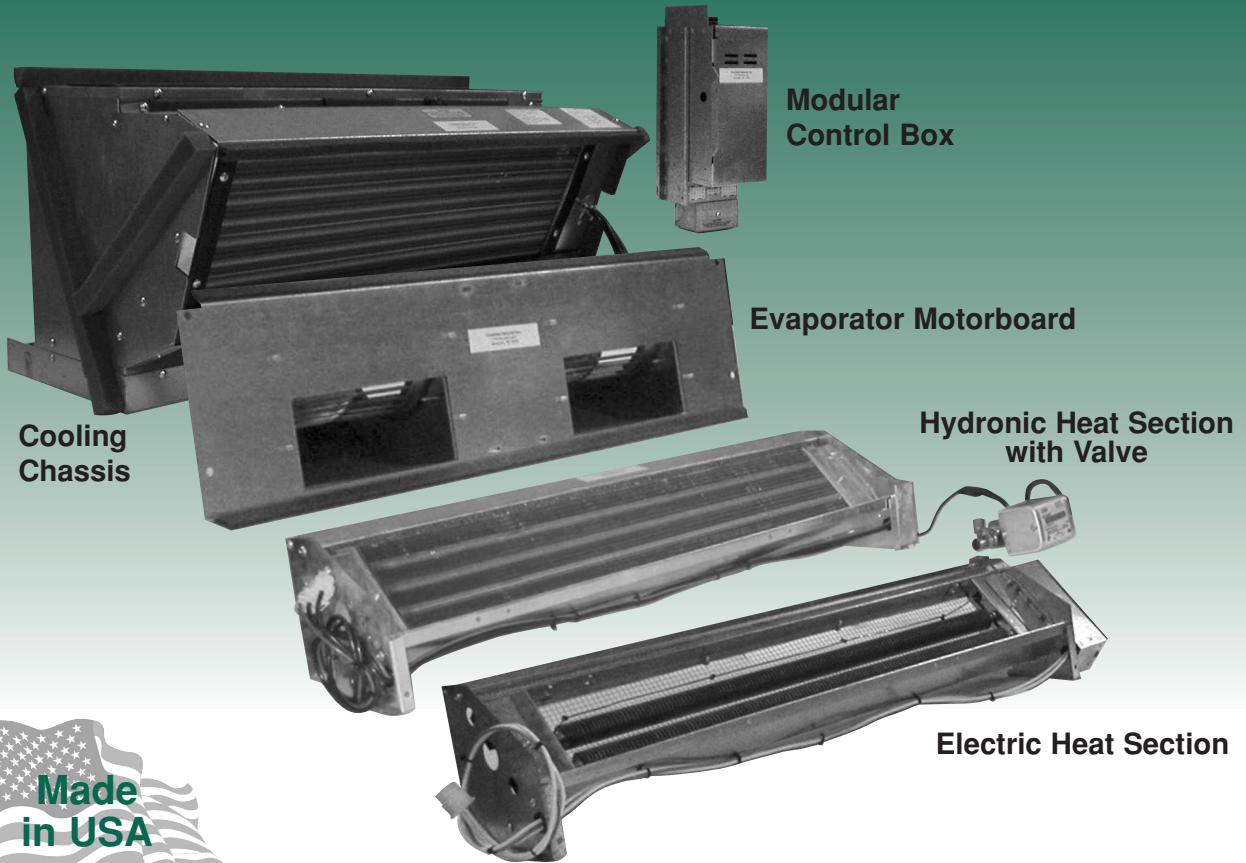




ULTRAMATE™

A MODULAR COMPONENT AIR CONDITIONER
FOR NEW CONSTRUCTION AND REPLACEMENT

Replacement for *Nesbitt*® IIT nesbitt® MSI nesbitt® Modular Roommate



Cooling
Chassis

Modular
Control Box

Evaporator Motorboard

Hydronic Heat Section
with Valve

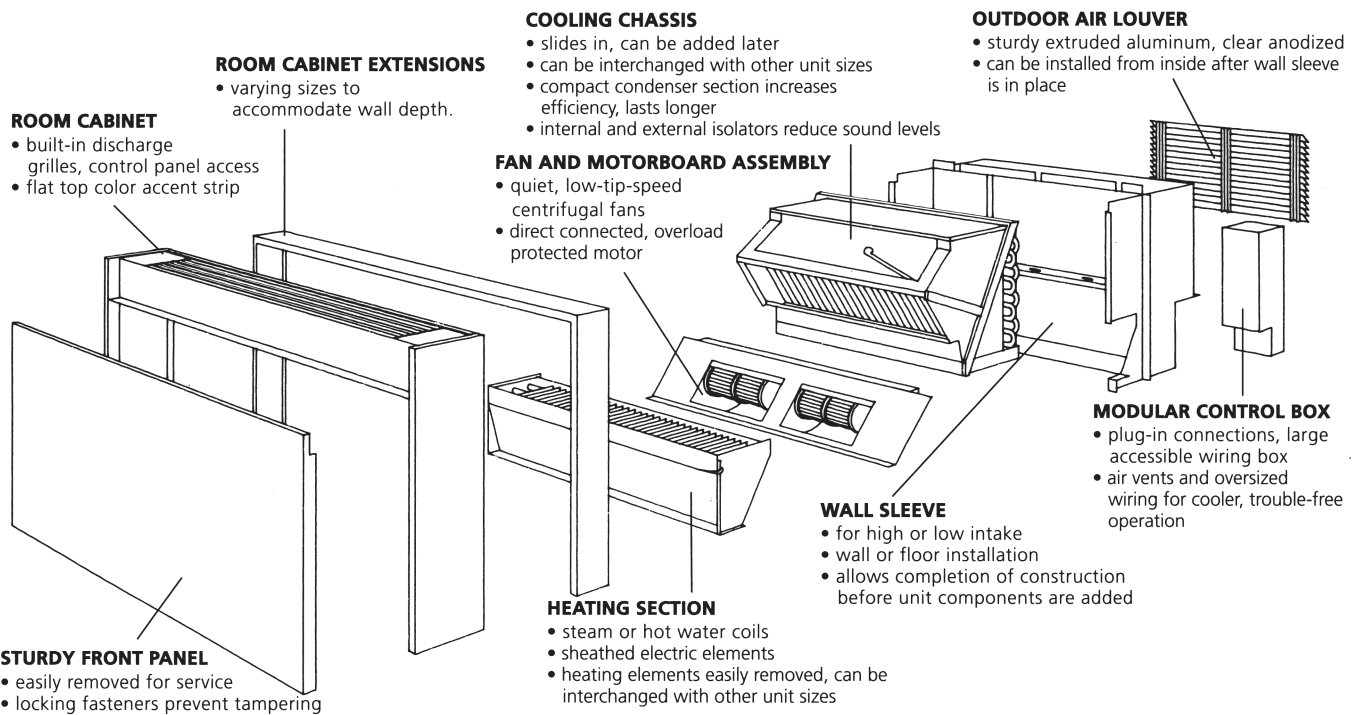
Electric Heat Section



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To view our complete product line visit www.comitalenational.com

The CNI Modular ULTRAMATE™ air conditioning unit consists of four major functional components-cooling chassis, fan and motorboard assembly, heating section and control system. The cooling chassis is a completely self-contained refrigeration circuit within the compact chassis. The fan and motorboard assembly is removable independent of the heating section. Either an electric heating section or hot water or steam heating coils can be selected. The modular control box features plug-in connections.



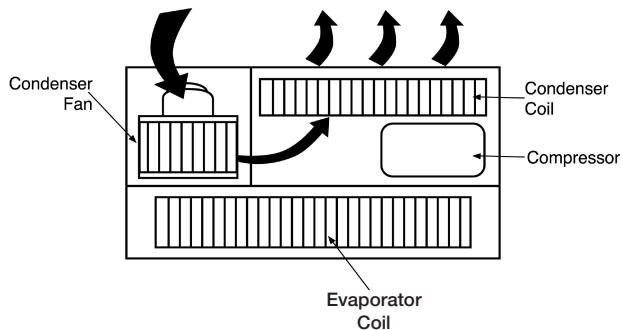
A Compact Efficient Refrigeration Section

Components of the refrigeration section are arranged compactly but easily accessible. The coil is produced from copper tubes and aluminum fins. The Condenser fan is a single inlet, centrifugal type for quiet operation and low power consumption. The solenoid operated damper automatically closes when the control switch is turned to "Vent Off" or the unit is off completely. The condenser fan and motor are easily removed for cleaning or replacement.

