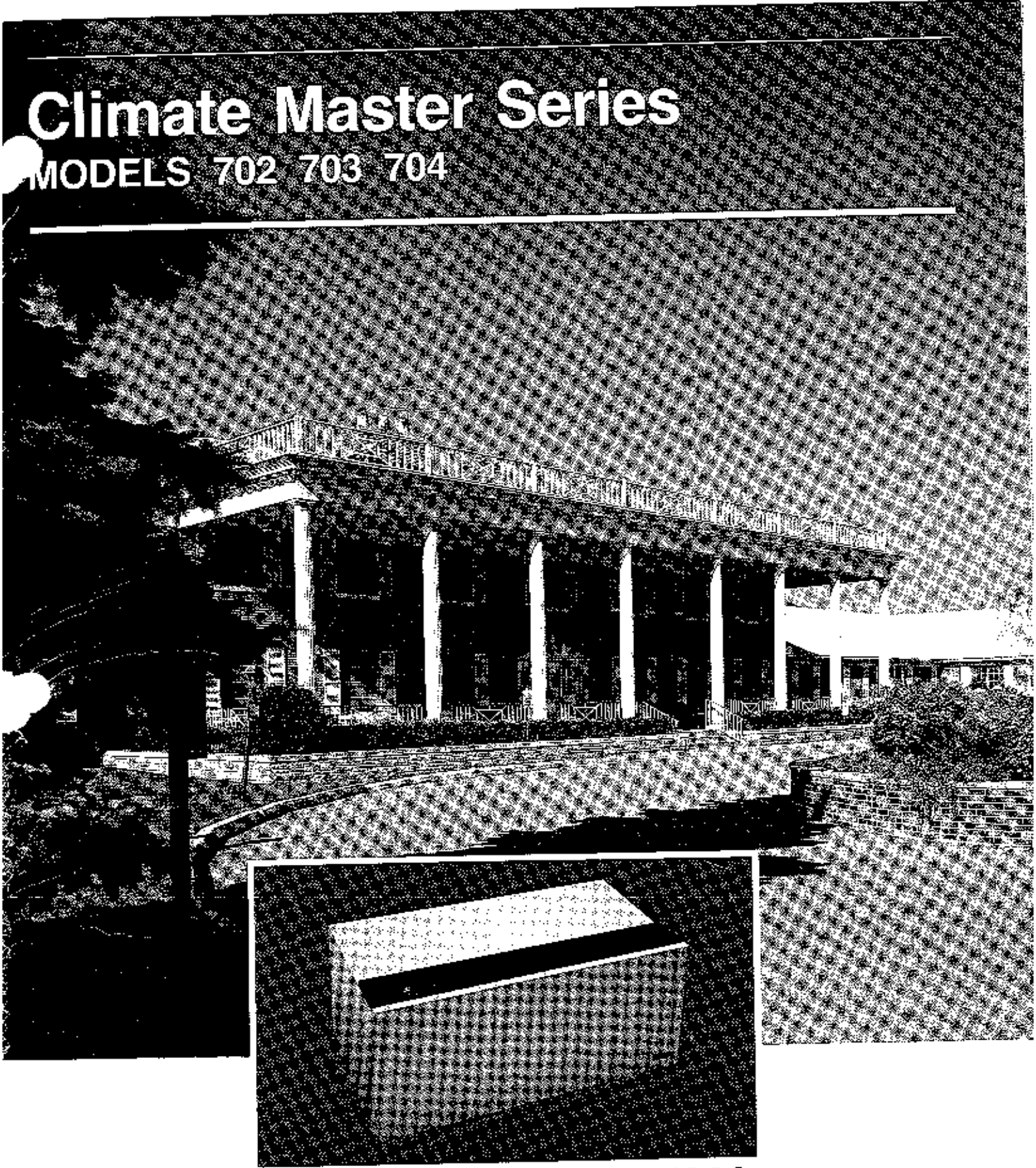
Climate Master Series

MODELS 702 703 704



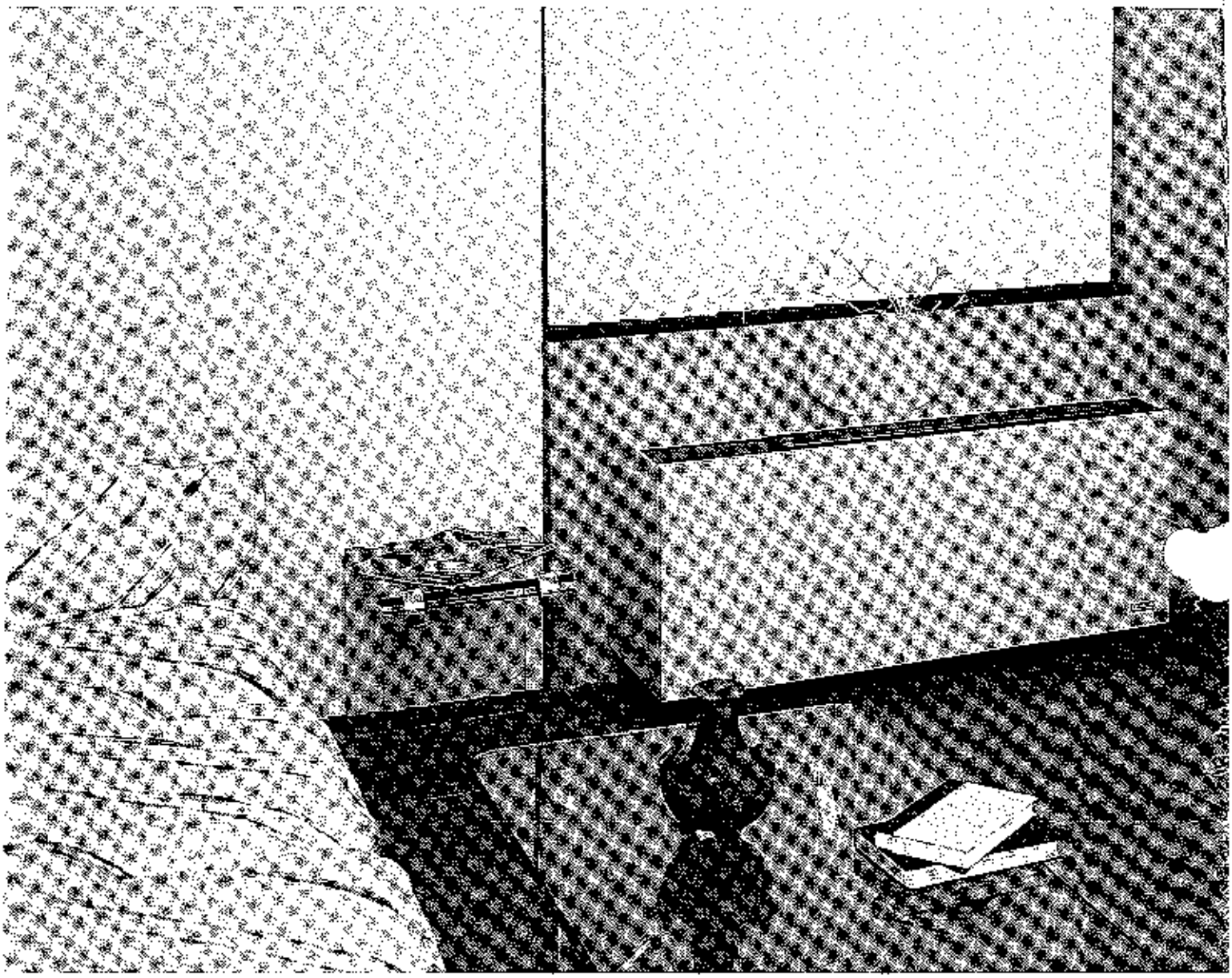
PACKAGED TERMINAL

AIR CONDITIONERS and HEAT PUMPS

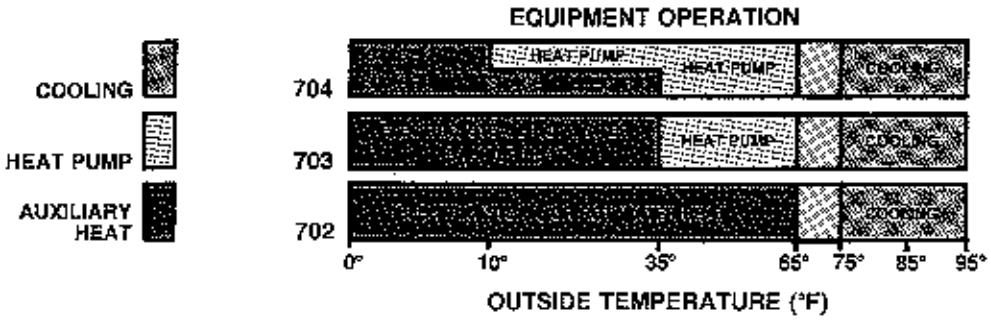
Friedrich
Climate Master®

Climate Master Series

Climate Master offers the broadest line of through-the-wall equipment for heating, air