

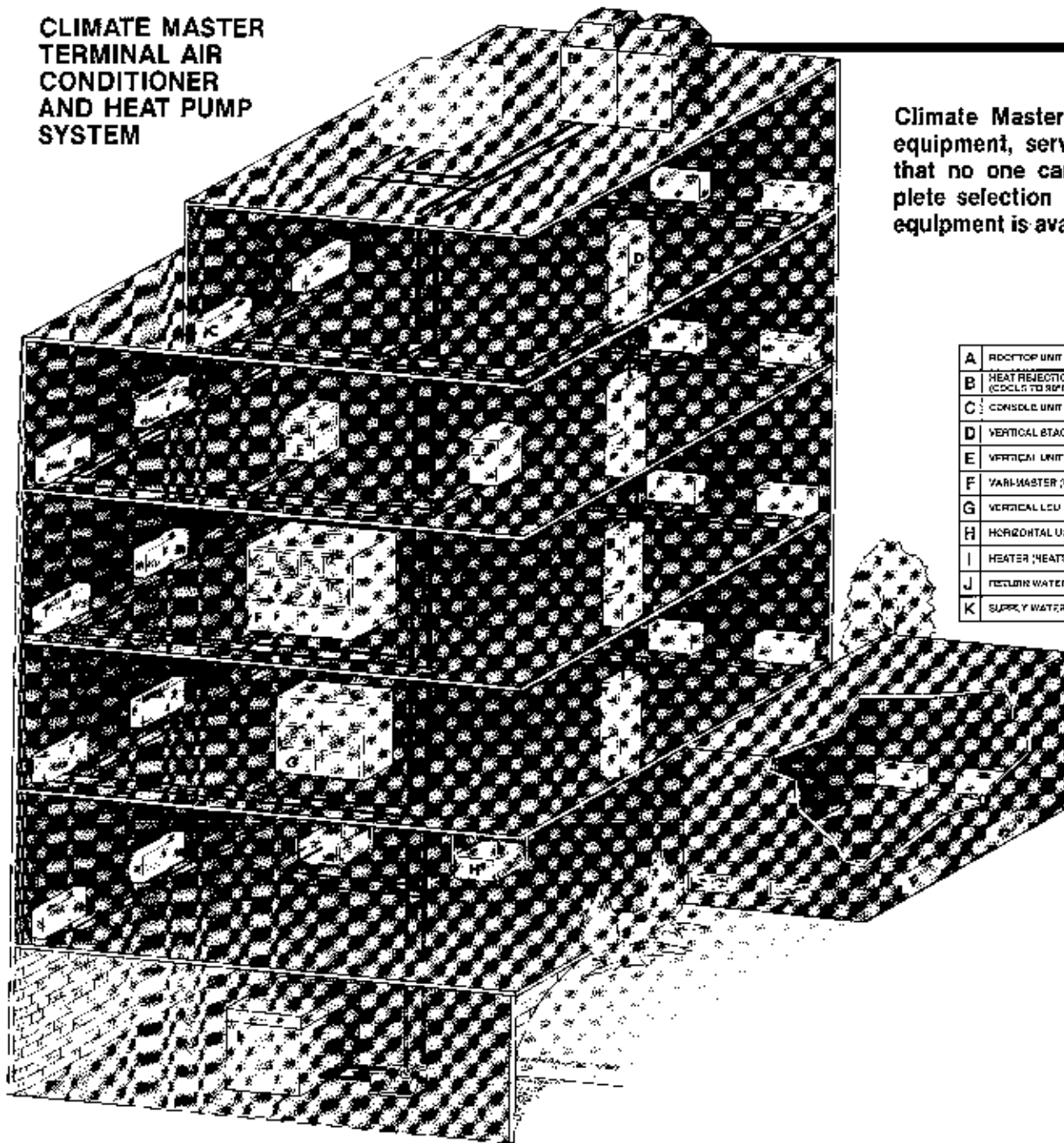


DESIGN GUIDE
PTAC/PTHP
Air-to-Air Heat Pumps
THE 702/703 SERIES

ClimateMaster®

THE NATURAL SOLUTION... USING

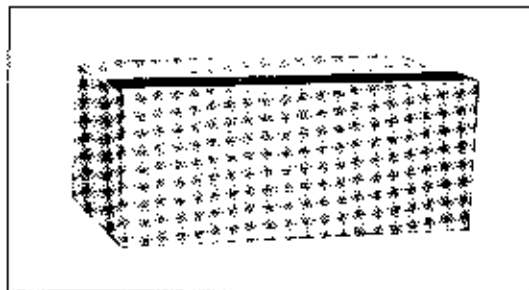
CLIMATE MASTER TERMINAL AIR CONDITIONER AND HEAT PUMP SYSTEM



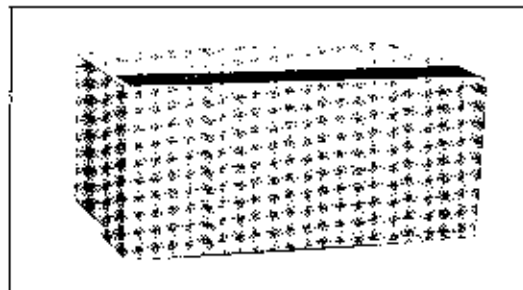
Climate Master has experience, equipment, service, and support that no one can match. A complete selection of "thru-the-wall" equipment is available.

