitude is assumed to be 0 ft and the return air and outside air sections of the energy wheel section of the unit are assumed to have pressures of -0.1 in. w.g. The combined performance of the energy recovery wheel and the rooftop unit are calculated in accordance with ARI Guideline V.

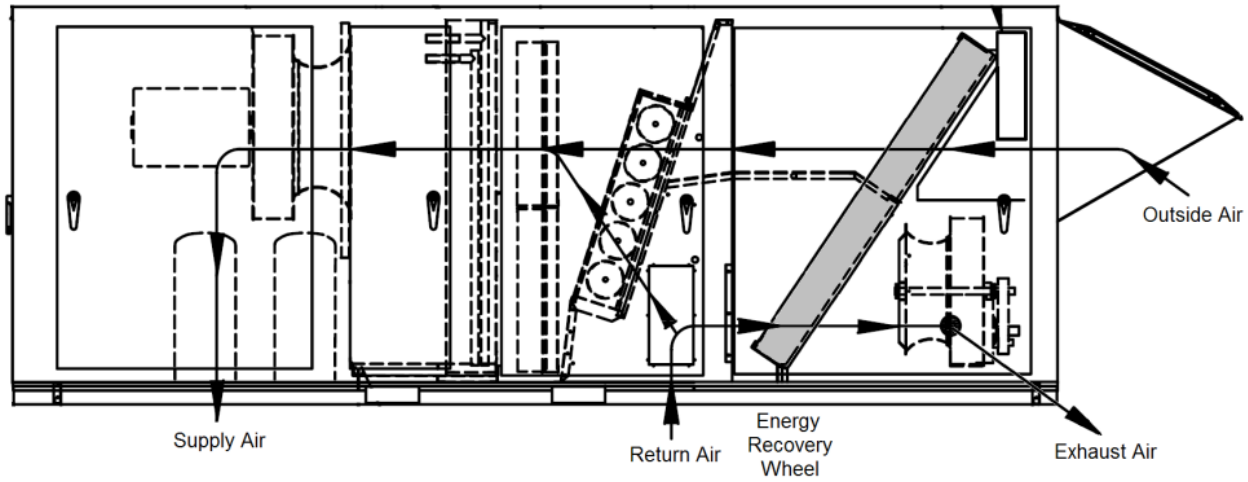


Figure A1 - Example RN Series AAONAIRE Unit Airflow

Table A1 - RN Series AAONAIRE Unit Capacities

Model	Quantity /Diameter (in.) /Width (in.)	Supply CFM	System EER without Wheel	Energy Recovery Wheel and Unit				
				Heating		Cooling		
				Free Sensible Heat MBH	Moisture Recovery lbs. of water/hr.	Tons	System EER	Tons % Increase Due to Wheel
B Cabinet, Low CFM, Single Wheel								
RN-009	1/37/1.5	2,800	13.3	52.50	26.85	11.55	20.11	27.00
RN-011	1/37/1.5	3,400	12.8	61.00	30.98	14.63	18.63	25.93
RN-013	1/37/1.5	3,600	12.7	63.59	32.23	17.73	17.54	23.66
RN-015	1/37/1.5	3,600	11.8	63.59	32.23	19.60	15.84	21.88
C Cabinet, High CFM, Single Wheel								
RN-016	1/52/3.0	4,400	12.6	89.26	47.92	21.69	18.72	25.93
RN-018	1/52/3.0	5,700	12.7	111.32	59.10	25.24	19.18	27.01
RN-020	1/52/3.0	6,000	12.6	116.12	61.48	27.87	18.61	26.47
RN-025	1/52/3.0	7,000	11.8	131.42	68.99	33.72	16.89	24.81
RN-030	1/52/3.0	8,000	11.1	145.56	75.71	37.46	15.81	24.81
D Cabinet, High CFM, Two Wheels								
RN-026	2/52/3.0	10,000	12.1	199.33	106.37	39.68	19.62	29.08
RN-031	2/52/3.0	11,000	11.5	215.94	114.89	48.16	18.76	29.08
RN-040	2/52/3.0	13,000	10.4	247.67	130.64	51.65	16.43	28.06
RN-050	2/52/3.0	16,000	11.1	291.11	151.43	69.06	16.46	26.48
RN-060	2/52/3.0	23,000	10.0	371.52	186.36	76.31	15.29	28.06
RN-070	2/52/3.0	25,000	9.6	389.34	193.00	89.85	13.98	26.47

Controls
Control Options

Terminal Block

Low voltage terminal block for field wiring unit controls

Required Features
Feature 13 - Standard, or
Feature 13 - Field Installed DDC Controls by Others, or
Feature 13 - Terminal Block with Isolation Relays

Standard Terminals Labels
[R] - 24VAC control voltage
[E] - Common
[G] - Fan enable
[Y1], [Y2], [Y3], [Y4] - Cooling stages' control signals
[W1], [W2], … , [W8] - Heating stages' control signals
[A1], [A2] - Economizer override contacts, factory wired together, used to control occupied/unoccupied operation.
[EC1], [EC2] - Economizer DDC actuator control signal, 4-20mA. Remove resistor for 0-10VDC operation.
[ST1], [ST2] - Remote start/stop contacts, must be closed for unit to operate.
[RH1] - Humidistat control signal, used with reheat coil.
[BI1], [BI2] - Field installed smoke detector contacts, must be closed for unit to operate.
[NO], [C], [NC] - Set of normally open and normally closed low voltage heat wheel rotation detection contacts.
[C1], [C2] - Clogged filter switch contacts, normally open.
[C6], [C7] - Supply air temperature sensor control signal, 0-10VDC.
[+], [-] - Modulating gas reset control signal, 0-10VDC
[1], [2] - SCR supply air temperature control signal, 0-10VDC
[PH1], [PH2] - Preheat actuator control signal.
[PH3], [PH4] - Preheat bypass actuator control signal.
[B1], [B2], [B3], [B4] - Exhaust fan VFD control contacts, 0-10VDC.
[S1], [S2], … , [S6] - Supply fan VFD control contacts, 0-10VDC or 4-20mA.

Figure T1 - Example Low Voltage Terminal Block

VAV (Variable Air Volume) Unit Controller

Operation

AAON VAV units provide constant temperature supply air while varying the amount of air supplied. Factory mounted and tested supply blower VFDs are used to vary the speed of the supply fans, thus varying the amount of supply air. Because of the reduced speed, VAV units are more efficient at part load conditions. VAV units can be used to serve multiple spaces with diverse or changing heating and cooling requirements, with only a single unit being required for multiple zones. AAON VAV units can also be applied to a single zone. Space temperature sensor included with WattMaster controller is used only for supply air temperature setpoint reset and unoccupied override.

See Control Venders section for WattMaster and Tridium Niagara/JACE specifics.

Required Features

Feature 1A - Motorized Outside Air Damper or Economizer
Feature 8 - Hot Gas Bypass Lead Stage (Units without modulating scroll compressor options)
Feature 13 - VAV Unit Controller

Standard Supplied Sensors

Outside Air Temperature
Supply Air Temperature
Supply Air Static Pressure
Return Air Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override (WattMaster)

Recommended Features

Model Option A1 - Variable Capacity Scroll Compressor
Model Option B3 - Modulating Gas/SCR Electric
Feature 1 - Economizer
Feature 1 - AAONAIRE® Energy Recovery Wheel
Feature 2 - Fully Modulating Actuator
Feature 2 - Constant Volume Outside Air - Maintains a minimum volume of outside air for ventilation.
Feature 5 - Supply Fan(s) with VFD(s)
Feature 8 - Hot Gas Bypass Lag Stage - Units without variable capacity scroll compressor options.
Feature 8 - Modulating Hot Gas Reheat

CV (Constant Volume) Unit Controller

Operation

AAON® CV units provide a constant amount of tempered air to the system to maintain a temperature setpoint. CV units work best when serving spaces with uniform heating and cooling requirements. Thus, multiple units may be required for multiple zones allowing for redundancy. Space or supply air temperature sensor can be used as the controlling sensor. If supply air temperature is not used as the controlling sensor it is used as a temperature lockout. If supply air temperature sensor is used as the controlling sensor, space temperature sensor is used for supply air temperature setpoint reset and unoccupied override.

See Control Venders section for WattMaster and Tridium Niagara/JACE specifics.

Required Features

Feature 1A - Motorized Outside Air Damper or Economizer
Feature 13 - Constant Volume Unit Controller

Standard Supplied Sensors

Outside Air Temperature
Supply Air Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override

Recommended Features

Model Option A1 - Variable Capacity Scroll Compressor
Model Option A3 - Return Air Bypass
Model Option B3 - Modulating Gas/SCR Electric
Feature 1 - Economizer
Feature 1 - AAONAIRE® Energy Recovery Wheel
Feature 2 - Fully Modulating Actuator
Feature 3 - Discharge Air Override - Only with gas heat.
Feature 8 - Modulating Hot Gas Reheat

MUA (Make Up Air) Unit Controller

Operation

AAON® MUA units are designed to provide 100% outside air to the system for ventilation purposes. MUA units improve indoor air quality (IAQ) and add positive pressure to the space.

See Control Venders section for WattMaster and Tridium Niagara/JACE specifics.

Required Features

Model Option B - Stainless Steel Heat Exchanger (Only with Gas Heat)
Feature 1A - Motorized or Non-Motorized 100% Outside Air
Feature 2 - Two Position Actuator (Only with Motorized 100% Outside Air)
Feature 8 - Hot Gas Bypass Lead Stage - Units without variable capacity scroll compressor options.
Feature 13 - Make Up Air Unit Controller

Standard Supplied Sensors

Outside Air Temperature
Supply Air Temperature

Recommended Features

Model Option A1 - Variable Capacity Scroll Compressor
Model Option B3 - Modulating Gas/SCR Electric
Feature 1 - AAONAIRE® Energy Recovery Wheel
Feature 8 - Hot Gas Bypass Lag Stage - Units without variable capacity scroll compressor options.
Feature 8 - Modulating Hot Gas Reheat

D-PAC (Digital Precise Air Control) Unit Controller

Operation

AAON® D-PAC units are constant volume units with a variable capacity scroll compressor and space temperature and humidity control. The patented D-PAC system provides tight temperature control and superior moisture removal capabilities under all space and outside conditions, while still being energy efficient.

See Control Venders section for WattMaster and Tridium Niagara/JACE specifics.

Required Features

Model Option A1 - Variable Capacity Scroll Compressor
Model Option A2 - Return Air Bypass
Feature 2 - DDC Actuator
Feature 8 - Modulating Hot Gas Reheat
Feature 13 - D-PAC Digital Precise Air Controller

Standard Supplied Sensors

Outside Air Temperature
Supply Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override
Space Humidity
Suction Pressure Transducer

Recommended Features

Model Option B3 - Modulating Gas/SCR Electric
Feature 1 - AAONAIRE® Energy Recovery Wheel

PAC (Precise Air Control) Unit Controller

Operation

AAON® PAC units are constant volume units with space temperature and humidity control. The PAC system provides temperature control and superior moisture removal capabilities under all space and outside conditions while still being energy efficient. The PAC units are the same as the D-PAC without the variable capacity scroll compressor.

See Control Venders section for WattMaster and Tridium Niagara/JACE specifics.

Required Features

Model Option A2 - Return Air Bypass
Feature 3 - DDC Actuator
Feature 8 - Modulating Hot Gas Reheat
Feature 13 - PAC Precise Air Controller - No variable capacity scroll compressor.

Standard Supplied Sensors

Outside Air Temperature
Supply Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override
Space Humidity
Suction Pressure Transducer

Recommended Features

Model Option B3 - Modulating Gas/SCR Electric
Feature 1 - AAONAIRE® Energy Recovery Wheel

Control Vendors

WattMaster - Orion™ Controls System

Figure T2 - WattMaster VCM Controller

The WattMaster VCM unit controller, which is part of the Orion Controls System, can be factory provided and factory installed in AAON RN Series units. It provides advanced control features, without complexity, in an easy to install and setup package. The VCM controller can be individually configured, including setpoint adjustment, sensor status viewing, and occupancy scheduling. It can control VAV, CV, MUA, PAC, and D-PAC units. Additional features and options can be managed by the controller with the addition of modular expansion I/O boards for the controller.

The VCM controller can be operated as a Stand Alone System, connected via modular cable to multiple VCM controllers in an Interconnected System, or connected via modular cable to multiple VCM controllers, VAV/Zone controllers, and Add-On controllers in a Networked System.

Protocol Adaptability™ is available from WattMaster for interfacing to LonWorks®, BACnet® or Johnson Controls N2 controls systems with the addition of specific gateways.

Required Options

To configure the VCM controller an operator interface is needed. Available operator interfaces are the Modular Service Tool, Modular System Manager, Tactio SI Touch Screen Interface connected via a Commlink II and a PC equipped with free Microsoft Windows® based Orion Prism II software connected via a Commlink II. With optional accessories, remote connectivity to the controller via Prism II software can be accomplished.

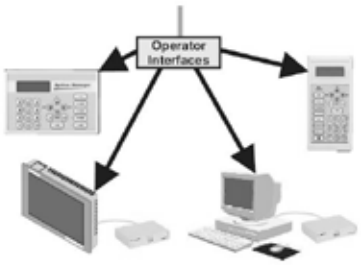


Figure T3 - VCM Controller Operator Interfaces

Tridium Niagara/JACE® Controls System

Figure T4 - Tridium Niagara/JACE Controller.

The Tridium Niagara/JACE controller, powered by Niagara^{AX} Framework™, is an Internet-based stand alone controller developed for network applications which can be factory provided and factory installed in AAON RN Series units. It can be configured to control VAV, CV, MUA, PAC and D-PAC units, as well as other custom controls solutions. The controller is IP addressable, can reside on a TCP/IP network and can have all unit and system functions controlled with an Internet browser in real-time; including setpoint adjustment, scheduling, alarming, trending, logging, and diagnostics.

Interoperability
The Tridium Niagara/JACE controller can be directly integrated into LonWorks®, BACnet®, Modbus® and other widely-used building automation systems. Connections included on controller include two RJ-45 Ethernet ports, one RS-232 port and one RS-485 port. No external devices are needed for integration.

Scalability
The Tridium Niagara/JACE controller is scalable with up to one 34 I/O point and two 16 I/O point expansion modules available to manage additional features and options. Individual sensor options and unit control options are also scalable with extra sensors available to be added to any controls package.

Security
The Tridium Niagara/JACE controller uses XML security functions that cover platform, administration and user access. Thus, operational control of the unit controller will be allowed only to those who need it.

Contact the Applications Department for more information.

Required Options
In order to configure the Tridium Niagara/JACE controller, a PC connected directly to the controller or connected to the TCP/IP network that the controller resides on is needed. From the PC, direct Internet browser control is then available.

Electrical Service Sizing Data

Use the following equations to size the electrical service wiring and disconnect switch for the unit. Electrical data for a specific unit configuration can be found with the AAONEcat32™ software. For further assistance in determining the electrical ratings, contact the Applications Department, or consult U.L. 1995.

The Minimum Circuit Ampacity (MCA) and Maximum Overcurrent Protection (MOP) must be calculated for all modes of operation which include the cooling mode of operation, the heating mode of operation, and if the unit is a heat pump the emergency heating mode of operation and auxiliary heating mode of operation. The emergency or backup heating mode of operation is when the secondary heater is in operation and heat pump or compressor heating is not in operation. The auxiliary or supplemental heating mode of operation is when heat pump or compressor heating is in operation and the secondary heater is also in operation.

To calculate the MCA and MOP, the number of motors and other current drawing devices in operation must be known for each mode of operation. The largest MCA and MOP values calculated from all the modes operation are the correct values and are also on the unit nameplate.

For example, during the cooling mode of operation of an air-cooled DX unit or an air-source heat pump the supply fans, compressors, and condenser fans are all in operation. During the heating mode of operation of an air-cooled DX unit or the emergency heating mode of operation of an air-source heat pump only the supply fans and heater are in operation. During the auxiliary heating mode of operation of an air-source heat pump the supply fans, compressors, condenser fans, and secondary heater are all in operation.

Once it is determined what current drawing devices are operating during each mode of operation use the equations shown below to calculate the MCA and MOP.

Use Rated Load Amps (RLA) for compressors and Full Load Amps (FLA) for all other motors and electric heaters. Exhaust fan motor current should be added only be added to the calculations if the unit is 7 tons and smaller, includes a two position actuator (Feature 2 = U), has no compressors, or includes an energy recovery wheel.

Load 1 = Current of the largest motor/compressor in operation
Load 2 = Sum of the currents of the remaining motors/compressors in operation
Load 3 = Current of electric heaters in operation
Load 4 = Any remaining loads greater than or equal to 1 amp

Electric Heat FLA Calculation

Single Phase

$$FLA = \frac{(Heating\ Element\ kW)\ x 1000}{Rated\ Voltage}$$

Three Phase

$$FLA = \frac{(Heating\ Element\ kW)\ x 1000}{(Rated\ Voltage)\ x \sqrt{3}}$$

Electrical Service Sizing Data Continued

Cooling Mode Equations

MCA = 1.25(Load 1) + Load 2 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 4

Heating Mode or Emergency/Backup Heating Mode without Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 4

Heating Mode or Emergency/Backup Heating Mode with Less than 50 kW of Electric Heat Equations

MCA = 1.25(Load 1 + Load 2 + Load 3 + Load 4)
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Heating Mode or Emergency/Backup Heating Mode with Greater than or Equal to 50 kW of Electric Heat Equations

MCA = 1.25(Load 1 + Load 2) + Load 3 + 1.25(Load 4)
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Auxiliary/Supplemental Heating Mode without Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 4

Auxiliary/Supplemental Heating Mode with Less than 50 kW of Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + 1.25(Load 3) + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Auxiliary/Supplemental Heating Mode with Greater than or Equal to 50 kW of Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + Load 3 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Electrical Service Sizing Data Continued

Fuse Selection

Select a fuse rating equal to the MOP value. If the MOP does not equal a standard fuse rating select the next lower standard fuse rating. If the MOP is less than the MCA then select the fuse rating equal to or greater than the MCA.

The standard ampere ratings for fuses, from the *NEC Handbook, 240-6*, 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.

Disconnect (Power) Switch Size

DSS $\geq$ MOP

Select the standard switch size equal to the calculated MOP value. If this value is not a standard size, select the next larger size.

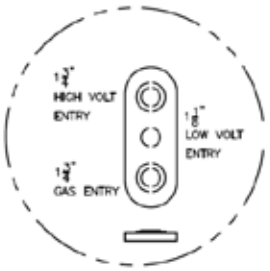
Unit Drawings

C Cabinet (16-25 and 30 Tons)

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit

CLEARANCES

LOCATION	* UNIT SIZE * 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



DETAIL A

DETAIL B

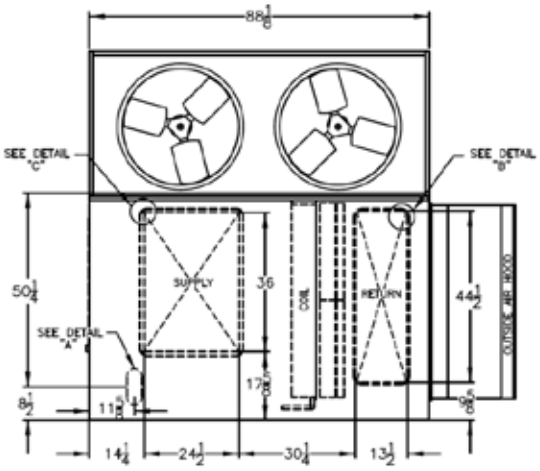
NUMBER OF CONDENSER FANS

9 & 11 TON - 1 FAN

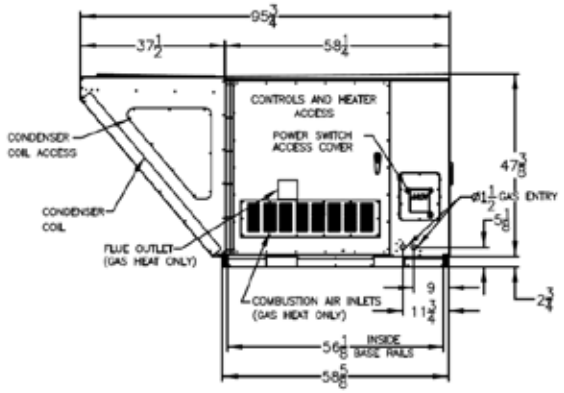
13 & 15 TON - 2 FANS

DETAIL C

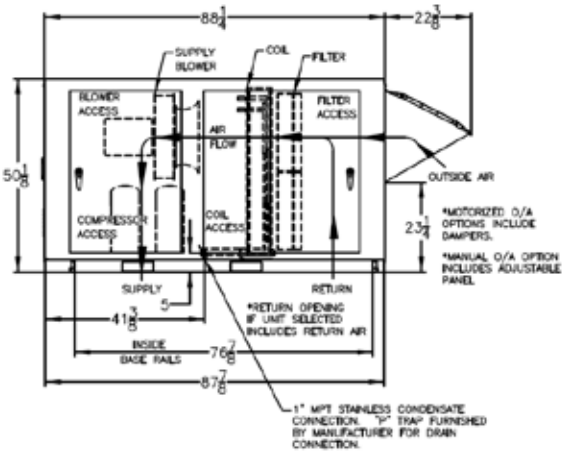
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW



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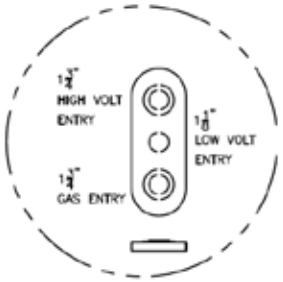
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Economizer Option

CLEARANCES

LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



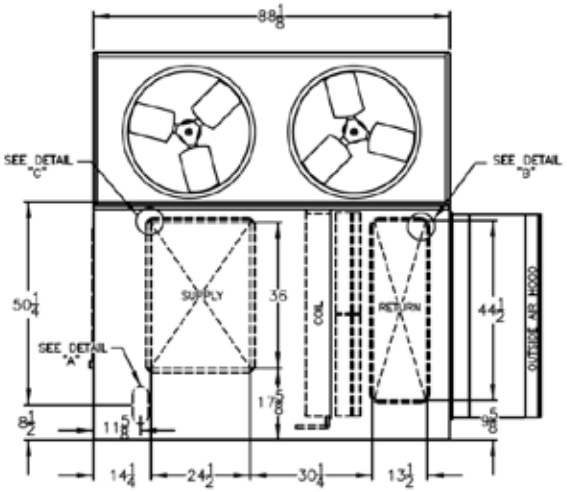
DETAIL A

DETAIL B

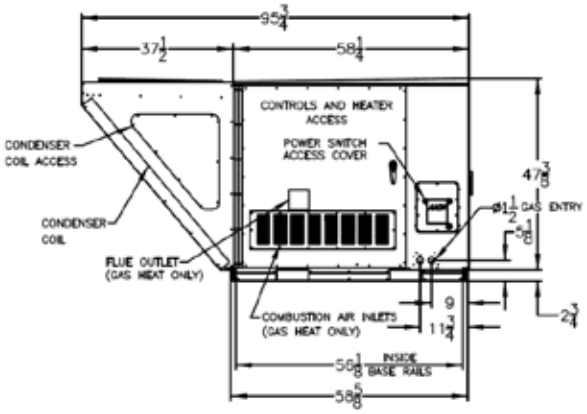
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C

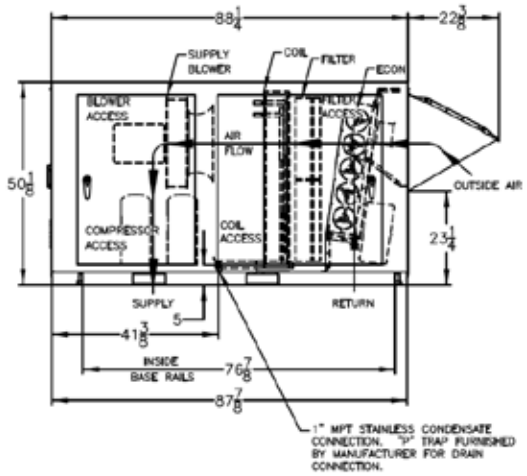
TOP VIEW



FRONT VIEW



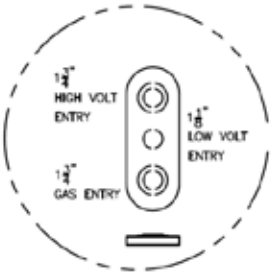
RIGHT SIDE VIEW



RNB-00002 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Power Exhaust Option

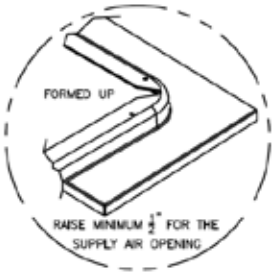
CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



DETAIL A

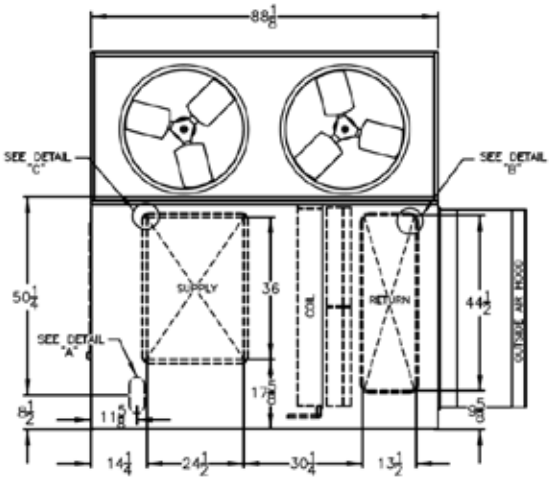
DETAIL B

NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

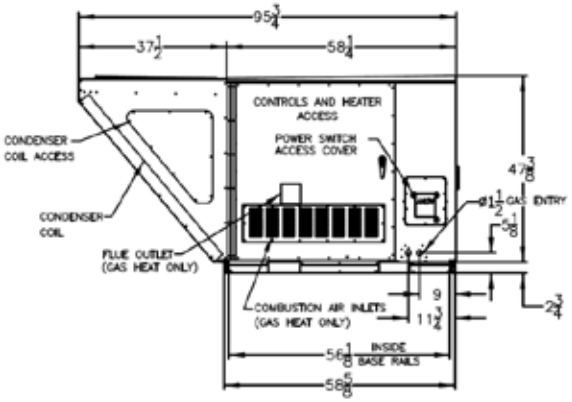


DETAIL C

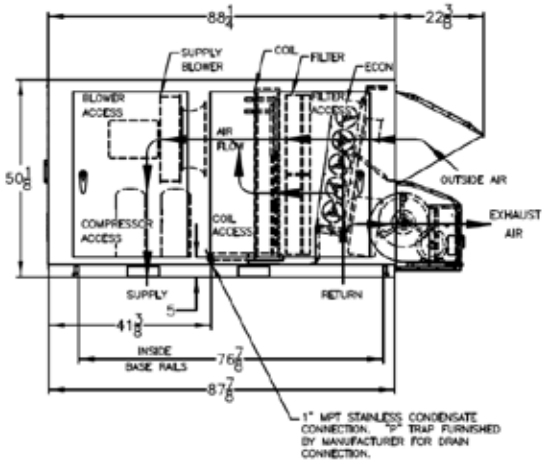
TOP VIEW



FRONT VIEW



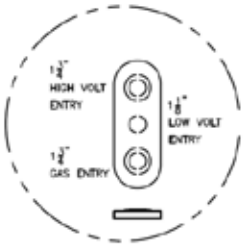
RIGHT SIDE VIEW



RNB-00003 NEW 12/31/08 SJS
NOTE ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Energy Recovery Wheel Option

CLEARANCES	
LOCATION	* UNIT SIZE * 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED

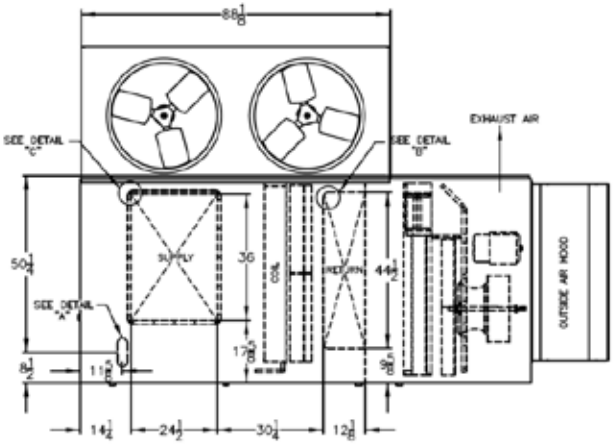


DETAIL A

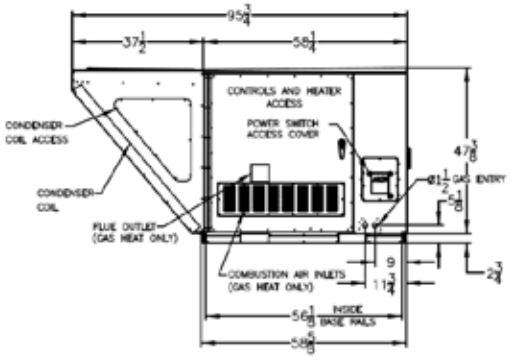
DETAIL B

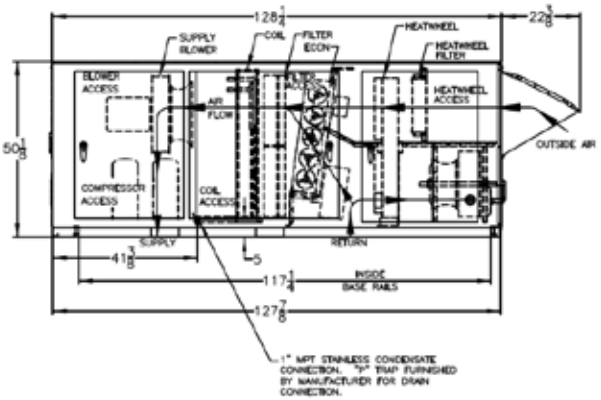
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C



FRONT VIEW

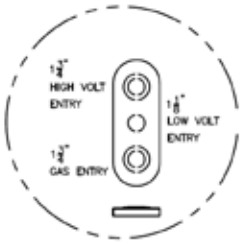




RNB-00004 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



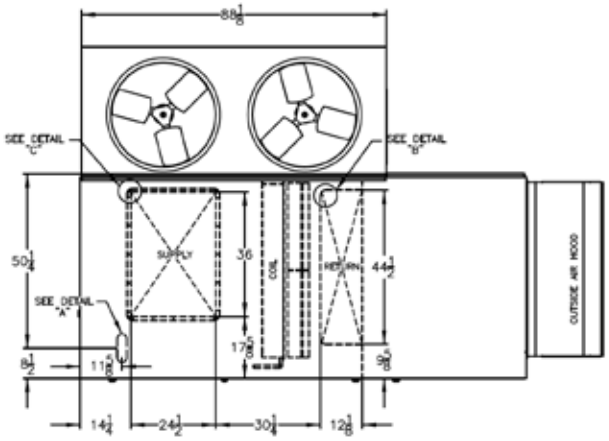
DETAIL A

DETAIL B

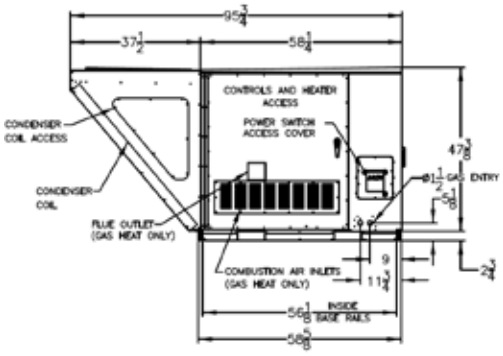
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C

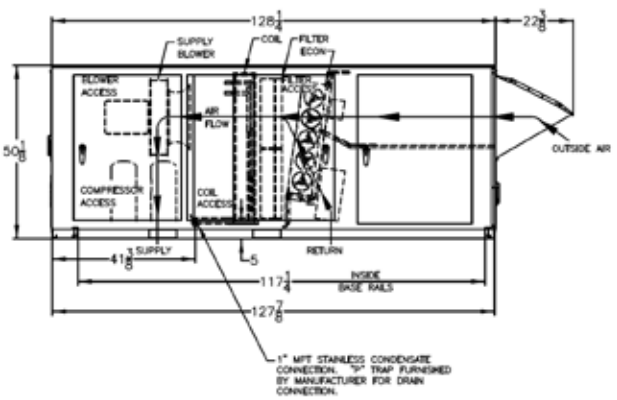
TOP VIEW



FRONT VIEW



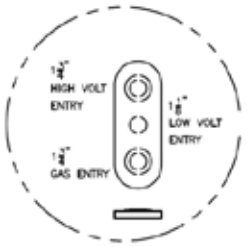
RIGHT SIDE VIEW



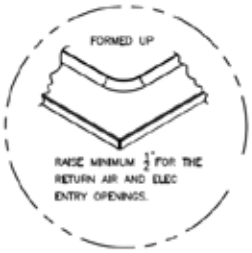
RNB-00005 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES	
LOCATION	- UNIT SIZE - 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



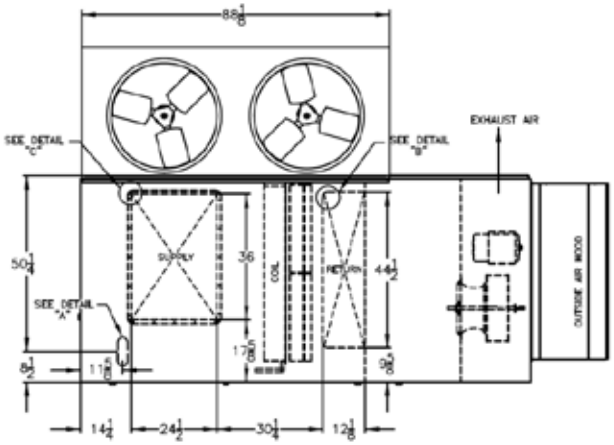
DETAIL A



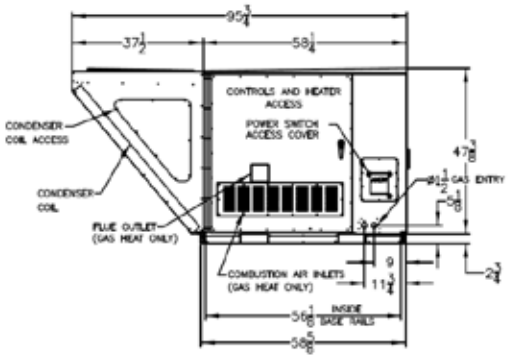
DETAIL B

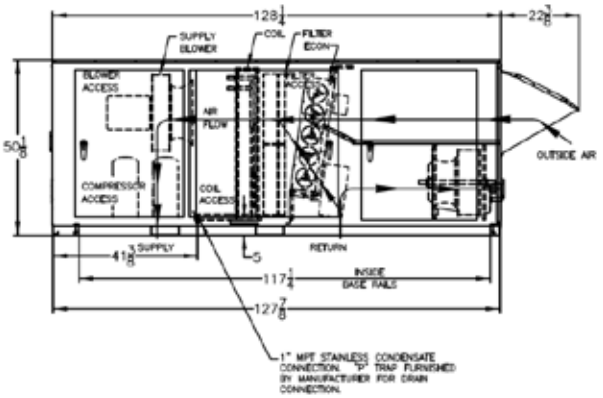
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C



FRONT VIEW



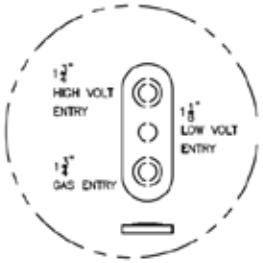


RNB-00006 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
B Cabinet (9-15 Tons) Chilled Water Air Handler

CLEARANCES

LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

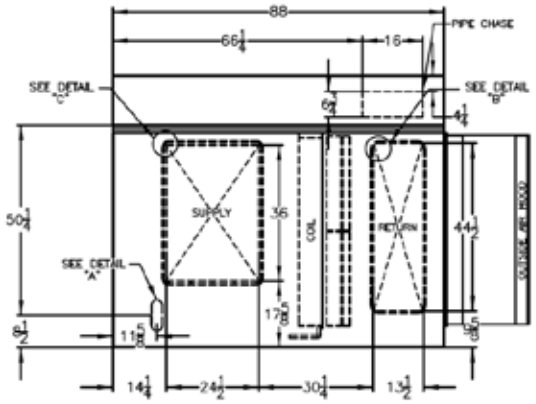


DETAIL A

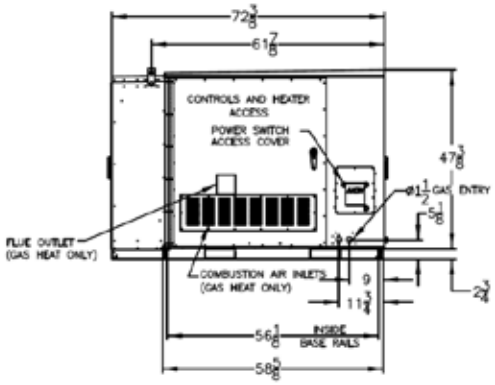
DETAIL B

DETAIL C

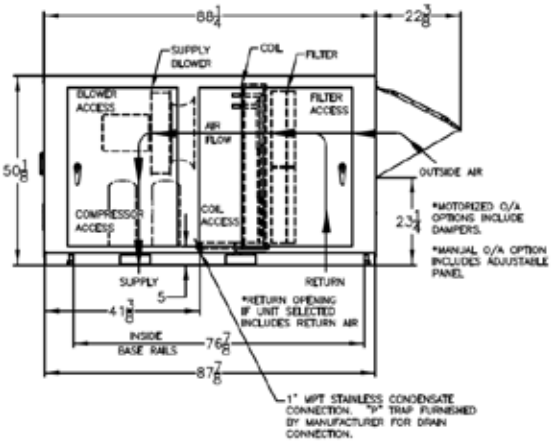
TOP VIEW



FRONT VIEW



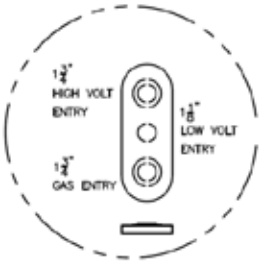
RIGHT SIDE VIEW



RNB-00007 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
B Cabinet (9-15 Tons) Chilled Water Air Handler
Economizer Option

CLEARANCES	
LOCATION	* UNIT SIZE * 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

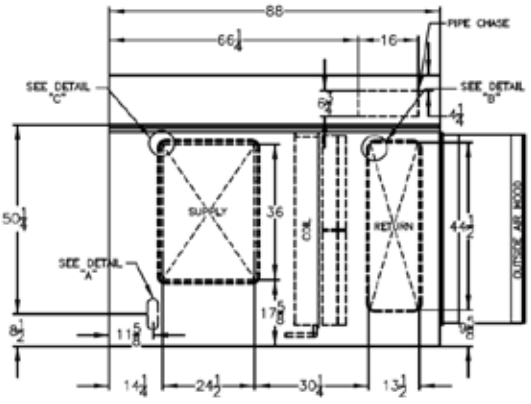


DETAIL A

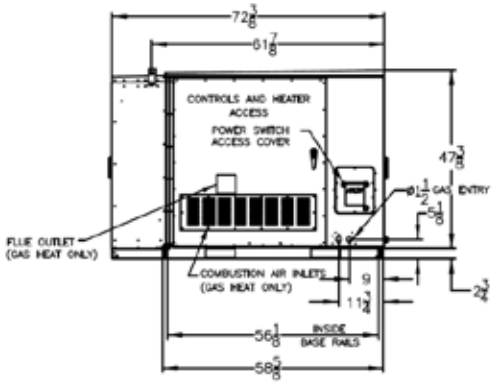
DETAIL B

DETAIL C

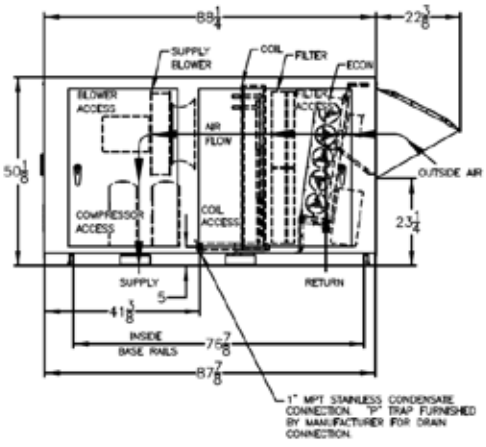
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

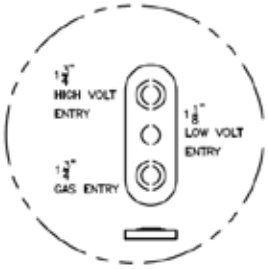


RNB-00008 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
B Cabinet (9-15 Tons) Chilled Water Air Handler
Power Exhaust Option

CLEARANCES

LOCATION	* UNIT SIZE * 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

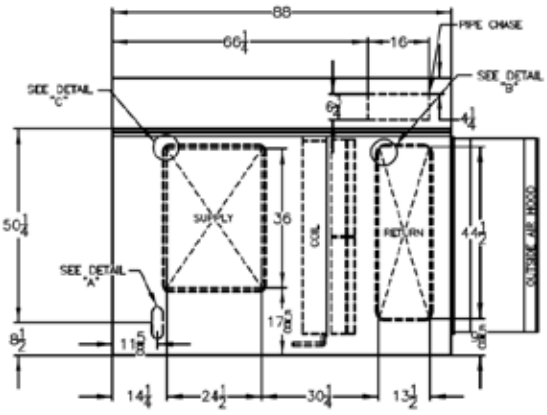


DETAIL A

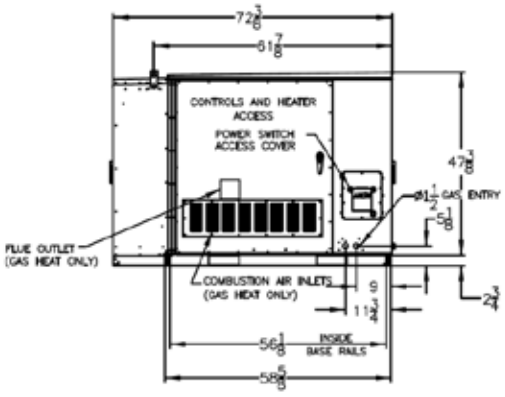
DETAIL B

DETAIL C

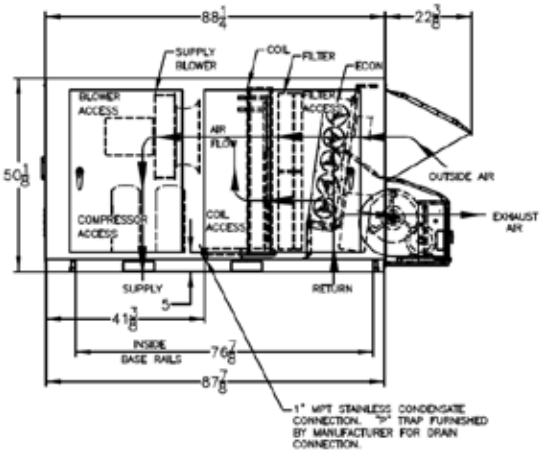
TOP VIEW



FRONT VIEW



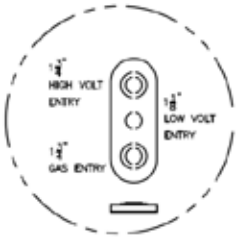
RIGHT SIDE VIEW



RNB-D0009 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
B Cabinet (9-15 Tons) Chilled Water Air Handler
Energy Recovery Wheel Option

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

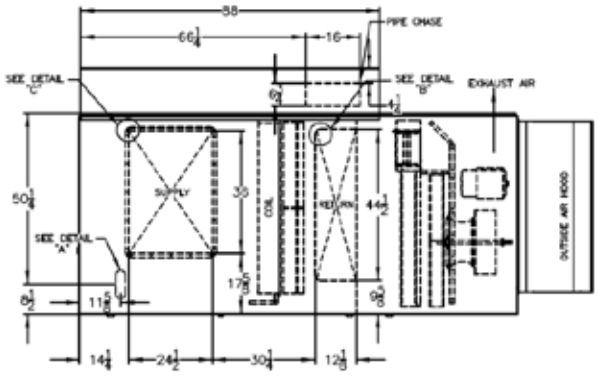


DETAIL A

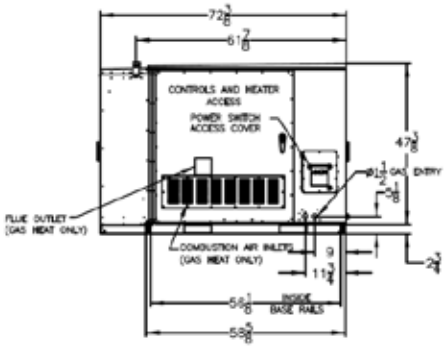
DETAIL B

DETAIL C

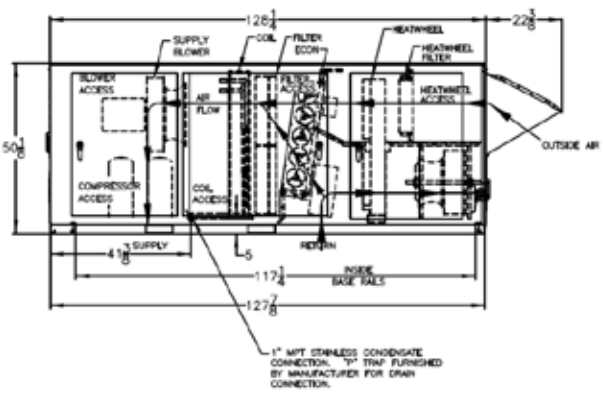
TOP VIEW



FRONT VIEW



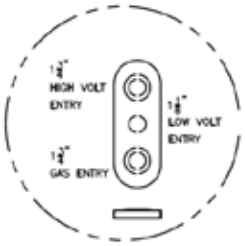
RIGHT SIDE VIEW



RNB-00010 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
B Cabinet (9-15 Tons) Chilled Water Air Handler
Empty Energy Recovery Wheel Option Box

CLEARANCES	
LOCATION	* UNIT SIZE * 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

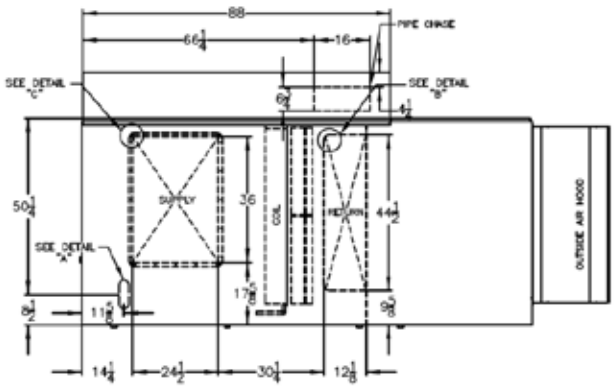


DETAIL A

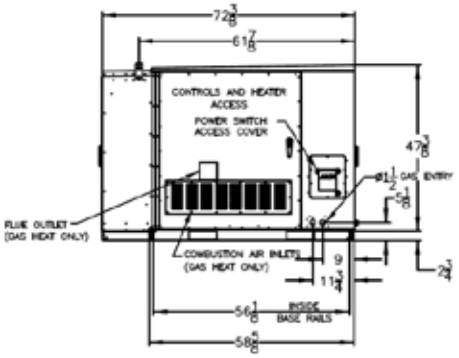
DETAIL B

DETAIL C

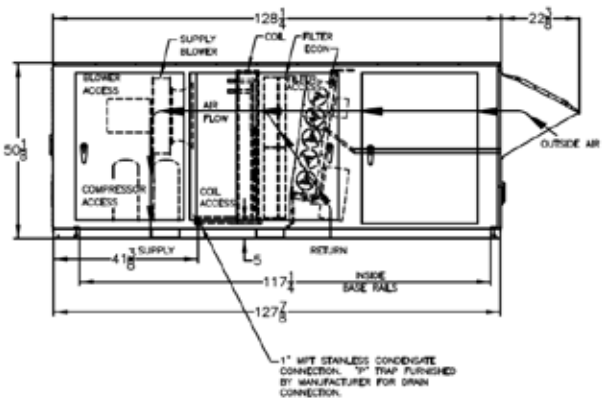
TOP VIEW



FRONT VIEW



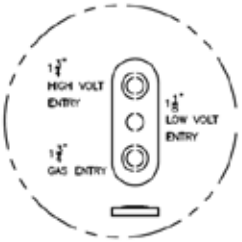
RIGHT SIDE VIEW



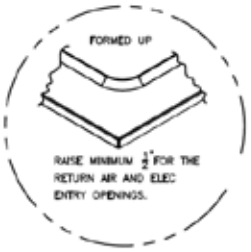
RNB-00011 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
B Cabinet (9-15 Tons) Chilled Water Air Handler
Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

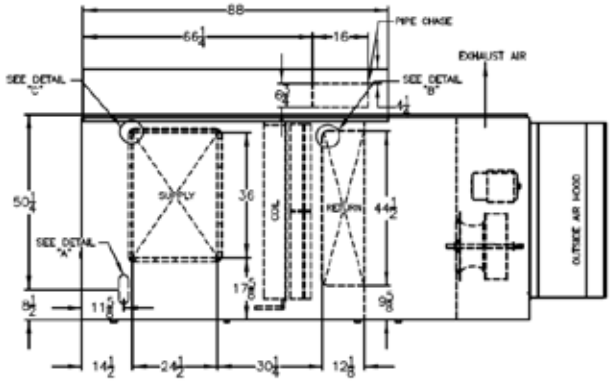


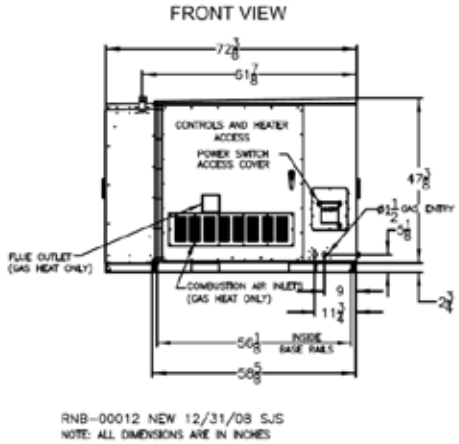
DETAIL A

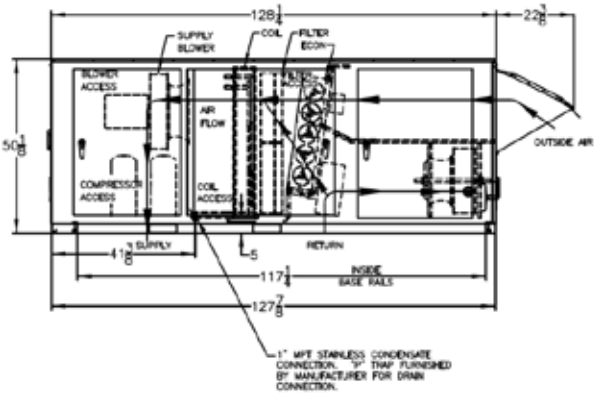


DETAIL B

DETAIL C





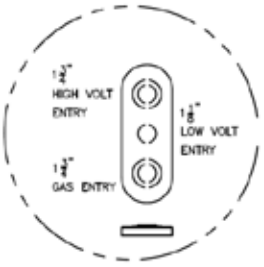


RNB-00012 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

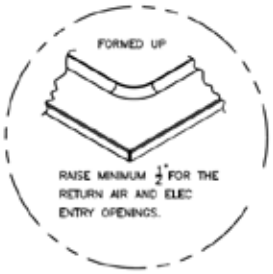
B Cabinet (9-15 Tons) DX or No Cooling Air Handler

CLEARANCES

LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



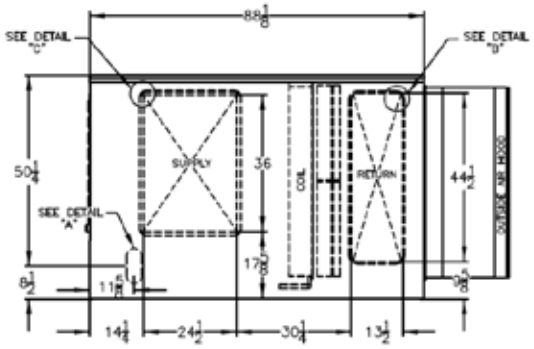
DETAIL A



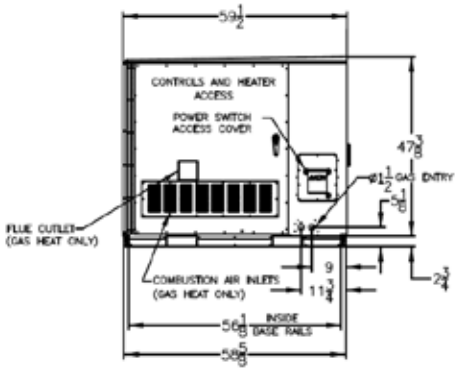
DETAIL B

DETAIL C

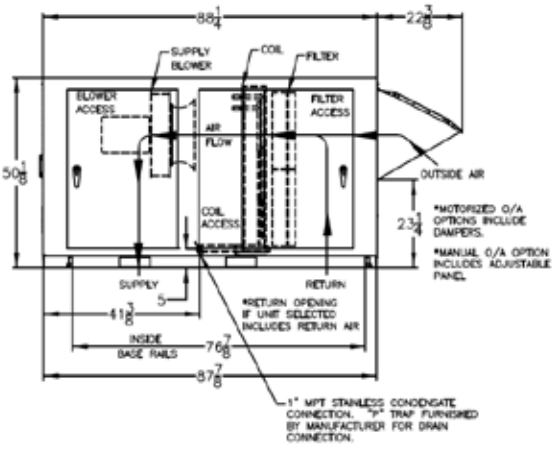
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

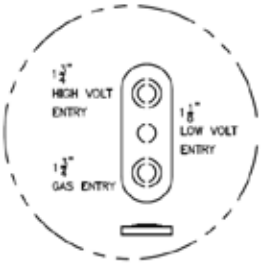


RNB-00035 NEW 12/31/08 SJS

NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) DX or No Cooling Air Handler
Economizer Option

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED

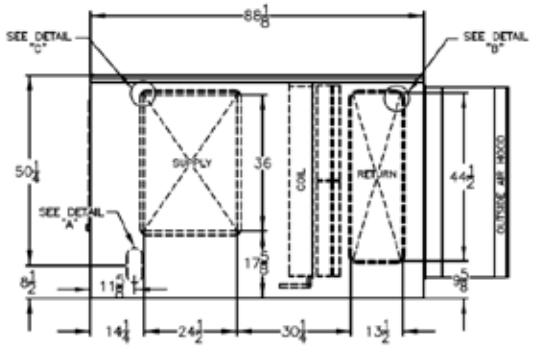


DETAIL A

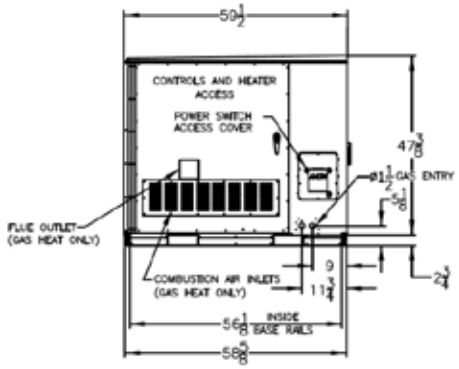
DETAIL B

DETAIL C

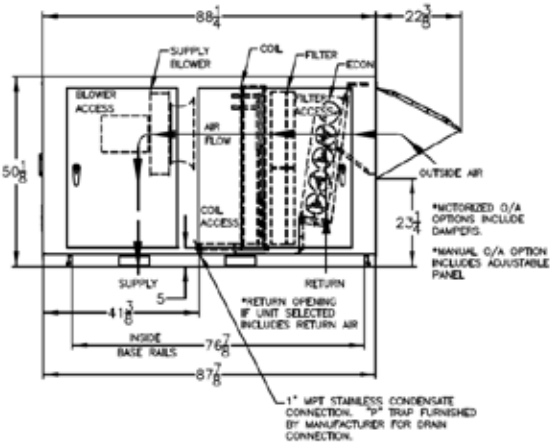
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

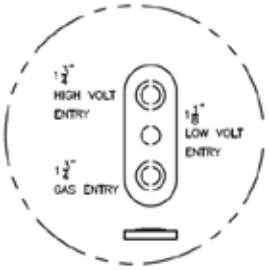


RNB-00036 NEW 12/31/08 SJS

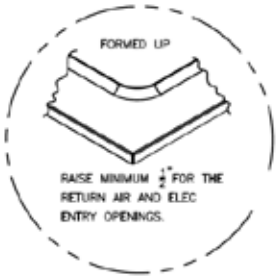
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) DX or No Cooling Air Handler
Power Exhaust Option

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



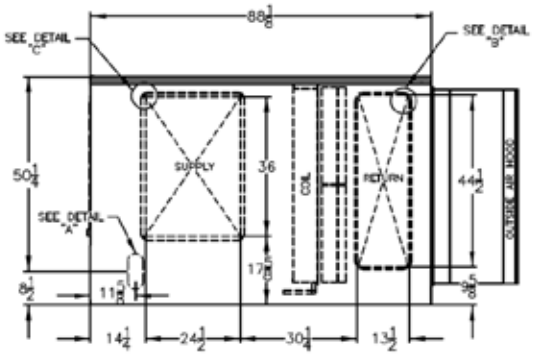
DETAIL A



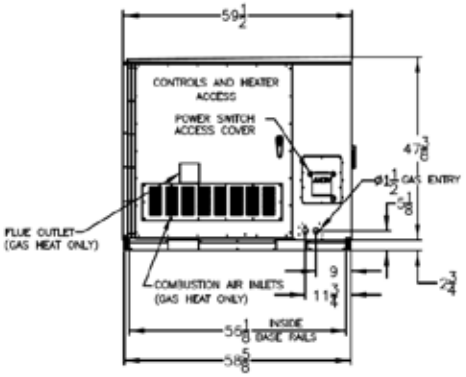
DETAIL B

DETAIL C

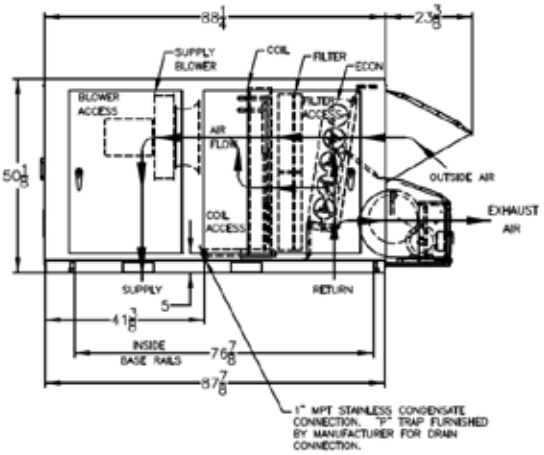
TOP VIEW



FRONT VIEW



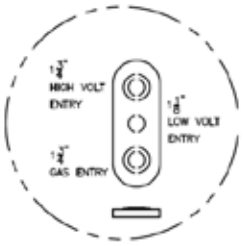
RIGHT SIDE VIEW



RNB-00037 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) DX or No Cooling Air Handler
Energy Recovery Wheel Option

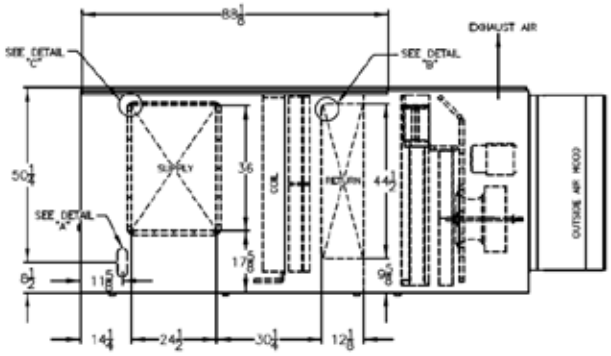
CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	24
RIGHT SIDE	48
TOP	UNOBSTRUCTED