conditioning, and ventilating. It ranges from low first-cost 702 heat/cooling units through standard range 703 heat pumps to 704 Max-Range™ heat pumps with the lowest operating cost of any packaged terminal equipment.

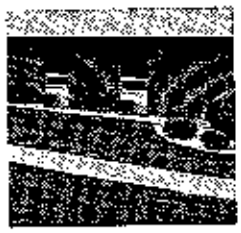


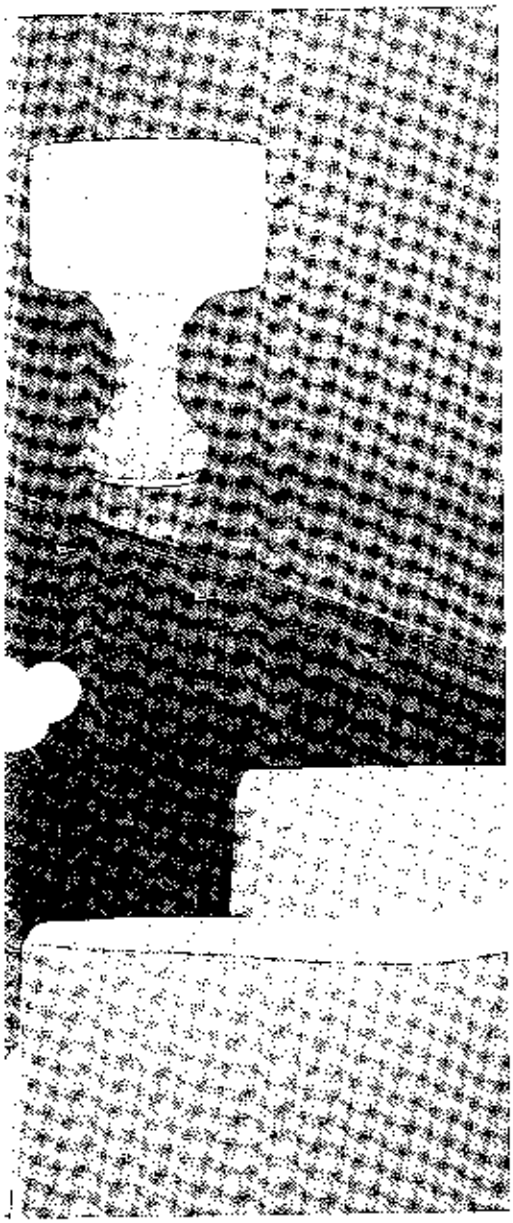
Model apartment The Ascot, 407 Park Avenue South at 28th Street, New

