RN/RQ Series

(2-25 & 30 tons & 55, 65, 75-140 tons)

Packaged Rooftop Units, Heat Pumps & Outdoor Air Handling Units

Engineering Catalog

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- 25 Year Stainless Steel Heat Exchanger Warranty
- Condenser Coil Guards
- Interior Corrosion Protection
- Coil Polymer E-Coating - 5 Year Coating Warranty
- Stainless Steel Coil Casing
- Stainless Steel Drain Pans

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RQ	**-**	**0 0 5**	**-**	**3**	**-**	**V**	**-**	**B B 0**	1	-	3	3	4	:	A	0	0	0	-	D	0	B	-	P	J	C	-	0	B	A	-	0	D	0	0	0	0	L	-	0	0	-	0	0	B	0	0	0	0	0	B

BASE MODEL

SERIES AND GENERATION

RQ

UNIT SIZE

002 = 2 ton Capacity
003 = 3 ton Capacity
004 = 4 ton Capacity
005 = 5 ton Capacity
006 = 6 ton Capacity

VOLTAGE

1 = 230V/1Φ/60Hz
2 = 230V/3Φ/60Hz
3 = 460V/3Φ/60Hz
4 = 575V/3Φ/60Hz
6 = 380V/3Φ/50Hz
8 = 208V/3Φ/60Hz
9 = 208V/1Φ/60Hz

DISCHARGE/RETURN CONFIGURATION AND INTERIOR CORROSION PROTECTION

V = Vertical Discharge and Return
H = Horizontal Discharge and Return
J = Option H + Interior Corrosion Protection
W = Option V + Interior Corrosion Protection

Model Option A: COOLING/HEAT PUMP

A1: REFRIGERANT STYLE

0 = Air Handling Unit
B = R-410A - Non-Compressorized DX Air Handling Unit
C = R-410A - Standard Efficiency
E = R-410A Variable Capacity Scroll Compressor - High Efficiency
G = R-410A Two-Stage Compressor - High Efficiency
H = R-410A Two-Stage Compressor - Standard Efficiency
K = R-410A Variable Speed Scroll Compressor - High Efficiency

A2: UNIT CONFIGURATION

0 = No Cooling
A = Air-Cooled Cond. + Std Evap. Coil
B = Air-Cooled Cond. + 6 Row Evap. Coil
U = Chilled Water Coil - 4 Row
W = Chilled Water Coil - 6 Row
2 = Non-Compressorized + Std Evap. Coil
4 = Non-Compressorized + 6 Row Evap. Coil
6 = Air-Source Heat Pump
6 = Zero Degree Cold Climate Air-Source Heat Pump (when A1=K)
7 = Water-Source/Geothermal Heat Pump

A3: COIL COATING

0 = Standard
1 = Polymer E-Coated Evap. and Cond. Coils
8 = Polymer E-Coated Cond. Coil
9 = Polymer E-Coated Cooling Coil

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	**A4**	**B1**	**B2**	**B3**	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
R	Q	-	0	0	5	-	3	-	V	-	B	B	0	**1**	-	**3**	**3**	**4**	:	A	0	0	0	-	D	0	B	-	P	J	C	-	0	B	A	-	0	D	0	0	0	0	L	-	0	0	-	0	0	B	0	0	0	0	0	B

A4: COOLING/HEAT PUMP STAGING
0 = No Cooling
1 = 1 Stage
2 = 2 Stage
9 = Modulating - Variable Compressor
B = 1 Stage Heat Pump + 1 Stage Auxiliary Heat
C = 2 Stage Heat Pump + 1 Stage Auxiliary Heat
E = Modulating Heat Pump + 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
P = 1 Stage Heat Pump + 2 Stage Auxiliary Heat
Q = 2 Stage Heat Pump + 2 Stage Auxiliary Heat
S = Modulating Heat Pump + 2 Stage Aux. Heat
U = 1 Stage Heat Pump + 4 Stage Auxiliary Heat
V = 2 Stage Heat Pump + 4 Stage Auxiliary Heat
Y = Modulating Heat Pump + 4 Stage Aux. Heat

Model Option B: HEATING

B1: 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

B2: HEATING DESIGNATION
0 = No Heating
1 = Heat 1
2 = Heat 2
3 = Heat 3
4 = Heat 4
5 = Heat 5
7 = Heat 7
H = 1 Row Coil
J = 2 Row Coil

B3: HEATING STAGING
0 = No Heating
1 = 1 Stage
2 = 2 Stage
3 = 3 Stage
4 = 4 Stage
9 = Modulating Gas/SCR Electric
A = SCR Electric, 0-10V External Control
B = High Turndown Modulating Gas
H = Single Serpentine 8 fpi
J = Half Serpentine 8 fpi
M = Single Serpentine 12 fpi
N = Half Serpentine 12 fpi

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	**1A**	**1B**	**1C**	**1D**	**2**	**3**	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RQ	- 0 0 5	- 3	- V	- B	B	0	1	- 3	3	4	: **A**	**0**	**0**	**0**	- **D**	**0**	B	- P	J	C	- 0	B	A	- 0	D	0	0	0	0	L	- 0	0	- 0	0	B	0	0	0	0	0	B

Feature 1: RETURN/OUTSIDE AIR

1A: RETURN/OUTSIDE AIR SECTION

0 = Manually Adjustable OA Opening + RA Opening
A = Economizer
B = Econ + Power Exhaust
F = Low cfm Total Energy Recovery Wheel
G = Low cfm Total ERW + Bypass Damper
H = Low cfm Sensible ERW
J = Low cfm Sensible ERW + Bypass Damper
K = 100% Outside Air - No Return Air Opening
L = Motorized Outside Air Damper + RA Opening
M = Motorized Outside Air Damper - No RA Opening
U = High cfm Total Fixed Plate Energy Recovery
V = High cfm Total Fixed Plate Energy Recovery + Bypass Damper
5 = 100% Return Air

1B: RETURN/EXHAUST AIR BLOWER CONFIGURATION

A = 1 Blower + Standard Efficiency Motor
C = 1 Blower + Premium Efficiency Motor
E = 1 Blower + Premium Efficiency Motor + 1 VFD
H = 1 Blower + High Efficiency EC Motor
K = Option E + Shaft Grounding

1C: RETURN/EXHAUST AIR BLOWER

0 = Standard - None
A = 10" x 8" Forward Curved
B = 15" Backward Curved Plenum
C = 18.5" Backward Curved Plenum
J = 15" Backward Curved Plenum - 70% Width
K = 18.5" Backward Curved Plenum - 60% Width
N= 16" Direct Drive Axial Flow

1D: RETURN/EXHAUST AIR BLOWER MOTOR

0 = Standard - None
A = 0.25 hp - 850 rpm
B = 0.5 hp - 1075 rpm
C = 1 hp - 1750 rpm
D = 2 hp - 1760 rpm
N = 1 hp - 1170 rpm
W = 0.75 hp - 1760 rpm
Z = 0.167 hp - 825 rpm

Feature 2: OUTSIDE AIR CONTROL

0 = Standard - None
C = Fully Modulating Actuator - Sensible Limit
D = Fully Modulating Actuator - Enthalpy Limit
E = DDC Actuator
P = Fully Mod. Act. - Sensible + CO2 Override
Q = Fully Mod. Act. - Enthalpy + CO2 Override
R = DDC Actuator + CO2 Override
U = 2 Position Actuator
Y = Fault Detection and Diagnostics Controller (FDD) - Sensible Limit
Z = FDD - Enthalpy Limit
1 = FDD Sensible Changeover + CO2 Override
2 = FDD Enthalpy Changeover + CO2 Override

Feature 3: HEAT OPTIONS

0 = Standard - None
E = Discharge Air Override
K = Auxiliary Heat K
L = Auxiliary Heat L
M = Auxiliary Heat M
N = Auxiliary Heat N

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	**4**	**5A**	**5B**	**5C**	**6A**	**6B**	**6C**	**7**	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
R	Q	-	0	0	5	-	3	-	V	-	B	B	0	1	-	3	3	4	:	A	0	0	0	-	D	0	**B**	**-**	**P**	**J**	**C**	**-**	**0**	**B**	**A**	**-**	**O**	D	0	0	0	0	L	-	0	0	-	0	0	B	0	0	0	0	0	0	B

Feature 4: MAINTENANCE OPTIONS

0 = Standard - None
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

5A: SUPPLY AIR BLOWER CONFIGURATION

P = 1 Blower + High Efficiency EC Motor
Q = 1 Blower + Inverter 3 Phase Motor + VFD
S = Option Q + Shaft Grounding

5B: SUPPLY AIR BLOWER

J = 18.5" Direct Drive Backward Curved Plenum
K = 18.5" Direct Drive BC Plenum - 60% Width

5C: SUPPLY AIR BLOWER MOTOR

A = 0.25 hp - 850 rpm
B = 0.5 hp - 1075 rpm
C = 1 hp - 1750 rpm
D = 2 hp - 1760 rpm
W = 0.75 hp - 1760 rpm
Z = 0.167 hp - 825 rpm

Feature 6: FILTERS

6A: PRE FILTER

0 = Standard - None
A = 2" Pleated - MERV 8
B = Metal Mesh Outside Air Filter
C = Lint Screen Filter
D = Exhaust Air ERW Filter
E = Option A + B
F = Option A + D
G = Option B + D
H = Option A + B + D

6B: UNIT FILTER

0 = 2" Throwaway or 2" Pleated - MERV 8
A = 2" Pleated - MERV 8
B = 4" Pleated - MERV 8
C = 2" Permanent Filter + Replaceable Media
F = 4" Pleated - MERV 11
G = 4" Pleated - MERV 13
H = 4" Pleated - MERV 14

6C: FILTER OPTIONS

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

Feature 7: REFRIGERATION CONTROL

0 = Standard
A = 5 Min. Time Delay Relay - Comp. Off
C = Adjustable Fan Cycling
D = Adjustable Compressor Lockout
E = Freeze Stats - Each Circuit
G = 5 MTDR - Off + Adjustable Fan Cycling
H = Options A + D
J = Options A + E
N = Options C + D
P = Options C + E
Q = Options D + E
U = Options A + N
V = Options A + C + E
W = Options A + D + E
2 = Options N + E
6 = Options A + N+ E

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	**8**	**9**	**10**	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
R	Q	-	0	0	5	-	3	-	V	-	B	B	0	1	-	3	3	4	:	A	0	0	0	-	D	0	B	-	P	J	C	-	0	B	A	-	0	**D**	**0**	**0**	0	0	L	-	0	0	-	0	0	B	0	0	0	0	0	B

Feature 8: REFRIGERATION OPTIONS

0 = Standard
D = Modulating Hot Gas Reheat (Heat Pump Only)
E = 0°F Low Ambient Lead Stage
N = Polymer E-Coated Modulating Hot Gas Reheat (Heat Pump Only)
1 = Parallel Modulating Hot Gas Reheat Microchannel Coil
4 = Polymer E-Coated Parallel Modulating Hot Gas Reheat Microchannel Coil

Feature 9: REFRIGERATION ACCESSORIES

0 = Standard
A = Sight Glass
B = Compressor Isolation Valves
C = Options A + B
D = ECM Condenser Fan - Multiple Speed
E = ECM Condenser Fan - Head Pressure Control
G = Options A + D
H = Options B + D
J = Options A + B + D
K = Options A + E
L = Options B + E
M = Options A + B + E

Feature 10: POWER OPTIONS

0 = Standard Power Block
A = 100 Amp Non-Fused Disconnect Power Switch
B = 150 Amp Non-Fused Disconnect Power Switch
C = 250 Amp Non-Fused Disconnect Power Switch
D = 400 Amp Non-Fused Disconnect Power Switch
E = 600 Amp Non-Fused Disconnect Power Switch
G = Circuit Breaker (15 Amp)
H = Circuit Breaker (20 Amp)
J = Circuit Breaker (25 Amp)
K = Circuit Breaker (30 Amp)
L = Circuit Breaker (35 Amp)
M = Circuit Breaker (40 Amp)
N = Circuit Breaker (45 Amp)
P = Circuit Breaker (50 Amp)
Q = Circuit Breaker (60 Amp)
R = Circuit Breaker (70 Amp)
S = Circuit Breaker (80 Amp)
T = Circuit Breaker (90 Amp)
U = Circuit Breaker (100 Amp)
V = Circuit Breaker (110 Amp)
W = Circuit Breaker (125 Amp)
Y = Circuit Breaker (150 Amp)
Z = Circuit Breaker (175 Amp)
1 = Circuit Breaker (200 Amp)
2 = Circuit Breaker (225 Amp)
3 = Circuit Breaker (250 Amp)

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	**11**	**12**	13	14A	14B	15	16	17	18	19	20	21	22	23
R	Q	-	0	0	5	-	3	-	V	-	B	B	0	1	-	3	3	4	:	A	0	0	0	-	D	0	B	-	P	J	C	-	0	B	A	-	0	D	0	0	**0**	**0**	L	-	0	0	-	0	0	B	0	0	0	0	0	B

Feature 11: SAFETY OPTIONS

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 Safety Shutoff Terminals
J = Options A + H
K = Options B + H
L = Options C + H
M = Options D + H
N = Options A + B + H
P = Options A + C + H
Q = Options A + D + H
R = High Condensate Level Switch
S = Options A + R
T = Options B + R
U = Options C + R
V = Options D + R
W = Options H + R
Y = Options E + R
Z = Options F + R
1 = Options G + R
2 = Options J + R
3 = Options K + R
4 = Options L + R
5 = Options M + R
6 = Options N + R
7 = Options P + R
8 = Options Q + R

Feature 12: CONTROLS

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

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	**13**	**14A**	**14B**	**15**	**16**	**17**	**18**	19	20	21	22	23
R	Q	-	0	0	5	-	3	-	V	-	B	B	0	1	-	3	3	4	:	A	0	0	0	-	D	0	B	-	P	J	C	-	0	B	A	-	0	D	0	0	0	0

L - 0 0 - 0 0 B 0 0 0 0 0 B

Feature 13: SPECIAL CONTROLS

0 = Terminal Block
D = VAV Unit Controller - VAV Cool + CV Heat
E = Constant Volume Unit Controller - CV Cool + CV Heat
F = Makeup Air Unit Controller - CV Cool + CV Heat
L = Terminal Block for Thermostat Control with Isolation Relays
Y = Single Zone VAV Heat Pump Unit Controller - VAV Cool + VAV Heat
Z = Constant Volume Heat Pump Unit Controller - CV Cool + CV Heat
1 = Makeup Air Heat Pump Unit Controller - CV Cool + CV Heat
2 = Single Zone VAV Unit Controller VAV Cool + CV Heat
3 = Single Zone VAV Unit Controller VAV Cool + VAV Heat
4 = Field Installed DDC Controls by Others
5 = Field Installed DDC Controls Furnished by Others with Isolation Relays
6 = Factory Installed DDC Controls Furnished by Others with Isolation Relays (SPA)

Feature 14: PREHEAT

14A: OUTSIDE AIR CONFIGURATION

0 = Standard - None
A = Steam Distributing Preheat Coil - 1 Row
C = Hot Water Preheat Coil - 1 Row
E = Modulating Electric Preheat
F = Outside Airflow Monitoring Size A
G = Outside Airflow Monitoring Size B
H = Outside Airflow Monitoring Size C

14B: PREHEAT SIZING

0 = Standard – None
A = Single Serpentine 8 fpi
B = Half Serpentine 8 fpi
E = Single Serpentine 12 fpi
F = Half Serpentine 12 fpi
G = 10 kW (7.5 kW @ 208V)
H = 15 kW (11.3 kW @ 208V)
J = 20 kW (15 kW @ 208V)

Feature 15: GLYCOL PERCENTAGE

0 = Water or No WSHP
C = Field Adjustable for Glycol Percentage

Feature 16: INTERIOR CABINET OPTIONS

0 = Standard
B = Control Panel Service Lights
H = UV Lights
J = Compressor Sound Blanket (CSB)
K = Control Panel Service Lights + UV Lights
L = Control Panel Service Lights + CSB
M = UV Lights + CSB
N = Control Panel Service Lights + UV Lights + CSB

Feature 17: EXTERIOR CABINET OPTIONS

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

Feature 18: ELECTRICAL RATING

0 = Standard - 5 kAIC
1 = 10 kAIC
2 = 35 kAIC

RQ Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE		VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	**19**	**20**	**21**	**22**	**23**
R	Q	-	0	0	5	-	3	-	V	-	B	B	0	1	-	3	3	4	:	A	0	0	0	-	D	0	B	-	P	J	C	-	0	B	A	-	0	D	0	0	0	0	L	-	0	0	-	0	0	B	0	**0**	**0**	**0**	**0**	**B**

Feature 19: CODE OPTIONS

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
K = California OSHPD Certification
L = Shake Table Cert. (ASCE 7-05/ICC-ES AC 156)
M = Seismic Construction (Non-Certified)
N = California OSHPD Certification + Chicago
P = Shake Table Cert. (ASCE 7-05/ICC-ES AC 156) + Chicago
Q = Seismic Construction (Non-Certified) + Chicago

Feature 20: CRATING

0 = Standard
A = Export Crating
B = Export Crating - No Condenser Section
C = Shrink Wrap
D = Options A + C
E = Options B + C

Feature 21: WATER-COOLED CONDENSER

0 = Standard - None
A = Balancing Valves
B = Water Flow Switch
C = Motorized Shut-off Valve
D = Head Pressure Control Valve
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 21: WATER-COOLED CONDENSER Continued

R = CuNi Coaxial Heat Exchanger
S = Options A + R
T = Options B + R
U = Options C + R
V = Options D + R
W = Options A + B + R
Y = Options A + C + R
Z = Options A + D + R
1 = Options B + C + R
2 = Options B + D + R
3 = Options C + D + R
4 = Options A + B + C + R
5 = Options A + B + D + R

Feature 22: CONTROL VENDORS

0 = None
V= VCC-X w/ BACnet MSTP
W= VCC-X w/ BACnet MSTP w/ Specials

Feature 23: TYPE

B = Standard - AAON Gray Paint
U = Special Pricing Authorization + Special Paint
X = Special Pricing Authorization + AAON Gray Paint
4 = Standard Paint + 5 Year Parts Only Warranty
9 = Standard Paint + 10 Year Parts Only Warranty

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RN	**– 0 2 5**	**– 3**	**– 0**	**– B**	**B**	0	2	–	3	8	4	:	A	0	0	0	–	D	0	B	–	D	E	H	–	0	B	A	–	0	D	0	0	0	0	L	–	0	0	–	0	0	B	0	0	0	0	0	B

BASE MODEL

SERIES AND GENERATION

RN

UNIT SIZE

006 = 6 ton Capacity
007 = 7 ton Capacity
008 = 8 ton Capacity
009 = 9 ton Capacity
010 = 10 ton Capacity
011 = 11 ton Capacity
013 = 13 ton Capacity
014 = 14 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
055 = 55 ton Capacity
065 = 65 ton Capacity
075 = 75 ton Capacity
090 = 90 ton Capacity
105 = 105 ton Capacity
120 = 120 ton Capacity
130 = 130 ton Capacity
140 = 140 ton Capacity

VOLTAGE

1 = 230V/1Φ/60Hz
2 = 230V/3Φ/60Hz
3 = 460V/3Φ/60Hz
4 = 575V/3Φ/60Hz
6 = 380V/3Φ/50Hz
8 = 208V/3Φ/60Hz
9 = 208V/1Φ/60Hz

INTERIOR PROTECTION

0 = Standard - Vertical Discharge and Return
A = Interior Corrosion Protection - Vertical Discharge and Return

Model Option A: COOLING/HEAT PUMP

A1: REFRIGERANT STYLE

0 = Air Handling Unit
B = R-410A - High Efficiency
E = R-410A Variable Capacity Scroll Compressor - High Efficiency
G = R-410A Two-Stage Compressor - High Efficiency
H = R-410A Variable Capacity Scroll Compressor + Two-Stage Compressor – High Efficiency
K = R-410A Variable Speed Scroll Compressor – High Efficiency
L= R-410A VFD Compatible Tandem Compressors + Microchannel Condenser

A2: UNIT CONFIGURATION

0 = No Cooling
A = Air-Cooled Cond. + Std Evap. Coil
B = Air-Cooled Cond. + 6 Row Evap. Coil
J = Water-Cooled Cond. + Std Evap. Coil
K = Water-Cooled Cond. + 6 Row Evap. Coil
P = Air-Cooled Cond. + 6 Row Evap. Coil + Mixed Air Bypass
Q = Air-Cooled Cond. + 6 Row Evap. Coil + Return Air Bypass
R = Water-Cooled Cond. + 6 Row Evap. Coil + Return Air Bypass
T = Water-Cooled Cond. + 6 Row Evap. Coil + Mixed Air Bypass
U = Chilled Water Coil - 4 Row
W = Chilled Water Coil - 6 Row
2 = Non-Compressorized + Std Evap. Coil
4 = Non-Compressorized + 6 Row Evap. Coil
6 = Air-Source Heat Pump
6 = Zero Degree Cold Climate Air-Source Heat Pump (when A1=K)
7 = Water-Source/Geothermal Heat Pump

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	**A3**	**A4**	**B1**	**B2**	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RN	– 0 2 5	– 3	– 0	– B	B	**0**	**2**	**–**	**3**	**8**	4	: A	0	0	0	– D	0	B	– D	E	H	– 0	B	A	– 0	D	0	0	0	0	L	– 0	0	– 0	0	B	0	0	0	0	0	B

Model Option A: COOLING/HEAT PUMP

A3: COIL COATING

0 = Standard
1 = Polymer E-Coated Evap. and Cond.
8 = Polymer E-Coated Cond.
9 = Polymer E-Coated Cooling Coil

A4: COOLING/HEAT PUMP STAGING

0 = No Cooling
1 = 1 Stage
2 = 2 Stage
4 = 4 Stage
5 = 5 Stage
9 = Modulating - Lead VCC
A = Modulating - All VCC
B = 1 Stage Heat Pump + 1 Stage Auxiliary Heat
C = 2 Stage Heat Pump + 1 Stage Auxiliary Heat
D = 4 Stage Heat Pump + 1 Stage Auxiliary Heat
E = Modulating Heat Pump - Lead VCC + 1 Stage Aux. Heat
F = Modulating Heat Pump - 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
P = 1 Stage Heat Pump + 2 Stage Auxiliary Heat
Q = 2 Stage Heat Pump + 2 Stage Auxiliary Heat
R = 4 Stage Heat Pump + 2 Stage Auxiliary Heat
S = Modulating Heat Pump - Lead VCC + 2 Stage Aux. Heat
T = Modulating Heat Pump - All VCC + 2 Stage Aux. Heat
U = 1 Stage Heat Pump + 4 Stage Auxiliary Heat
V = 2 Stage Heat Pump + 4 Stage Auxiliary Heat
W = 4 Stage Heat Pump + 4 Stage Auxiliary Heat
Y = Modulating Heat Pump - Lead VCC + 4 Stage Aux. Heat
Z = Modulating Heat Pump - All VCC + 4 Stage Aux. Heat

Model Option B: HEATING

B1: 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

B2: HEATING DESIGNATION

0 = No Heating
1 = Heat 1
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
K = Heat K
L = Heat L
M = Heat M
N = Heat N
P = Heat P

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	**B3**	**1A**	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RN	– 0 2 5	– 3	– 0	– B	B 0 2	– 3	8	**4 : A**	0	0	0	– D	0	B	– D	E	H	– 0	B	A	– 0	D	0	0	0	0	L	– 0	0	– 0	0	B	0	0	0	0	0	B

B3: 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 = Modulating/SCR Electric, 0-10V Control Signal
B = High Turndown Modulating Gas
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

1A: 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
5 = 100% Return Air

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	**1B**	**1C**	**1D**	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RN	– 0 2 5	– 3	– 0	– B	B	0 2	– 3	8	4	: A	**0**	**0**	**0**	– D	0	B	– D	E	H	– 0	B	A	– 0	D	0	0	0	0	L	– 0	0	– 0	0	B	0	0	0	0	0	B

Feature 1: RETURN/OUTSIDE AIR

1B: RETURN/EXHAUST AIR BLOWER CONFIGURATION

A = 1 Blower + Standard Efficiency Motor
B = 2 Blowers + Standard Efficiency Motor
C = 1 Blower + Premium Efficiency Motor
D = 2 Blowers + Premium Efficiency Motors
E = 1 Blower + Premium Efficiency Motor + 1 VFD
F = 2 Blowers + Premium Efficiency Motors + 2 Motors on 1 VFD
G = 2 Blowers + Premium Efficiency Motors + 2 Motors on 2 VFDs
H = 1 Blower + Premium Efficiency TEFC Motor
J = 2 Blowers + Premium Efficiency TEFC Motors
K = 1 Blower + Premium Efficiency TEFC Motor + 1 VFD
L = 2 Blowers + Premium Efficiency TEFC Motors + 2 Motors on 1 VFD
M = 2 Blowers + Premium Efficiency TEFC Motors + 2 Motors on 2 VFDs
N = Option E + Shaft Grounding
P = Option F + Shaft Grounding
Q = Option G + Shaft Grounding
R = Option K + Shaft Grounding
S = Option L + Shaft Grounding
T = Option M + Shaft Grounding

1C: RETURN/EXHAUST AIR BLOWER

0 = Standard - None
A = 12” x 9” x 2 Forward Curved
B = 15” Backward Curved Plenum
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
J = 15” BC Plenum - 50% Width with Banding
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
N = 30” Backward Curved Plenum
P = 42” Direct Drive Axial Flow - 9 Blades
Q = 42” Direct Drive Axial Flow - 12 Blades
R = 24” Backward Curved Plenum
S = 33” Backward Curved Plenum
T = 12”x 9” x 1 Forward Curved