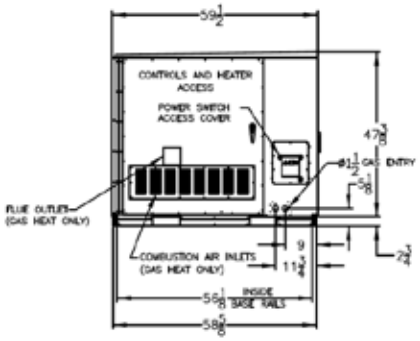
DETAIL A

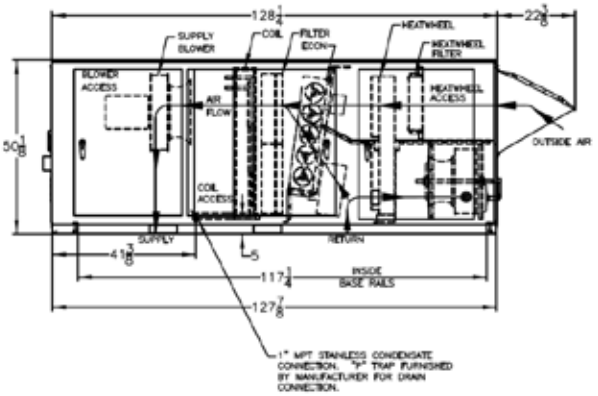
DETAIL B

DETAIL C



FRONT VIEW



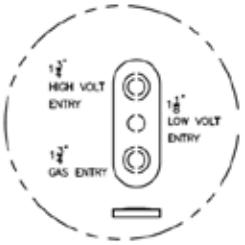


RNB-00038 NEW 12/31/08 SJS

NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) DX or No Cooling Air Handler
Empty Energy Recovery Wheel Option Box

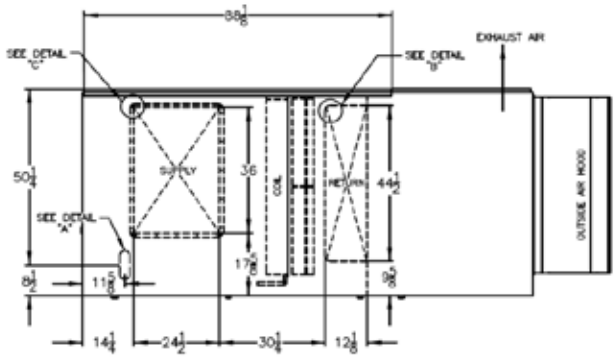
CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	24
RIGHT SIDE	48
TOP	UNOBSTRUCTED



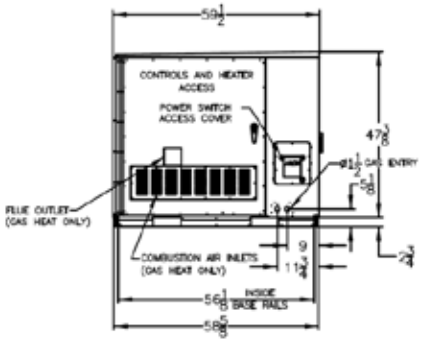
DETAIL A

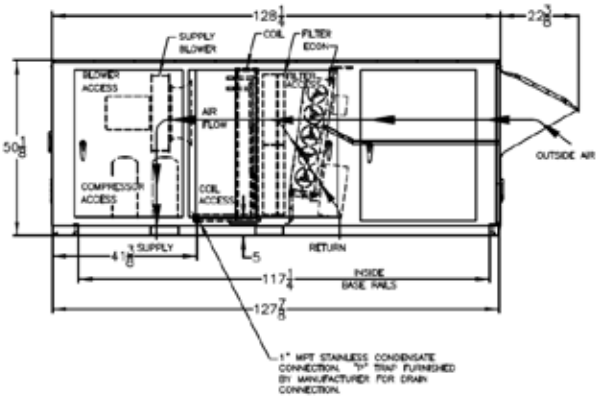
DETAIL B

DETAIL C



FRONT VIEW

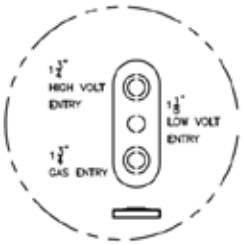




RNB-00039 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) DX or No Cooling Air Handler
Empty Energy Recovery Wheel Option Box with Power Exhaust

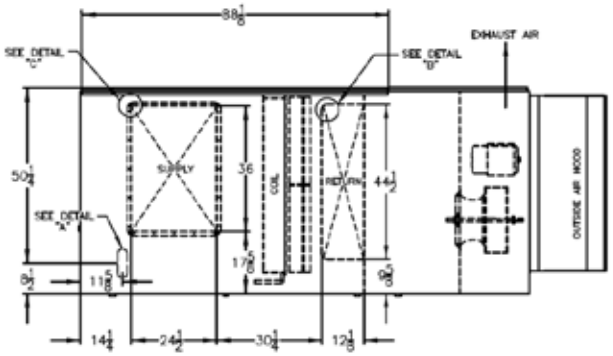
CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	24
RIGHT SIDE	48
TOP	UNOBSTRUCTED



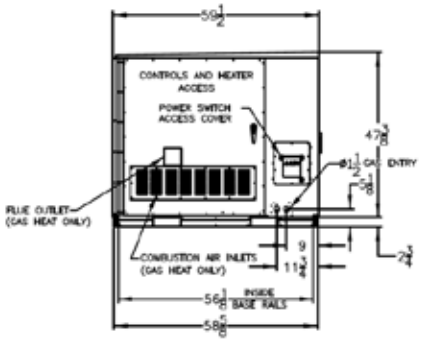
DETAIL A

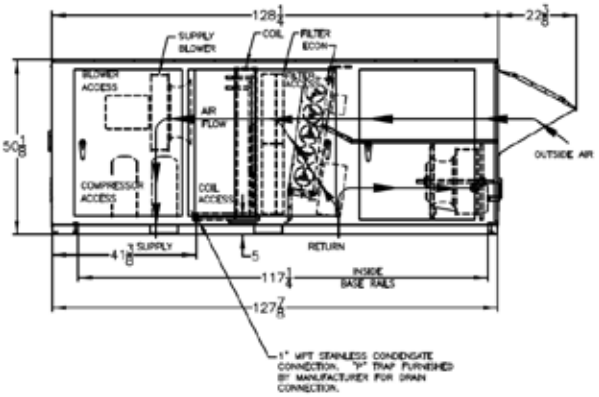
DETAIL B

DETAIL C



FRONT VIEW

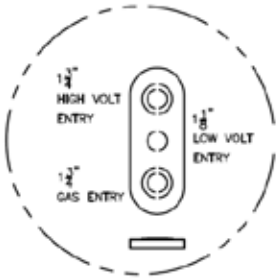




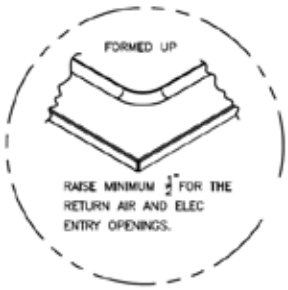
RNB-00040 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Economizer Option

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



DETAIL A

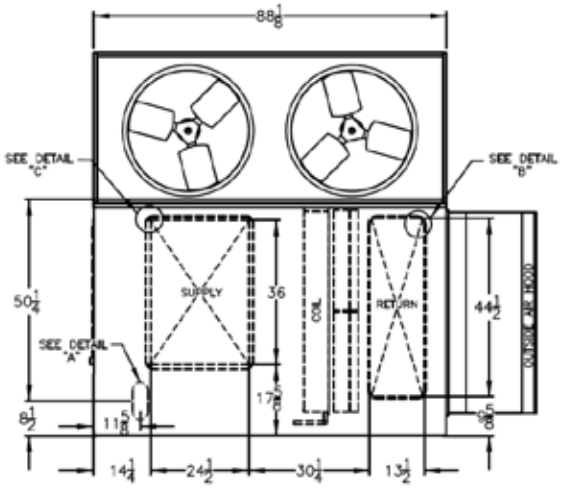


DETAIL B

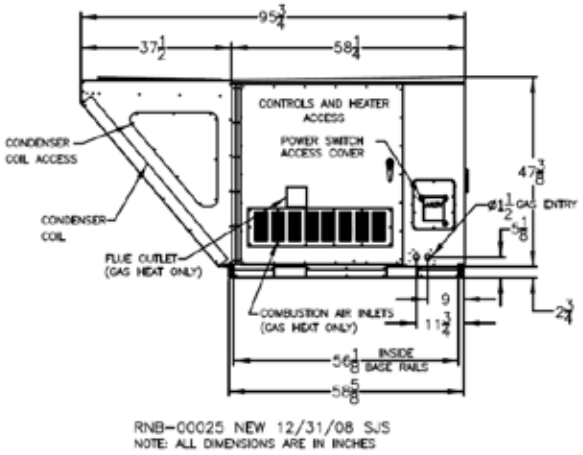
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C

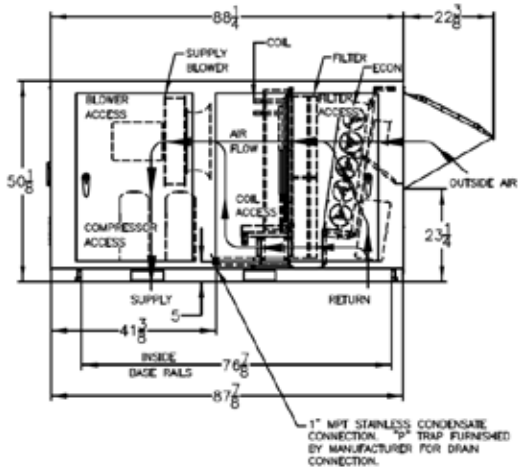
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

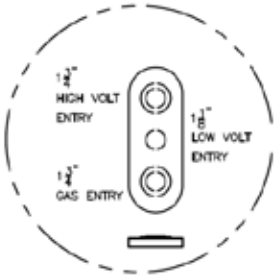


RNB-00025 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

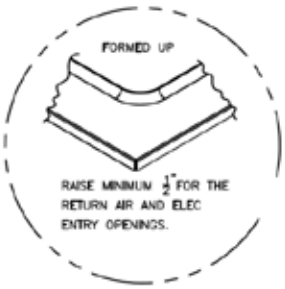
B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Exhaust Option

CLEARANCES

LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



DETAIL A

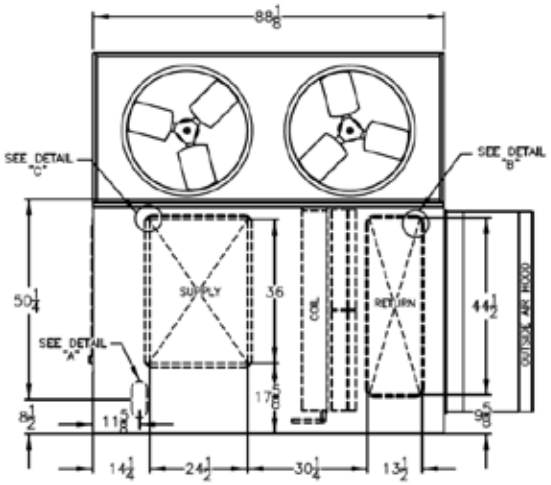


DETAIL B

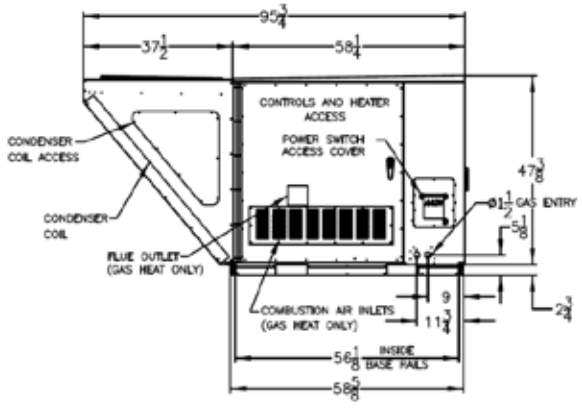
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C

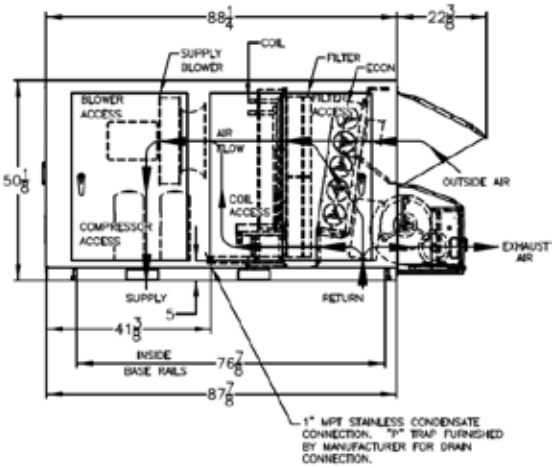
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

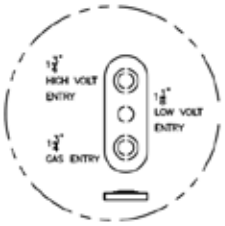


RNB-00026 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Energy Recovery Wheel Option

CLEARANCES

LOCATION	- UNIT SIZE - 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



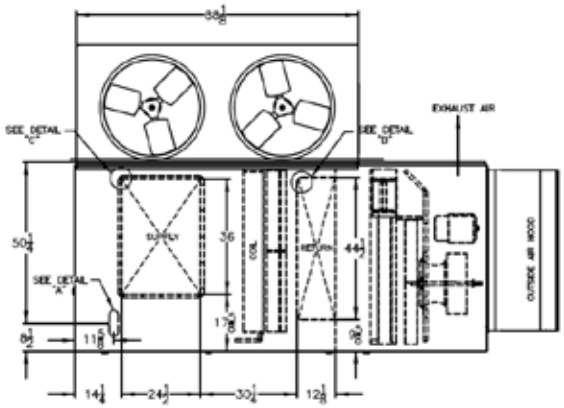
DETAIL A

DETAIL B

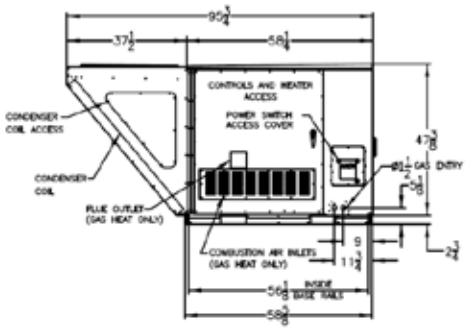
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C

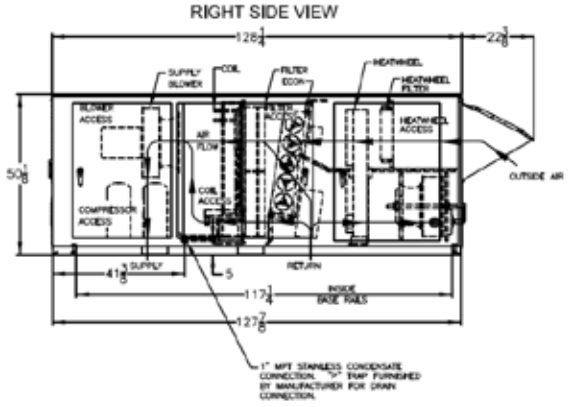
TOP VIEW



FRONT VIEW



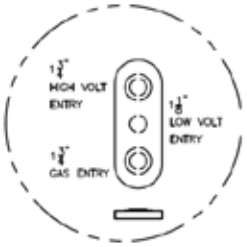
RIGHT SIDE VIEW



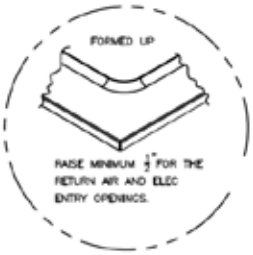
RNB-00027 NEW 12/31/08 SJS

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



DETAIL A

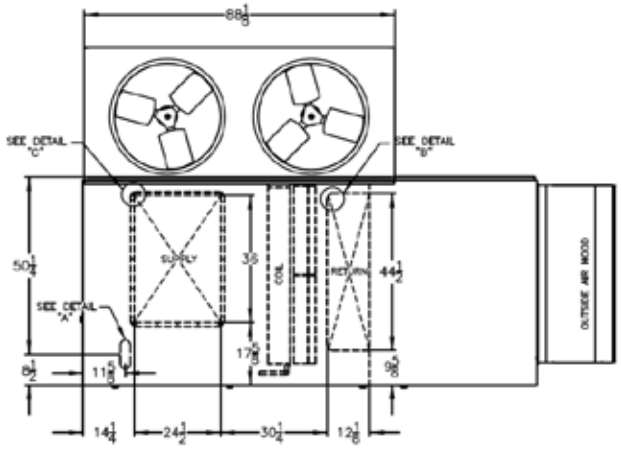


DETAIL B

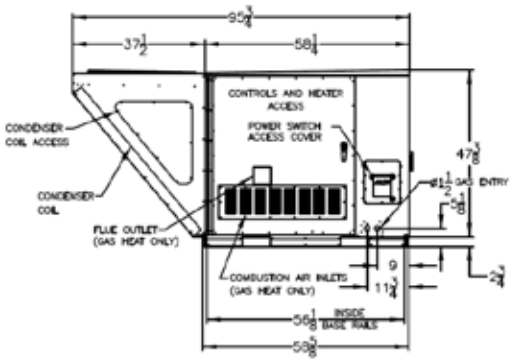
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C

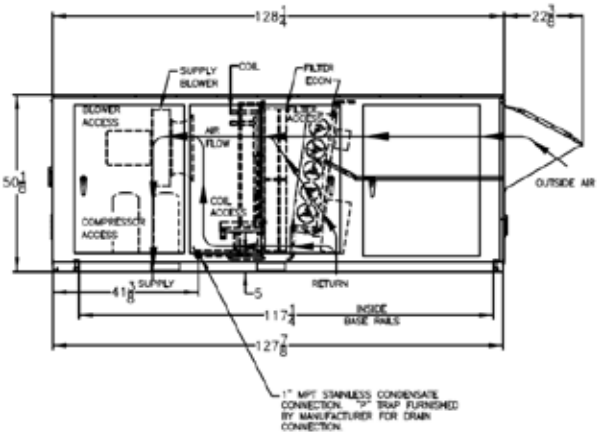
TOP VIEW



FRONT VIEW



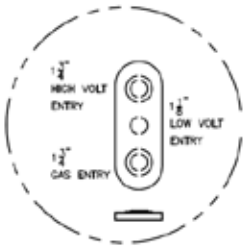
RIGHT SIDE VIEW



RNB-00028 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED



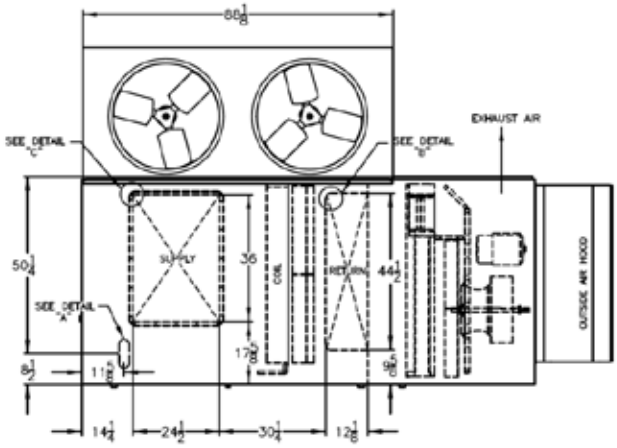
DETAIL A

DETAIL B

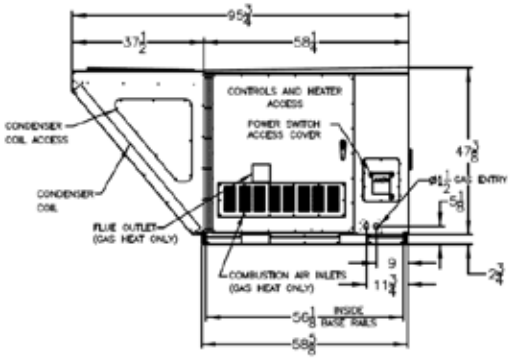
NUMBER OF CONDENSER FANS
9 & 11 TON - 1 FAN
13 & 15 TON - 2 FANS

DETAIL C

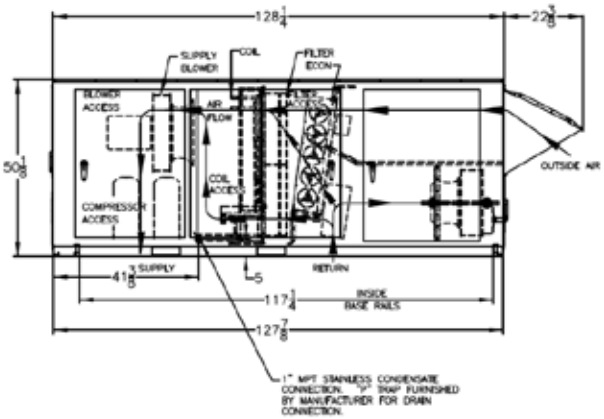
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

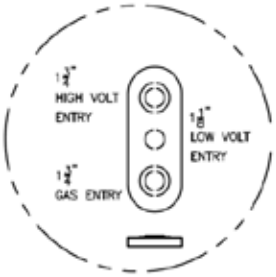


RNB-00029 NEW 12/31/06 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Economizer Option

CLEARANCES

LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

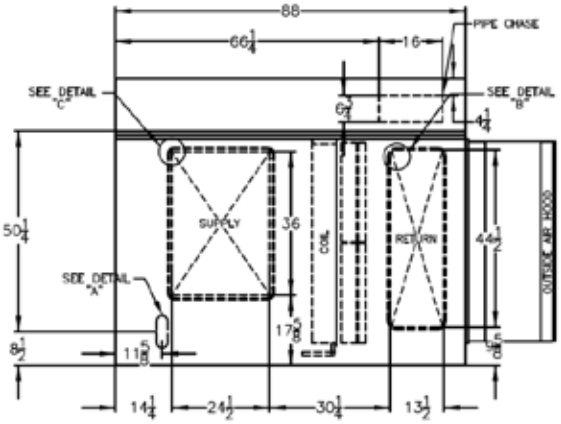


DETAIL A

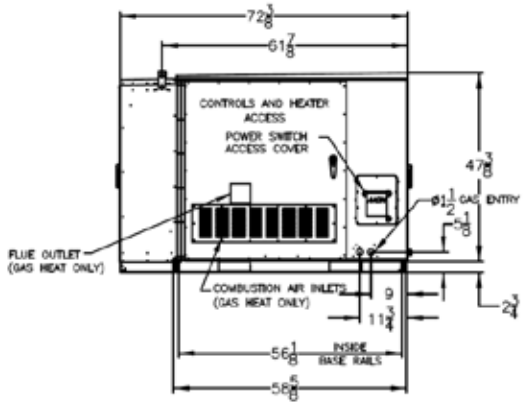
DETAIL B

DETAIL C

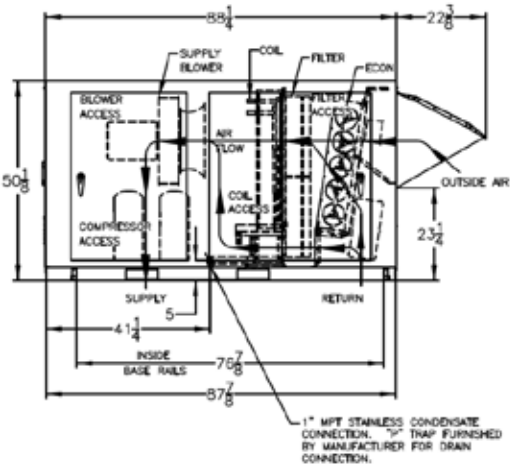
TOP VIEW



FRONT VIEW



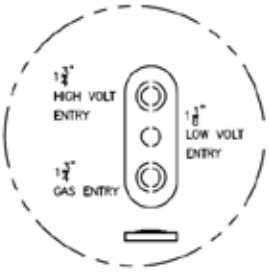
RIGHT SIDE VIEW



RNB-00030 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Exhaust Option

CLEARANCES	
LOCATION	* UNIT SIZE * 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

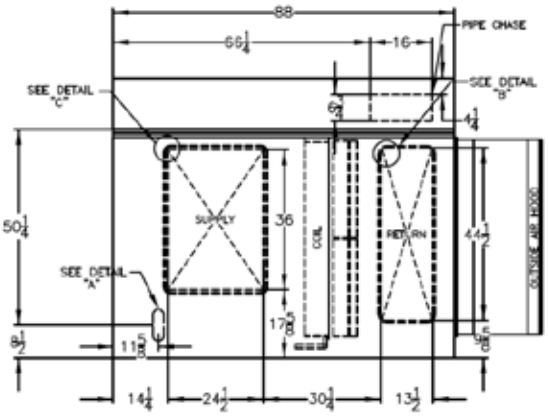


DETAIL A

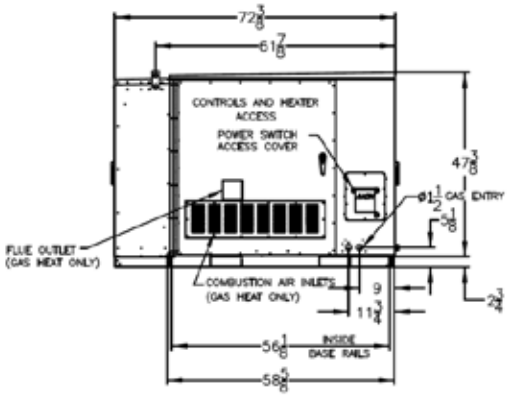
DETAIL B

DETAIL C

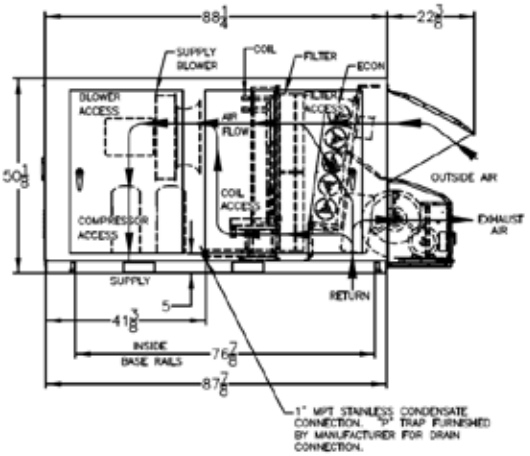
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

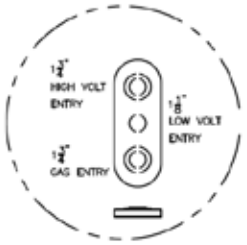


RNB-00031 NEW 12/31/08 SJS
NOTE ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Energy Recovery Wheel Option

CLEARANCES

LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

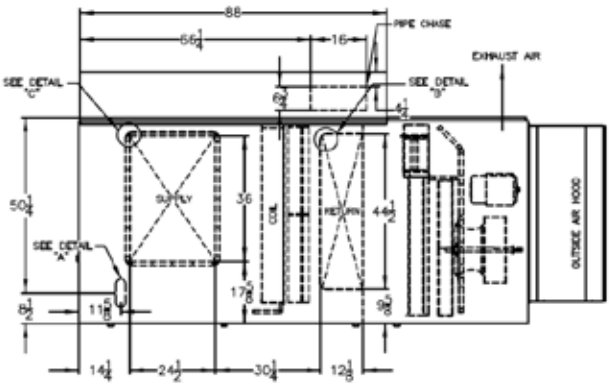


DETAIL A

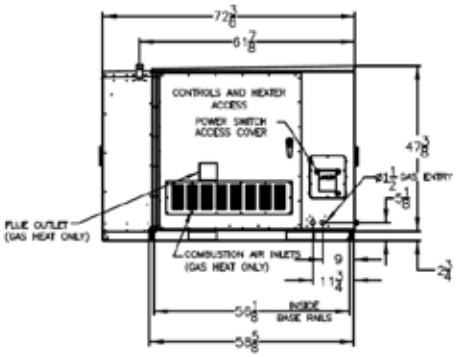
DETAIL B

DETAIL C

TOP VIEW

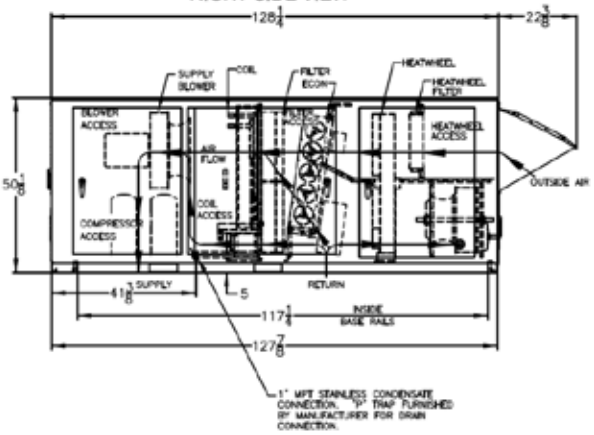


FRONT VIEW



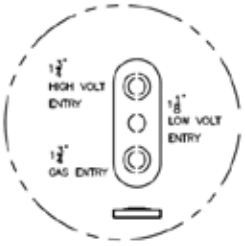
RNB-00032 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

RIGHT SIDE VIEW



B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box

CLEARANCES	
LOCATION	• UNIT SIZE • 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED

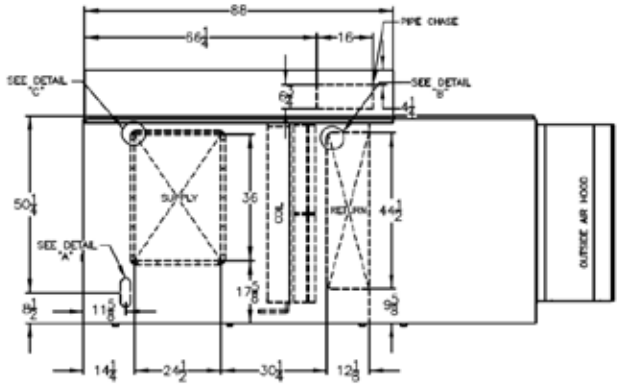


DETAIL A

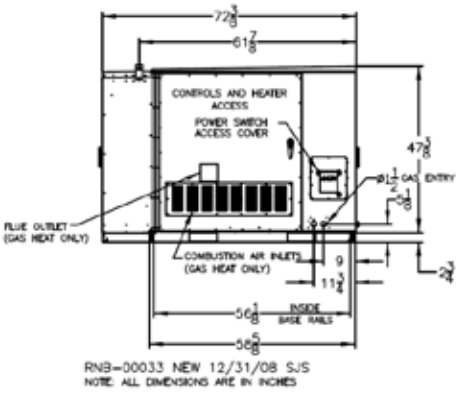
DETAIL B

DETAIL C

TOP VIEW

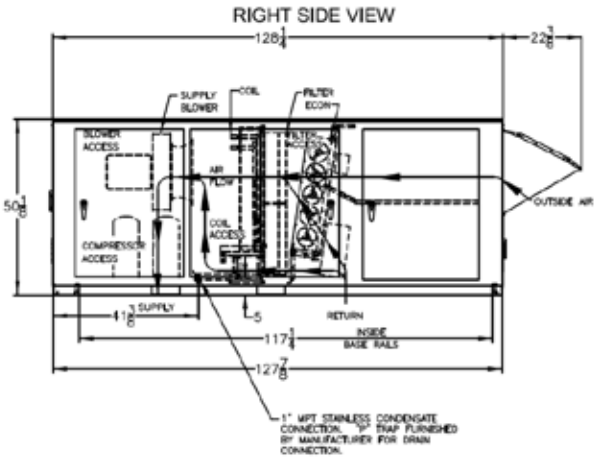


FRONT VIEW



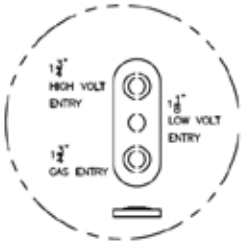
RNB-00033 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

RIGHT SIDE VIEW

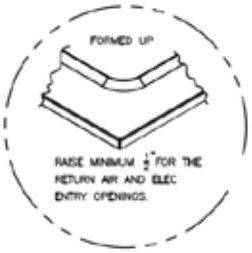


B Cabinet (9-15 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES	
LOCATION	* UNIT SIZE * 9 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	48
TOP	UNOBSTRUCTED



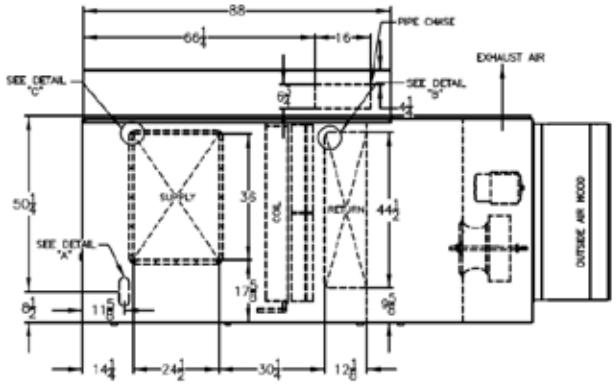
DETAIL A



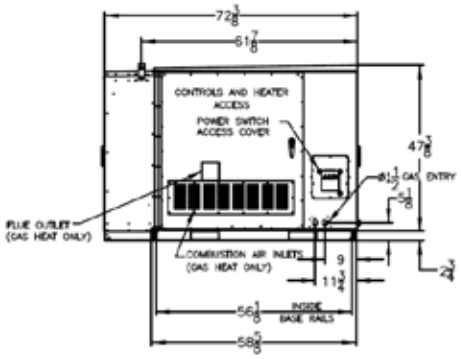
DETAIL B

DETAIL C

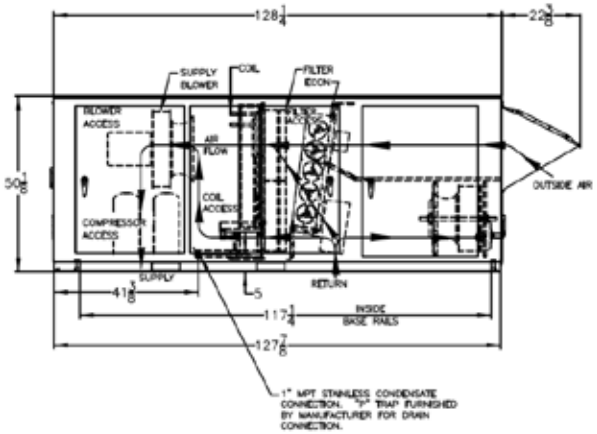
TOP VIEW



FRONT VIEW

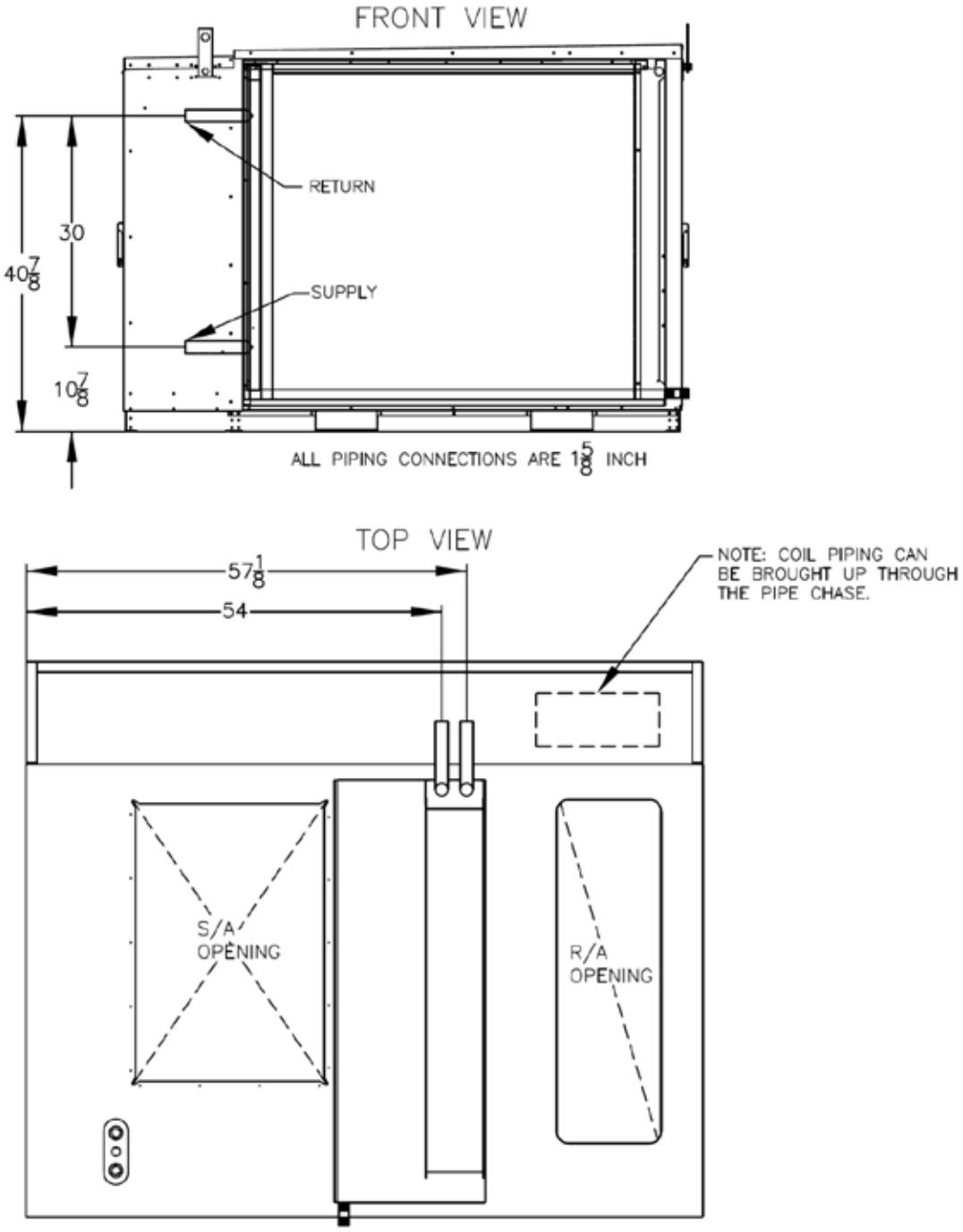


RIGHT SIDE VIEW



RNB-00034 NEW 12/31/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

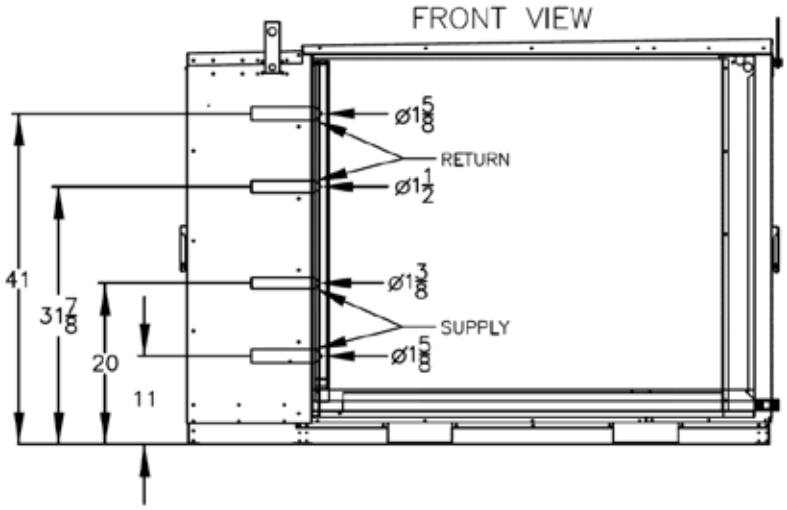
B Cabinet (9-15 Tons) Chilled Water Coil Piping

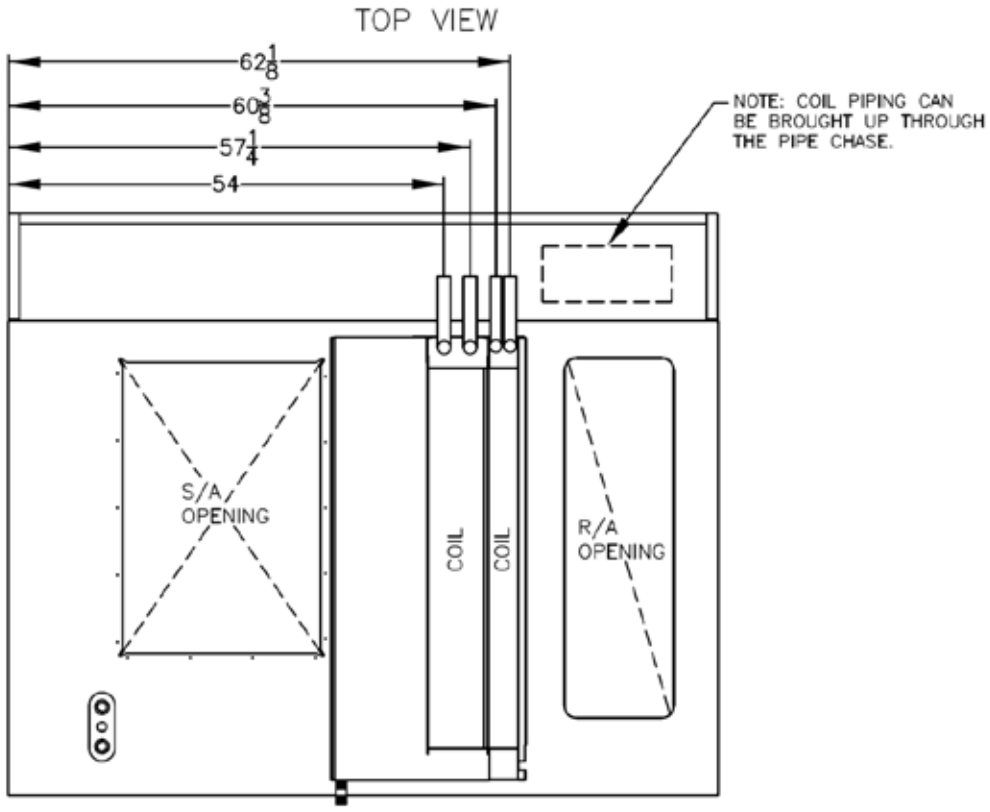


RNB–00044 NEW 4/30/09 SJS

NOTE: ALL DIMENSIONS ARE IN INCHES

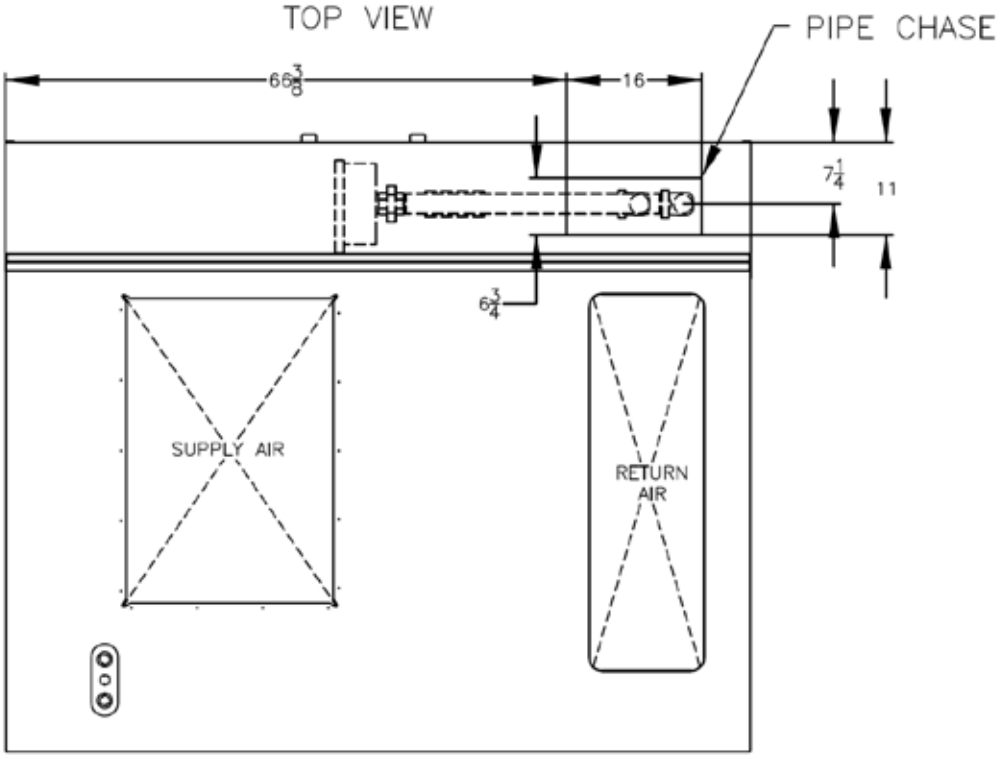
B Cabinet (9-15 Tons) Chilled Water Coil and Preheat Coil Piping

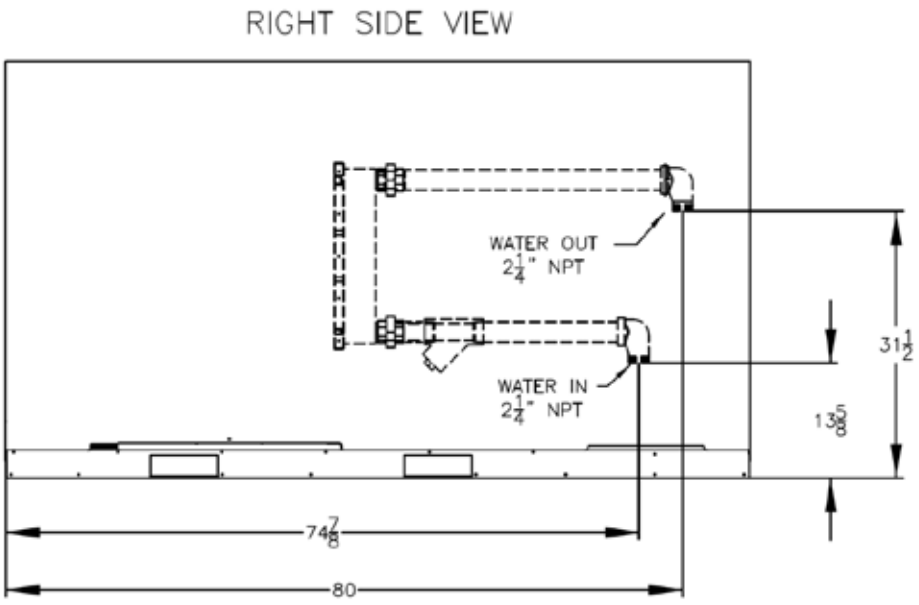




RNB-00043 NEW 04/30/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser Piping



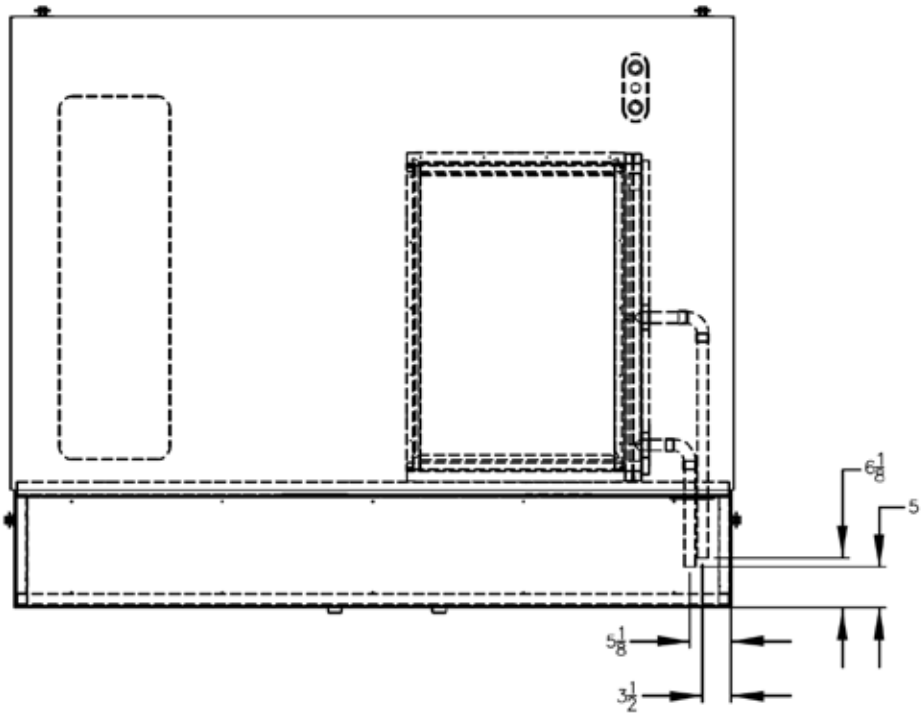


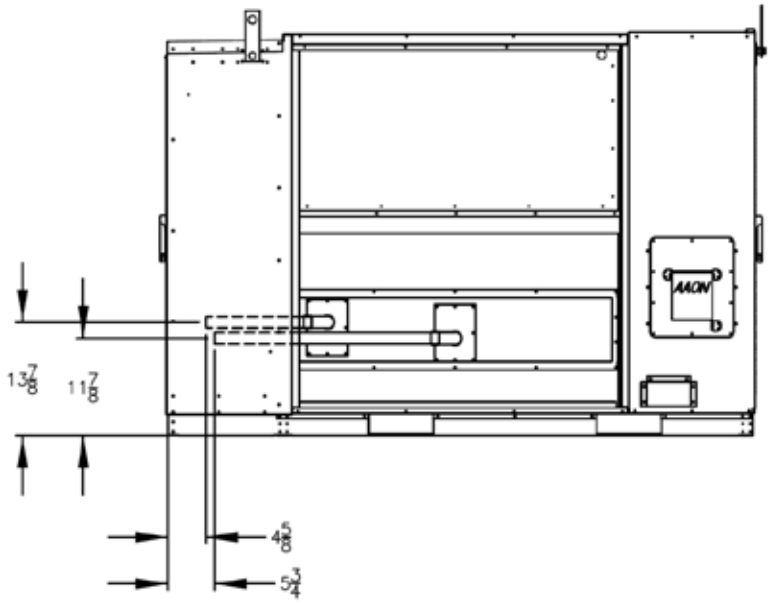
RNB–00046 NEW 04/27/09 SJS

NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Hot Water Coil Piping with Chilled Water Cooling or Water-Cooled Condenser

CONNECTION SIZES ARE $1\frac{3}{8}$ COPPER CONNECTIONS



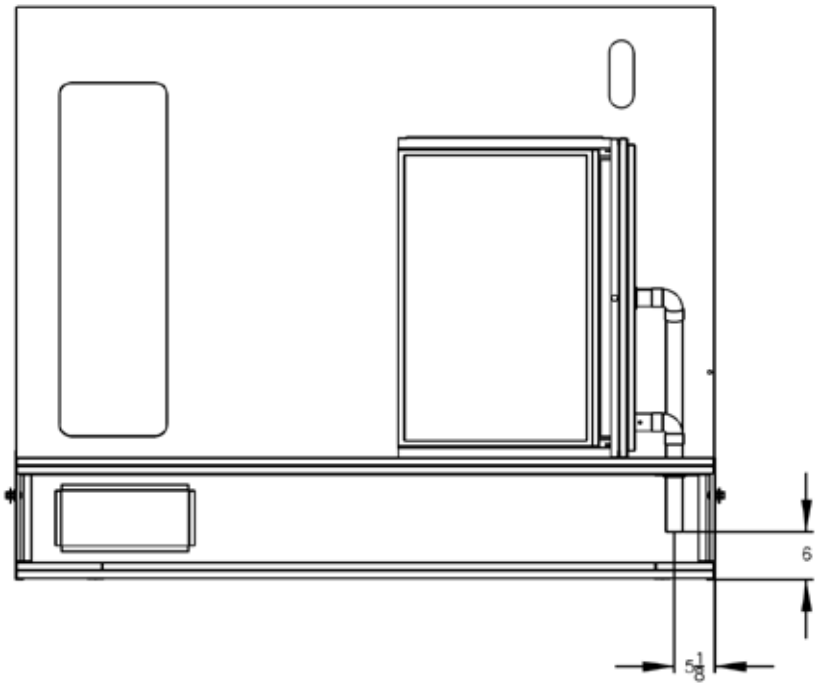


RNB-00047 NEW 05/07/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

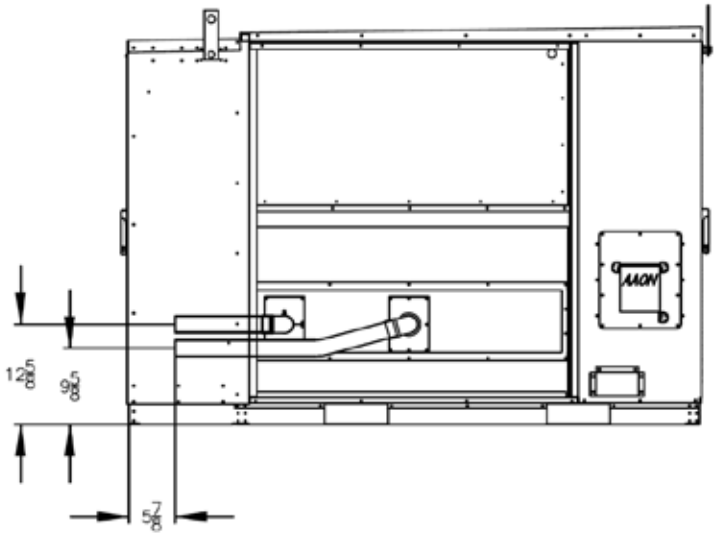
B Cabinet (9-15 Tons) Steam Coil Piping with Chilled Water Cooling or Water-Cooled Condenser

CONNECTION SIZES ARE $2\frac{1}{8}$ COPPER CONNECTIONS

TOP VIEW

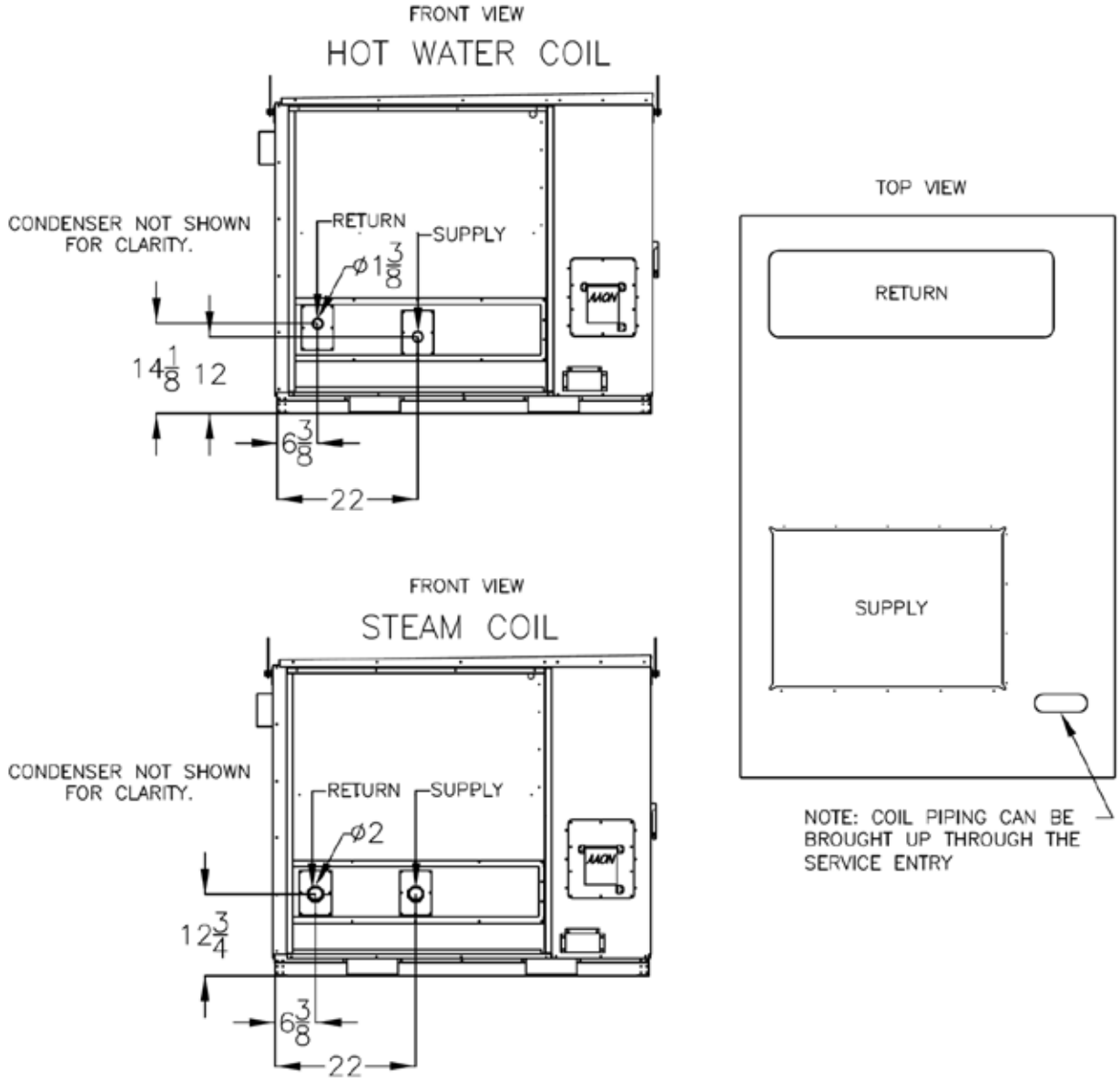


FRONT VIEW



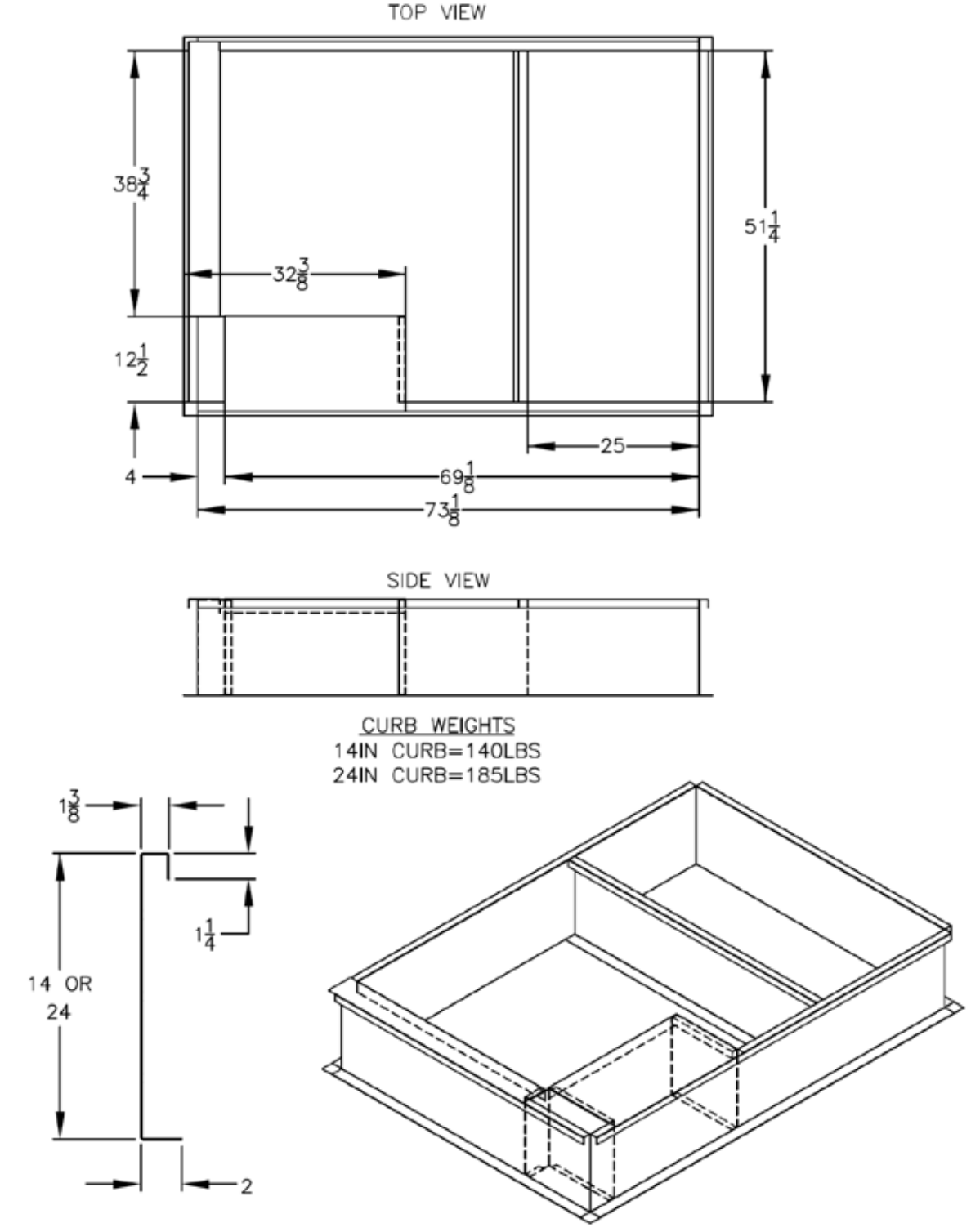
RNB–00066 NEW 05/07/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Hot Water or Steam Coil Piping