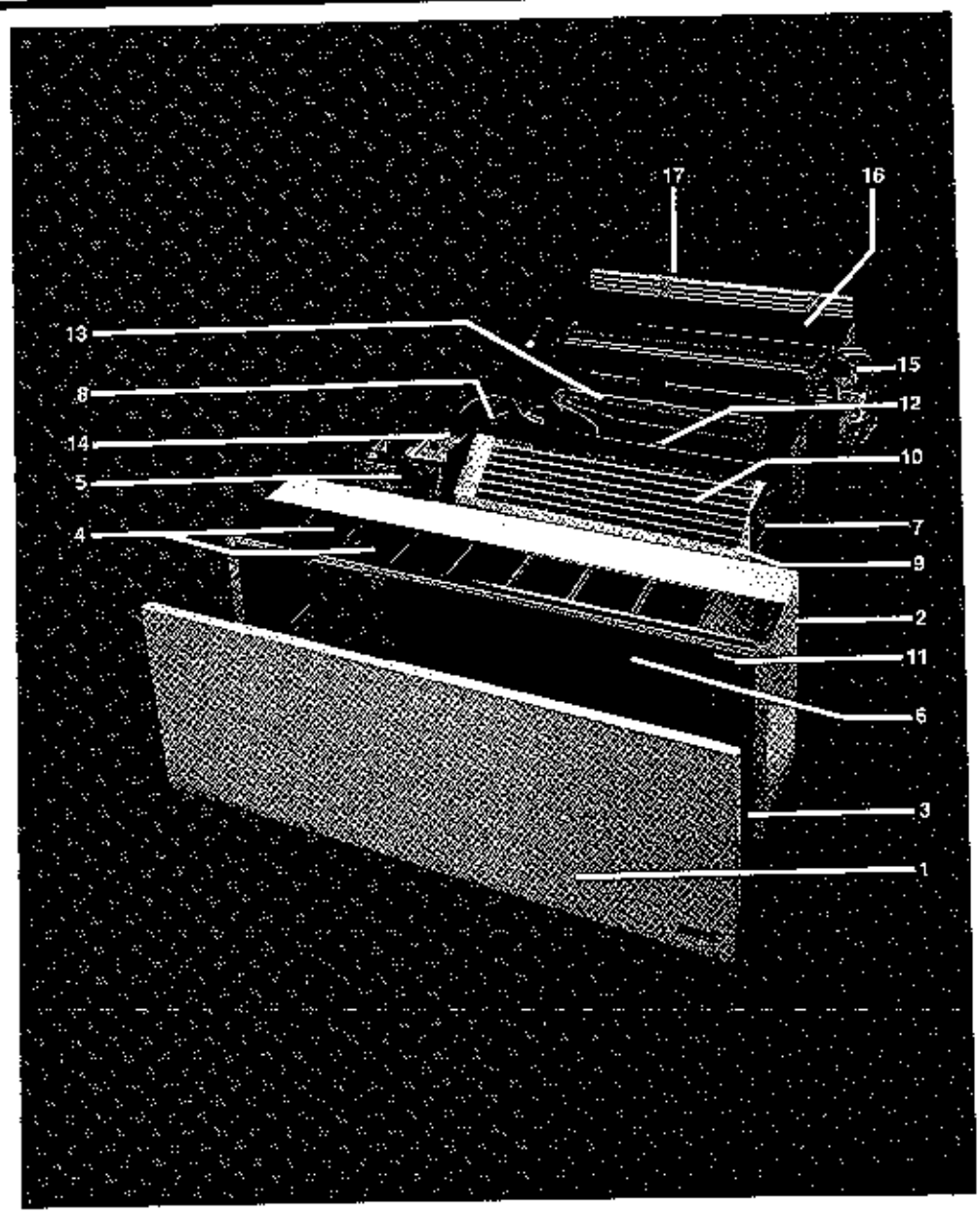


Packaged Terminal HVAC units meet room air comfort requirements in both new construction and retrofit applications. They are low in cost: both in installation and operation. Packaged terminal units save vital room area because most of the unit is in the exterior wall cavity. They also offer the major advantage of individual zone control: different comfort levels can be set for different areas, and service on any one unit will not interrupt operation in another area of the building.

Climate Master Packaged Terminal units are designed for long-term efficient operation in buildings such as schools, hospitals, hotels, nursing homes, offices, and apartments.







Every Package Terminal unit from Climate Master is designed, built, and tested in our own 450,000 square foot manufacturing facility.

Climate Master has been in the air conditioning business for over 25 years, and offers extensive support through representatives throughout the United States and Canada.

Climate Master is a member of the Air Conditioning and Refrigeration Institute (ARI), and submits every model to ARI for testing and certification.