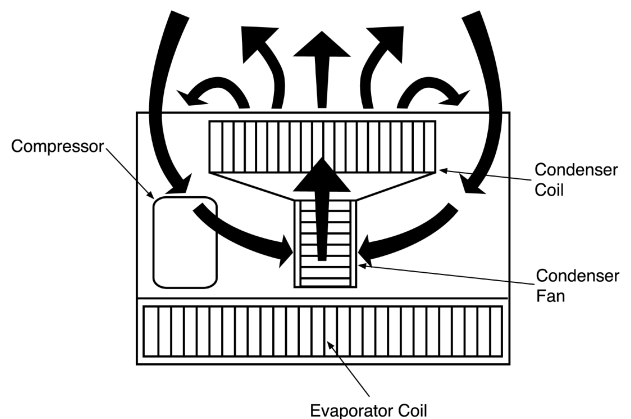
Lower Power Consumption

The compact arrangement of condenser section components has resulted in more efficient operation and lower operating pressures. This also is reflected in longer equipment life. The condenser fan is turned 90° from the usual position. Outdoor air enters the fan and is blown past the compressor and discharges through the condenser coil. The air flow pattern, illustrated in the drawing, minimizes the recirculation of hot condenser discharge air back into the fan intake. Recirculation in the CNI Modular ULTRAMATE™ is practically eliminated to 1% as compared with up to 12% recirculation of alternate arrangements. This results in lower system operating pressures and more capacity from the same compressor size.