1D: 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
T = 10 hp - 1170 rpm
U = 15 hp - 1170 rpm
V = 20 hp - 1170 rpm
3 = 25 hp - 1760 rpm
4 = 30 hp - 1760 rpm
5 = 40 hp - 1760 rpm
6 = 50 hp - 1760 rpm

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	**2**	**3**	**4**	**5A**	**5B**	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RN	– 0 2 5	– 3	– 0	– B	B 0 2	– 3	8 4	: A	0 0 0	– **D**	**0**	**B**	– **D**	**E**	H	– 0	B	A	– 0	D	0 0 0 0	L	– 0 0	– 0 0	B	0 0 0 0 0	B												

Feature 2: OUTSIDE AIR CONTROL

0 = Standard - None
C = Fully Modulating Actuator - Sensible Limit
D = Fully Modulating Actuator - Enthalpy Limit
E = DDC Actuator
P = Fully Mod. Act. - Sensible + CO2 Override
Q = Fully Mod. Act. - Enthalpy + CO2 Override
R = DDC Actuator + CO2 Override
U = 2 Position Actuator
Y = Fault Detection and Diagnostics Controller (FDD) Sensible Limit
Z = FDD Enthalpy Limit
1 = FDD Sensible Limit + CO2 Override
2 = FDD Enthalpy Limit + CO2 Override

Feature 3: HEAT OPTIONS

0 = Standard - None
E = Discharge Air Override
K = Auxiliary Heat K
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

Feature 4: MAINTENANCE OPTIONS

0 = Standard - None
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

5A: SUPPLY AIR BLOWER CONFIGURATION

0 = 1 Blower + Standard Efficiency Motor
A = 2 Blowers + Standard Efficiency Motor
B = 1 Blower + Premium Efficiency Motor
C = 2 Blowers + Premium Efficiency Motor
D = 1 Blower + Premium Efficiency Motor + 1 VFD
F = 2 Blowers + Premium Efficiency Motors + 2 Motors on 1 VFD
G = 2 Blowers + Premium Efficiency Motors + 2 Motors on 2 VFDs
H = 1 Blower + Premium Efficiency TEFC Motor
J = 2 Blowers + Premium Efficiency TEFC Motors
K = 1 Blower + Premium Efficiency TEFC Motor + 1 VFD
L = 2 Blowers + Premium Efficiency TEFC Motors + 2 Motors on 1 VFD
M = 2 Blowers + Premium Efficiency TEFC Motors + 2 Motors on 2 VFDs
N = Option D + Shaft Grounding
P = Option F + Shaft Grounding
Q = Option G + Shaft Grounding
R = Option K + Shaft Grounding
S = Option L + Shaft Grounding
T = Option M + Shaft Grounding

5B: 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
G = 15” BC Plenum - 70% Width
H = 18.5” BC Plenum - 70% Width
M = 13.5” Backward Curved Plenum
N = 13.5” BC Plenum - 70% Width
P = 24” BC Plenum - 60% Width
Q = 27” BC Plenum - 60% Width
R = 22” Backward Curved Plenum
S = 22” BC Plenum - 70% Width
T = 17” Backward Curved Plenum
U = 17” BC Plenum - 70% Width
V = 33” Backward Curved Plenum
W = 36.5” Backward Curved Plenum
Y = 42.5” Backward Curved Plenum

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	**5C**	**6A**	**6B**	**6C**	**7**	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RN–	0 2 5	– 3	– 0	– B	B	0 2	– 3	8 4	:	A	0	0	0	– D	0	B	– D	E	**H**	**–**	**0**	**B**	**A**	**–**	**0**	D	0	0	0	0	L	–	0	0	–	0	0	B	0	0	0	0	0	B

5C: 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 - 1170 rpm
P = 2 hp - 1170 rpm
Q = 3 hp - 1170 rpm
R = 5 hp - 1170 rpm
S = 7.5 hp - 1170 rpm
T = 10 hp - 1170 rpm
U = 15 hp - 1170 rpm
V = 20 hp - 1170 rpm
W = 25 hp - 1170 rpm
Y = 30 hp - 1170 rpm
3 = 25 hp - 1760 rpm
4 = 30 hp - 1760 rpm
5 = 40 hp - 1760 rpm
6 = 50 hp - 1760 rpm

Feature 6: FILTERS

6A: PRE FILTER
0 = Standard - None
A = 2" Pleated - MERV 8
B = Metal Mesh Outside Air Filter
C = Lint Screen Filter
D = Exhaust Air ERW Filter
E = Options A + B
F = Options A + D
G = Options B + D
H = Options A + B + D

6B: UNIT FILTER
0 = 2" Pleated - MERV 8
B = 4" Pleated - MERV 8
C = 2" Permanent Filter + Replaceable Media
F = 4" Pleated - MERV 11
G = 4" Pleated - MERV 13
H = 4" Pleated - MERV 14

6C: FILTER OPTIONS
0 = Standard
A = Clogged Filter Switch
B = Magnehelic Gauge
C = Options A + B

Feature 7: REFRIGERATION CONTROL

0 = Standard
A = 5 Min. Time Delay Relay - Comp. Off
B = 20 Sec. Time Delay Relay - Comp. Staging
C = Adjustable Fan Cycling
D = Adjustable Compressor Lockout
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 = Adjustable Fan Cycling with Adjustable Compressor Lockout
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 + N
V = Options A + C + E
W = Options A + D + E
Y = Options B + N
Z = Options B + C + E
1 = Options B + D + E
2 = Options N + E
3 = Options A + B + N
4 = Options A + B + C + E
5 = Options A + B + D + E
6 = Options A + N+ E
7 = Options B + N + E
8 = Options A + B + N + E

RN Series Feature String Nomenclature

Model Options							:	Unit Feature Options													
GEN	SIZE	VLT	CONFIG	A1 A2 A3 A4	B1 B2 B3			1A 1B 1C 1D	2 3 4	5A 5B 5C	6A 6B 6C	7	**8**	**9**	10 11 12 13	14A 14B	15 16 17 18 19 20 21 22 23				
RN –	0 2 5 –	3 –	0 –	B B 0 2 –	3 8 4		:	A 0 0 0 –	D 0 B –	D E H –	0 B A –	0	**D**	**0**	0 0 0 L –	0 0 –	0 0 B 0 0 0 0 0 B				

Feature 8: REFRIGERATION OPTIONS

0 = Standard
A = Hot Gas Bypass Lead Stage or Hot Gas Bypass Lag Stage with Lead Variable Capacity Compressor
B = Hot Gas Bypass Lead and Lag Stages
D = Modulating Hot Gas Reheat
E = 0°F Low Ambient Lead Stage
H = Options A + D
J = Options B + D
K = Options A + E
L = Options B + E
N = Polymer E-Coated Modulating Hot Gas Reheat
R = Options A + N
S = Options B + N
T = Parallel Modulating Hot Gas Reheat Microchannel Coil - Lag Circuit
U = Options A + T
V = Options B + T
W = Polymer E-Coated Parallel Modulating Hot Gas Reheat Microchannel Coil - Lag Circuit
Y = Options A + W
Z = Options B + W
1 = All Circuit Parallel Modulating Hot Gas Reheat Microchannel Coil
2 = Options A + 1
3 = Options B + 1
4 = Polymer E-Coated All Circuit Parallel Modulating Hot Gas Reheat Microchannel Coil
5 = Options A + 4
6 = Options B + 4

Feature 9: REFRIGERATION ACCESSORIES

0 = Standard
A = Sight Glass
B = Compressor Isolation Valves
C = Options A + B
E = ECM Condenser Fan - Head Pressure Control
F = VFD Controlled Condenser Fans - Variable Speed
K = Options A + E
L = Options B + E
M = Options A + B + E
N = Options A + F
P = Options B + F
Q = Options C + F
T = Options R + B
U = Options R + A + B

RN Series Feature String Nomenclature

Model Options													:	Unit Feature Options																								
GEN	SIZE		VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	**10**	**11**	12	13	14A	14B	15	16	17	18	19	20	21	22	23
RN–	0	2	5 –	3 –	0 –	B	B	0	2 –	3	8	4 :	A	0	0	0 –	D	0	B –	D	E	H –	0	B	A –	0	D	0	**0**	**0**	0	L –	0	0 –	0	0	B	0	0	0	0	0	B

Feature 10: POWER OPTIONS

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
5 = 800 Amp Power Switch
6 = 1200 Amp Power Switch
G = 15 Amp Circuit Breaker
H = 20 Amp Circuit Breaker
J = 25 Amp Circuit Breaker
K = 30 Amp Circuit Breaker
L = 35 Amp Circuit Breaker
M = 40 Amp Circuit Breaker
N = 45 Amp Circuit Breaker
P = 50 Amp Circuit Breaker
Q = 60 Amp Circuit Breaker
R = 70 Amp Circuit Breaker
S = 80 Amp Circuit Breaker
T = 90 Amp Circuit Breaker
U = 100 Amp Circuit Breaker
V = 110 Amp Circuit Breaker
W = 125 Amp Circuit Breaker
Y = 150 Amp Circuit Breaker
Z = 175Amp Circuit Breaker
1 = 200 Amp Circuit Breaker
2 = 225 Amp Circuit Breaker
3 = 250 Amp Circuit Breaker

Feature 11: SAFETY OPTIONS

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
J = Options A + H
K = Options B + H
L = Options C + H
M = Options D + H
N = Options A + B + H
P = Options A + C + H
Q = Options A + B + C + H
R = High Condensate Level Switch
S = Options A + R
T = Options B + R
U = Options C + R
V = Options D + R
W = Options H + R
Y = Options E + R
Z = Options F + R
1 = Options G + R
2 = Options J + R
3 = Options K + R
4 = Options L + R
5 = Options M + R
6 = Options N + R
7 = Options P + R
8 = Options Q + R

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN SIZE VLT CONFIG A1 A2 A3 A4 B1 B2 B3 1A 1B 1C 1D 2 3 4 5A 5B 5C 6A 6B 6C 7 8 9 10 11 **12** **13** 14A 14B 15 16 17 18 19 20 21 22 23

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

Feature 12: CONTROLS

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

0 = Terminal Block for Thermostat Control
D = VAV Unit Controller - VAV Cool + CV Heat
E = Constant Volume Unit Controller - CV Cool + CV Heat
F = Makeup Air Unit Controller - CV Cool + CV Heat
L = Terminal Block for Thermostat Control with Isolation Relays
U = Digital Precise Air Controller, D-PAC
V = Precise Air Controller, PAC
Y = Single Zone VAV Heat Pump Unit Controller - VAV Cool + VAV Heat
Z = Constant Volume Heat Pump Unit Controller - CV Cool + CV Heat
1 = Makeup Air Heat Pump Unit Controller - CV Cool + CV Heat
2 = Single Zone VAV Unit Controller VAV Cool + CV Heat
3 = Single Zone VAV Unit Controller VAV Cool + VAV Heat
4 = Field Installed DDC Controls by Others
5 = Field Installed DDC Controls Furnished by Others with Isolation Relays
6 = Factory Installed DDC Controls Furnished by Others with Isolation Relays (SPA)

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	SIZE	VLT	CONFIG	A1	A2	A3	A4	B1	B2	B3	1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	**14A**	**14B**	**15**	**16**	**17**	**18**	19	20	21	22	23
RN	–	0	2	5	–	3	–	0	–	B	B	0	2	–	3	8	4	:	A	0	0	0	–	D	0	B	–	D	E	H	–	0	B	A	–	0	D	0	0	0	0	L	–	**0**	**0**	–	**0**	**0**	**B**	**0**	0	0	0	0	B

Feature 14: PREHEAT

14A: OUTSIDE AIR 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
E = Modulating Electric Preheat
F = Outside Airflow Monitoring Size A
G = Outside Airflow Monitoring Size B
H = Outside Airflow Monitoring Size C
J = Outside Airflow Monitoring Size D

14B: 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
G = 10 kW (7.5 kW @ 208V)
H = 15 kW (11.3 kW @ 208V)
J = 20 kW (15 kW @208V)
K = 30 kW (22.5 kW @208V)
L = 40 kW (30 kW @208V)
M = 50 kW (37.6 kW @208V)
N = 60 kW (45.1 kW @208V)
P = 70 kW (52.6 kW @208V)
Q = 80 kW (60.1 kW @208V)
R = 90 kW (67.6 kW @208V)
S = 100 kW (75.1 kW @208V)
T = 110 kW (82.6 kW @208V)
U = 120 kW (90.1 kW @208V)

Feature 15: GLYCOL PERCENTAGE

0 = Water or No WSHP with Polymer Energy Recovery Wheel
C = Field Adjustable for Glycol %
D = Water or No WSHP with Aluminum Energy Recovery Wheel
E = Field Adjustable Glycol % with Aluminum Energy Recovery Wheel

Feature 16: INTERIOR CABINET OPTIONS

0 = Standard
B = Control Panel Service Lights
H = UV Lights
J = Compressor Sound Blanket (CSB)
K = Control Panel Service Lights + UV Lights
L = Control Panel Service Lights + CSB
M = UV Lights + CSB
N = Control Panel Service Lights + UV Lights + CSB

Feature 17: EXTERIOR CABINET OPTIONS

0 = Standard
A = Base Insulation
B = Burglar Bars
C = Condenser Coil Guards (or Screen)
D = Options A + B
E = Options A + C
F = Options B + C
G = Options A + B + C
H = Motorized Relief Dampers
J = Options A + H
K = Options B + H
L = Options C + H
M = Options A + B + H
N = Options A + C + H
P = Options B + C + H
Q = Options A + B + C + H

Feature 18: ELECTRICAL RATING

0 = Standard - 5 kAIC
1 = 10 kAIC
2 = 35 kAIC
3 = 65 kAIC

RN Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN SIZE VLT CONFIG A1 A2 A3 A4 B1 B2 B3 1A 1B 1C 1D 2 3 4 5A 5B 5C 6A 6B 6C 7 8 9 10 11 12 13 14A 14B 15 16 17 18 **19 20 21 22 23**

RN – 0 2 5 – 3 – 0 – BB 0 2 – 3 8 4 : A 0 0 0 – D 0 B – D E H – 0 B A – 0 D 0 0 0 0 L – 0 0 – 0 0 B 0 **0 0 0 0 B**

Feature 19: CODE OPTIONS

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
K = California OSHPD Certification
L = Shake Table Cert. (ASCE 7-05/ICC-ES AC 156)
M = Seismic Construction (Non-Certified)
N = California OSHPD Certification + Chicago
P = Shake Table Cert. (ASCE 7-05/ICC-ES AC 156) + Chicago
Q = Seismic Construction (Non-Certified) + Chicago

Feature 20: CRATING

0 = Standard
A = Export Crating
B = Export Crating - No Condenser Section
C = Shrink Wrap
D = Options A + C
E = Options B + C

Feature 21: WATER-COOLED CONDENSER

0 = Standard - None
A = Balancing Valves
B = Water Flow Switch
C = Motorized Shut-off Valve
D = Head Pressure Control Valve
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

0 = None
V = VCC-X Controls System + Integrated BACnet MSTP
W = VCC-X Controls System + Integrated BACnet MSTP with Specials

Feature 23: TYPE

B = Standard - AAON Gray Paint
U = Special Pricing Authorization + Special Paint
X = Special Pricing Authorization + AAON Gray Paint
1 = Standard Paint + 2 Year Parts Only Warranty (Begins at Date of Shipment)
4 = Standard Paint + 5 Year Parts Only Warranty (Begins at Date of Shipment)
9 = Standard Paint + 10 Year Parts Only Warranty (Begins at Date of Shipment)

Model Option

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 AHRI conditions for RQ and RN Series units with air-cooled condensers. Actual capacities will vary with conditions. Refer to the AAON ECat software for performance and cooling capacities at design conditions.

Table 1 - Unit Sizes

Model (Nominal tons)	Cabinet	Compressors/Circuits
RQ-**002**		1/1
RQ-**003**		
RQ-**004**		
RQ-**005**		
RQ-**006**		
RN-**006**	A	1/1
RN-**007**		
RN-**008**		
RN-**010**		
RN-**009**	B	2/2
RN-**011**		
RN-**013**		
RN-**015**		
RN-**014**	C	
RN-**016***		
RN-**018**		
RN-**020**		
RN-**025**		
RN-**030**		
RN-**055**	E	4/2
RN-**065**		
RN-**075**		
RN-**090**		
RN-**105**		
RN-**120**		
RN-**130**		
RN-**140**		

*Exception: RN-016 with variable speed compressor is 1/1

Model Option
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
6 = 380V/3Φ/50Hz
8 = 208V/3Φ/60Hz
9 = 208V/1Φ/60Hz

Note: Single phase options are available on RQ sizes 2 through 5 tons and RN sizes 9 and 11 tons.

Model Option
Discharge/Return Configuration and Interior Protection

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

0 = *Standard (RN Series Vertical Discharge and Vertical Return)* - Galvanized G90 sheet metal interior. Vertical supply and return air opening locations in the base of the unit. Option is available on RN Series units.
A = *Interior Corrosion Protection (RN Series Vertical Discharge and Vertical Return)* - Interior ceiling, floor, service doors, fan inlet cone, damper rack, and filter rack in the air stream are spray coated with a two-part polyurethane, heat baked coating. The coils, coil casings, condensate drain pans, damper blades and gears, fan wheel, fan motor, energy recovery wheel casing, and compressor cabinet are not coated. 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 withstands at least 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. Vertical supply and return air opening locations in the base of the unit. Option is available on RN Series units.
V = *RQ Series Vertical Discharge and Vertical Return* - Vertical supply and return air opening locations in the base of the unit. Option is available on RQ Series units.

Discharge/Return Configuration and Interior Protection Continued

H = *RQ Series Horizontal Discharge and Horizontal Return* - Horizontal supply and return air opening locations in the left side of the unit. Option is available on the RQ Series units.
J = *RQ Series Horizontal Discharge and Horizontal Return with Interior Corrosion Protection* - Interior ceiling, floor, service doors, fan inlet cone, damper rack, and filter rack in the air stream are spray coated with a two-part polyurethane, heat baked coating. The coils, coil casings, condensate drain pans, damper blades and gears, fan wheel, fan motor, energy recovery wheel casing, and compressor cabinet are not coated. 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 withstands at least 2,500 hours when tested under ASTM B 117-95 requirements. RQ 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. Horizontal supply and return air opening locations on the left side of the unit. Option is available on RQ Series units.
W = *RQ Series Vertical Discharge and Vertical Return with Interior Corrosion Protection* - Interior ceiling, floor, service doors, fan inlet cone, damper rack, and filter rack in the air stream are spray coated with a two-part polyurethane, heat baked coating. The coils, coil casings, condensate drain pans, damper blades and gears, fan wheel, fan motor, energy recovery wheel casing, and compressor cabinet are not coated. 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 withstands at least 2,500 hours when tested under ASTM B 117-95 requirements. RQ 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. Vertical supply and return air opening locations in the base of the unit. Option is available on RQ Series units.

Model Option

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 or heating only air handling unit.
B = *R-410A - High Efficiency* - DX cooling with R-410A refrigerant. For 16-30 ton units, this is the standard R-410A DX option. Option is not available for 14 ton RN Series. Only non-compressorized unit is available with this option for RQ Series units and RN Series 55-140 ton units.

Model Option A1 - Refrigerant Style Continued

C = *R-410A - Standard Efficiency* - DX cooling with R-410A refrigerant. Unit efficiency and weight will be reduced when compared with option B. Option is available on RQ 2-5 ton units; not available on RQ Series 6 ton.
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. A suction pressure sensor will be provided per variable capacity compressor. Option provides the unit with tighter temperature control, improved humidity control and energy savings at part load conditions. Option is not available on 2, 9, 11-15, 55, 65, and 75-140 ton units. Part of the D-PAC control system. See Feature 13 and the Controls Section for more D-PAC information. Note for DDC controls by others: AAON requires 1 analog input signal per variable capacity compressor for the RQ and RN A & C cabinets (2-8, 10, 25 and 30 tons)
G = *R-410A Two-Stage Scroll Compressor - High Efficiency* - Compressorized DX cooling with R-410A refrigerant using a two-stage scroll compressor. Capacity steps are 100% and 67%. Option provides the unit with improved temperature control, improved humidity control and energy savings at part load conditions. This option includes high capacity coils for improved energy efficiency. Option is available on RQ Series 2-6 ton units and RN Series 7-20 ton units. RN Series 9, 11, 13, 14, 15, 16, 18, and 20 ton units include two two-stage compressors. Option is not available on 2 ton units with 575V.
H = *RN Series R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency + R-410A Two-Stage Scroll Compressor - High Efficiency* - RN Series 9, 11, 13, 15, 16, 18, and 20 ton units include a compressorized DX cooling with R-410A refrigerant using 10-100% variable capacity scroll compressor and a two-stage scroll compressor. Capacity steps are 100% and 67%. See Feature A4 for selection of quantity of variable capacity compressors. A suction pressure sensor will be provided per variable capacity compressor. Option provides the unit with improved temperature control, improved humidity control and energy savings at part load conditions.
H = *RQ Series R-410A Two-Stage Scroll Compressor - Standard Efficiency* - RQ Series includes a two-stage scroll compressor. Option is not available on 2 ton units with 575V. Capacity steps are 100% and 67%. See Feature A4 for selection of quantity of variable capacity compressors. A suction pressure sensor will be provided per variable capacity compressor. Option provides the unit with improved temperature control, improved humidity control and energy savings at part load conditions. Unit efficiency and weight will be reduced when compared with option G.
K = *R-410A Variable Speed Scroll Compressor* - Compressorized DX cooling with R-410A using individually circuited VFD compatible scroll compressors. See Model Option A4 for selection of modulation options. Option is available on RQ Series units with 208V, 230V, or 460V - 3phase. Option is available on RN Series 7, 8, 9, 10, 11, 13, 15, 16, 20, 25, and 30 tons. The RQ Series 2-6 ton units and the RN Series 7, 8, 10, and 16 ton unit include one variable speed scroll compressor. The 9, 11, 13, 15, 20, and 25 ton RN units include one variable speed scroll compressor and one two-stage compressor. The 30 ton RN unit includes one variable speed scroll compressor and one on/off compressor.

Model Option A1 - Refrigerant Style Continued

L = *R-410A VFD Compatible Tandem Compressors + Microchannel Condenser* - Compressorized DX cooling with R-410A using VFD compatible tandem compressors. See Model Option A4 for selection of modulation options. Option is available on 55, 65, and 75-140 ton units. Air-cooled condenser coils will be aluminum microchannel tubes.

Model Option

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 coils. Air-cooled condenser coils will be aluminum microchannel tubes. DX evaporator coils will be aluminum fin with copper tubes. Option is not available on RN Series units with variable speed compressors (A1=K). Option is not available on RN Series 55, 65, 75-140 tons.
B = *Air-Cooled Condenser with 6 Row Evaporator Coil* - Air-cooled condenser with six row high capacity DX evaporator coils. High capacity coils improve unit's energy efficiency and dehumidification capability. Air-cooled condenser coils will be aluminum microchannel tubes. DX evaporator coils will be aluminum fin with copper tubes. Option is not available on RN Series 55, 65, 75-140 tons.
J = *Water-Cooled Condenser with Standard Evaporator Coil* - Water-cooled condenser with standard capacity DX evaporator coils. DX evaporator coils will be aluminum fin with copper tubes. RN Series units feature brazed plate water-cooled condensers. This option is available on RN Series 25 & 30 ton when A1 - Option B (*R-410A) or* A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency).* This option is available on RN Series 55, 65, 75-140 ton when A1 - Option L (*R-410A VFD Compatible Tandem Compressors)*
K = *Water-Cooled Condenser with 6 Row Evaporator Coil* - Water-cooled condenser with six row high capacity DX evaporator coils. High capacity coils improve unit's energy efficiency and dehumidification capability. DX evaporator coils will be aluminum fin with copper tubes. RN Series units feature brazed plate water-cooled condensers. This option is available on RN Series 25 & 30 ton when A1 - Option B (*R-410A) or* A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency).* This option is available on RN Series 55, 65, 75-120 ton when A1 - Option L (*R-410A VFD Compatible Tandem Compressors)*. Option is not available on 130 and 140 ton units.

Model Option A2 - Unit Configuration Continued

P = *Air-Cooled Condenser with 6 Row Evaporator Coil and Mixed Air Bypass* - Air-cooled condenser with six row DX evaporator coils. Air-cooled condenser coils will be aluminum microchannel tubes. DX evaporator coils will be aluminum fin with copper tubes. Option includes a damper with fully modulating actuator above the evaporator coils which allows mixed return and outside air to bypass around the coils for reheat. Option is used for 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. Option is available on RN Series 6-8 & 10 ton units when A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency*). Option is available on RN Series 9 & 11-15 ton units when A1 - Option H (*R-410A Variable Capacity Scroll Compressor + Two-Step Compressor - High Efficiency).* Option is available on RN Series 16-30 ton units when A1 - Option B, Option H, or Option E. Option is not available on RQ Series 2-6 tons or on RN Series 55, 65, 75-140 tons.

Q = *Air-Cooled Condenser with 6 Row Evaporator Coil and Return Air Bypass* - Air-cooled condenser with six row DX evaporator coils. Air-cooled condenser coils will be aluminum microchannel tubes. DX evaporator coils will be aluminum fin with copper tubes. 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 coils for reheat. The economizer routes of all outside air across the evaporator coils and the return air either through or around the evaporator coils. 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. Option is available on RN Series 6-8 & 10 ton units when A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency*). Option is available on RN Series 9 & 11-15 ton units when A1 - Option H (*R-410A Variable Capacity Scroll Compressor + Two-Step Compressor - High Efficiency).* Option is available on RN Series 16-30 ton units when A1 - Option B, Option H, or Option E. Option is not available on RQ Series 2-6 tons or on RN Series 55, 65, 75-140 tons.