A disassembled Model 703-MP

1. Heavy-gauge steel cabinet front – fully insulated, slides off for service access. **2.** Heavy-gauge steel room cabinet different sizes to fit various wall widths. **3.** Adjustable steel kickplate. **4.** Control panel access/adjustable four-way supply air grilles. **5.** Steel control compartment cover/wiring diagram/rating plate. **6.** Insulated steel blower compartment cover. **7.** Fully-assembled heating/cooling chassis – slides out for service. **8.** High efficiency compressor. **9.** High-efficiency 2-speed blower motor – entire assembly removable. **10.** Refrigerant-to-air heat exchanger **11.** Lifetime washable air filter. **12.** Outdoor air fan/motor unit. **13.** Outdoor air-to-refrigerant heat exchanger. **14.** Optional steam or hot water heating coil. **15.** Steel wall box. **16.** Extruded aluminum outdoor louver.

Three different systems to meet every heating and air conditioning requirements

702 PERFORMANCE

MODEL (11)	702-06	702-08	702-10 (12)	702-12B	702-12C	702-14	702-15
Cooling BTUH (1)	6700	8300	10200	12100	11500	13700	15300
EER	8.2	8.9	8.9	8.9	9.2	8.8	8.0
Amps	4.1	4.8		6.8	7.1	7.8	9.5
Air Flow CFM							
High	330	350		420	430	460	420
Low	295	315		390	385	415	390
Vent (5)	45	45		50	50	50	50

703 DATA CHART

MODEL (11)	703-06	703-08	703-10 (12)	703-12A	703-12B	703-14	703-15
Cooling BTUH (1)	6600	7900	9800	12000	11200	13300	14800
EER	8.0	8.5	8.8	8.3	9.1	9.0	7.8
Amps FL	4.1	4.8		7.1	7.1	7.8	9.5
Heating BTUH (2)	6400	7500		11000	10900	12800	14000
COP	2.6	2.7		2.6	2.9	2.8	2.6
Amps FL (6)	4.1	4.8		5.9	7.1	7.8	8.0
Air Flow CFM							
High	360	370		420	460	420	420
Low	325	335		390	415	380	390
Vent (5)	45	45		50	50	50	50

Capacity and COP vs. Outside Temperature at 70% R.H.	Outside Temp.	BTUH	COP	BTUH	COP		BTUH	COP	BTUH	COP	BTUH	COP	BTUH	COP
	62°	7900	3.05	9400	3.13		13200	2.8	12800	3.17	14600	2.96	16800	2.8
	57°	7400	2.91	8800	3.0		12920	2.8	12150	3.14	13750	2.86	15680	2.8
	47°	6400	2.59	7500	2.68		11000	2.6	10900	2.89	12800	2.8	14000	2.6
	37°	5400	2.25	6350	2.4		9240	2.4	9500	2.64	11150	2.57	11760	2.4
	32°	4450	1.92	5200	2.06		8570	2.1	8100	2.36	9800	2.38	10780	2.1

704 PERFORMANCE

MODELS (11)	704-06	70
Cooling BTUH (1)	6600	
EER	8.0	
Amps FL	4.1	
Watts	830	
High Temp. (47° O.A.T.) Heating BTUH (2)	6400	7
COP	2.6	
Amps FL	4.1	
Watts	725	
Low Temp. (17° O.A.T.) Heating BTUH (3) (8)	3600	
COP	1.6	
Watts	660	
Air Flow CFM		
High	360	
Low	325	
Vent (5)	45	

	Outside Temp.	BTUH	COP
Heat Pump Capacity and COP at Various Outside Temperatures based on 70% R.H.	65°	8100	3.13
	55°	7200	2.85
	45°	6200	2.53
	35°	5200	2.18
	25°	4300	1.87
	15°	3450	1.54
	10°	3100	

704 ELECTRIC HEAT OPTIONS

VOLTAGE	208		
Heater Code	1	2	
Stage 1 (8) BTU	2795	4178	48
KW	820	1225	14
Stage 1 & 2 (9) BTU	5590	8355	97
KW	1640	2450	28

702/703 HEATER OPTIONS

ELECTRIC HEAT

VOLTAGE	208				230			265	
Heater Code	1	2	4	5	1	2	4	3	5
BTUH (4)	7000	10500	12800	13900	8600	12800	15600	11300	13800
KW	2.0	3.0	3.7	4.0	2.45	3.7	4.5	3.25	3.98
Total Amps (6)	10.1	14.9	18.3	19.7	11.1	15.5	20.0	12.7	15.6

HYDRONIC HEAT

MODELS	BTUH (4)	
	Steam	Hot Water
702/703-06 to 10	17700	13500
702/703-12 to 15	18600	14300

NOTES:

1. Capacities Tested and Rated in Accordance with ARI Standard 380 Conditions of 95 DB/75 WB Outside, 80 DB/67 WB Inside.
2. 47 DB/43 WB Outside, 70 DB Inside.
3. 17 DB/15 WB Outside, 70 DB Inside (Heat Pump only).
4. Heating BTUH includes fan motor.
5. Units with higher vent CFM are available as special order.
6. Electric Heat and Heat Pump are never both on.
7. Steam BTUH based on 70°F DB EAT @ 2 PSIG. Hot water BTUH based on 70°F DB EAT, 200°F EWT 180 LWT.
8. For total capacity of unit below 35°F O.A.T. add first stage heat to Heat Pump Capacity.

O.A.T.: Outdoor Air Temperature.

All Climate Master units are built with the highest quality components, and are designed for long-term efficient operation. Refrigeration systems are of heavy-duty construction, using high-efficiency rotary compressors (Models over 15000 BTUH use reciprocating compressors) with built-in overload protection. The compressor, condenser fan, and condenser motor are all isolated behind an insulated steel bulkhead.

Room air delivery is provided by two double-inlet centrifugal blower wheels. The entire blower deck can easily be removed for servicing.

All Climate Master Packaged Terminal equipment includes a positive condensate removal system for efficient operation and to prevent staining of building exteriors. Each unit also may include a fresh air damper, to provide outside air for ventilation.