A	ROOFTOP UNIT
B	HEAT REJECTION EQUIPMENT (COOLS TO RMT)
C	CONSOLE UNIT
D	VERTICAL STACKED UNIT
E	VERTICAL UNIT
F	VARI-MASTER (VAV-CO)
G	VERTICAL LCU
H	HORIZONTAL UNIT
I	HEATER (HEATS TO 50°F)
J	RETURN WATER
K	SUPPLY WATER

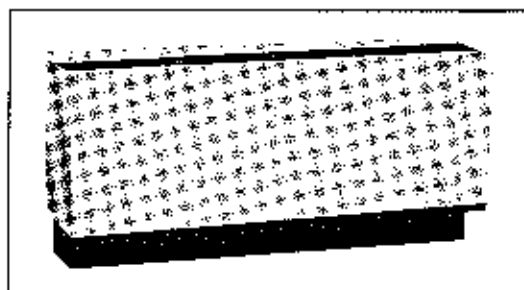
702/703 PTAC/PTHP UNITS



SP CABINET



ME CABINET



MP CABINET

Packaged Terminal Air Conditioners and Heat Pumps

702/703 Packaged Terminal Air Conditioners and Heat Pumps are attractive, versatile, self-contained conditioners designed to please the most demanding occupant. These thru-the-wall units meet room comfort requirements in both new and retrofit applications. Low cost is associated with both installation and operation. Packaged

terminal units save vital room area due to the fact that the unit installation is mostly in the exterior wall cavity.

Individual zone control offers the advantage levels for different areas.

Service required on any one unit will not interrupt operation of oth-

ers within the same building. Noise problems are minimized. The fan and compressor are enclosed in insulated compartments with removable, insulated steel panels. The cabinet is insulated both thermally and acoustically.

Multiple options are available. See pages 6 and 7.

PERFORMANCE CHARTS

702

PERFORMANCE AND ELECTRICAL DATA

Model	702-07	702-09	702-12	702-15
Total Cooling BTUH	7300	8400	11800	14900
EER	9.1	8.4	8.7	7.7
Air Flow CFM: High	350	350	470	470
Vent	45	45	50	50
Electrical 115-1-60: FLA	8.2	9.6		
Watts	800	990		
208/230-1-60: FLA	4.0	4.7	5.9	9.5
Watts	800	990	1360	1940
265-1-60: FLA	3.7	4.2	5.35	7.4
Watts	800	990	1360	1940

703

PERFORMANCE AND ELECTRICAL DATA

Model	703-07	703-09	703-12	703-15
Total Cooling BTUH	7300	8400	11800	14600
EER	9.1	8.4	8.7	7.6
Total Heating BTUH	6300	7700	10400	13200
COP	2.7	2.6	2.8	2.5
Air Flow CFM: High	350	350	470	470
Vent	45	45	50	50
Electrical 115-1-60: FLA	8.2	9.6		
Cooling Watts	800	990		
208/230-1-60: FLA	4.0	4.7	5.9	9.5
Cooling Watts	800	990	1360	1920
265-1-60: FLA	3.7	4.2	5.35	7.4
Cooling Watts	800	990	1360	1920

702/703

HEATER OPTIONS

Voltage	208-60-1				230-60-1			265-60-1	
	1	2	4	5	1	2	4	3	5
Heater Code									
BTUH	7100	10600	13000	14000	8700	12900	15700	11400	13900
KW	2.00	3.00	3.70	4.00	2.45	3.70	4.50	3.25	3.98

702/703

HYDRONIC HEAT

Models	BTUH Steam	BTUH Hot Water
702/703-07, 09, 12, 15	18400	15400

GENERAL DATA

702

GENERAL DATA CHART

Model Number	Voltages	Phase	Min. CRC Ampacity	Max. Fuse	Comp LRA	Comp RLA	Blower FLA	Fan FLA	Blower HP	Fan HP	Total FLA		Ship Weight Lbs.
702-07	115	1	11.0	15	29.8	5.6	1.00	1.60	1/20	1/12	8.2		138
	208/230		5.2		15.9	2.8	0.45	0.75	1/20	1/12	3.6		
	265		5.0		12.3	2.6	0.45	0.65	1/20	1/12	3.7		
702-09	115	1	13.2	15	40.0	7.0	1.00	1.60	1/20	1/12	9.6		140
	208/230		7.0		20.0	3.5	0.45	0.75	1/20	1/12	4.7		
	265		5.7		16.0	3.1	0.45	0.65	1/20	1/12	4.2		
702-12	208/230	1	7.3	15	26.3	4.6	0.55	0.75	1/12	1/12	5.7		145
	265		6.6		22.0	4.2	0.50	0.65	1/12	1/12	5.2		
702-15	208/230	1	14.5	15	44.0	7.3	0.55	0.75	1/12	1/12	9.5		152
	265		14.5		40.0	7.1	0.50	0.65	1/12	1/12	7.4		

703

GENERAL DATA CHART

Model Number	Voltages	Phase	Min. CRC Ampacity	Max. Fuse	Comp LRA	Comp RLA	Blower FLA	Fan FLA	Blower HP	Fan HP	Total FLA		Ship Weight Lbs.
703-07	115	1	11.0	15	29.8	5.6	1.00	1.60	1/20	1/12	8.2		140
	208/230		5.2		15.9	2.8	0.45	0.75	1/20	1/12	3.6		
	265		5.0		12.3	2.6	0.45	0.65	1/20	1/12	3.7		
703-09	115	1	13.2	15	40.0	7.0	1.00	1.60	1/20	1/12	9.6		145
	208/230		7.0		20.0	3.5	0.45	0.75	1/20	1/12	4.7		
	265		5.7		16.0	3.1	0.45	0.65	1/20	1/12	4.2		
703-12	208/230	1	7.3	15	26.3	4.6	0.55	0.75	1/12	1/12	5.7		150
	265		6.6		22.0	4.2	0.50	0.65	1/12	1/12	5.2		
703-15	208/230	1	14.5	15	44.0	7.3	0.55	0.75	1/12	1/12	8.65		167
	265		14.5		40.0	7.1	0.50	0.65	1/12	1/12	7.3		

¹ Minimum Circuit Ampacity and Maximum Fuse Size do not include the use of electric heaters. Please consult factory for units with electric heaters.

OPTIONS

Cabinet Options

BAR GRILL DISCHARGE

Replaces the standard stamped-steel four-way adjustable discharge grill for a more sophisticated appearance.

ADJOINING ROOM OUTLET

Allows up to 40% of air flow to be directed to an adjoining room, to permit conditioning two rooms with one unit. MP and SP cabinet style only.

CONDENSATE DRAIN KIT (for heat pump)

This kit allows any unit to be connected to an internal drain system.