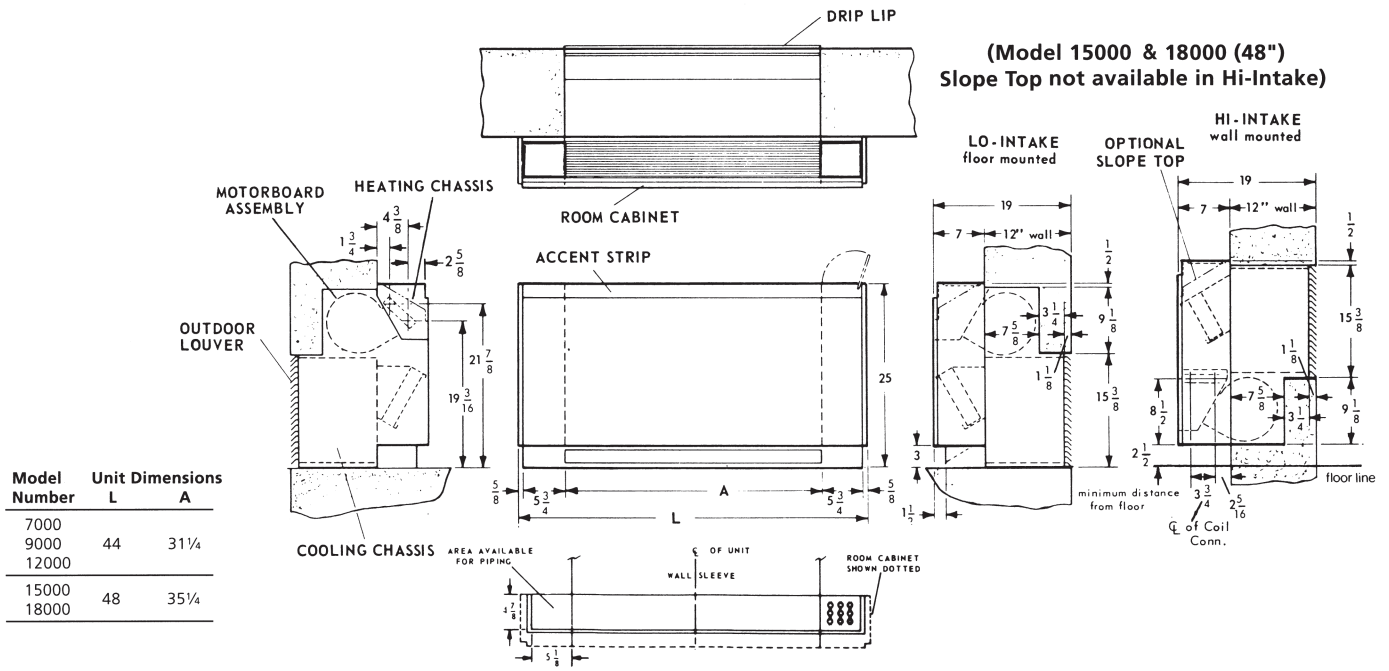
MODULAR ULTRAMATE™



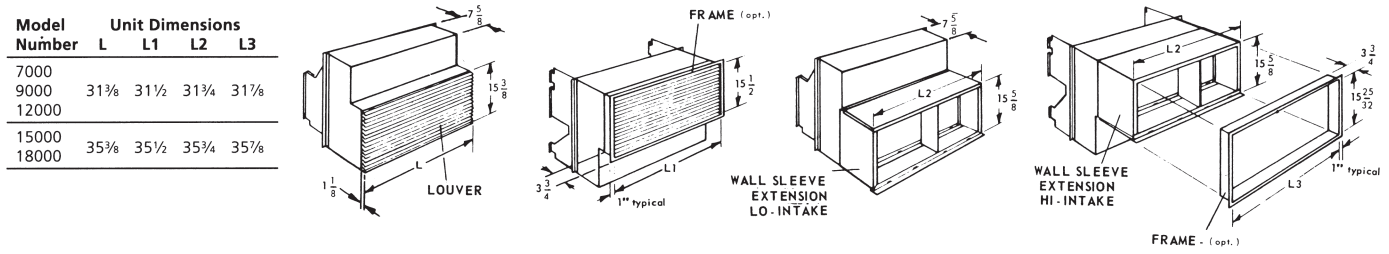
COMPETITOR'S ARRANGEMENT



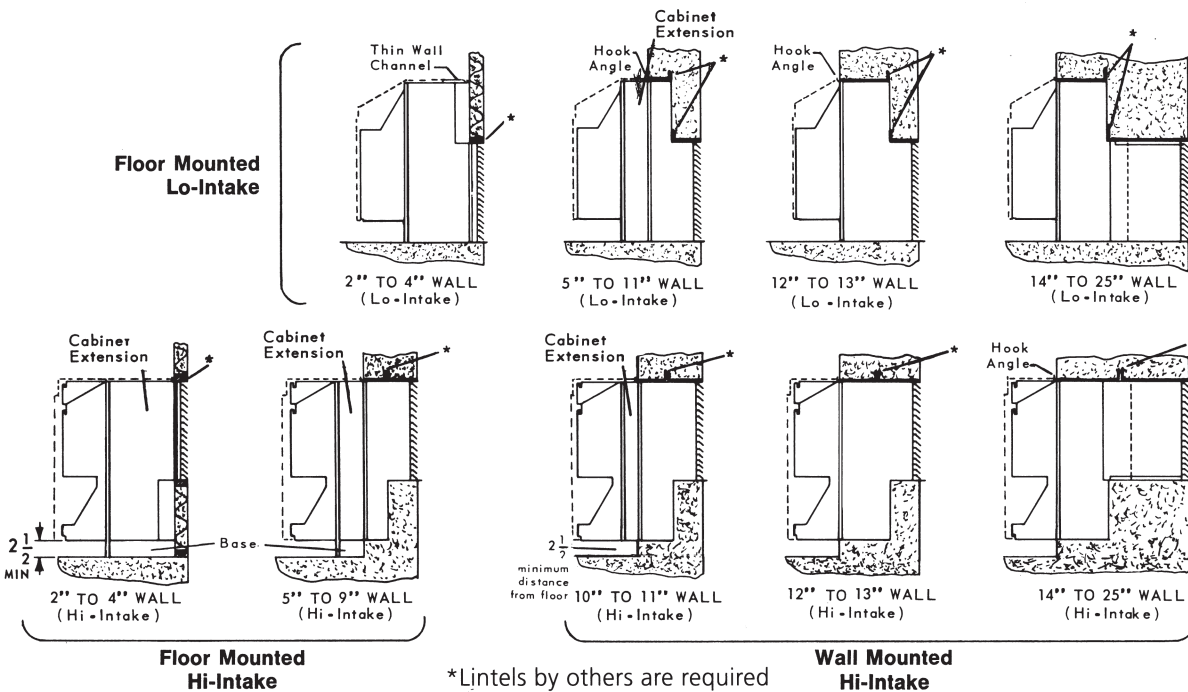
UNIT DIMENSIONS



INSTALLATION ACCESSORIES



ARRANGEMENTS



ENGINEERING DATA

Model Numbers	07				09				12				15			18		
Nominal Capacity	7000				9000				12000				15000			18000		
Voltage	115	208	230	277	115	208	230	277	115	208	230	277	208	230	277	208	230	277

COOLING - HEAT PUMP AND COOLING ONLY CHASSIS

COOLING (HI-FAN SPEED)¹																		
Total Capacity (BTUH)	7300	7300	7300	7300	9000	9000	9000	9000	11800	11800	11800	11800	14600	14800	14800	17500	17800	17800
Sensible Capacity (BTUH)	5700	5700	5820	5820	6710	6710	6860	6860	8690	8690	8730	8730	10160	10310	10310	12110	12270	12270
ELECTRICAL DATA																		
Full Load Amps	6.6	3.6	3.2	2.7	8.7	4.3	3.9	3.2	10.1	5.6	5.1	4.4	7.6	6.9	6.0	9.2	8.5	7.4
Locked Rotor Amps	39.2	16.6	16.6	17.1	48.3	23.8	23.8	22.2	54.0	34.2	34.2	30.0	40.0	40.0	35.0	48.2	48.2	44.0