All units include factory-mounted controls and a thermostat: either a manual changeover thermostat (OFF/HIGH COOL/LOW COOL/HEAT/FAN), or an automatic changeover thermostat (OFF/AUTO/FAN). Numerous additional control options are available.

The Model 702 is a self contained air-cooled air conditioner unit for dependable service in all applications. It has been designed for installations where low first cost is the primary concern.

To allow use of the most economical heating system, the 702 can be supplied with a built-in electric heater, a low-pressure steam coil, or a hot water heating coil.

Model 702 includes a slinger-ring type outdoor fan, which provides positive removal of any condensate by evaporating it on the outdoor coil.

controls available include Automatic Change-over (right), and Manual Change-over (far right), available on all units.

Two cabinet styles to meet any architectural need

704-10 (12)		704-12		704-14	
9800		11200		13300	
8.8		9.1		9.0	
		7.1		7.8	
		1235		1475	
		10900		12800	
		2.9		2.8	
		7.1		7.8	
		1105		1340	
		6800		8500	
		2.1		2.2	
		950		1135	
		460		420	
		415		380	
		50		50	
COP	BTUH	COP	BTUH	COP	
3.21	13200	3.20	15000	3.00	
2.93	11900	3.02	13600	2.86	
2.64	10500	2.80	12300	2.72	
2.32	9200	2.67	10900	2.55	
2.00	7900	2.33	9500	2.34	
1.76	6500	2.03	8300	2.17	
1.54	5900	1.89	7700	2.08	

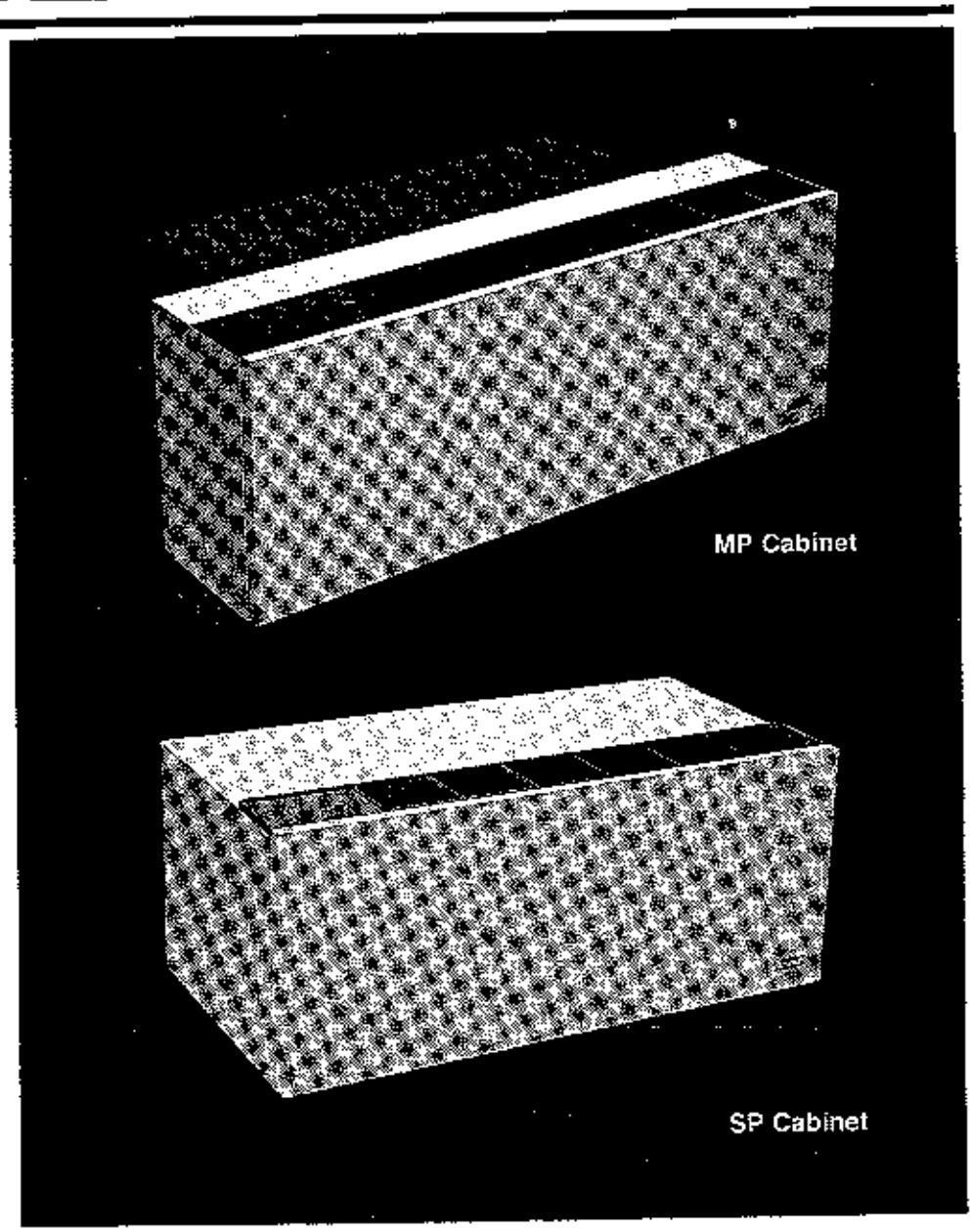
	230			265	
	1	2	3	1	2 (10)
0	3410	5155	5882	4545	6785
0	1000	1500	1725	1333	1990
20	6820	10230	11765	9090	13570
0	2000	3000	3450	2665	3980

For total Heat Output below 10°F O.A.T., add Fan BTUH to this value. Fan BTUH: 704-06: 205; 704-08: 310;704-12: 375; 704-14: 475.