HYDRONIC HEAT SUB-BASE

This sub-base includes a hydronic (steam or hot water) heating coil, allowing units installed in the SP cabinet the option of hydronic heat with full service access to the chassis. Not available with MP and ME style cabinets. Hydronic heat available with 702 and 703 series. Consult factory for other applications.

HIGH VOLUME FRESH AIR

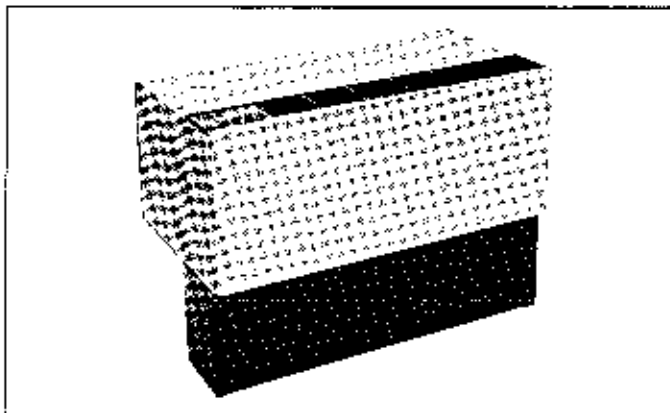
Additional fresh air is brought into the unit for hospital or nursing home applications.

SEA COAST CONSTRUCTION

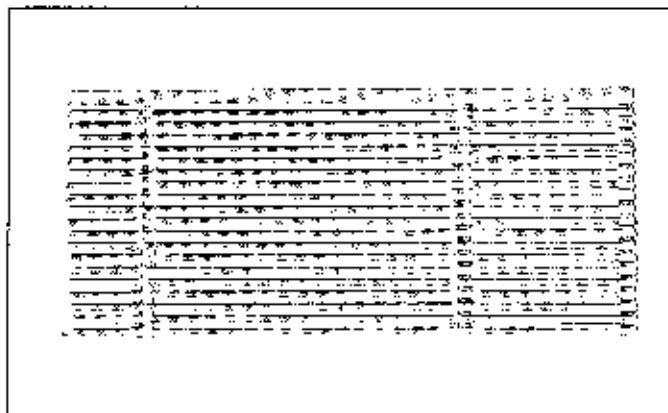
Various levels of salt-air protection for the outdoor condenser components and wall sleeve are available.

HYDRONIC HEAT MP CABINET

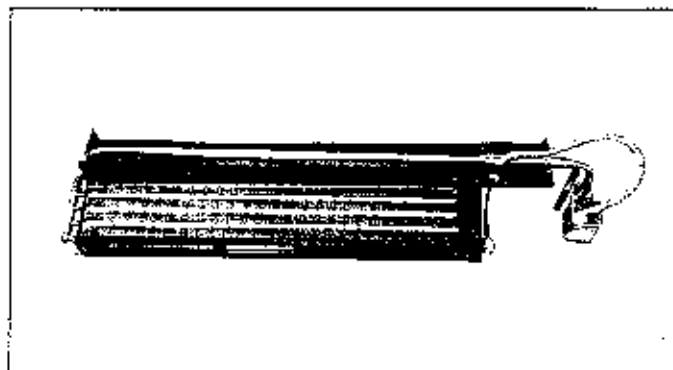
This cabinet is designed to house a hydronic (steam or hot water) heating coil, allowing units installed in the MP cabinet the option of hydronic heat with full service access to the chassis. Not available with SP and ME style cabinets. Hydronic heat available with 702 and 703 series. Consult factory for other applications.



SP Cabinet/Sleeve with Hydronic Heater Sub-Base



Optional Outdoor Louver



MP Hydronic Heat Coil

Control Options

CYCLING AIR CONTROL (CAC) SWITCH

Allows the building owner to select continuous or cycling fan control.

PROGRAM RELAY

Factory-installed control relay (24 or 115 VAC) allows unit control by a time clock or energy management system.

PROGRAM RELAY WITH NIGHT SETBACK THERMOSTAT

Program relay with setback thermostat to maintain the space at 55° F during unoccupied hours.

PROGRAM RELAY WITH NIGHT SETBACK THERMOSTAT AND OVERRIDE TIMER

Program relay and setback thermostat with a timer which allows the occupant to override the central controller for 0 to 120 minutes (MP cabinet only).

REMOTE THERMOSTAT

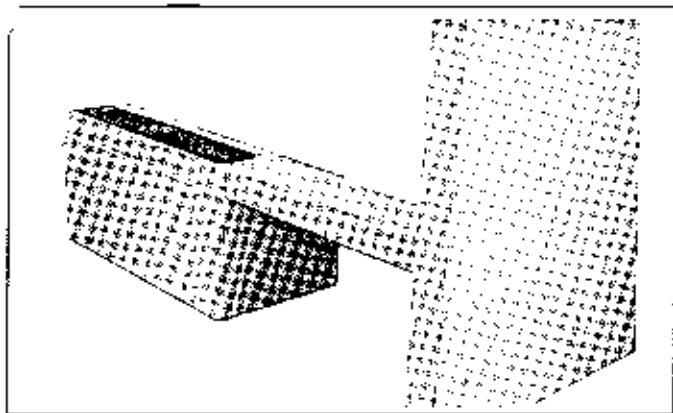
Controls unit from a wall-mounted 24 VAC thermostat; manual or automatic changeover.

MASTER/SLAVE

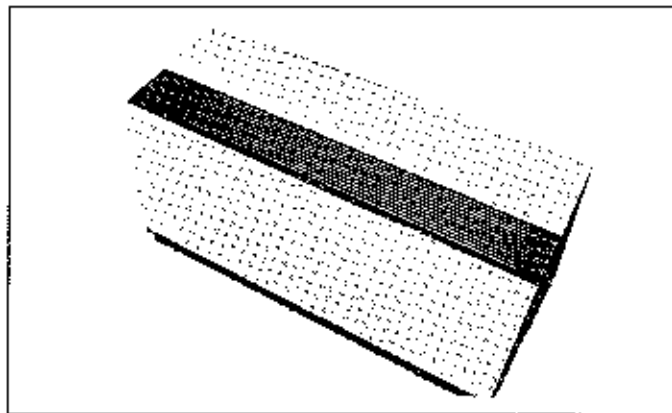
Allows a single wall thermostat to control up to 11 units in parallel.