R = *Water-Cooled Condenser with 6 Row Evaporator Coil and Return Air Bypass* - Water-cooled condenser with six row DX evaporator coils. DX evaporator coils will be aluminum fin with copper tubes. 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 coils for reheat. The economizer routes of all outside air across the evaporator coils and the return air either through or around the evaporator coils. 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. RN Series units feature brazed plate water-cooled condensers. 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. This option is available on RN Series 25 & 30 ton units A1 - Option B (*R-410A - High Efficiency) or* A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency).*

Model Option A2 - Unit Configuration Continued

T = *Water-Cooled Condenser with 6 Row Evaporator Coil and Mixed Air Bypass* - Water-cooled condenser with six row DX evaporator coil. DX evaporator coils will be aluminum fin with copper tubes. Option includes a damper with fully modulating actuator above the evaporator coils which allows mixed return and outside air to bypass around the coils for reheat. Option is used as single coil humidity control. RN Series units feature brazed plate water-cooled condensers. With Feature 13 as a "Controls by Others" option a 0-10 VDC control signal for the damper actuator is required. This option is available on RN Series 25 & 30 ton units A1 - Option B (*R-410A - High Efficiency) or* A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency).*
U = *Chilled Water Coil - 4 Row* - Four row chilled water cooling coil. No valves or valve controls are included with this option. Chilled water coils will be aluminum fin with copper tubes. This option is available on all RQ and RN Series when A1 - Option 0 (*Air Handling Unit)*
W = *Chilled Water Coil - 6 Row* - Six row chilled water cooling coil. No valves or valve controls are included with this option. Chilled water coils will be aluminum fin with copper tubes. This option is available on all RQ and RN Series when A1 - Option 0 (*Air Handling Unit)*
2 = *Non-Compressorized with Standard Evaporator Coil* - Air handling unit with standard capacity evaporator coil, but no compressors or condenser. DX evaporator coils will be aluminum fin with copper tubes. Option is used with a remote condensing unit. Thermal expansion valve and hot gas bypass connection are included. RQ Series 2-6 ton units include one coil and one circuit. RN Series 16-30 ton units include one coil and two circuits. RN Series 55-140 ton units can include either two circuits or four circuits as selected in A4. This option is available on all RQ and RN Series when A1 - Option B. Option is not available on RN Series 6-15 ton units.
4 = *Non-Compressorized with 6 Row Evaporator Coil* - Air handling unit with six row high capacity evaporator coil, but no compressors or condenser. DX evaporator coils will be aluminum fin with copper tubes. Option is used with a remote condensing unit. Thermal expansion valve and hot gas bypass connection are included. RQ Series 4-6 ton units include one coil and one circuit. RN Series 16-30 ton units include one coil and two circuits. RN Series 55-120 ton units can include either two circuits or four circuits as selected in A4. This option is available on RQ and RN Series when A1 - Option B. Option is not available on RQ Series 2 & 3 ton, RN Series 6-15, 130 and 140 ton units.
6 = *Air-Source Heat Pump* - Air-source heat pump which can provide energy efficient heating and cooling. Air-cooled condenser coils and DX evaporator coils will be aluminum fin with copper tubes. Refrigerant piping with reversing valves, filter driers, 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. Crankcase heater will be provided. This option is available on RQ Series when A1 - Option G (*R-410A Two-Stage Scroll Compressor - High Efficiency)* for 2-6 ton units and when A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency*) for 3-6 ton units. This option is available on RN Series when A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency*) for 6-8, 10, 25 & 30 ton units and when A1 - Option H (*R-410A Variable Capacity Scroll Compressor + Two-Step Compressor - High Efficiency*) for 9 & 11-20 ton units and when A1 - Option B (*R-410A*) for 16-30 ton units. Option is not available on RN Series 55-140 ton units.

Model Option A2 - Unit Configuration Continued

6 = *Zero Degree Cold Climate Air-Source Heat Pump* - Air-source heat pump which can provide energy efficient heating and cooling down to zero degrees ambient. AAON Zero Degree Cold Climate Air-Source Heat Pumps will operate at lower ambient temperatures than traditional heat pumps and with higher heating capacities at all operating conditions. This product is a viable option in climates where traditional heat pumps were not. Air-cooled condenser coils and DX evaporator coils will be aluminum fin with copper tubes. Refrigerant piping with reversing valves, filter driers, check valves, accumulators and electronic 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. Crankcase heater will be provided. This option is available on RQ Series and RN Series units when A1 - Option K (*R-410A Variable Speed Scroll Compressor - High Efficiency)*. Option is not available on RN Series 6, 8, 16, 25, 55-140 ton units.

7 = *Water-Source/Geothermal Heat Pump* - Water-source heat pump which can provide energy efficient heating and cooling. DX evaporator coils will be aluminum fin with copper tubes. Refrigerant-to-water heat exchangers and refrigerant piping with reversing valves, filter dryers, check valves and thermal expansion valves are factory installed. RN Series units feature brazed plate refrigerant-to-water heat exchangers. RQ Series units feature coaxial refrigerant-to-water heat exchangers. See Model Options B1, B2 and B3 for emergency (backup) heat options and Feature 3 and Model Option A4 for auxiliary (supplemental) heat options. For 100% outside air, water-source heat pump units may require electric preheat for proper operation. Check application considerations section of unit rating sheer in ECat. Crankcase heater will be provided. This option is available on RQ Series when A1 - Option G (*R-410A Two-Stage Scroll Compressor - High Efficiency)* for 2-6 ton units and when A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency*) for 3-6 ton units. This option is available on RN Series when A1 - Option B (*R-410A)* for 16-30 tons and when A1 - Option E (*R-410A Variable Capacity Scroll Compressor (VCC) - High Efficiency*) for 6-8, 10, 25 & 30 ton units and when A1 - Option H (*R-410A Variable Capacity Scroll Compressor + Two-Step Compressor - High Efficiency*) for 9 & 11-20 ton units and when A1 - Option L (*R-410A VFD Compatible Tandem Compressors + Microchannel Condenser*) for 55-140 ton units.

Model Option
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 capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.
8 = *Polymer E-Coated Condenser Coil* - Polymer e-coating is applied only to the condenser coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.
9 = *Polymer E-Coated Cooling Coil* - Polymer e-coating is applied only to the cooling coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.

Model Option
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.
1 = *1 Stage* - One stage cooling unit or one stage cooling and one stage heat pump heating unit without auxiliary heat. Option is available on 2-8 and 10 ton units. See Model Options B1, B2 and B3 for emergency heat options.

2 = *2 Stage* - Two stage cooling unit or two stage cooling and two stage heat pump heating unit without auxiliary heat. Option is available on RN Series 9 and 11-30 ton units. Option is also available on two stage compressor RQ Series units and 7, 8, and 10 ton RN Series units which have 100% and 67% capacity steps. 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 55-140 ton units. See Model Options B1, B2 and B3 for emergency heat options. Available on two stage compressor RN Series 9, 11, 13, 14, 15, 16, 18, and 20 ton units when selected with field installed customer provided controls.
5 = *5 Stage* - Five stage cooling unit or five stage cooling and five stage heat pump heating unit without auxiliary heat. Available on two stage compressor RN Series 9, 11, 13, 14, 15, 16, 18, and 20 ton units when selected with factory provided controls.
9 = *Modulating - Lead Variable Compressor* - Modulating DX cooling unit or modulating DX cooling and modulating heat pump heating unit without auxiliary heat. 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. Option is not available on 2-8 and 10 ton units because the units include only a single compressor. 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.
B = *1 Stage Heat Pump with 1 Stage Auxiliary Heat* - One stage cooling and one stage heat pump heating with one stage of auxiliary heat available during heat pump heating. Option is available on RN Series 6, 7, 8, and 10 units. See Model Options B1, B2 and B3 for emergency heat options and Feature 3 for auxiliary heat capacity 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. Option is available on RQ Series units and RN Series 9-13, 15-25, and 30 ton units. Two stage RQ Series units include a two-stage compressor with 100% and 67% capacity steps. 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. Option is available on 55-140 ton units. 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. 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.
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. Option is not available on 2-8 and 10 ton units because the units include only a single compressor. 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 Option A4 - Cooling/Heat Pump Staging Continued

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. 55- 75 ton units include two coils and thus include two inlet and two outlet water connections. 90-140 ton units include four coils and thus include four inlet and four 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. 55- 75 ton units include two coils and thus include two inlet and two outlet water connections. 90-140 ton units include four coils and thus include four inlet and four 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. 55- 75 ton units include two coils and thus include two inlet and two outlet water connections. 90-140 ton units include four coils and thus include four inlet and four outlet water connections. Option is available on RN Series units.
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. 55- 75 ton units include two coils and thus include two inlet and two outlet water connections. 90-140 ton units include four coils and thus include four inlet and four outlet water connections. Option is available on RN Series units.
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. 55- 75 ton units include two coils and thus include two inlet and two outlet water connections. 90-140 ton units include four coils and thus include four inlet and four 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. 55- 75 ton units include two coils and thus include two inlet and two outlet water connections. 90-140 ton units include four coils and thus include four inlet and four outlet water connections.
P = *1 Stage Heat Pump with 2 Stage Auxiliary Heat* - One stage cooling and one stage heat pump heating with two stages of auxiliary heat available during heat pump heating. Option is available on RN Series 6, 7, 8, and 10 units. See Model Options B1, B2 and B3 for emergency heat options and Feature 3 for auxiliary heat capacity options.
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. Option is available on RQ Series units and RN Series 9-13, 15-25, and 30 ton units. Two stage RQ Series units include a two-stage compressor with 100% and 67% capacity steps. 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. Option is available on 55-140 ton units. 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. 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. Option is not available on 2-8 and 10 ton units because the units include only a single compressor. 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.

U = *1 Stage Heat Pump with 4 Stage Auxiliary Heat* - One stage cooling and one stage heat pump heating with four stages of auxiliary heat available during heat pump heating. Option is available on RN Series 6, 7, 8, and 10 units. 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. Option is available on RQ Series units and RN Series 9-13, 15-25, and 30 ton units. Two stage RQ Series units include a two-stage compressor with 100% and 67% capacity steps. 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. Option is available on 55-140 ton units. 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. 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. Option is not available on 2-8 and 10 ton units because the units include only a single compressor. 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 Option

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. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.
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 or 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 180°F. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.
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 AAON ECat. The maximum temperature rise across the heat exchanger is 70°F. The maximum outlet temperature is 180°F. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.
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 AAON ECat. Stainless steel heat exchangers are required where the outside air rate is greater than or equal to 50% of the supply cfm or 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 180°F. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.
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. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.

Model Option B1 - Heating Type Continued

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 or 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 180°F. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.
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 AAON ECat. The maximum temperature rise across the heater is 70°F. The maximum outlet temperature is 180°F. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.
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 AAON ECat. Stainless steel heat exchangers are required where the outside air rate is greater than or equal to 50% of the supply cfm or 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 180°F. RQ and RN Series A, B, and C cabinet units (2-30 tons) require only a single gas connection. RN Series E cabinet units (55, 65, and 75-140 tons) require two gas connections.
C = *Steam Distributing Standard Coil* - Steam heating coil. No valves or valve controls are included with this option. The maximum operating pressure for steam coils is 25 psi.
D = *Steam Distributing Polymer E-Coated Coil* - Polymer e-coating is applied only to the steam coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.
E = *Hot Water Standard Coil* - Hot water heating coil. No valves or valve controls are included with this option.
F = *Hot Water Polymer E-Coated Coil* - Polymer e-coating is applied only to the hot water coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.

Model Option

Model Option B2 - Heating Designation

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

0 = *No Heating*
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.

Table 2 - Electric and Gas Heating Capacities

	Gas Heat		Electric Heat Capacity	
	Input Capacity	Output Capacity		
	MBH	MBH	kW (208V)	kW (230V, 380V, 460V, 575V)
1 = *Heat 1*	60.0	48.6	7.5	10
2 = *Heat 2*	90.0	72.0	15.0	20
3 = *Heat 3*	100.0	81.0	22.5	30
4 = *Heat 4*	270.0	218.7	30.0	40
5 = *Heat 5*	140.0	113.4	37.5	50
6 = *Heat 6*	390.0	315.9	45.0	60
7 = *Heat 7*	160.0	129.6	60.1	80
8 = *Heat 8*	405.0	328.1	75.1	100
9 = *Heat 9*			90.1	120
A = *Heat A*			120.1	160
B = *Heat B*			150.2	200
C = *Heat C*	540.0	432.0	180.2	240
D = *Heat D*	810.0	648.0	210.3	280
E = *Heat E*	1080.0	864.0	240.3	320
F = *Heat F*	195.0	156.0		
G = *Heat G*	292.5	234.0		
K = *Heat K*	150.0	120.0		
L = *Heat L*	210.0	168.0		
M = *Heat M*	800.0	640.0		
N = *Heat N*	1600.0	1280.0		
P = *Heat P*	2400.0	1920.0		

Note: AAON ECat 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 Option

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*
A = *Modulating/SCR Electric - 0-10V Control Signal*
B = *High Turndown Modulating Gas*

Table 3 - RQ Series Turndown

Model (Nominal Tons)	Rated Input	Modulating Gas	High Turndown Modulating Gas
2-6	60 MBH	3.3:1	10:1
	100 MBH	2.8:1	8.3:1
	140 MBH	3.3:1	11.6:1
	160 MBH	3.3:1	8.8:1

Table 4 - RN Series Turndown

Model (Nominal Tons)	Rated Input	Modulating Gas	High Turndown Modulating Gas
6-8, 10	90 MBH	3:1	10:1
	150 MBH	3:1	8:1
	210 MBH	3:1	11:1
9, 11-15	195 MBH	3:1	10:1
	292.5 MBH		
	390 MBH		
16-25, 30	270 MBH	3:1	9:1
	405 MBH	4.5:1	13:1
	540 MBH	3:1	18:1
55, 65, 75-140	800 MBH	3:1	7:1
	1600 MBH	6:1	15:1
	2400 MBH	9:1	25:1

Model Option B3 - Heating Staging Continued

9 = *Modulating Gas* - Includes a factory wired supply air temperature sensor which is field installed in the supply ductwork. Controller can be used in standalone applications or connected to a VCC-X controller via modular cable (Feature 22 = A or C). In standalone 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 AAON 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). High turndown modulating gas option comes with factory provided heat trace on the condensate drain.
9 = *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.
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 heating 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 heating 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 heating 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. Option is available on RN Series units.
L = *Half Serpentine 10 fpi* - Hot water heating 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. Option is available on RN Series units.
M = *Single Serpentine 12 fpi* - Hot water or steam heating 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 heating coil 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
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 *(MFA/ Manual Fresh Air*). 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 with power exhaust for space pressurization control during the economizer mode of operation. See Feature 2 for actuator control options. Variable flow power exhaust is available with the selection of a VFD, ECM, or speed controller in Feature 1B.
C = *Economizer with Power Return* - Extruded aluminum, low leakage, aluminum gear driven, economizer damper assembly with power return for use with high return static pressure applications. See Feature 2 for actuator control options. Variable flow power return is available with the selection of a VFD, ECM, or speed controller in Feature 1B. Option is available on 14 & 16-140 ton units.
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 6-15 ton RN Series 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 controlled by AAON Controls. See Feature 2 for economizer actuator control options. Option is available on 6-15 ton RN Series 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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 5. Note, this option may not allow enough airflow for 100% outside air economizer operation. 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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Outside air flow through the wheel is limited to the maximum air flow rating of the wheel shown in Table 5. See Feature 2 for economizer actuator control options.

Feature 1A - Return/Outside Air Section Continued

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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Outside airflow is limited to the maximum air flow rating of the wheel shown in Table 5. Note, this option may not allow enough airflow for 100% outside air economizer operation. 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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Outside air flow through the wheel is limited to the maximum air flow rating of the wheel shown in Table 5. 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 air flow. The outside air opening is not adjustable, and the unit will not have a return air opening. Unit must have a stainless steel heat exchanger if gas heat is specified. Hot gas bypass on all refrigeration circuits without variable capacity scroll compressors, is required on the RN Series with this option.

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 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, without variable capacity scroll compressors, is required on the RN Series 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 option 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 unit filter rack are in the standard energy recovery wheel locations. Energy recovery wheel filters are not included with this option. See Feature 2 for economizer actuator control options. Option is not available on 2-6 ton RQ Series units.

Feature 1A - Return/Outside Air Section Continued

P = *Empty Energy Recovery Wheel Option Box with Power Exhaust* - Factory installed empty energy recovery wheel option 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 unit filter rack are in the standard energy recovery wheel locations. Energy recovery wheel filters are not included with this option. See Feature 2 for economizer actuator control options. Option is not available on 2-6 ton RQ Series units.

Q = *RN Series 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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 5. Option is available on 6-8, 10 and 55-140 ton RN Series units. Note, this option may not allow enough airflow for 100% outside air economizer operation. See Feature 2 for economizer actuator control options.

R = *RN Series 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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow through the wheel is limited to the maximum air flow rating of the wheel shown in Table 5. Option is available on 6-8, 10 and 55-140 ton RN Series units. See Feature 2 for economizer actuator control options.

S = *RN Series 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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 5. Option is available on 6-8, 10 and 55-140 ton RN Series units. Note, this option may not allow enough airflow for 100% outside air economizer operation. See Feature 2 for economizer actuator control options.

Feature 1A - Return/Outside Air Section Continued

T = *RN Series 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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 5. Option is available on 6-8, 10 and 55-140 ton RN Series units. See Feature 2 for economizer actuator control options.

U = *RN Series 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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. Note, this option may not allow enough airflow for 100% outside air economizer operation. See Feature 2 for economizer actuator control options.

U = *RQ Series High cfm Total Fixed Plate Energy Recovery* - Factory installed fixed plate total energy recovery constructed of alternate layers of corrugated aluminum material and polymeric desiccant impregnated media. The desiccant shall be RC134 polymeric desiccant that will not promote growth of mold or bacteria. Meets AHRI Standard 1060-2005 certified seal with UL 723 (fire and smoke development) certified membrane and core assembly. The fixed plate's desiccant shall be RC134 polymeric desiccant that will not promote growth of mold or bacteria. Meets AHRI Standard 1060-2005 certified seal with UL 723 (fire and smoke development) certified membrane and core assembly. No moving parts and unique rectangular flute design for low pressure drop values and enhanced performances. Outside air flow is limited to the maximum air flow rating of the fixed plate shown in Table 7. Option is available on RQ Series units. Note, this option may not allow enough airflow for 100% outside air economizer operation. See Feature 2 for economizer actuator control options. Exhaust Air Transfer ratio (EATR), shall be less than 3%.

V = *RN Series 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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Outside air flow through the wheel is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. See Feature 2 for economizer actuator control options.

Feature 1A - Return/Outside Air Section Continued

V = *RQ Series High cfm Total Fixed Plate Energy Recovery with Bypass Damper* - Factory installed fixed plate total energy recovery constructed of alternate layers of corrugated aluminum material and polymeric desiccant impregnated media. The desiccant shall be RC134 polymeric desiccant that will not promote growth of mold or bacteria. Meets AHRI Standard 1060-2005 certified seal with UL 723 (fire and smoke development) certified membrane and core assembly. Bypass damper with two position actuator allows air to flow around the fixed plate. Select when the outside air flow is greater than the maximum air flow rating of the fixed plate or when additional air flow is needed during economizer operation. The fixed plate's desiccant shall be R134 polymeric desiccant that will not promote growth of mold or bacteria. Meets AHRI Standard 1060-2005 certified seal with UL 723 (fire and smoke development) certified membrane and core assembly. No moving parts and unique rectangular flute design for low pressure drop values and enhanced performances. Outside air flow through the fixed plate is limited to the maximum air flow rating of the fixed plate shown in Table 7. Option is available RQ Series units. See Feature 2 for economizer actuator control options. Exhaust Air Transfer ratio (EATR), shall be less than 3%
W = *RN Series 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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. Note, this option may not allow enough airflow for 100% outside air economizer operation. See Feature 2 for economizer actuator control options.
Y = *RN Series 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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Outside air flow through the wheel is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. 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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. Note, this option may not allow enough airflow for 100% outside air economizer operation. See Feature 2 for economizer actuator control options.

Feature 1A - Return/Outside Air Section Continued

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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible and latent energy recovery. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow through the wheel is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. 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. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. Note, this option may not allow enough airflow for 100% outside air economizer operation. See Feature 2 for economizer actuator control options.
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 air flow is greater than the maximum air flow rating of the wheel or when additional air flow is needed during economizer operation. See Feature 15 for the energy recovery wheel type. The wheel is designed for sensible energy recovery. Wheel does not have silica gel desiccant on the substrate. Option includes an adjustable purge sector, which can reduce carryover to no more than 1%. Used for applications which require limiting cross contamination of the ventilation air with exhaust air. Outside air flow is limited to the maximum air flow rating of the wheel shown in Table 6. Option is available on 9, 11-30, and 55-140 ton RN Series units. See Feature 2 for economizer actuator control options.
5 = *100 % Return Air, No Outside Air* - Return air opening in the unit which can accommodate 100% of the unit air flow. The return air opening is not adjustable, and the unit will not have an outside air opening.

Feature 1A - Return/Outside Air Section Continued

Table 5 - Low cfm Energy Recovery Wheel Information

Feature 1A	Cabinet	Model	Energy Recovery Wheel P = Polymer; A = Aluminum		
			Qty/Diameter/Width	Maximum Air Flow Through the Wheel	Wheel Bypass Maximum Airflow
Low cfm Wheel Options: F, G, H, J, Q, R, S, T		RQ-002	P = 1/21”/2.0”	P = 1,050 cfm	P = 1,750 cfm
		RQ-003			
		RQ-004			
		RQ-005			
		RQ-006			
	A	RN-006	P = 1/30”/3.0” A = 1/32”/4.0”	P = 2,000 cfm A = 2,000 cfm	P = 1,750 cfm A = 1,600 cfm
		RN-007			
		RN-008			
		RN-010			
	B	RN-009	P = 1/36”/1.5”	P = 2,400 cfm	P = 2,250 cfm
		RN-011			
		RN-013			
		RN-015			
	C	RN-014	P = 1/52”/1.5”	P = 5,000 cfm	P = 2,250 cfm
		RN-016			
		RN-018			
		RN-020			
		RN-025			
		RN-030			
	E	RN-055	P = 1/81”/3.0” A = 1/83”/4.0”	P = 15,500 cfm A = 15,500 cfm	P = 16,200 cfm A = 16,400 cfm
		RN-065			
		RN-075			
		RN-090			
		RN-105			
		RN-120			
		RN-130			
		RN-140			

Feature 1A - Return/Outside Air Section Continued

Table 6 - High cfm Energy Recovery Wheel Information

Feature 1A	Cabinet	Model	Energy Recovery Wheel P = Polymer; A = Aluminum		
			Qty/Diameter/Width	Maximum Air Flow Through the Wheel	Wheel Bypass Maximum Airflow
High cfm Wheel Options: U, V, W, Y, Z, 1, 2, 3	B	RN-009	P = 1/36”/3.0” A = 1/37”/4.0”	P = 3,300 cfm A = 3,300 cfm	P = 2,250 cfm A = 2,450 cfm
		RN-011			
		RN-013			
		RN-015			
	C	RN-014	P = 1/52”/3.0” A = 1/54”/4.0”	P = 6,600 cfm A = 8,000 cfm	P = 2,250 cfm A = 2,800 cfm
		RN-016			
		RN-018			
		RN-020			
		RN-025			
		RN-030			
	E	RN-055	P = 2/64”/3.0” A = 2/66”/4.0”	P = 19,000 cfm A = 19,000 cfm	P = 27,700 cfm A = 20,000 cfm
		RN-065			
		RN-075			
		RN-090			
		RN-105			
		RN-120			
		RN-130			
		RN-140			

Table 7 - High cfm Fixed Plate Energy Recovery Information

Feature 1A	Cabinet	Model	Fixed Plate Energy Recovery
			Maximum Air Flow Through the Fixed Plate Energy Recovery
High cfm Total Fixed Plate Options: U,V		RQ-002	1,900 cfm
		RQ-003	
		RQ-004	
		RQ-005	
		RQ-006	

Feature 1B

1B: Return/Exhaust Air Blower Configuration

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

RN Options

A = *1 Blower with Standard Efficiency Motor*
B = *2 Blowers with Standard Efficiency Motor*
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 2 VFDs*
H = *1 Blower with Premium Efficiency TEFC Motor*
J = *2 Blowers with Premium Efficiency TEFC Motors*
***K** = *1 Blower with Premium Efficiency TEFC Motor with 1 VFD*
***L** = *2 Blowers with Premium Efficiency TEFC Motors with 2 Motors on 1 VFD*
***M** = *2 Blowers with Premium Efficiency TEFC Motors with 2 Motors on 2 VFDs*
***N** = *Option E + Shaft Grounding*
***P** = *Option F + Shaft Grounding*
***Q** = *Option G + Shaft Grounding*
***R** = *Option K + Shaft Grounding*
***S** = *Option L + Shaft Grounding*
***T** = *Option M + Shaft Grounding*

RQ Options

A = *1 Blower with Standard Efficiency Motor*
C = *1 Blower with Premium Efficiency Motor*
***E** = *1 Blower with Premium Efficiency Motor with 1 VFD*
H = *1 Blower with High Efficiency EC Motor*
*** K** = *Option E + Shaft Grounding*

*Power exhaust with VFD or Speed Control requires field supplied control signal.

AAON ECat 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 AAON ECat 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.

Note: If a bypass on the VFD is required it should be selected in AAON ECat and the Applications Department should also be contacted for required Special Pricing Authorization (SPA).