Not available on 704-06 or 704-08.

Based on 230 Volt Model.

Available Mid-1985



The Model 703 standard-range heat pump offers a balance of affordable first cost with high-efficiency energy saving features that greatly reduce operating costs.

The 703 heat pump will operate on the heat pump cycle to outdoor temperatures as low as 35°F (or lower, depending on the humidity). Back-up heating is either an electric resistance heater, or a steam or hot water coil, depending on the requirements of the building.

As with all Climate Master units, the 703 is factory charged, leak and run tested to insure that every unit shipped will operate properly when installed.

The Model 704 Max-Range™ Packaged Terminal heat pump is the most advanced packaged terminal HVAC unit, with the lowest operating cost of any unit available today.

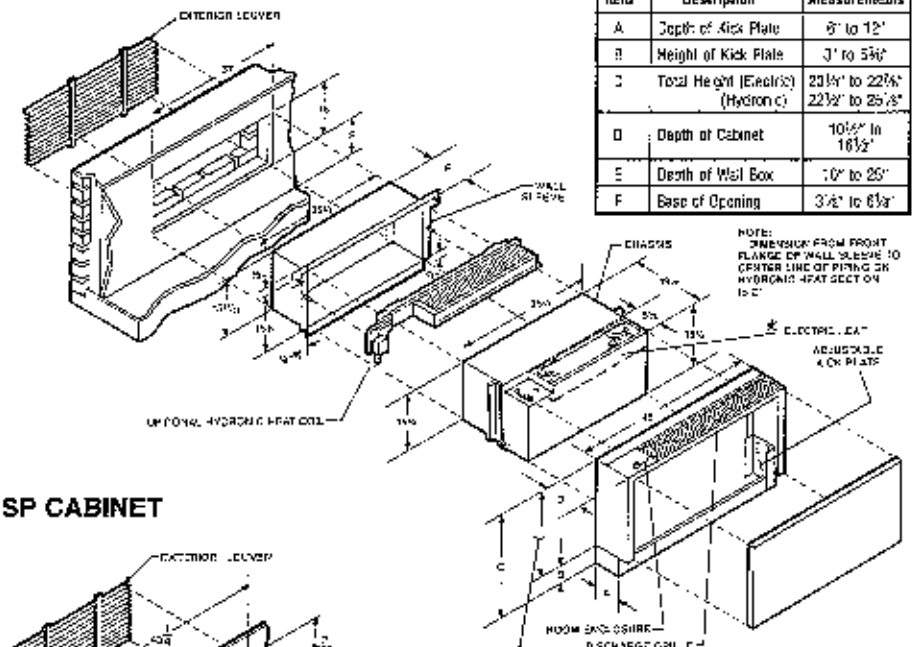
The system operates on the heat pump cycle to 10°F outdoor temperature. The 704 includes a reverse-cycle defrost system to allow reliable, efficient low temperature operation.

Max-Range™ also operates the factory-installed two-stage electric heater. This is a sheath-type heater, which prevents "glow" and protects the room occupant from any possibility of contact with a "hot" heater element. As needed, the first stage of electric heat will operate in conjunction with the heat pump. When outside temperatures drop below 10°F, the heat pump is turned off, and both stages of electric heat are used to heat the space.

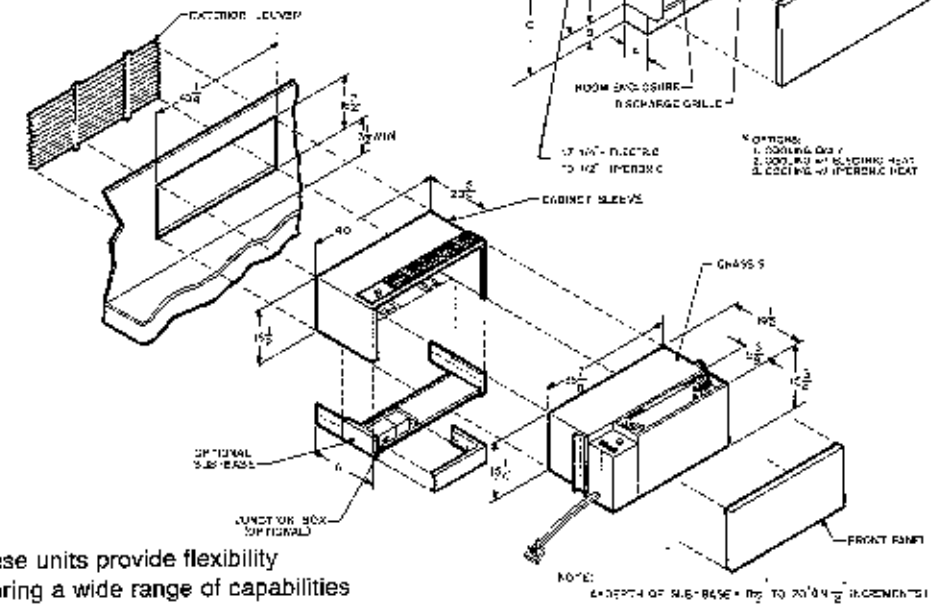
Climate Master offers single or multi-piece cabinetry

MP CABINET

702 / 703 / 704 MP DIMENSIONS		
Item	Description	Measurements
A	Depth of Kick Plate	6" to 12"
B	Height of Kick Plate	3" to 5⅜"
C	Total Height (Electric) (Hydronic)	20⅛" to 22⅞" 22½" to 25⅜"
D	Depth of Cabinet	10½" to 16½"
E	Depth of Wall Box	10" to 25"
F	Base of Opening	3⅛" to 6⅜"



SP CABINET



These units provide flexibility offering a wide range of capabilities

The Climate Master offers single or multi-piece cabinetry Climate Master offers a choice of cabinet styles, either single-piece or multi-piece. Both are heavy gauge steel, finished inside and out for corrosion protection. Chassis glides are die-formed in the cabinets to permit easy removal of the chassis.