POWER CONNECTION OPTIONS

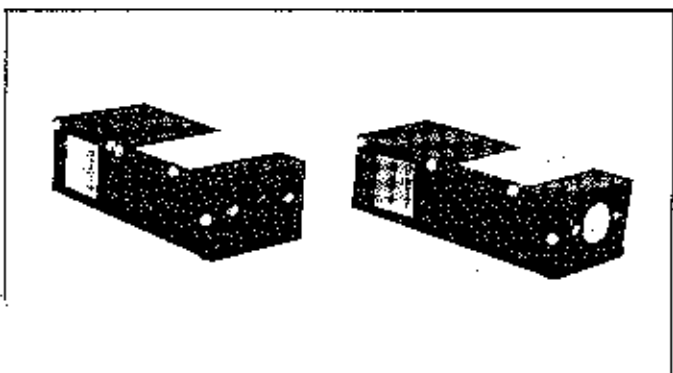
All Packaged Terminal units offer fine cords with unit mounted receptacles, with or without unit mounted circuit breakers. Cabinet style determines location of optional power connections.



Adjoining Room Outlet

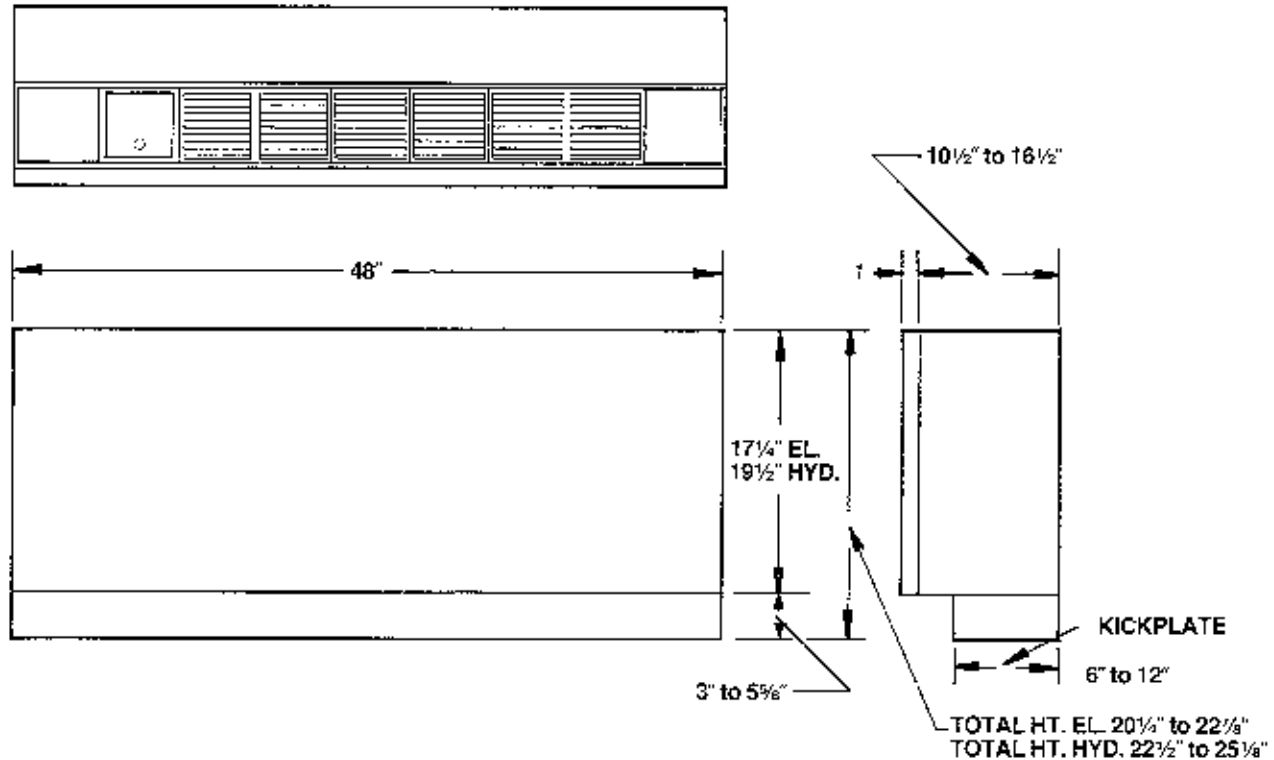


Bar Grill on SP Cabinet



Power Connection Option - MP

DIMENSIONS



MP Cabinet

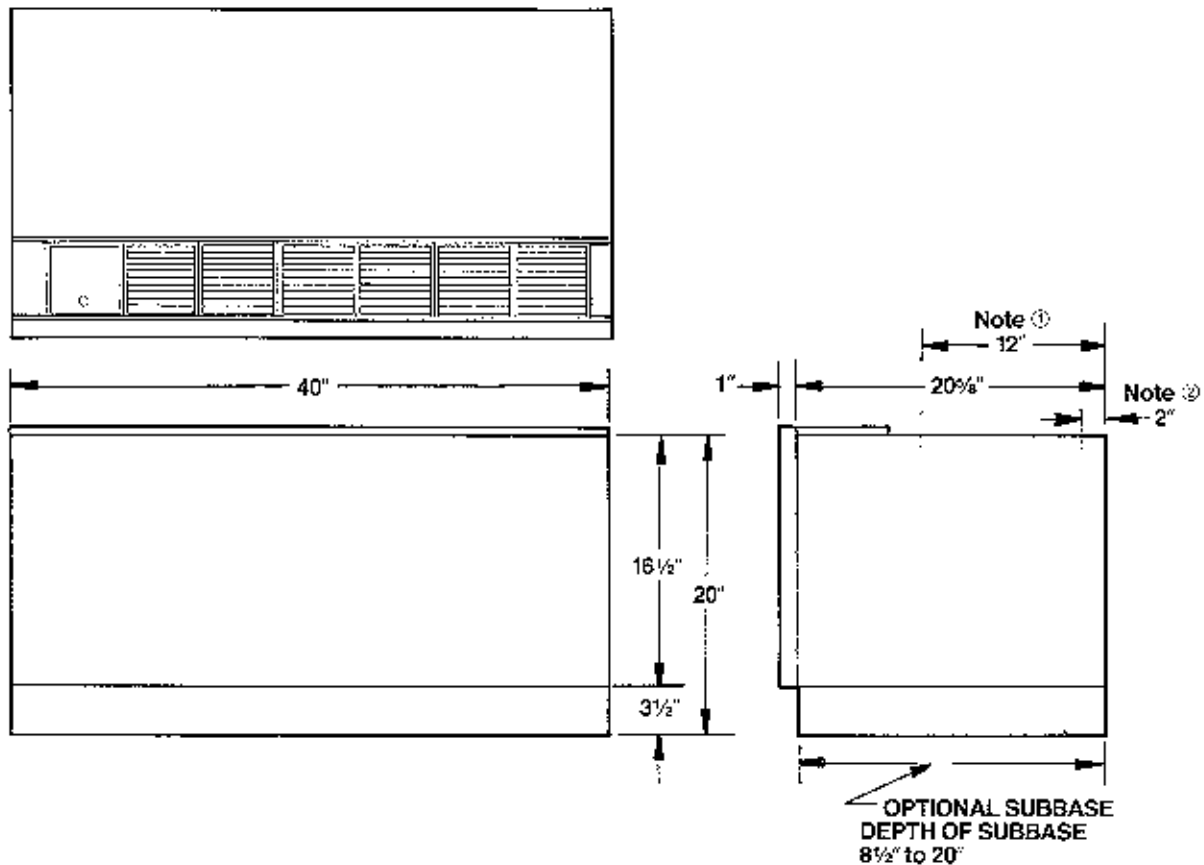
The room cabinet shall consist of two sections, a back frame and a removable front panel to allow full access to the chassis. Construction shall be of heavy gauge furniture steel, finished in a neutral-colored baked enamel to blend with the interior. Provisions shall be made to match wall thicknesses of 2" to 24" depths in 1" increments. An adjustable kick plate shall be provided.

The discharge grill assembly shall be of stamped steel with a four-way adjustment capability. The grill bars shall be set at a 20 degree deflection angle.