Feature 1C

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 = *10" x 8" Belt Driven Forward Curved Fan (RQ Series)*
A = *12" x 9" x 2 Belt Driven Forward Curved Fan (RN Series 9-15 tons)*
B = *15" Belt Driven Backward Curved Plenum Fan (RQ Series and RN Series 6-15 tons)*
C = *18.5" Belt Driven Backward Curved Plenum Fan (RQ Series and RN Series 9-15 tons)*
D = *22" Belt Driven Backward Curved Plenum Fan (RN Series 14, 16-30 tons)*
F = *27" Direct Drive Backward Curved Plenum Fan (RN Series 55, 65 and 75-140 ton Units)*
G = *22" Direct Drive Axial Flow Fan (RN Series 14, 16-30 tons)*
H = *35.5" Direct Drive Axial Flow Fan (RN Series 55, 65 and 75-140 ton Units)*
J = *15" Belt Driven Backward Curved Plenum Fan, 70% Width (RQ Series)*
J = *15" Belt Driven Backward Curved Plenum Fan, 50% Width with Banding (RN Series 6-15 tons)*
K = *18.5" Belt Driven Backward Curved Plenum Fan, 60% Width with Banding (RQ Series)*
K = *18.5" Belt Driven Backward Curved Plenum Fan, 70% Width with Banding (RN Series 9-15 tons)*
L = *22" Belt Driven Backward Curved Plenum Fan, 70% Width with Banding (RN Series 14, 16-30 tons)*
M = *27" Belt Driven Backward Curved Plenum Fan, 70% Width with Banding (RN Series 55, 65 and 75-140 ton Units)*
N = *16" Direct Drive Axial Flow Fan (RQ Series)*
N = *30" Direct Drive Backward Curved Plenum Fan (RN Series 55, 65 and 75-140 ton Units)*
P = *42" 9 Blade Direct Drive Axial Flow Fan (RN Series 55, 65 and 75-140 ton Units)*
Q = *42" 12 Blade Direct Drive Axial Flow Fan (RN Series 55, 65 and 75-140 ton Units)*
R = *24" Direct Drive Backward Curved Plenum Fan (RN Series 55, 65 and 75-140 ton Units)*
S = *33" Direct Drive Backward Curved Plenum Fan (RN Series 55, 65 and 75-140 ton Units)*
T= *12" x 9"x 1 Belt Driven Forward Curved Fan (RN Series 6-15 tons)*

AAON ECat 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 AAON ECat 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

1D: Return/Exhaust Air Blower Motor

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

0 = *Standard - None*
A = *0.25 hp - 850 rpm*
B = *0.5 hp - 1075 rpm*
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*
T = *10 hp - 1170 rpm*
U = *15 hp - 1170 rpm*
V = *20 hp - 1170 rpm*
W = *0.75 hp - 1760 rpm (RQ Series)/ 25 hp - 1170 rpm (RN Series)*
Y = *30 hp -1170 rpm*
Z = *0.167 hp - 825 rpm*
3 = *25 hp - 1760 rpm*
4 = *30 hp - 1760 rpm*
5 = *40 hp - 1760 rpm*
6 = *50 hp - 1760 rpm*

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

AAON ECat 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 AAON ECat 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
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.
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 supply 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 supply 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. 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 provides 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.
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.

Feature 2 - Outside Air Control Continued

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. The CO2 sensor will be wired back to a set of terminals or customer supplied factory installed DDC controller.
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 supply fan operation.
Y = *Fault Detection and Diagnostics Controller (FDD) Fully Modulating Actuator with Sensible Limit* - Fully modulating economizer actuator with two positions provided with fault detection and diagnostics. Position one is the closed position. Position two is the minimum outside air position, which is activated when there is a call for supply 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. Fault detection and diagnostics that checks feedback to ensure the economizer is still operating. When selected with AAON controls the fault detection and diagnostics is included as part of the controls. When selected without AAON controls a standalone controller will be provided for the FDD. Included economizer comes with 5 year warranty.
Z = *FDD Enthalpy Changeover* - Fully modulating economizer actuator with two positions provided with fault detection and diagnostics. Position one is the closed position. Position two is the minimum outside air position, which is activated when there is a call for supply 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. The actuator is spring return closed. Fault detection and diagnostics that checks feedback to ensure the economizer is still operating. Fault detection and diagnostics that checks feedback to ensure the economizer is still operating. When selected with AAON controls the fault detection and diagnostics is included as part of the controls. When selected without AAON controls a standalone controller will be provided for the FDD. Included economizer comes with 5 year warranty.
1 = *FDD Sensible Changeover + CO_2 Override* - Option Y + CO2 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 CO2 setpoint. This option works best with air velocities in the 600 to 1200 fpm range. Fault detection and diagnostics that checks feedback to ensure the economizer is still operating. When selected with AAON controls the fault detection and diagnostics is included as part of the controls. When selected without AAON controls a standalone controller will be provided for the FDD. Included economizer comes with 5 year warranty.

Feature 2 - Outside Air Control Continued

2 = *FDD Enthalpy Changeover* + *CO_2 Override* - Option Z + CO2 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 CO2 setpoint. This option works best with air velocities in the 600 to 1200 fpm range. Fault detection and diagnostics that checks feedback to ensure the economizer is still operating. When selected with AAON controls the fault detection and diagnostics is included as part of the controls. When selected without AAON controls a standalone controller will be provided for the FDD. Included economizer comes with 5 year warranty.

Feature 3
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 in makeup 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 that can be field adjusted to the amount of time the heater will operate before the space thermostat initiates a call for heat.

Table 8 - Auxiliary Electric Heating Capacities

	kW (208V)	kW (230V, 380V, 460V, 575V)
***K** = *Heat K*	7.5	10.0
***L** = *Heat L*	15.0	20.0
***M** = *Heat M*	22.5	30.0
***N** = *Heat N*	30.0	40.0
***P** = *Heat P*	37.5	50.0
***Q** = *Heat Q*	45.1	60.0
***R** = *Heat R*	60.1	80.0
***S** = *Heat S*	75.1	100.0
***T** = *Heat T*	90.1	120.0
***U** = *Heat U*	120.1	160.0
***V** = *Heat V*	150.2	200.0
***W** = *Heat W*	180.2	240.0

*****AAON ECat 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
4: Maintenance Options

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

0 = *Standard - None*
A = *Field Wired 115V Convenience Outlet* - Field wired 2x4 electrical box with ground fault interrupter receptacle, located inside the unit control 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 control cabinet. The circuit is rated at 12 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 supply 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.

Feature 4 - Maintenance Options Continued

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 1 - Factory Wired Convenience Outlet

Feature 5A
5A: Supply Blower Configuration

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

RN Options
0 = *1 Blower + Standard Efficiency Motor*
A = *2 Blowers + Standard Efficiency Motor*
B = *1 Blower + Premium Efficiency Motor*
C = *2 Blowers + Premium Efficiency Motor*
D = *1 Blower + Premium Efficiency Motor + 1 VFD*
F = *2 Blowers + Premium Efficiency Motors + 2 Motors on 1 VFD*
G = *2 Blowers + Premium Efficiency Motors + 2 Motors on 2 VFDs*
H = *1 Blower + Premium Efficiency TEFC Motor*
J = *2 Blowers + Premium Efficiency TEFC Motors*
K = *1 Blower + Premium Efficiency TEFC Motor + 1 VFD*
L = *2 Blowers + Premium Efficiency TEFC Motors + 2 Motors on 1 VFD*
M = *2 Blowers + Premium Efficiency TEFC Motors + 2 Motors on 2 VFDs*
N = *Option D + Shaft Grounding*
P = *Option F + Shaft Grounding*
Q = *Option G + Shaft Grounding*
R = *Option K + Shaft Grounding*
S = *Option L + Shaft Grounding*
T = *Option M + Shaft Grounding*

RQ Options
P = *1 Blower with High Efficiency EC Motor*
Q = *1 Blower with Inverter 3 Phase Motor with VFD*
S = *Option Q + Shaft Grounding*

AAON ECat 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.

Note: If field installed controls are chosen (Feature 13, options: 0, H, L, and W) with an ECM supply fan motor, a factory installed speed control potentiometer will be provided.

Note: If a bypass on the VFD is required it should be selected in AAON ECat and the Applications Department should also be contacted for required Special Pricing Authorization (SPA).

Feature 5B

5B: Supply 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 (RN Series 6-15 tons)*
C = *18.5" Direct Drive Backward Curved Plenum Fan (RN Series 6-15 tons)*
D = *24" Direct Drive Backward Curved Plenum Fan (RN Series 14, 16-30, 55-140 tons)*
E = *27" Direct Drive Backward Curved Plenum Fan (RN Series 14, 16-30, 55-140 tons)*
F = *30" Direct Drive Backward Curved Plenum Fan, 90% Width, 1750 rpm Max, Aluminum Wheel (RN Series 55-140 tons)*
G = *15" Direct Drive Backward Curved Plenum Fan, 70% Width (RN Series 6-8 & 10 tons)*
H = *18.5" Direct Drive Backward Curved Plenum Fan, 70% Width (RN Series 6-15 tons)*
J = *18.5" Direct Drive Backward Curved Plenum Fan (RQ Series)*
K = *18.5" Direct Drive Backward Curved Plenum Fan, 60% Width (RQ Series)*
M = *13.5" Direct Drive Backward Curved Plenum Fan (RN Series 6-8 & 10 tons)*
N = *13.5" Direct Drive Backward Curved Plenum Fan, 70% Width (RN Series 6-8 & 10 tons)*
P = *24" Direct Drive Backward Curved Plenum Fan, 60% Width (RN Series 14, 16-30 tons)*
Q = *27" Direct Drive Backward Curved Plenum Fan, 60% Width (RN Series 14, 16-30 tons)*
R = *22" Direct Drive Backward Curved Plenum Fan (RN Series 9 & 11-30 tons)*
S = *22" Direct Drive Backward Curved Plenum Fan, 70% Width (RN Series 9 & 11-15 tons)*
T = *17" Direct Drive Backward Curved Plenum Fan (RN Series 6-8 & 10 tons)*
U = *17" Direct Drive Backward Curved Plenum Fan, 70% Width (RN Series 6-8 & 10 tons)*
V = *33" Direct Drive Backward Curved Plenum Fan (RN Series 55-140 tons)*
W = *36.5" Direct Drive Backward Curved Plenum Fan (RN Series 55-140 tons)*
Y = *42.5" Direct Drive Backward Curved Plenum Fan (RN Series 55-140 tons)*

AAON ECat 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

5C: Supply Blower Motor

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

0 = *Standard - None*
A = *0.25 hp - 850 rpm*
B = *0.5 hp - 1075 rpm*
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*
***T** = *10 hp - 1170 rpm*
U = *15 hp - 1170 rpm*
***V** = *20 hp - 1170 rpm*
W = *0.75 hp - 1760 rpm (RQ Series)/ 25 hp - 1170 rpm (RN Series)*
***Y** = *30 hp -1170 rpm*
Z = *0.167 hp - 825 rpm*
3 = *25 hp – 1760 rpm*
4 = *30 hp – 1760 rpm*
5 = *40 hp – 1760 rpm*
6 = *50 hp – 1760 rpm*

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

AAON ECat 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
6A: Pre Filter Type

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

0 = *Standard - None*
A = *2" Pleated Pre Filter - MERV 8* - 2 inch pleated, MERV 8 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. Filters meet the 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. Option is available on RN Series units.
D = *Energy Recovery Wheel 2" Pleated Exhaust Air Filter - MERV 8* - 2 inch pleated, MERV 8 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, MERV 8 filters.
E = *2" Pleated Pre Filter - MERV 8 + Metal Mesh Outside Air Pre Filter* - Options A + B
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
H = *2" Pleated Pre Filter - MERV 8 + Metal Mesh Outside Air Pre Filter + Energy Recovery Wheel 2" Pleated Exhaust Air Filter - MERV 8* - Options A + B + D

Feature 6B
6B: Unit Filter Type

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

0 = *2" Pleated Unit Filter- MERV 8* - 2 inch pleated, MERV 8 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings.
B = *4" Pleated Unit Filter - MERV 8* - 4 inch pleated, 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.

Feature 6B - Unit Filter Continued

F = *4" Pleated Unit Filter - MERV 11* - 4 inch pleated, MERV 11 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. 2 inch pleated, MERV 8 pre filters are standard with this option (Feature 6A = A). Not available on 6-25, 30 units with the return air bypass option (Model Option A2) and 6-25 and 30 ton units with preheat (Feature 14).
G = *4" Pleated Unit Filter - MERV 13* - 4 inch pleated, MERV 13 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. 2 inch pleated, MERV 8 pre filters are standard with this option (Feature 6A = A). Not available on 6-25, 30 units with the return air bypass option (Model Option A2) and 6-25 and 30 ton units with preheat (Feature 14).
H = *4" Pleated Unit Filter - MERV 14* - 4 inch pleated, MERV 14 unit filters mounted adjacent and upstream of the evaporator coil and downstream of the return and outside air openings. 2 inch pleated, MERV 8 pre filters are standard with this option (Feature 6A = A). Not available on 6-25, 30 units with the return air bypass option (Model Option A2) and 6-25 and 30 ton units with preheat (Feature 14).

Feature 6C

6C: Filter Options

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

0 = *Standard*
***A** = *Clogged Filter Switch (CFS)* - 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.

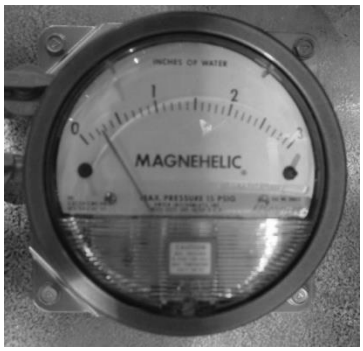

Figure 2 - Magnehelic Gauge

Feature 7
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. Time delay relay is not included on refrigeration circuits with variable capacity compressors because variable capacity compressor controller includes an 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. Option is only available on multiple compressor units (9, 11-30, & 55-140 ton units).
D = *Adjustable Compressor Lockout* - Adjustable compressor lockout (-10 to 70°F) will be provided for the unit, 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.
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
H = *5 MTDR + Adjustable CLO* - Options A + D
J = *5 MTDR + Freeze Stat* - Options A + E
L = *20 STDR + Adjustable CLO* - Options B + D
M = *20 STDR + Freeze Stat* - Options B + E
N = *Adjustable Fan Cycling with Adjustable Compressor Lockout* - 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 or variable speed condenser fans (Feature 9) is required when ordering any 0°F low ambient option (Feature 8). An adjustable compressor lockout (-10 to 70°F) is included with this selection. The switch will come factory set to cut-in at 425psi (+/– 5psi) and a differential of 155psi (or open at 270psi (+/– 5psi)).
Q = *Adjustable CLO + Freeze Stat* - Options D + E
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 + Adjustable Fan Cycling with Adjustable Compressor Lockout* - Options A + N

Feature 7 - Refrigeration Control Continued

W = *5 MTDR + Adjustable CLO + Freeze Stat* - Options A + D + E
Y = *20 STDR + Adjustable Fan Cycling with Adjustable Compressor Lockout* - Options B + N
1 = *20 STDR + Adjustable CLO + Freeze Stat* - Options B + D + E
2 = *Adjustable Fan Cycling with Adjustable Compressor Lockout + Freeze Stat* - Options N + E
3 = *5 MTDR + 20 STDR + Adjustable Fan Cycling with Adjustable Compressor Lockout* - Options A + B + N
5 = *5 MTDR + 20 STDR + Adjustable CLO + Freeze Stat* - Options A + B + D + E
6 = *5 MTDR + Adjustable Fan Cycling with Adjustable Compressor Lockout + Freeze Stat* - Options A + N + E
7 = *20 STDR + Adjustable Fan Cycling with Adjustable Compressor Lockout + Freeze Stat* - Options B + N + E
8 = *5 MTDR + 20 STDR + Adjustable Fan Cycling with Adjustable Compressor Lockout + Freeze Stat* - Options A + B + N + E

Feature 8

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. For 14, 16-140 ton units, crankcase heater will be provided.

Feature 8 - Refrigeration Options Continued

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 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 air flow or cold entering coil conditions without cycling of the compressors on and off. This option is used for refrigeration system protection only and cannot be used for cooling capacity modulation. **Hot gas bypass is required on all Variable Air Volume (VAV) and Makeup Air (MUA) units without variable capacity or VFD controlled variable speed scroll compressors. Hot gas bypass on the lag circuits is recommended on all VAV and MUA units with variable capacity or VFD controlled variable speed scroll compressors on only the lead circuits.** Hot gas bypass is not available on RQ Series units, because these units are available with a two-stage compressor. For 14, 16-140 ton units, crankcase heater will be provided.

Hot Gas Bypass on the Lead Stage - 6-25 and 30 ton units include a bypass valve on the first refrigeration circuit.

Hot Gas Bypass on the Lag Stage with Lead Stage Variable Capacity Compressor - When lead circuits include variable capacity scroll compressors, this option includes hot gas bypass on the lag circuits. With lead VCC, the 9, 11-25, and 30 ton units include a bypass valve on the second refrigeration circuit. With lead VCC, the 55, 65, and 75-140 ton units include a bypass valve on the second stage refrigeration circuit.

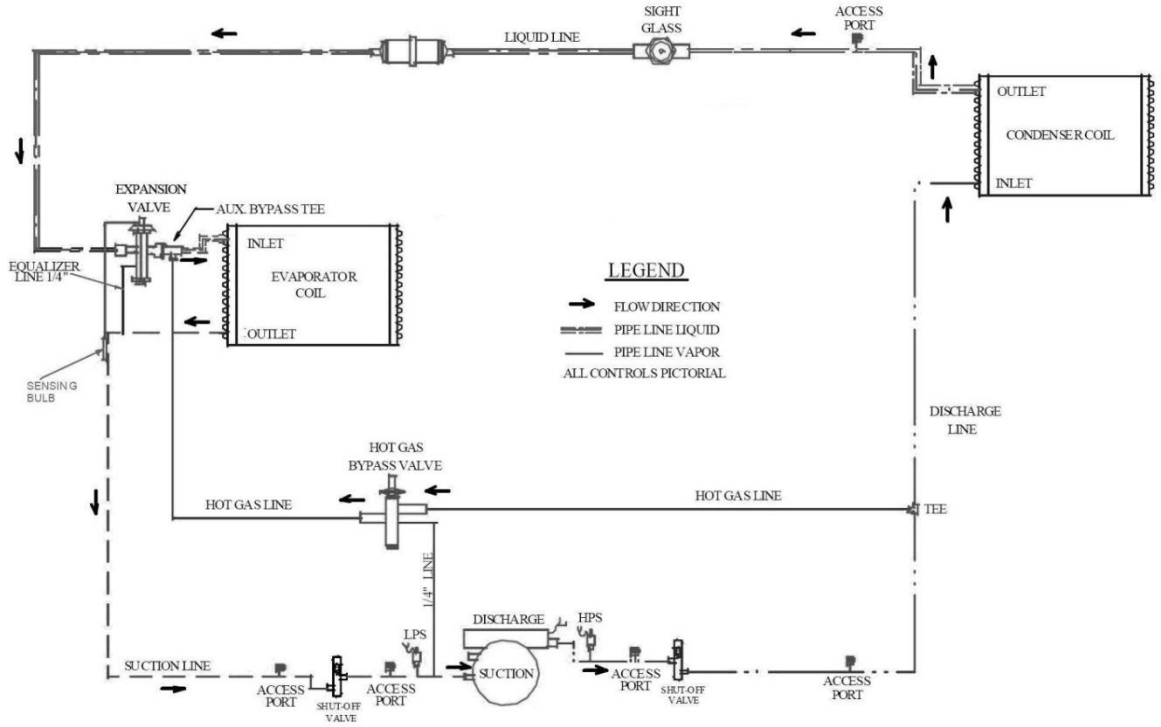

Figure 3 - Hot Gas Bypass Piping Schematic

Feature 8 - Refrigeration Options Continued

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 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 air flow 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. **Hot gas bypass on all circuits is required on 90 and 105 ton units with face split coils and VAV or MUA controls. Hot gas bypass on all circuits is required on units with VFD controlled variable speed scroll compressors if the minimum load is less than 50%.** Hot gas bypass is not available on RQ Series units, because these units are available with a two-stage compressor. Option is not available on 6-8 and 10 ton RN Series units because these units include only a single lead refrigeration circuit. For 14, 16-140 ton units, crankcase heater will be provided.

> *Hot Gas Bypass on the Lead and Lag Stages* - 9, 11-25 and 30 ton units include bypass valves on the first and second stage refrigeration circuits. 55, 65, and 75-140 ton units include bypass valves on the first and second stage refrigeration circuits.

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. A 3-way modulating reheat valve diverts a varying percentage of the hot gas entering the condensing coil to the reheat coil to provide the unit with a dehumidification mode of operation. Receiver tanks are standard with this option. A supply air temperature sensor and DDC controller are used to maintain the supply air temperature during the dehumidification mode of operation. Supply air temperature sensor will ship loose in the unit control cabinet to be installed in the supply air stream. Constant supply air temperature control during dehumidification prevents space temperature swings and is ideal for VAV and makeup air applications. Part of the D-PAC and PAC control systems. See Feature 13 and Controls section for more D-PAC and PAC information. Crankcase heater will be provided.

Depending on the type of controls selected, the unit will be factory wired for either priority dehumidification or priority cooling. Priority dehumidification means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in dehumidification mode until the humidity setpoint is satisfied. Priority Cooling means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in cooling mode until the cooling setpoint temperature is satisfied. When there is no longer a call for cooling, but there is a call for dehumidification, the compressors will continue to run and the reheat will be activated.

> *Thermostat units*: A terminal contact (RH1) is included for connecting a humidistat. A wall mounted humidistat is available as an accessory. The unit is factory wired as priority cooling.

Feature 8 - Refrigeration Options Continued

Field Installed DDC Controls by others: A terminal contact (RH1) and reset terminals (AI1 & COM) are included for connecting to the customer supplied controller. The unit will require a contact closure to RH1 to enable dehumidification mode. The unit is factory wired as priority dehumidification. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Field provided Factory Installed DDC Controls by others: The customer supplied DDC controller must provide a digital point to enable dehumidification mode. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Factory Provided VCC-X Controls and AAON Touchscreen Controls: Priority dehumidification or cooling can be set through the controls in the field.

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) or variable speed condenser fans (Feature 9). 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. Crankcase heater will be provided.
H = *HGB Lead (or Lag with Lead Stage Variable Capacity Compressor) + MHGR* - Options A + D
J = *HGB Lead and Lag + MHGR* - Options B + D
K = *HGB Lead (or Lag with Lead Stage Variable Capacity Compressor) + Low Ambient* - Options A + E
L = *HGB Lead and Lag + Low Ambient* - Options B + E
N = *Polymer E-coated MHGR* - Option D + Polymer E-coating
Polymer e-coating is applied only to the reheat coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.

Feature 8 - Refrigeration Options Continued

R = *HGB Lead (or Lag with Lead Stage Variable Capacity Compressor) + Polymer E-Coated MHGR* - Options A + N
S = *HGB Lead + HGB Lag + Polymer E-Coated MHGR* - Options B + N
T = *Parallel Modulating Hot Gas Reheat Microchannel Coil - Lag Circuit* – Microchannel reheat coil mounted downstream of the evaporator and piped to the lag cooling circuits which provides the unit with a dehumidification mode of operation for when the cooling load has been satisfied. A 3-way modulating reheat valve diverts a varying percentage of the hot gas entering the condensing coil to the reheat coil to provide the unit with a dehumidification mode of operation. Receiver tanks are standard with this option. A supply air temperature sensor and DDC controller are used to maintain the supply air temperature during the dehumidification mode of operation. Supply air temperature sensor will ship loose in the unit control cabinet to be installed in the supply air stream. Constant supply air temperature control during dehumidification prevents space temperature swings and is ideal for VAV and makeup air applications. Crankcase heater will be provided. (This option is not available for heat pump units).

Depending on the type of controls selected, the unit will be factory wired for either priority dehumidification or priority cooling. Priority dehumidification means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in dehumidification mode until the humidity setpoint is satisfied. Priority Cooling means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in cooling mode until the cooling setpoint temperature is satisfied. When there is no longer a call for cooling, but there is a call for dehumidification, the compressors will continue to run and the reheat will be activated.

Thermostat units: A terminal contact (RH1) is included for connecting a humidistat. A wall mounted humidistat is available as an accessory. The unit is factory wired as priority cooling.

Field Installed DDC Controls by others: A terminal contact (RH1) and reset terminals (AI1 & COM) are included for connecting to the customer supplied controller. The unit will require a contact closure to RH1 to enable dehumidification mode. The unit is factory wired as priority dehumidification. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Field provided Factory Installed DDC Controls by others: The customer supplied DDC controller must provide a digital point to enable dehumidification mode. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Factory Provided VCC-X Controls and AAON Touchscreen Controls: Priority dehumidification or cooling can be set through the controls in the field.

Feature 8 - Refrigeration Options Continued

U = *HGB Lead (or Lag with Lead Stage Variable Capacity Compressor) + Parallel MHGR Microchannel Coil Lag* - Options A + T
V = *HGB Lead + HGB Lag + Parallel MHGR Microchannel Coil Lag* - Options B + T
W = *Polymer E-coated Parallel Modulating Hot Gas Reheat Microchannel Coil Lag* - Option T + Polymer E-coating
Polymer e-coating is applied only to the reheat coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.
Y = *HGB Lead (or Lag with Lead Stage Variable Capacity Compressor) + Polymer E-Coated Parallel MHGR Microchannel Coil Lag* - Options A + W
Z = *HGB Lead + HGB Lag + Polymer E-Coated Parallel MHGR Microchannel Coil Lag* - Options B + W
1 = *All Circuit Parallel Modulating Hot Gas Reheat Microchannel Coil* (RN Series) - Two microchannel reheat coils mounted downstream of the evaporator; one piped to the lead cooling circuit and one piped to the lag cooling circuit which provide the unit with a dehumidification mode of operation for when the cooling load has been satisfied. Two 3-way modulating reheat valves divert a varying percentage of the hot gas entering the condensing coils to the reheat coils to provide the unit with a dehumidification mode of operation. Two receiver tanks are standard with this option (one per circuit). A supply air temperature sensor and DDC controller are used to maintain the supply air temperature during the dehumidification mode of operation. Supply air temperature sensor will ship loose in the unit control cabinet to be installed in the supply air stream. Constant supply air temperature control during dehumidification prevents space temperature swings and is ideal for VAV and makeup air applications. Crankcase heater will be provided.