Watts	663	666	667	663	851	853	851	848	1135	1165	1170	1166	1580	1581	1590	1913	1955	1961
EER (BTUH/Watt)*	11.0	10.9	10.9	11.0	10.5	10.5	10.5	10.6	10.3	10.1	10.1	10.1	9.5	9.5	9.5	9.1	9.1	9.1
Power Factor %	90.2	90.2	86.5	84.9	92.4	92.4	89.3	89.9	94.7	94.7	90.4	90.1	95.7	94.0	93.5	95.2	93.0	93.0

HEATING - REVERSE CYCLE HEAT PUMP ONLY

HEATING (HI-FAN SPEED)																		
Capacity (BTUH)	7000	7000	7100	7100	8500	8500	8700	8700	11400	11400	11600	11600	14300	14500	14500	17200	17500	17500
ELECTRICAL DATA																		
Full Load Amps	N/A	4.5	4.2	3.6	N/A	5.9	5.5	4.5	N/A	7.3	6.9	5.8	8.7	8.0	6.7	10.6	9.8	8.1
Locked Rotor Amps	N/A	16.6	16.6	17.1	N/A	23.8	23.8	22.2	N/A	34.2	34.2	30.0	40.0	40.0	35.0	48.2	48.2	44.0
Full Load KW	N/A	.85	.85	.85	N/A	.96	.96	.96	N/A	1.35	1.35	1.35	1.5	1.5	1.5	1.7	1.7	1.7
COP (Coefficient of Performance)	N/A	2.9	3.0	3.0	N/A	2.8	2.9	2.9	N/A	2.8	2.9	2.9	2.9	3.0	3.0	2.8	2.9	2.9
Power Factor %	N/A	90.2	86.5	84.9	N/A	92.4	89.3	89.9	N/A	94.7	90.4	90.1	95.7	94.0	93.5	95.2	93.0	93.0

