

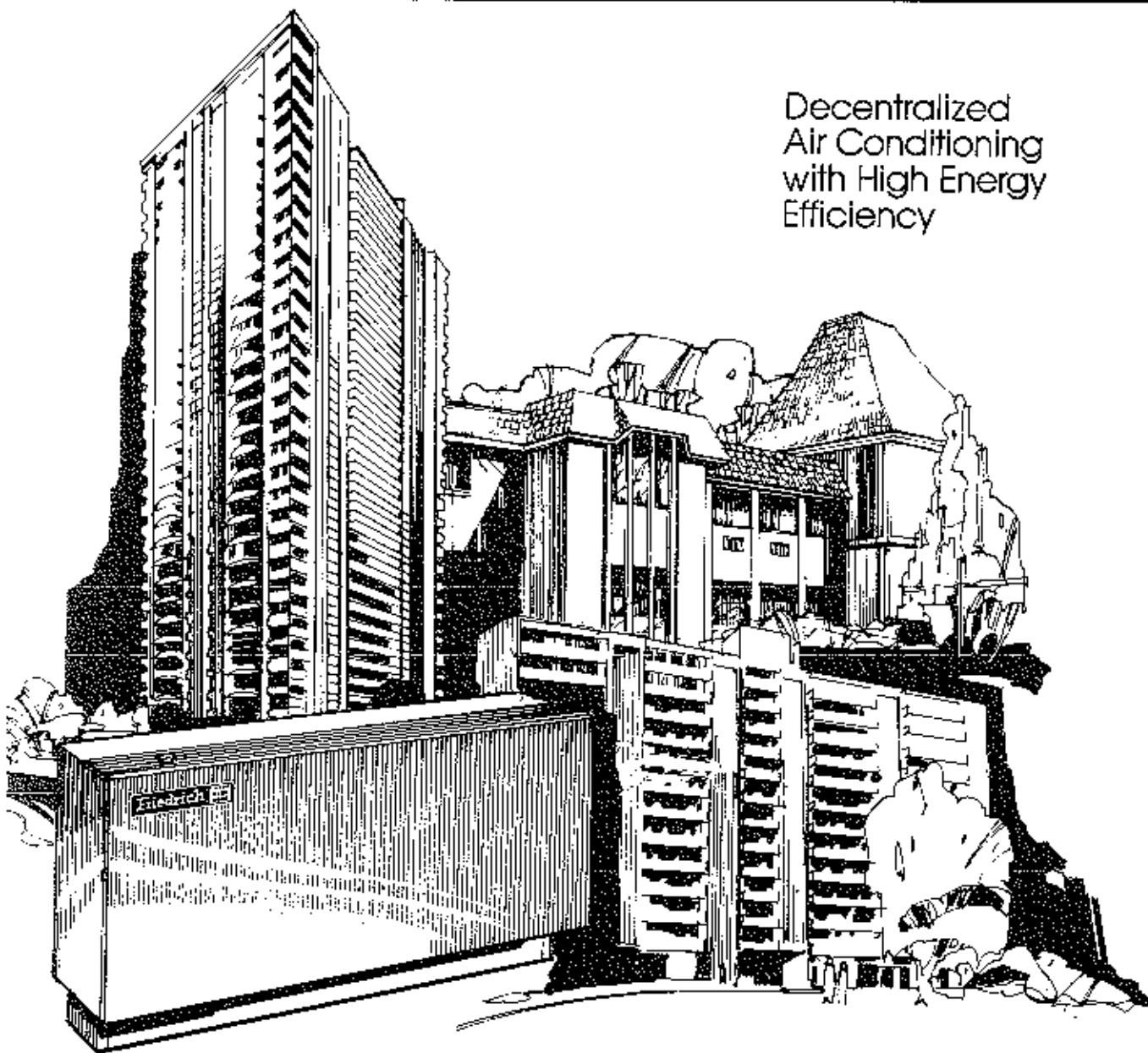
701 SERIES

Packaged Terminal Air Conditioners

AIR COOLED

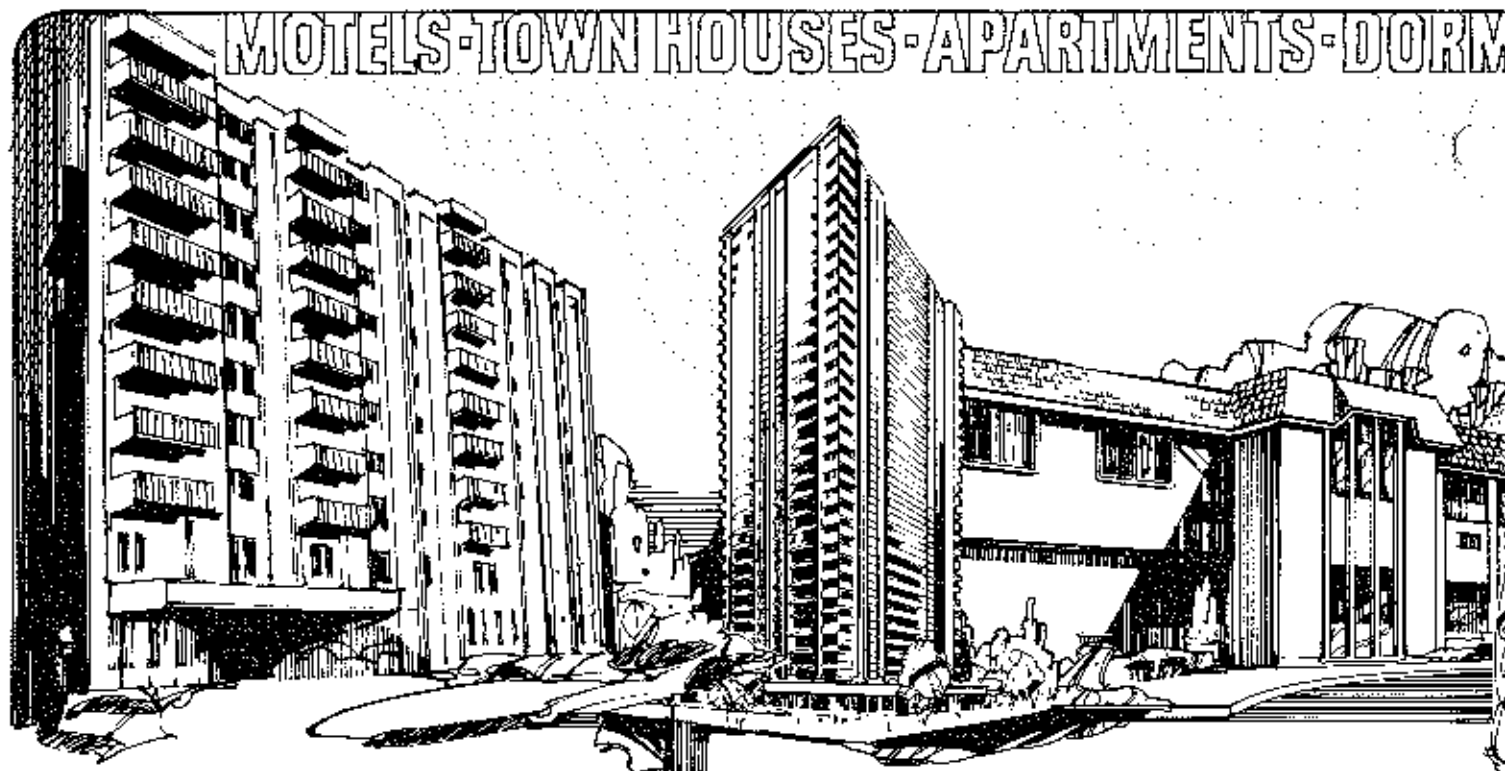
Thru-the-Wall Cooling/Heating Systems

Decentralized
Air Conditioning
with High Energy
Efficiency



Friedrich® Climate
Master
Series

THE ENERGY ECONOMISERS



MOTELS · TOWN HOUSES · APARTMENTS · DORMS

THE ENERGY ECONOMISERS

High Average E.E.R. Offered by Friedrich Thru-the-Wall Systems

Friedrich 701 Series is the most advanced Thru-the-Wall decentralized air conditioning system. Quiet, efficient Packaged Terminal Air Conditioners are air cooled units designed for use with electric, steam or hot water heat.