RNB–00041 NEW 05/01/09
NOTE: ALL DIMENSIONS ARE IN INCHES

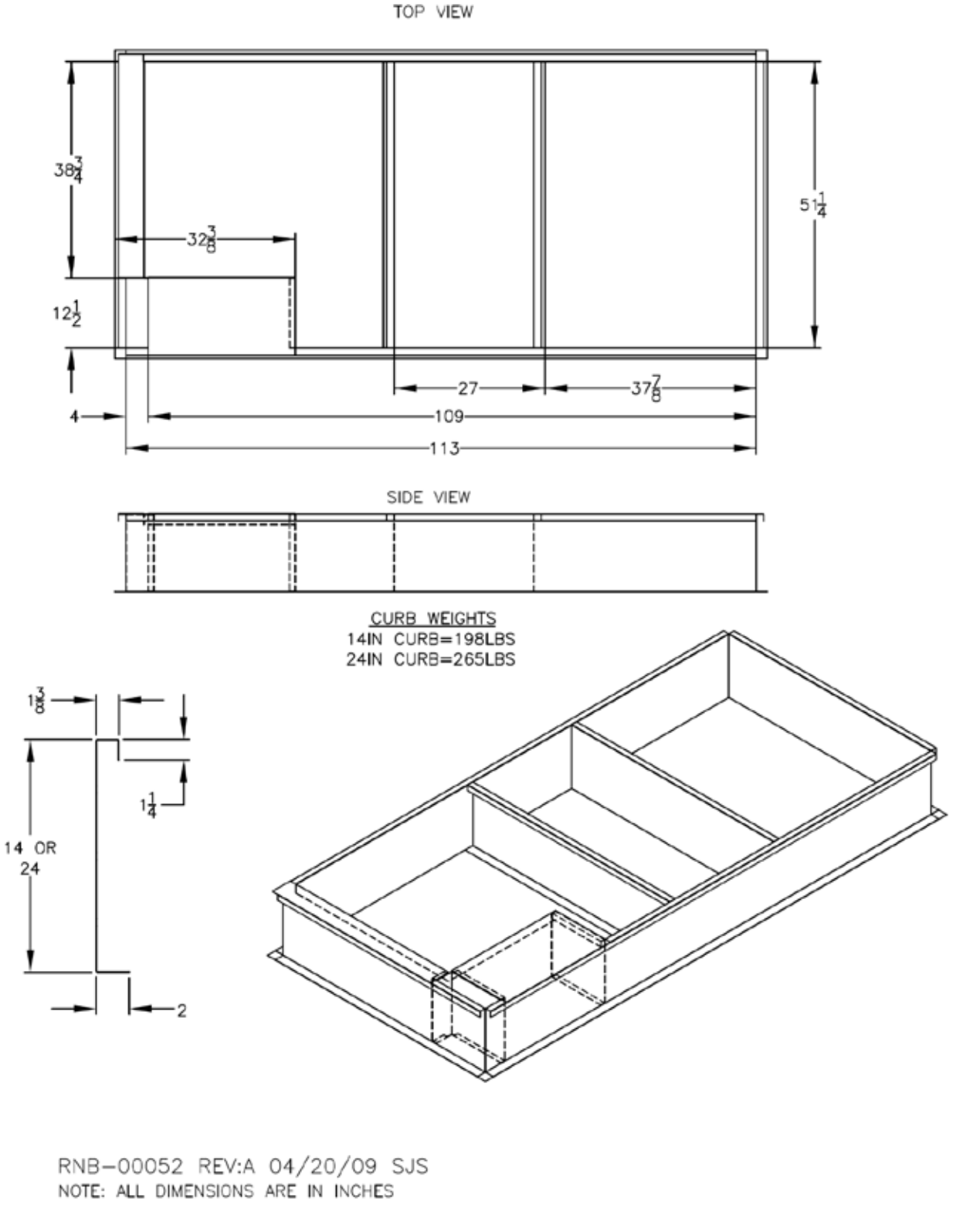
B Cabinet (9-15 Tons) Solid Bottom Standard and Power Exhaust Curb



RNB-00050 REV:A 04/17/09 SJS

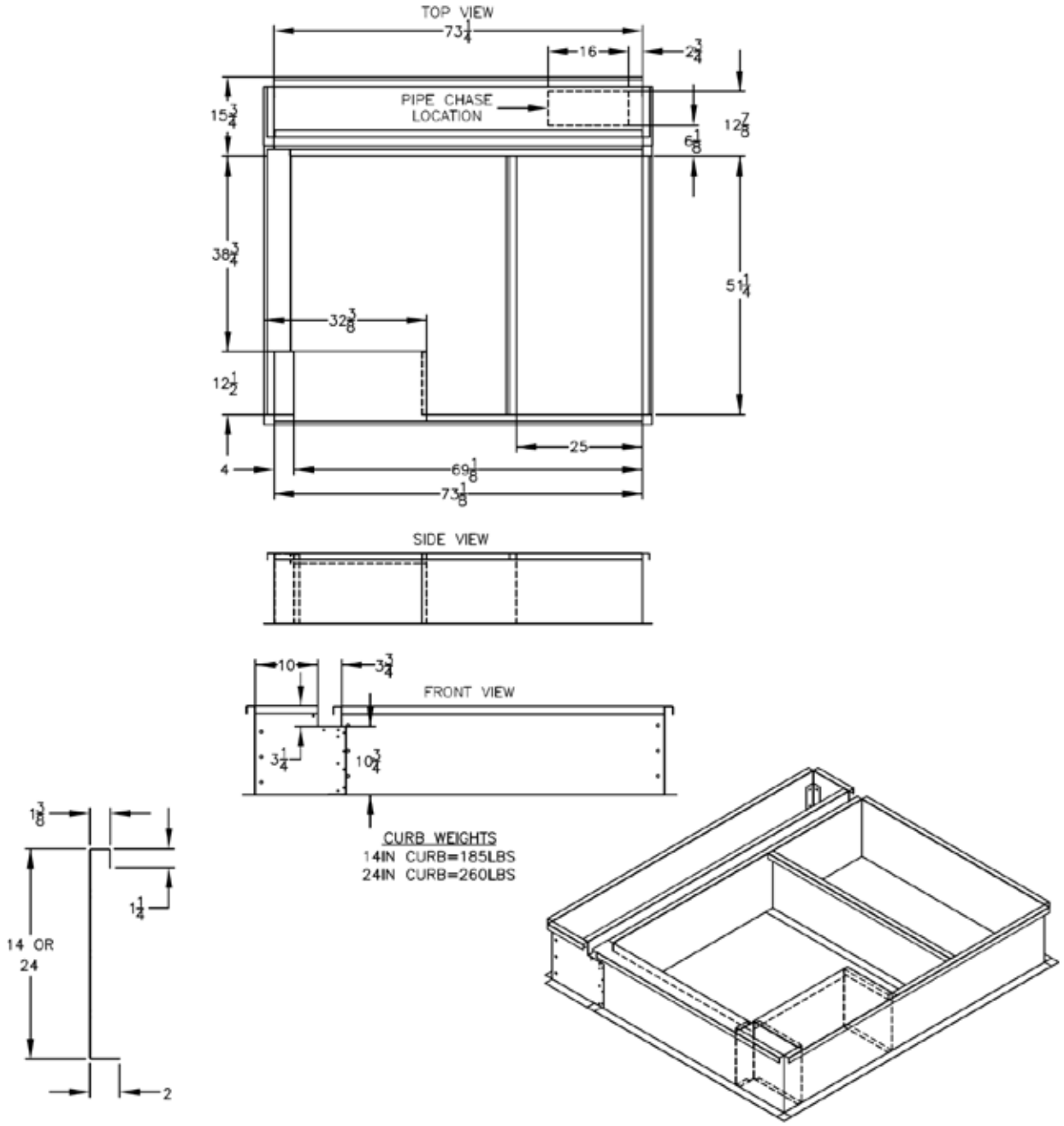
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Solid Bottom Energy Recovery Wheel Curb



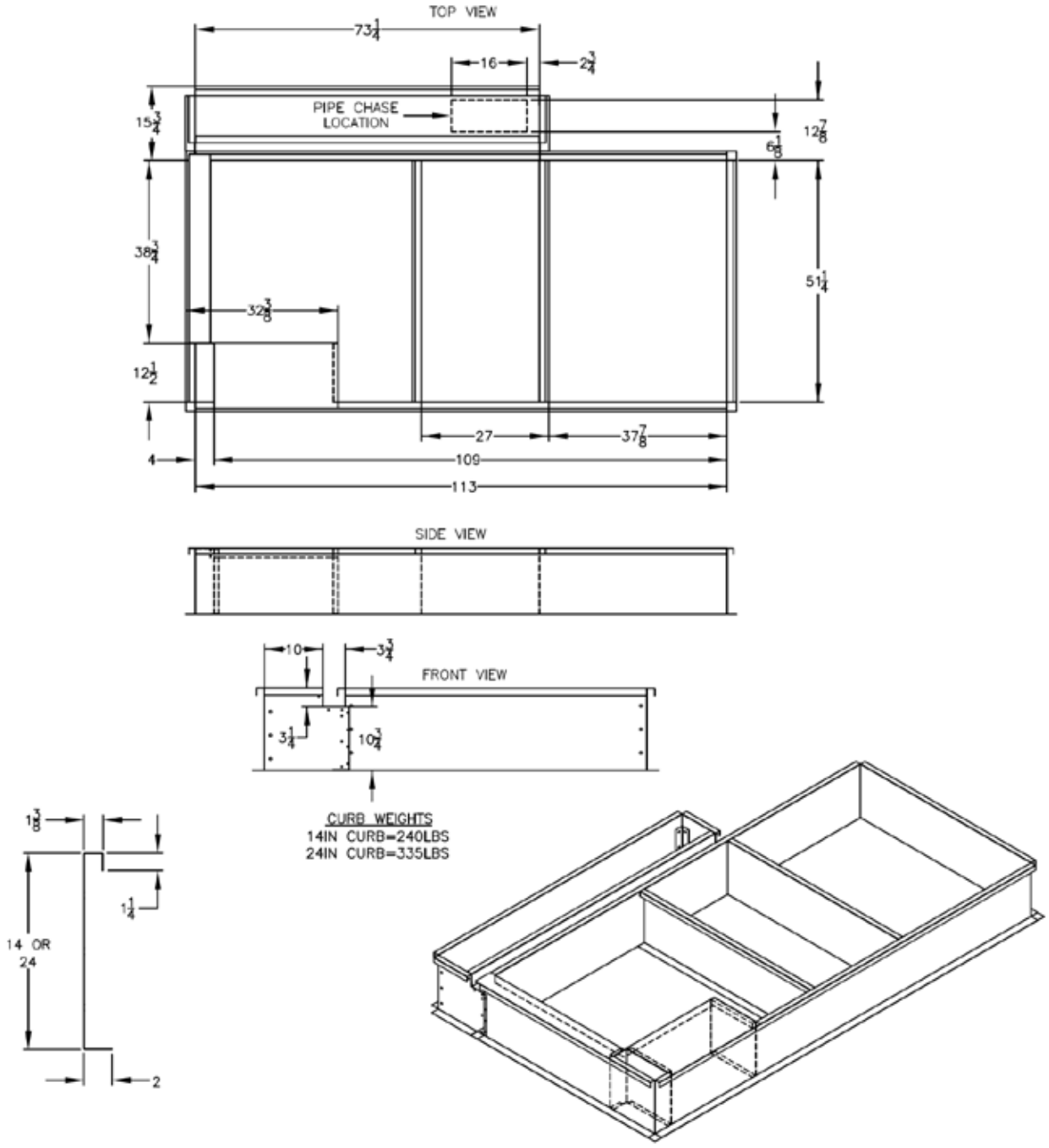
RNB-00052 REV:A 04/20/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser and Chilled Water Air Handler
Solid Bottom Standard and Power Exhaust Curb



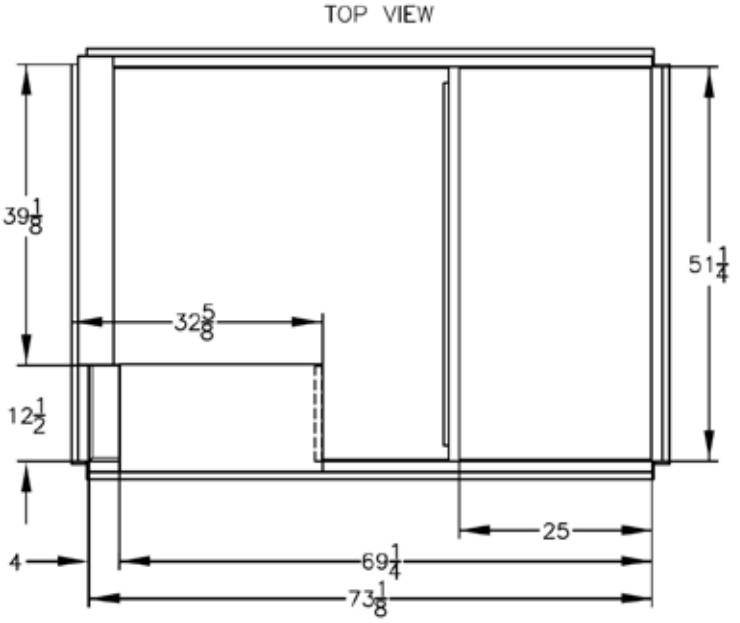
RNB-00051 REV:B 05/08/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

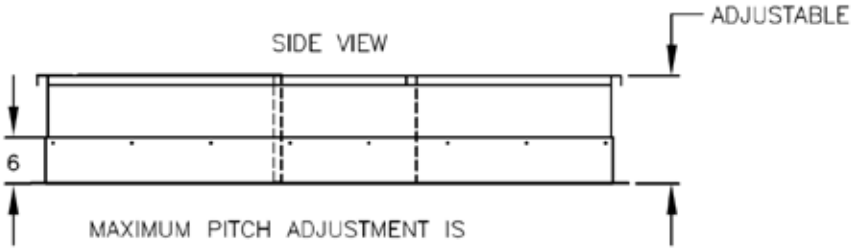
B Cabinet (9-15 Tons) Water-Cooled Condenser and Chilled Water Air Handler
Solid Bottom Energy Recovery Wheel Curb



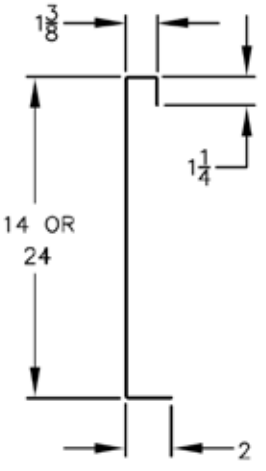
RNB-00053 REV:B 05/08/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

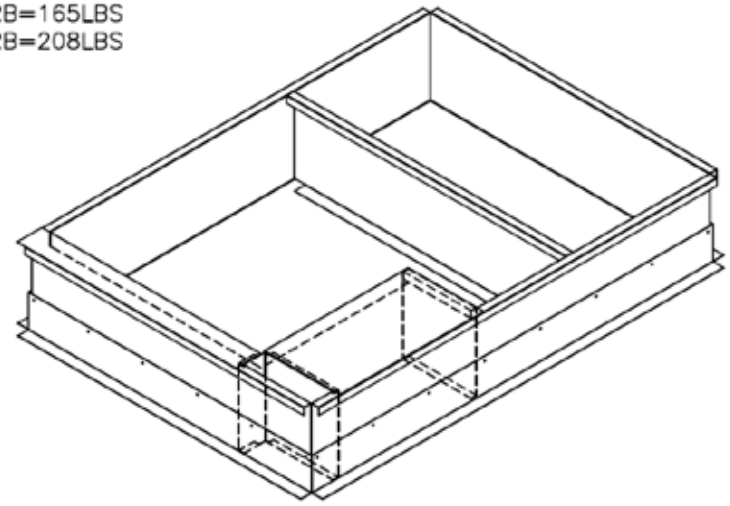
B Cabinet (9-15 Tons) Adjustable Pitch Solid Bottom Standard and Power Exhaust Curb





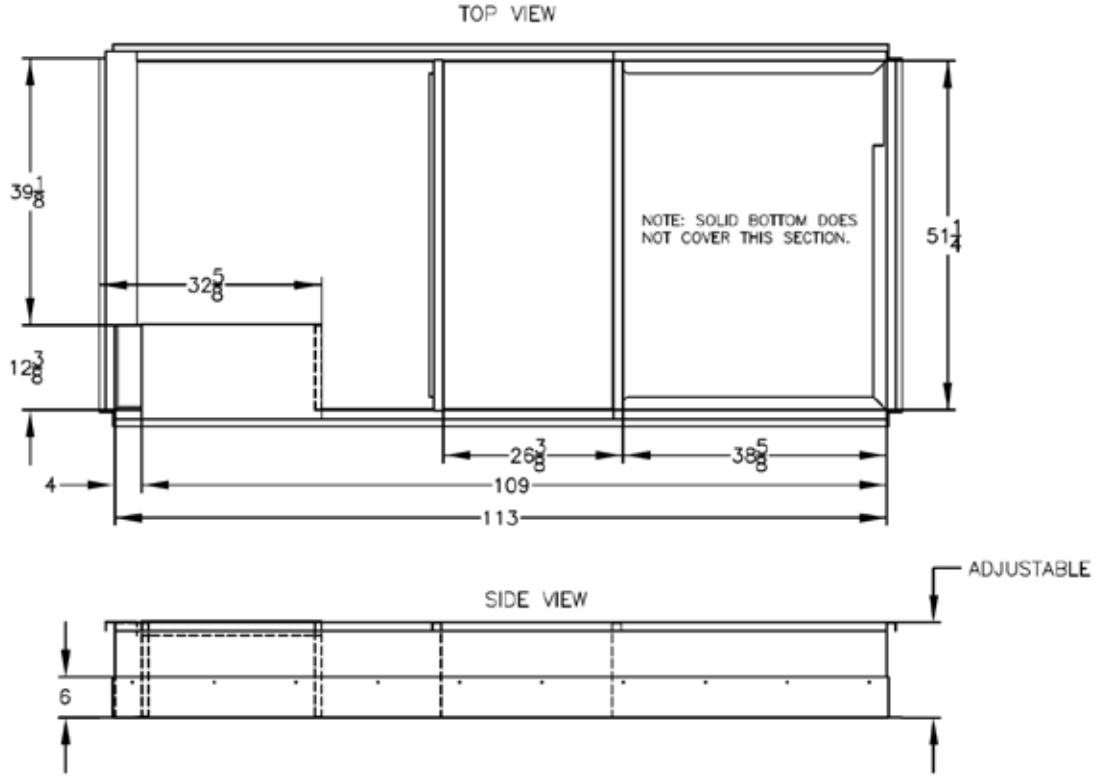
CURB WEIGHTS
14IN CURB=165LBS
24IN CURB=208LBS





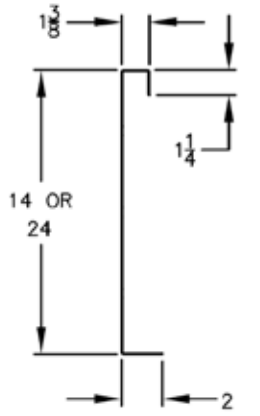
RNB-00054 REV:B 04/20/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

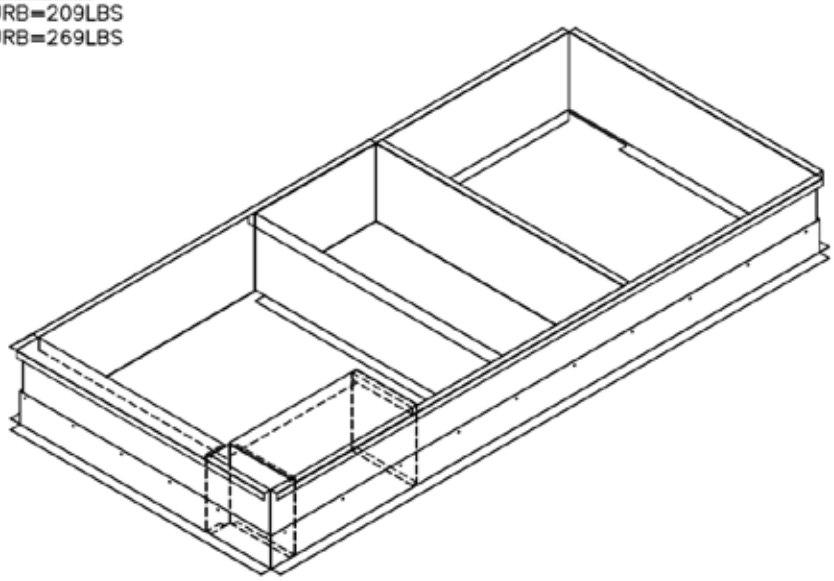
B Cabinet (9-15 Tons) Adjustable Pitch Solid Bottom Energy Recovery Wheel Curb



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

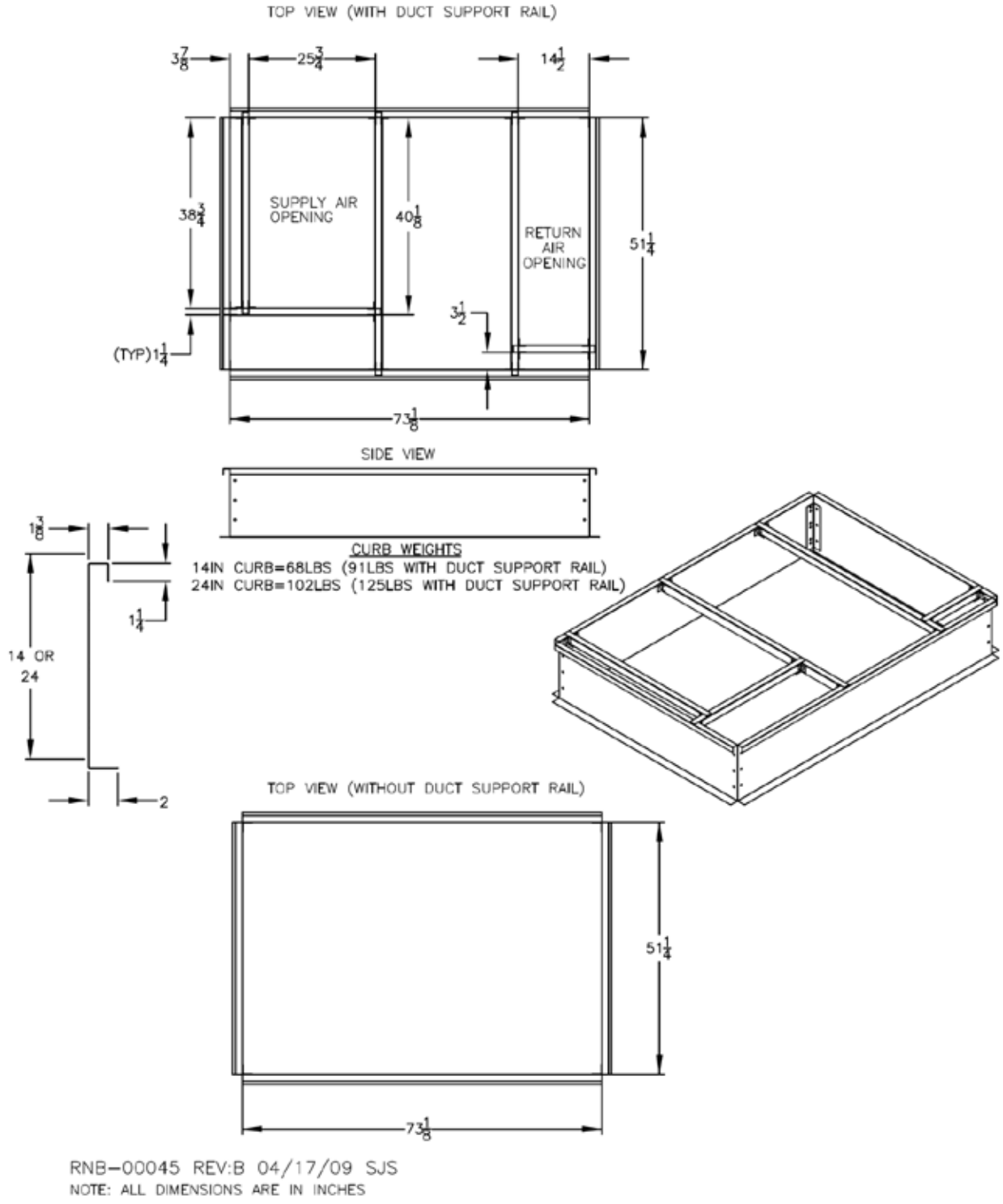
CURB WEIGHTS
14IN CURB=209LBS
24IN CURB=269LBS



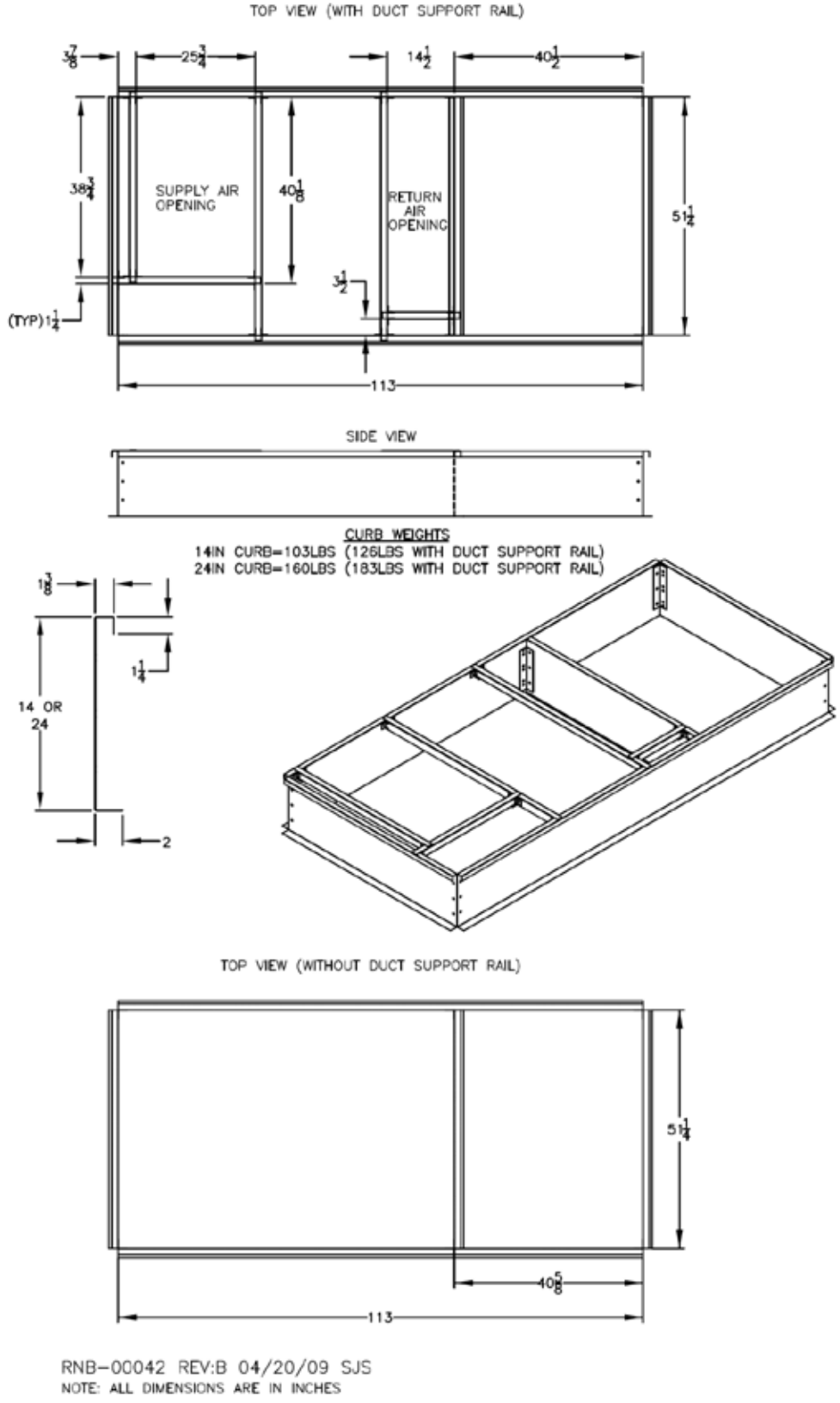


RNB-00055 REV:B 04/20/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Knock Down Standard and Power Exhaust Curb

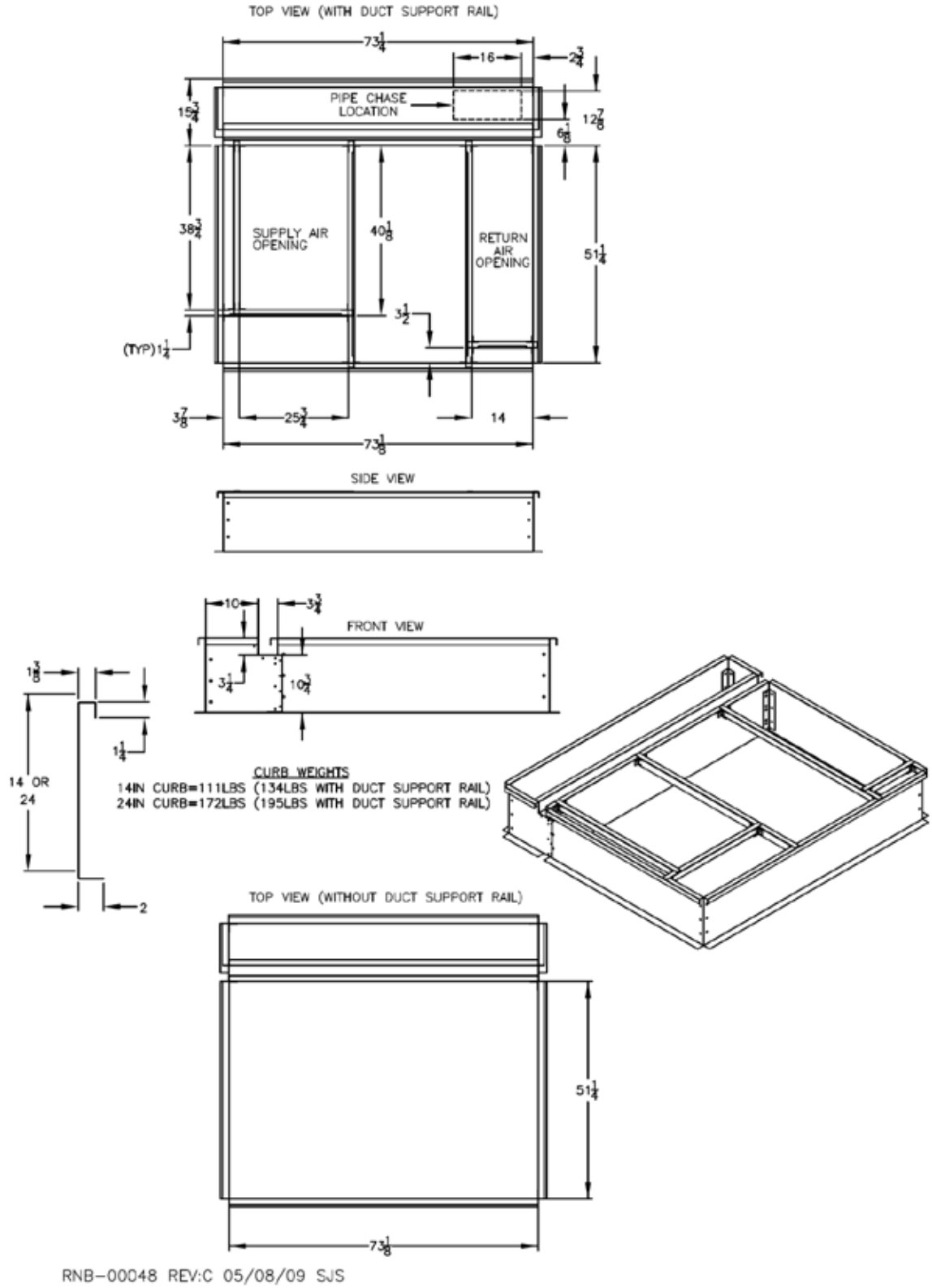


B Cabinet (9-15 Tons) Knock Down Energy Recovery Wheel Curb



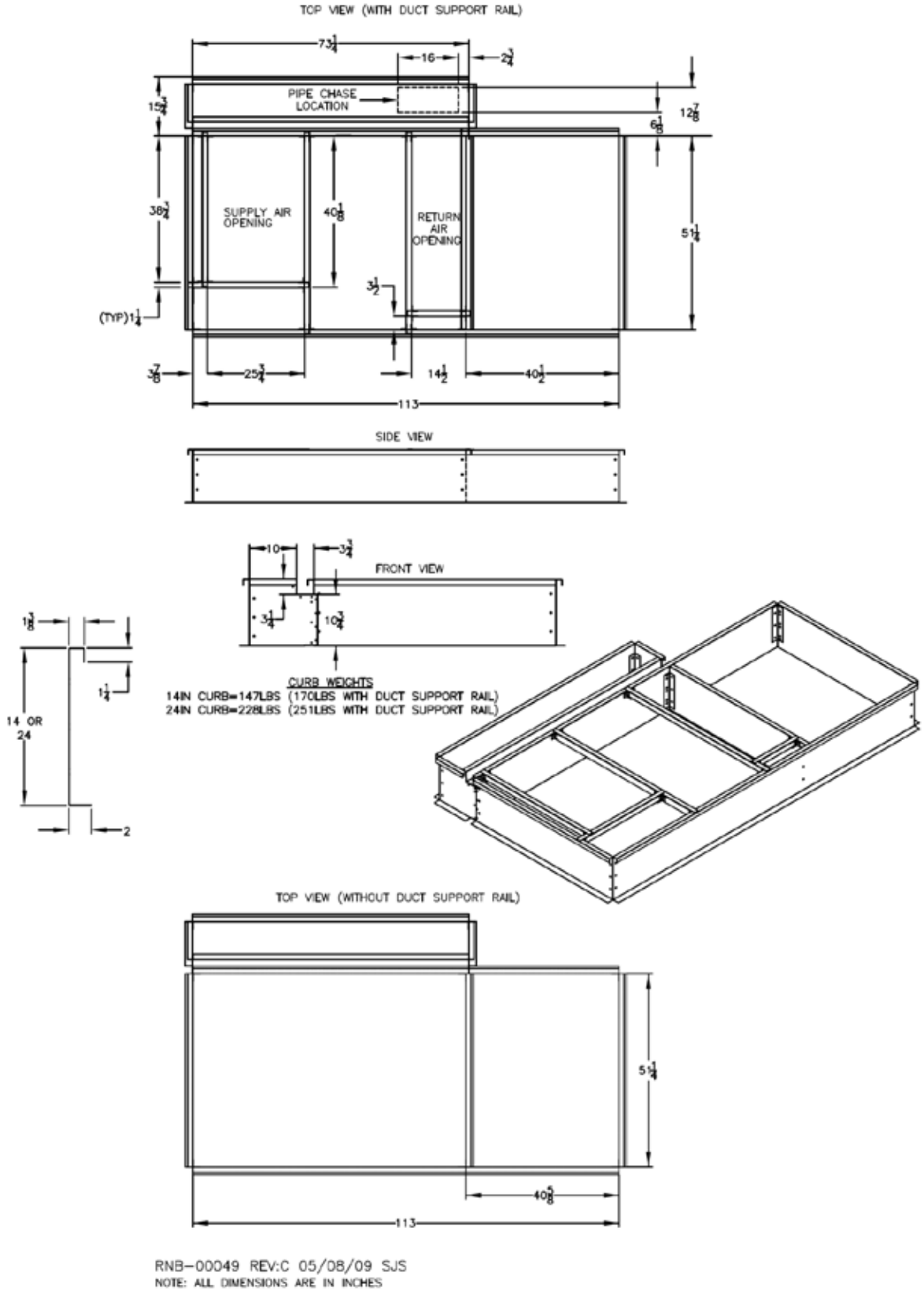
RNB-00042 REV:B 04/20/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser and Chilled Water Air Handler
Knock Down Standard and Power Exhaust Curb



RNB-00048 REV:C 05/08/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

B Cabinet (9-15 Tons) Water-Cooled Condenser and Chilled Water Air Handler Knock Down Energy Recovery Wheel Curb

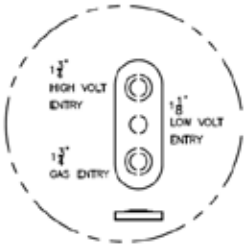


RNB-00049 REV:C 05/08/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

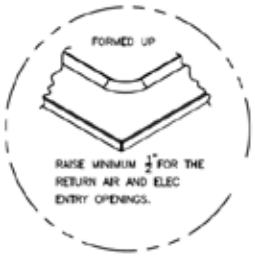
C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit

CLEARANCES

LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



DETAIL A

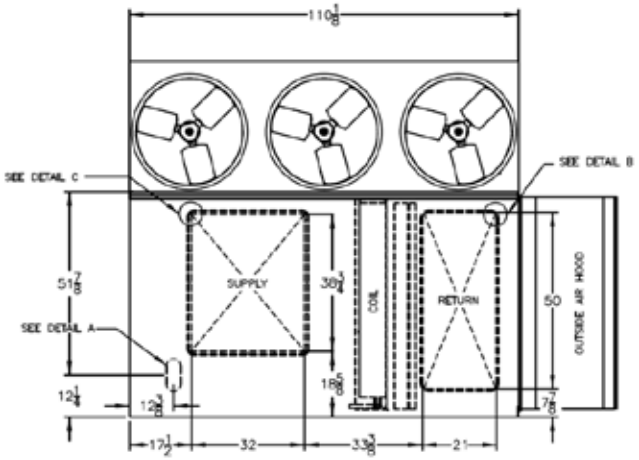


DETAIL B

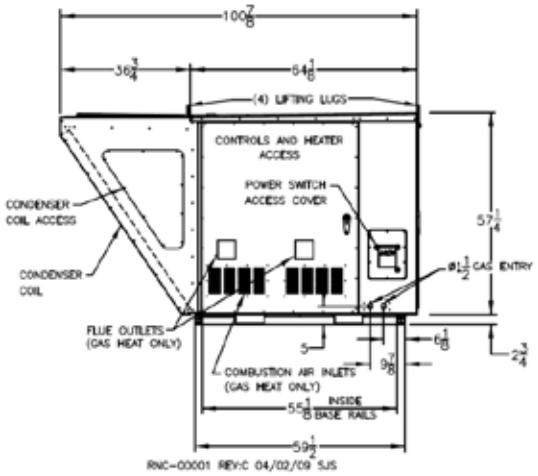
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

TOP VIEW



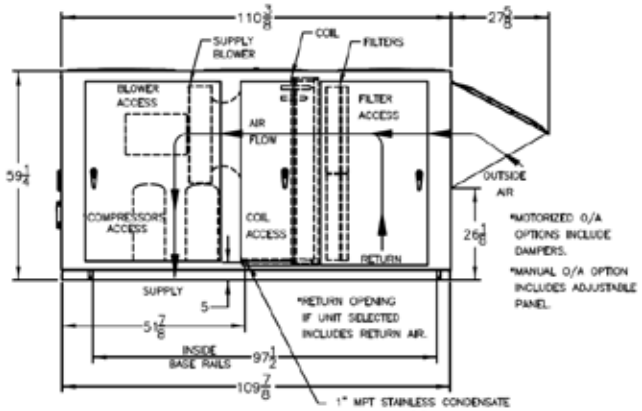
FRONT VIEW



RNC-00001 REV:C 04/02/09 SJS

NOTE: ALL DIMENSIONS ARE IN INCHES

RIGHT SIDE VIEW

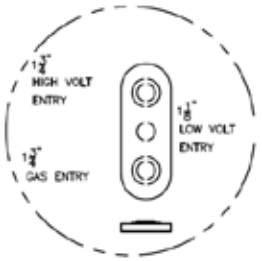


*MOTORIZED O/A OPTIONS INCLUDE DAMPERS.

*MANUAL O/A OPTION INCLUDES ADJUSTABLE PANEL.

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Economizer Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



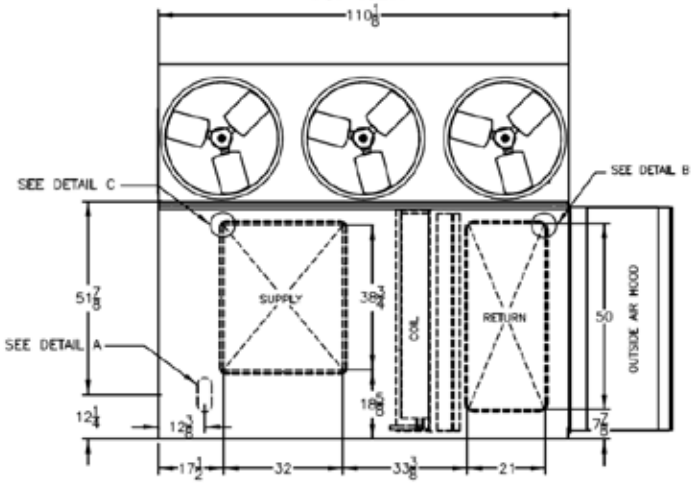
DETAIL A

DETAIL B

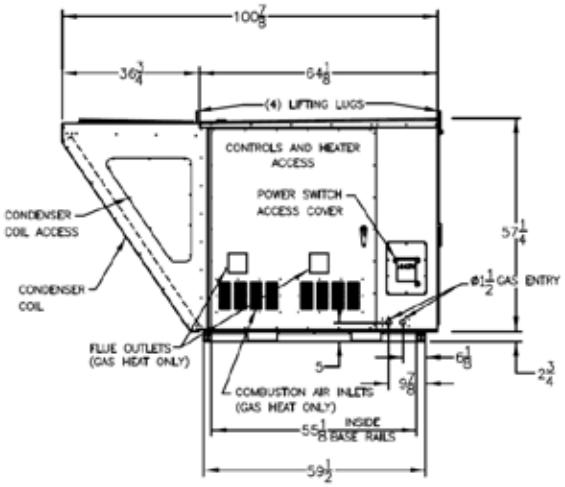
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

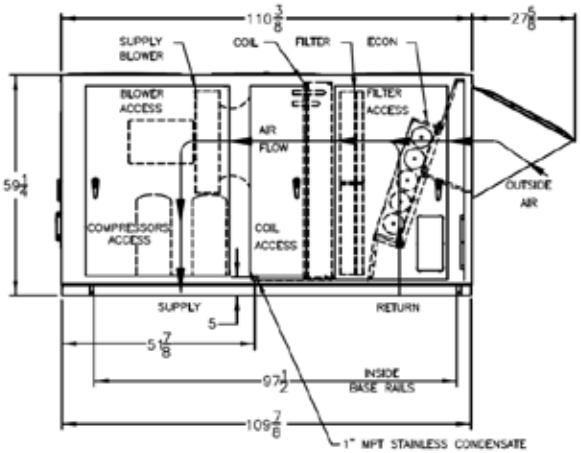
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

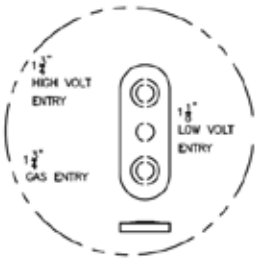


RNC-00002 REV:B 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Power Exhaust Option

CLEARANCES

LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



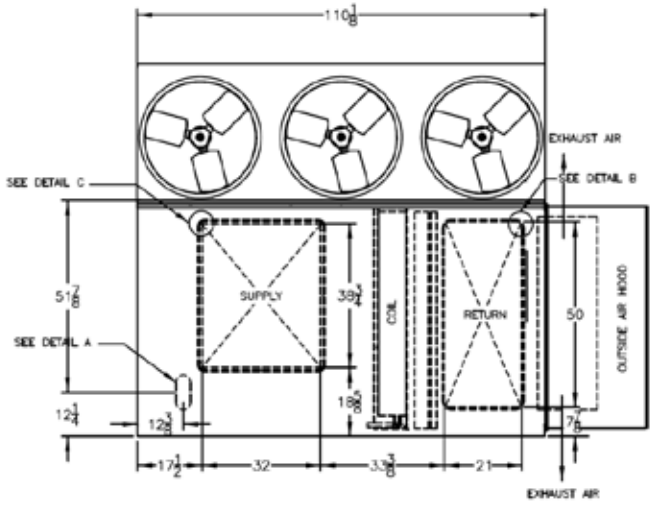
DETAIL A

DETAIL B

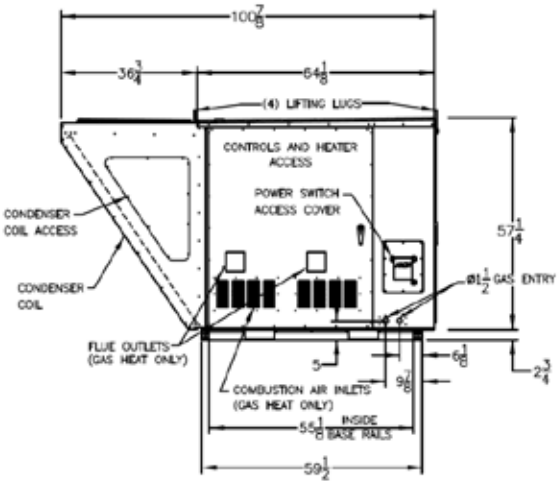
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

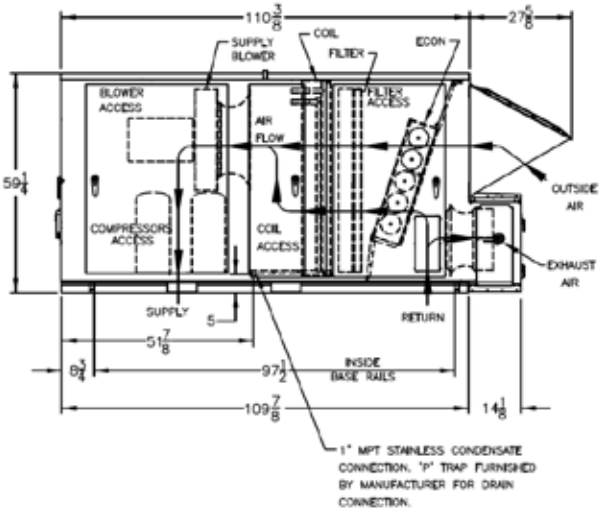
TOP VIEW



FRONT VIEW



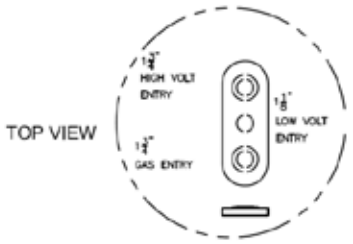
RIGHT SIDE VIEW



RNC-0000J REV:A 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Energy Recovery Wheel Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



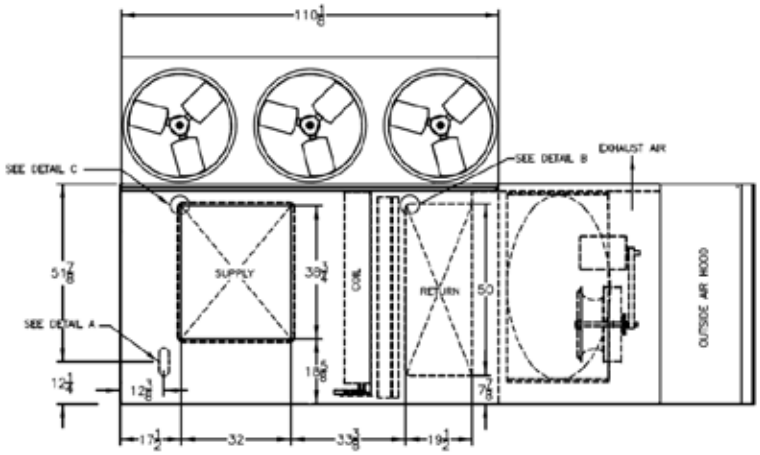
DETAIL A

DETAIL B

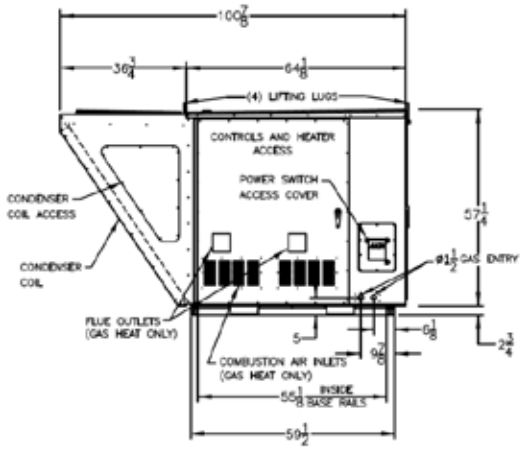
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

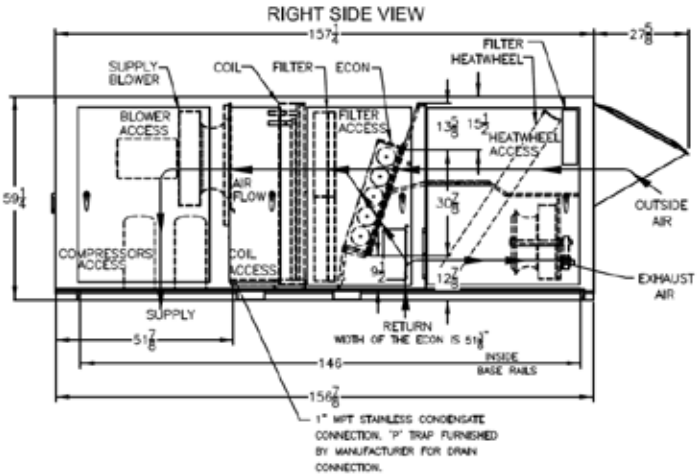
TOP VIEW



FRONT VIEW



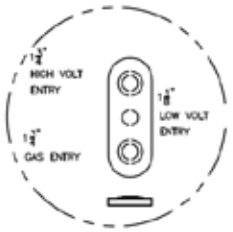
RIGHT SIDE VIEW



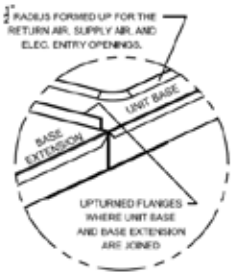
RNC-00005 REV:A 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Power Return Option

CLEARANCES	
LOCATION	* UNIT SIZE * 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



DETAIL A

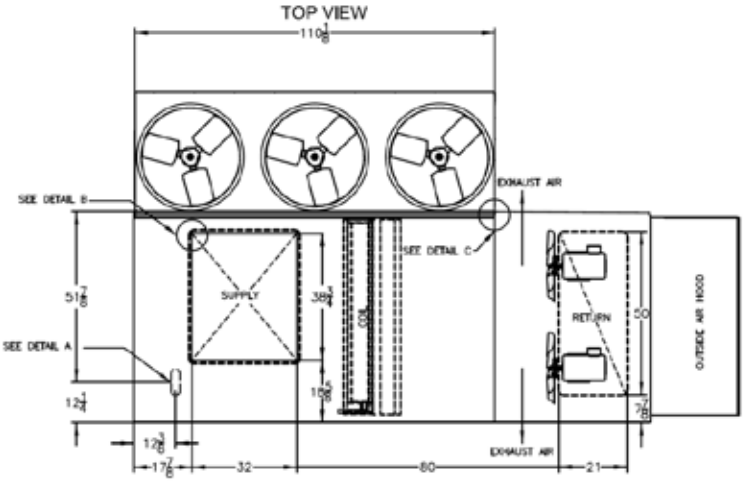


DETAIL C

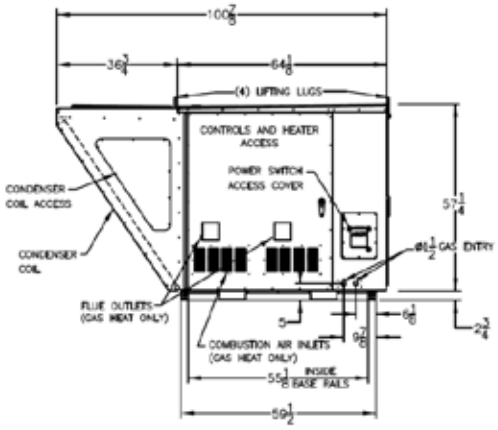
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL B

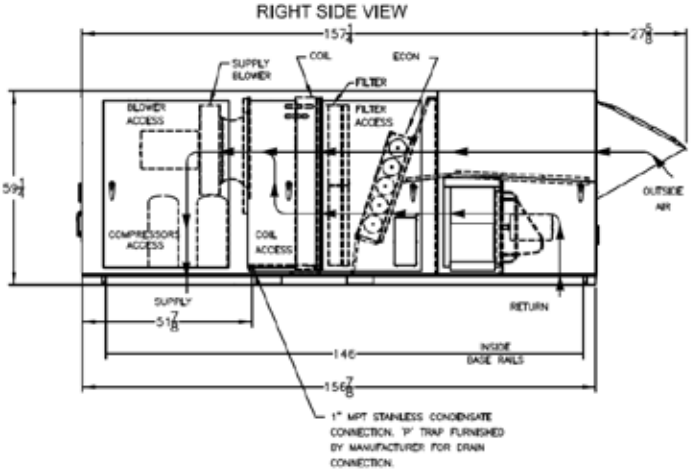
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

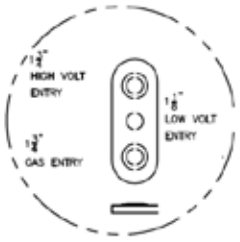


RNC-00004 REV:B 04/06/09 SJS
NOTE ALL DIMENSIONS ARE IN INCHES

1" MPT STAINLESS CONDENSATE CONNECTION. 'P' TRAP FURNISHED BY MANUFACTURER FOR DRAIN CONNECTION.