HYDRONIC HEAT

HEATING (HI-FAN SPEED)																		
Hot Water (BTUH) ²	14,000				14,000				14,800				18,750			18,750		
Steam (BTUH) ³	14,000				14,000				14,800				19,400			19,400		

RECOMMENDED OVERCURRENT PROTECTION - AMPERES

KILOWATTS																		
115	208	230	277															
2.5	2.5	—	—	19.6	13.3	—	—	19.6	13.3	—	—	19.6	13.3	—	—	13.3	—	—
—	3.0	3.0	—	—	14.4	12.6	—	—	14.4	12.6	—	—	14.4	12.6	—	14.4	12.6	—
—	3.3	—	—	—	17.3	—	—	—	17.3	—	—	—	17.3	—	—	17.3	—	—
—	—	4.0	4.0	—	—	18.8	16.4	—	—	18.8	16.4	—	18.8	16.4	—	18.8	16.4	
—	4.3	—	—	—	—	—	—	—	—	—	—	—	22.1	—	—	22.1	—	—
—	—	5.3	5.3	—	—	—	—	—	—	—	—	—	24.4	21.5	—	24.4	21.5	

RECOMMENDED OVERCURRENT PROTECTION - AMPERES

COOLING/HEAT PUMP CHASSIS																		
W/O Auxiliary Heating	15	10	10	10	15	10	10	10	15	15	15	15	15	15	15	20	20	15
With Auxiliary Heating																		
2.5 KW to 3.0 KW	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
3.3 KW to 4.0 KW	—	25	25	25	—	25	25	25	—	25	25	25	25	25	25	25	25	25
4.3 KW to 5.3 KW	—	—	—	—	—	—	—	—	—	30	35	30	30	35	30	30	35	30
Steam or Hot Water	15	10	10	10	15	10	10	10	15	15	15	15	15	15	15	20	20	15

FAN MOTOR DATA

CFM-COOLING AND HEATING																		
High Speed	340				340				340				435			435		
Low Speed	290				290				290				375			375		
Ventilation	70				70				70				85			85		
Indoor Motor HP	1/20				1/20				1/20				1/20			1/20		
Outdoor Motor HP	1/4				1/4				1/4				1/4			1/4		

¹80F DB/67F WB air entering evaporator; 95F DB/75F WB air entering condenser per ARI Std. 310-70. ²200F EWT/180F LWT at 2 GPM 70F EAT. ³2 PSI 70F EAT saturated steam.
CNI reserves the right to modify specifications without prior notice in its efforts to improve product quality.

* Wattage, Amperage & EER is based on compressor.

ULTRAMATE SPECIFICATIONS

(Options shown in parenthesis)

Furnish and install CNI Modular ULTRAMATE™ air-cooled, terminal air conditioning units as shown on the plans and schedule and as herein described.

Each Modular ULTRAMATE™ air conditioner shall consist of a wall sleeve assembly, outside air louver, heating section with controls, cooling chassis and room cabinet. Units shall be designed to operate on (115 v), (208 v), (230 v), (277 v), single phase, 60 Hz power supply.

Wall Sleeve shall be factory fabricated of 16 gage, zinc coated, phosphatized steel. Suitable insulation shall be factory applied for prevention of condensation on exterior of sleeve and adequate weather seals provided within the sleeve to prevent the passage of moisture or infiltration of outdoor air into the building interior.

Outside Air Louver shall consist of horizontal extruded aluminum sections, anodized in natural aluminum color and securely crimped into aluminum back-up channels. Louver assembly shall be capable of being installed from inside the building after wall sleeve is in place. (A matching anodized aluminum louver frame shall be furnished).

Heating Section shall consist of (hot water) (steam) (sheathed electric) heating coil, fan and motor assembly, and control box with specified ventilation and temperature controls.

Motor and Fan Assembly shall be mounted on a one-piece, galvanized steel motorboard which shall be easily removable for maintenance without breaking pipe connections or rewiring. Fans shall be aluminum, double inlet, forward curved centrifugal type, directly connected to a two speed motor with built in automatic reset overload protection. Maximum motor speed to be 1150 RPM.