Depending on the type of controls selected, the unit will be factory wired for either priority dehumidification or priority cooling. Priority dehumidification means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in dehumidification mode until the humidity setpoint is satisfied. Priority Cooling means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in cooling mode until the cooling setpoint temperature is satisfied. When there is no longer a call for cooling, but there is a call for dehumidification, the compressors will continue to run and the reheat will be activated.

Thermostat units: A terminal contact (RH1) is included for connecting a humidistat. A wall mounted humidistat is available as an accessory. The unit is factory wired as priority cooling.

Feature 8 - Refrigeration Options Continued

Field Installed DDC Controls by others: A terminal contact (RH1) and reset terminals (AI1 & COM) are included for connecting to the customer supplied controller. The unit will require a contact closure to RH1 to enable dehumidification mode. The unit is factory wired as priority dehumidification. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Field provided Factory Installed DDC Controls by others: The customer supplied DDC controller must provide a digital point to enable dehumidification mode. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Factory Provided VCC-X Controls and AAON Touchscreen Controls: Priority dehumidification or cooling can be set through the controls in the field.

1 = *Parallel Modulating Hot Gas Reheat Microchannel Coil (RQ Series)* - Microchannel reheat coil mounted downstream of the evaporator and piped to the cooling circuit which provides the unit with a dehumidification mode of operation for when the cooling load has been satisfied. A 3-way modulating reheat valve diverts a varying percentage of the hot gas entering the condensing coil to the reheat coil to provide the unit with a dehumidification mode of operation. Receiver tanks are standard with this option. A supply air temperature sensor and DDC controller are used to maintain the supply air temperature during the dehumidification mode of operation. Supply air temperature sensor will ship loose in the unit control cabinet to be installed in the supply air stream. Constant supply air temperature control during dehumidification prevents space temperature swings and is ideal for VAV and makeup air applications. Crankcase heater will be provided. (This option is not available for heat pump units).

Depending on the type of controls selected, the unit will be factory wired for either priority dehumidification or priority cooling. Priority dehumidification means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in dehumidification mode until the humidity setpoint is satisfied. Priority Cooling means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in cooling mode until the cooling setpoint temperature is satisfied. When there is no longer a call for cooling, but there is a call for dehumidification, the compressors will continue to run and the reheat will be activated.

Thermostat units: A terminal contact (RH1) is included for connecting a humidistat. A wall mounted humidistat is available as an accessory. The unit is factory wired as priority cooling.

Feature 8 - Refrigeration Options Continued

Field Installed DDC Controls by others: A terminal contact (RH1) and reset terminals (AI1 & COM) are included for connecting to the customer supplied controller. The unit will require a contact closure to RH1 to enable dehumidification mode. The unit is factory wired as priority dehumidification. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Field provided Factory Installed DDC Controls by others: The customer supplied DDC controller must provide a digital point to enable dehumidification mode. It is optional to provide a 0-10VDC signal to reset the supply air setpoint. Units with controls by others will need to provide control logic to enable the compressors and modulate the variable capacity compressors (if ordered) during dehumidification mode. The customer supplied controller will also need to be able to set cooling or dehumidification as the priority.

Factory Provided VCC-X Controls and AAON Touchscreen Controls: Priority dehumidification or cooling can be set through the controls in the field.

2 = *HGB Lead (or Lag with Lead Stage Variable Capacity Compressor) + All Circuit Parallel MHGR Microchannel* - Options A + 1
3 = *HGB Lead + HGB Lag + All Circuit Parallel MHGR Microchannel* - Options B + 1
4 = *Polymer E-coated Parallel MHGR Microchannel Coil All Circuit* - Option 1 + Polymer E-coating (RN Series) Polymer e-coating is applied only to the reheat coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117-90, 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. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.
4 = *Polymer E-coated Parallel MHGR Microchannel Coil* - Option 1 + Polymer E-coating (RQ Series)
5 = *HGB Lead (or Lag with Lead Stage Variable Capacity Compressor) + Polymer E-Coated Parallel MHGR Microchannel Coil All Circuit* - Options A + 4
6 = *HGB Lead + HGB Lag + Polymer E-Coated Parallel MHGR Microchannel Coil All Circuit* - Options B + 4

Feature 9

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.

Table 9 - Moisture Content in the Refrigerant

Refrigerant - R-410A	75° F Liquid Line Temperature
Indicator Color	Moisture content
Green DRY	Below 75 ppm
Chartreuse CAUTION	75-150 ppm
Yellow WET	Above 150 ppm

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
D = *ECM Condenser Fan - Multiple Speed* - Electronically Commutated Motors on the condenser fans which allow matching condenser fan speed with cooling capacity stages. Fan speed is controlled by a factory installed fan cycle switch. Fan cycle switch (Feature 7) is required with this option. Option is available on RQ Series 2-6 tons.
E = *ECM Condenser Fan - Head Pressure Control* - Electronically Commutated Motors on the condenser fans which are controlled by factory installed head pressure control module. The control module receives inputs from pressure transducers on each refrigerant circuit and modulates the fan speed based on the pressure inputs. Option is available on RQ Series 2-6 tons. Option is available on RN Series 6, 7, 9, and 11 ton units for all voltages and RN 8, 10, 13-30 ton units except 575V and 380V. With AAON unit controls, ECM's will be controlled directly by AAON Control System.

Feature 9 - Refrigeration Accessories Continued

F = *VFD Controlled Condenser Fans - Head Pressure Control* - VFD Controlled Condenser Fans Factory provided and factory programmed VFD(s) receives inputs from pressure transducers on each refrigerant circuit and varies the fan speed based on the pressure inputs to maintain a discharge pressure. Standard pressure setpoint is 340 psi for standard air-cooled systems and 400 psi for modulating hot gas reheat air-cooled systems. Option is available on 8, 10, and 13-30 ton units. With AAON unit controls, VFD's will be controlled directly by AAON Control System.
G = *ECM Condenser Fan - Multiple Speed + Sight Glass* - Options A + D
H = *ECM Condenser Fan - Multiple Speed + Compressor Isolation Valves* - Options B + D
J = *ECM Condenser Fan - Multiple Speed + Sight Glass + Compressor Isolation Valves* - Options A + B + D
K = *ECM Condenser Fan - Head Pressure Control + Sight Glass* - Options A + E
L = *ECM Condenser Fan - Head Pressure Control + Compressor Isolation Valves* - Options B + E
M = *ECM Condenser Fan - Head Pressure Control + Sight Glass + Compressor Isolation Valves* - Options A + B + E
N = *VFD Controlled Condenser Fans - Head Pressure Control + Sight Glass* - Options A + F (RN Series)
P = *VFD Controlled Condenser Fans - Head Pressure Control + Compressor Isolation Valves* - Options B + F (RN Series)
Q = *VFD Controlled Condenser Fans - Head Pressure Control* + Sight Glass + Compressor Isolation Valves - Options C + F (RN Series)
T= *Low Sound Condenser Fan - Head Pressure Control + Compressor Isolation Valves* - Options R + B (RN Series)
U = *Low Sound Condenser Fan - Head Pressure Control + Sight Glass + Compressor Isolation Valves* - Options R + A + B (RN Series)

Feature 10
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*
5 = *800 Amp Power Switch*
6 = *1200 Amp Power Switch*
G = *15 Amp Circuit Breaker*
H = *20 Amp Circuit Breaker*
J = *25 Amp Circuit Breaker*
K = *30 Amp Circuit Breaker*
L = *35 Amp Circuit Breaker*
M = *40 Amp Circuit Breaker*
N = *45 Amp Circuit Breaker*
P = *50 Amp Circuit Breaker*
Q = *60 Amp Circuit Breaker*
R = *70 Amp Circuit Breaker*
S = *80 Amp Circuit Breaker*
T = *90 Amp Circuit Breaker*
U = *100 Amp Circuit Breaker*
V = *110 Amp Circuit Breaker*
W = *125 Amp Circuit Breaker*
Y = *150 Amp Circuit Breaker*
Z = *175 Amp Circuit Breaker*
1 = *200 Amp Circuit Breaker*
2 = *225 Amp Circuit Breaker*
3 = *250 Amp Circuit Breaker*

Individual components within the controls compartment are fused and/or internally protected. Switch options include molded case, non-fused, and 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 AAON ECat will automatically calculate the minimum allowable ampacity and choose the correct size switch.

Circuit breaker options include molded case, non-fused, and disconnect switch inside the unit controls compartment. Circuit breaker options provide overload and short circuit protection for applications that require it.

Feature 11
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 air streams. 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 24 VAC control circuit. Firestats are non-addressable.
B = *Return Air Smoke Detector* - Photoelectric type smoke detector senses smoke in the return air section of the unit. Detector is wired to shut down the 24 VAC 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 senses smoke in the supply air stream. Detector is wired to shut down the 24 VAC 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 Safety Shutdown Terminals* - Low voltage terminals labeled BI1 and BI2 for wiring to a field installed smoke detector, Firestat, or building safety automatic shutdown system. When contacts are open the unit 24 VAC control circuit is broken and the unit will not operate. Remove the factory supplied jumper before installing.
J = *Return and Supply Air Firestats + Remote Safety Shutdown Terminals* - Options A + H
K = *Return Air Smoke Detector + Remote Safety Shutdown Terminals* - Options B + H
L = *Supply Air Smoke Detector + Remote Safety Shutdown Terminals* - Options C + H
M = *Return and Supply Air Smoke Detectors + Remote Safety Shutdown Terminals* - Options D + H
N = *Return and Supply Air Firestats + Return Air Smoke Detector + Remote Safety Shutdown Terminals* - Options A + B + H
P = *Return and Supply Air Firestats + Supply Air Smoke Detector + Remote Safety Shutdown Terminals* - Options A + C + H
Q = *Return and Supply Air Firestats + Return Air Smoke Detector + Supply Air Smoke Detector + Remote Safety Shutdown Terminals* - Options A + B + C + H
R = *High Condensate Level Switch* - Control switch that shuts down the 24V control circuit when a high water level in the drain pan is detected to prevent overflow.
S = *Return and Supply Air Firestats + High Condensate Level Switch* - Options A + R
T = Return Air Smoke Detector + *High Condensate Level Switch* - Options B + R
U = *Supply Air Smoke Detector + High Condensate Level Switch* - Options C + R
V = *Return and Supply Air Smoke Detectors + High Condensate Level Switch* - Options D + R

Feature 11 – Safety Options Continued

W = *Remote Safety Shutdown Terminals + High Condensate Level Switch* - Options H + R
Y = *Return and Supply Air Firestats + Return Air Smoke Detector + High Condensate Level Switch* - Options E + R
Z = *Return and Supply Air Firestats + Supply Air Smoke Detector + High Condensate Level Switch* - Options F + R
1 = *Return and Supply Air Firestats + Return and Supply Air Firestats + High Condensate Level Switch* - Options G + R
2 = *Return and Supply Air Firestats + Remote Safety Shutdown Terminals + High Condensate Level Switch* - Options J + R
3 = *Return Air Smoke Detector + Remote Safety Shutdown Terminals + High Condensate Level Switch* - Options K + R
4 = *Supply Air Smoke Detector + Remote Safety Shutdown Terminals + High Condensate Level Switch* - Options L + R
5 = Return and Supply Air Smoke Detectors + Remote Safety Shutdown Terminals + *High Condensate Level Switch* - Options M + R
6 = *Return and Supply Air Firestats + Return Air Smoke Detector + Remote Safety Shutdown Terminals + High Condensate Level Switch* - Options *N + R*
7 = *Return and Supply Air Firestats + Supply Air Smoke Detector + Remote Safety Shutdown Terminals + High Condensate Level Switch* - Options P + R
8 = *Return and Supply Air Firestats + Return Air Smoke Detector + Supply Air Smoke Detector + Remote Safety Shutdown Terminals + High Condensate Level Switch* - Options Q + R

Feature 12
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 and factory provided supply air temperature sensor that must be field installed in the supply air ductwork. Limit switch shuts off the unit when discharge temperature reaches the low limit setpoint. The switch is adjustable from -10°F to 70°F, and is manually reset by disconnecting power to the unit.
B = *Phase and Brown Out Protection* - Voltage monitor that is used to protect motors and compressors from voltage imbalance, over/under voltage and phase loss. Reset is automatic. When DDC controls by others is ordered, the Phase and Brown Out protection will be wired back to a set of terminals or to customer supplied controller for status.
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.

Feature 12 – Controls Continued

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
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
13: Special Controls

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

0 = *Terminal Block for Thermostat Control* - Terminal strip for use with a thermostat. See Controls section and Thermostat Terminals sheet from AAON ECat for more information.
D = *Variable Air Volume Unit Controller - Variable Air Volume Cooling and Constant Volume Heating* - Standard VAV controls for non-heat pump systems and heat pump systems. During the cooling mode of operation the supply fan modulates based on the supply static pressure and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. Return and outside air temperature sensors are factory mounted and wired. Supply air static pressure probe and supply air temperature sensor are factory supplied for field installation. Space temperature sensor with setpoint reset and unoccupied override is factory supplied with AAON controller for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. Outside air humidity sensor is factory mounted and wired if enthalpy controlled economizer is selected. See Controls section for more information.
E = *Constant Volume Unit Controller - Constant Volume Cooling and Constant Volume Heating* - Standard Constant Volume controls for non-heat pump systems. During the cooling mode of operation the supply fan provides constant air flow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. Outside air temperature sensor is factory mounted and wired. Supply air temperature sensor and space temperature sensor with setpoint reset and unoccupied override are factory supplied for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. Outside air humidity sensor is factory mounted and wired if enthalpy controlled economizer is selected. See Controls section for more information.
F = *Makeup Air Unit Controller - Constant Volume Cooling and Constant Volume Heating* - Standard Makeup Air controls for non-heat pump systems. During the cooling mode of operation the supply fan provides constant air flow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. Outside air temperature sensor is factory mounted and wired. Supply air temperature sensor is factory supplied for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. See Controls section for more information.
L = *Terminal Block for Thermostat Control with Isolation Relays* - Standard terminal strip for use with thermostats only, 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 and Thermostat Terminals sheet from AAON ECat for more information.

Feature 13 - Special Controls Continued

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). Outside air temperature sensor is factory mounted and wired. Supply air temperature sensor, space temperature sensor with setpoint reset and unoccupied override, and space humidity sensor are factory supplied for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. See Controls section for more information. Option is not available on RQ Series units.
V = *PAC, Precise Air Controller* - Factory installed constant volume DDC controller which allows 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). Outside air temperature sensor is factory mounted and wired. Supply air temperature sensor, space temperature sensor with setpoint reset and unoccupied override, and space humidity sensor are factory supplied for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. See Controls section for more information. Option is not available on RQ Series units.
Y = *Single Zone Variable Air Volume Heat Pump Unit Controller - Variable Air Volume Cooling and Variable Air Volume Heating* - VAV controls for heat pump systems which control the temperature and humidity for only a single zone. During the cooling mode of operation the supply fan modulates based on the space temperature and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan will modulate based on the space temperature and heat pump heating and auxiliary heating will modulate based on the supply air temperature. Air-source or water-source heat pump configuration is required with this option. Variable capacity compressors are required on all refrigeration circuits with this option. With gas auxiliary heat, modulating gas heating control is required. Return and outside air temperature sensors are factory mounted and wired. Supply air temperature sensor is factory supplied for field installation. Space temperature sensor with setpoint reset and unoccupied override is factory supplied with AAON controller for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. Outside air humidity sensor is factory mounted and wired if enthalpy controlled economizer is selected. See Controls section for more information.
Z = *Constant Volume Heat Pump Unit Controller - Constant Volume Cooling and Constant Volume Heating* - Standard Constant Volume controls for heat pump systems. During the cooling mode of operation the supply fan provides constant air flow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. Air-source or water-source heat pump configuration is required with this option. Outside air temperature sensor is factory mounted and wired. Supply air temperature sensor and space temperature sensor with setpoint reset and unoccupied override are factory supplied for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. Outside air humidity sensor is factory mounted and wired if enthalpy controlled economizer is selected. See Controls section for more information.

Feature 13 - Special Controls Continued

1 = *Makeup Air Heat Pump Unit Controller - Constant Volume Cooling and Constant Volume Heating* - Standard Makeup Air controls for heat pump systems. During the cooling mode of operation the supply fan provides constant air flow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. Air-source or water-source heat pump configuration is required with this option. Outside air temperature sensor is factory mounted and wired. Supply air temperature sensor is factory supplied for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. See Controls section for more information.
2 = *Single Zone VAV Unit Controller VAV Cool + CV Heat* - VAV controls for systems which control the space temperature for only a single zone. During the cooling mode of operation the supply fan modulates based on the space temperature and mechanical cooling modulates based on the supply air temperature. Variable capacity or two-stage compressors are required. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. Supply air temperature sensor is factory supplied for field installation. Space temperature sensor with setpoint reset and unoccupied override is factory supplied with AAON controller or Remote Mounted AAON Touchscreen Controller for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. Outside air humidity sensor is factory mounted and wired if enthalpy controlled economizer is selected. See Controls section for more information.
3 = *Single Zone VAV Unit Controller VAV Cool + VAV Heat* - VAV controls for systems which control the space temperature for only a single zone. During the cooling mode of operation the supply fan modulates based on the space temperature and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan will modulate based on the space temperature and the heating will modulate based on the supply air temperature. Variable capacity or two-stage compressors are required. With gas heat, modulating gas heating control is required. Supply air temperature sensor is factory supplied for field installation. Space temperature sensor with setpoint reset and unoccupied override is factory supplied with AAON controller or Remote Mounted AAON Touchscreen Controller for field installation. A building static pressure sensor is factory supplied for field installation if power exhaust with VFD is selected. Outside air humidity sensor is factory mounted and wired if enthalpy controlled economizer is selected. See Controls section for more information.
4 = *Field Installed DDC Controls by Others* - Provides an expanded terminal strip to interface with controls by others. This expanded terminal strip includes terminals for remote start/stop of the heat wheel, remote start/stop of power exhaust fan, CO2 sensor, and Phase & Brown out. See Controls section and Field controlled Terminal sheet from AAON ECat for more information.
5 = *Field Installed DDC Controls Furnished by Others with Isolation Relays* - Provides an expanded terminal strip to interface with controls by others, 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 control wiring. This expanded terminal strip includes terminals for remote start/stop of the heat wheel, remote start/stop of power exhaust fan, CO2 sensor, and Phase & Brown out. See Controls section and Field controlled Terminal sheet from AAON ECat for more information.

Feature 13 - Special Controls Continued

6 = *Factory Installed DDC Controls Furnished by Others with Isolation Relays (SPA)* - 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. See Field controlled Terminal sheet from AAON ECat for more information.

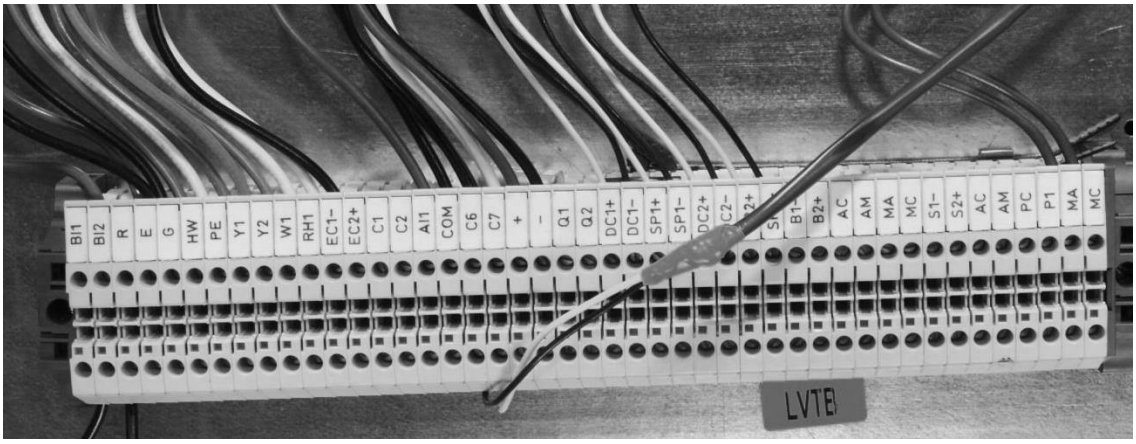

Figure 4 - Example Low Voltage Terminal Block

Feature 14A
14A: Outside Air 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. 2-25, 30, 55, 65, and 75-140 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. The maximum operating pressure for steam coils is 25 psi. 26 and 31-50, 60 and 70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is available on 2-25, 30, 55, 65, and 75-140 ton units without DX cooling. Option is only available on 26 and 31-50, 60 and 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. 2-25, 30, 55, 65, and 75-140 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. The maximum operating pressure for steam coils is 25 psi. 26 and 31-50, 60 and 70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is available on 2-25, 30, 55, 65, and 75-140 ton RN Series units without DX cooling. Option is only available on 26 and 31-50, 60 and 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 Preheat Coil - 1 Row* - One row hot water preheat coil. 2-25, 30, 55, 65, and 75-140 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. 26 and 31-50, 60 and 70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is only available on 2-25, 30, 55, 65, and 75-140 ton units without DX cooling. Option is only available on 26 and 31-50, 60 and 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. 2-25, 30, 55, 65, and 75-140 ton units include a mixed air preheat coil mounted adjacent and upstream of the cooling coil and downstream of the unit filters. 26 and 31-50, 60 and 70 ton units include an outside air preheat coil mounted inside the outside air hood. Option is only available on 2-25, 30, 55, 65, and 75-140 ton RN Series units without DX cooling. Option is only available on 26 and 31-50, 60 and 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 14A - Outside Air Configuration Continued

E = *Modulating Electric Preheat* - Modulating electric preheat is used to heat the outdoor air to a leaving air temperature setpoint. Modulation capacity will be controlled by an SCR (Silicon Controlled Rectifier). A preheat enable single shall be required from the unit controller Option is available on 2-6 ton RQ Series and 6-25 and 30 ton RN Series, all with three phase voltage. Option is not available with manually adjustable outside air opening.
F = *Outside Airflow Monitoring Size A* - Outside airflow measuring station and airflow signal processor that communicates directly with the factory provided control systems and can also be used with customer provided controls with a 0-10 VDC output signal. LonTalk and BACnet may also be available for some applications. Monitoring size is dependent on the cfm.
G = *Outside Airflow Monitoring Size B* - Outside airflow measuring station and airflow signal processor that communicates directly with the factory provided control systems and can also be used with customer provided controls with a 0-10 VDC output signal. LonTalk and BACnet may also be available for some applications. Monitoring size is dependent on the cfm.
H = *Outside Airflow Monitoring Size C* - Outside airflow measuring station and airflow signal processor that communicates directly with the factory provided control systems and can also be used with customer provided controls with a 0-10 VDC output signal. LonTalk and BACnet may also be available for some applications. Monitoring size is dependent on the cfm.
J = *Outside Airflow Monitoring Size D* - Outside airflow measuring station and airflow signal processor that communicates directly with the factory provided control systems and can also be used with customer provided controls with a 0-10 VDC output signal. LonTalk and BACnet may also be available for some applications. Monitoring size is dependent on the cfm.

Feature 14B

14B: Preheat Sizing

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

0 = *Standard - None*
A = *Single Serpentine 8 fpi* - Steam or hot water coil with single serpentine circuitry and 8 fins per inch. Preheat is only available on 2-25 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 2-25 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 14B - Preheat Sizing Continued

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 2-25 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. Option is available on RN Series units.
D = *Half Serpentine 10 fpi* - Hot water coil with half serpentine circuitry and 10 fins per inch. Preheat is only available on 2-25 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. Option is available on RN Series units.
E = *Single Serpentine 12 fpi* - Steam or hot water coil with single serpentine circuitry and 12 fins per inch. Preheat is only available on 2-25 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 2-25 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.

G = *10 kW (7.5 kW @208V)*
H = *15 kW (11.3 kW @208V)*
J = *20 kW (15 kW @208V)*
K = *30 kW (22.5 kW @208V)*
L = *40 kW (30 kW @208V)*
M = *50 kW (37.6 kW @208V)*
N = *60 kW (45.1 kW @208V)*
P = *70 kW (52.6 kW @208V)*
Q = *80 kW (60.1 kW @208V)*
R = *90 kW (67.6 kW @208V)*
S = *100 kW (75.1 kW @208V)*
T = *110 kW (82.6 kW @208V)*
U = *120 kW (90.1 kW @208V)*

When selecting electric preheat in AAON ECat, the program choose the capacity (kW) based on the outside air temperature and the desired leaving air temperature conditions entered on the conditions screen under the preheating tab. AAON ECat will report the capacity in the unit (kW amount) and how much capacity is needed to achieve the desired discharge temperature (kW used). Electric service calculations will use the full capacity when determining amp draws.