The MP (Multi-Piece) cabinet is designed for installation in walls 10" to 25" thick. Its modular construction makes it especially convenient for use in new or retrofit buildings.

The MP cabinet consists of a wall box, an insulated two-piece room cabinet, and an outdoor louver.

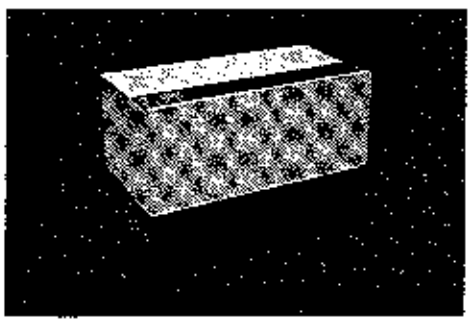
An option for the MP cabinet is an enlarged cabinet section which allows installation in walls as small as 5".

The SP (Single-Piece) cabinet is designed for installation in walls up to 12" thick. It can be included in the initial building design, or used in renovation of existing buildings.

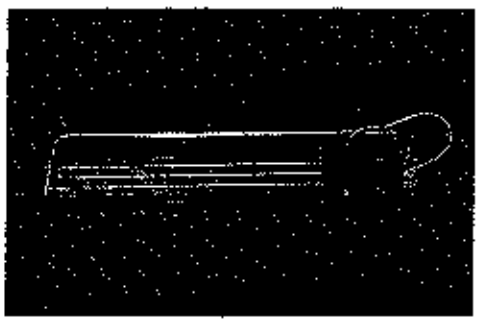
The SP cabinet consists of an insulated sleeve with a removable front panel, and an outdoor louver.

Options for the SP cabinet include a cabinet extension which allows installation in walls up to 22" thick, a standard sub-base, or a hydronic sub-base which allows steam or hot water back-up heat.

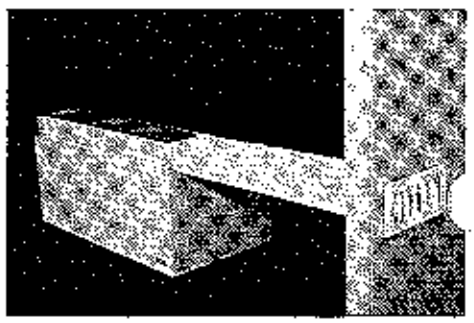
Selected Options



SP Hydronic Heater Sub Base



MP Hydronic Heat Coil



Adjoining Room Outlet

Offered options adapt Climate Master units to fit any need

Available 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.

STAMPED OUTDOOR LOUVER – Replaces the standard extruded aluminum outdoor louver.

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.

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 are available.

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 SET-BACK THERMOSTAT – Program relay with setback thermostat to maintain the space at 50°F during unoccupied hours.

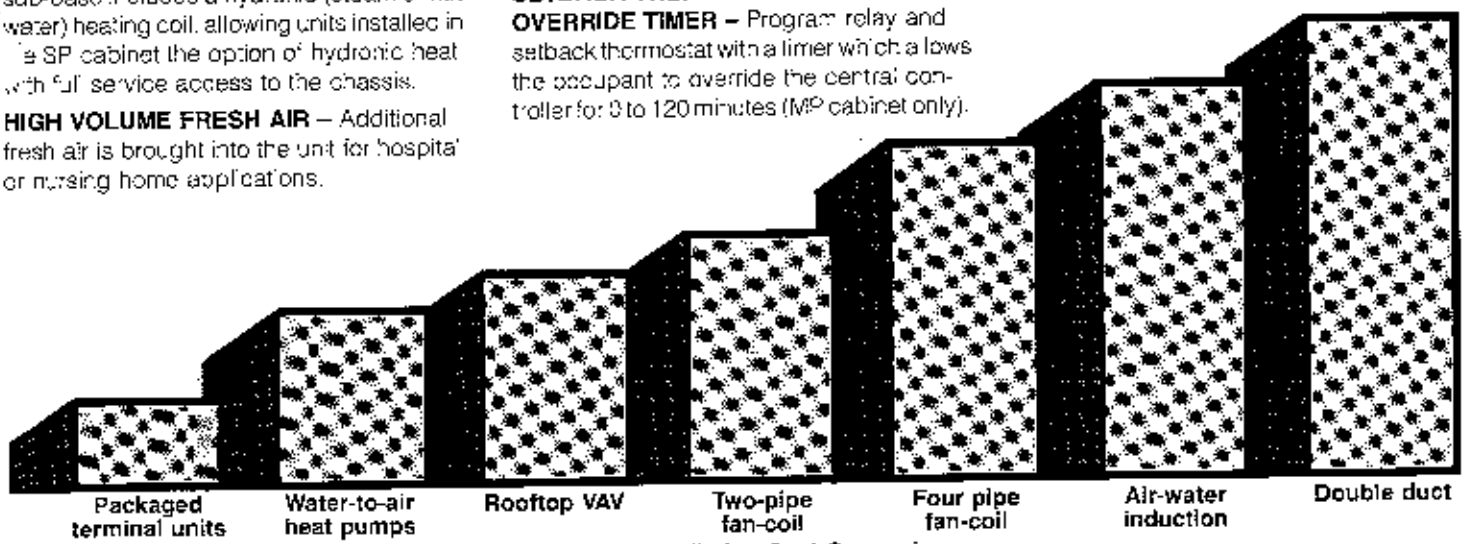
PROGRAM RELAY WITH NIGHT SETBACK THERMOSTAT AND OVERRIDE TIMER – Program relay and setback thermostat with a timer which allows the occupant to override the central controller for 0 to 120 minutes (MP cabinet only).