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



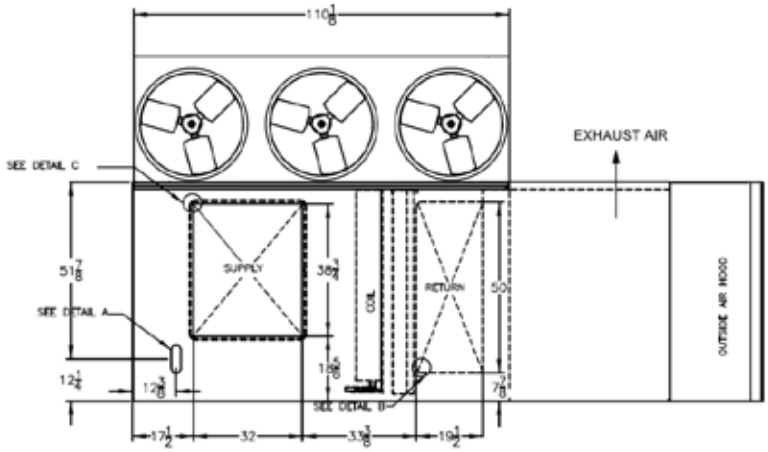
DETAIL A

DETAIL B

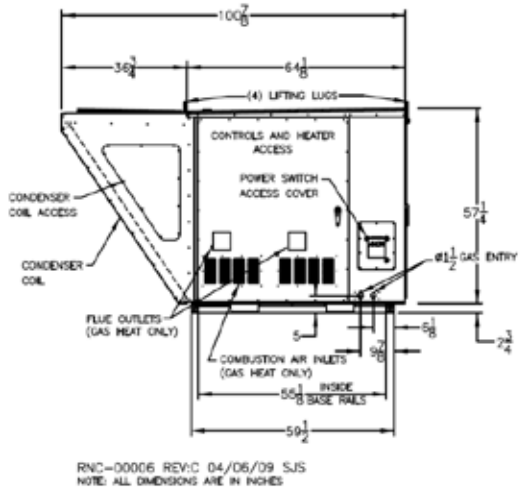
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

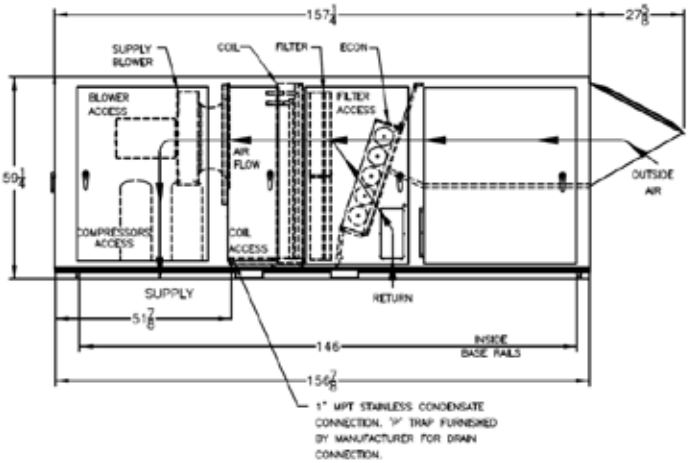
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

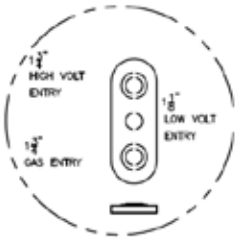


RNC-00006 REV:C 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES

LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



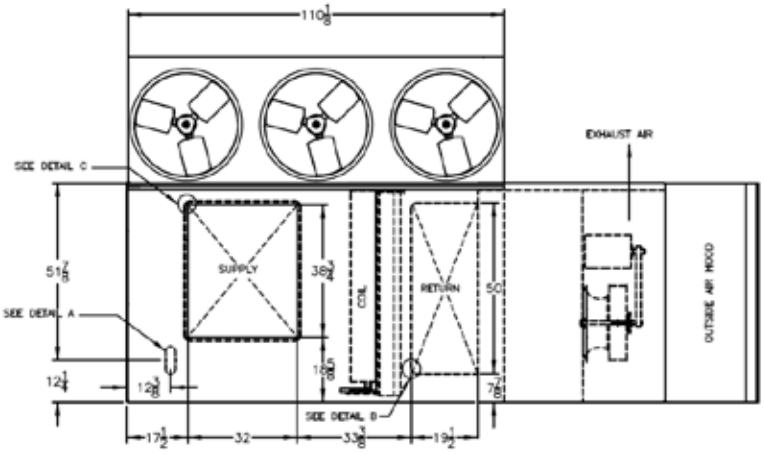
DETAIL A

DETAIL B

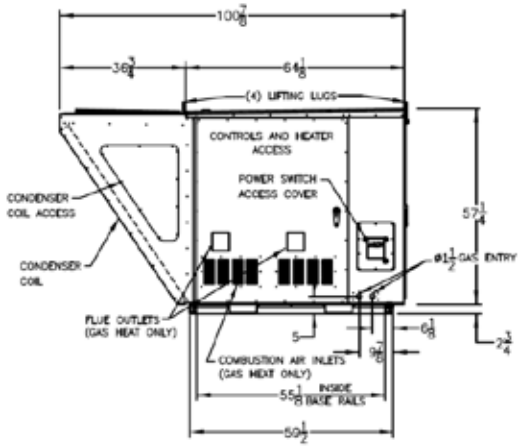
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

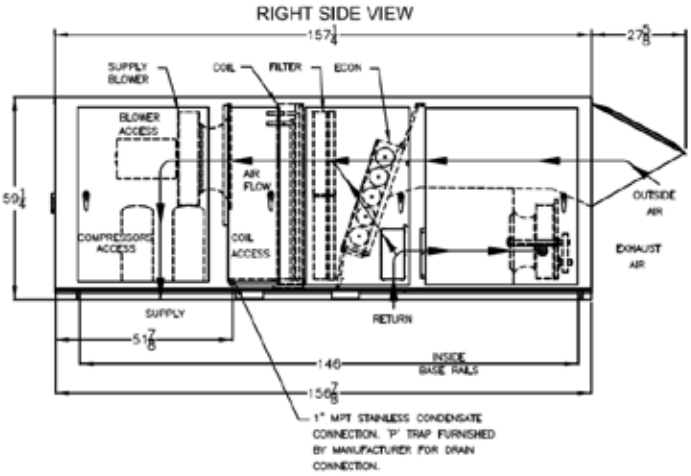
TOP VIEW



FRONT VIEW



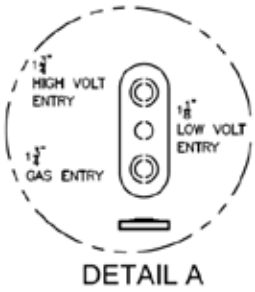
RIGHT SIDE VIEW



RNC-00007 REV:B 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
C Cabinet (16-25 and 30 Tons) Chilled Water Air Handler

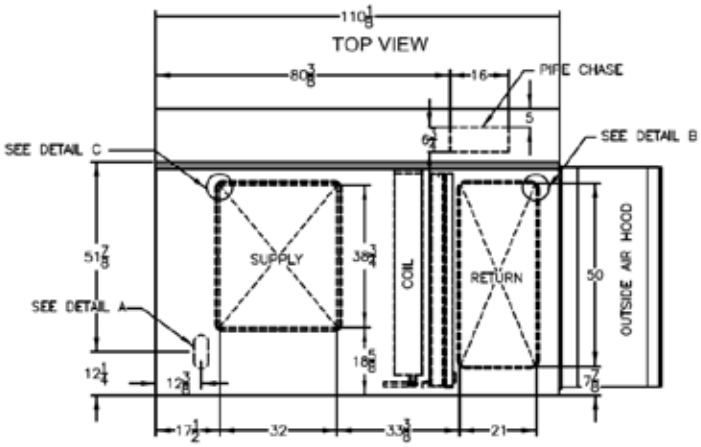
CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

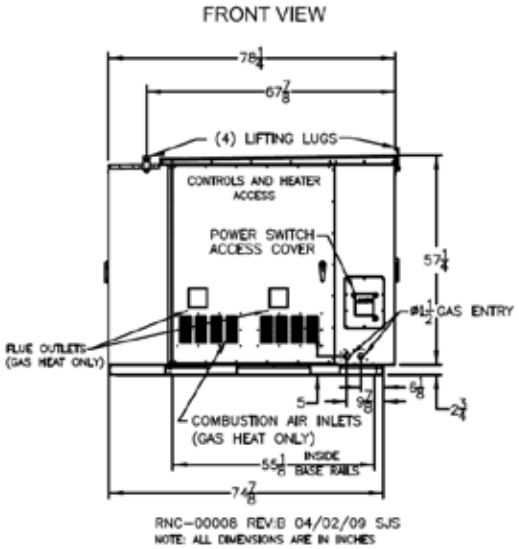


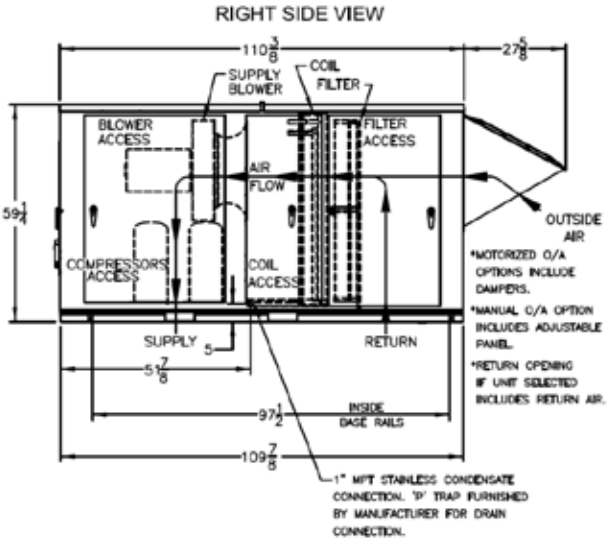
DETAIL A

DETAIL B

DETAIL C



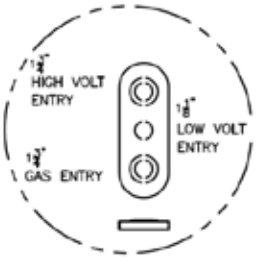




RNC-00008 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
C Cabinet (16-25 and 30 Tons) Chilled Water Air Handler
Economizer Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

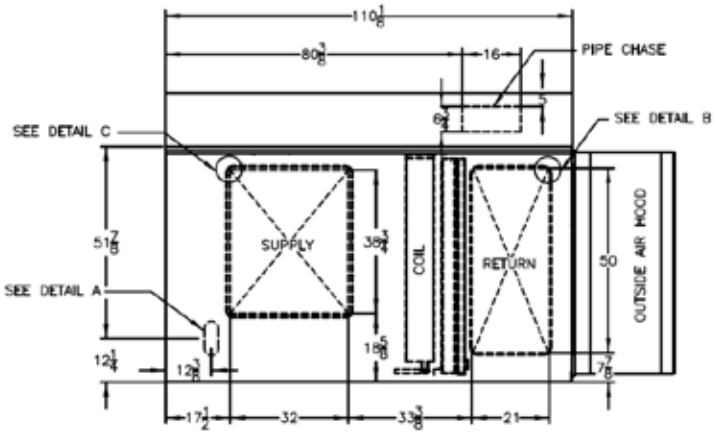


DETAIL A

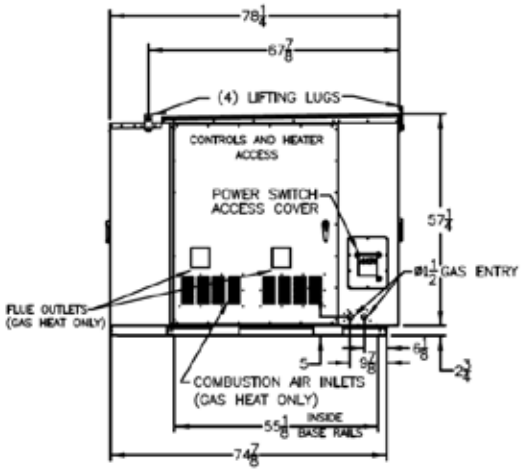
DETAIL B

DETAIL C

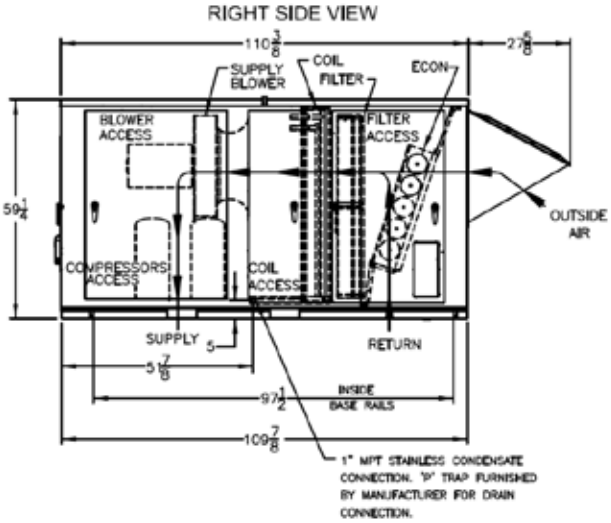
TOP VIEW



FRONT VIEW



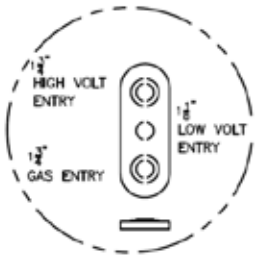
RIGHT SIDE VIEW



RNC-00009 REV:B 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
C Cabinet (16-25 and 30 Tons) Chilled Water Air Handler
Power Exhaust Option

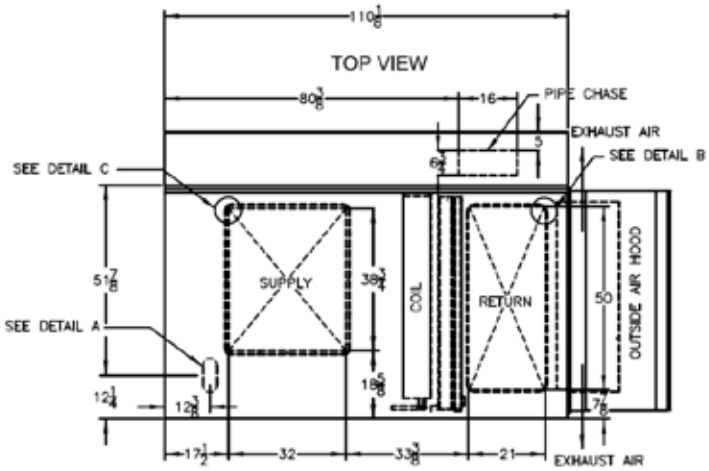
CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

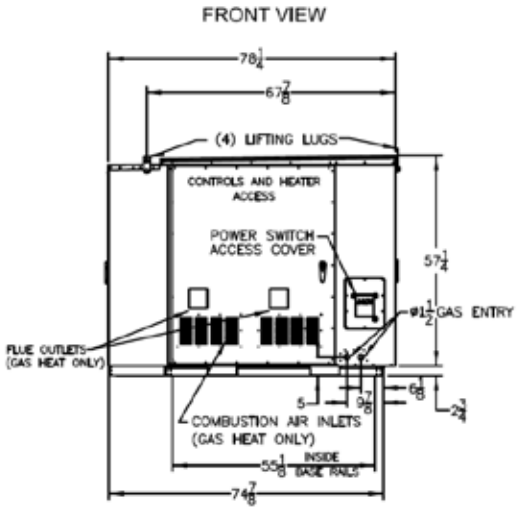


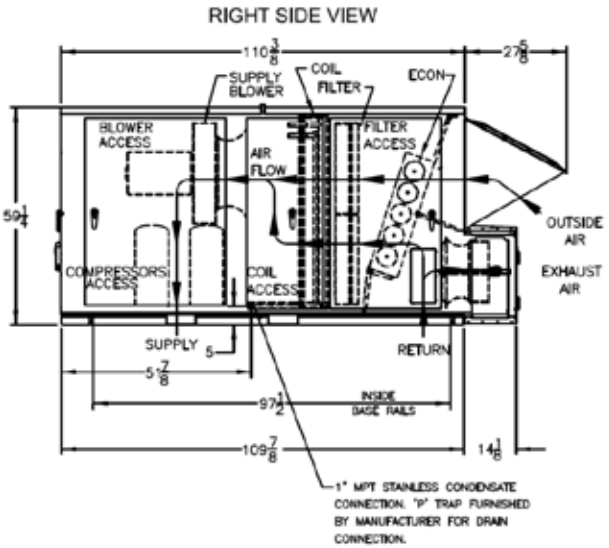
DETAIL A

DETAIL B

DETAIL C



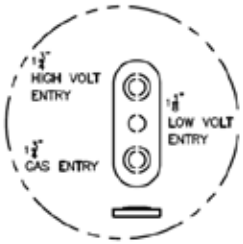




RNC-00010 REV:B 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
C Cabinet (16-25 and 30 Tons) Chilled Water Air Handler
Energy Recovery Wheel Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

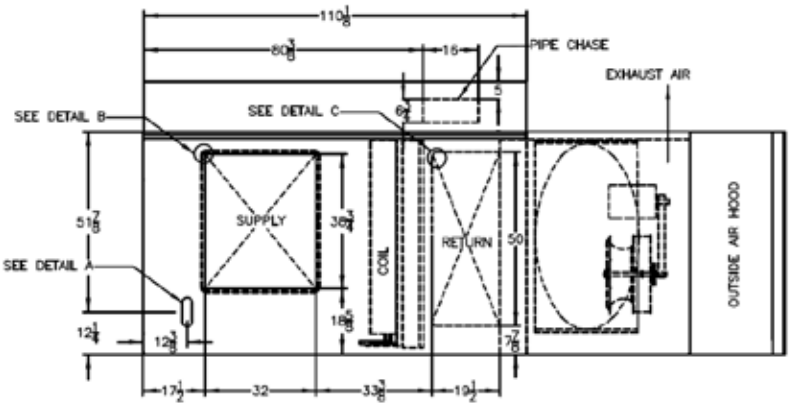


DETAIL A

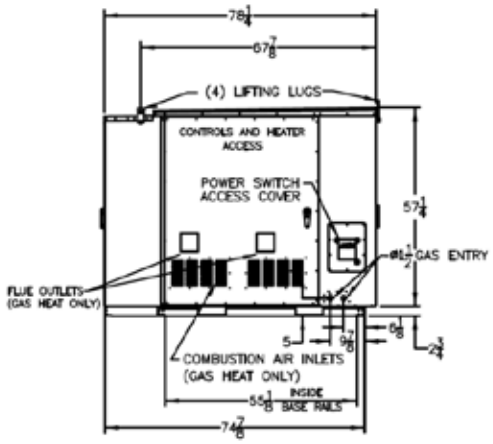
DETAIL C

DETAIL B

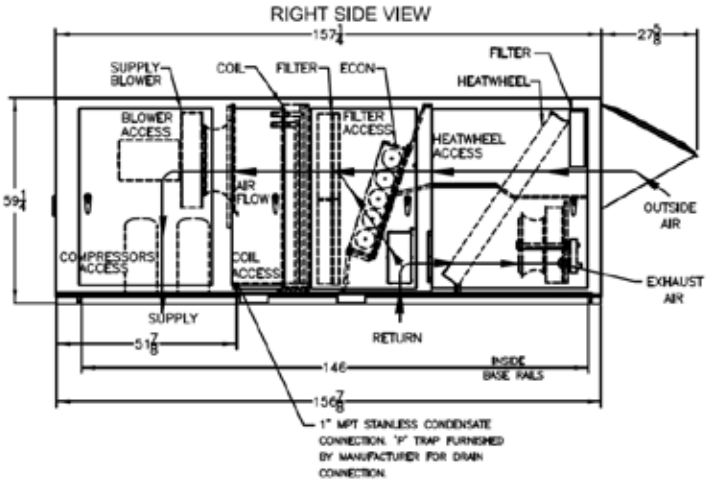
TOP VIEW



FRONT VIEW



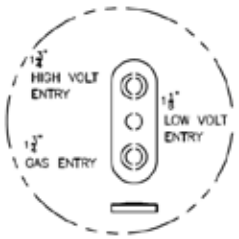
RIGHT SIDE VIEW



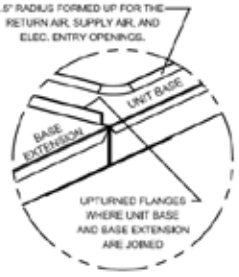
RNC-00012 REV:A 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
C Cabinet (16-25 and 30 Tons) Chilled Water Air Handler
Power Return Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED



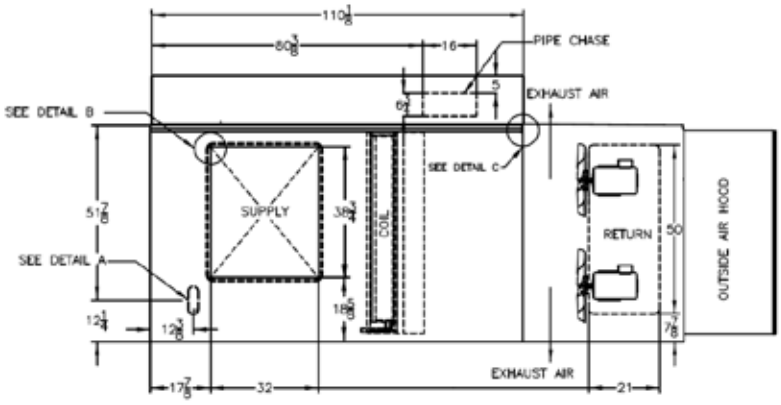
DETAIL A



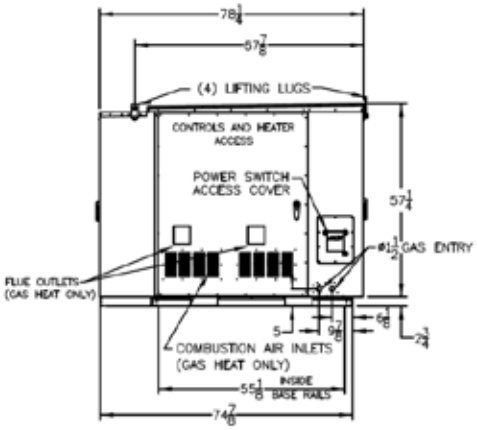
DETAIL C

DETAIL B

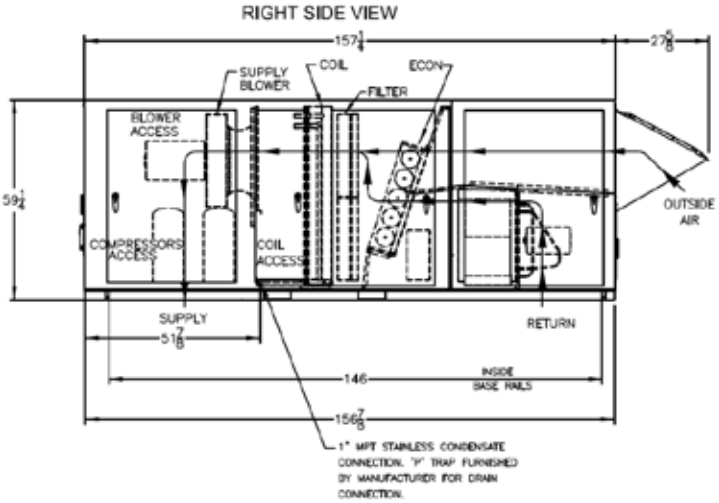
TOP VIEW



FRONT VIEW



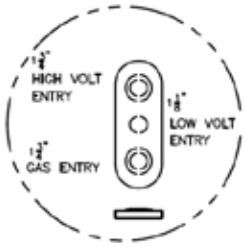
RIGHT SIDE VIEW



RNC-00011 REV:B 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
C Cabinet (16-25 and 30 Tons) Chilled Water Air Handler
Empty Energy Recovery Wheel Option Box

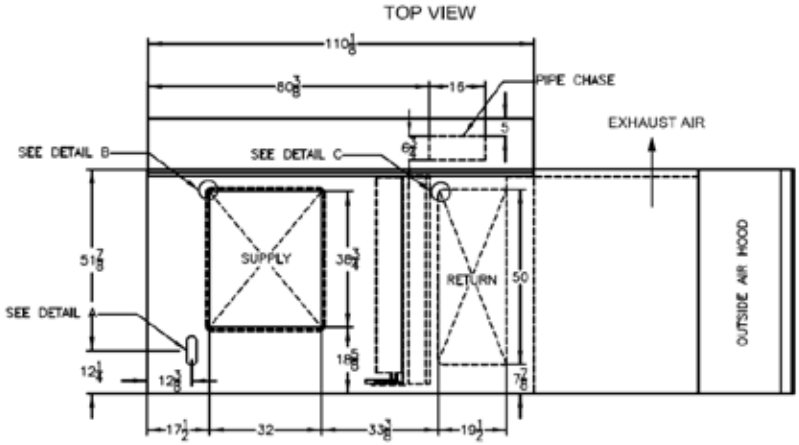
CLEARANCES	
LOCATION	* UNIT SIZE * 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

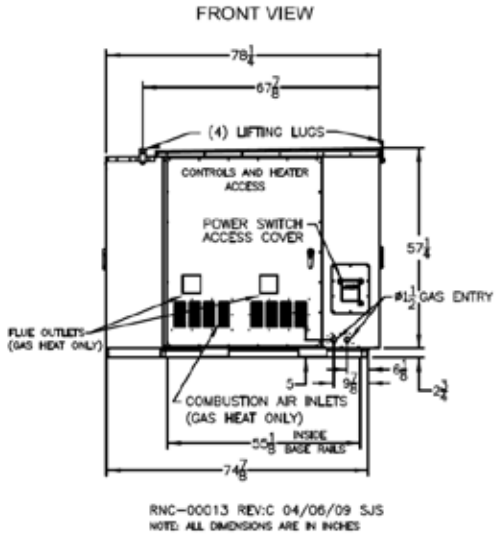


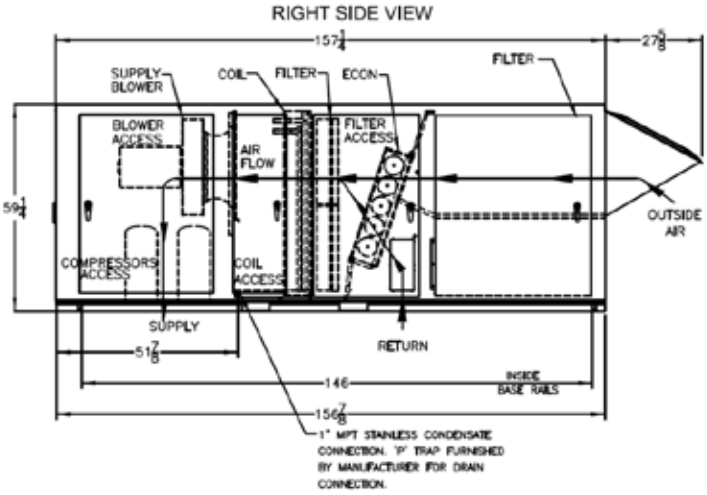
DETAIL A

DETAIL C

DETAIL B



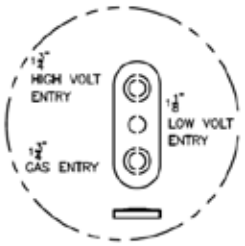




RNC-00013 REV:C 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
C Cabinet (16-25 and 30 Tons) Chilled Water Air Handler
Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

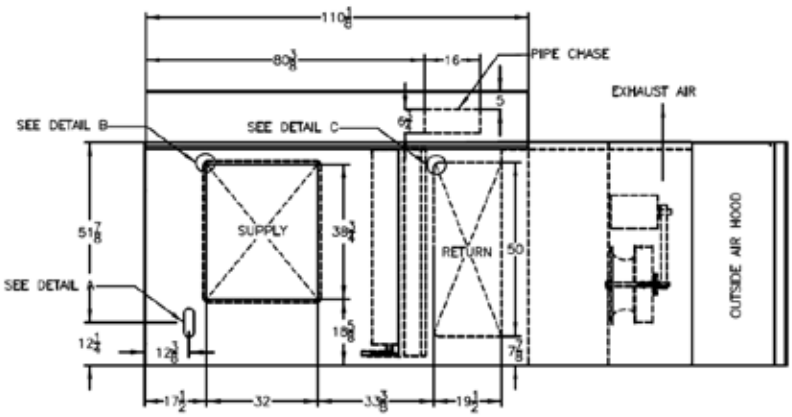


DETAIL A

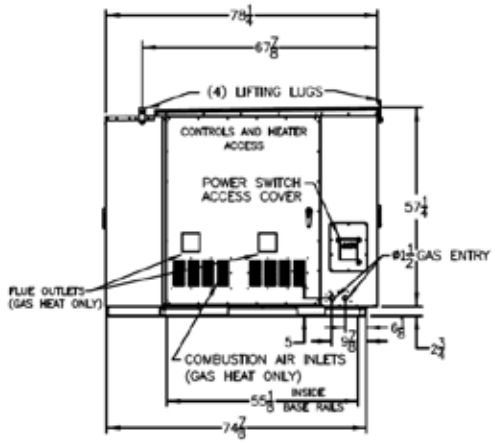
DETAIL C

DETAIL B

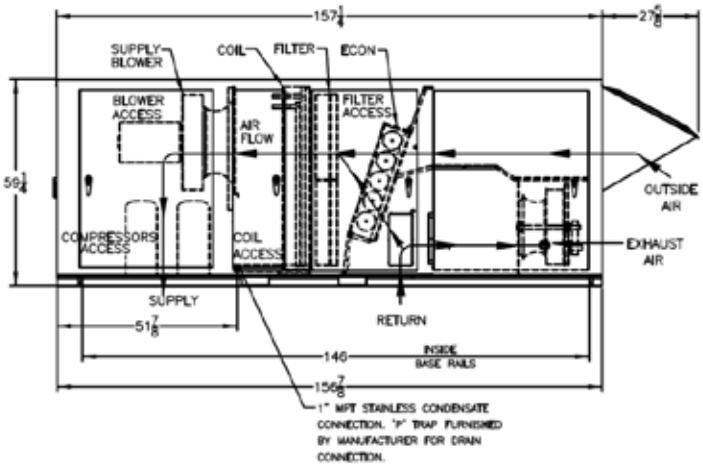
TOP VIEW



FRONT VIEW



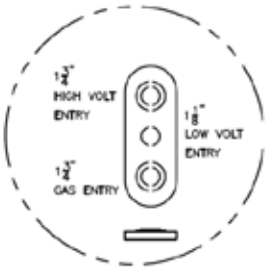
RIGHT SIDE VIEW



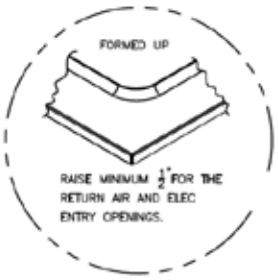
RNC-00014 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) DX or No Cooling Air Handler

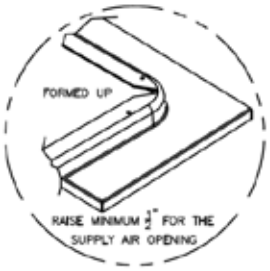
CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



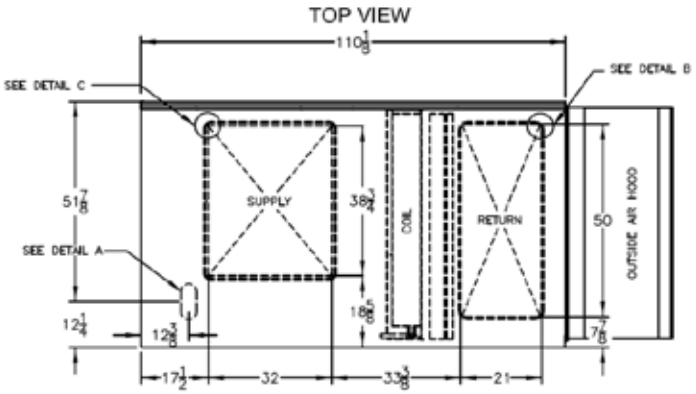
DETAIL A

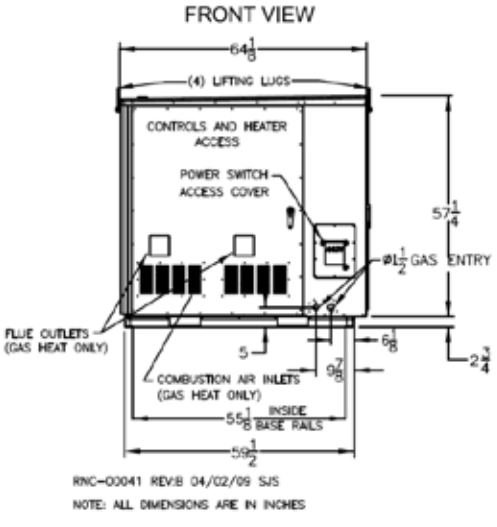


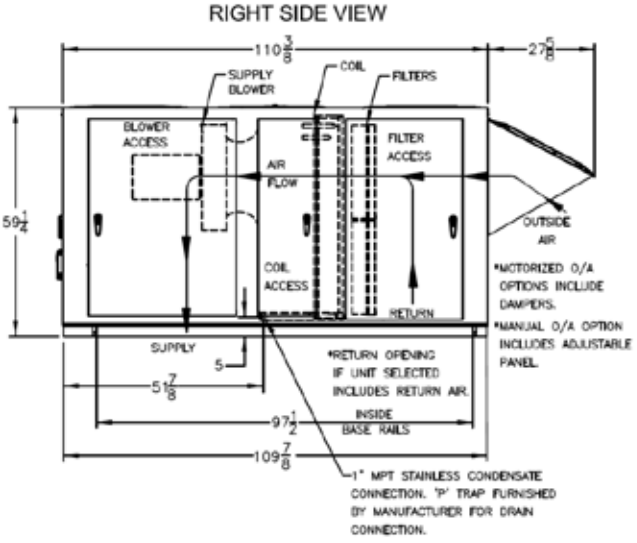
DETAIL B



DETAIL C

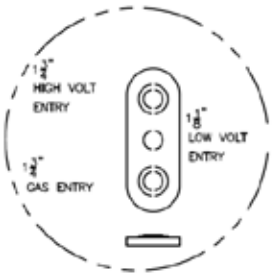




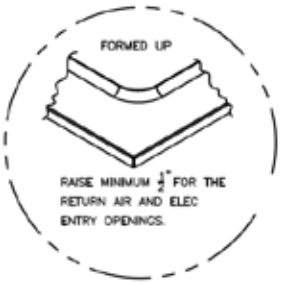


C Cabinet (16-25 and 30 Tons) DX or No Cooling Air Handler
Economizer Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

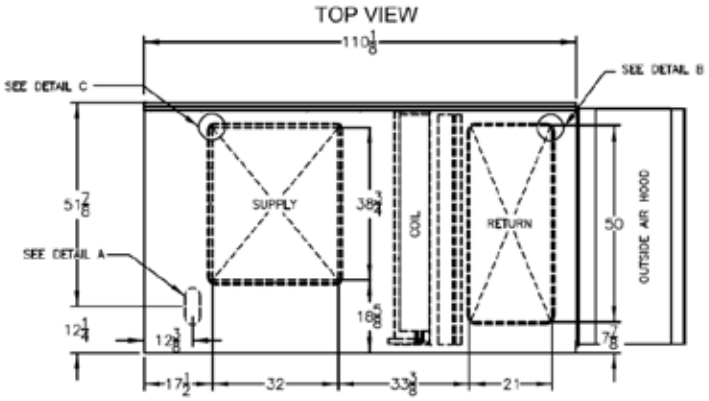


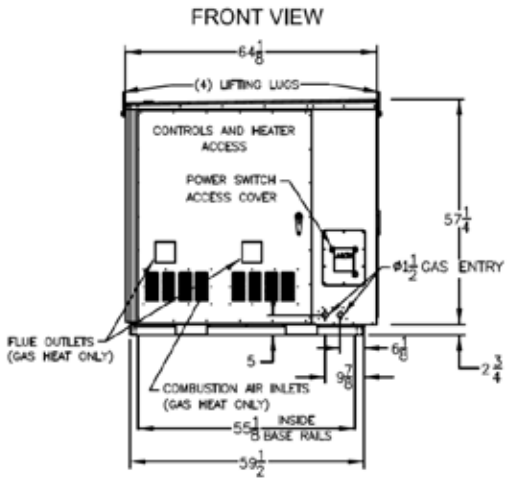
DETAIL A

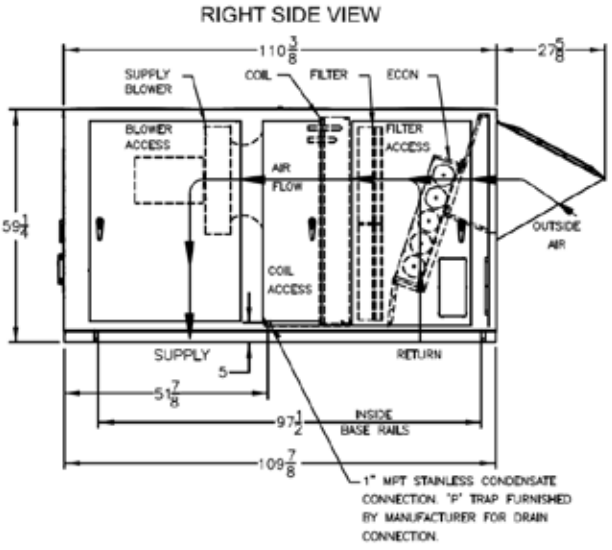


DETAIL B

DETAIL C



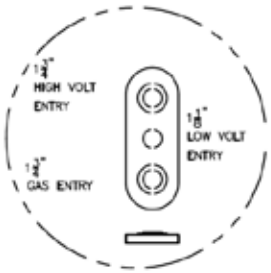




RNC-00042 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) DX or No Cooling Air Handler
Power Exhaust Option

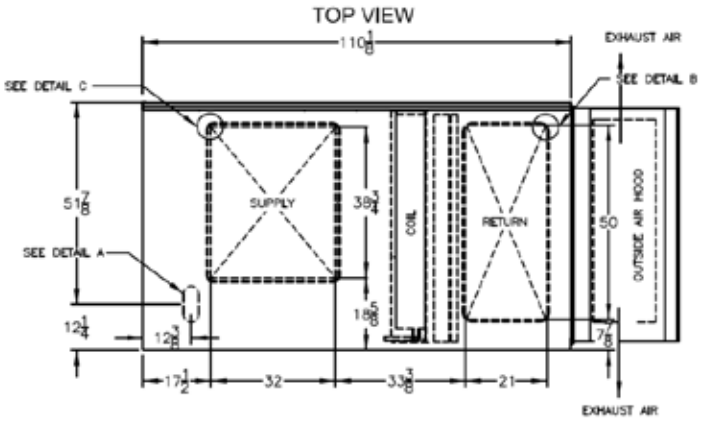
CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

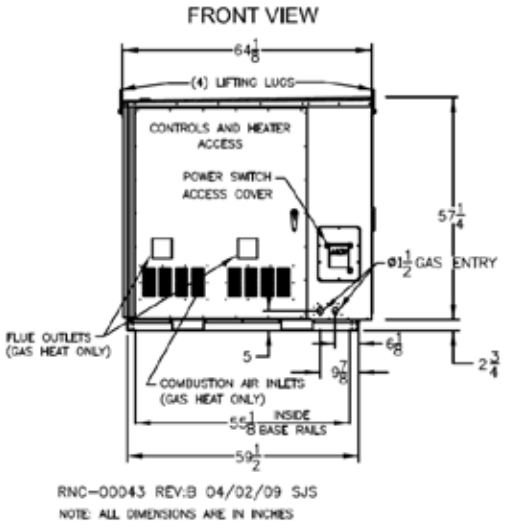


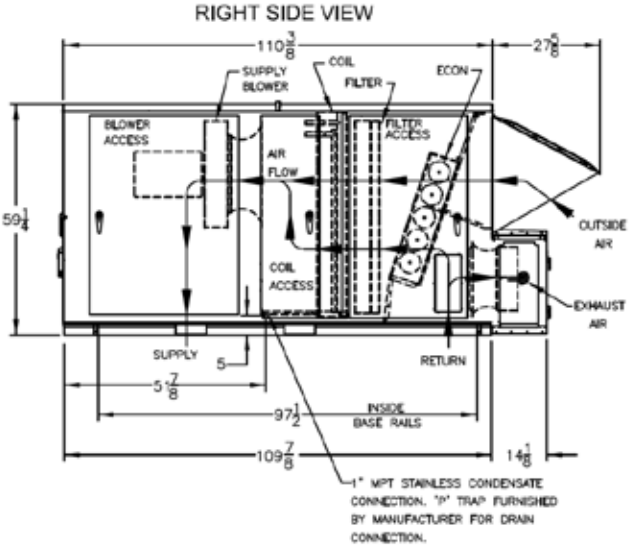
DETAIL A

DETAIL B

DETAIL C



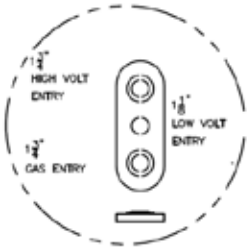




RNC-00043 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) DX or No Cooling Air Handler
Energy Recovery Wheel Option

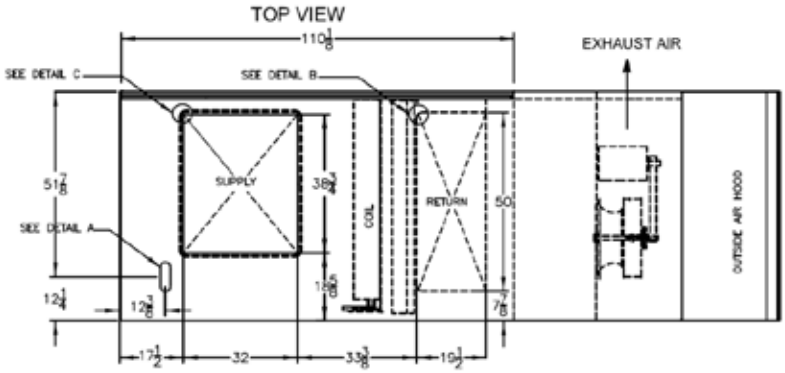
CLEARANCES	
LOCATION	• UNIT SIZE • 8 - 15 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

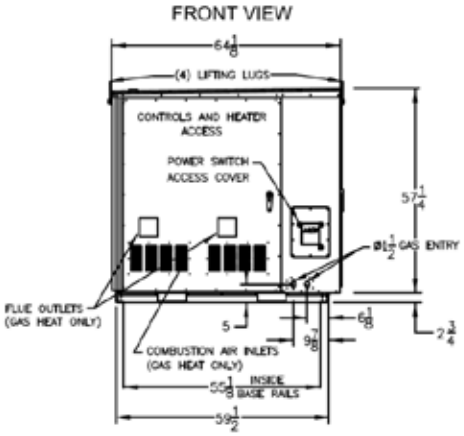


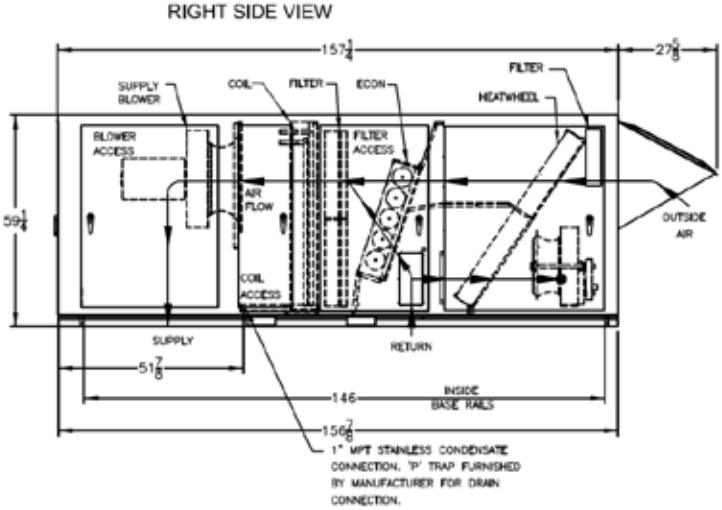
DETAIL A

DETAIL B

DETAIL C





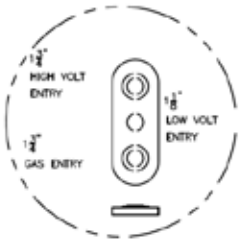


RNC-00045 REV:A 04/02/09 SJS

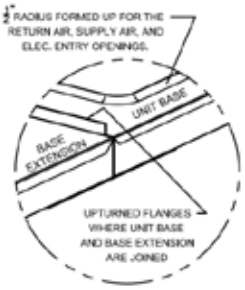
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) DX or No Cooling Air Handler
Power Return Option

CLEARANCES	
LOCATION	* UNIT SIZE * 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

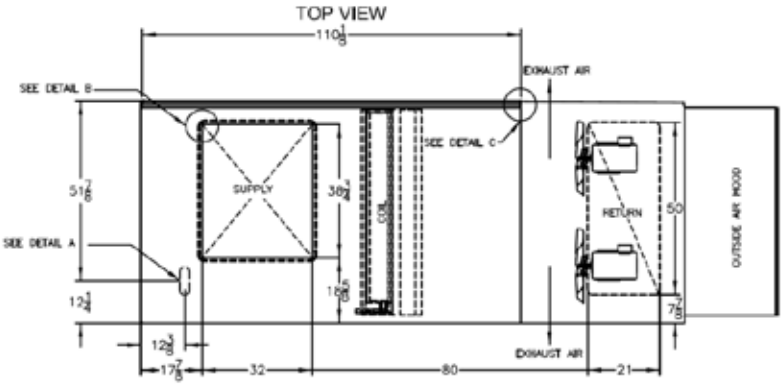


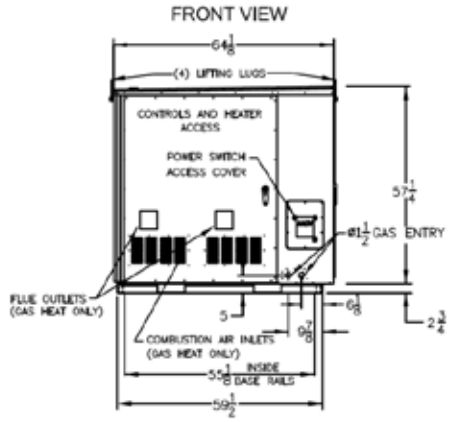
DETAIL A

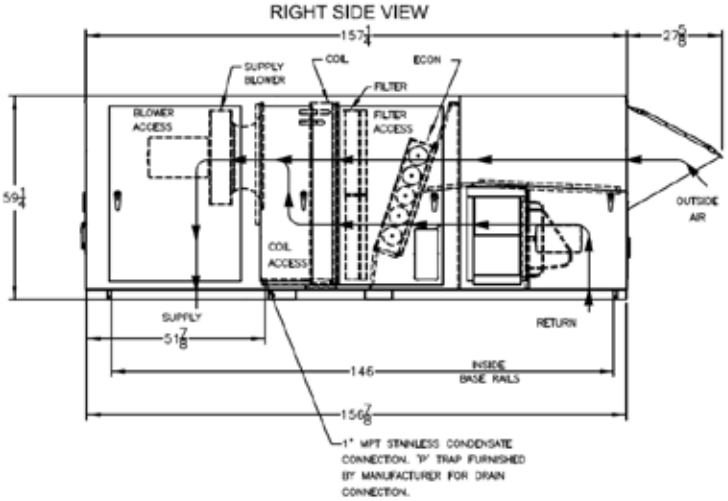


DETAIL C

DETAIL B



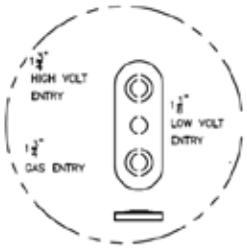




RNC-00044 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) DX or No Cooling Air Handler
Empty Energy Recovery Wheel Option Box

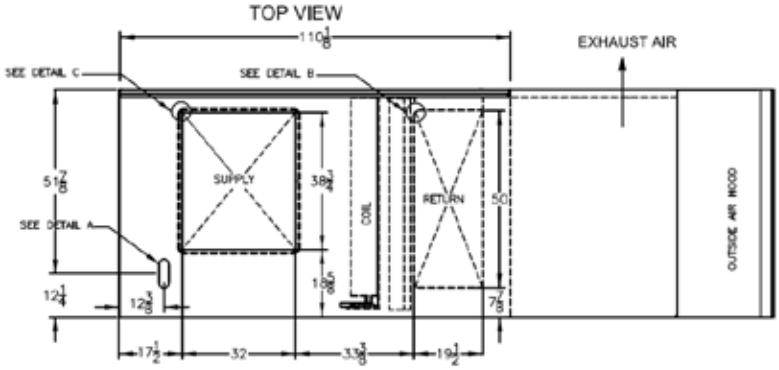
CLEARANCES	
LOCATION	* UNIT SIZE * 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

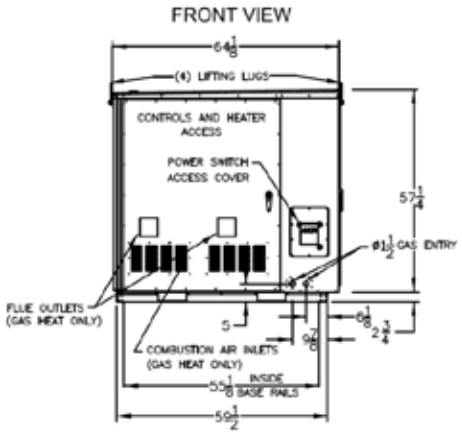


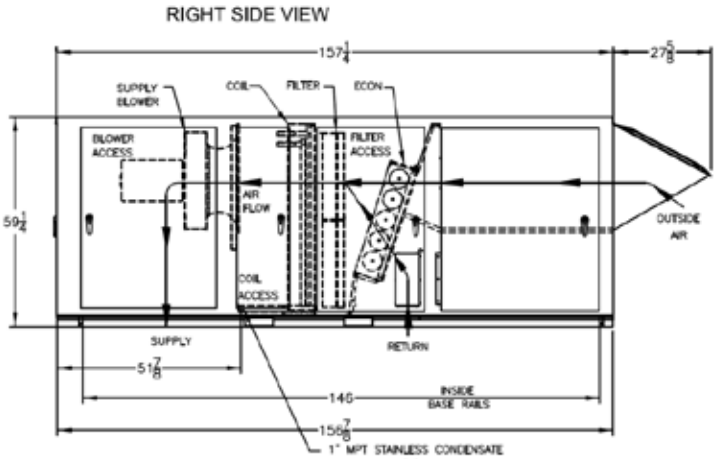
DETAIL A

DETAIL B

DETAIL C



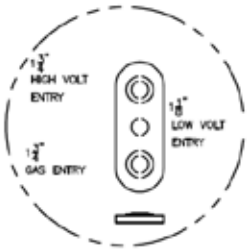




RNC-00046 REV:C 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) DX or No Cooling Air Handler
Empty Energy Recovery Wheel Option Box with Power Exhaust

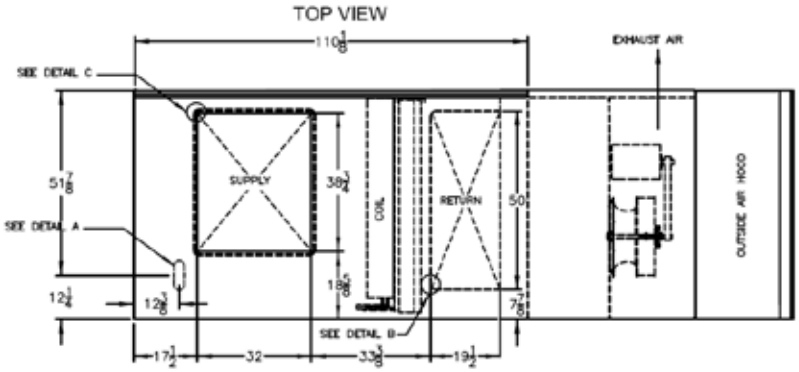
CLEARANCES	
LOCATION	* UNIT SIZE * 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED

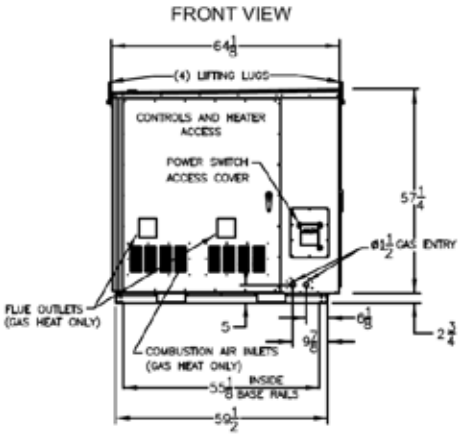


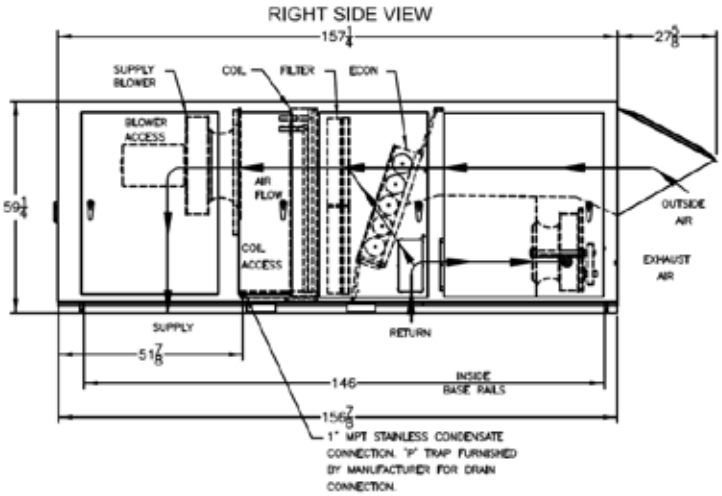
DETAIL A

DETAIL B

DETAIL C



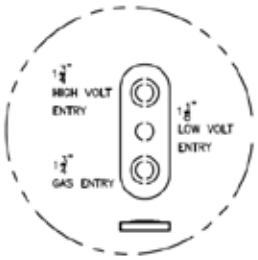




RNC-00047 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Economizer Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



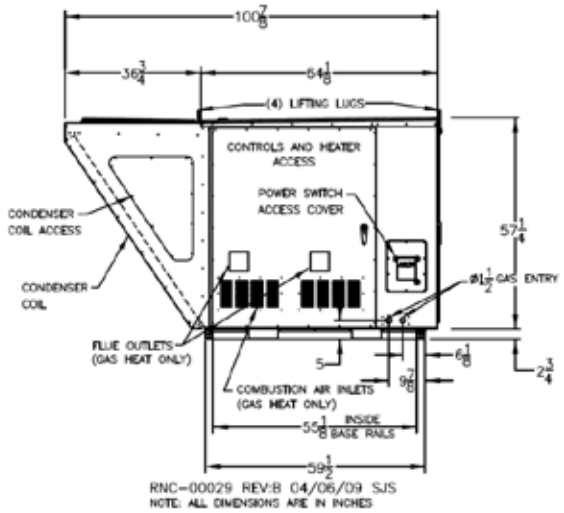
DETAIL A

DETAIL B

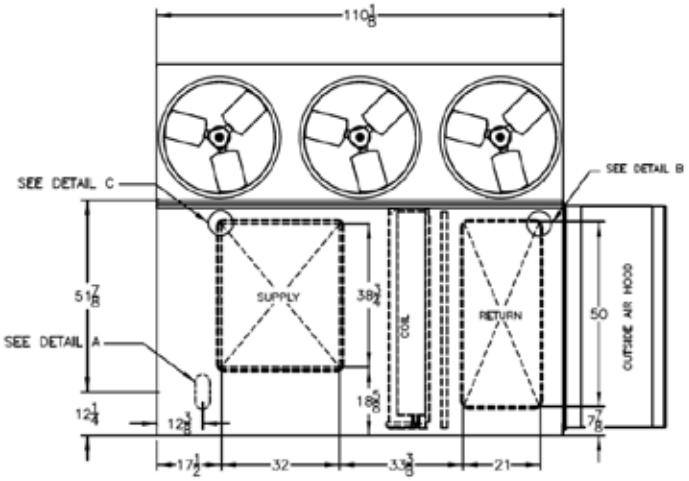
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

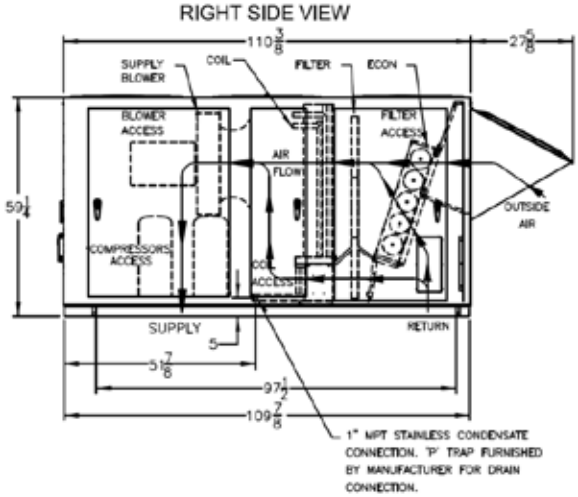
FRONT VIEW



TOP VIEW



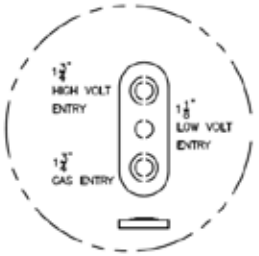
RIGHT SIDE VIEW



RNC-00029 REV:B 04/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Exhaust Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



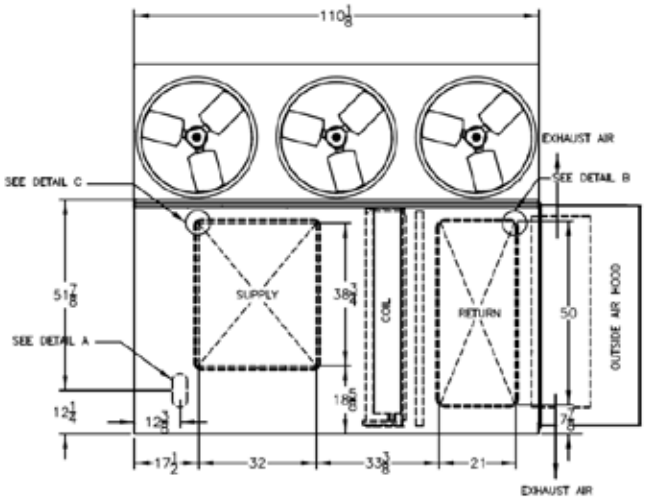
DETAIL A

DETAIL B

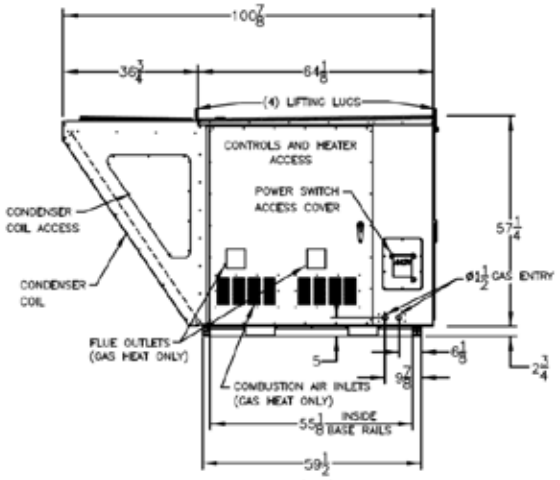
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

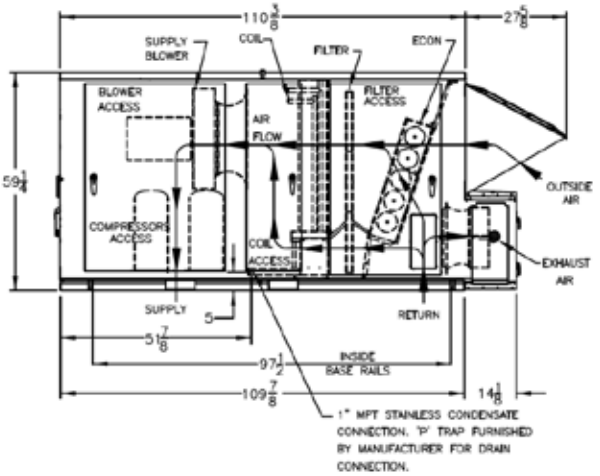
TOP VIEW



FRONT VIEW



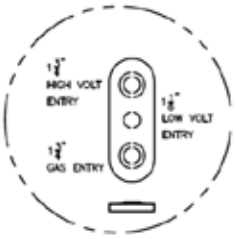
RIGHT SIDE VIEW



RNC-00030 REV:B 04/03/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Energy Recovery Wheel Option

CLEARANCES	
LOCATION	* UNIT SIZE * 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



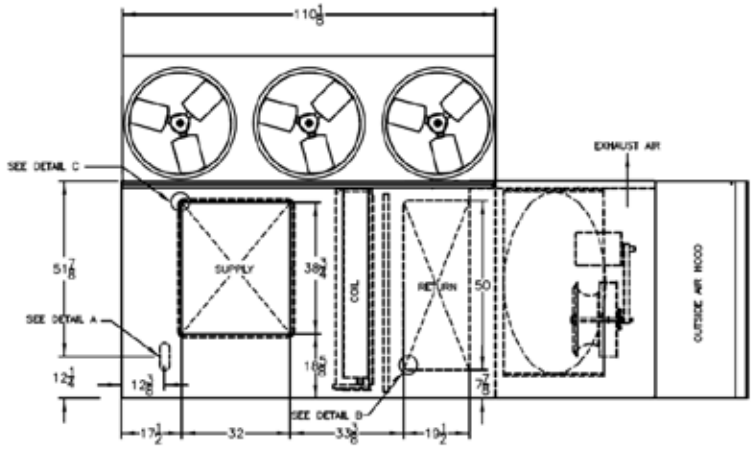
DETAIL A

DETAIL B

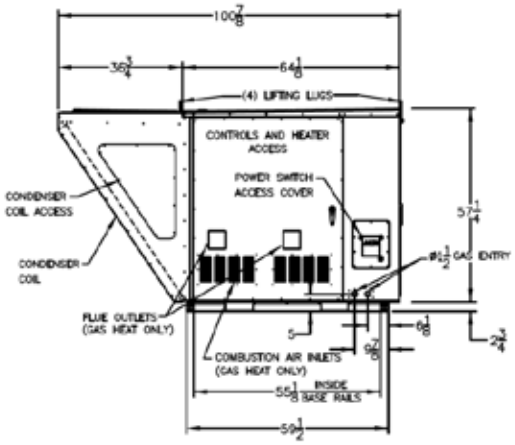
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

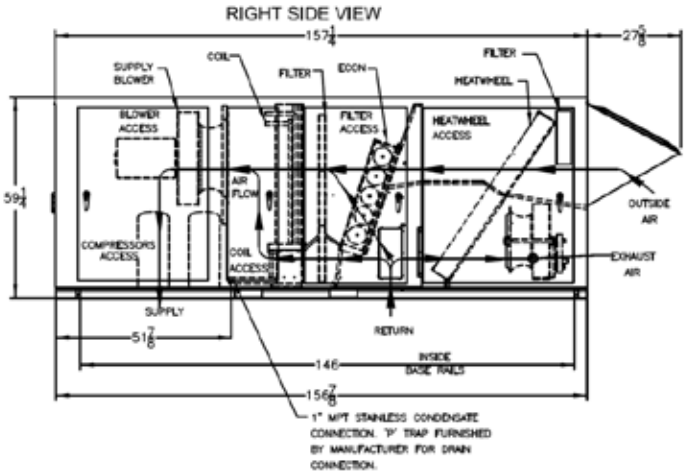
TOP VIEW



FRONT VIEW



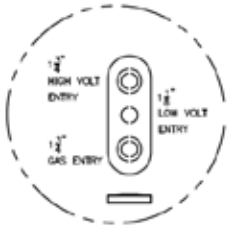
RIGHT SIDE VIEW



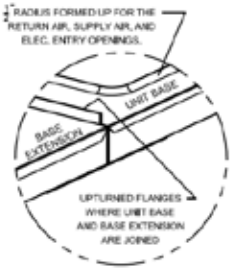
RNC-00032 REV:B 04/03/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Return Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



DETAIL A

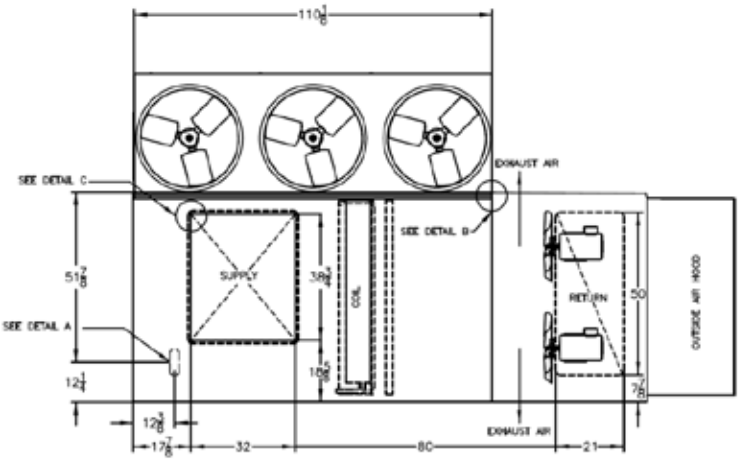


DETAIL B

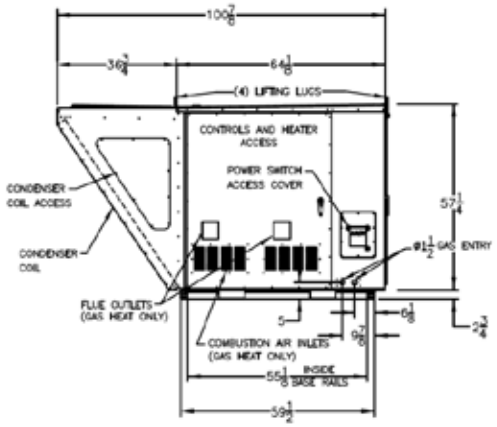
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