Feature 15
15: Glycol Percentage / Energy Recovery Type

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

0 = *Standard* - Water or No WSHP with Polymer Energy Recovery Wheel - Polymer energy recovery wheel with removable energy transfer matrix.
C = *Field Adjustable for Glycol Percentage* - Water-source/geothermal heat pump designed for operation with a field adjusted percent propylene glycol to help prevent the freezing of heat pump source water. The controller is factory set at 0% glycol and must be field adjusted from 5-40% in 5% increments.
D = *Water or No WSHP with Aluminum Energy Recovery Wheel* - Monolithic 3Å coated aluminum energy recovery wheel.
E = *Field Adjustable for Glycol Percentage with Aluminum Energy Recovery Wheel* - Options C + D

Feature 16
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 2 inch thick double wall 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 in the panels. 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 = *Service Lights* - Standard unit construction with service lights included in the controls and compressor compartments. The light 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.
H = *UV Lights*- factory provided and installed UV lights. Option is available to help prevent mold and microbial growth on the cooling coil and drain pan. UV fixture is factory installed near the supply blower inlet, pointed towards the cooling coil and drain pan. Door interlocks are also included with this option. Bulbs shipped boxed in the control compartment for field installation.
J = *Compressor Sound Blanket (CSB)* - Factory provided and installed compressor sound dampening blankets on all compressors.
K = *Control Panel Service Lights + UV Lights* – factory provided and installed control panel service lights.
L = *Control Panel Service Lights + CSB*
M = *UV Lights + CSB*
N = *Control Panel Service Lights + UV Lights + CSB*

Feature 17
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 rigid polyurethane 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 2-25 and 30 ton units which only include a G90 galvanized sheet metal unit base pan as standard. 55, 65 and 75-140 ton units include a 3 inch double wall rigid polyurethane foam panel base 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 (RN Series 6-25 and 30 ton)* - Condenser coil guards fabricated from galvanized sheet metal, painted and factory mounted across the pre-folded sheet metal condenser coil face. Condenser coil guards are optional on 6-25 and 30 ton RN Series units.
C = *Condenser Coil Screen (RQ Series*) - Condenser coil screen fabricated from welded wire mesh and factory mounted across the condenser coil face.

Figure 5 - Condenser Coil Guard Option

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
H = *Motorized Relief Dampers* - Option can be selected when unit is equipped with an Economizer. Option includes relief damper actuator wired to the power exhaust relay. Motorized dampers ship separate from the unit for field installation.
J = *Base Insulation + Motorized Relief Dampers* - Options A + H

Feature 17 - Exterior Cabinet Options Continued

K = *Burglar Bars + Motorized Relief Dampers* - Options B + H
L = *Condenser Coil Guards or Screen + Motorized Relief Dampers* - Options C + H
M = *Base Insulation + Burglar Bars + Motorized Relief Dampers* - Options A + B + H
N = *Base Insulation + Condenser Coil Guards or Screen + Motorized Relief Dampers* - Options A + C + H
P = *Burglar Bars + Condenser Coil Guards or Screen + Motorized Relief Dampers* - Options B + C + H
Q = *Base Insulation + Burglar Bars + Condenser Coil Guards or Screen + Motorized Relief Dampers* - Options A + B + C + H

Feature 18
18: Electrical Rating

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

0 = *Standard - 5 kAIC SCCR* - the unit has a 5 kAIC Short-Circuit Current Rating
1 = *10 kAIC SCCR* - the unit has a 10 kAIC Short-Circuit Current Rating
2 = *35 kAIC SCCR* - the unit has a 35 kAIC Short-Circuit Current Rating. This option requires a factory installed circuit breaker (Feature 10 Power Options).
3 = 6*5 kAIC SCCR* - the unit has a 65 kAIC Short-Circuit Current Rating. This option requires a factory installed circuit breaker (Feature 10 Power Options).

Feature 19
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 U.S.A. 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.

Feature 19 - Code Options Continued

H = *ETL U.S.A. and Canada Listing* - Equipment is ETL U.S.A. and Canada listed and tested in accordance with the latest revision of UL Standard 1995/CSA C22.2 No. 236. The nameplate, safety labels and warnings will be in English and French.
K = *California OSHPD Certification* - State of California Office of Statewide Health Planning and Development (OSHPD) special seismic certification pre-approval. Specials (SPA's) are not available with OSHPD pre-approval. This option is available on all 2-50, 60, and 70 ton units, except 26, 31, and 40 ton air-source heat pumps. The anchorage between unit and building is field provided.
L = *Shake Table Certification (ASCE 7-05/ICC-ES AC 156)* - Unit is ASCE 7-05/ICC-ES AC 156 tested with engineer's approval for units that require seismic certification but contain options different than those included in the OSHPD tested units. This option requires a licensed engineer's approval of modifications to the unit that do not significantly change the mass or construction of the unit. This option is available on 2-50, 60, and 70 ton units, except 26, 31, and 40 ton air-source heat pumps. The anchorage between unit and building is field provided.
M = *Seismic Construction (Non-Certified)* - Units will be built with the same reinforcements of the OSHPD and AC156 seismically certified units but may include additional non-certified options. No seismic certification will be provided with the seismic construction option. This option is for units that require a reinforced construction for additional structural integrity but do not require seismic certification. This option is available on 2-50, 60, and 70 ton units. The anchorage between unit and building is field provided.
N = *California OSHPD Certification + Chicago code* - Option K + Option B, C, D, E, F or G. Applicable Chicago code option depends on the unit configuration. This option is available on 2-50, 60, and 70 ton units, except 26, 31, and 40 ton air-source heat pumps. The anchorage between unit and building is field provided.
P = *Shake Table Certification (ASCE 7-05/ICC-ES AC 156) + Chicago code* - Option L + Option B, C, D, E, F or G. Applicable Chicago code option depends on the unit configuration. This option is available on 2-50, 60, and 70 ton units, except 26, 31, and 40 ton air-source heat pumps. The anchorage between unit and building is field provided.
Q = *Seismic Construction (Non-Certified) + Chicago code* - Option M + Option B, C, D, E, F or G. Applicable Chicago code option depends on the unit configuration. This option is available on 2-50, 60, and 70 ton units. The anchorage between unit and building is field provided.

Feature 20
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 dimensional lumber and plywood.
B = *Export Crating - No Condenser Section* - Crating for units without condensers for overseas shipping. Crate is fabricated from dimensional lumber and plywood.
C = Shrink Wrap – Unit is heat shrink wrapped to help protect the unit during shipment.
D = *Export Crating + Shrink Wrap* - Options A + C
E = *Export Crating – No Condenser Section + Shrink Wrap* - Options B + C

Feature 21
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 Valve* - Factory installed modulating head pressure control two way condenser water valve and head pressure control module which allow 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 Valve* - Options A + D
H = *Water Flow Switch + Motorized Shut-off Valve* - Options B + C
J = *Water Flow Switch + Head Pressure Control Valve* - 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 Valve* - Options A + B + D

Feature 22
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.
V = *VCC-X Controls System + Integrated BACnet MSTP* - AAON supplied and factory installed VCC-X controller (Feature 13). Option requires the selection of an operator interface in AAON ECat to set up controller. See Controls section for more information.
W= *VCC-X Controls System + Integrated BACnet MSTP with Specials* - AAON supplied and factory installed VCC-X controller (Feature 13). Option requires the selection of an operator interface in AAON ECat to set up controller. See Controls section for more information.

Feature 23
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. RN Series includes a standard 1 year parts only warranty. RN Series unit warranty coverage is 12 months from the date of equipment startup or 18 months from the date of original equipment shipment from the factory, whichever is less. RQ Series includes a standard 2 year parts only warranty. RQ Series unit warranty coverage is 24 months from date of original equipment shipment from the factory.
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.
1 = *Standard Paint + 2 Year Parts Only Warranty* - Standard gray AAON paint (Option B) with extended unit warranty. Unit warranty coverage is for two years from the date of original equipment shipment from the factory. Option is available on the RN Series.
4 = *Standard Paint + 5 Year Parts Only Warranty* - Standard gray AAON paint (Option B) with extended unit warranty. Unit warranty coverage is for five years from the date of original equipment shipment from the factory.
9 = *Standard Paint + 10 Year Parts Only Warranty* - Standard gray AAON paint (Option B) with extended unit warranty. Unit warranty coverage is for ten years from the date of original equipment shipment from the factory.

General Data
Unit Information

Table 10 - RQ Series (2-6 tons) DX Cooling Information

	Model				
	002	003	004	005	006
Compressors					
Quantity/Nominal tons					
R-410A Scroll	1/2	1/3	1/4	1/5	
R-410A Two-Stage Scroll	1/2 T-S.	1/3 T-S.	1/4 T-S.	1/5 T-S.	1/6 T-S.
R-410A Variable Capacity Scroll		1/3 Var.	1/4 Var.	1/5 Var.	1/6 Var.
R-410A Variable Speed Scroll	1/2 Var.	1/3 Var.	1/4 Var.	1/5 Var.	1/6 Var.
Capacity Steps (%)	100, 100/67 with two-stage compressor or 10-100% with variable capacity scroll compressor				
Evaporator Coil					
Number of Circuits	1				
R-410 High Efficiency Coil					
Quantity/Face Area	5.3 ft^2				
Rows/fpi	3/14		4/14		
R-410A Standard Efficiency Coil					
Quantity/Face Area	5.3 ft^2				
Rows/fpi	2/14		3/14		
R-410A 6 Row Coil					
Quantity/Face Area			5.3 ft^2		
Rows/fpi			6/14		
Water-Cooled Condenser					
Minimum gpm	4.5	6.0	7.0	10.0	12.5
Maximum gpm	18.0	24.0	28.0	40.0	50.0

Table 11 - RQ Series (2-6 tons) Heating and Hydronic Cooling Information

	Model				
	002	003	004	005	006
Electric Heat					
Capacity (kW)					
230/380/460/575V 3Φ	10, 20		10, 20, 30, 40		
208V 3Φ	7.5, 15.0		7.5, 15.0, 22.5, 30.0		
Stages (kW)	10 kW - 1 or Fully Modulating with SCR 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				
Gas Heat					
Input Capacity/Output Capacity (MBH)	60/48.6, 100/81, 140/113.4, 160/129.6				
Natural Gas Input Capacity Steps (MBH)	60 MBH - 2 Stage - 60/42, 4 Stage - 60/48/42/14, Modulating – 3.3:1 Turndown or 10:1 High Turndown 100 MBH - 2 Stage - 100/70, 4 Stage - 100/82/70/28, Modulating – 2.8:1 Turndown or 8.3:1 High Turndown 140 MBH - 2 Stage - 140/98, 4 Stage - 140/116/98/42, Modulating – 3.3:1 Turndown or 11.6:1 High Turndown 160 MBH - 2 Stage - 160/112, 4 Stage - 160/130/112/42, Modulating – 3.3:1 Turndown or 8.8:1 High Turndown				
LP Gas Input Capacity Steps (MBH)	60 MBH - 60/42 100 MBH - 100/70 140 MBH - 140/98 160 MBH - 160/112				
Hot Water Heating Coil					
Quantity/Face Area	Vertical - 1/2.71 ft^2				
Rows/fpi	1 or 2/8 or 12 (Single or Half Serpentine)				
Standard Coil	1 Row Half Serpentine with 8 fpi or 2 Row Single Serpentine with 8 fpi				
Steam Heating Coil					
Quantity/Face Area	Vertical - 1/2.52 ft^2				
Rows/fpi	1 or 2/8 or 12				
Standard Coil	8 fpi				
Chilled Water Coil					
Quantity/Face Area	1/4.4 ft^2				
Rows/fpi	4 or 6/8 or 12 (Single or Half Serpentine)				
Standard Coil	Single Serpentine with 12 fpi				

Table 12 - RQ Series (2-6 tons) Preheat and Fan Information

	Model				
	002	003	004	005	006
Hot Water Preheat Coil					
Quantity/Face Area	1/4.41 ft^2 (Mixed Air Preheat)				
Rows/fpi	1/8 or 12 (Single of Half Serpentine)				
Standard Coil/Type	Half Serpentine with 8 fpi/Integrated				
Steam Preheat Coil					
Quantity/Face Area	1/4.30 ft^2 (Mixed Air Preheat)				
Rows/fpi	1/12				
Standard Coil/Type	12 fpi/Integrated				
Electric Preheat					
Capacity (kW)					
208V 3Φ	7.5, 11.3, 15				
230/380/460/575V 3Φ	10, 15, 20				
Stages (kW)	10 kW - Modulating with SCR 15 kW - Modulating with SCR 20 kW - Modulating with SCR				
Supply Fans					
Quantity/Type	1/Direct Drive Backward Curved Plenum				
Air-Cooled Condenser Fans					
Quantity	1				
Type/hp	30” Propeller Fan/0.167 (On/Off) 30” Propeller Fan/0.33 (ECM)		30” Propeller Fan/0.33		
Power Exhaust Fans					
Quantity/Type	1/Direct Drive Axial Flow Fan				
hp	0.167, 0.25, 0.5, 0.75, 1, 2				
Energy Recovery Wheel Exhaust Fans					
Quantity/Type	1/Belt Driven Backward Curved Plenum				
hp	0.167, 0.75, 1, 2				

Table 13 - RN Series A Cabinet (6-8 and 10 tons) DX Cooling Information

	Model			
	006	007	008	010
Compressors				
Quantity/Nominal tons				
R-410A Two-Stage Scroll		1/7 T-S.	1/8 T-S.	1/10 T-S.
R-410A Variable Capacity Scroll	1/6 Var.	1/7 Var.	1/8 Var.	1/10 Var.
R-410A Variable Speed Scroll		1/7 Var.	1/8 Var.	1/10 Var.
Capacity Steps (%)	100, 100/67 with two-stage compressor or 10-100% with variable capacity scroll compressor			
Evaporator Coil				
Number of Circuits	1			
R-410 High Efficiency Coil				
Quantity/Face Area	1/8.5 ft^2			
Rows/fpi	2/14	3/14		
R-410A Standard Efficiency Coil				
Quantity/Face Area	1/8.5 ft^2		1/8.5 ft^2	
Rows/fpi	2/14		3/14	
6 Row Coil				
Quantity/Face Area	1/8.5 ft^2			
Rows/fpi	6/12			
Return Air Bypass Coil				
Quantity/Face Area	1/6.6 ft^2			
Rows/fpi	6/12			
Mixed Air Bypass Coil				
Quantity/Face Area	1/6.6 ft^2			
Rows/fpi	6/12			
Water-Cooled Condenser				
Minimum gpm	8.10	9.45	11.50	13.50
Maximum gpm	32.40	37.80	47.50	54.00

Table 14 - RN Series A Cabinet (6-8 and 10 tons) Heating and Hydronic Cooling Information

	Model			
	006	007	008	010
Electric Heat				
Capacity (kW)				
230/380/460/575V 3Φ	10, 20, 30, 40, 50, 60			
208V 3Φ	7.5, 15.0, 22.5, 30.0, 37.5, 45.1			
Stages (kW)	10 kW - 1 or Fully Modulating with SCR 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			
Gas Heat				
Input Capacity/Output Capacity (MBH)	90/72, 150/120, 210/168			
Natural Gas Input Capacity Steps (MBH)	90 MBH - 2 Stage - 90/63, 4 Stage - 90/72/63/21, Modulating - 3:1 Turndown or 10:1 High Turndown 150 MBH - 2 Stage - 150/105, 4 Stage - 150/123/105/42, Modulating - 3:1 Turndown or 8:1 High Turndown 210 MBH - 2 Stage - 210/147, 4 Stage - 210/174/147/63, Modulating - 3:1 Turndown or 11:1 High Turndown			
LP Gas Input Capacity Steps (MBH)	90 MBH - 90/63 150 MBH - 150/105 210 MBH - 210/147			
Hot Water Heating Coil				
Quantity/Face Area	1/3.68 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	1/3.38 ft^2			
Rows/fpi	1 or 2/8, 10, or 12			
Standard Coil	10 fpi			
Chilled Water Coil				
Quantity/Face Area	1/7.8 ft^2			
Rows/fpi	4 or 6/8, 10, or 12 (Single or Half Serpentine)			
Standard Coil	Single Serpentine with 10 fpi			

Table 15 - RN Series A Cabinet (6-8 and 10 tons) Preheat and Fan Information

	Model			
	006	007	008	010
Hot Water Preheat Coil				
Quantity/Face Area	1/7.78 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	1/7.33 ft^2 (Mixed Air Preheat)			
Rows/fpi	1 or 2/8, 10 or 12			
Standard Coil	10 fpi			
Electric Preheat				
Capacity (kW)				
208V 3Φ	7.5, 11.3, 15, 22.5, 30, 37.5, 45.1			
230/380/460/575V 3Φ	10, 15, 20, 30, 40, 50, 60			
Stages (kW)	10 kW - Modulating with SCR 15 kW - Modulating with SCR 20 kW - Modulating with SCR 30 kW - Modulating with SCR 40 kW - Modulating with SCR 50 kW - Modulating with SCR 60 kW - Modulating with SCR			
Supply Fans				
Quantity/Type	1/Direct Drive Backward Curved Plenum			
Air-Cooled Condenser Fans				
Quantity	1			
Type/hp	30” Propeller Fan/0.33		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 16 - RN Series B Cabinet (9 and 11-15 tons) DX Cooling Information

	Model			
	009	011	013	015
Compressors				
Quantity/Nominal tons				
R-410A Two-Stage Scroll	2/4 T-S.	2/5 T-S.	2/6 T-S.	2/7 T-S.
R-410A Variable Capacity Scroll + Two-Stage Scroll	1/4 Var. 1/4 T-S.	1/5 Var. 1/5 T-S.	1/6 Var. 1/6 T-S.	1/7 Var. 1/7 T-S.
R-410A Variable Speed Scroll + Two-Stage Scroll	1/4 Var. 1/4 T-S.	1/5 Var. 1/5 T-S.	1/6 Var. 1/6 T-S.	1/7 Var. 1/7 T-S
Capacity Steps (%)	100/50 100/84/67/34 with two-stage compressors & field controls 100/84/67/50/34 with two-stage compressors & factory controls or 5-100% with variable capacity scroll compressors			
Evaporator Coil				
Number of Circuits	2, Interlaced			
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	1/14.6 ft^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 17 - RN Series B Cabinet (9 and 11-15 tons) Heating and Hydronic Cooling Information

	Model			
	009	011	013	015
Electric Heat				
Capacity (kW)				
230/380/460/575V 3Φ	20, 30, 40, 50, 60, 80			
208V 3Φ	15.0, 22.5, 30.0, 37.5, 45.1, 60.1			
Stages (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 Capacity/Output Capacity (MBH)	195/156, 292.5/234, 390/315.9			
Natural Gas Capacity Steps (MBH)	195 MBH - 2 Stage - 195/136.5, 4 Stage - 195/165.8/136.5/68.3, Modulating - 3:1 Turndown or 10:1 High Turndown 292.5 MBH - 2 Stage - 292.5/204.75, 4 Stage - 292.5/234/204.8/68.3, Modulating - 3:1 Turndown or 10:1 High Turndown 390 MBH - 2 Stage - 390/273, 4 Stage - 390/351/273/91, Modulating - 3:1 Turndown or 10:1 High Turndown			
LP Gas Capacity Steps (MBH)	195.0 MBH - 195/136.5 292.5 MBH - 292.5/204.75 390 MBH - 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			
Standard Coil	10 fpi			
Chilled Water 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 18 - RN Series B Cabinet (9 and 11-15 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			
Standard Coil	10 fpi			
Electric Preheat				
Capacity (kW)				
208V 3Φ	15, 22.5, 30, 37.5, 45.1, 52.6, 60.1			
230/380/460/575V 3Φ	20, 30 ,40 ,50 ,60 ,70 ,80			
Stages (kW)	20 kW - Modulating with SCR 30 kW - Modulating with SCR 40 kW - Modulating with SCR 50 kW - Modulating with SCR 60 kW - Modulating with SCR 70 kW - Modulating with SCR 80 kW - Modulating with SCR			
Supply Fans				
Quantity/Type	1/Direct Drive Backward Curved Plenum			
Air-Cooled Condenser Fans				
Quantity	2			
Type/hp	30” Propeller Fan/0.33		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 19 - RN Series C Cabinet (14, 16-25 and 30 tons) DX Cooling Information

	Model					
	014	016	018	020	025	030
Compressors						
Quantity/Nominal tons						
R-410A Scroll		2/7	2/7.5	2/9	2/11	2/13
R-410A Two-Stage Scroll	2/6 T-S.	2/7 T-S.	2/7.5 T-S.	2/9 T-S.		
R-410A Lead Variable Capacity Scroll					1/11, 1/11 Var.	1/13, 1/13 Var.
R-410A Variable Capacity Scroll + Two-Stage Scroll		1/7 Var. 1/7 T-S.	1/7.5 Var. 1/7.5 T-S.	1/9 Var. 1/9 T-S.		
R-410A Variable Speed Scroll		1/16 Var.		1/9 Var., 1/9 T-S.	1/11 Var., 1/11 T-S.	1/13 Var., 1/13
Capacity Steps (%)	100/50 or 5-100% with variable capacity scroll compressors 34/67/84/100 with two-stage compressor 34/50/67/84/100 with two-stage compressor and factory controls					
Evaporator Coil						
Number of Circuits	2, Interlaced (except RN-016 with Variable Speed Scroll is single circuit)					
Standard Coil						
Quantity/Face Area	1/19.9 ft^2					
Rows/fpi	4/14	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 20 - RN Series C Cabinet (14, 16-25 and 30 tons) Heating and Hydronic Cooling Information

	Model					
	014	016	018	020	025	030
Electric Heat						
Capacity (kW)						
230/380/460/575V	20, 40, 60, 80, 100, 120					
208V	15, 30, 45.1, 60.1, 75.1, 90.1					
Stages (kW)	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 Capacity/Output Capacity (MBH)	270/218.7, 405/328.1, 540/432					
Natural Gas Capacity Steps (MBH)	270 MBH: 2 stage - 270/189, 4 stage - 270/229.5/189/94.5, Modulating - 3:1 Turndown or 9:1 High Turndown 405 MBH: 2 stage - 405/283.5, 4 stage - 405/283.5/189/94.5, Modulating – 4.5:1 Turndown or 13:1 High Turndown 540 MBH: 2 stage - 540/378, 4 stage - 540/459/270/189, or Modulating - 3:1 Turndown or 18:1 High Turndown					
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 fpi					
Steam Heating Coil						
Quantity/Face Area	1/7.31 ft^2					
Rows/fpi	1 or 2/8, 10, or 12					
Standard Coil	10 fpi					
Chilled Water Coil						
Quantity/Face Area	1/18.7 ft^2					
Rows/fpi	4 or 6/8, 10, or 12 (Single or Half Serpentine)					
Standard Coil	Single Serpentine with 10 fpi					

Table 21 - RN Series C Cabinet (14, 16-25 and 30 tons) Preheat and Fan Information

	Model					
	014	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					
Standard Coil	10 fpi					
Electric Preheat						
Capacity (kW)						
208V 3Φ	15, 22.5, 30, 37.5, 45.1, 67.6, 75.1, 82.6, 90.1					
208/230/380/460/575V 3Φ	20, 30 ,40 ,50 ,60 ,70 ,80, 90 ,100, 110, 120					
Stages (kW)	20 kW - Modulating with SCR 30 kW - Modulating with SCR 40 kW - Modulating with SCR 50 kW - Modulating with SCR 60 kW - Modulating with SCR 70 kW - Modulating with SCR 80 kW - Modulating with SCR 90 kW - Modulating with SCR 100 kW - Modulating with SCR 110 kW - Modulating with SCR 120 kW - Modulating with SCR					
Supply Fans						
Quantity/Type	1/Direct Drive Backward Curved Plenum Fan					
Air-Cooled Condenser Fans						
Quantity	2				3	
Type/hp	Standard - 30” Propeller Fan/0.75 VFD and ECM - 30” Propeller Fan/1					
Power Exhaust Fans						
Quantity/Type	1/Belt Driven Backward Curved Plenum Fan					
hp	1, 2, 3, 5, 7.5, 10					
Energy Recovery Wheel Exhaust Fans						
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 22 - RN Series E Cabinet (55, 65, 75, and 90 tons) Compressor Information

	Model			
	055	065	075	090
Independently Circuited Compressor Quantity/ Nominal tons				
Lead Variable Speed: Model Option A4 = 9				
208V & 230V	1/20 & 1/20 Var.	1/32 & 1/25 Var.	1/32 & 1/32 Var.	1/35 & 1/40 Var.
380V		1/25 & 1/32 Var.		1/40 & 1/35 Var.
460V & 575V		1/25 & 1/25 Var.	1/32 & 1/25 Var.	1/32 & 1/32 Var.
All Variable Speed: Model Option A4 = A				
208V, 230V, & 380V	2/20 Var.	1/32 Var. & 1/25 Var.	2/32 Var.	1/40Var. & 1/35 Var.
460V & 575V		1/25 Var. & 1/20 Var.	2/25 Var.	2/32 Var.
Capacity Steps	Variable Capacity			
Tandem Circuited Compressor Quantity/ Nominal tons				
4 Stage: Model Option A4 = 4	2/10 & 2/13	2/11 & 2/15	2/13 & 2/15	2/15 & 2/20
Half Circuits with Variable Speed: Model Option A4 = 9	1/10, 2/13, & 1/10 Var.	1/11, 2/15, & 1/11 Var.	1/13, 2/15, & 1/13 Var.	1/15, 2/20, & 1/15 Var.
All Circuits with Variable Speed: Model Option A4 = A	2/13 & 2/10 Var.	2/15 & 2/11 Var.	2/15 & 2/13 Var.	2/20 & 2/15 Var.
Capacity Steps	4 stage or Variable Capacity			

Table 23 - RN Series E Cabinet (55, 65, 75, and 90 tons) DX Cooling Information

	Model			
	055	065	075	090
Evaporator Coil				
Independently Circuited Compressor Number of Circuits	2, Interlaced			2, Face Split
Tandem Circuited Compressor Number of Circuits	2, Interlaced			2, Face Split
Standard Coil				
Quantity/Face Area	2/29.4 ft^2 (58.7 ft^2 total)			4/18.8 ft^2 (75.3 ft^2 total)
Rows/fpi	4/14			
6 Row Coil				
Quantity/Face Area	2/29.4 ft^2 (58.7 ft^2 total)			4/18.8 ft^2 (75.3 ft^2 total)
Rows/fpi	6/12			
Return Air Bypass Coil				
Quantity/Face Area				
Rows/fpi				
Mixed Air Bypass Coil				
Quantity/Face Area				
Rows/fpi				
Water-Cooled Condenser				
Minimum gpm	70.75	91.40		111.70
Maximum gpm	283.00	365.60		446.80