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

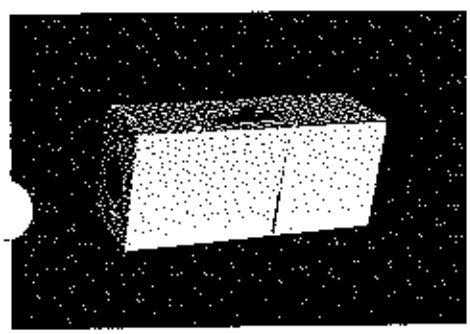
MASTER/SLAVE – Allows a single wall thermostat to control any number of units in parallel.

POWER LINE CARRIER (PLC) RECEIVER – Factory-mounted PLC Receiver allows unit control by Climate Master ENERLOG Hotel or Commercial Power Line Carrier Energy Management System.

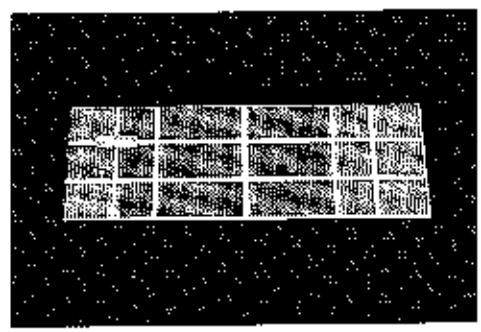
POWER CONNECTION OPTIONS – All Packaged Terminal units offer line cords with unit mounted receptacles, with or without unit mounted circuit breakers.



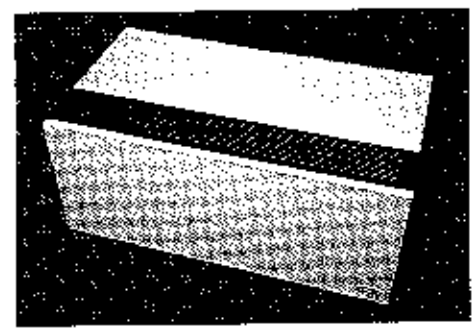
Typical Installation Cost Comparison
Based on 11 story building



Circuit Breaker

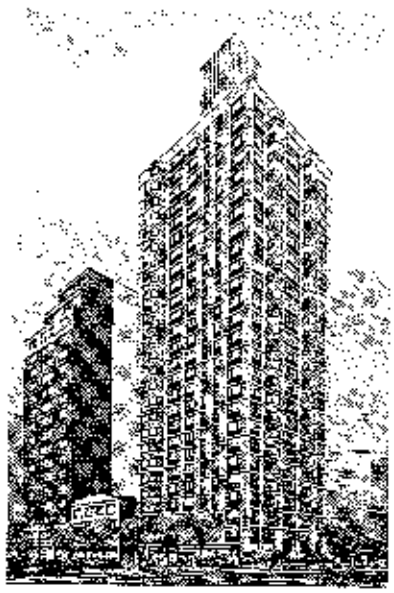


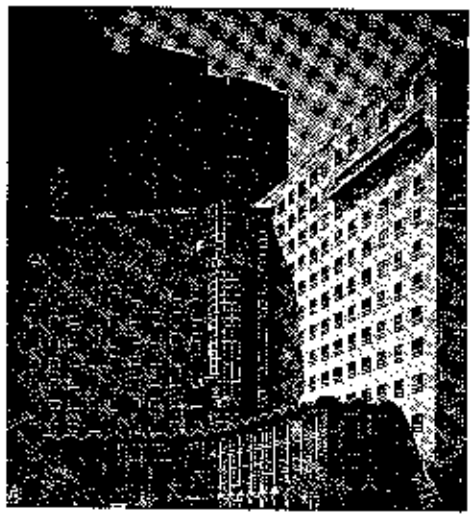
Optional Outdoor Louver

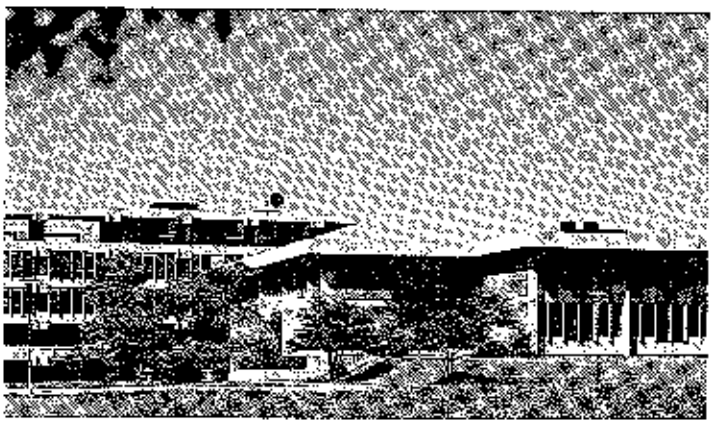


Bar Grill on SP Cabinet

Climate Master Packaged Terminal units – designed for efficient operation in multi-room, multi-purpose buildings.







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