Control Box shall be completely factory prewired with plug-in connections for heating section and cooling chassis, and with adequately sized junction box for wiring of external power supply (and temperature controls).

(Hydronic Heating Coil) shall be one row serpentine, 1/2" O.D. copper tube with aluminum fins. Joints to be silver brazed and tested to 300 PSIG. Coil to be suitable for use with steam or hot water. Supply and return connections to be 5/8" O.D. copper located on left end of coil).

(Sheathed Electric Heating Coil) shall consist of electric resistance wires encased in copper plated finned steel sheath).

Cooling Chassis shall be a self contained slide-in assembly complete with hermetically sealed refrigeration circuit, separate condenser fan and motor, condensate disposal

system, filter and casing. The cooling chassis shall be constructed of zinc coated galvanized and phosphatized steel. Fasteners shall be stainless steel. Bottom pan shall be 16 gage and coated with mastic finish. Side and top panels shall be 18 gage minimum and insulated where required with non-fibered vapor-proof material. The entire cooling chassis shall slide in and out without the necessity of breaking piping or wiring except by plug connections.

The Evaporator Coil shall be copper tube with aluminum fins and mounted so that condensate pan is easily accessible for cleaning. Pan shall be galvanized steel, insulated and mastic coated. Condensate disposal shall be accomplished by entrainment of water particles in the condenser air stream and evaporation on the condenser coil. Condenser fan slinger ring or pump arrangements dependent on filling of the condenser section bottom pan with water are not acceptable.

The Refrigerant Circuit shall be precharged and shall utilize an internally and external spring mounted hermetic compressor, PSC motor with automatic reset overload. Compressor shall be equipped with suction and discharge mufflers. Compressor capacitor shall be located in control box only. Refrigerant metering shall be accomplished by an automatic expansion valve. Capillary tubes are not acceptable. The unit shall operate at capacity to 35° F outdoor, with no frosting of the evaporator, short cycling of the compressor or liquid slugging.

An Outdoor Air Damper shall be mounted in the cooling chassis on the discharge air side of the condenser fan to insure a positive supply of ventilation air whenever called for by unit controls, regardless of whether the unit is operating on heating or cooling cycle. Outdoor air to be filtered at all times.

Room Cabinet shall consist of not less than 18 gage top and side enclosure with removable 18 gage front panel. Cabinet shall have top air discharge with a welded steel bar discharge grille. Access to controls shall be through a hinged access door on right side of cabinet. Return air intake shall be concealed with air entering through toe space. Front panel shall have locking latches for easy removal only by authorized personnel. Cabinet shall be factory assembled and finished in baked enamel.

Check, Test and Start – Bid shall include provision for final check-out, initial start-up of units and instruction of owner's representative. It shall be expressly stated by whom this function will be performed, as well as who will be responsible for any necessary maintenance service during first year of operation.

NOTE: Unit specification and construction detail are subject to change without prior notice.



Tru-Fit™

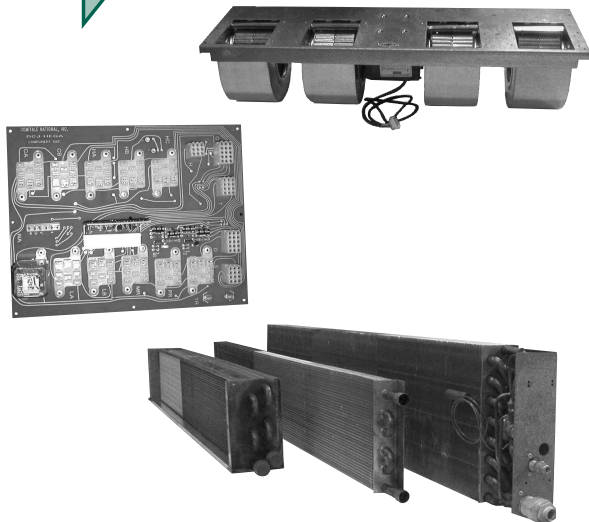
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