Return air shall enter the bottom of the chassis between the kick plate and the cabinet front.

Closed-cell material shall provide a positive compression, weather-tight seal between the chassis and wall box.

DIMENSIONS



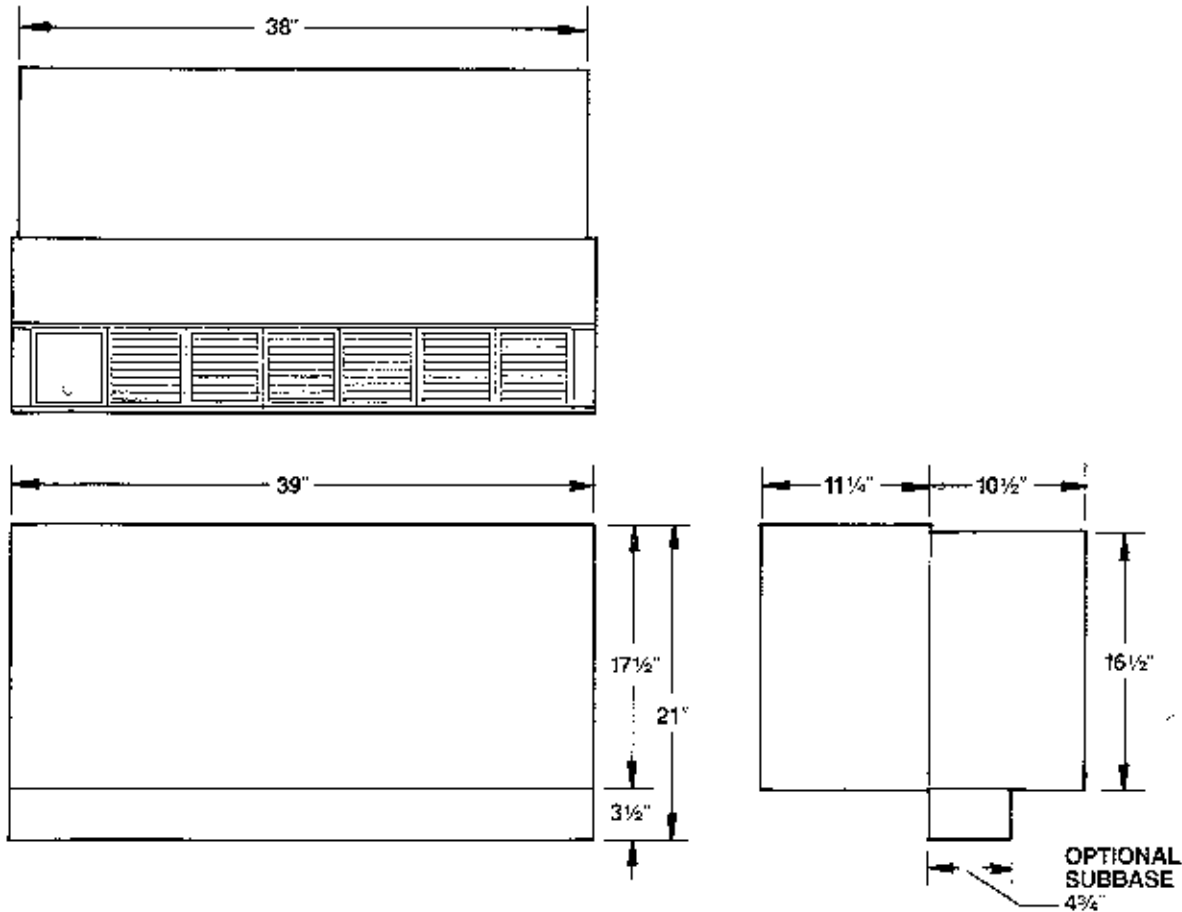
SP Cabinet/Sleeve

The Cabinet/Sleeve shall consist of two sections, a back frame and a removable front panel to allow full access to the chassis. Construction shall be of heavy gauge galvanized steel, finished in a neutral-colored baked enamel to blend with the interior and provide corrosion protection. Glides shall be die formed in the base rails to permit easy removal of the chassis. The Base shall include a built-in pitch of not less than $\frac{1}{4}$ " for drainage to the outside. The Cabinet/Sleeve dimensions shall be 16 1/2" high and 40" wide. Provisions shall be made for recess capability up to 12" wall depth.