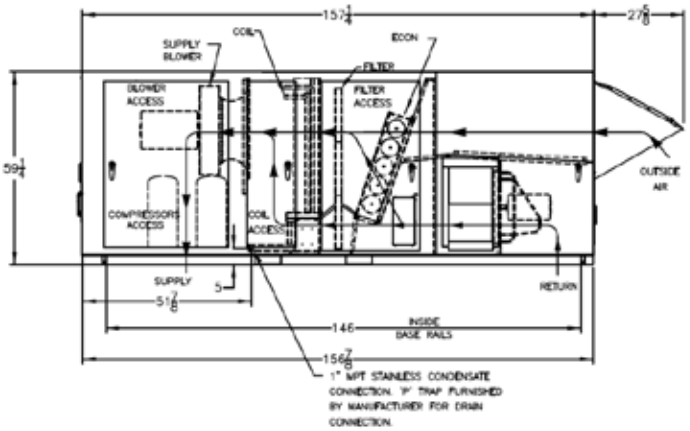
TOP VIEW



FRONT VIEW



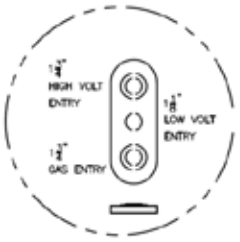
RIGHT SIDE VIEW



RNC-00031 REV:B 04/03/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box

CLEARANCES	
LOCATION	- UNIT SIZE - 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



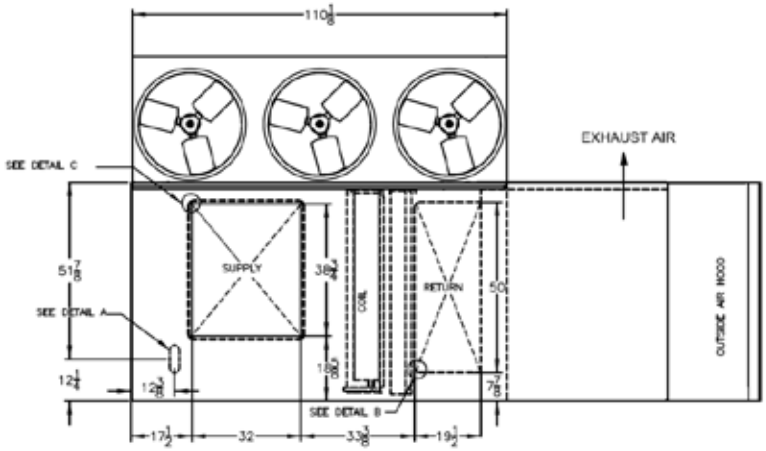
DETAIL A

DETAIL B

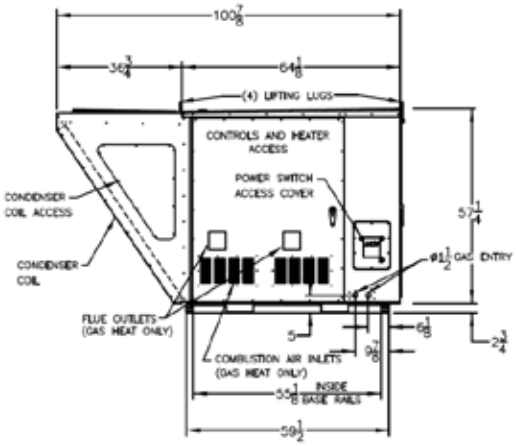
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

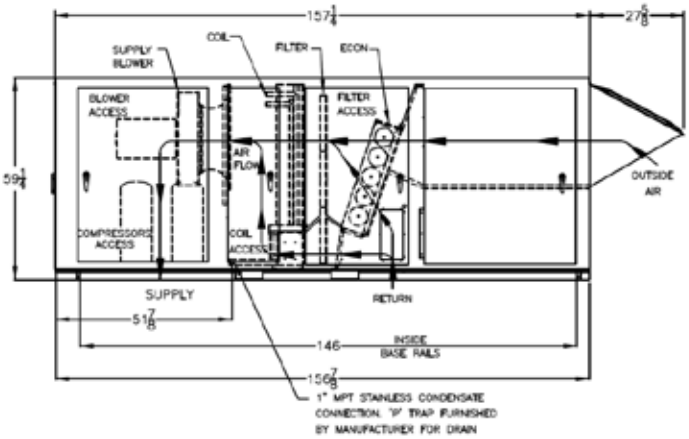
TOP VIEW



FRONT VIEW



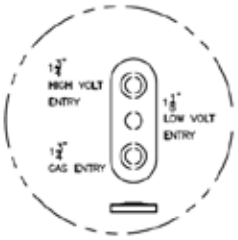
RIGHT SIDE VIEW



RNC-00033 REV:C 04/03/09 SJS
NOTE ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	60
TOP	UNOBSTRUCTED



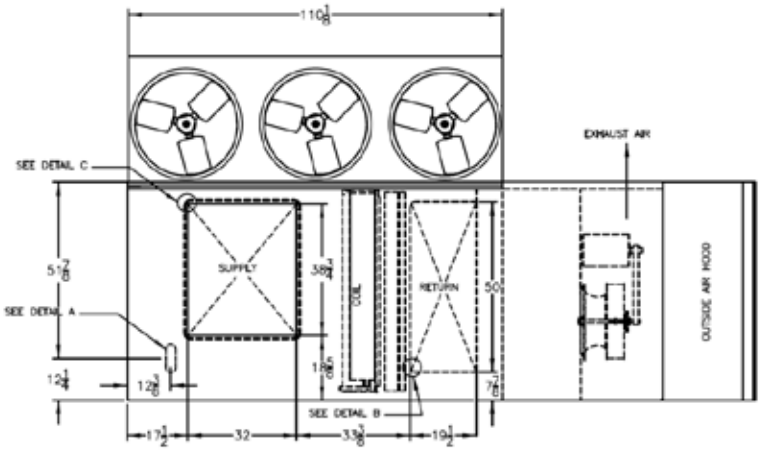
DETAIL A

DETAIL B

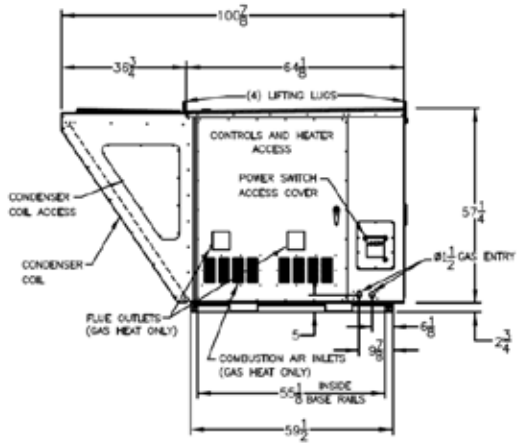
NUMBER OF CONDENSER FANS
16,18 & 20 TON - 2 FANS
25 & 30 TON - 3 FANS

DETAIL C

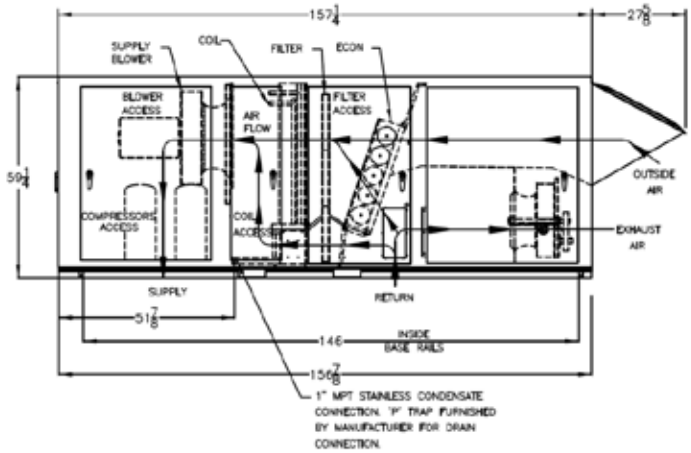
TOP VIEW



FRONT VIEW



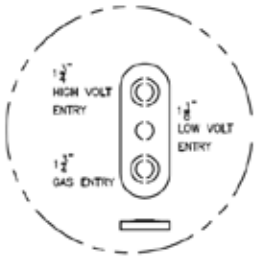
RIGHT SIDE VIEW



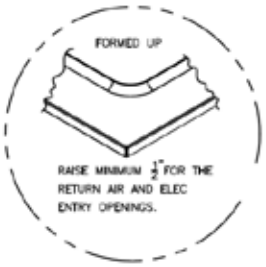
RNC-00034 REV:B 04/03/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Economizer Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED



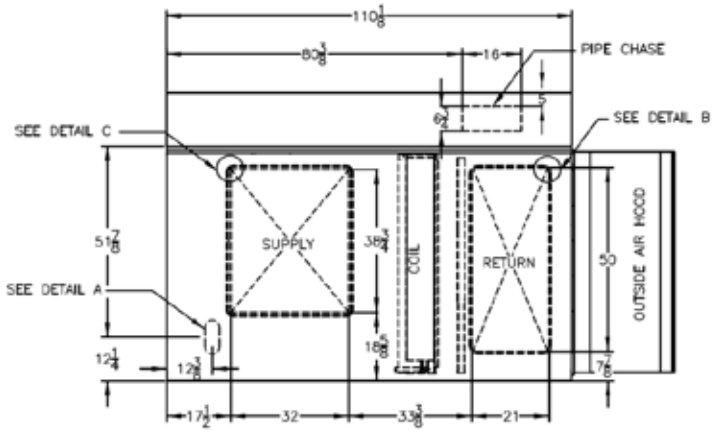
DETAIL A



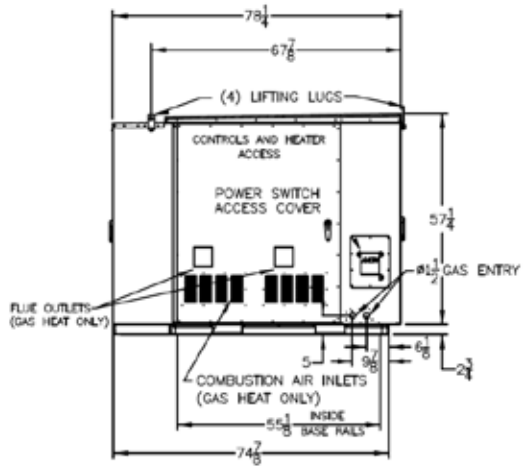
DETAIL B

DETAIL C

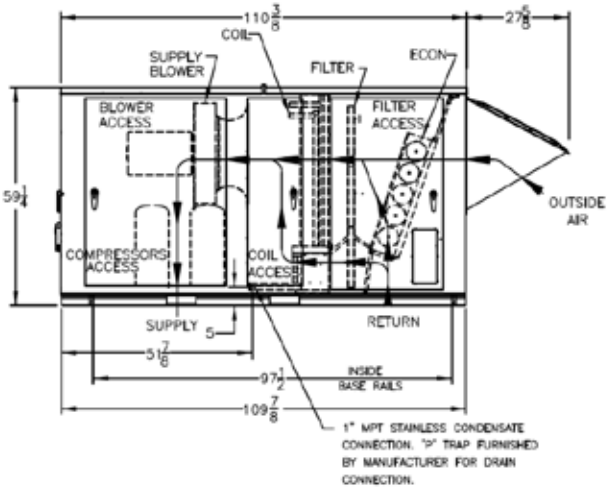
TOP VIEW



FRONT VIEW



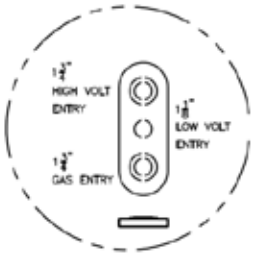
RIGHT SIDE VIEW



RNC-00035 REV:B 04/03/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Exhaust Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

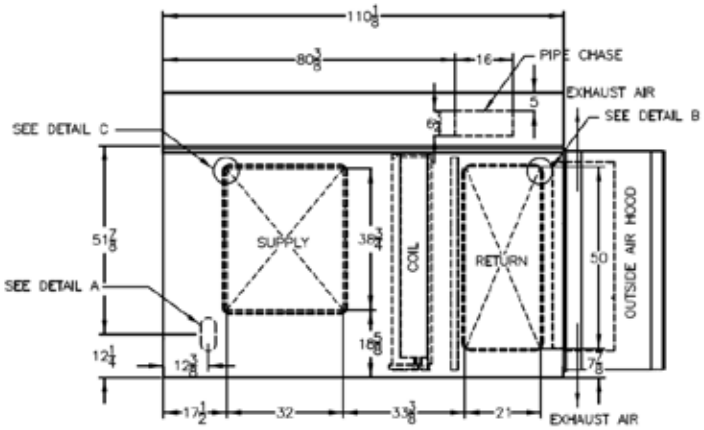


DETAIL A

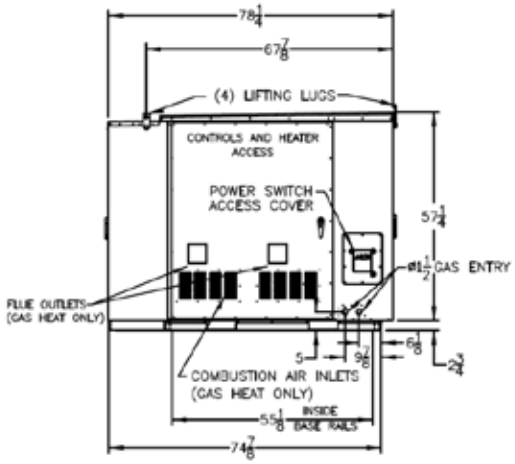
DETAIL B

DETAIL C

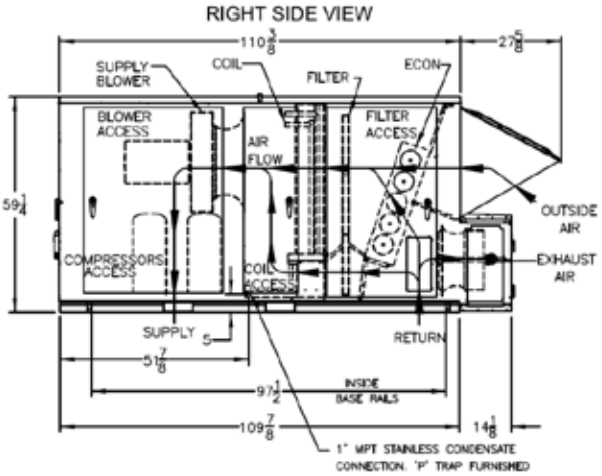
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW



RNC-00036 REV:B 04/03/09 SJS
NOTE ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Energy Recovery Wheel Option

CLEARANCES

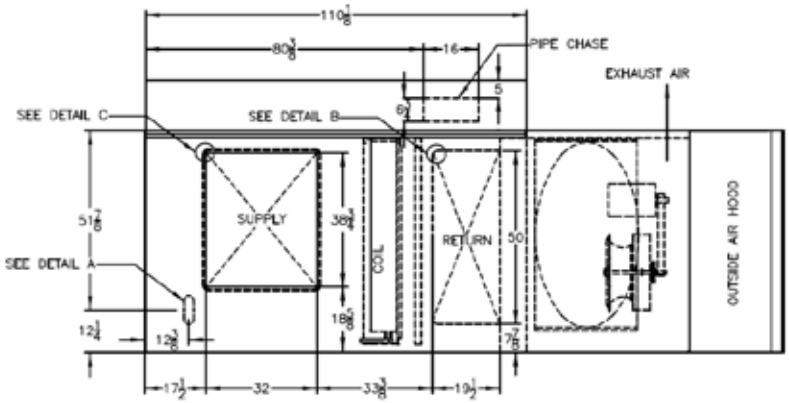
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

DETAIL A

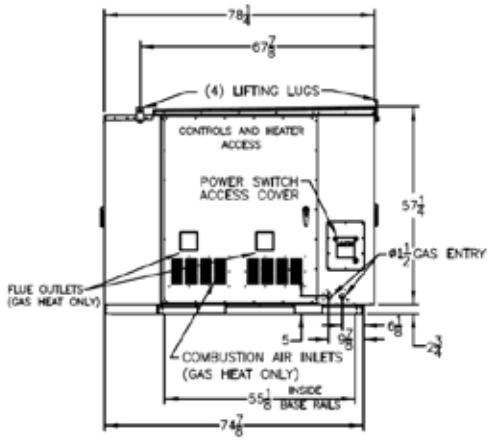
DETAIL B

DETAIL C

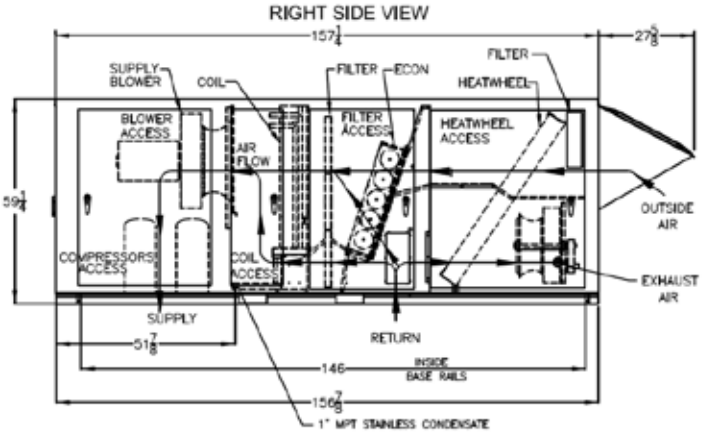
TOP VIEW



FRONT VIEW



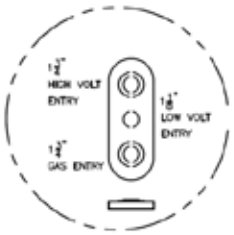
RIGHT SIDE VIEW



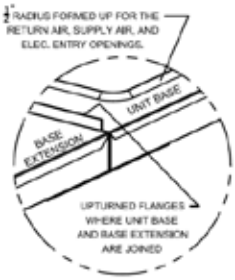
RNC-00038 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Return Option

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
RETURN AIR (BACK)	48
VENT SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED



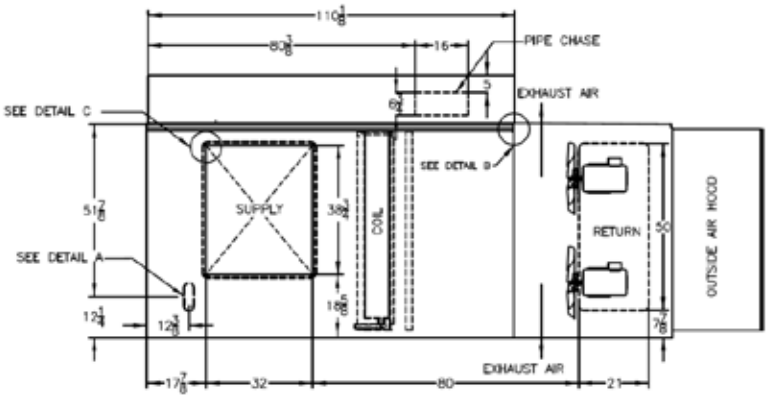
DETAIL A



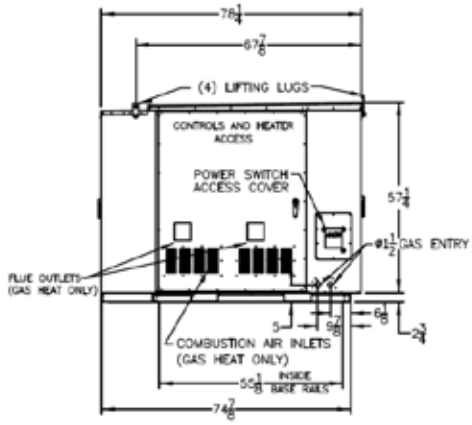
DETAIL B

DETAIL C

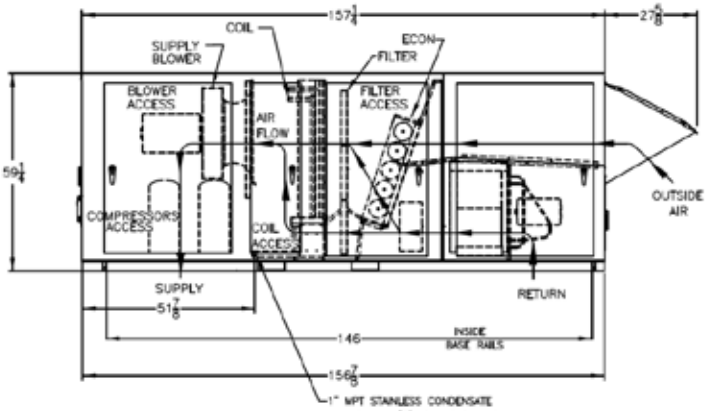
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

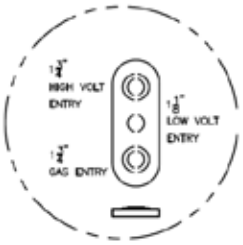


RNC-00037 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

1" MPT STAINLESS CONDENSATE CONNECTION. "P" TRAP FURNISHED BY MANUFACTURER FOR DRAIN CONNECTION.

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

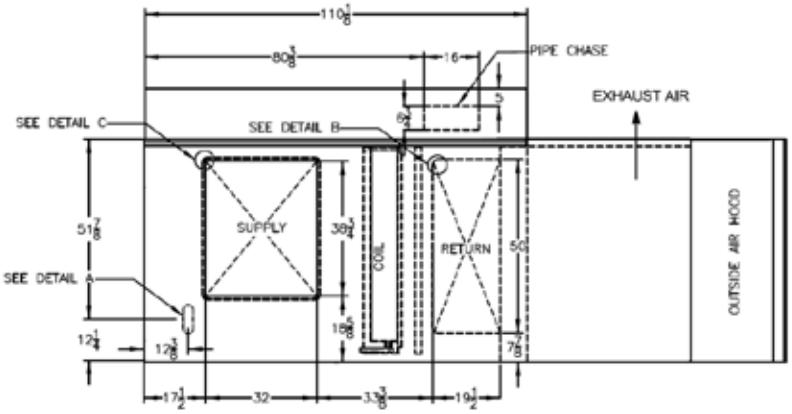


DETAIL A

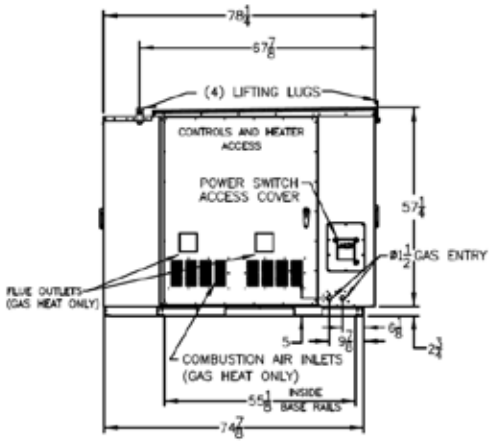
DETAIL B

DETAIL C

TOP VIEW

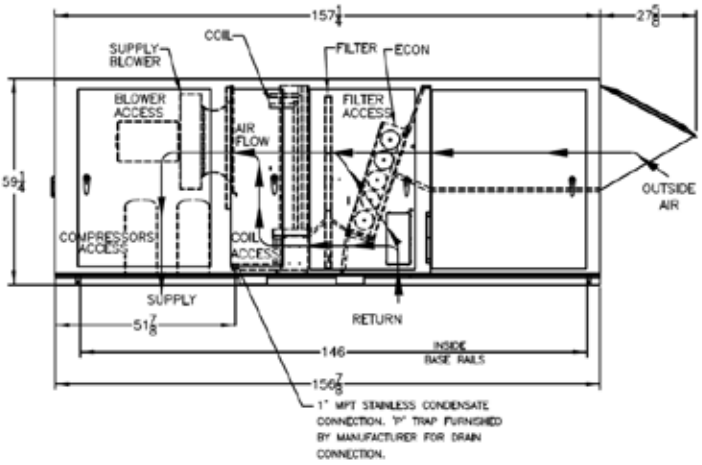


FRONT VIEW



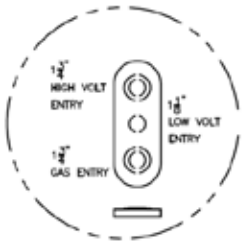
RNC-00039 REV:C 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

RIGHT SIDE VIEW



C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES	
LOCATION	• UNIT SIZE • 16 - 30 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	60
TOP	UNOBSTRUCTED

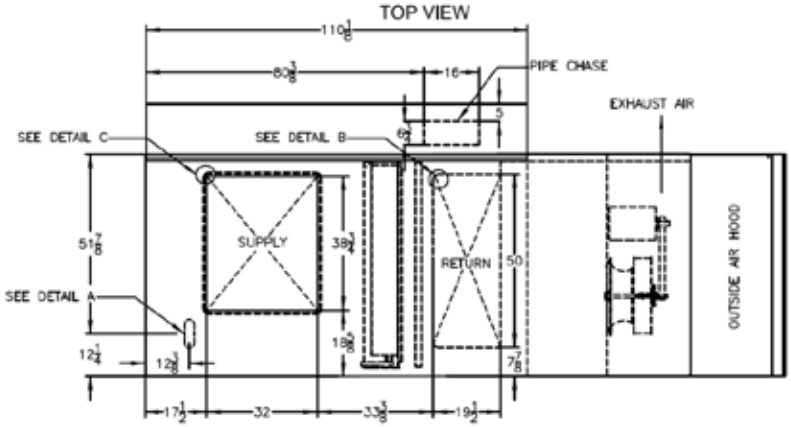


DETAIL A

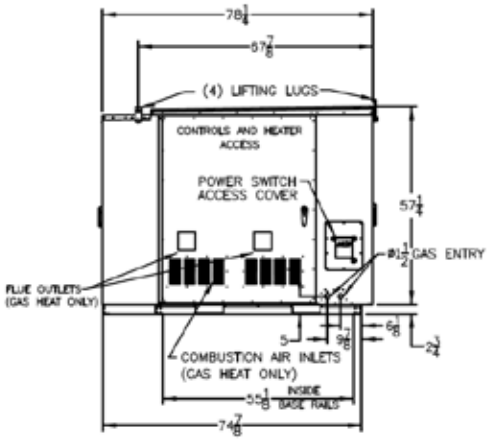
DETAIL B

DETAIL C

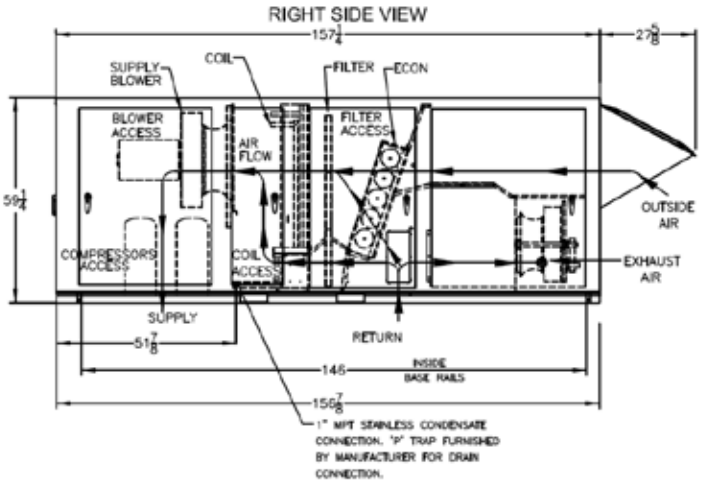
TOP VIEW



FRONT VIEW

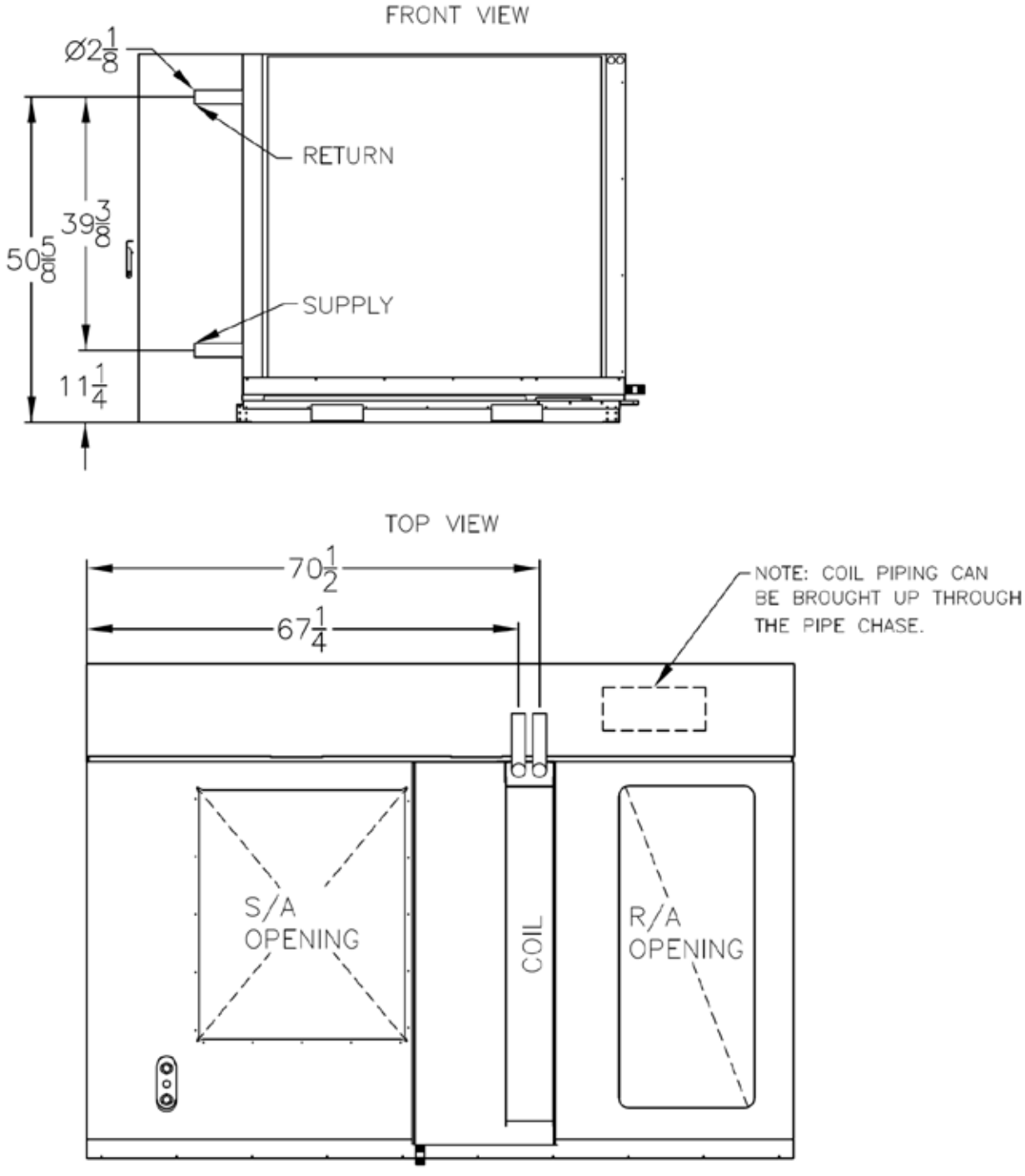


RIGHT SIDE VIEW



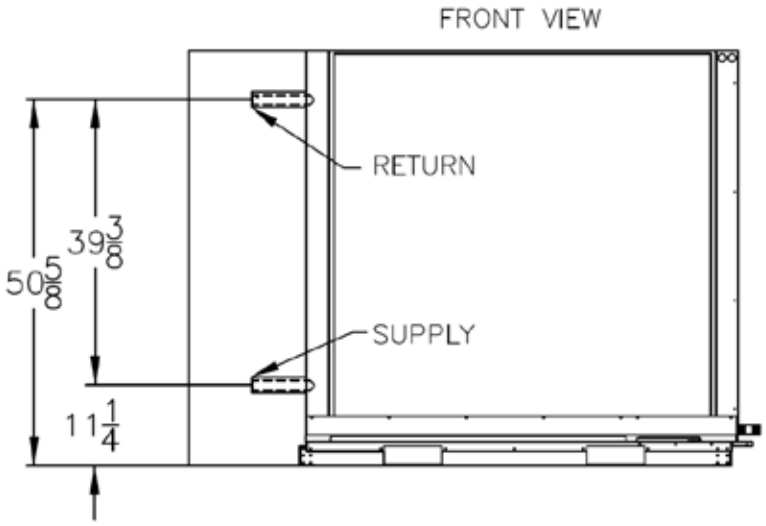
RNC-00040 REV:B 04/02/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

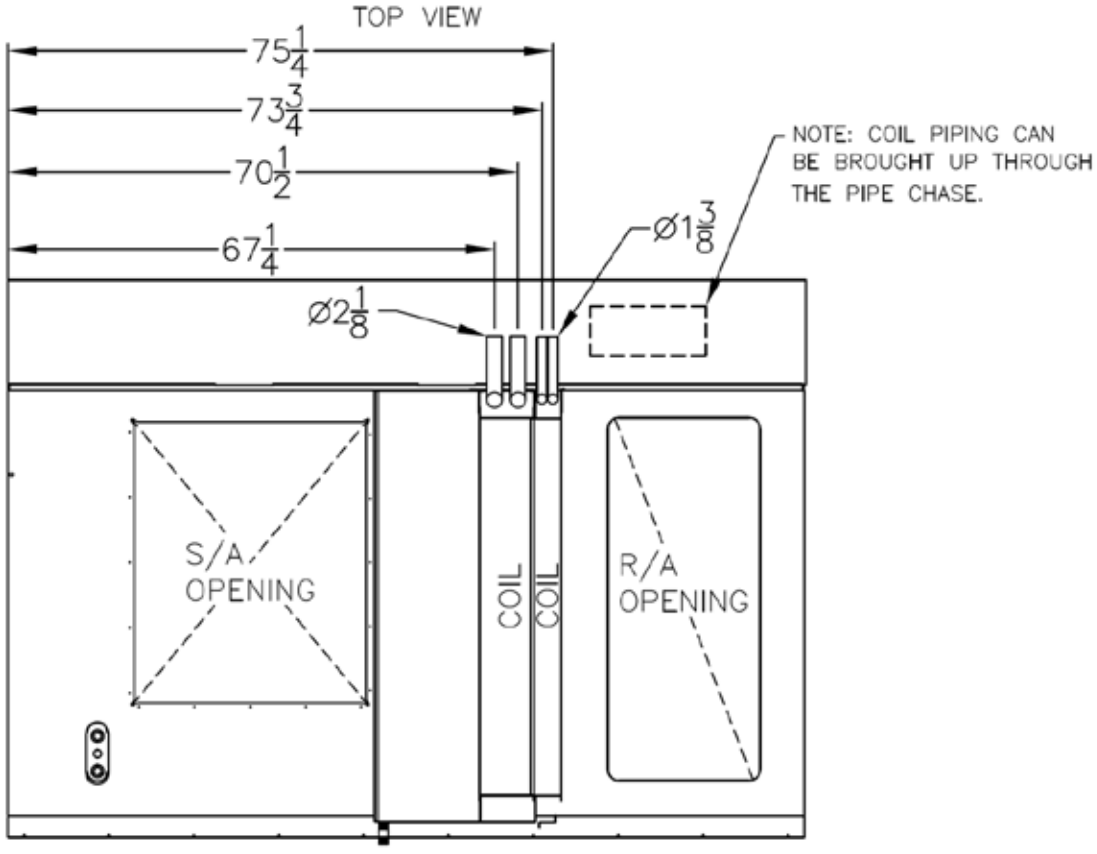
C Cabinet (16-25 and 30 Tons) Chilled Water Coil Piping



RNC-00053 NEW 06/12/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

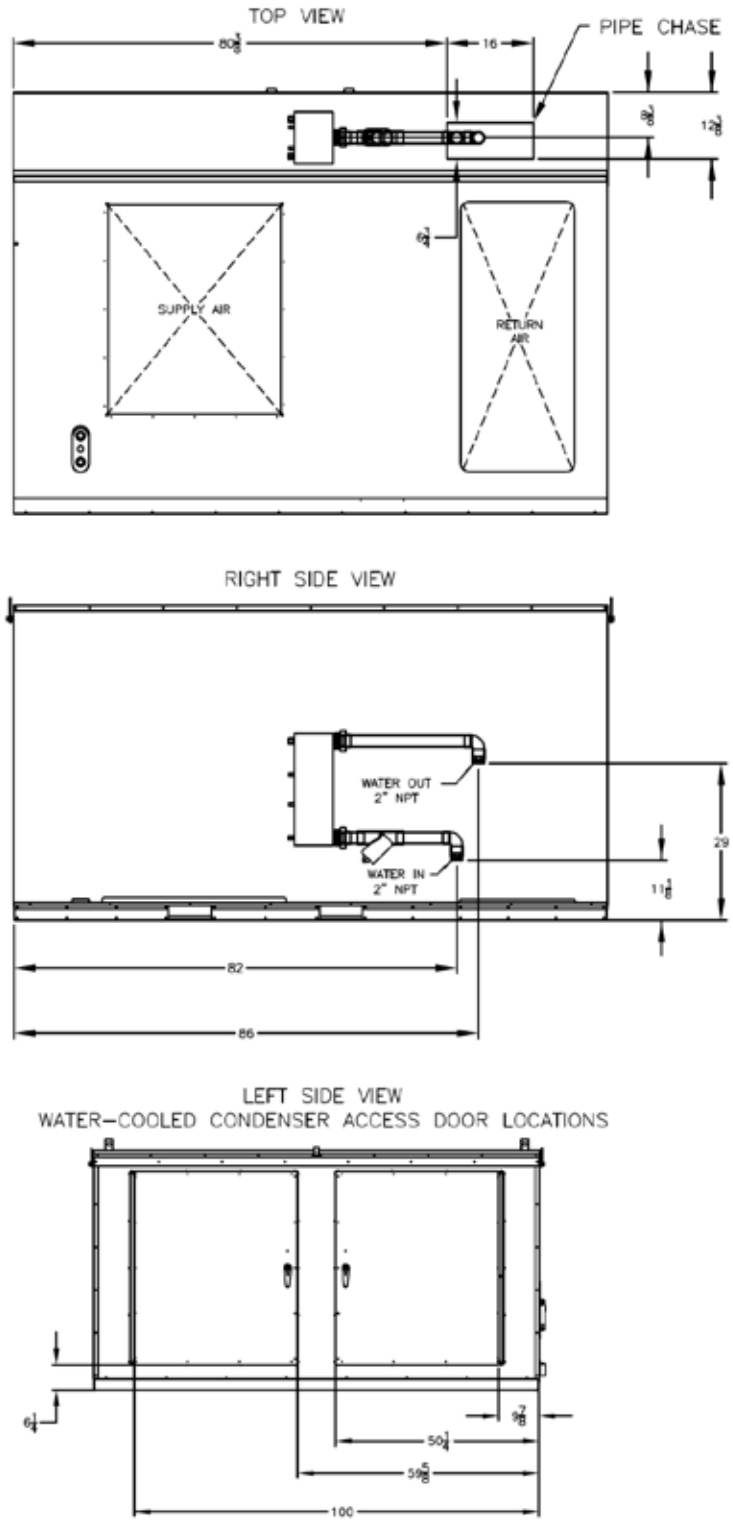
C Cabinet (16-25 and 30 Tons) Chilled Water Coil and Preheat Coil Piping





RNC-00052 NEW 06/12/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

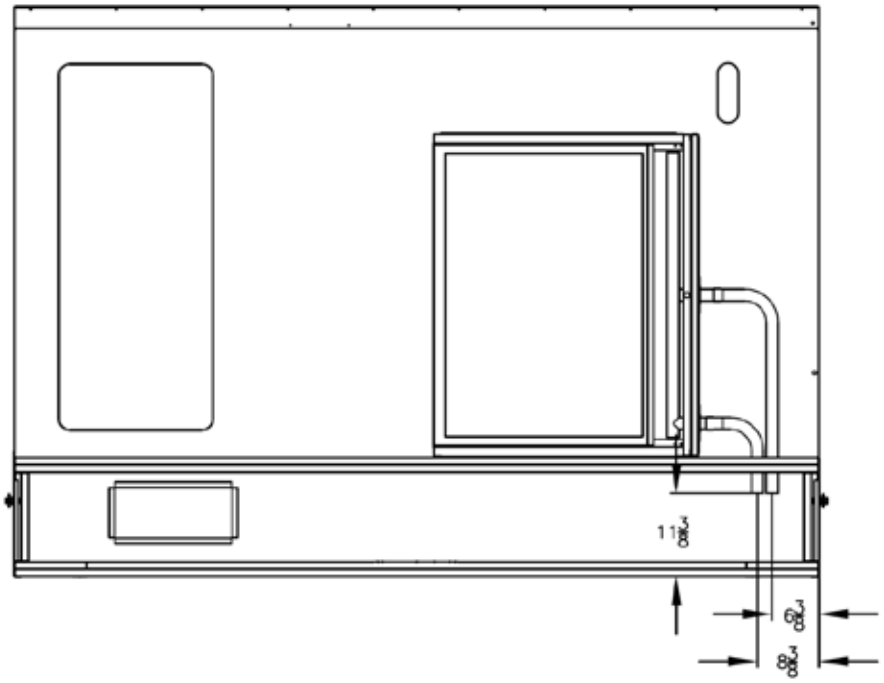
C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser Piping



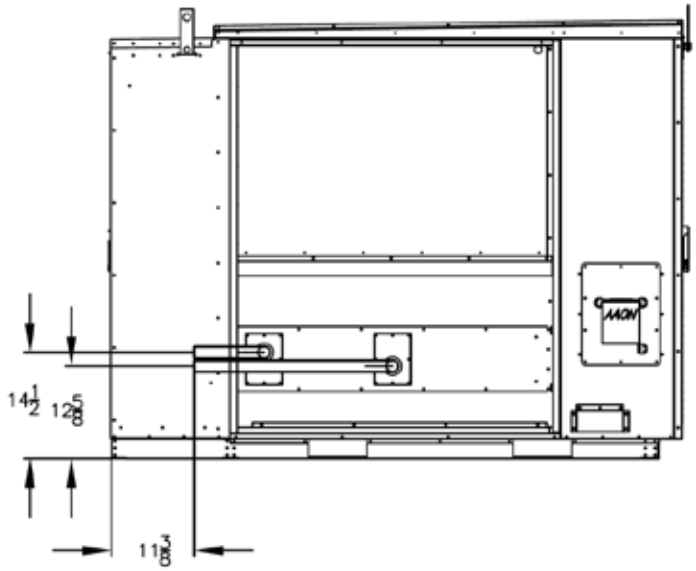
RNC-00055 NEW 06/12/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Hot Water Coil Piping
with Chilled Water Cooling or Water-Cooled Condenser

TOP VIEW

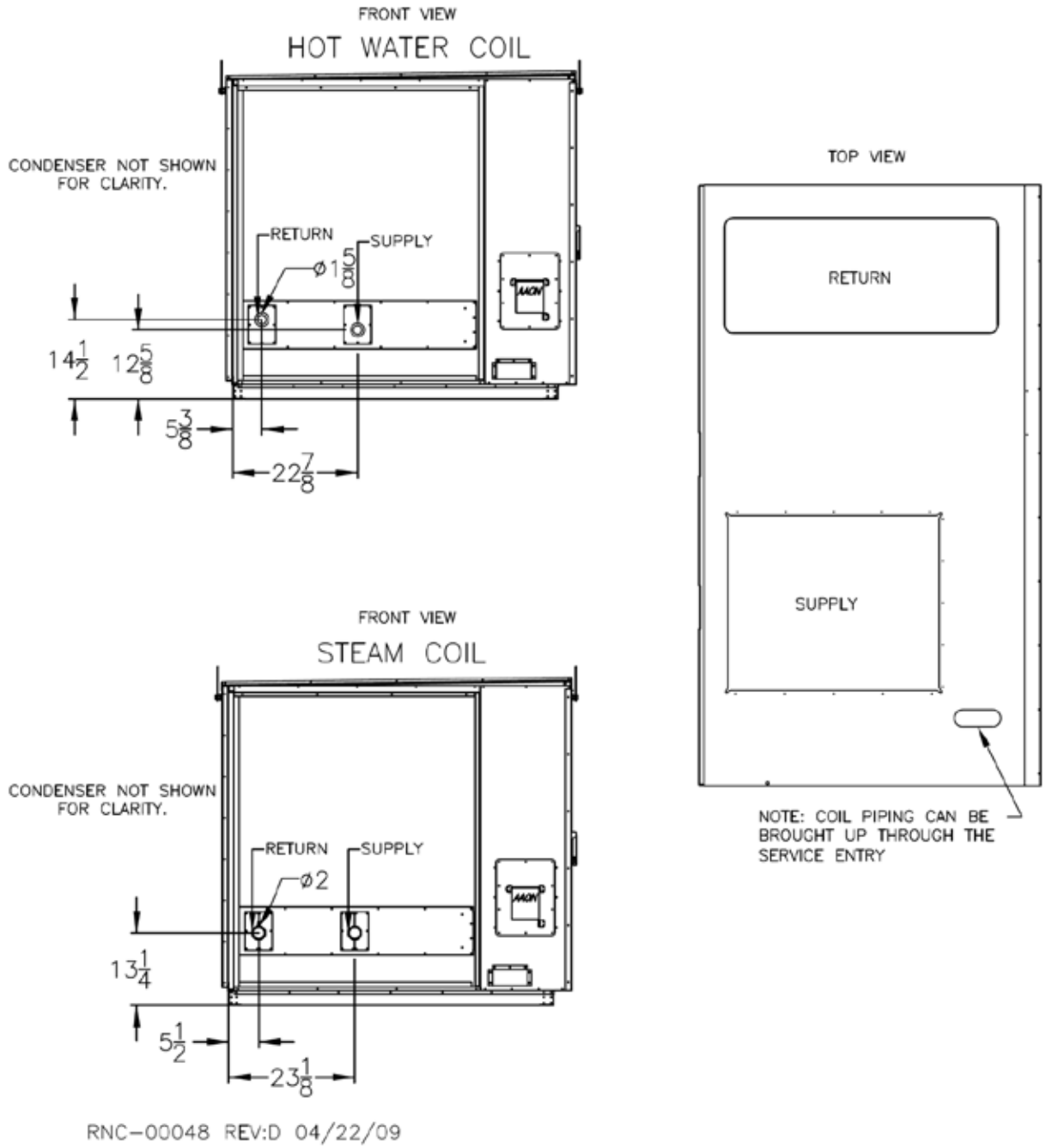


FRONT VIEW

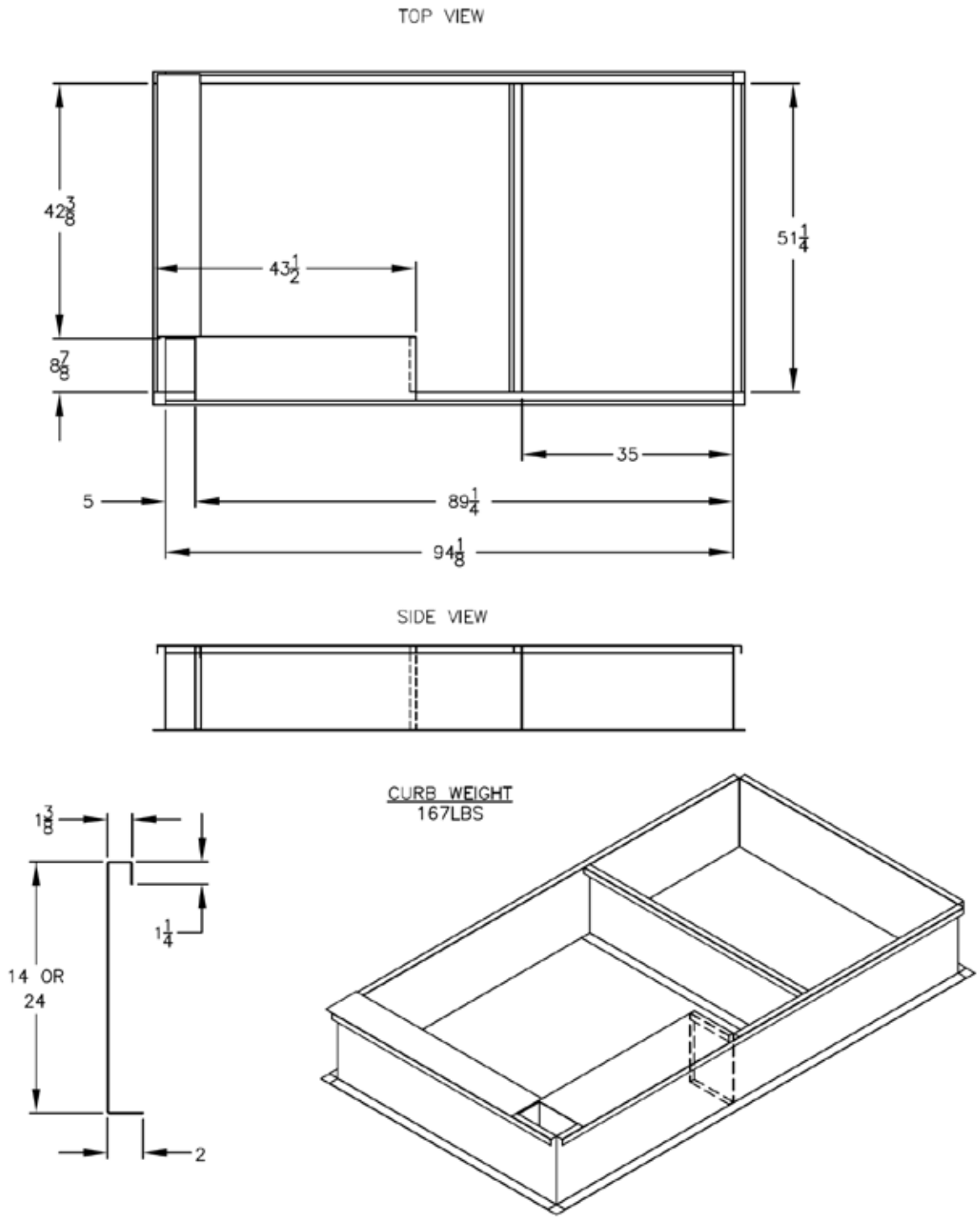


RNC-00056 REV:B 06/25/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Hot Water or Steam Coil Piping

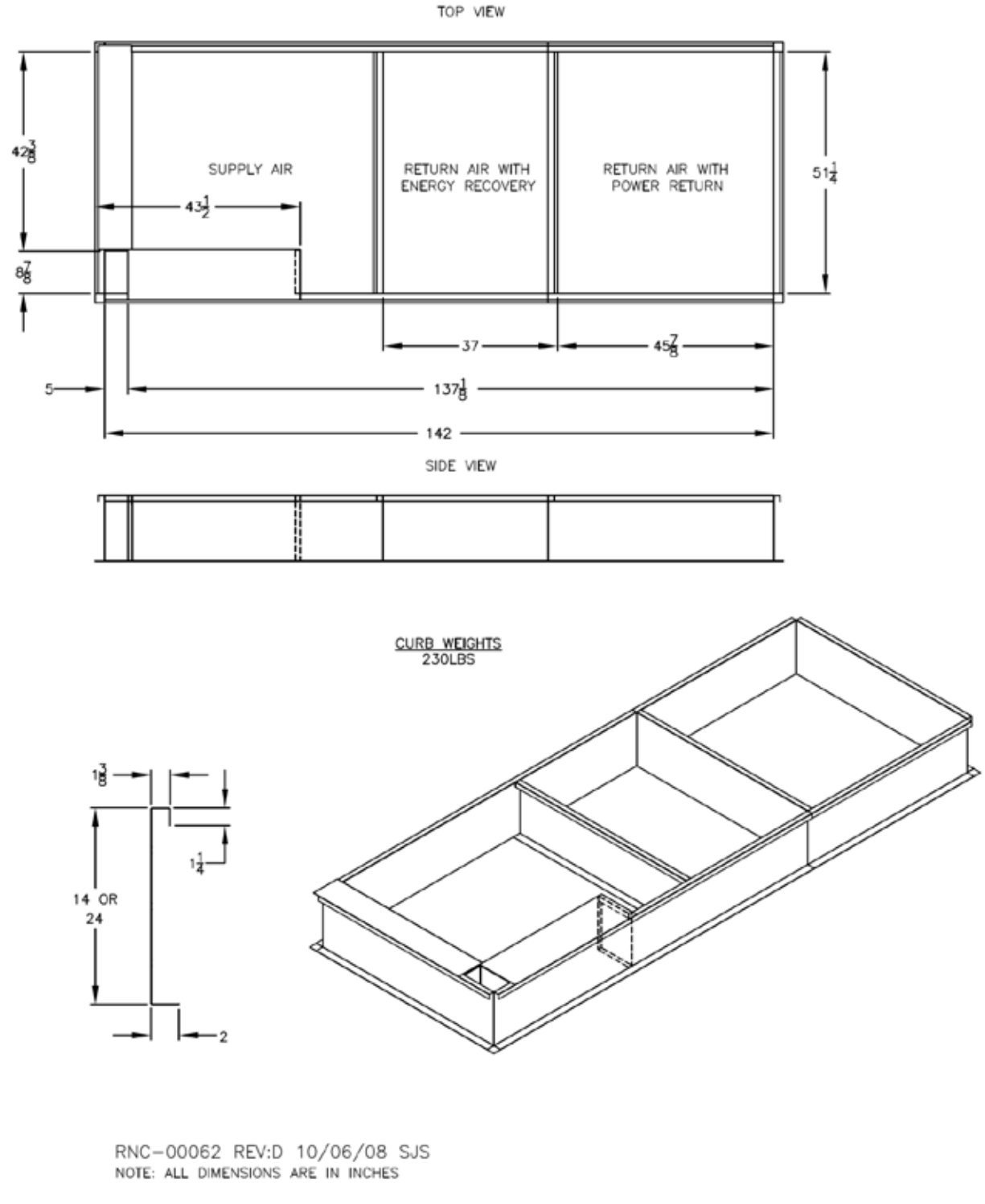


C Cabinet (16-25 and 30 Tons) Solid Bottom Standard and Power Exhaust Curb

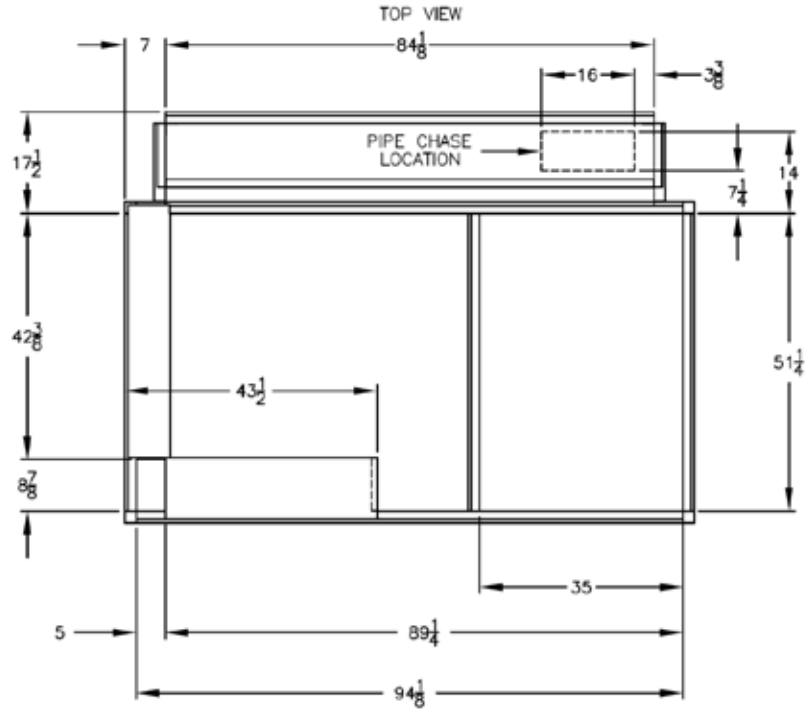


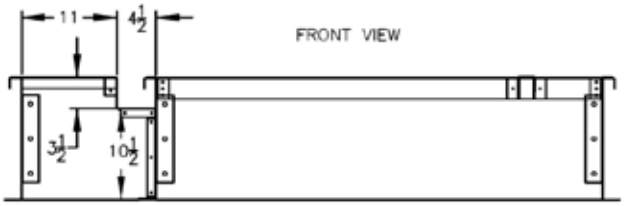
RNC-00060 REV:D 10/06/08 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Solid Bottom Energy Recovery Wheel and Power Return Curb

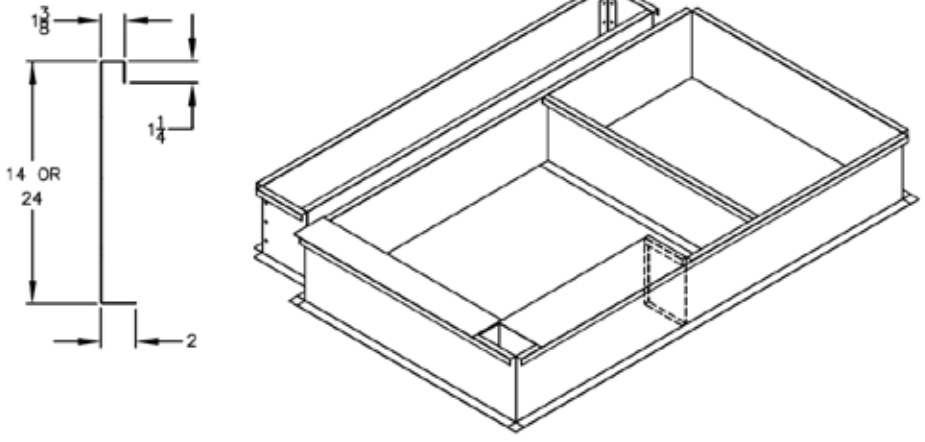


C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser and Chilled Water Air Handler
Solid Bottom Standard and Power Exhaust Curb