Table 24 - RN Series E Cabinet (55, 65, 75, and 90 tons) Heating and Hydronic Cooling Information

	Model			
	55	65	75	90
Electric Heat				
Capacity (kW)				
230/380/460/575V	80, 120, 160, 200, 240, 280, 320			
208V	60.1, 90.1, 120.1, 150.2, 180.2, 210.3, 240.4			
Stages	80 kW - 2 or Fully Modulating with SCR 120kW - 2, 4, 6, 7, 8 or Fully Modulating with SCR 160 kW - 2, 4 or Fully Modulating with SCR 200 kW, 240 kW, 280 kW, 320 kW - 2, 4, 8 or Fully Modulating with SCR			
Gas Heat				
Input Capacity/Output Capacity (MBH)	800/640, 1600/1280, 2400/1920			
Natural Gas Capacity Steps (MBH)	800 MBH: 2 stage – 800/560, 4 stage - 800/680/560/280, Modulating - 3:1 Turndown or 7:1 High Turndown 1600 MBH: 2 stage - 1600/1120, 4 stage - 1600/1360/800/560, Modulating - 6:1 Turndown or 15:1 High Turndown 2400 MBH: 2 stage - 2400/1680, 4 stage - 2400/2040/1200/840, Modulating - 9:1 Turndown or 25:1 High Turndown			
LP Gas Capacity Steps (MBH)	800 MBH: 2 stage – 800/560 1600 MBH: 2 stage – 1600/1120 2400 MBH: 2 stage - 2400/1680			
Hot Water Heating Coil				
Quantity/Face Area	2/19.9 ft^2 (39.7 ft^2 total)			
Rows/fpi	1/8, 10, or 12 (Half Serpentine) 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	2/19.2 ft^2 (38.3 ft^2 total)			
Rows/fpi	1 or 2/8, 10 or 12			
Standard Coil	10 fpi			
Chilled Water Coil				
Quantity/Face Area	2/29.2 ft^2 (58.3 ft^2 total)			4/17.6 ft^2 (70.5 ft^2 total)
Rows/fpi	4 or 6/8, 10, or 12 (Single or Half Serpentine)			
Standard Coil	Single Serpentine with 10 fpi			

Table 25 - RN Series E Cabinet (55, 65, 75, and 90 tons) Preheat and Fan Information

	Model			
	55	65	75	90
Hot Water Preheat Coil				
Quantity/Face Area				
Rows/fpi				
Standard Coil				
Steam Preheat Coil				
Quantity/Face Area				
Rows/fpi				
Standard Coil				
Supply Fans				
Quantity/Type	2/Direct Drive Backward Curved Plenum Fan			
Air-Cooled Condenser Fans				
Quantity	4			8
Type/hp	30” Propeller Fan/1.5			
Power Exhaust Fans				
Quantity/Type	1 or 2/Direct Drive Axial Flow Fan			
hp	1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50			
Energy Recovery Wheel Exhaust Fans				
Quantity/Type	1 or 2/Direct Drive Backward Curved Plenum Fan			
hp	1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50			
Power Return Fans				
Quantity/Type	1 or 2/Direct Drive Axial Flow Fan			
hp	1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50			

Table 26 - RN Series E Cabinet (105-140 tons) Compressor Information

	Model			
	105	120	130	140
Independently Circuited Compressor Quantity/ Nominal tons				
Half Variable Speed: Model Option A4 = 9				
208V, 230V, & 380V	1/40 & 1/40 Var.	2/25 & 2/25 Var.	2/25 & 2/32 Var.	2/32 & 2/32 Var.
460V & 575V		2/25 & 2/20 Var.	2/25 & 2/25 Var.	
Full Variable Speed: Model Option A4 = A				
208V, 230V, & 380V	2/40 Var.	4/25 Var.	2/32 Var. & 2/25 Var.	4/32 Var.
460V & 575V		4/20 Var.	2/25 Var. & 2/20 Var.	
Capacity Steps	Variable Capacity			
Tandem Circuited Compressor Quantity/ Nominal tons				
4 Stage: Model Option A4=4	2/15 & 2/25	2/25 & 2/25	2/25 & 2/32	2/32 & 2/32
Half Circuits with Variable Speed: Model Option A4= 9	1/15, 2/25, & 1/15 Var.	1/25, 2/25, & 1/25 Var.	1/25, 2/32, & 1/25	1/32, 2/32, & 1/32
All Circuits with Variable Speed: Model Option A4=A	2/25 & 2/15 Var.	2/25 & 2/25 Var.	2/32 & 2/25 Var.	2/32 & 2/32 Var.
Capacity Steps	4 stage or Variable Capacity			

Table 27 - RN Series E Cabinet (105-140 tons) DX Cooling Information

	Model			
	105	120	130	140
Evaporator Coil				
Independently Circuited Compressor Number of Circuits	2, Face Split	4, Interlaced		
Tandem Circuited Compressor Number of Circuits	2, Face Split			
Standard Coil				
Quantity/Face Area	4/18.8 ft^2 (75.3 ft^2 total)			
Rows/fpi	4/14		6/12	
6 Row Coil				
Quantity/Face Area	4/18.8 ft^2 (75.3 ft^2 total)			
Rows/fpi	6/12			
Return Air Bypass Coil				
Quantity/Face Area				
Rows/fpi				
Mixed Air Bypass Coil				
Quantity/Face Area				
Rows/fpi				
Water-Cooled Condenser				
Minimum gpm	111.70	171.00	229.75	
Maximum gpm	446.80	684.00	919.00	

Table 28 - RN Series E Cabinet (105-140 tons) Heating and Hydronic Cooling Information

	Model			
	105	120	130	140
Electric Heat				
Capacity (kW)				
230/380/460/575V	80, 120, 160, 200, 240, 280, 320			
208V	60.1, 90.1, 120.1, 150.2, 180.2, 210.3, 240.4			
Stages	80 kW - 2 or Fully Modulating with SCR 120kW - 2, 4, 6, 7, 8 or Fully Modulating with SCR 160 kW – 2, 4 or Fully Modulating with SCR 200 kW, 240 kW, 280 kW, 320 kW - 2, 4, 8 or Fully Modulating with SCR			
Gas Heat				
Input Capacity/Output Capacity (MBH)	800/640, 1600/1280, 2400/1920			
Natural Gas Capacity Steps (MBH)	800 MBH: 2 stage – 800/560, 4 stage - 800/680/400/280, or Modulating - 3:1 Turndown or 7:1 High Turndown 1600 MBH: 2 stage - 1600/1120, 4 stage - 1600/1360/800/560, or Modulating - 6:1 Turndown or 15:1 High Turndown 2400 MBH: 2 stage - 2400/1680, 4 stage - 2400/1920/1120/560, or Modulating - 9:1 Turndown or 25:1 High Turndown			
LP Gas Capacity Steps (MBH)	800 MBH: 2 stage – 800/560 1600 MBH: 2 stage – 1600/1120 2400 MBH: 2 stage - 2400/1680			
Hot Water Heating Coil				
Quantity/Face Area	2/19.9 ft^2 (39.7 ft^2 total)			
Rows/fpi	1/8, 10, or 12 (Half Serpentine) 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	2/19.2 ft^2 (38.3 ft^2 total)			
Rows/fpi	1 or 2/8, 10 or 12			
Standard Coil	10 fpi			
Chilled Water Coil				
Quantity/Face Area	4/17.6 ft^2 (70.5 ft^2 total)			
Rows/fpi	4 or 6/8, 10, or 12 (Single or Half Serpentine)			
Standard Coil	Single Serpentine with 10 fpi			

Table 29 - RN Series E Cabinet (105-140 tons) Preheat and Fan Information

	Model			
	105	120	130	140
Hot Water Preheat Coil				
Quantity/Face Area				
Rows/fpi				
Standard Coil				
Steam Preheat Coil				
Quantity/Face Area				
Rows/fpi				
Standard Coil				
Supply Fans				
Quantity/Type	2/Direct Drive Backward Curved Plenum Fan			
Air-Cooled Condenser Fans				
Quantity	8			
Type/hp	30” Propeller Fan/1.5			
Power Exhaust Fans				
Quantity/Type	1 or 2/Direct Drive Axial Flow Fan			
hp	1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50			
Energy Recovery Wheel Exhaust Fans				
Quantity/Type	1 or 2/Direct Drive Backward Curved Plenum Fan			
hp	1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50			
Power Return Fans				
Quantity/Type	1 or 2/Direct Drive Axial Flow Fan			
hp	1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50			

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. Unit curbs are composed of heavy gauge galvanized steel.

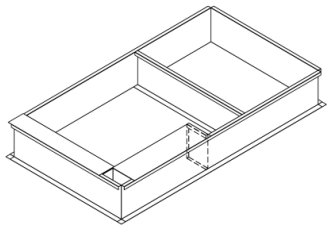

Figure 6 - Example Solid Bottom Curb

Adjustable Pitch Solid Bottom Curbs

Adjustable pitch acoustical solid bottom curbs are available only with 2-25 and 30 ton 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. Unit curbs are composed of heavy gauge galvanized steel.

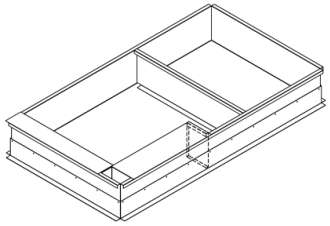

Figure 7 - Example Adjustable Pitch Solid Bottom Curb

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. Unit curbs are composed of heavy gauge galvanized steel.

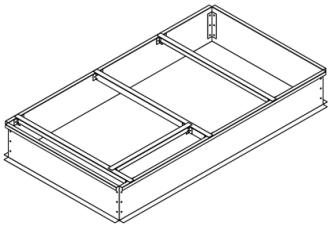

Figure 8 - Example Knock Down Curb (Shown with Duct Support Rail Kit)

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.

RQ Series and RN Series A, B, and C Cabinet Curbs (2-25 and 30 tons)

The horizontal supply air opening must include a minimum 3 inches of material from the edge on all four sides. The openings must be reinforced by two opposing diagonal bolt mounted steel L-angles. The minimum required material for the L-angle is 1 inch x 1 inch 14 gauge steel. L-Angles must be bolted in all four corners of the supply air openings before unit is placed on curb.

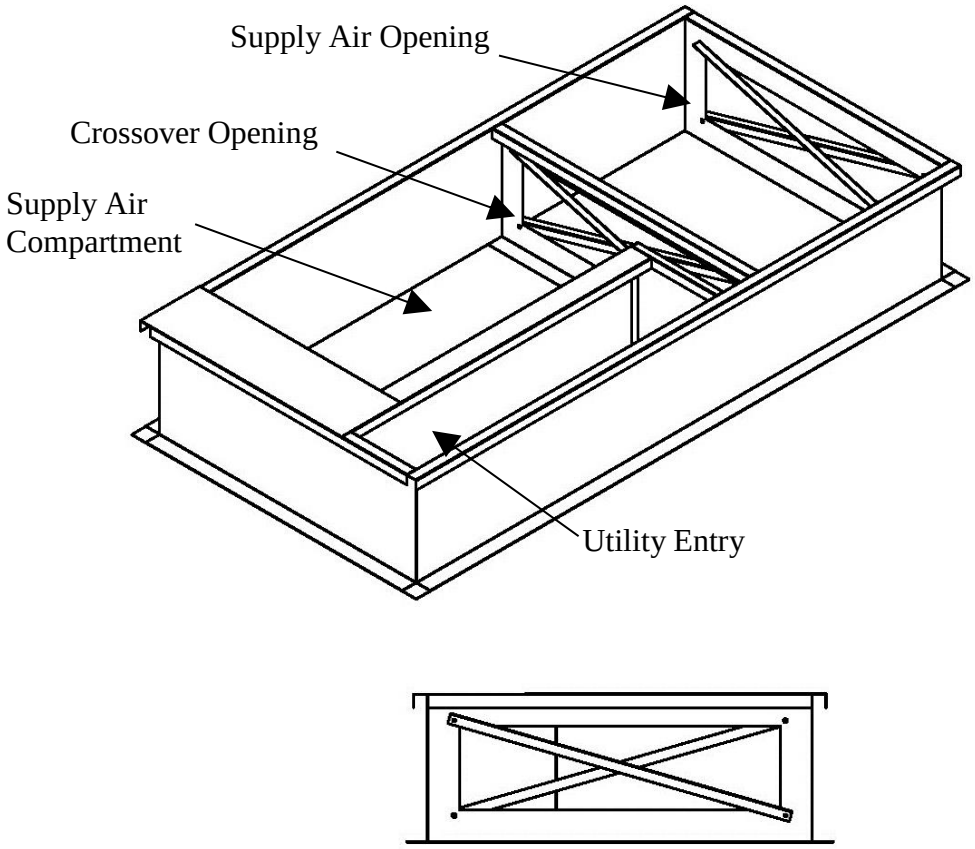

Figure 9 - Acoustical Solid Bottom Curb with Horizontal Discharge Openings

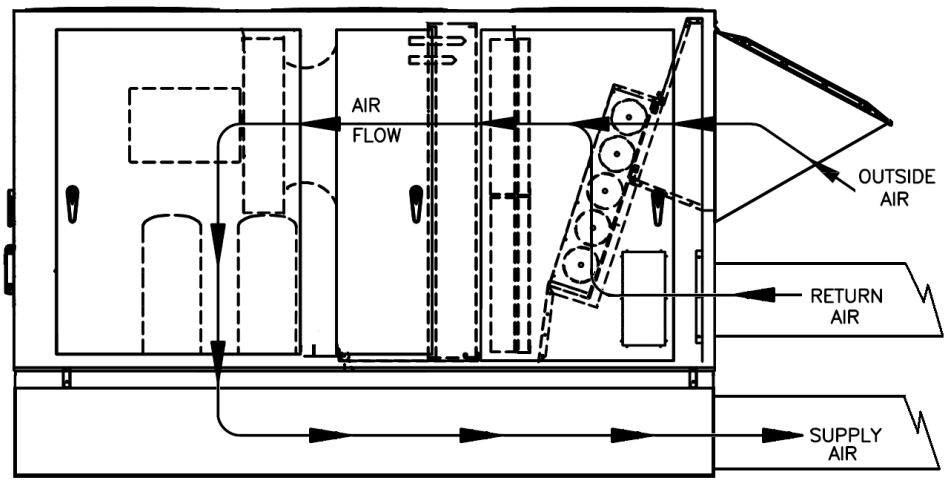

Figure 10 - Example Unit and Curb with Horizontal Return and Supply Openings

Filter Information

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

Table 30 - RQ Series (2-6 tons) Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A, E	2 / 20” x 20” x 2”	Pleated, MERV 8
B, E	1 / 16”x 20” x 1”	Metal Mesh, Outside Air
C	1 / 19.5” x 39” x 5/16”	Lint Screen

Table 31 - RN Series A Cabinet (6-8 and 10 tons) Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A, E	4 / 16” x 20” x 2”	Pleated, MERV 8
B, E	2 / 16” x 20” x 1”	Metal Mesh, Outside Air
C	2 / 40” x 16” x 5/16” with RAB, Feature A2 = Q, R 2 / 40” x 16” x 5/16”	Lint Screen

Table 32 - RN Series B Cabinet (9 and 11-15 tons) Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A, E	4 / 20” x 25” x 2”	Pleated, MERV 8
B, E	2 / 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 33 - RN Series C Cabinet (14, 16-25 and 30 tons) Pre Filters

Feature 6A	Quantity / Size	Type
0	No Pre Filters	
A, E	6 / 20” x 25” x 2”	Pleated, MERV 8
B, E	3 / 20” x 25” x 1”	Metal Mesh, Outside Air
C	2 / 55” x 25” x 5/16”	Lint Screen
	with RAB, Feature A2 = Q, R 3 / 55” x 16” x 5/16”	

Table 34 - RN Series E Cabinet (55, 65, and 75 tons) Pre Filters

Feature		Quantity / Size	Type
6A	6B		
0	0,B,C,F,G,H	No Pre Filters	
A, E	0,B,C,F,G,H	15 / 20” x 24” x 2” & 5 / 16” x 20” x 2”	Pleated, MERV 8
B, E	0,B,C,F,G,H	28 / 20” x 20” x 1”	Metal Mesh, Outside Air
C	0,C	8 / 40” x 18” x 5/16” & 8 / 20” x 18” x 5/16”	Lint Screen
C	B,F,G,H	1 / 60” x 16” x 5/16” & 3 / 60” x 24” x 5/16” & 1 / 40” x 16” x 5/16” & 3 / 40” x 24” x 5/16”	

Table 35 - RN Series E Cabinet (90-140 tons) Pre Filters

Feature		Quantity / Size	Type
6A	6B		
0	0,B,C,F,G,H	No Pre Filters	
A, E	0,B,C,F,G,H	21 / 20” x 24” x 2” & 7 / 16” x 20” x 2”	Pleated, MERV 8
B, E	0,B,C,F,G,H	28 / 20” x 20” x 1”	Metal Mesh, Outside Air
C	0,C	11 / 20” x 18” x 5/16” & 12 / 40” x 18”	Lint Screen
C	B,F,G,H	2 / 40” x 16” x 5/16” & 6 / 40” x 24” x 5/16” & 1 / 60” x 16” x 5/16” & 3 / 60” x 24” x 5/16”	

Table 36 - RQ Series (2-6 tons) Unit Filters

Feature 6B	Quantity / Size	Type
0	2 / 20” x 20” x 2”	Pleated, MERV 8
B	2 / 20” x 20” x 4”	Pleated, MERV 8
C	2 / 20” x 20” x 2”	Permanent Filter Frame - Replaceable Media
F	2 / 20” x 20” x 4”	Pleated, MERV 11
G		Pleated, MERV 13
H		Pleated, MERV 14

Table 37 - RN Series A Cabinet (6-8 and 10 tons) Unit Filters

Feature 6B	Quantity / Size	Type
0	4 / 16” x 20” x 2”	Pleated, MERV 8
	with RAB, Feature A2 = Q, R 2 / 20” x 20” x 2” and 1/12” x 24” x 2”	
B	4 / 16” x 20” x 4”	Pleated, MERV 8
	with RAB, Feature A2 = Q, R 2 / 20” x 20” x 4” and 1/12” x 24” x 4”	
C	4 / 16” x 20” x 2”	Permanent Filter Frame - Replaceable Media
	with RAB, Feature A2 = Q, R 2 / 20” x 20” x 2” and 1/12” x 24” x 2”	
F	4 / 16” x 20” x 4”	Pleated, MERV 11
G		Pleated, MERV 13
H		Pleated, MERV 14

Table 38 - RN Series B Cabinet (9 and 11 tons) Unit Filters

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

Table 39 - RN Series B Cabinet (13 and 15 tons) 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, MERV 8
B	4 / 20” x 25” x 4” with RAB, Feature A2 = Q, R 6 / 12” x 24” x 4”	Pleated, 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, MERV 11
G		Pleated, MERV 13
H		Pleated, MERV 14

Table 40 - RN Series C Cabinet (14, 16-25 and 30 tons) 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, MERV 8
B	6 / 20” x 25” x 4” with RAB, Feature A2 = Q, R 9 / 16” x 20” x 4”	Pleated, 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, MERV 11
G		Pleated, MERV 13
H		Pleated, MERV 14

Table 41 - RN Series E Cabinet (55, 65, and 75 tons) Unit Filters

Feature 6B	Quantity / Size	Type
0	25 / 18” x 20” x 2”	Pleated, MERV 8
B	15 / 20” x 24” x 4” & 5 / 16” x 20” x 4”	Pleated, MERV 8
C	25 / 18” x 20” x 2”	Permanent Filter Frame - Replaceable Media
F	15 / 20” x 24” x 4” & 5 / 16” x 20” x 4”	Pleated, MERV 11
G		Pleated, MERV 13
H		Pleated, MERV 14

Table 42 - RN Series E Cabinet (90-140 tons) Unit Filters

Feature 6B	Quantity / Size	Type
0	35 / 18” x 20” x 2”	Pleated, MERV 8
B	21 / 20” x 24” x 4” & 7 / 16” x 20” x 4”	Pleated, MERV 8
C	35 / 18” x 20” x 2”	Permanent Filter Frame - Replaceable Media
F	21 / 20” x 24” x 4” & 7 / 16” x 20” x 4”	Pleated, MERV 11
G		Pleated, MERV 13
H		Pleated, MERV 14

Table 43 - RQ Series (2-6 tons) Energy Recovery Wheel Filters

Feature 1A	Quantity / Size	Type
F, G, H, J (Energy Recovery Wheel)	1 / 24” x 12” x 2”	Pleated, MERV 8
	With Energy Recovery Exhaust Air Filters, Feature 6A - D, F, G, H OA - 1 / 24” x 12” x 2” EA - 1 / 24” x 12” x 2”	
Q, R, S, T, U, V, W, Y (Fixed Plate Energy Recovery)	1 / 24” x 24” x 2”	
	With Energy Recovery Exhaust Air Filters, Feature 6A - D, F, G, H EA - 1 / 24” x 24” x 2” EA - 1 / 24” x 24” x 2”	

Table 44 - RN Series A Cabinet (6-8 and 10 tons) Energy Recovery Wheel Filters

Feature 1A	Quantity / Size	Type
F, G, H, J, Q, R, S, T	(Prior to August 2014) 1 / 25” x 16” x 4”	Pleated, MERV 8
	(Prior to August 2014) With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, F, G OA - 1 / 25” x 16” x 2” EA - 1 / 25” x 16” x 2”	
	(After August 2014) With V-Bank Outside Air Filters OA - 2 / 25” x 14” x 2”	
	(After August 2014) With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, F, G OA - 2 / 25” x 14” x 2” EA - 1 / 25” x 16” x 2”	

Table 45 - RN Series B Cabinet (9 and 11-15 tons) 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	(Prior to August 2014) 2 / 16” x 20” x 4”	Pleated, MERV 8
	(Prior to August 2014) 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”	
	(After August 2014) With V-Bank Outside Air Filters OA - 4 / 20” x 12” x 2”	
	(After August 2014) With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, F, G OA - 4 / 20” x 12” x 2” EA - 2 / 16” x 20” x 2”	

Table 46 - RN Series C Cabinet (14, 16-25 and 30 tons) 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	(Prior to August 2014) 3 / 20” x 25” x 4”	Pleated, MERV 8
	(Prior to August 2014) 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”	
	(After August 2014) With V-Bank Outside Air Filters OA - 6 / 20” x 16” x 2”	
	(After August 2014) With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, F, G OA - 6 / 20” x 16” x 2” EA - 6 / 14” x 20” x 2”	

Table 47 - RN Series E Cabinet (55, 65, and 75-140 tons) Energy Recovery Wheel Filters

Feature 1A	Quantity / Size	Type
F, G, H, J, Q, R, S, T	10 / 24” x 24” x 2”	Pleated, MERV 8
	With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, G OA - 10 / 24” x 24” x 2” EA - 14 / 25” x 16” x 2”	
U, V, W, Y, Z, 1, 2, 3	14 / 24” x 20” x 2”	
	With Energy Recovery Wheel Exhaust Air Filters, Feature 6A - D, G OA - 14 / 20” x 24” x 2” EA - 14 / 25” x 16” x 2”	

AAONAIRE® Factory Installed Energy Recovery Wheel Application Capacities

AAON provides RN and RQ Series rooftop units with optional energy recovery wheels that are certified under AHRI Standard 1060 for Energy Recovery Ventilation Equipment and AHRI Standards 210/240 and 340/360. 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 assu med 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 AHRI Guideline V. System EER is at the stated conditions.