The discharge grill assembly shall be of stamped steel with a 4-way adjustment capability. The grill bars shall be set at a 20 degree deflection angle.

- Note ①** Minimum wall insertion is 2".
Note ② Maximum wall insertion is 12".

DIMENSIONS



ME Cabinet

The room cabinet shall consist of one section for access to the chassis. Construction shall be of heavy gauge furniture steel, finished in a neutral-colored baked enamel to blend with the interior. Provisions shall be made to match wall thickness of 2" to 24" depths in 1" increments.

The discharge grill assembly shall be of stamped steel with a four-way adjustment capability. The grill bars shall be set at a 20 degree deflection angle.

Return air shall enter the bottom of the chassis under the cabinet.

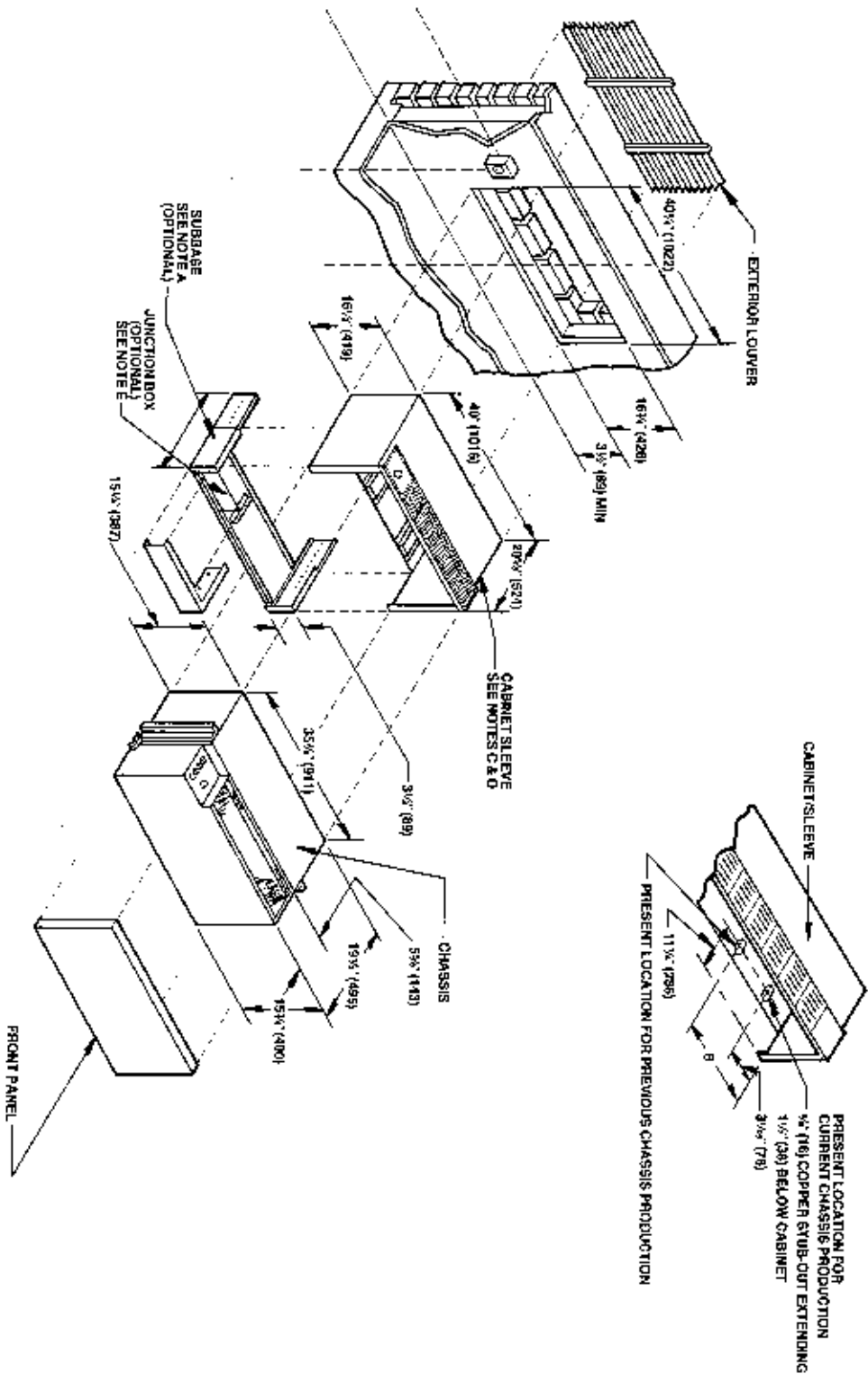
Closed-cell material shall provide a positive compression, weather-tight seal between the chassis and the cabinet.

The ME sub-base attaches to the wall sleeve. The position of the sub-base is dependent on the wall thickness.

The ME wall sleeve has no built-in drainage pitch and must be field installed with a minimum 1/4" pitch for condensate drainage to the outside.