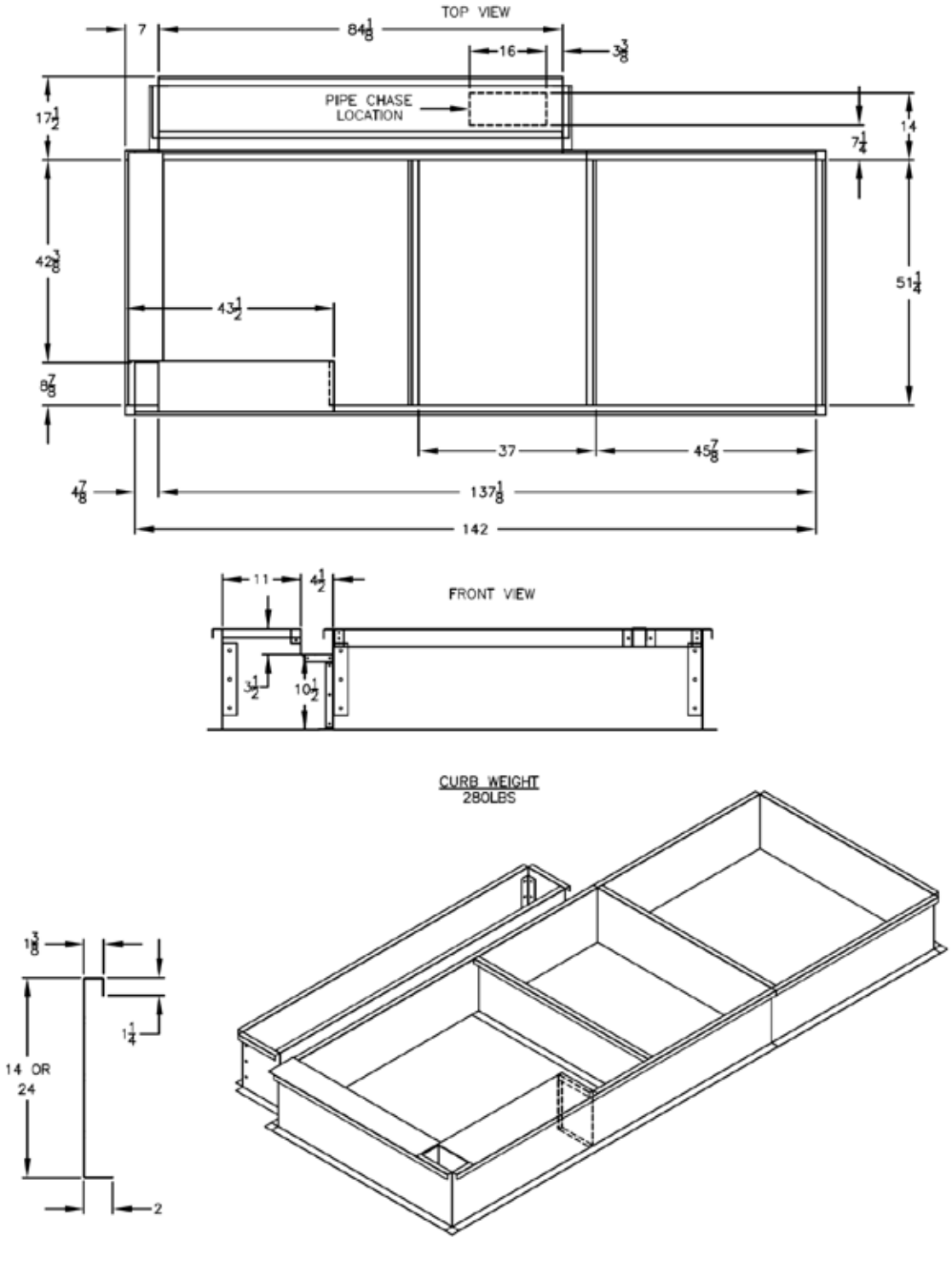


CURB WEIGHTS
214LBS



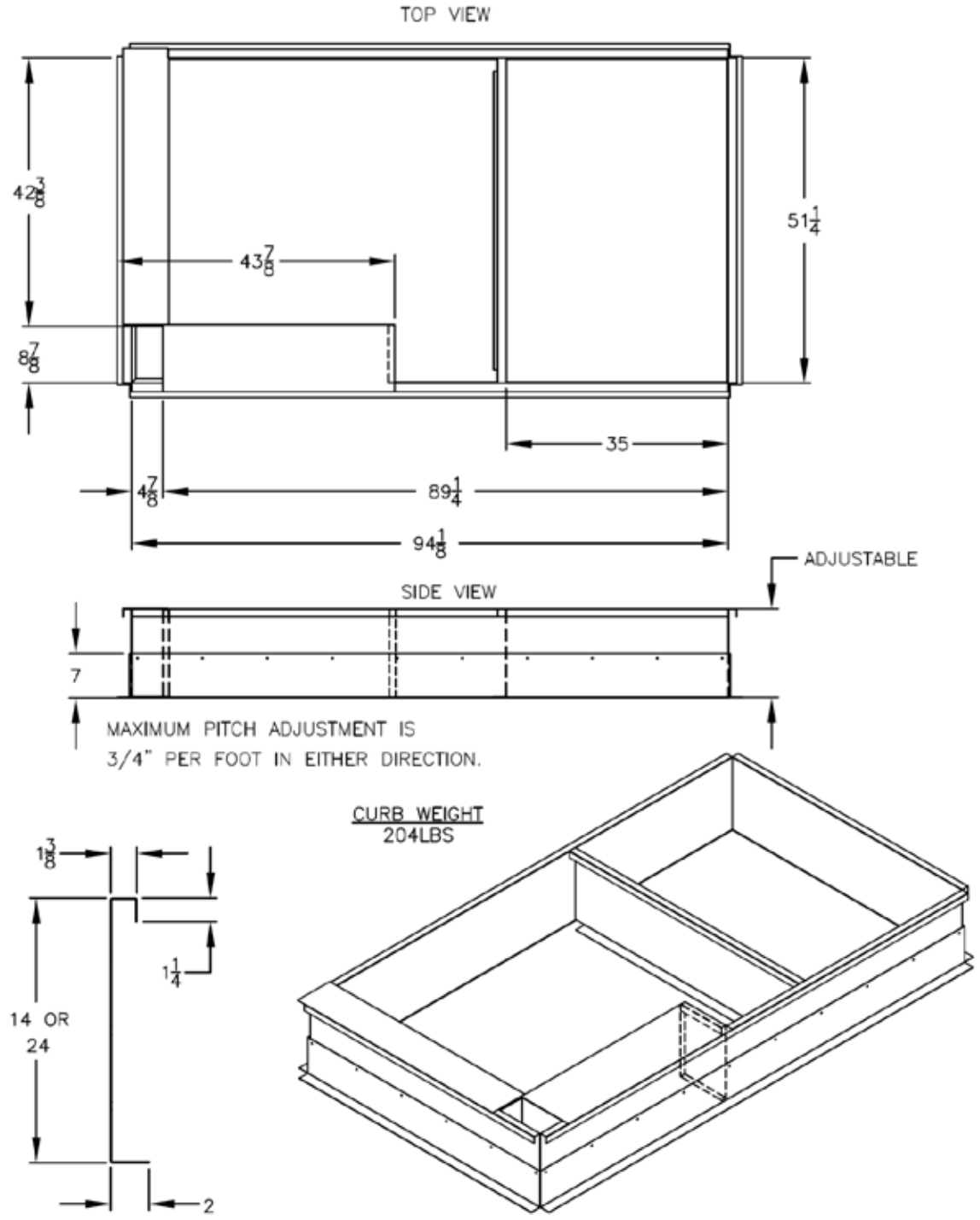
RNC-00061 REV:E 05/08/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser and Chilled Water Air Handler
Solid Bottom Energy Recovery Wheel and Power Return Curb



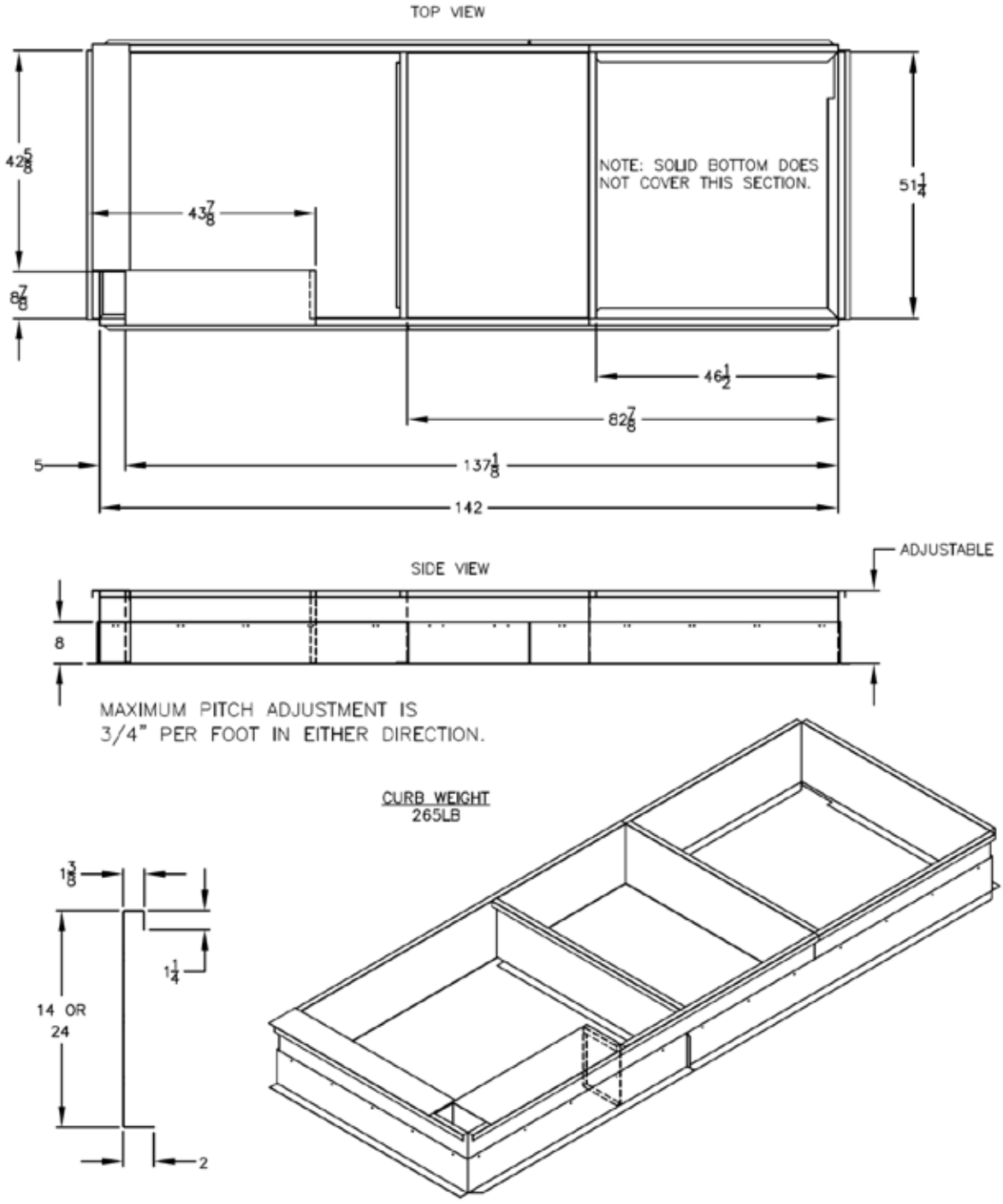
RNC-00063 REV:E 05/08/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Adjustable Pitch Solid Bottom Standard and Power Exhaust Curb



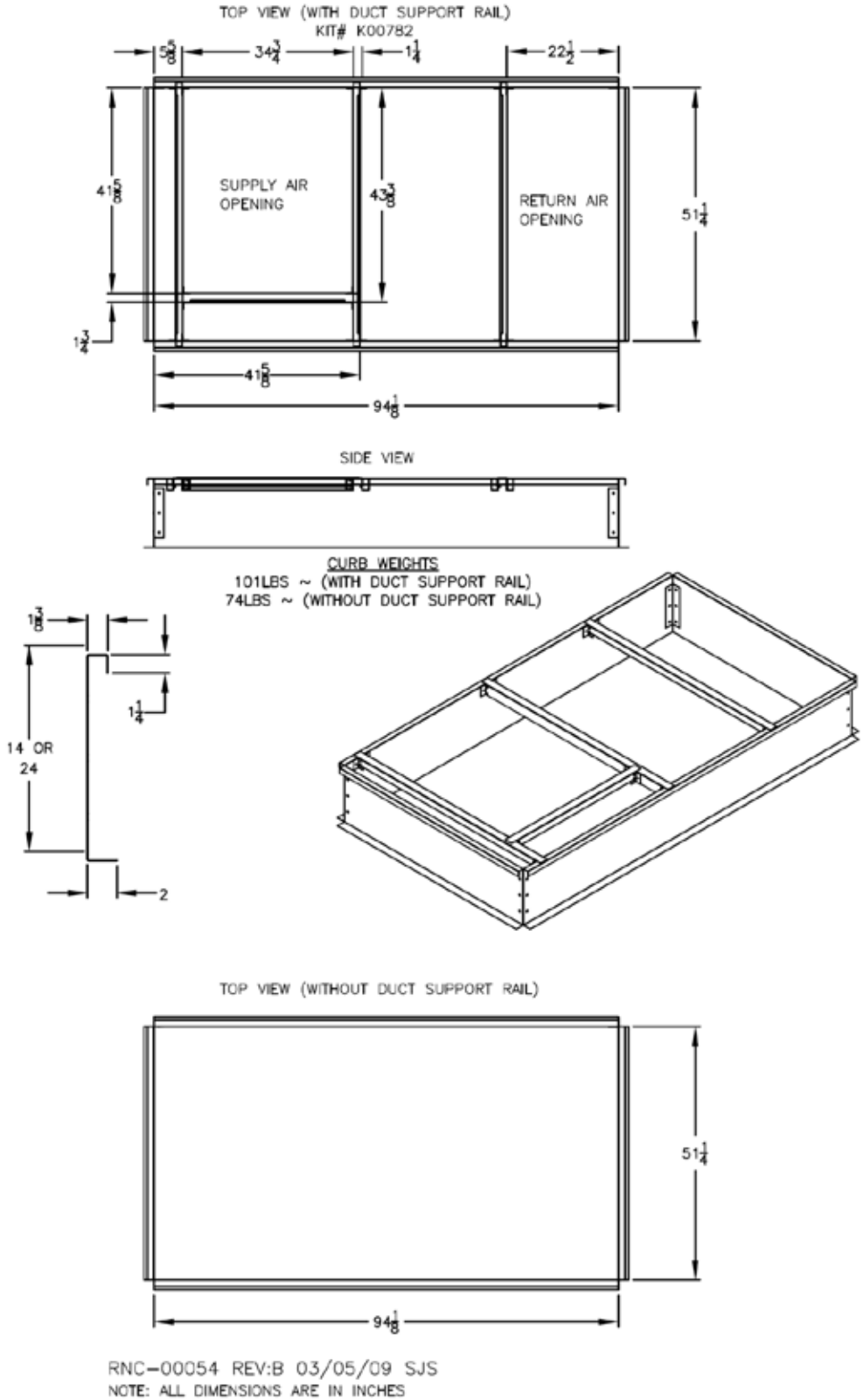
RNC-00064 REV:E 03/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Adjustable Pitch Solid Bottom Energy Recovery Wheel and Power Return Curb



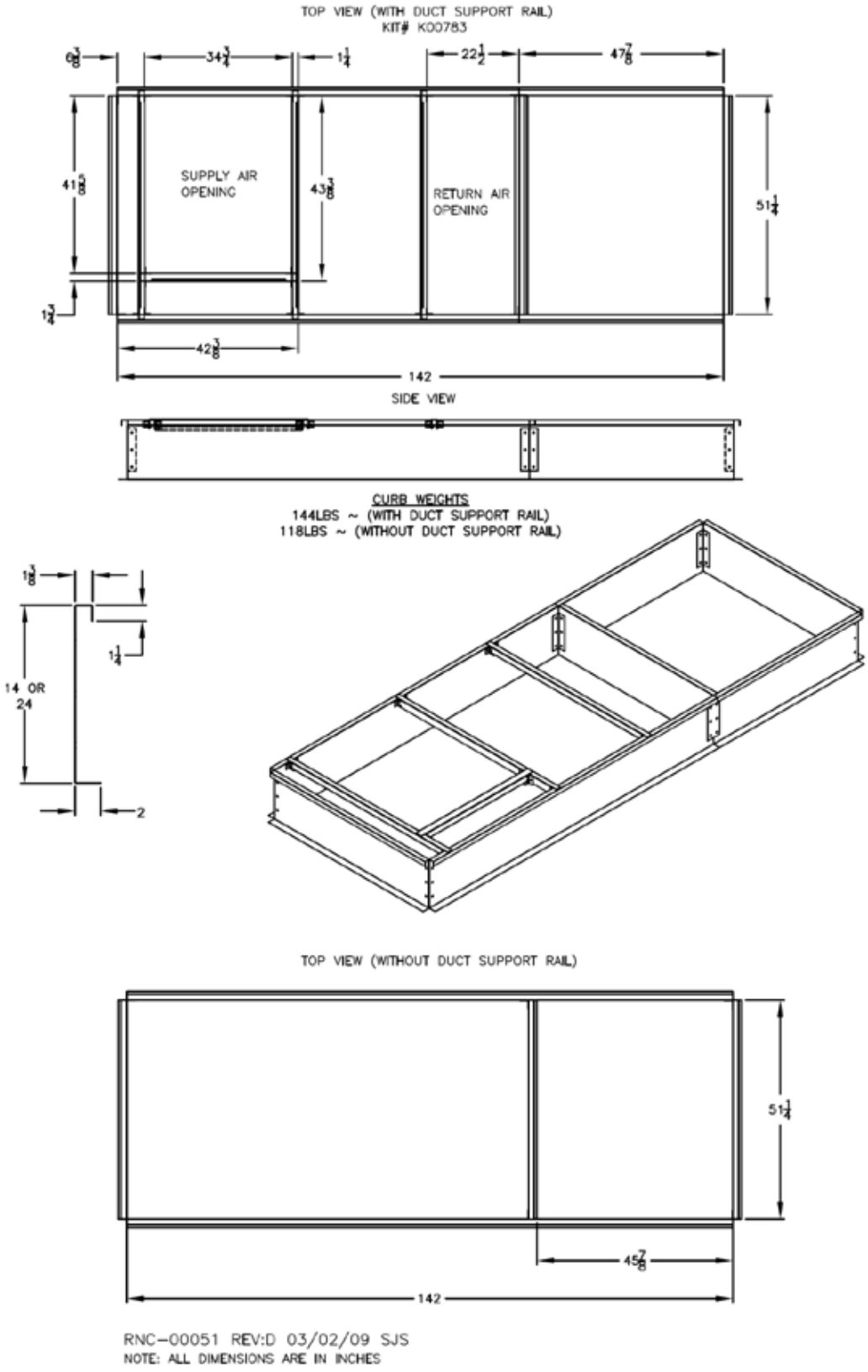
RNC-00065 REV:E 03/06/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

C Cabinet (16-25 and 30 Tons) Knock Down Standard and Power Exhaust Curb

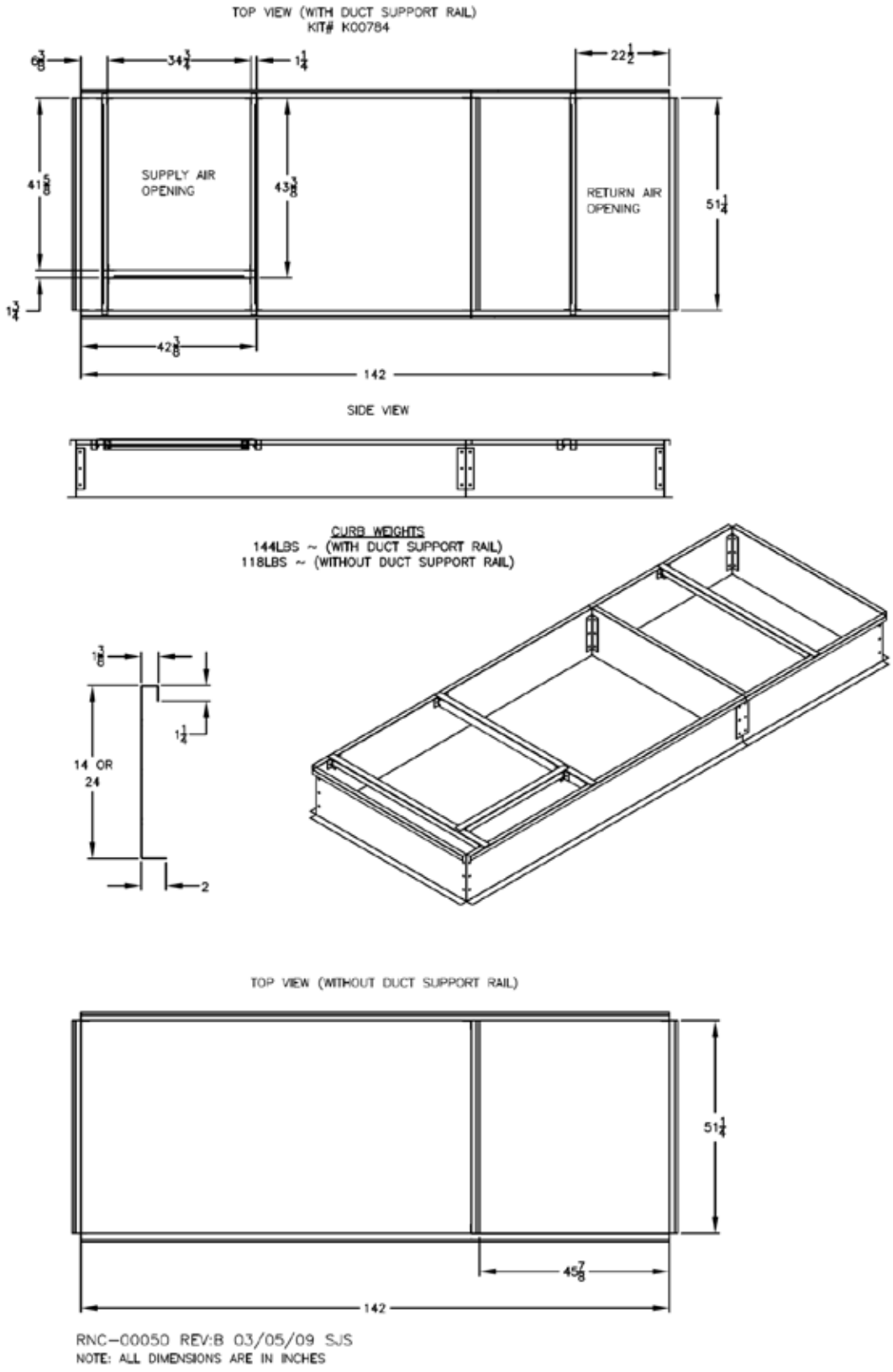


RNC-00054 REV:B 03/05/09 SJS
NOTE: ALL DIMENSIONS ARE IN INCHES

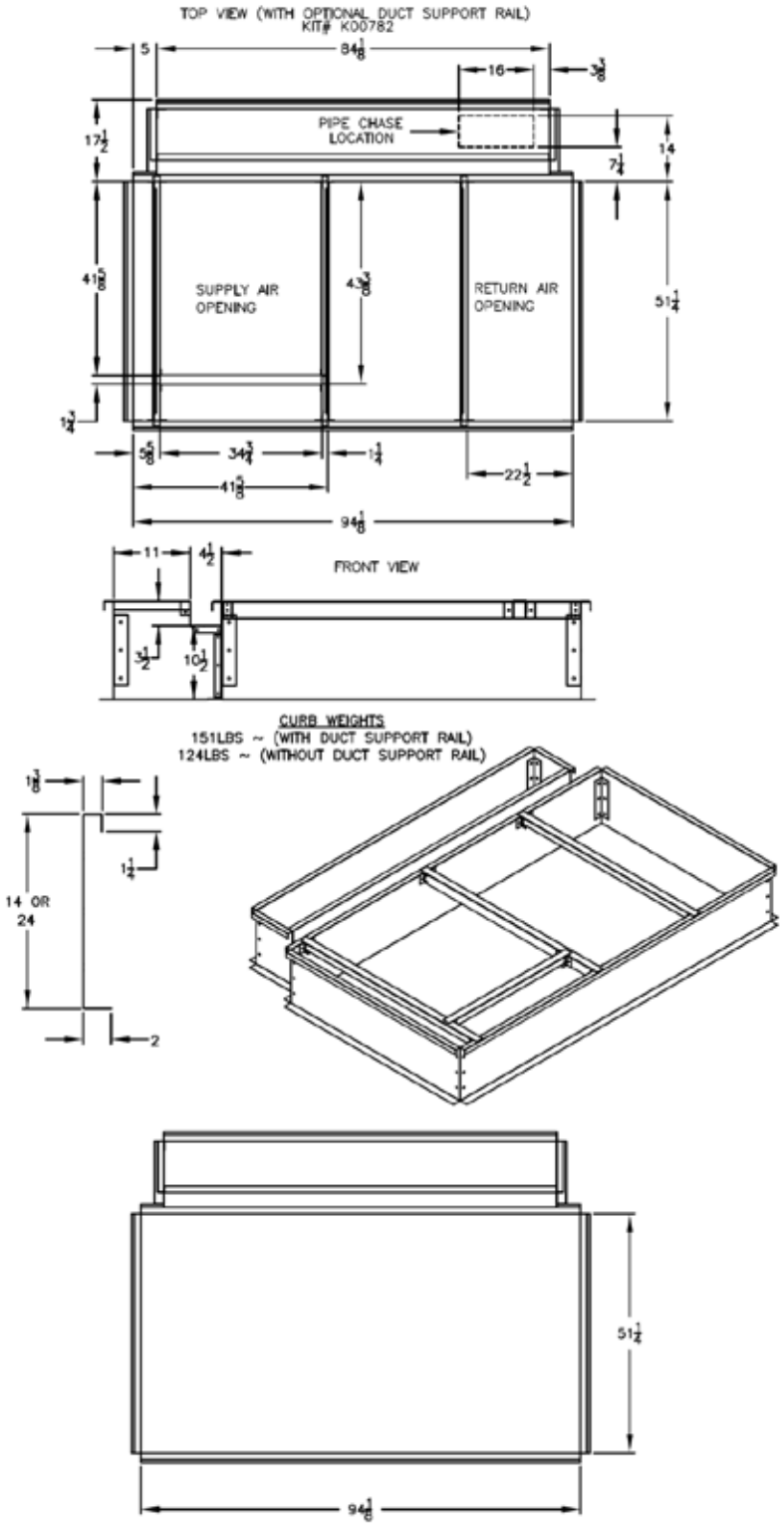
C Cabinet (16-25 and 30 Tons) Knock Down Energy Recovery Wheel Curb



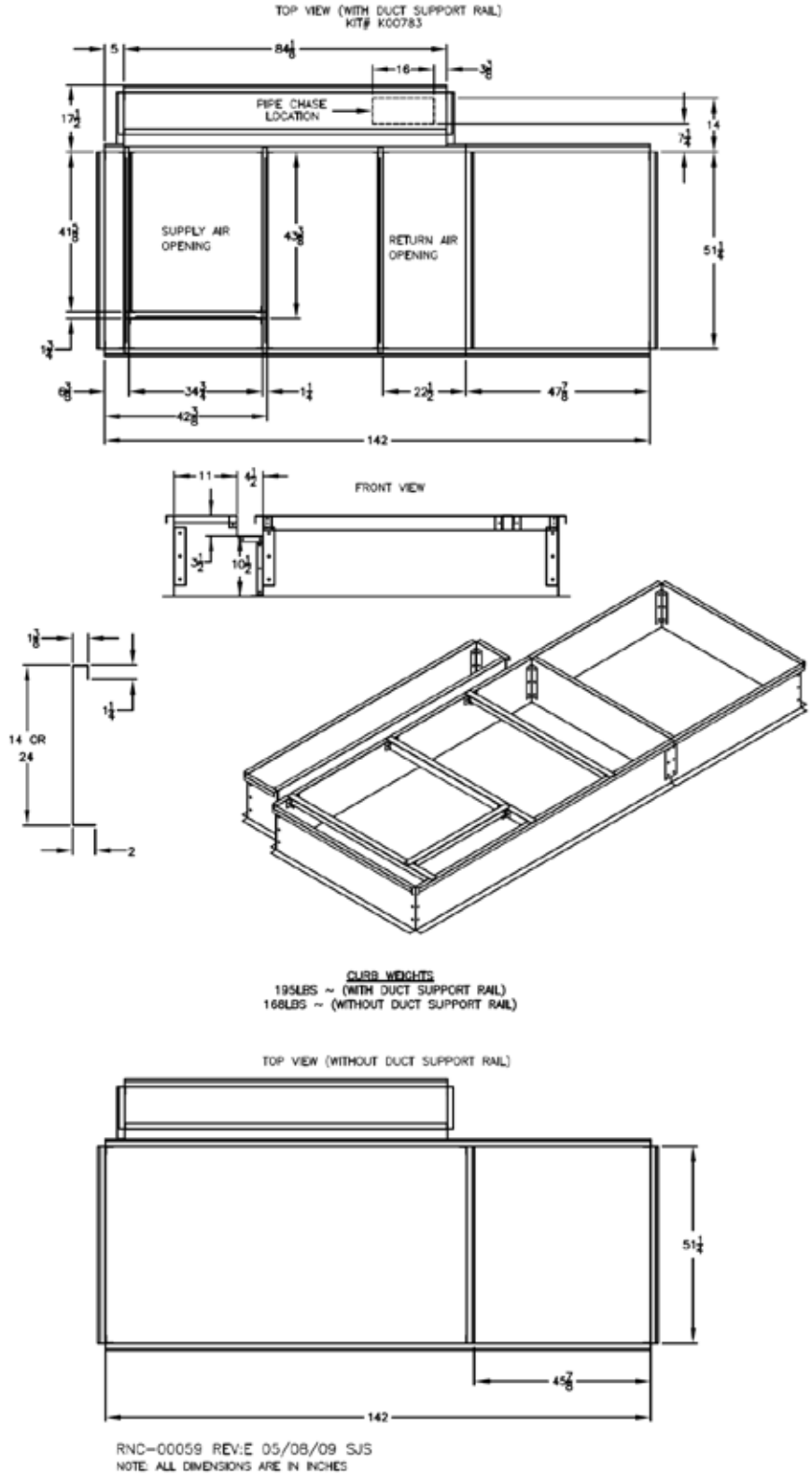
C Cabinet (16-25 and 30 Tons) Knock Down Power Return Curb



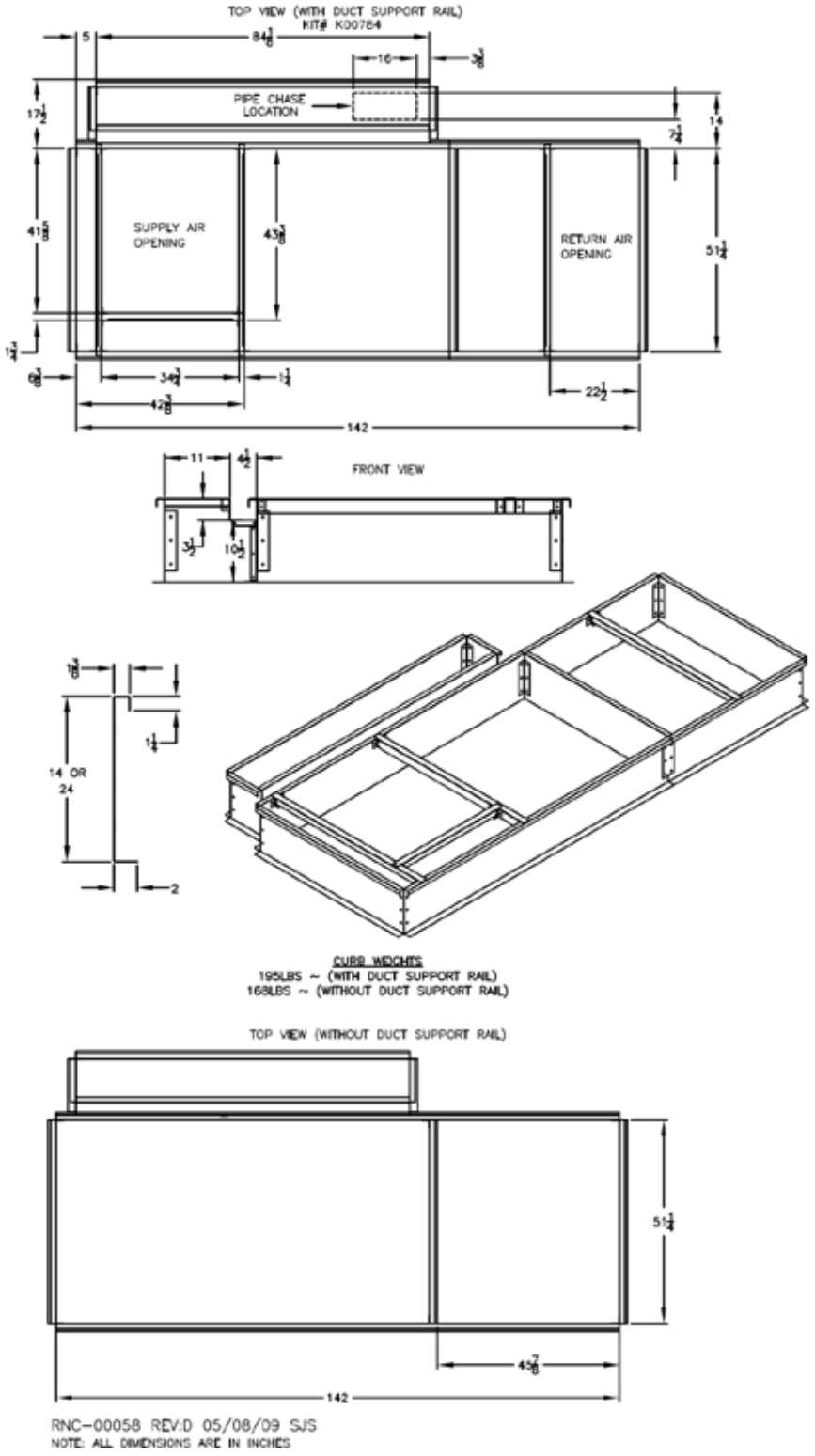
C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser and Chilled Water Air Handler Knock Down Standard and Power Exhaust Curb



C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser and Chilled Water Air Handler Knock Down Energy Recovery Wheel Curb



C Cabinet (16-25 and 30 Tons) Water-Cooled Condenser and Chilled Water Air Handler Knock Down Power Return Curb



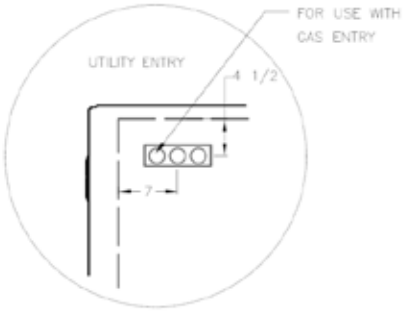
D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit

CLEARANCES

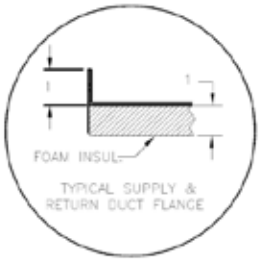
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

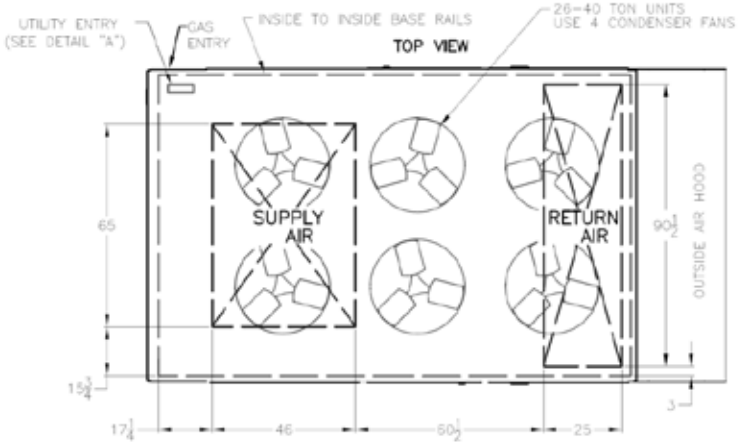
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.



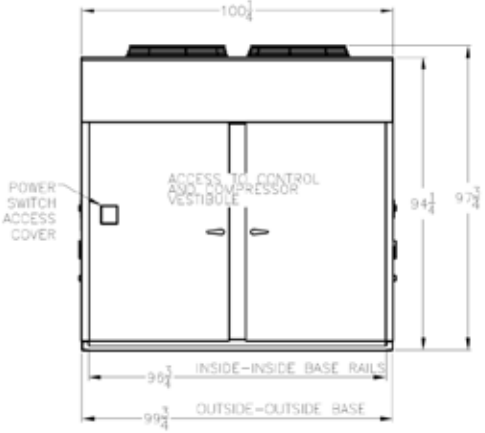
DETAIL A



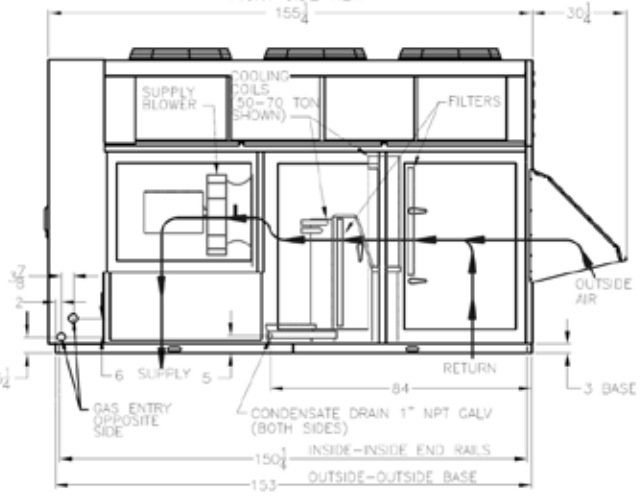
DETAIL B



FRONT VIEW



RIGHT SIDE VIEW



RND-00016 REV:B 07/24/09 SJS

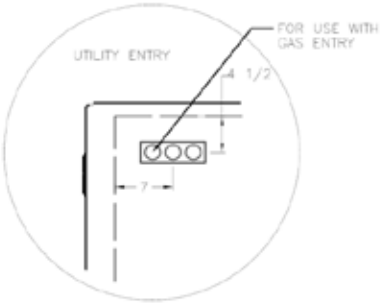
ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Economizer Option

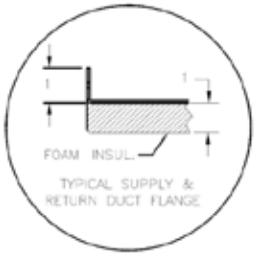
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

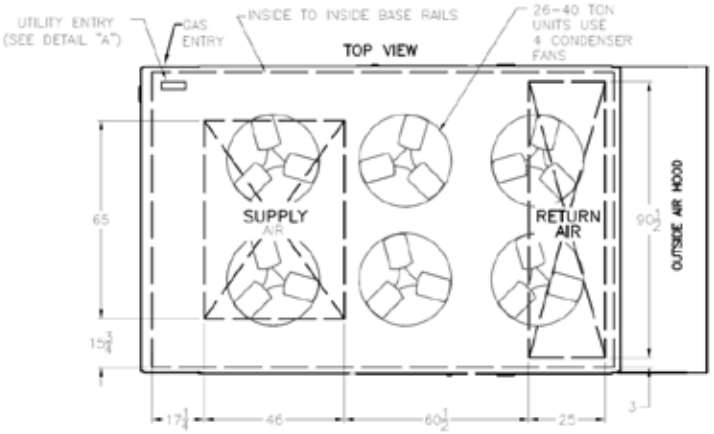
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.

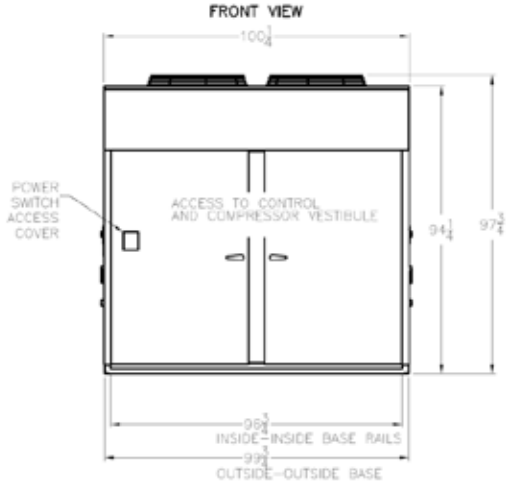


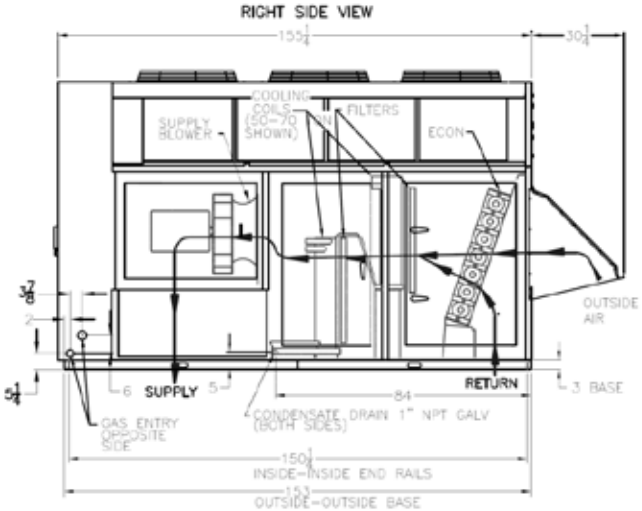
DETAIL A



DETAIL B



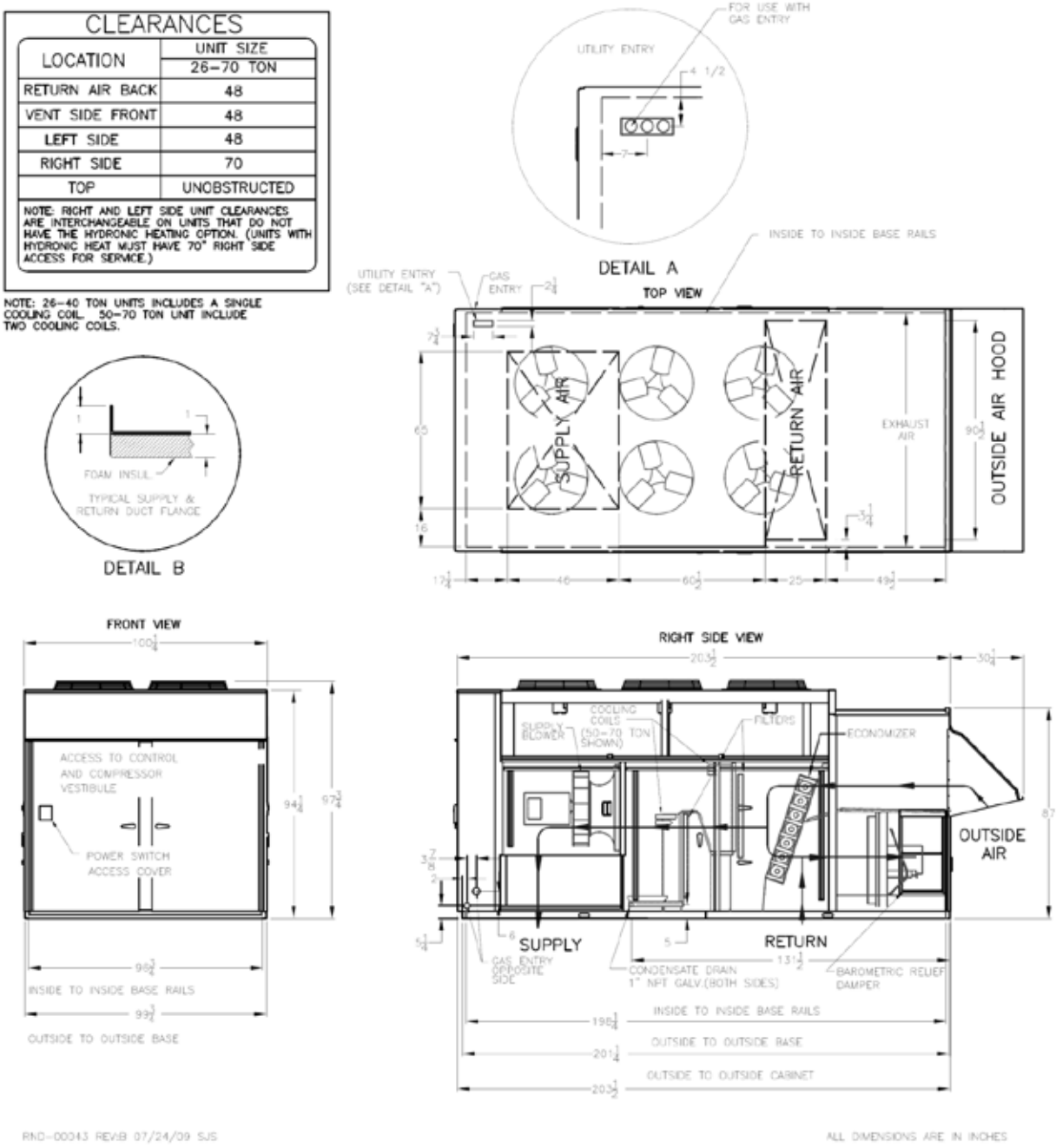




RND–00013 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Power Exhaust Option

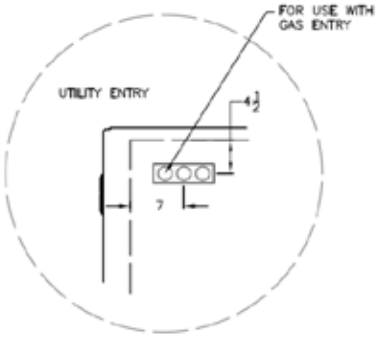


D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Energy Recovery Wheel Option

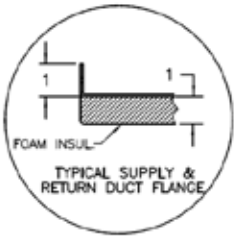
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

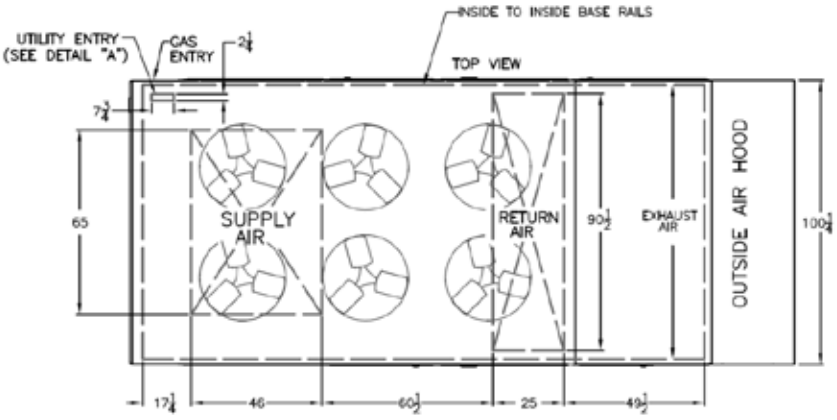
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.



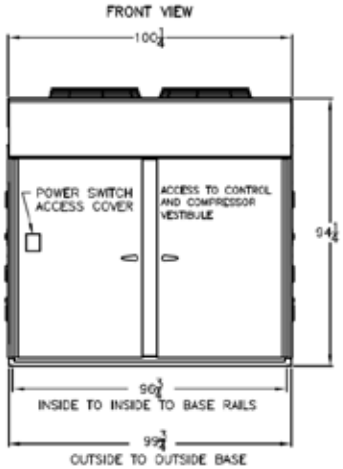
DETAIL A

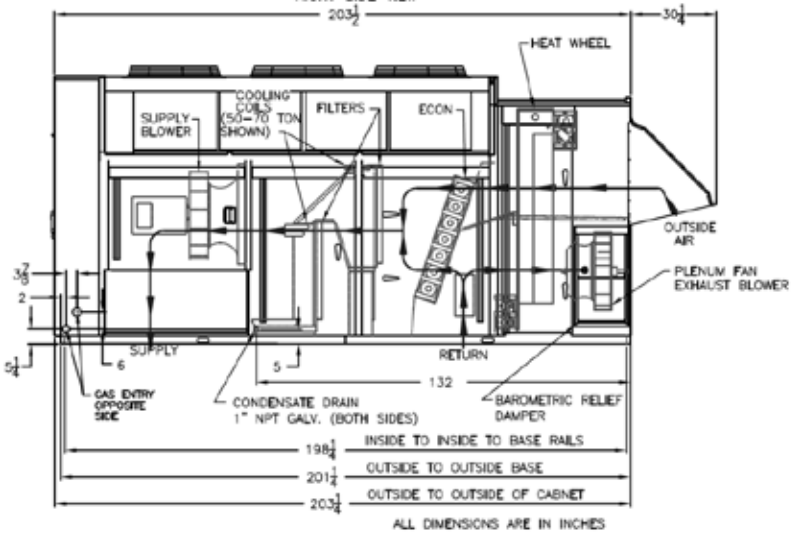


DETAIL B



RIGHT SIDE VIEW

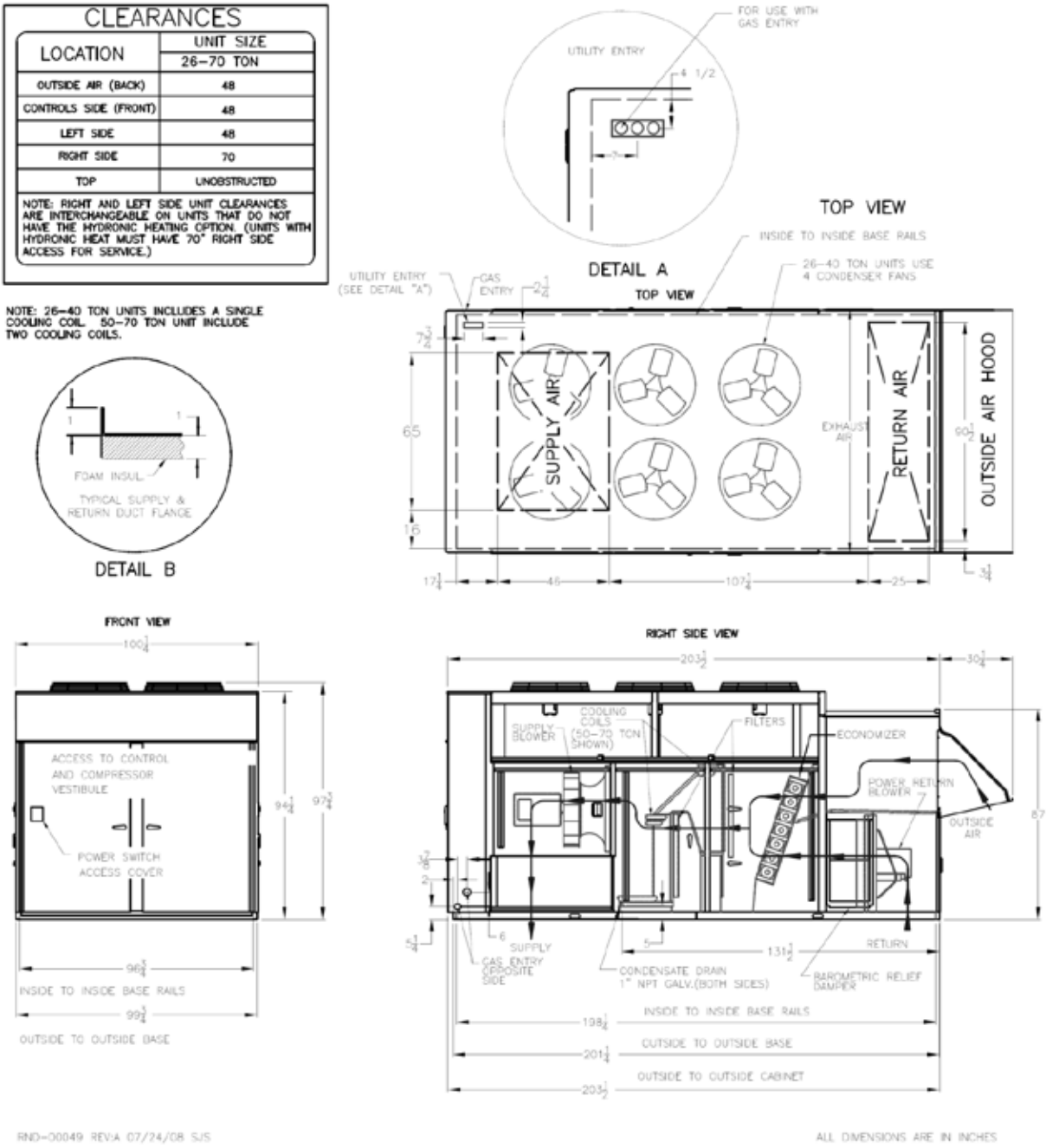




ALL DIMENSIONS ARE IN INCHES

RND-00036 REV:B 07/24/09 SJS

D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Power Return Option

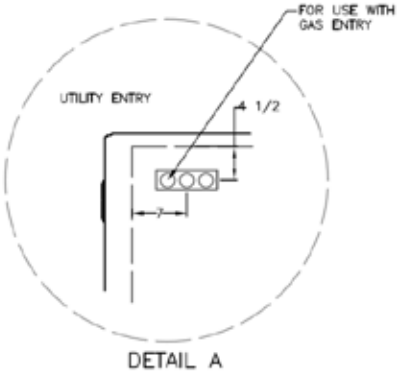


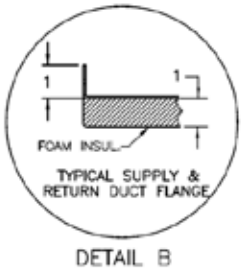
D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box

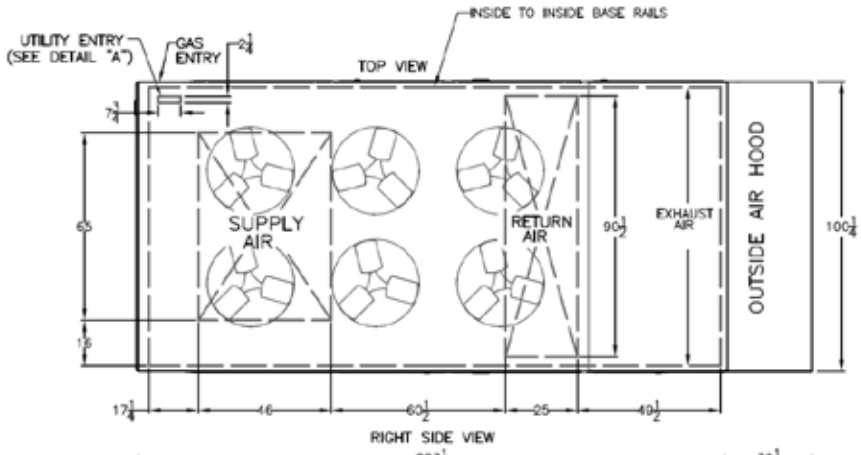
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

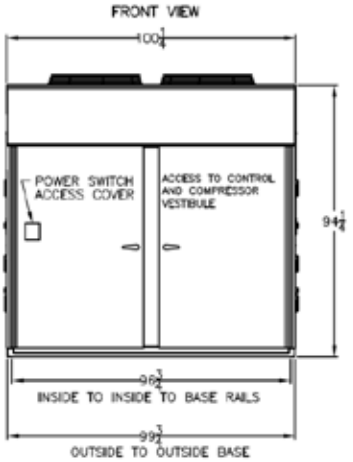
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

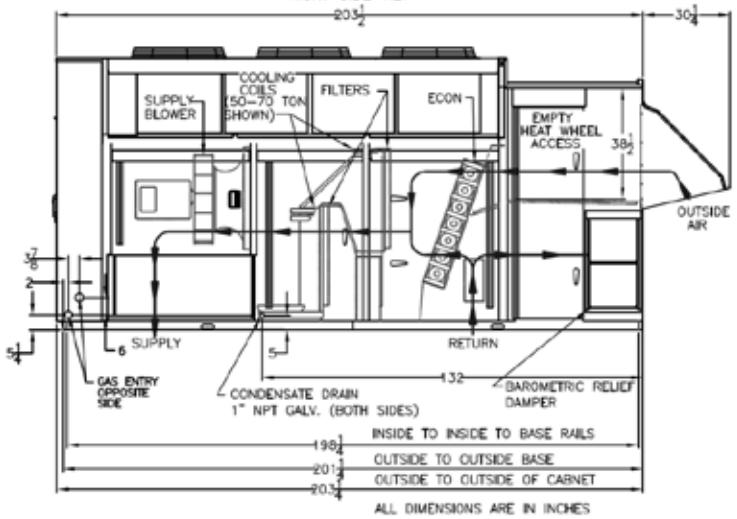
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.









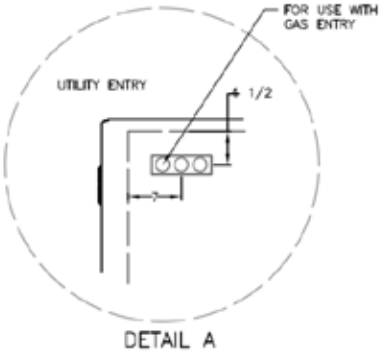


RND-00026 REV:B 07/24/09 SJS

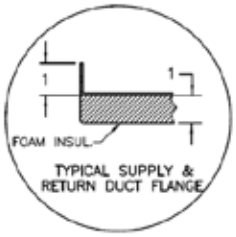
D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box with Power Exhaust

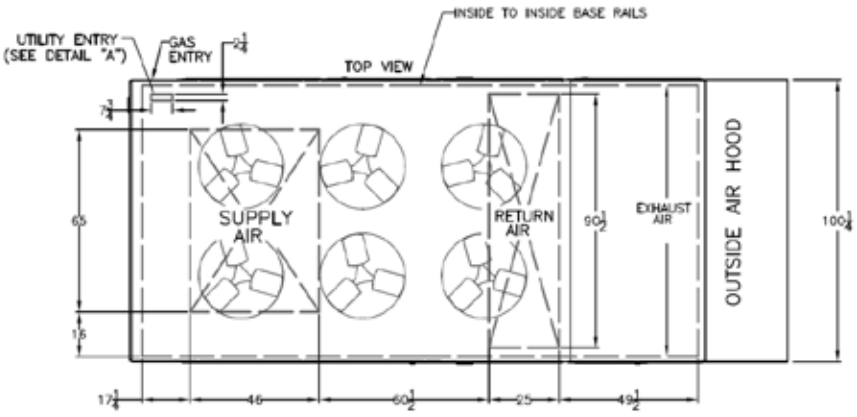
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

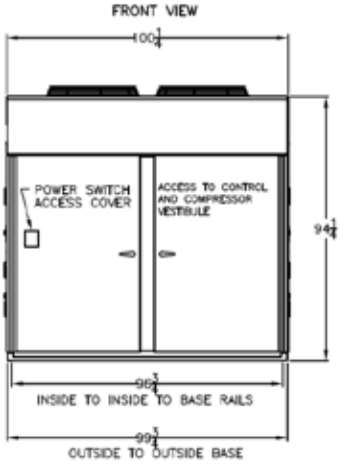
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

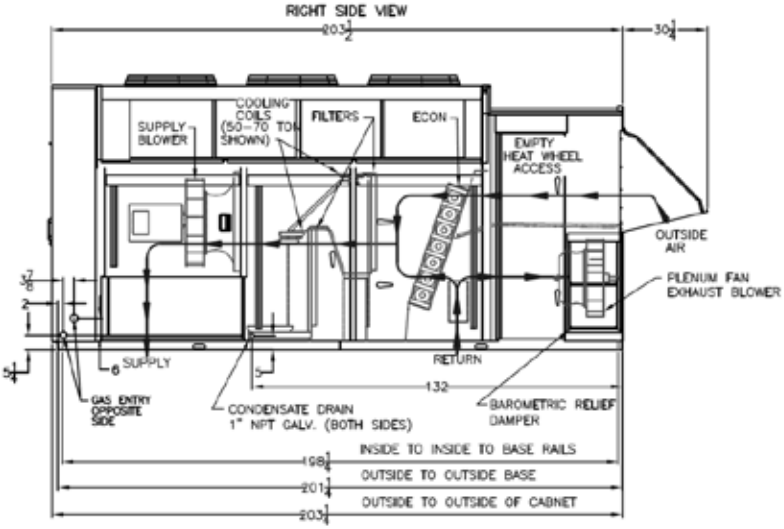


NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.









RND–00029 REV:D 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit

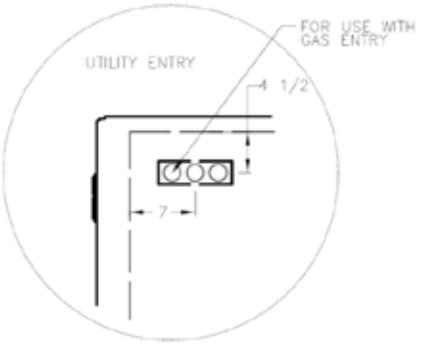
CLEARANCES

LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

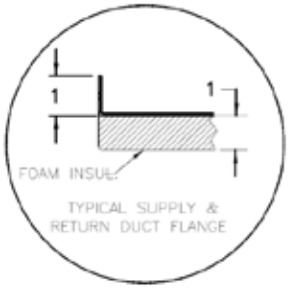
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNITS INCLUDE TWO COOLING COILS.