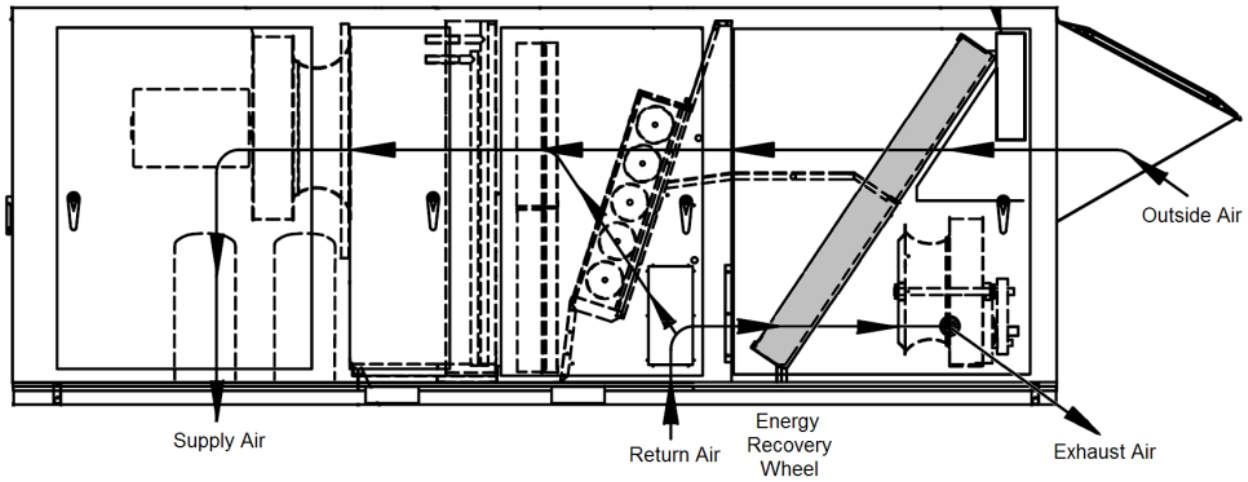

Figure 11 - Example RN Series AAONAIRE Unit Air Flow

Table 48 - RQ Series and RN Series A, B, and C Cabinet AAONAIRE Polymer Wheel Unit Capacities Examples

Model	Supply cfm	Outside Air cfm	System EER without Wheel	Polymer Energy Recovery Wheel and Unit				
				Heating		Cooling		
				Free Sensible Heat MBH	Moisture Recovery lbs. of water/hr	Tons with Wheel	System EER	Tons % Increase Due to Wheel
RQ Series, Low cfm, Single Wheel, 21" Diameter/2" Width								
RQ-002	850	425	16.4	16.46	8.15	3.29	23.92	38%
RQ-003	1,050	525	14.9	19.31	9.51	4.46	20.80	35%
RQ-004	1,400	700	14.9	23.34	11.38	5.88	19.89	32%
RQ-005	1,700	850	14.4	25.86	12.48	6.75	18.72	31%
RQ-006	1,800	900	13.0	26.46	12.73	7.64	16.54	28%
RN Series, A Cabinet, Low cfm, Single Wheel, 30" Diameter/3" Width								
RN-006	2,000	1,000	12.5	39.86	19.69	7.47	19.47	41%
RN-007	2,400	1,200	12.2	46.22	22.74	8.84	18.68	40%
RN-008	2,600	1,300	12.2	49.23	24.17	10.93	16.81	36%
RN-010	2,800	1,400	12.0	52.11	25.51	12.67	16.73	33%
RN Series, B Cabinet, Low cfm, Single Wheel, 36" Diameter/1.5" Width								
RN-009	2,800	1,400	12.9	56.19	26.83	11.46	19.24	38%
RN-011	3,400	1,700	11.9	65.29	30.96	13.75	17.40	37%
RN-013	3,600	1,800	12.3	68.06	32.21	17.15	16.85	32%
RN-015	3,800	1,900	11.7	70.72	33.42	19.83	15.53	29%
RN Series, B Cabinet, High cfm, Single Wheel, 36" Diameter/3" Width								
RN-009	3,000	1,500	12.9	60.12	29.44	11.62	20.09	40%
RN-011	3,600	1,800	11.9	69.42	33.94	13.85	18.19	38%
RN-013	3,800	1,900	12.3	72.36	35.35	17.41	17.52	34%
RN-015	4,000	2,000	11.7	75.09	36.72	20.14	16.19	31%
RN Series, C Cabinet, Low cfm, Single Wheel, 52" Diameter/1.5" Width								
RN-016	4,400	2,200	12.8	92.80	44.50	21.62	18.57	34%
RN-018	5,700	2,850	13.2	115.30	54.82	25.16	19.33	36%
RN-020	6,200	3,100	12.8	123.24	58.48	27.86	18.45	35%
RN-025	7,000	3,500	12.1	135.37	63.96	33.66	16.81	32%
RN-030	8,000	4,000	11.5	149.10	70.04	37.46	15.83	32%
RN Series, C Cabinet, High cfm, Single Wheel, 52" Diameter/3" Width								
RN-016	4,800	2,400	12.8	100.72	49.34	21.94	19.30	36%
RN-018	5,800	2,900	13.2	118.42	57.90	25.35	19.91	37%
RN-020	6,600	3,300	12.8	131.55	64.19	28.28	19.22	37%
RN-025	8,000	4,000	12.1	152.98	74.61	34.43	17.72	35%
RN-030	9,000	4,500	11.5	166.76	81.25	38.31	16.68	35%

Table 49 - RN Series E Cabinet AAONAIRE Polymer Wheel Unit Capacities Examples

Model	Supply cfm	Outside Air cfm	System EER without Wheel	Polymer Energy Recovery Wheel and Unit				
				Heating		Cooling		
				Free Sensible Heat MBH	Moisture Recovery lbs. of water/hr	Tons with Wheel	System EER	Tons % Increase Due to Wheel
RN Series, E Cabinet, Low cfm, Single Wheel, 81" Diameter/3" Width								
RN-055	17,500	8,750	13.0	339.84	165.44	74.15	19.30	36%
RN-065	19,000	9,500	11.5	361.79	175.87	85.03	16.65	34%
RN-075	22,000	11,000	11.2	402.30	195.45	95.33	16.07	34%
RN-090	24,000	12,000	12.7	426.58	207.05	115.74	17.22	30%
RN-105	26,000	13,000	12.4	449.50	218.05	124.74	16.65	30%
RN-120	28,500	14,250	11.6	474.28	230.01	143.91	15.17	28%
RN-130	29,500	14,750	11.0	483.76	234.46	158.18	14.09	26%
RN-140	31,000	15,500	10.8	504.17	244.52	172.50	13.59	24%
RN Series, E Cabinet, High cfm, Two Wheels, 64" Diameter/3" Width								
RN-055	19,000	9,500	13.0	377.17	184.33	75.78	20.04	39%
RN-065	20,000	10,000	11.5	393.24	191.82	86.30	17.16	36%
RN-075	24,000	12,000	11.2	451.82	220.41	97.46	16.72	37%
RN-090	30,000	15,000	12.7	527.56	256.84	120.19	18.15	35%
RN-105	32,500	16,250	12.4	553.99	270.02	128.58	17.51	34%
RN-120	35,000	17,500	11.6	578.67	281.55	148.41	15.86	32%
RN-130	36,500	18,250	11.0	591.65	288.25	163.20	14.73	30%
RN-140	38,000	19,000	10.8	604.69	294.05	178.06	14.16	28%

Control Options

Terminal Block

Low voltage terminal block for field wiring unit controls

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

Standard Terminals Labels
[R] - 24VAC control voltage
[E] - Common
[G] - Fan enable
[Y1], [Y2], …, [Y8] - Cooling stage(s) enable(s)
[DC1-], [DC1+], [DC2-], [DC2+], [DC3-], [DC3+], [DC4-], [DC4+] - Variable Capacity Compressor (1.44-5VDC) Signal(s)
[SP1-], [SP1+], [SP2-], [SP2+],[SP3-], [SP3+], [SP4-], [SP4+] - Suction Pressure Sensor(s) - (0-5VDC)
[W1], [W2], …, [W12] - Heating stage(s) enable(s) or Aux Heat Stage(s) enable(s)
[+], [-] - Modulating gas reset control signal, 0-10VDC or SCR supply air temperature control signal 0-10VDC
[RV] - Reversing Valve (Heat Pump) Enable
[O] - Reversing Valve (Cooling) Enable
[EH1], [EH2], …, [EH12] - Emergency Heating stage(s) enable(s)
[HW] - Heat Wheel Enable
[NO], [C], [NC] - Set of normally open and normally closed low voltage heat wheel rotation detection contacts.
[PE1] - Power Exhaust Enable
[B1-], [B2+] - Exhaust fan VFD(s), Discharge Damper Volume Control or ECM control contacts, 0-10VDC.
[A1], [A2] - Economizer override contacts, factory wired together, used to control occupied/unoccupied operation.
[EC1-], [EC2+] - Economizer DDC actuator control signal for 0-10 VDC operation.
[CO2-], [CO2+] - CO2 Sensor (0-10VDC)
[ST1], [ST2] - Remote start/stop contacts, must be closed for unit to operate.
[BA-], [BA+] - Blower Aux contact
[S1-], [S2+] - Supply fan VFD(s) or ECM control contacts, 0-10 VDC.
[PR1-], [PR2+] - Return fan VFD(s) or ECM control contacts, 0-10 VDC.
[C1], [C2], [C3], [C4] - Clogged filter switch contacts, normally open.
[RH1] - Humidistat or DDC control signal, used with reheat coil.
[AI1] & [COM] - Reheat Reset Signal (0-10VDC)
[BI1], [BI2] - Field installed smoke detector or remote Fire Alarm Shutdown contacts, must be closed for unit to operate.
[PBO-], [PBO+] - Phase & Brown Out status

Control Options Continued

[CV-], [CV+] - Proportional (DDC) condenser valve 2-10 VDC
[BP-], [BP+] - Proportional (DDC) bypass valve 2-10 VDC
[COM], [PHO] & [PHC] - Feedback terminals that can be used to determine if the electric preheat is in operation. PHO is a normally open contact, PHC is a normally closed contact, and COM is the common. These terminals are not required to be connected.
[PHE] - 24VAC Electric Preheat Operation Enable. Note that enabling preheat operation does not mean preheat will start. This only allows the preheat controller to start up when preheat is needed based on the temperatures and set points of the preheat controller.
[PH+], [PH-] - Preheat set point reset 2-10VDC

Variable Air Volume (VAV) Unit Controller

Operation - Variable Air Volume Cooling and Constant Volume Heating
With standard AAON VAV controls, during the cooling mode of operation the supply fan modulates based on the supply air static pressure while mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the controlling temperature.

Factory mounted and tested supply fan VFDs and ECMs are used to vary the speed of the supply fans and thus vary the amount of supply air. Because of the reduced speed, VAV units can be very energy 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. Space temperature sensor included with AAON controller is used for supply air temperature setpoint reset and unoccupied override. See Controls section following for specifics.

Required Features
Feature 1A - Motorized Outside Air Damper or Economizer
Feature 8 - Hot Gas Bypass Lead Stage - Required on units without variable capacity scroll compressors or VFD controlled variable speed scroll compressors.
Feature 13 - VAV Unit Controller

- With VFD controlled variable speed scroll compressor units, hot gas bypass is required on all circuits if the minimum load is less than 50%.
- With RN-90 and RN-105 individually circuited units that include a face split configuration, hot gas bypass is required on all circuits.
- With RN-55, 65, and 75-140 ton tandem circuited units hot gas bypass is required on the lag circuit. RN-90 through 105 ton units include a face split configuration.

Standard Supplied Sensors
Outside Air Temperature
Supply Air Duct Temperature
Supply Air Duct Static Pressure
Return Air Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override (AAON Controls)

Recommended Features
Model Option A4 - Variable Capacity Scroll Compressors on all circuits
Model Option B3 - Modulating Gas/SCR Electric
Feature 1 - Economizer and AAONAIRE Energy Recovery Wheel
Feature 2 - Fully Modulating Actuator
Feature 2 - Constant Volume Outside Air
Feature 5 - VFD or ECM Controlled Supply Fans
Feature 8 - Modulating Hot Gas Reheat
Feature 8 - Hot Gas Bypass Lead and Lag Stage - Recommended on all circuits without variable capacity scroll compressors or VFD controlled variable speed scroll compressors.

Single Zone Variable Air Volume (Single Zone VAV) Unit Controller

Operation - Variable Air Volume Cooling and Constant Volume/Variable Air Volume Heating

With standard AAON Single Zone VAV controls, during the cooling mode of operation the supply fan modulates based on the space or return air temperature, while mechanical cooling modulates based on the supply air temperature. For constant volume heating, during the heating mode of operation the supply fan provides constant airflow and heating modulates based on the controlling temperature. For variable air volume heating, during the heating mode of operation the supply fan modulates based on the space or return air temperature and heating modulates based on the supply air temperature. Factory mounted and tested supply fan VFDs and ECMs are used to vary the speed of the supply fans and thus vary the amount of supply air. Because of the reduced speed, VAV units can be very energy efficient at part load conditions. AAON Single Zone VAV units should be applied to only a single zone. Space temperature sensor included with AAON controller is used for supply air temperature setpoint reset and unoccupied override. See Controls section following for specifics.

Required Features

Feature 1A - Motorized Outside Air Damper or Economizer
Feature 8 - Hot Gas Bypass Lead Stage - Required on units without variable capacity scroll compressors or VFD controlled variable speed scroll compressors.
Feature 13 - VAV Unit Controller

- With VFD controlled variable speed scroll compressor units, hot gas bypass is required on all circuits if the minimum load is less than 50%.
- With RN-90 and RN-105 individually circuited units that include a face split configuration, hot gas bypass is required on all circuits.
- With RN-55, 65, and 75-140 ton tandem circuited units hot gas bypass is required on the lag circuit. RN-90 through 105 ton units include a face split configuration.

Standard Supplied Sensors

Outside Air Temperature
Supply Air Duct Temperature
Return Air Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override (AAON Controls)

Recommended Features

Model Option A4 - Variable Capacity Scroll Compressors on all circuits
Model Option B3 - Modulating Gas/SCR Electric
Feature 1 - Economizer and AAONAIRE Energy Recovery Wheel
Feature 2 - Fully Modulating Actuator
Feature 2 - Constant Volume Outside Air
Feature 5 - VFD or ECM Controlled Supply Fans
Feature 8 - Modulating Hot Gas Reheat
Feature 8 - Hot Gas Bypass Lead and Lag Stage - Recommended on all circuits without variable capacity scroll compressors or VFD controlled variable speed scroll compressors.

Constant Volume (CV) Unit Controller

Operation - Constant Volume Cooling and Constant Volume Heating

With standard AAON Constant Volume controls, during the cooling mode of operation the supply fan provides constant air flow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature.

A Constant Volume unit can be used to serve spaces with uniform heating and cooling requirements. 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 Vendors section following for 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 Duct 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 and AAONAIRE Energy Recovery Wheel
Feature 2 - Fully Modulating Actuator
Feature 3 - Discharge Air Override - Units with gas heating.
Feature 8 - Modulating Hot Gas Reheat

Makeup Air (MUA) Unit Controller

Operation - Constant Volume Cooling and Constant Volume Heating
With standard AAON Makeup Air controls, during the cooling mode of operation the supply fan provides constant airflow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the controlling temperature.

Makeup Air units are designed to provide 100% outside air to the system for ventilation purposes. Makeup Air units can improve indoor air quality (IAQ) and also be used to positively pressurize the space. See Control Vendors section following for specifics.

Required Features
Model Option B - Stainless Steel Heat Exchanger - Units with Gas Heat
Feature 1A - Motorized or Non-Motorized 100% Outside Air
Feature 2 - Two Position Actuator - With Motorized 100% Outside Air
Feature 8 - Hot Gas Bypass Lead Stage - Required on units without variable capacity scroll compressors or VFD controlled variable speed scroll compressors.
Feature 13 - Makeup Air Unit Controller

- With VFD controlled variable speed scroll compressor units, hot gas bypass is required on all circuits if the minimum load is less than 50%.
- With RN-90 and RN-105 individually circuited units that include a face split configuration, hot gas bypass is required on all circuits.
- With RN-55, 65, and 75-140 ton tandem circuited units hot gas bypass is required on the lag circuit. RN-90 through 105 ton units include a face split configuration.

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 compressors.
Feature 8 - Modulating Hot Gas Reheat
Feature 8 - Hot Gas Bypass Lead and Lag Stage - Recommended on all circuits without variable capacity scroll compressors or VFD controlled variable speed scroll compressors.

Digital Precise Air Control (D-PAC) Unit Controller

Operation - Constant Volume Cooling and Constant Volume Heating

AAON D-PAC units are constant volume with a variable capacity scroll compressor, return air bypass, modulating hot gas reheat, and space temperature and humidity control. During the cooling mode of operation the supply fan provides constant air flow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. 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 Vendors section following for 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 Air Duct 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

Precise Air Control (PAC) Unit Controller

Operation - Constant Volume Cooling and Constant Volume Heating

AAON PAC units are constant volume units with space temperature and humidity control. During the cooling mode of operation the supply fan provides constant air flow and mechanical cooling modulates based on the controlling temperature. During the heating mode of operation the supply fan provides constant air flow and heating modulates based on the controlling temperature. The PAC system provides temperature control and superior moisture removal capabilities under all space and outside conditions while still being energy efficient. PAC units are the same as D-PAC units without the variable capacity scroll compressor.

See Control Vendors section following for 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 Air Duct 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

AAON - Orion™ Controls System

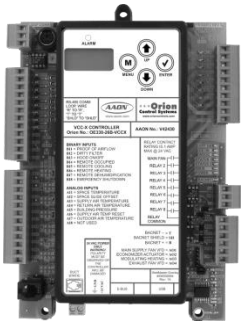

Figure 12 - VCC-X Controller

The VCC-X unit controller, which is part of the Orion Controls System, can be factory provided and factory installed in AAON RN and RQ Series units. It provides advanced control features, without complexity, in an easy to install and setup package. The VCC-X controller can be individually configured, including setpoint adjustment, sensor status viewing, and occupancy scheduling. It can control VAV, CV, MUA, Single Zone VAV, 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 VCC-X controller can be operated as a Stand Alone System, connected via modular cable to multiple VCC-X controllers in an Interconnected System, or connected via modular cable to multiple VCC-X controllers, VAV/Zone controllers, and Add-On controllers in a Networked System.

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

Required Options

To configure the VCC-X controller, an operator interface is needed. Available operator interfaces are the Modular Service Tool, Modular System Manager, System Manager TS, 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.

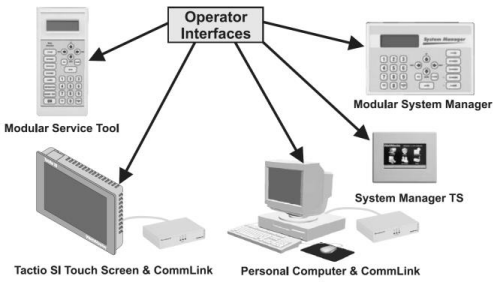

Figure 13 - VCC-X Controller Operator Interfaces

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 AAON ECat 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 only be added to the calculations if the unit is 10 tons and smaller, includes a two position actuator (Feature 2 = U), has no compressors, includes an energy recovery wheel and/or when DDC controls by others factory or field installed is ordered.

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

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

Three Phase

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

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.

Literature Change History

July 2009
Update of catalog adding 9-15 ton RN Series B cabinet unit information.

August 2009
Update of catalog to clarify that Feature 1A Empty Energy Recovery Wheel options do not include energy recovery wheel filters.

September 2009
Update of the catalog adding the Feature 13 heat pump controls options and Feature 21 SMO 254 brazed plate refrigerant-to-water heat exchanger options and removing R-22 information and unit drawings.

November 2009
Update of the catalog adding 6-8 and 10 ton RN Series A cabinet unit information.

March 2010
Update of the catalog adding 2-6 ton RQ Series unit information. RN-020 and RN-040 variable capacity compressor sizes were changed from using 7 and 10 ton VCCs to 9 ton VCCs.

June 2010
Update of the VAV controller description to include single zone. Added RN series B cabinet high cfm energy recovery wheel information.

August 2010
Update of Feature 9 for the RN Series to include ECM condenser fans.

September 2010
Correction of RN 9 and 11-15 ton option B metal mesh filter quantity.

December 2010
Update of Feature 1A to include 100% return air option. Update of Feature 13 to include single zone VAV options. Update of Feature 15 to include Glycol Percentage options. Update of Feature 22 and controls vendors description to include the Remote Mini Controller option. Standard Efficiency motor options (Features 1B and 5A) were removed. Catalog is updated to include changes to the controls by others options.

January 2011
Stainless steel coil casing options (Model Option A3) were removed for RQ Series units.

June 2011
Updated 2" pleated 30% efficient filters from MERV 7 to MERV 8.

Literature Change History Continued

March 2012
Update of catalog to include RN unit sizes of 55, 65 and 75-140 tons. Catalog is updated to include AAON JENEsys controls.

June 2012
Updated enthalpy changeover switch information. Enthalpy changeover switch adjustment details have been added to the IOM. Added Seismic options to Feature 19.

December 2012
Update of the catalog adding VFD controlled condenser fan option, correcting RN E cabinet gas connections from one to two required connections, adding the RN-E cabinet modulating gas heater turndown, adding RN E cabinet chilled water coil connection requirements.

June 2013
Added new model and feature options including microchannel condenser coil option for 55-140 ton units. Added coil cleaning section.

September 2013
Changed tables for filters and pre filters for 55, 65, and 75-140 ton units to be correct sizes. Changed Model Option A1=J to be for water-cooled RN-E units only. Changed the required and recommended model and feature options for VAV, Single Zone VAV, and MUA configurations for proper operation.

February 2014
Added electric preheat options for 2-6 ton RQ Series and 6-25 and 30 ton RN Series units. Corrected maximum airflow through energy recovery wheel values under Feature 1A.

March 2014
Corrected metal mesh filter size for 26, 31-50, 60, and 70 ton units.

June 2014
Updated the AAONAIRE Unit Capacities tables.

July 2014
Added VCB-X features and information. Added 380V/50Hz voltage option.

August 2014
Added the steam heating coil maximum operating pressure. Added energy recovery wheel v-bank filter sizes. Corrected the 4 stage gas heat staging capacities.

November 2014
Added R-410A VFD Tandem Compressors Feature. Added WattMaster VCC-X controls system to the Control Vendors Feature.

Literature Change History Continued

January 2015
Updated the *Gas Heat Output Capacities* table for options 1, 3, 5, and 7.

February 2015
Added Horizontal Discharge Curb Cutting Rules.

March 2015
Updated the *Interior Corrosion Protection* coverage for all applicable options.

May 2015
Updated Table 23 *RN Series E Cabinet (55, 65, 75, and 90 tons) DX Cooling Information* Tandem Circuited Compressor Number of Circuits for Model 090 ton to 2, Face Split.

July 2015
Removed 2" Throwaway Unit Filter-25% Efficient from Filter Replacement information.

August 2015
Updated *Low Limit Controls* description.

September 2015
Updated RQ Metal Mesh size.

July 2015
Updated Natural Gas modulation to show turndown.

November 2015
Updated Feature 6B on RN Pre Filters tables.

January 2016
Updated Energy Recovery Wheel filter sizes for RN Series 55, 65, and 75-140 tons.

March 2016
Updated Metal Mesh Pre Filter quantity for RN-E cabinet. Updated RN-D cabinet energy recovery filters quantity and size for outside air preheat.

May 2016
Added the AAON Touchscreen Controller. Added Cross-Flow Fixed Plate Heat Exchanger to RQ Series options.

June 2016
Updated Feature 21; clarified statement for head pressure condenser water valve.

Literature Change History Continued

July 2016
Updated *RQ Series and RN Series Feature String Nomenclature;* Updated Feature 8 - *Refrigeration Options.*

November 2016
Updated Feature 4 *Factory Wired 115V Convenience Outlet* amp rating; from 13 amps to 12 amps.

February 2017
Updated Feature 7 on Option D *Adjustable Compressor Lockouts*. Added RN 14 ton.

March 2017
Fault detection and diagnostics options updated to include statement about economizer warranty.

June 2017
Removed *JENEsys* and *Mini Controller* control options. Removed *Option J* from Feature A1.

July 2017
Added *Outdoor Airflow Monitoring* options; Feature 14A. Added *Shaft Grounding* options; Feature 1B and Feature 5A. Added *High Condensate Level Switch*; Feature 11. Added *Shrink Wrap* Options; Feature 20. Added *High Turndown Modulating Gas* option; Feature B3. Updated modulating gas turndown ratios.

August 2017
Updated *Energy Recovery Wheel Filters* Tables 52-56. Added *Compressor Sound Blankets* and *UV Light* options; Feature 16. Removed *VCM-X* options; Feature 22.

September 2017
Updated *Tables 34-41* Pre Filter information. Updated nomenclature for Feature 6A. Added option exceptions to Feature A1 - Option C; and Feature A2 – Options A & B.

October 2017
Removed *On/Off Hot Gas Reheat* options. Updated Features 6A and 6B feature string nomenclature descriptions. Updated descriptions in the *Filter Information* section.

November 2017
Feature 1B Options updated to include TEFC Motor options. Model Option B3 updated to include heat trace statement for high turndown.

January 2018
Table 5 - Low cfm Energy Recovery Wheel Information and *Table 6 - High cfm Energy Recovery Wheel Information* updated to include bypass maximum airflow column.

Literature Change History Continued

April 2018
Updated Feature 14A - Preheat Configuration descriptions.

July 2018
Updated Feature 8-Refrigeration Options.

September 2018
Updated *Table 5 - Low cfm Energy Recovery Wheel Information* and *Table 6 - High cfm Energy Recovery Wheel Information.* Added *Table 48 - RQ Series and RN Series A, B, and C Cabinet AAONAIRE Polymer Wheel Unit Capacities Examples* and *Table 49 - RN Series E Cabinet AAONAIRE Polymer Wheel Unit Capacities Examples.* Updated ***Error! Reference source not found.*** and ***Error! Reference source not found.***.

July 2019
Updated *Feature 22 – Control Vendors.* Update ***Error! Reference source not found.*** through ***Error! Reference source not found.***. Updated Feature 9: Refrigeration Accessories options. Added crankcase heater statement. Updated E-Coil Coating to 10,000 hours. Updated *Feature 15* to include energy recovery wheel options. Updated Feature 21 descriptions.

December 2019
Clarified that 5 year coating warranty is on the E-coating, not the coil. Removed SMO options from Feature 21. Updated descriptions under Model Option A1-Refrigerant Style to include new 2-stage compressor and variable speed compressor options. Clarified options available for Model Option A2-Unit Configuration. Updated Model Option A3-Coil Coating to include stainless steel coil casing. Updated descriptions under Model Option A4-Cooling/Heat Pump Staging. Updated Feature 1A energy recovery wheel options to include aluminum and polymer options. Updated General Data Unit Information Tables to include new compressor options. Remove references to MCS controls.

January 2021
Added parallel modulating hot gas reheat microchannel coil options in Feature 8. Added condenser coil screen option and motorized relief damper options in Feature 17. Added 10kAIC and 35kAIC options in Feature 18 and change it from Customer Code to Electrical Rating. Noted that Air-cooled condenser options and chilled water coils are no longer available for RN E Cabinets (use the new configurator for this cabinet). Added two-stage compressor options to RN sizes 16, 18, and 20 ton. Removed VCBX section in Control Vendors.

September 2022

New Part Number for the Engineering Catalog. Removed the RN D Cabinet sizes (26, 31, 40, 50, 60, 70). Added Zero Degree Cold Climate Air-Source Heat Pump. Removed several compressor options for the 2023 DOE Efficiency standards. Removed stainless steel coil casing options. Removed the low sound condenser fans. Removed AAON Touchscreen controller option. Added 65 kAIC option.

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