SPECIFICATIONS

702/703 SP Series

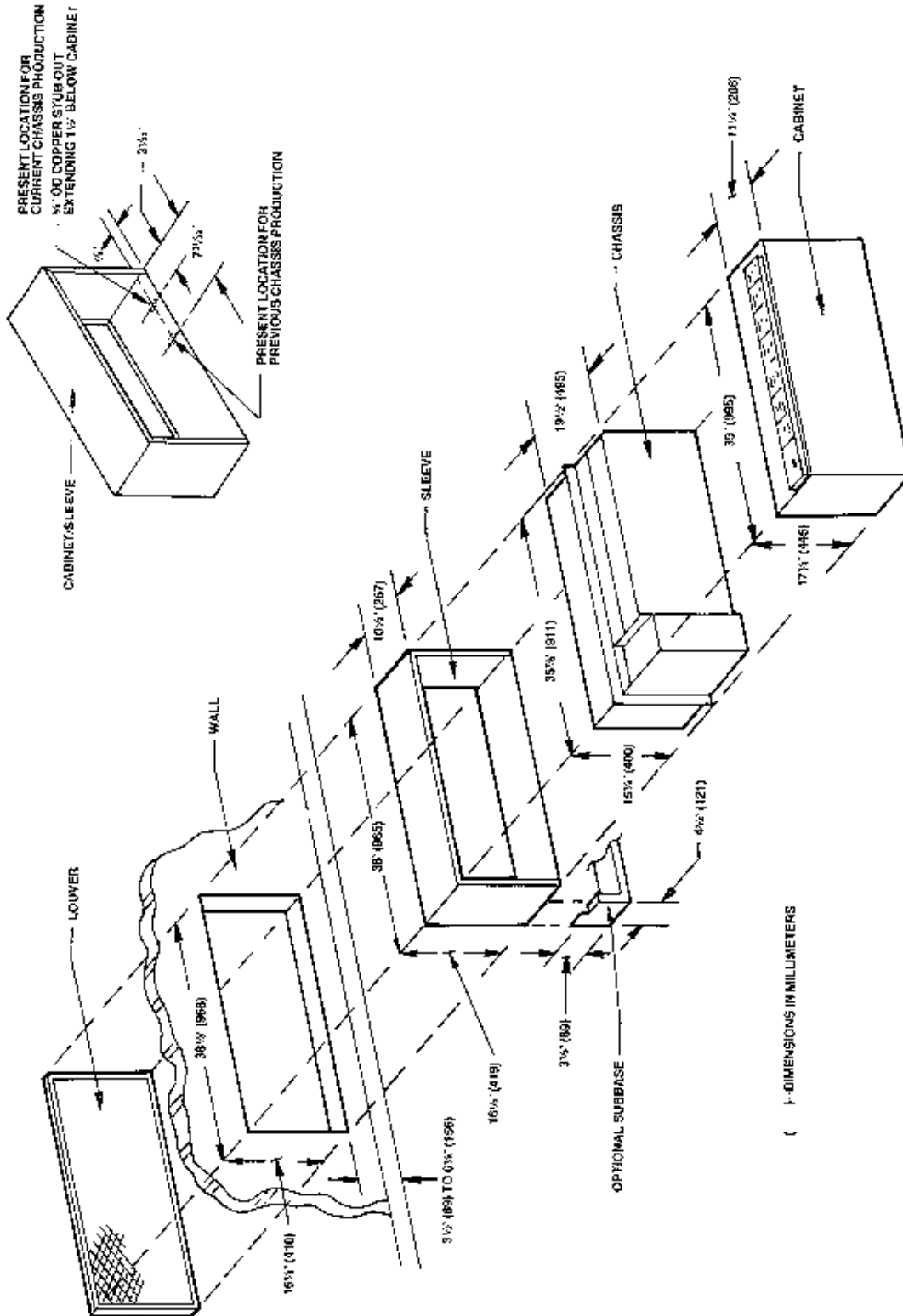


- A. DEPTH OF SUBBASE IS 5/8" (79.2) TO 27" (688) IN 1/4" (6.3) INCREMENTS
- B. DRAIN CONNECTION IS 1/8" (3.2) COPPER STUB-OUT
- C. MINIMUM OF 5/8" (79.2) OF CABINET SLEEVE MUST BE INSIDE ROOM
- D. FOR DEEPER WALLS USE CABINET EXTENSIONS AT (102) OR (124) AVAILABLE
- E. RECEPTACLE AND NON-FUSED DISCONNECT OR CIRCUIT BREAKER OPTIONALLY FACTORY INSTALLED AS PER JOB REQUIREMENT.
- F. OPTIONAL HYDROBLOC SUBBASE AVAILABLE

1 - DIMENSIONS IN MILLIMETERS

SPECIFICATIONS

FOR USE WITH 703 ME SERIES
DRAIN OPTION



() DIMENSIONS IN MILLIMETERS

702/703 ME Series

SPECIFICATION GUIDE

GENERAL

All units must carry ARI Certification (Standard 310 or 380), CSA and UL Listing via appropriate labeling. All electrical and refrigeration components shall be UL recognized devices. The manufacturer's standard warranty and unit serviceability shall be given consideration in bids. Tabulated efficiency and capacity shall be considered minimum.

CHASSIS

The chassis shall include a self-contained, hermetically sealed, refrigeration system with unit controls.

A cooling only chassis (PTAC) shall include the option of factory installed electric heating elements in a range of 2.0 kw to 4.5 kw, dependent on voltage.

A cooling/heating chassis (PTHP) shall combine a high efficiency cooling circuit with the economy of reverse cycle heating and shall include the option of factory installed electric heating elements in a range of 2.0 kw to 4.5 kw, dependent on voltage. The heat pump shall operate in heating down to 35°F based on proper installation, humidity, and outside coil temperature.

Double inlet centrifugal roomside blowers shall be provided for effective air delivery. The outside fan provides a positive condensate removal system virtually eliminating any splash or drip on the exterior wall during the cooling season. Individual PSC motors are separated by an acoustically insulated bulkhead for maximum sound reduction.

CABINETS

The Single Piece cabinet/sleeve assembly shall have a removable front panel to allow service access to the chassis. The cabinet sleeve

shall be constructed from reinforced 18 gauge furniture steel. The entire cabinet/sleeve, interior and exterior, shall be painted for corrosion protection. Painting shall consist of a primer coat and an electrostatically applied finish coat of enamel paint. The finish coat shall be baked on to provide a thermoset coating. The front panel and the tops and sides of the cabinet shall be insulated with matt-face fiberglass thermal and acoustic insulation.