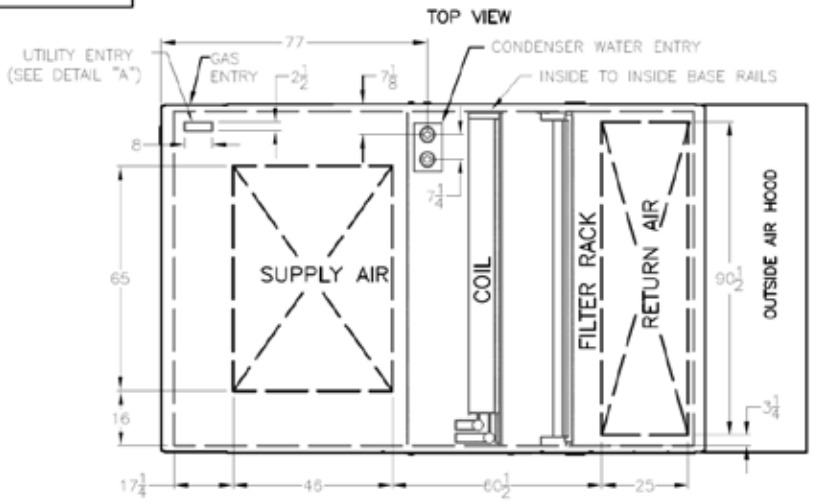
NOTE: 26–40 TON WATER COOLED UNITS USE 2.5" GROOVED VICT PIPE. 50–70 TON WATERR COOLED UNITS USE 3" GROOVED VICT PIPE.

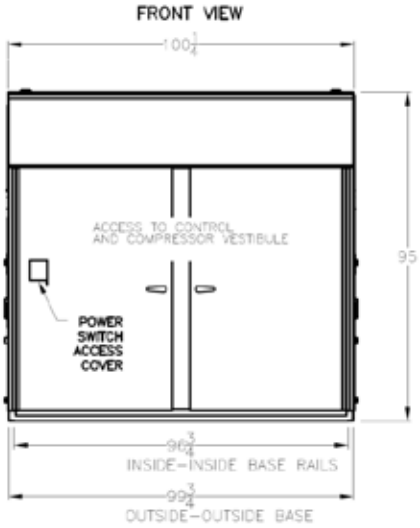


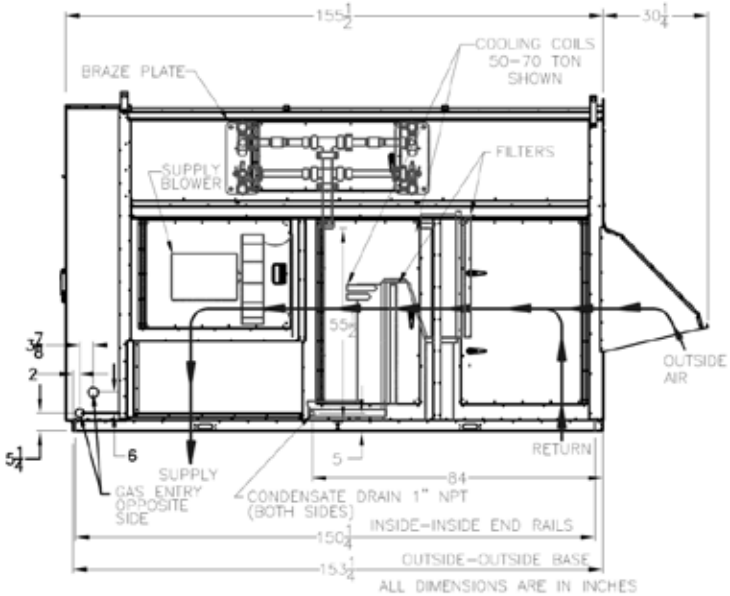
DETAIL A



DETAIL B



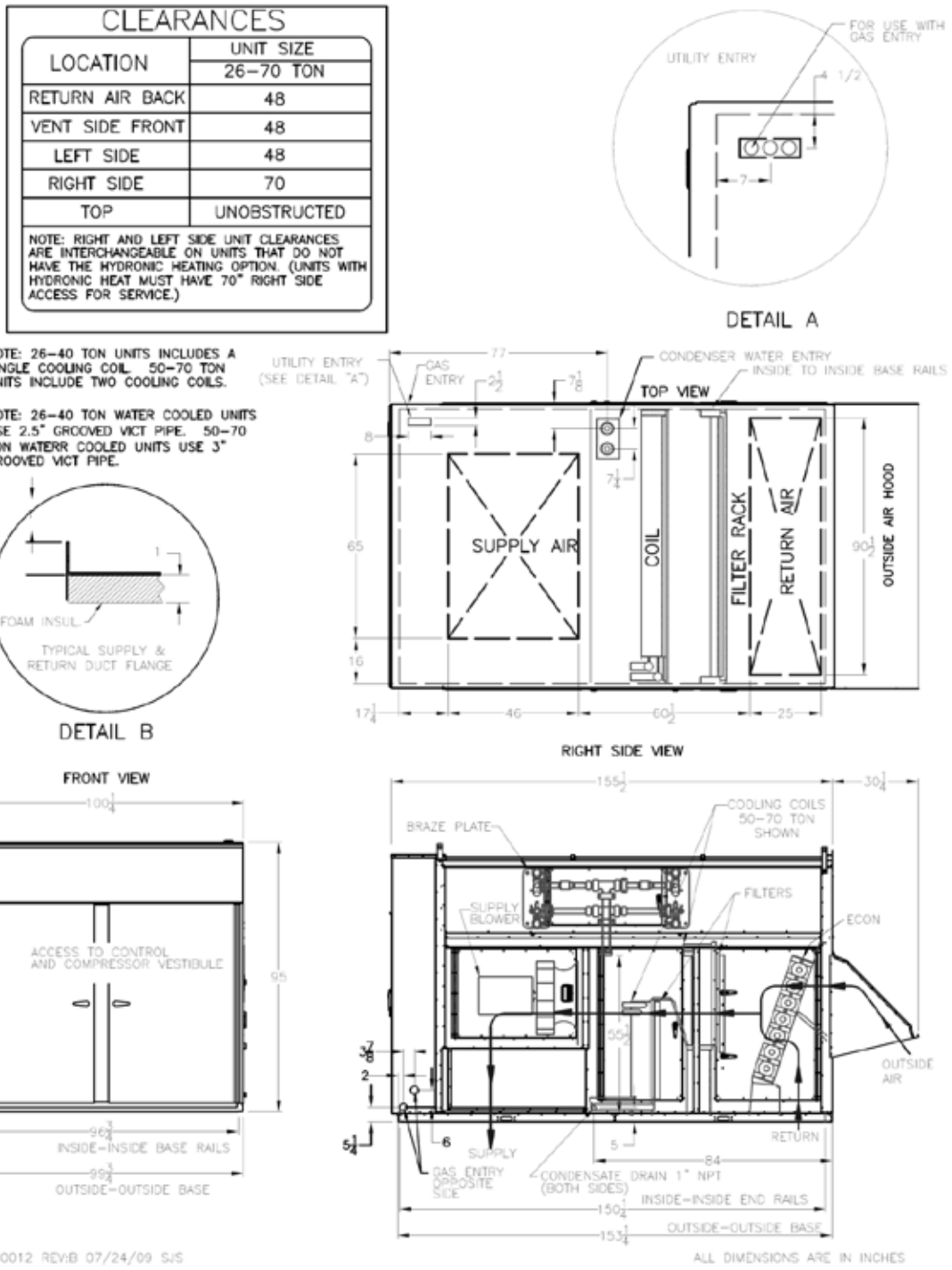




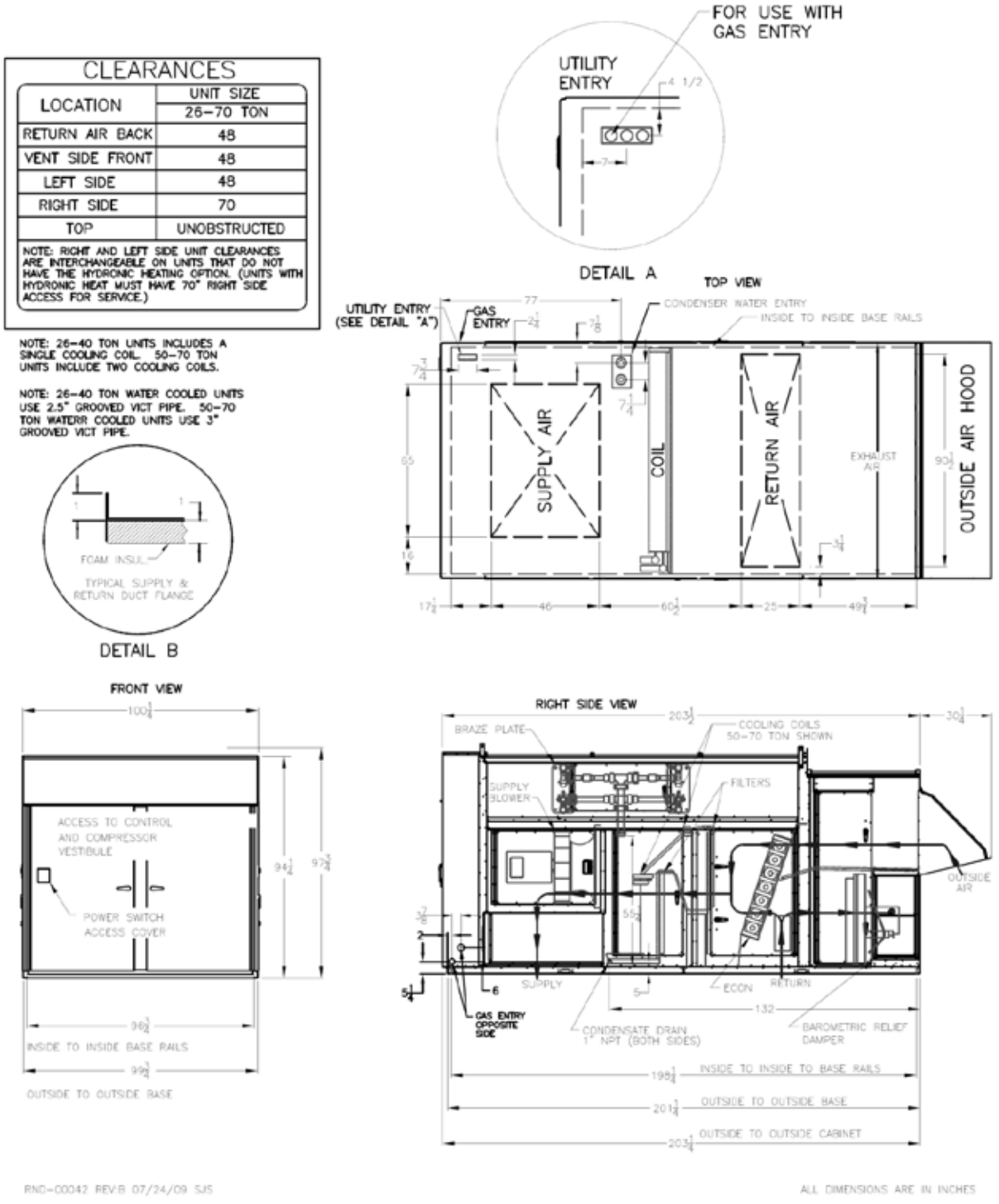
RND-00015 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Economizer Option



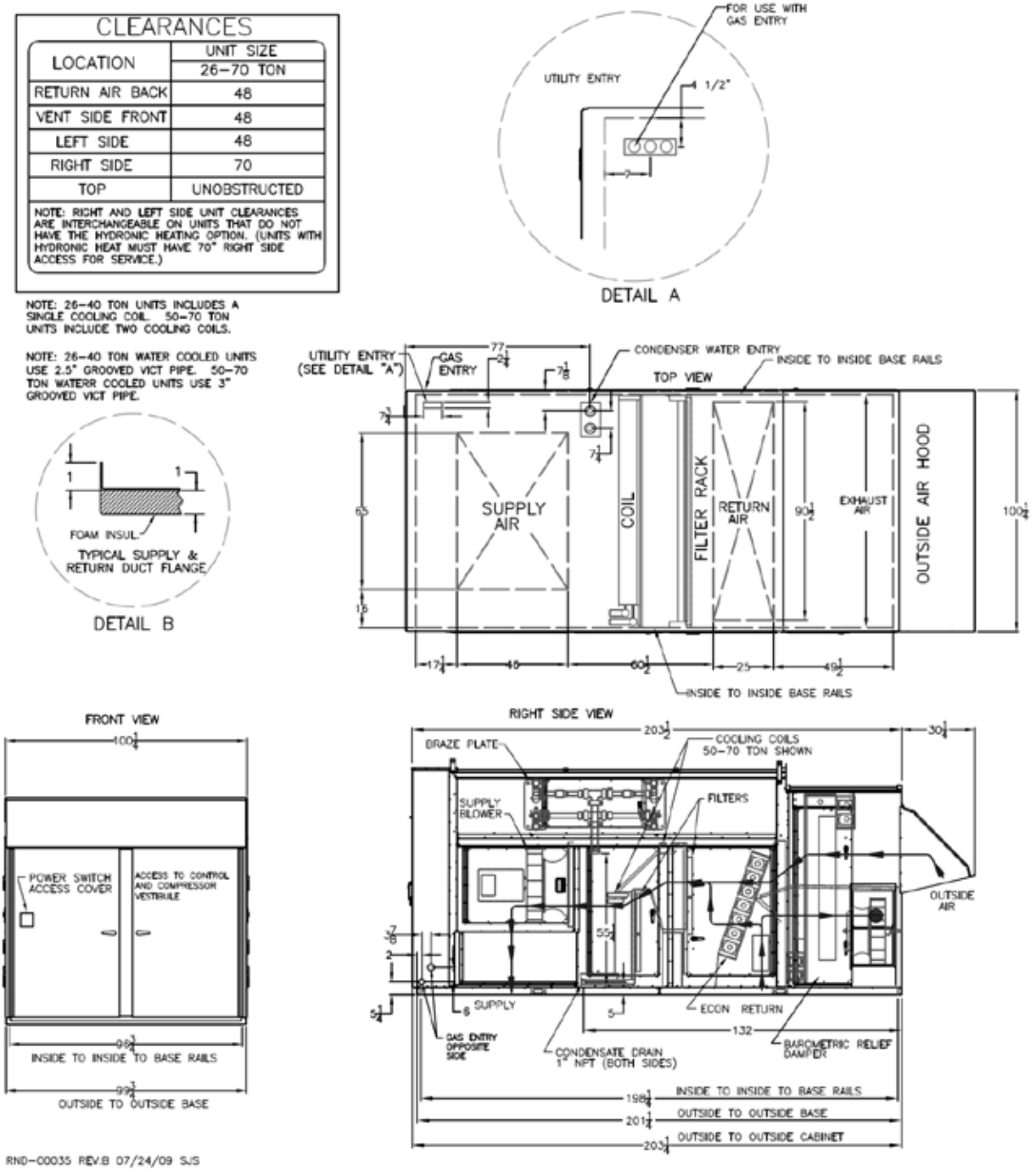
D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Power Exhaust Option



RND-00042 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Energy Recovery Wheel Option



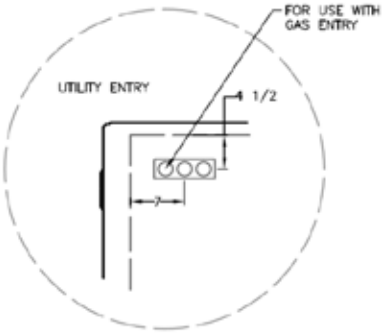
D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Power Return Option

CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

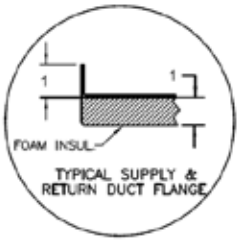
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNITS INCLUDE TWO COOLING COILS.

NOTE: 26–40 TON WATER COOLED UNITS USE 2.5" GROOVED VICT PIPE. 50–70 TON WATERR COOLED UNITS USE 3" GROOVED VICT PIPE.

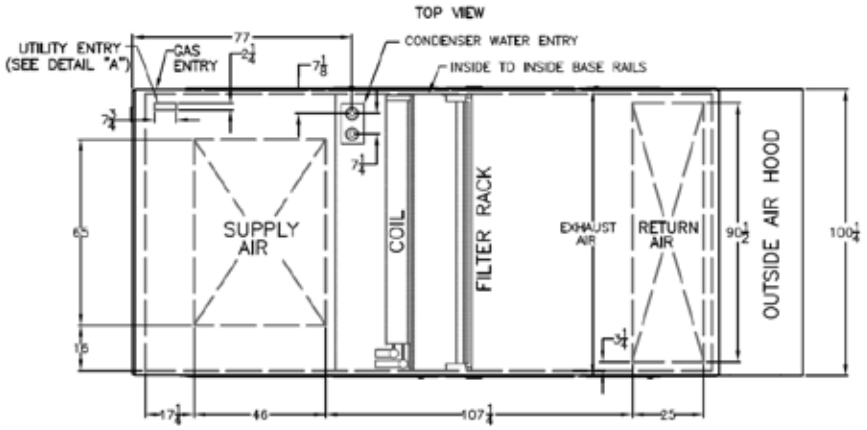


DETAIL A



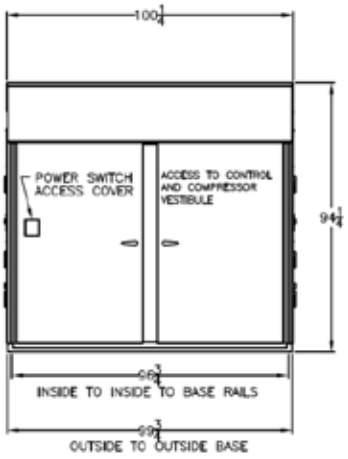
DETAIL B

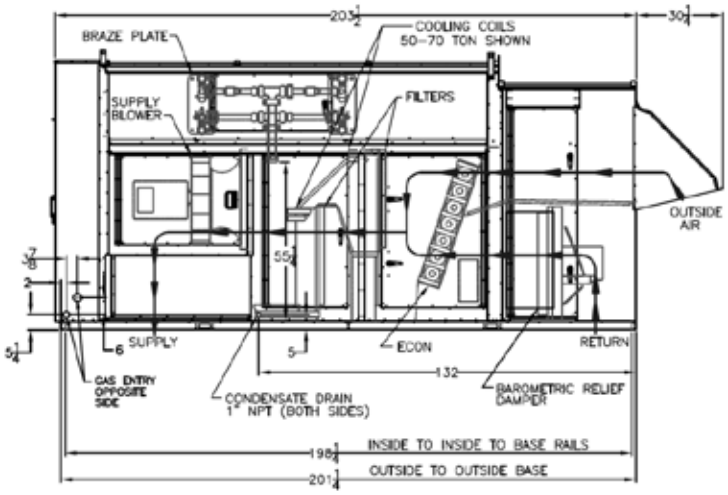
TOP VIEW



RIGHT SIDE VIEW

FRONT VIEW





RND–00048 REV:D 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box

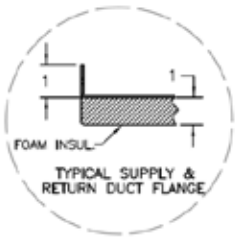
CLEARANCES

LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

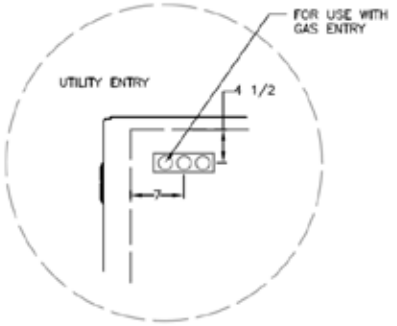
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNITS INCLUDE TWO COOLING COILS.

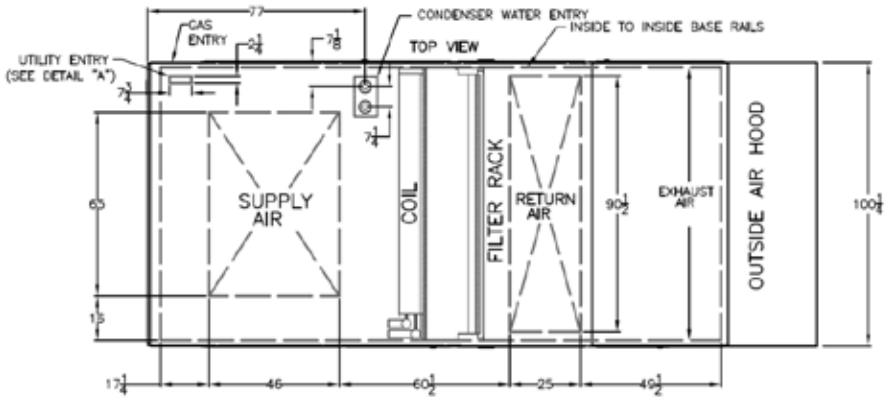
NOTE: 26–40 TON WATER COOLED UNITS USE 2.5" GROOVED VICT PIPE. 50–70 TON WATERR COOLED UNITS USE 3" GROOVED VICT PIPE.



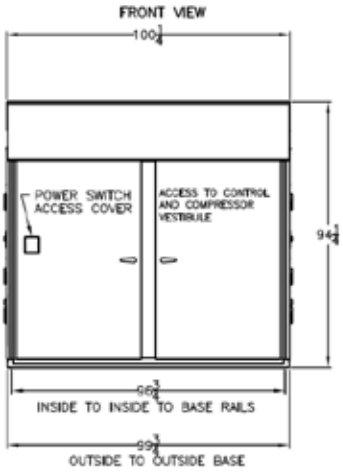
DETAIL B

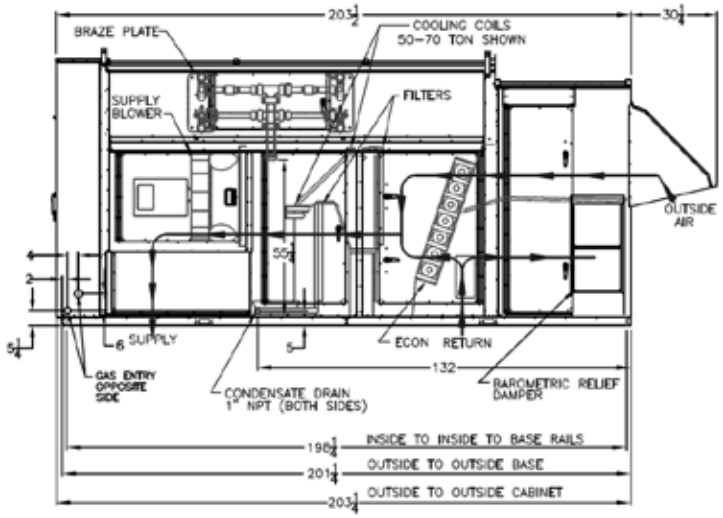


DETAIL A



RIGHT SIDE VIEW





RND–00025 REV:B 07/24/09 SJS

D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Empty Energy Recovery Wheel Option Box with Power Exhaust

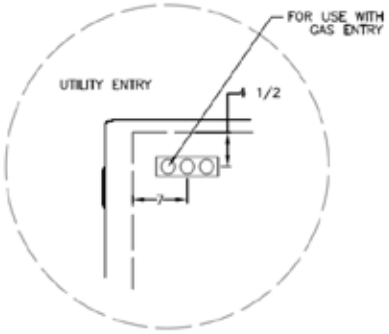
CLEARANCES

LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

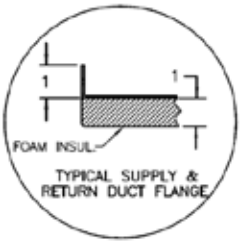
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNITS INCLUDE TWO COOLING COILS.

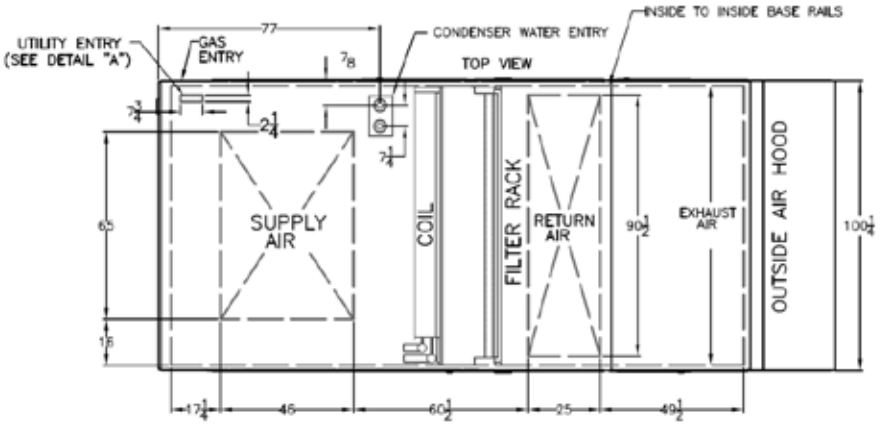
NOTE: 26–40 TON WATER COOLED UNITS USE 2.5" GROOVED VICT PIPE. 50–70 TON WATERR COOLED UNITS USE 3" GROOVED VICT PIPE.



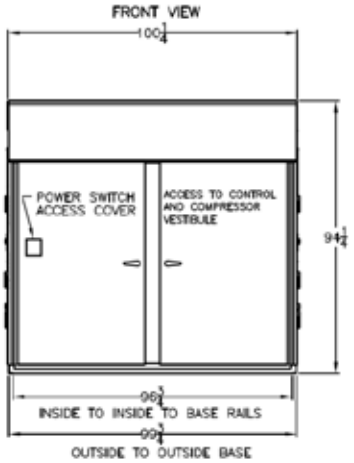
DETAIL A

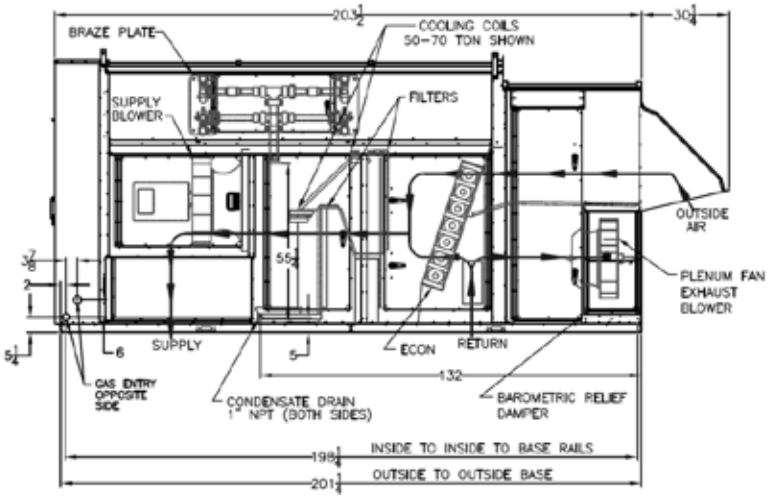


DETAIL B



RIGHT SIDE VIEW





RND–00021 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

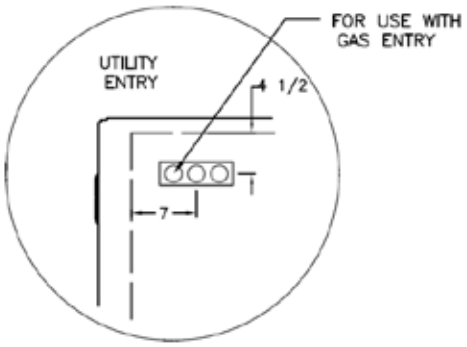
D Cabinet (26-70 Tons) Air Handler

CLEARANCES

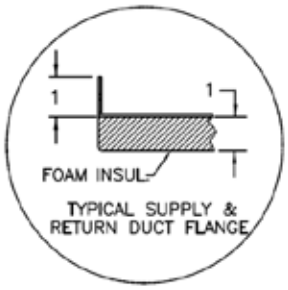
LOCATION	UNIT SIZE 26–70 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

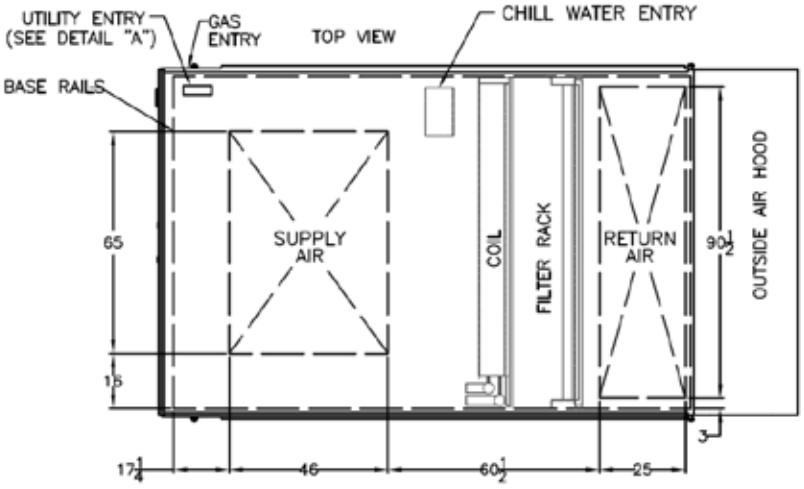
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.



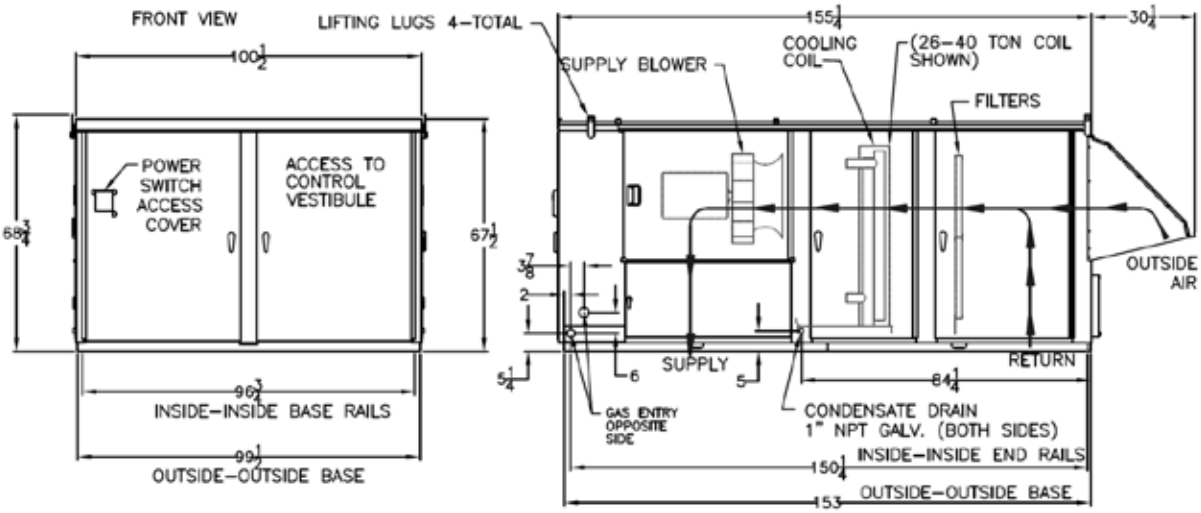
DETAIL A



DETAIL B



RIGHT SIDE VIEW



RND–00009 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

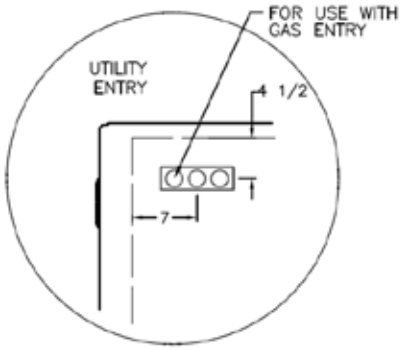
D Cabinet (26-70 Tons) Air Handler
Economizer Option

CLEARANCES

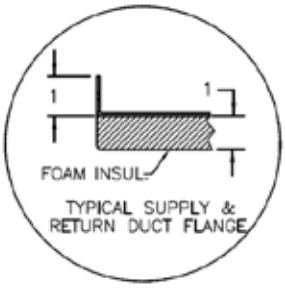
LOCATION	UNIT SIZE 26–70 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

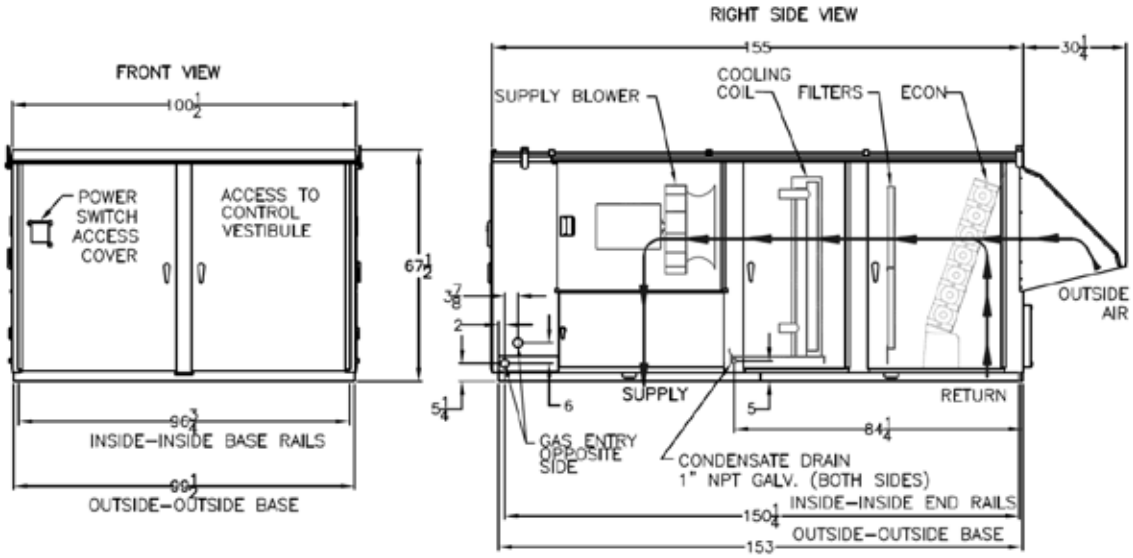
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.



DETAIL A



DETAIL B



RND–00005 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

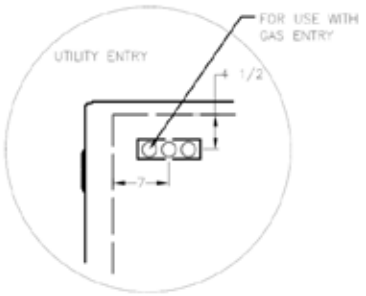
D Cabinet (26-70 Tons) Air Handler
Power Exhaust Option

CLEARANCES

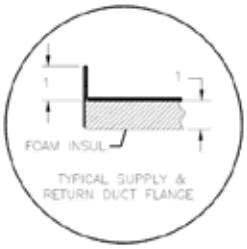
LOCATION	UNIT SIZE 26–70 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

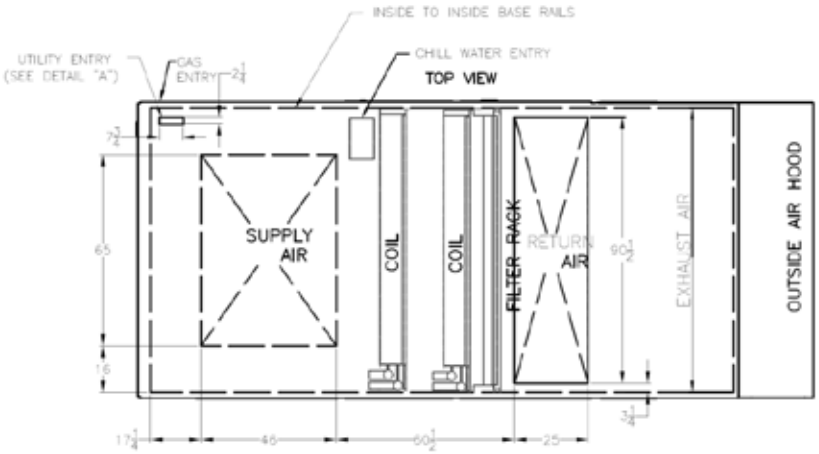
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.

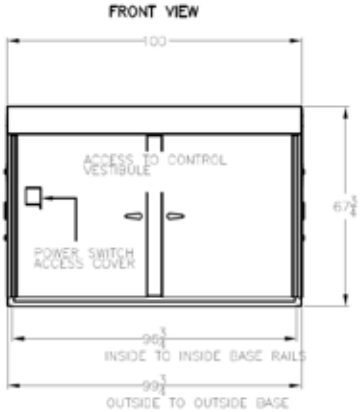


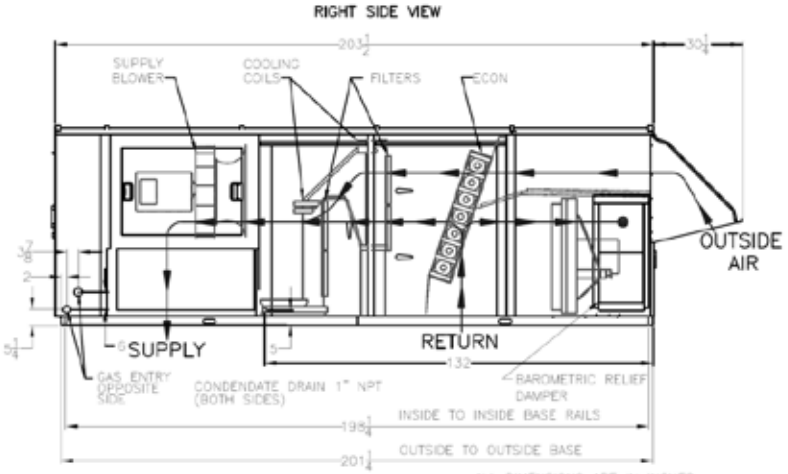
DETAIL A



DETAIL B







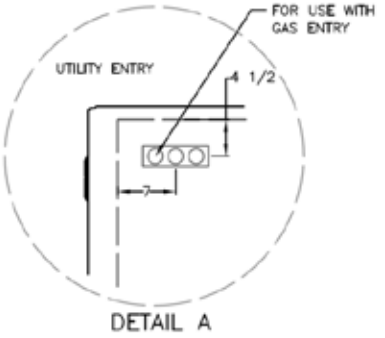
RND-00006 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Air Handler
Energy Recovery Wheel Option

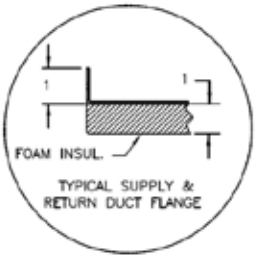
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

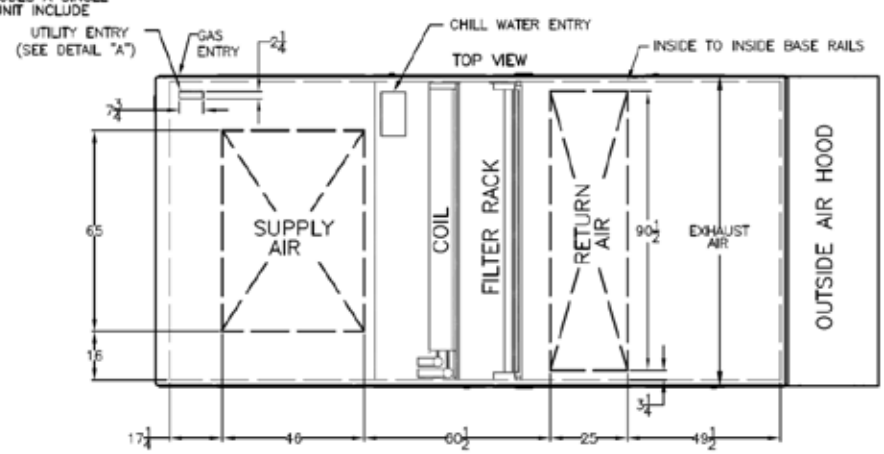


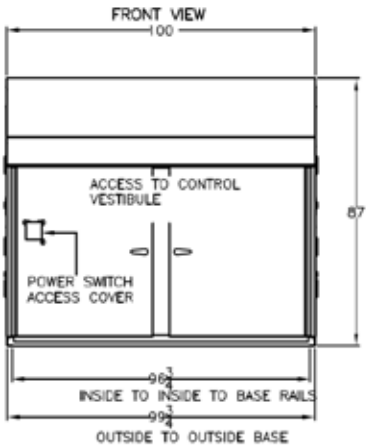
DETAIL A

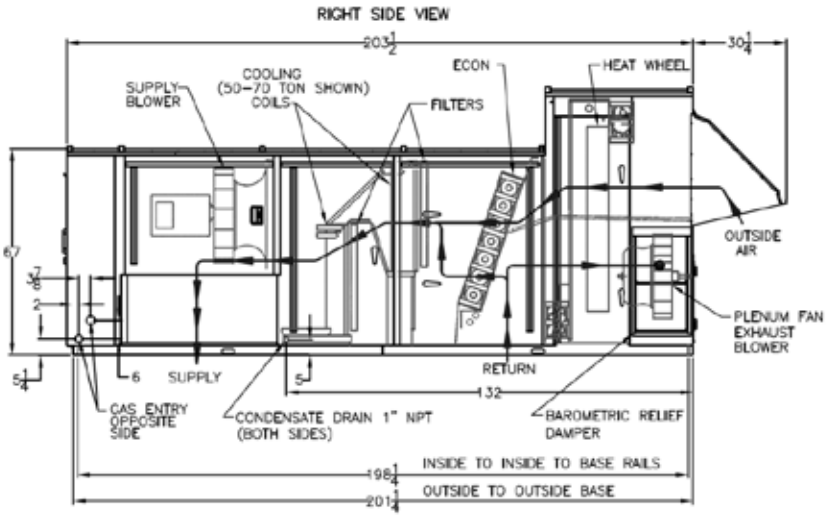
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.



DETAIL B







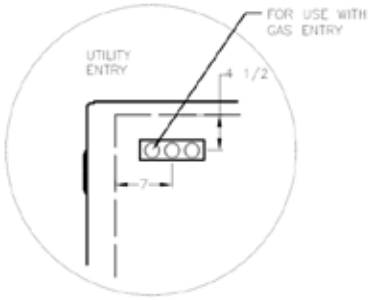
RND–00004 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

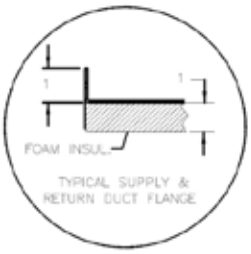
D Cabinet (26-70 Tons) Air Handler
Power Return Option

CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
OUTSIDE AIR (BACK)	48
CONTROLS SIDE (FRONT)	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)	

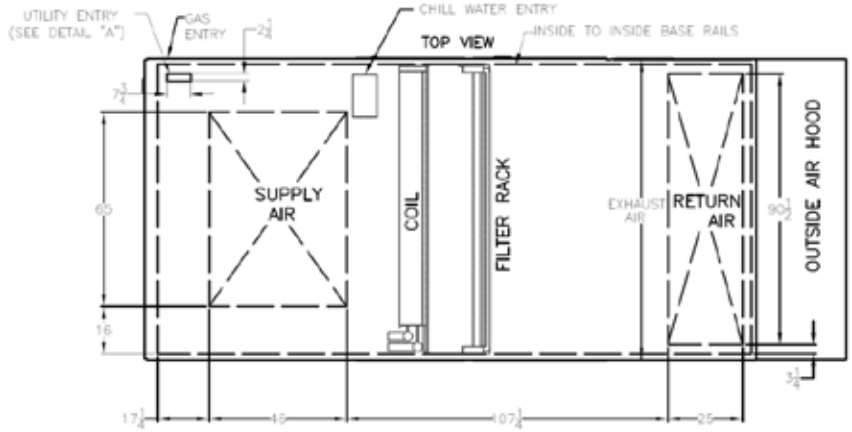
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.

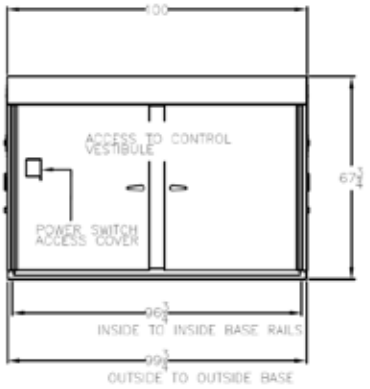


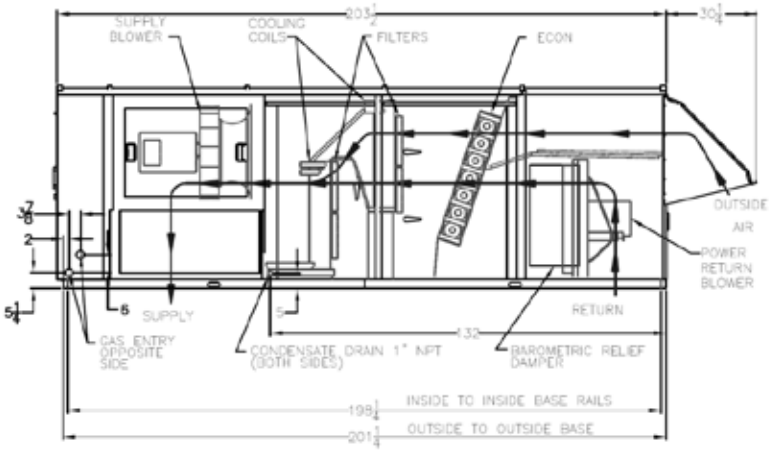
DETAIL A



DETAIL B







RND-00007 REV:B 07/24/09 SJS

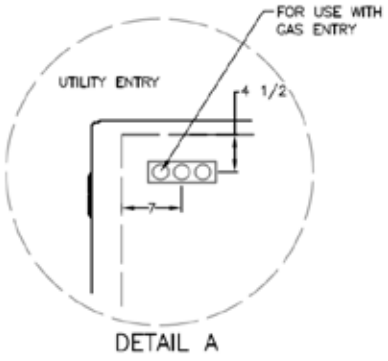
ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Air Handler
Empty Energy Recovery Wheel Option Box

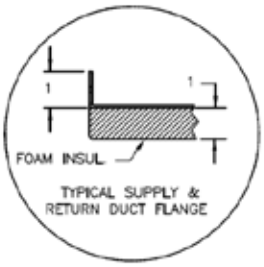
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

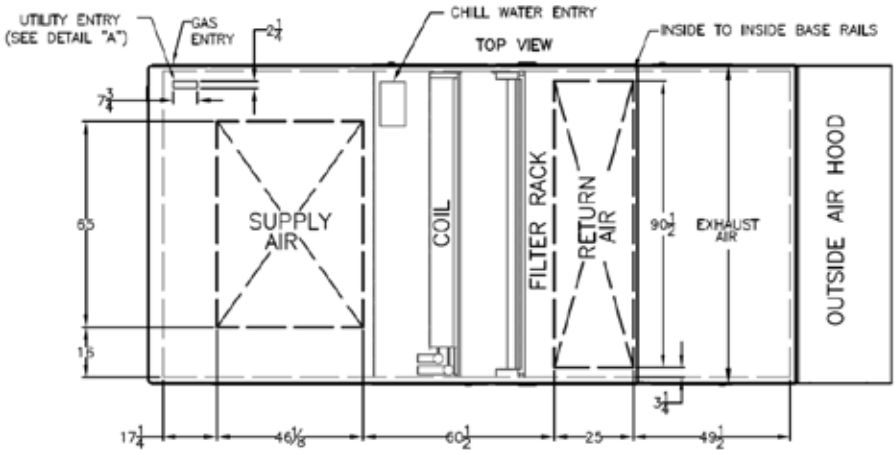
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.

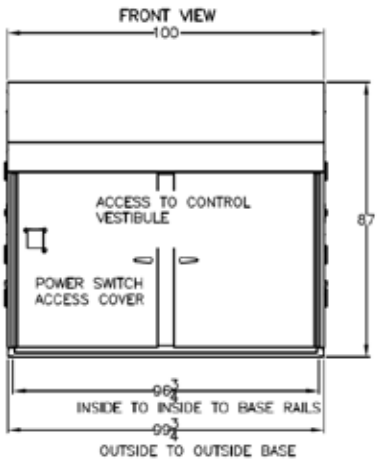


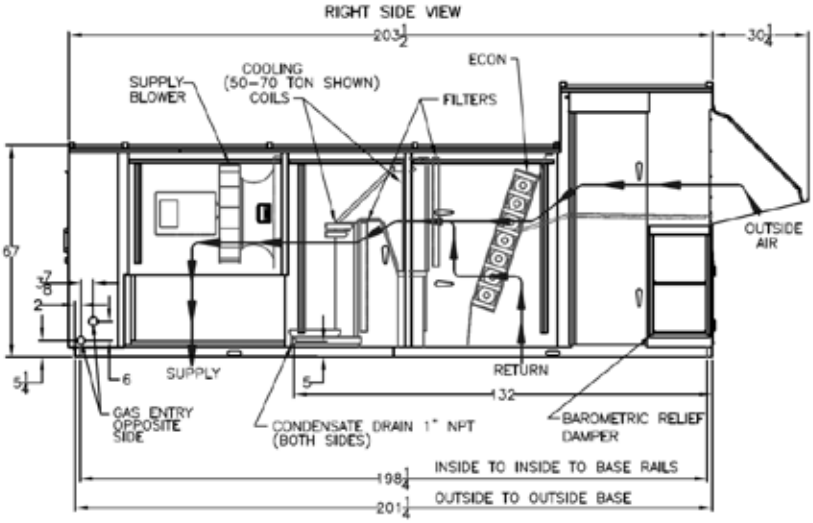
DETAIL A



DETAIL B



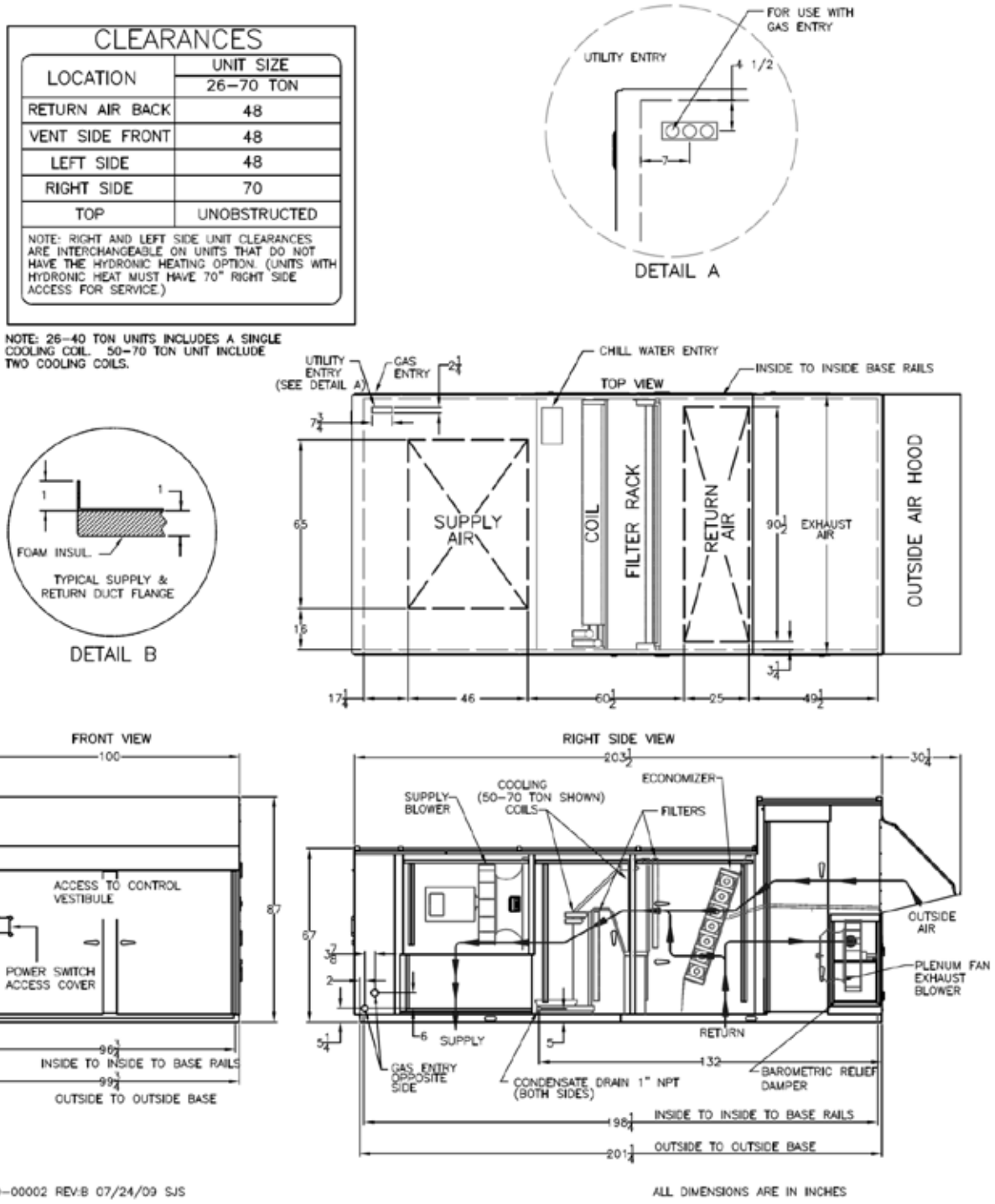




RND–00003 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Air Handler
Empty Energy Recovery Wheel Option Box with Power Exhaust



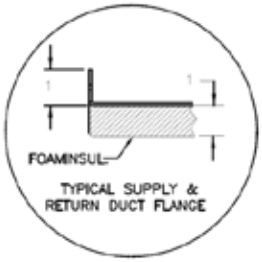
D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Economizer Option

CLEARANCES

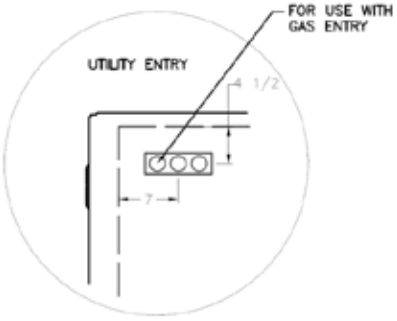
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

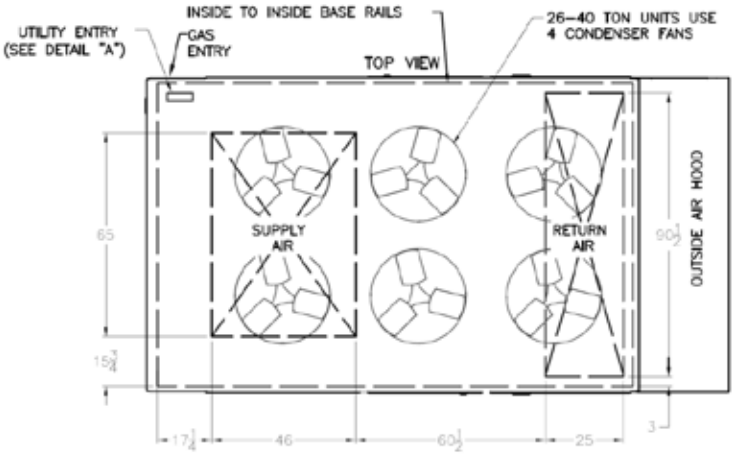
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.

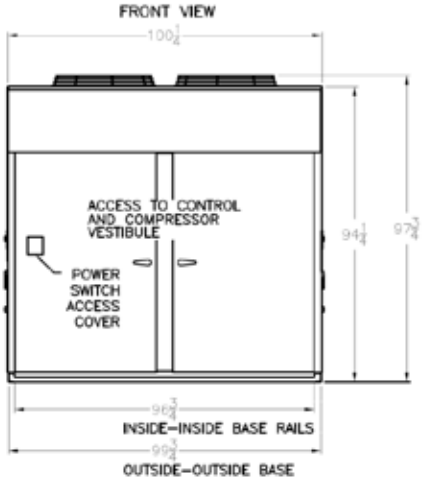


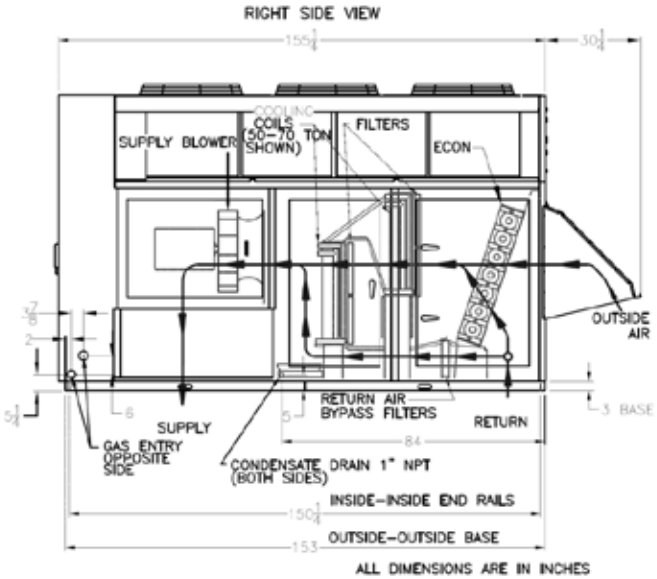
DETAIL B



DETAIL A







RND–00050 REV:A 07/24/09 SJS

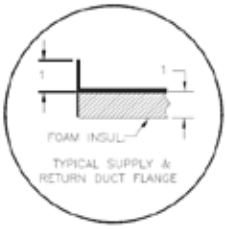
ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Exhaust Option

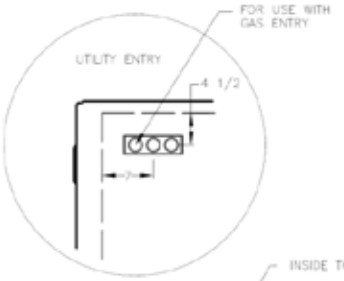
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

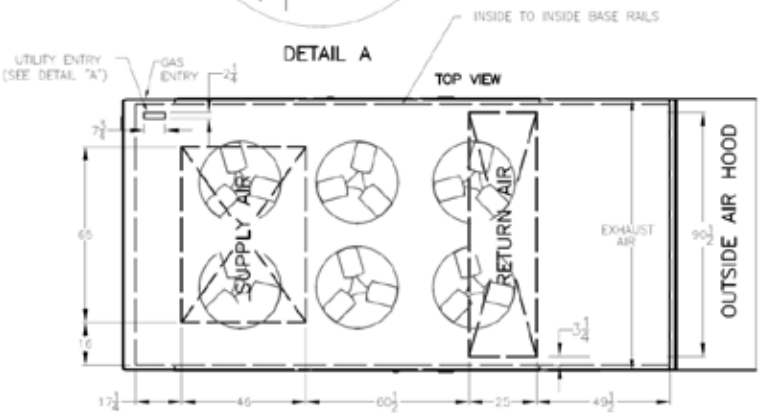
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.

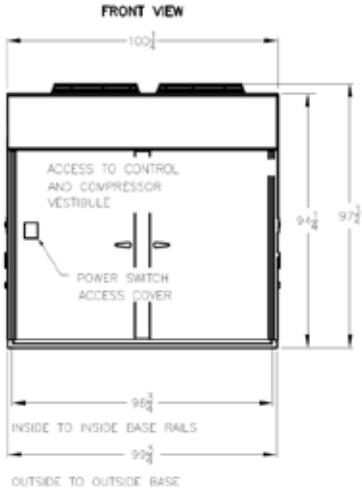


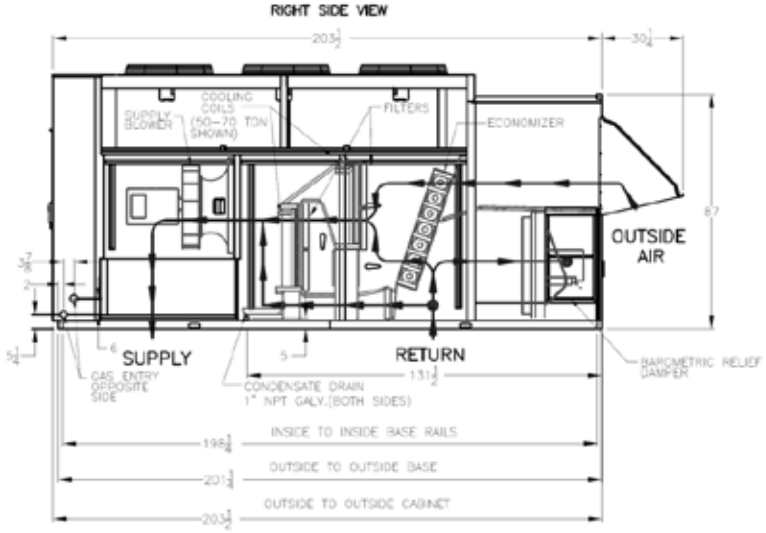
DETAIL B



DETAIL A







RND-00040 REV:B 07/24/09 SJS

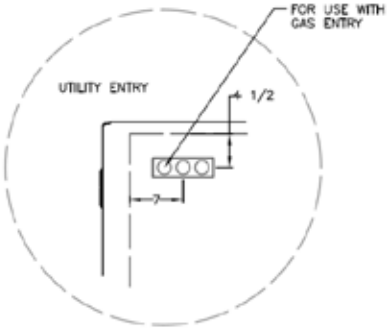
ALL DIMENSIONS ARE IN INCHES

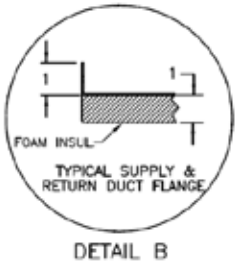
D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Energy Recovery Wheel Option

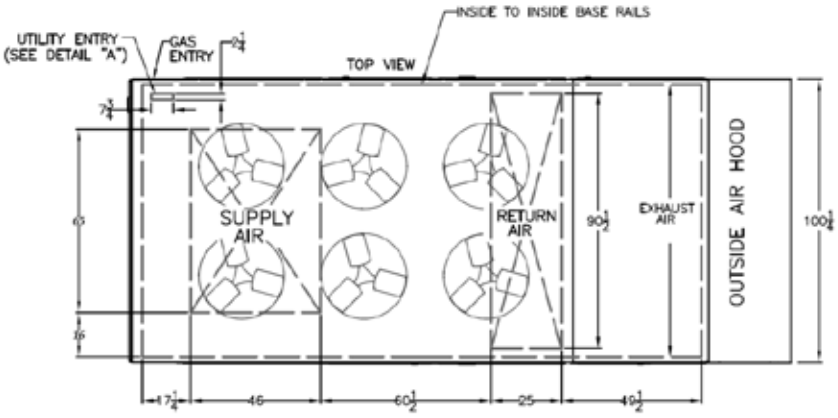
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

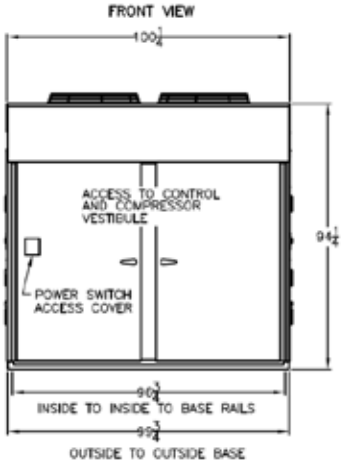
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

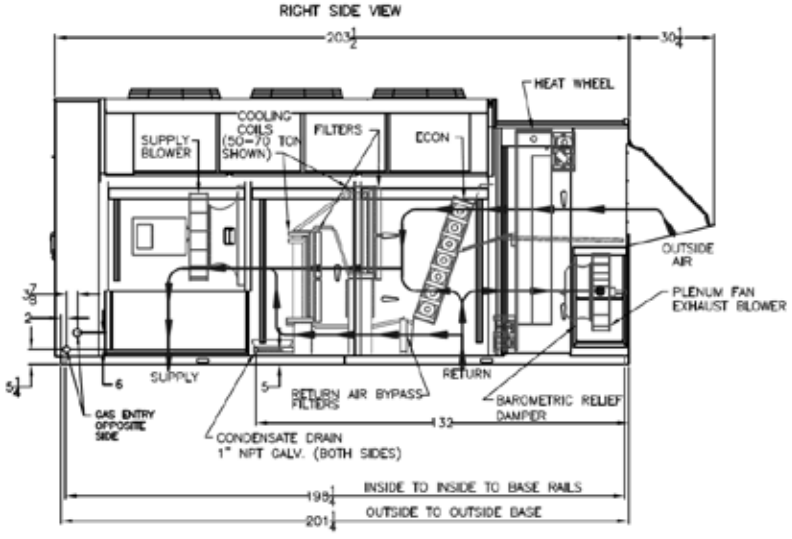
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.







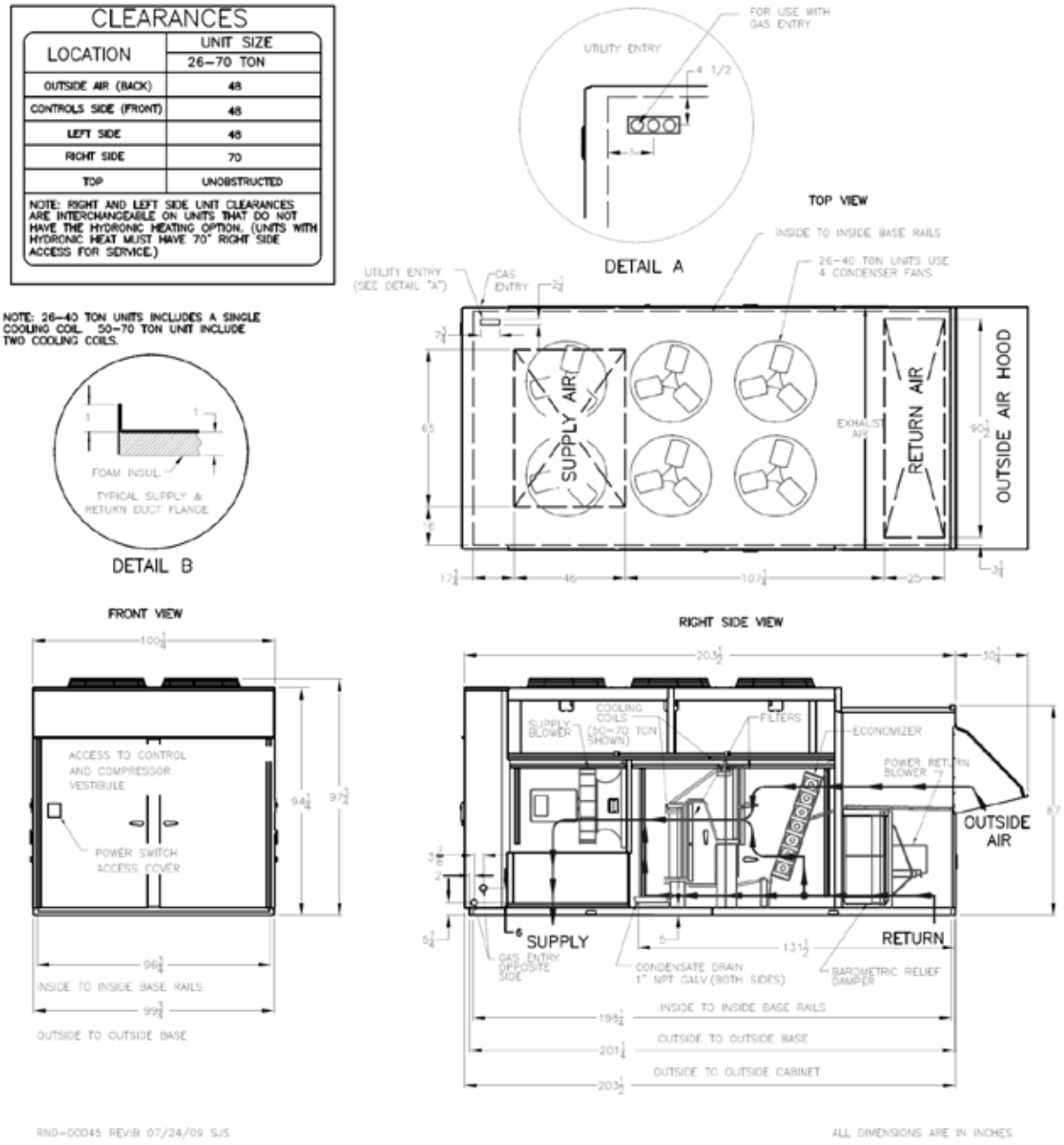




RND–00032 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Return Option

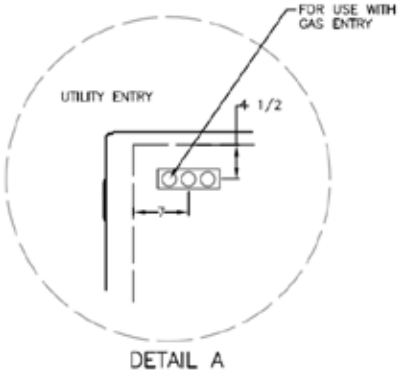


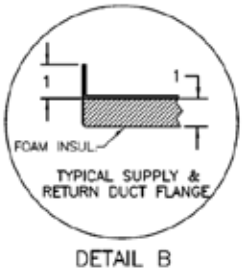
D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box

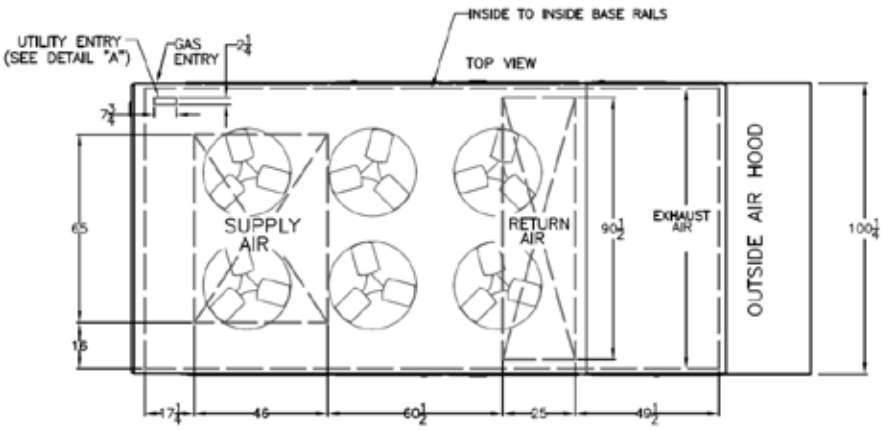
CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

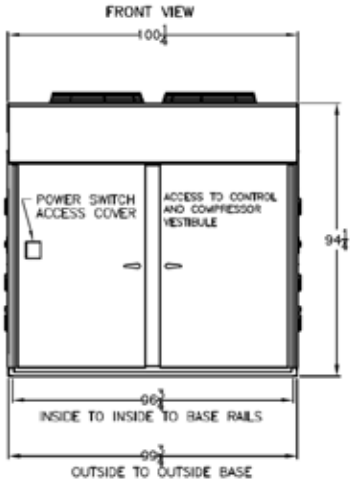
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

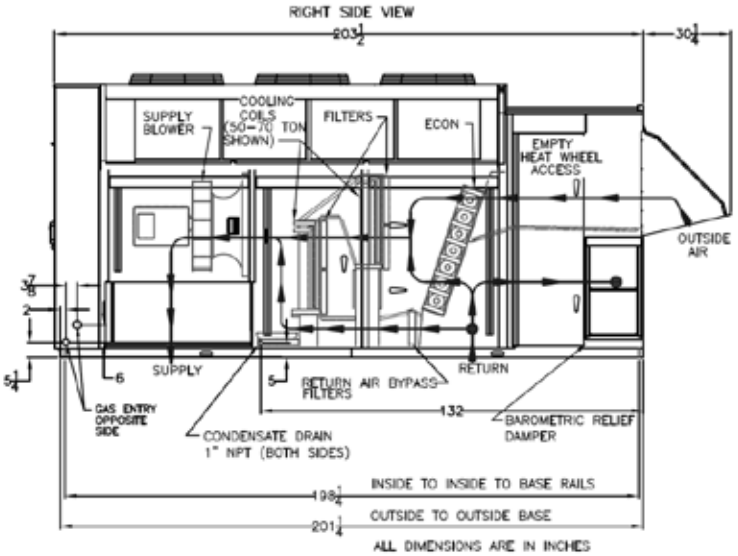
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.











RND-00030 REV:D 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

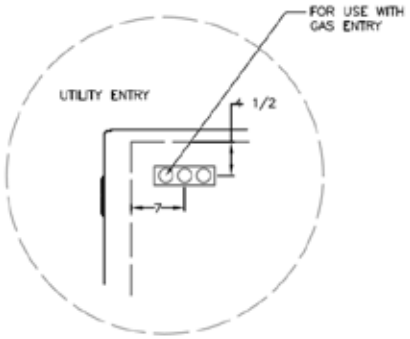
D Cabinet (26-70 Tons) Air-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box with Power Exhaust

CLEARANCES

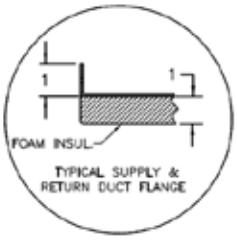
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

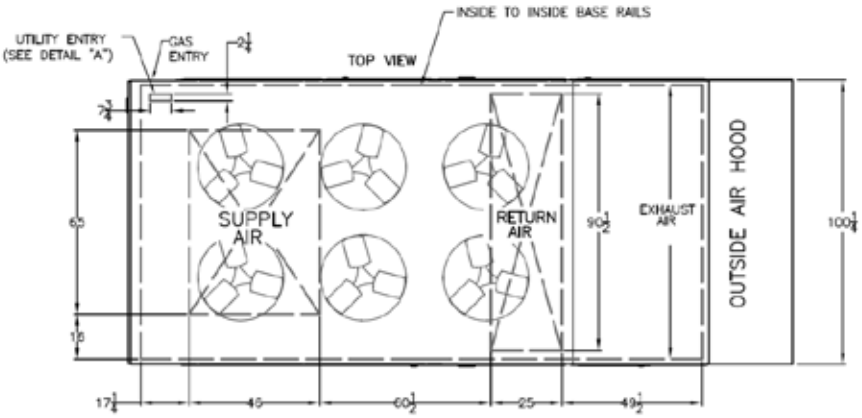
NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNIT INCLUDE TWO COOLING COILS.



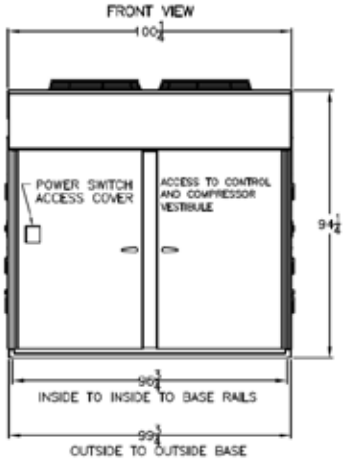
DETAIL A

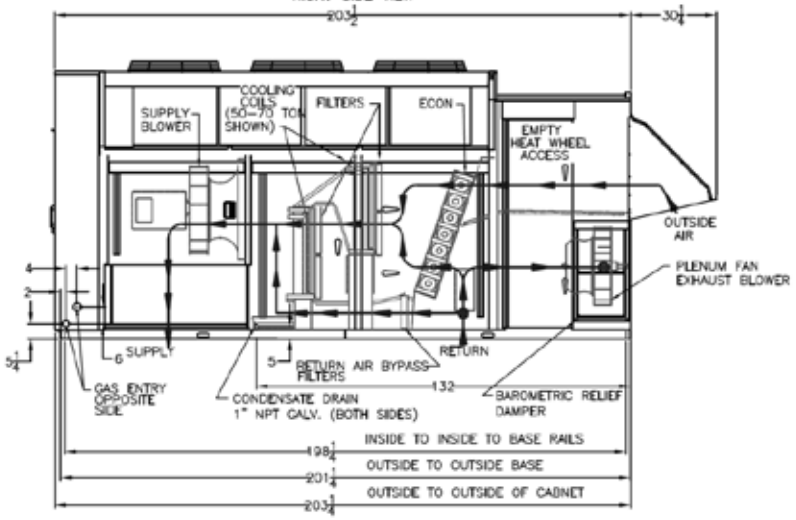


DETAIL B



RIGHT SIDE VIEW





RND–00028 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

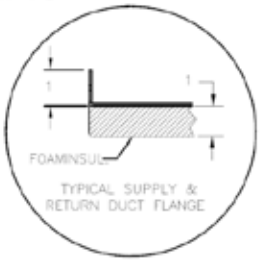
D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Economizer Option

CLEARANCES	
LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

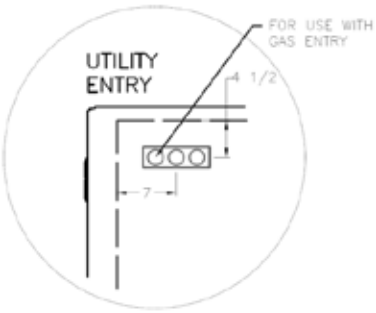
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNITS INCLUDE TWO COOLING COILS.

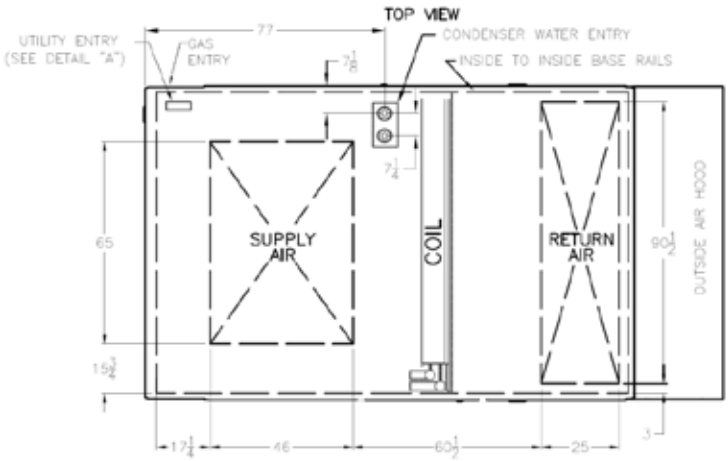
NOTE: 26–40 TON WATER COOLED UNITS USE 2.5" GROOVED VICT PIPE. 50–70 TON WATERR COOLED UNITS USE 3" GROOVED VICT PIPE.

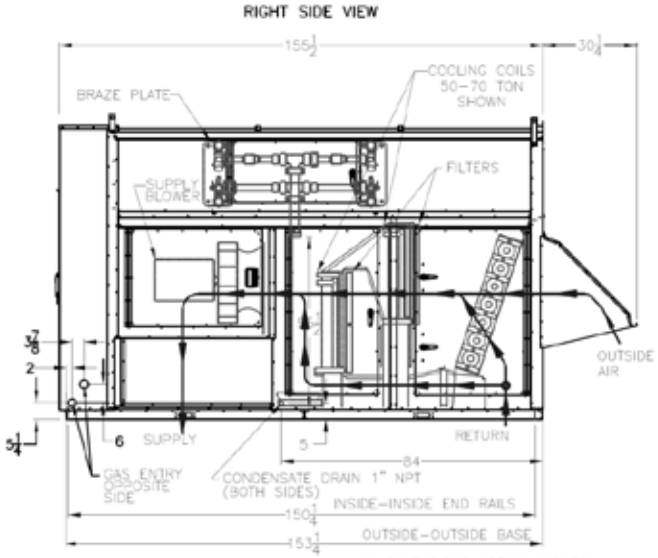


DETAIL B



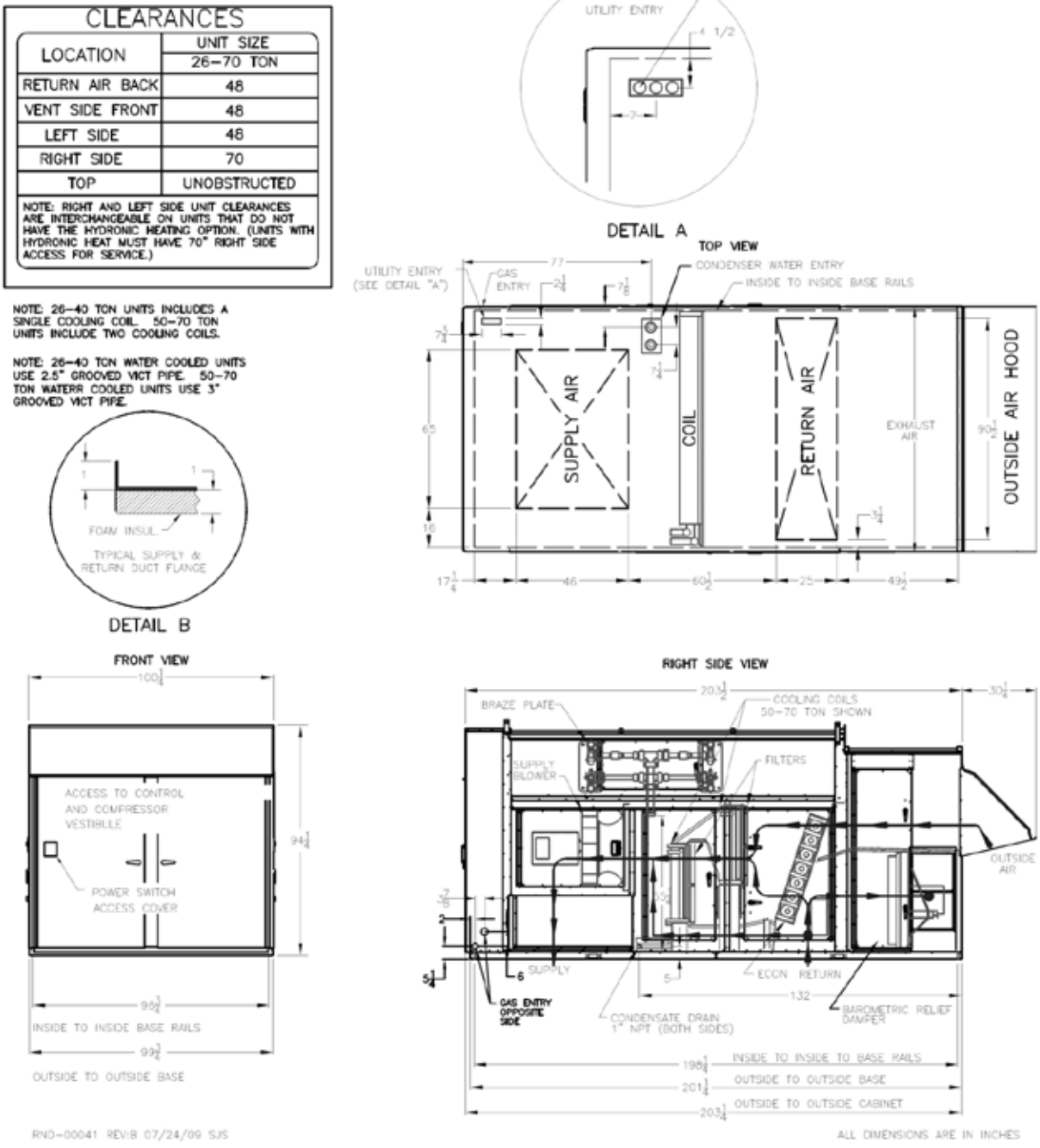
DETAIL A



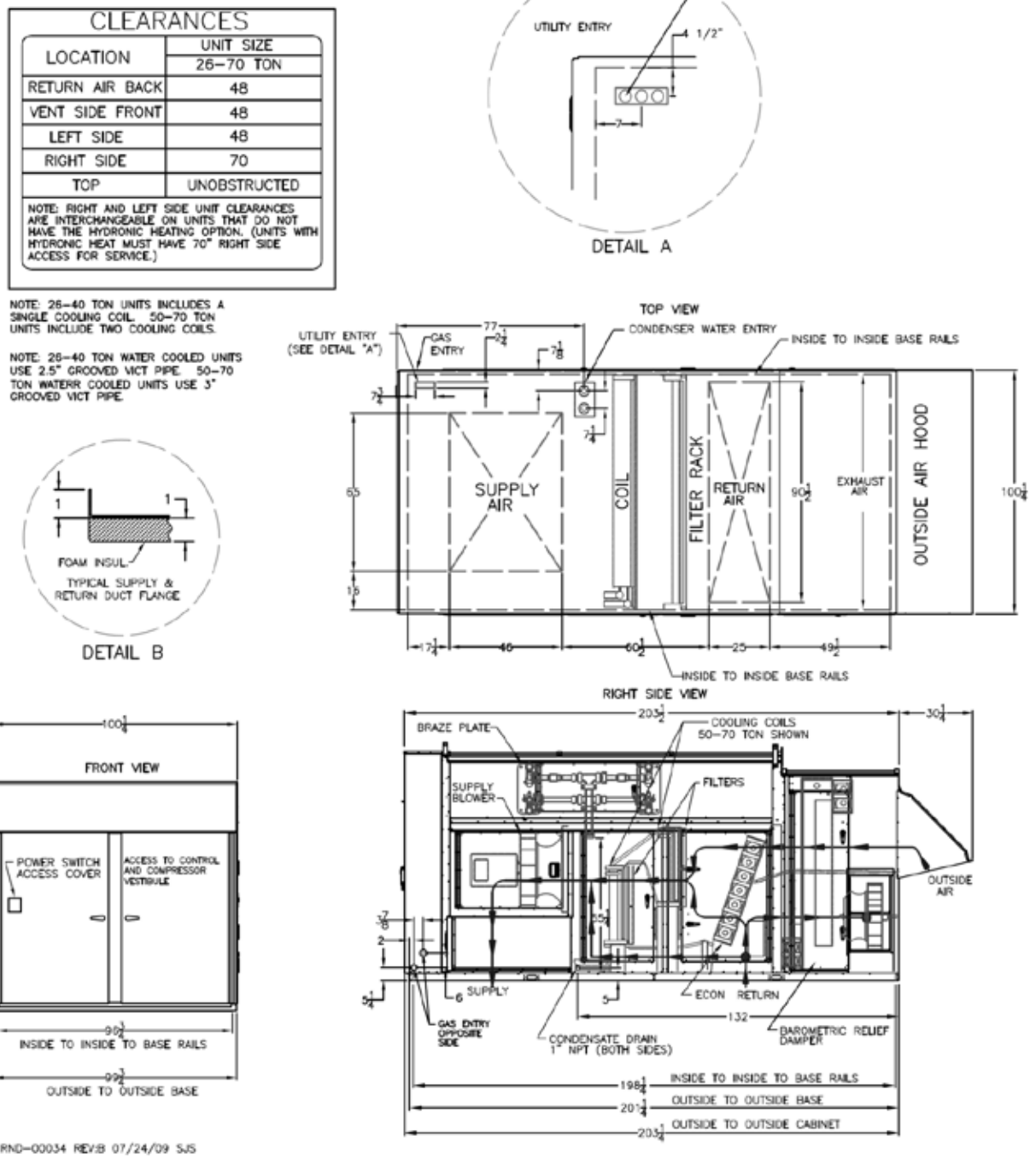


RND-00011 REV:B 07/24/09 SJS

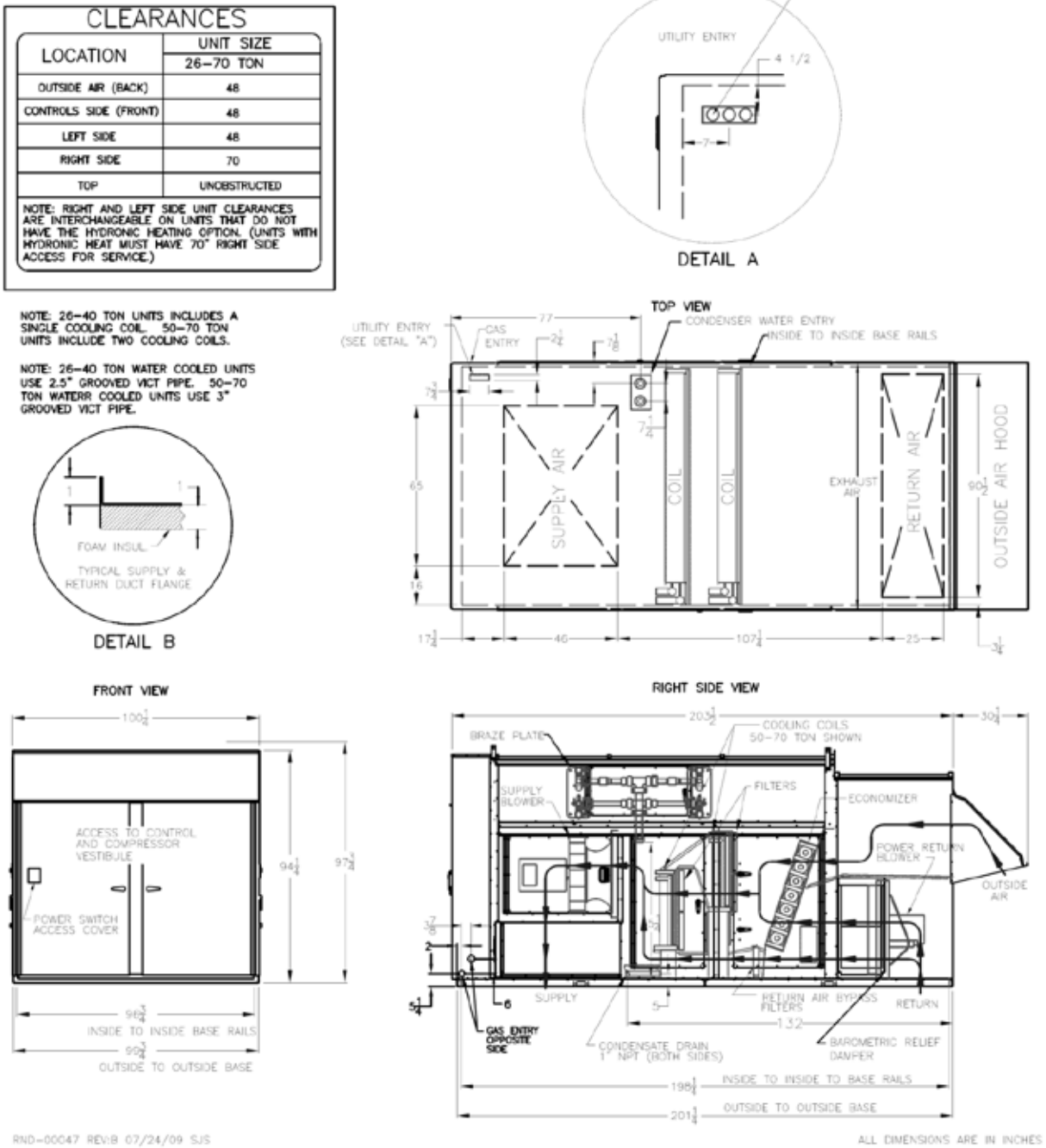
D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Exhaust Option



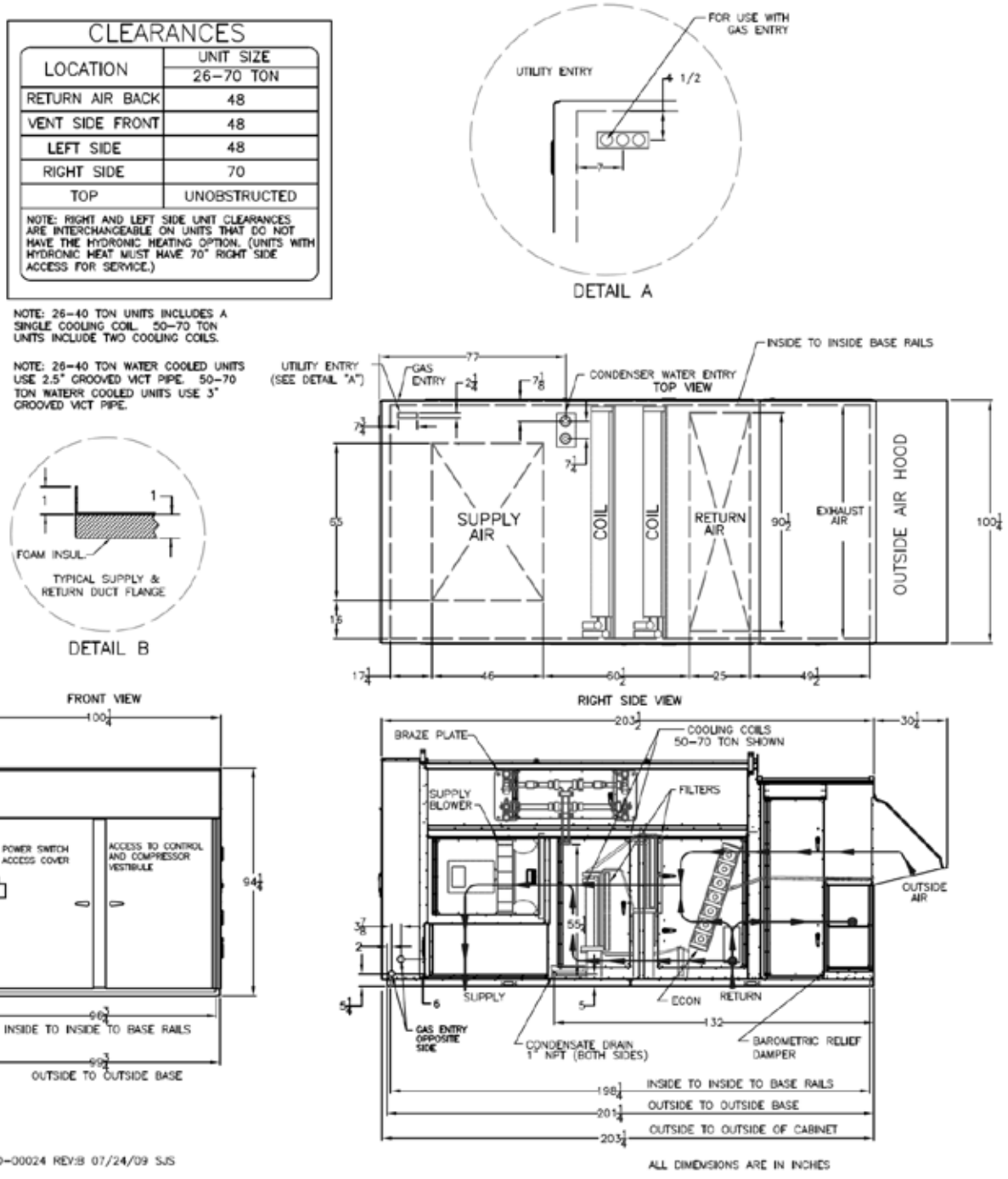
D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Energy Recovery Wheel Option



D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Power Return Option



D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box



D Cabinet (26-70 Tons) Water-Cooled Condenser Packaged DX Unit
Return Air Bypass Empty Energy Recovery Wheel Option Box with Power Exhaust

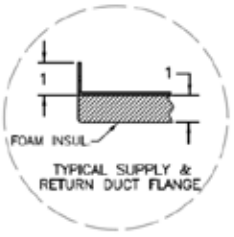
CLEARANCES

LOCATION	UNIT SIZE 26–70 TON
RETURN AIR BACK	48
VENT SIDE FRONT	48
LEFT SIDE	48
RIGHT SIDE	70
TOP	UNOBSTRUCTED

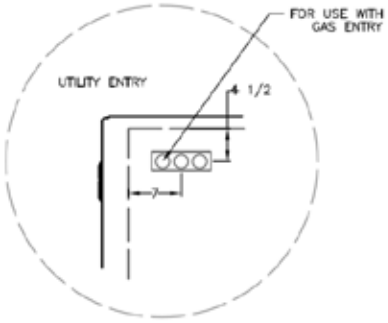
NOTE: RIGHT AND LEFT SIDE UNIT CLEARANCES ARE INTERCHANGEABLE ON UNITS THAT DO NOT HAVE THE HYDRONIC HEATING OPTION. (UNITS WITH HYDRONIC HEAT MUST HAVE 70" RIGHT SIDE ACCESS FOR SERVICE.)

NOTE: 26–40 TON UNITS INCLUDES A SINGLE COOLING COIL. 50–70 TON UNITS INCLUDE TWO COOLING COILS.

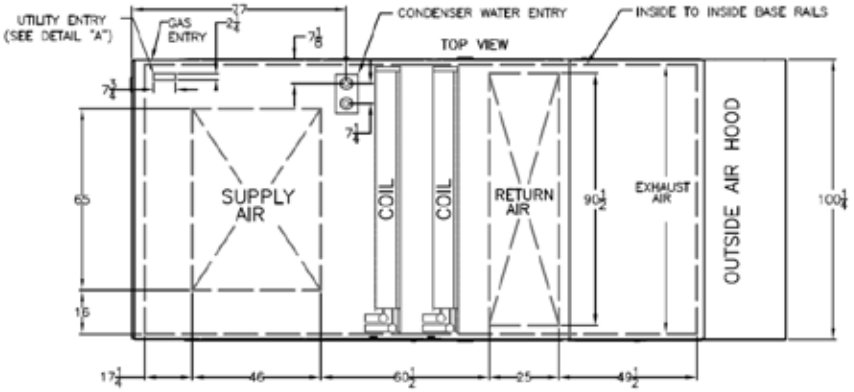
NOTE: 26–40 TON WATER COOLED UNITS USE 2.5" GROOVED VICT PIPE. 50–70 TON WATERR COOLED UNITS USE 3" GROOVED VICT PIPE.



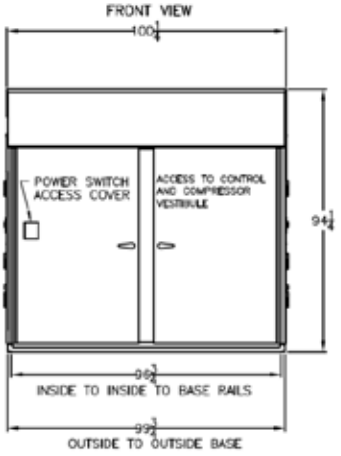
DETAIL B

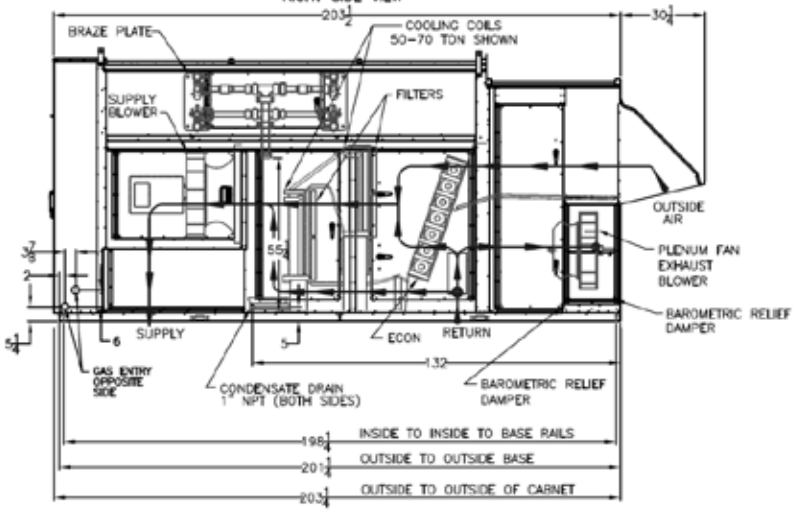


DETAIL A



RIGHT SIDE VIEW





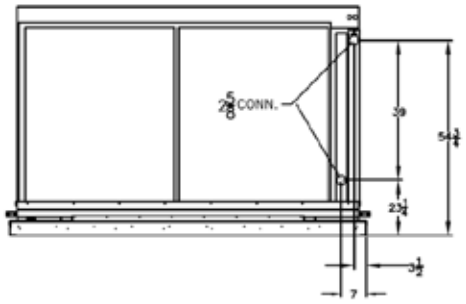
RND–00020 REV:B 07/24/09 SJS

ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Chilled Water Cooling Coil Piping

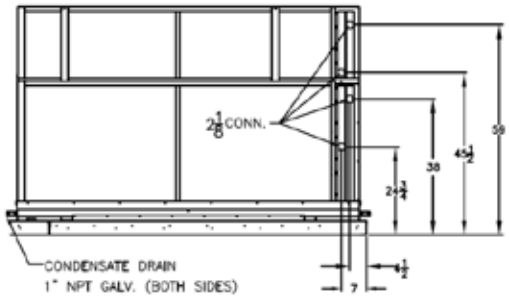
END VIEW

26–40 CW COIL PIPING CONNECTION SIZE AND LOCATION



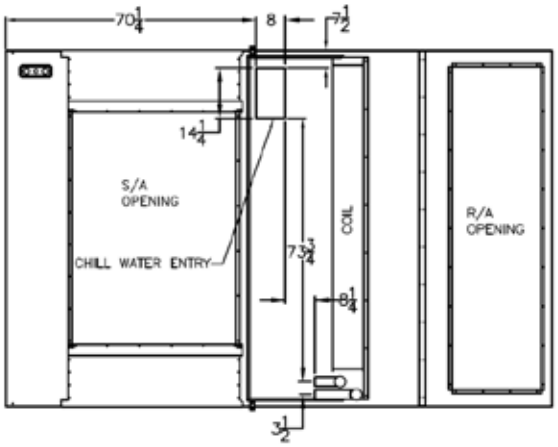
END VIEW

50–70 CW COIL PIPING CONNECTION SIZE AND LOCATION



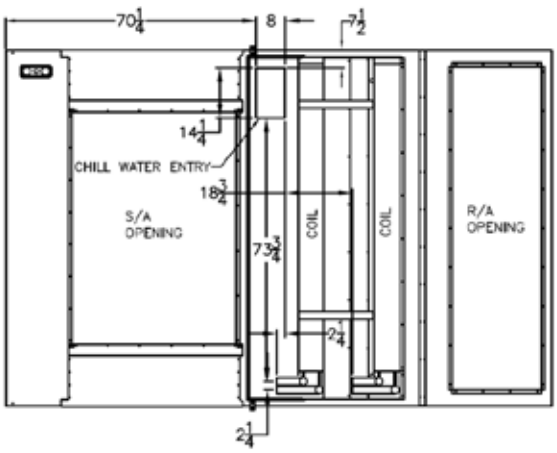
TOP VIEW

26–40 CW COIL PIPING CONNECTION LOCATION +/– 1"



TOP VIEW

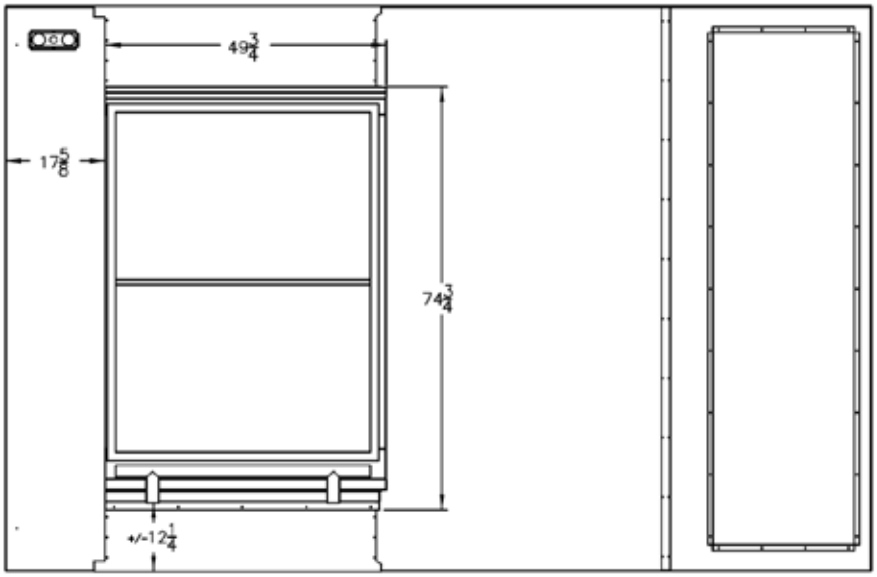
50–70 CW COIL PIPING CONNECTION LOCATION +/– 1"



D Cabinet (26-70 Tons) Hot Water Heating Coil Piping

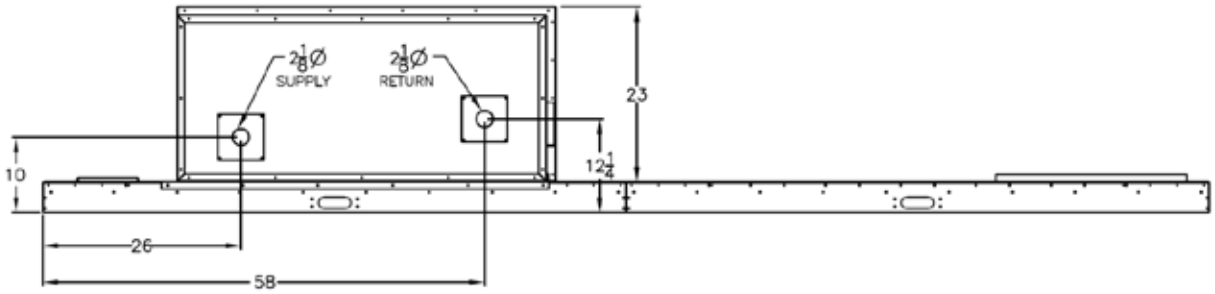
TOP VIEW

HOT WATER PIPING CONNECTION SIZE AND LOCATION



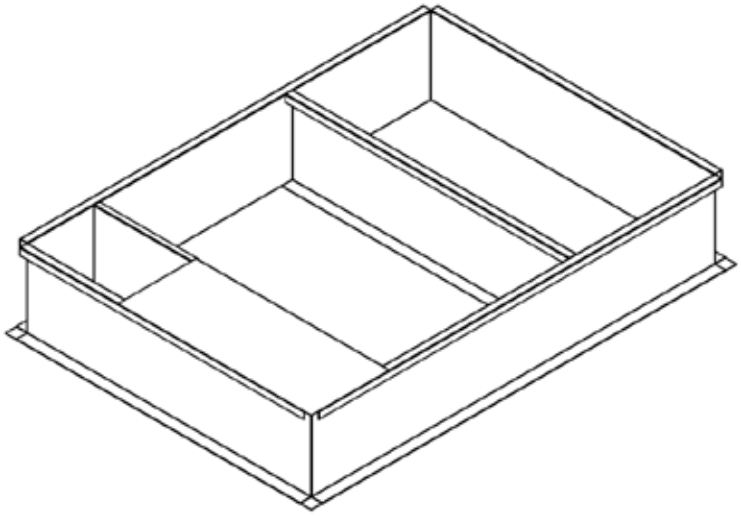
RIGHT SIDE VIEW

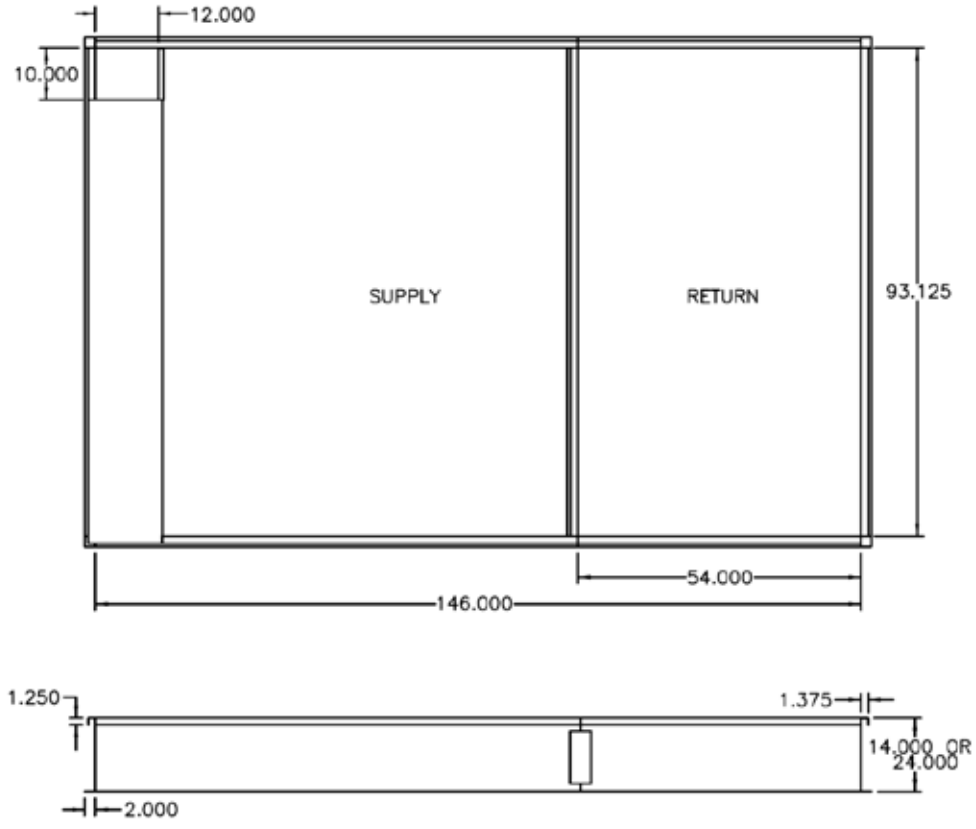
HOT WATER PIPING CONNECTION SIZE AND LOCATION



D Cabinet (26-70 Tons) Solid Bottom Standard Curb

MINIMUM CONNECTION OPENING AREA		
	SUPPLY	RETURN
D	12.5	13.4



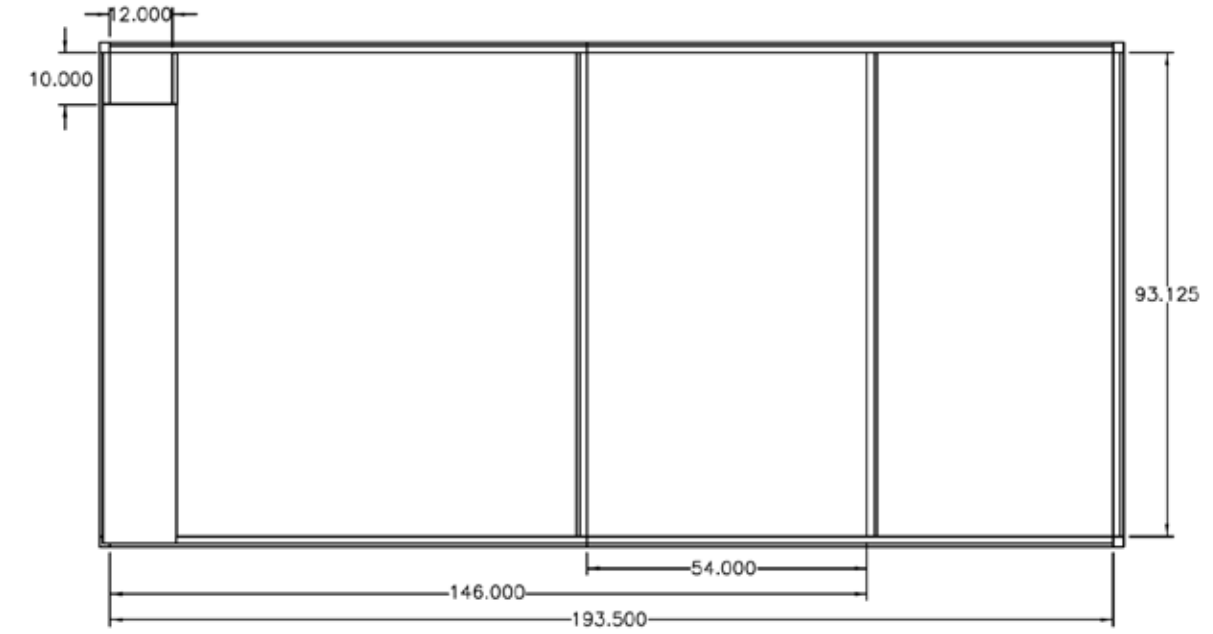


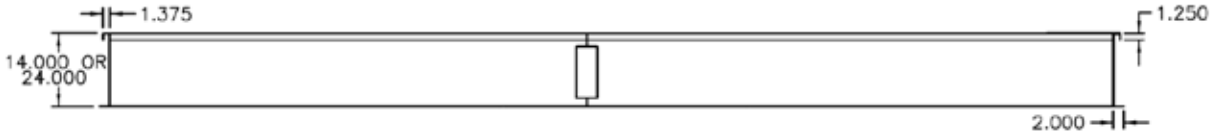
RND-00055 NEW 09/15/08 SJS

NOTE: ALL DIMENSIONS ARE IN INCHES

D Cabinet (26-70 Tons) Solid Bottom Power Exhaust, Energy Recovery Wheel, and Power Return Curb

MINIMUM CONNECTION OPENING AREA		
	SUPPLY	RETURN
D	12.5	13.4



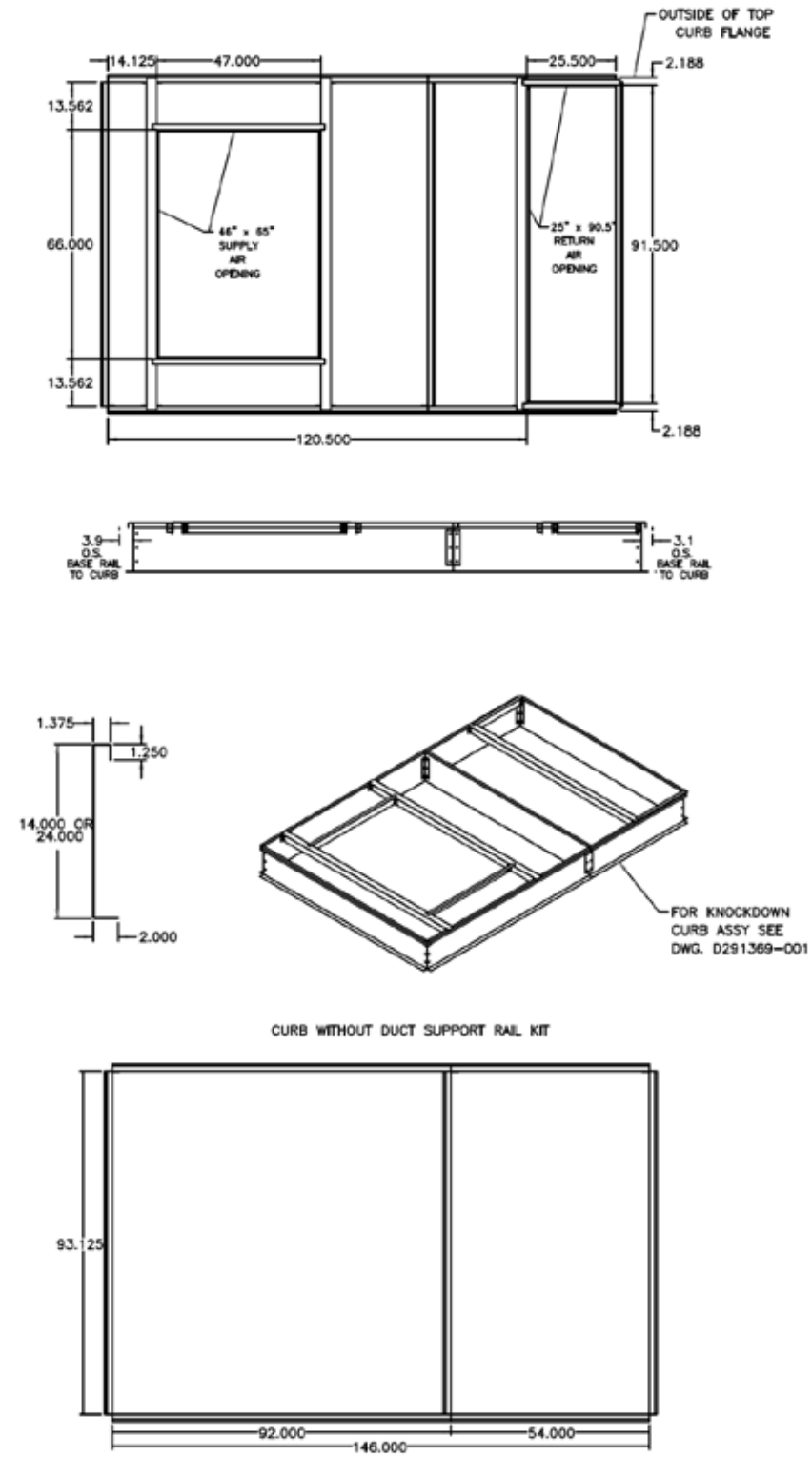


RND-00054 NEW 09/15/08 SJS

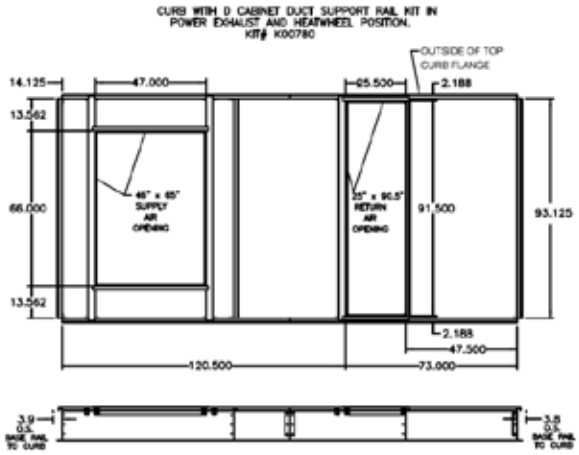
NOTE: ALL DIMENSIONS ARE IN INCHES

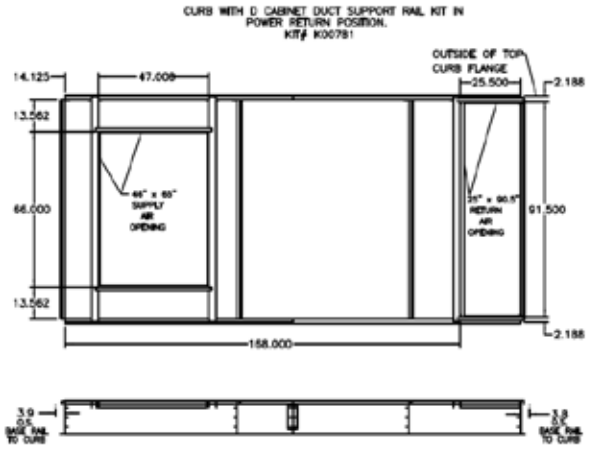
D Cabinet (26-70 Tons) Knock Down Standard Curb

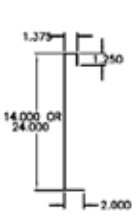
KIT# K00779

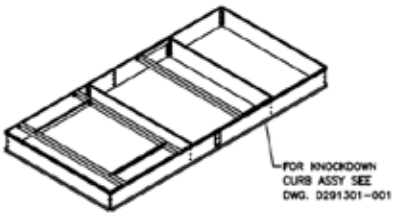


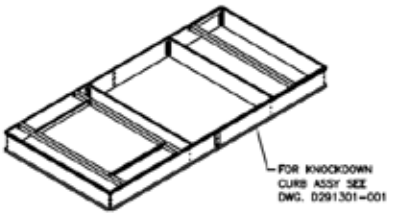
D Cabinet (26-70 Tons) Knock Down Power Exhaust, Energy Recovery Wheel, and Power Return Curb

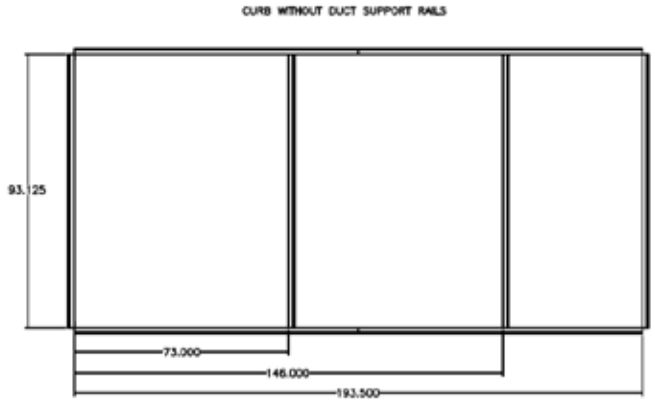












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NOTE: ALL DIMENSIONS ARE IN INCHES

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