Die-formed glides shall be factory installed in the cabinet/sleeve to allow easy insertion and removal of the chassis. The cabinet/sleeve shall have a built-in pitch of at least ¼" to the outside, allowing for proper drainage. The cabinet/sleeve shall be constructed so that the gasketing material supplied with the chassis shall form a weather-tight seal between the cabinet and chassis.

The Single Piece cabinet/sleeve dimensions shall be 16½" high and 40" wide. Provisions shall be made for recess capability up to 12" wall depth.

The Multiple Piece cabinet and wall sleeve assembly shall have a removable cabinet front panel to allow service access to the chassis. The cabinet and wall sleeve shall be constructed from reinforced 18 gauge furniture steel. The entire cabinet and wall sleeve shall be painted for corrosion protection. Painting shall consist of a primer coat and an electrostatically applied finish coat of enamel paint. The finish coat shall be baked on to provide a thermoset coating. The front panel and the tops and sides of the cabinet shall be insulated with matt-face fiberglass thermal and acoustic insulation. Cabinet shall have adjustable height and depth kick plates.

The Multiple Piece wall sleeve shall allow easy insertion and

removal of the chassis. The wall sleeve shall have a built-in pitch of at least ¼" to the outside allowing for proper drainage. Provisions shall be made to match wall thickness of 2" to 24" depths in 1" increments. For thin wall applications, the wall sleeve shall accept adjustable legs for stability. The wall sleeve shall be constructed so that the gasketing material supplied with the chassis shall form a weather-tight seal between the cabinet and chassis.

The Maximum Economy cabinet and wall sleeve shall have a removable cabinet to allow service access to the chassis. The cabinet and wall sleeve shall be constructed from reinforced 18 gauge furniture steel. The entire cabinet and wall sleeve shall be painted for corrosion protection. Painting shall consist of a primer coat and an electrostatically applied finish coat of enamel paint. The finish coat shall be baked on to provide a thermoset coating.

The Maximum Economy wall sleeve shall allow easy insertion and removal of the chassis. The wall sleeve shall have a field applied pitch of at least ¼" to the outside allowing for proper drainage. Provisions shall be made to match wall thicknesses of 2" to 24" depths in 1" increments. The wall sleeve shall be constructed so that the gasketing material supplied with the chassis shall form a weather-tight seal between the cabinet and chassis.

REFRIGERANT CIRCUIT

The chassis shall contain all refrigerant components in a properly charged, sealed, leak and performance tested system. Sealed refrigerant circuit shall be certified for 400 PSIG working pressure. All refrigerant components shall be interconnected with copper tubing.

SPECIFICATION GUIDE

The refrigerant system protection shall include compressor thermal overload.

Fully Hermetic Compressor shall be internally mounted and externally isolated to minimize mechanical vibration and sound transmission.

The indoor air-to-refrigerant coil construction shall be rippled aluminum fins mechanically bonded to staggered copper tubes, mounted above drain pan.

The outdoor air-to-refrigerant coil construction shall be the same as the indoor air-to-refrigerant coil.

UNIT OPERATING CONTROLS

Standard Manual Changeover Unit Mounted controls shall include High and Low Cool, Heat, and Standby selections. An adjustable room return air thermostat shall be provided. Standard operation shall be continuous fan with compressor cycling to satisfy thermostat demand in the selected cooling or heating mode.

(Optional) Automatic Changeover Unit Mounted controls shall include On and Standby selections. An adjustable room return air thermostat shall be provided. Standard operation shall be continuous fan with compressor automatically cycling to heat or cool as demanded by the thermostat.

(Optional) 24 Volt Remote/Master-slave controls shall include a 24 volt transformer and required relays. A Single unit or Master-slave combination (up to 11 slave units) shall be controlled by the following:

- Manual Changeover wall thermostat shall include Heat, Off, Cool operating mode selection switch, Auto, On fan switch and adjustable temperature control.
- Automatic Changeover wall thermostat shall include On, Off

system switch, Auto, On fan switch and adjustable temperature control.

(Optional) Program Relay shall be provided for interface to an Energy Management Control System or Time Clock by others.

(Optional) Security Guard 24 Volt control package shall be provided for unit random start, night setback at 55°F and a two hour user override timer.

(Optional) Emergency Power controls and components shall be provided to allow unit operation from an emergency power source (by others) in case the primary power source fails. The emergency power source shall double as the primary power source during normal operation to allow continuous operation of the blower motor, controls, and hydronic heating valve.

(Optional) Cycling Air shall be provided to allow the blower motor to cycle with compressor operation in lieu of continuous fan during unit operation.

(Optional) Manual Mechanical or Motorized Damper shall be provided, with or without filter, for outside air requirements.

OPTIONS

Sub-bases for the Single Piece or Maximum Economy cabinet designs shall be provided. These sub-bases shall include optional power connections, if required. The Single Piece Sub-base shall include optional hydronic heat coil and valve, if required. Sub-bases for the Single Piece or Maximum Economy cabinet designs shall also provide support for thin wall applications where applicable.

Power Connections for the Multiple Piece cabinet design shall be provided for field installation,

in left hand or right hand configurations, where required.

Adjoining Room Outlet shall be provided for Single Piece and Multiple Piece cabinet designs where space conditioning is required for two spaces.

Support Legs shall be provided for Multiple Piece cabinet design where required for "thin wall" applications.

An Architectural Anodized Extended Aluminum Outdoor Louver shall be provided for the Single Piece, Multiple Piece, and Maximum Economy cabinet designs.

Louvers, by others, shall be factory tested for unit compatibility.

Room Cabinet/Sleeve Extensions shall be provided in 4" and 10" extensions for Single Piece cabinet design.

Condensate Drain Kits shall be provided for all cabinet designs.

(Optional) Spare Chassis shall be supplied to minimize tenant inconvenience during service repair. Size and quantity shall be as per equipment schedule.



Continuing engineering research results in steady improvements. Therefore, these ratings and specifications are subject to change without notice.

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