Friedrich 701 Series units supply year round individual room control of cooling, heating and ventilating at the push of a button. Each PTAC unit is engineered with high average E.E.R. and low sound level.

Individual comfort control is provided in hotels, motels, hospitals, office buildings and educational institutions... with maximum economies in installation, operation and maintenance. They're Energy Economiser products performing at their finest.

Cooling, heating, ventilating... use in rooms only where and when required... 701 Series units match a building and individual occupants to desired comfort levels with minimum energy usage.

Friedrich 701 Series Packaged Terminal Air Conditioners E.E.R. ratings are among the highest recognized in the industry. It's important not only in desirable energy conservation, but also in operating costs.

Cool-Econo-Cycle

Additional operating savings are available with Friedrich Cool-Econo-Cycle. When outdoor temperature drops below 50°F, the automatic Cool-Econo-Cycle locks out the compressor. Upon call for cooling, the outside air door opens and the outdoor fan is energized. This forces cool outdoor air into the room thus providing minimal cooling required when outdoor temperature is below 50°F. This feature, standard on all Friedrich 701 Series units, saves money by not operating the compressor during cold outdoor temperatures. The Friedrich Cool-Econo-Cycle also prolongs compressor operating life and eliminates frosting of the evaporator coil.

Expected Unit Performance during Econo-Cycle Operation

MODEL	OUTDOOR TEMP. (°F)	TOTAL WATTS	CAPACITY BTU/HR	BTU/WATT	OUTDOOR AIR CFM
701-07-09	55	350	3800	10.9	75
701-12	55	380	4000	10.5	85
701-14-17	55	430	4300	10.0	95
701-07-09	50	350	4800	14.0	75
701-12	50	380	5400	14.2	85
701-14-17	50	430	5800	13.5	95
701-07-09	45	350	5600	16.0	75
701-12	45	380	6300	16.6	85
701-14-17	45	430	6800	15.8	95
701-07-09	40	350	6200	17.7	75
701-12	40	380	7000	18.4	85
701-14-17	40	430	7700	17.9	95
701-07-09	35	350	6800	19.4	75
701-12	35	380	7700	20.3	85
701-14-17	35	430	8500	19.8	95
701-07-09	30	350	7200	20.6	75
701-12	30	380	8300	21.8	85
701-14-17	30	430	9200	21.4	95

(Based on 80° DB, 67° WB Indoor High Cool)

Efficiency combined with quietness

Friedrich 701 Series Packaged Terminal Air Conditioners offer another most desirable advantage... they are quiet. This is essential in providing total individualized comfort in hospitals, offices, schools, hotel rooms.

Friedrich utilizes low RPM, dual centrifugal room side blowers to minimize operating sound level.

The compressor, isolated and insulated from roomside of unit, further minimizes operating sound levels.

Friedrich 701 Series gives you efficiency PLUS QUIET.

701 Series meets design demands

Friedrich 701 Series Packaged Terminal Air Conditioners are popular with architects, designers and building owners because they give flexibility... positioned in the wall with minimal room projection. Variable depth steel wall boxes—zinc coated steel with acrylic outdoor finish—are available for masonry or panel walls... adaptable to any wall thickness or construction.

Units are attractive both roomside and outside.

Extruded aluminum outdoor louvers are in handsome architectural design. A positive condensate removal system prevents dripping and staining of outside walls.

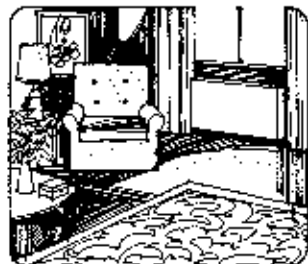
Maintenance costs are low

Simplicity of design and application of Friedrich 701 Series units does more than offer economical installation. It is positive assurance of low maintenance costs. Economies are achieved by

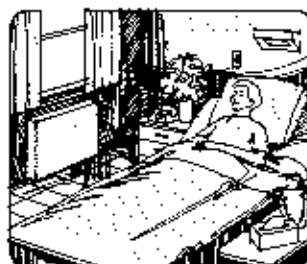
DRIES - OFFICES



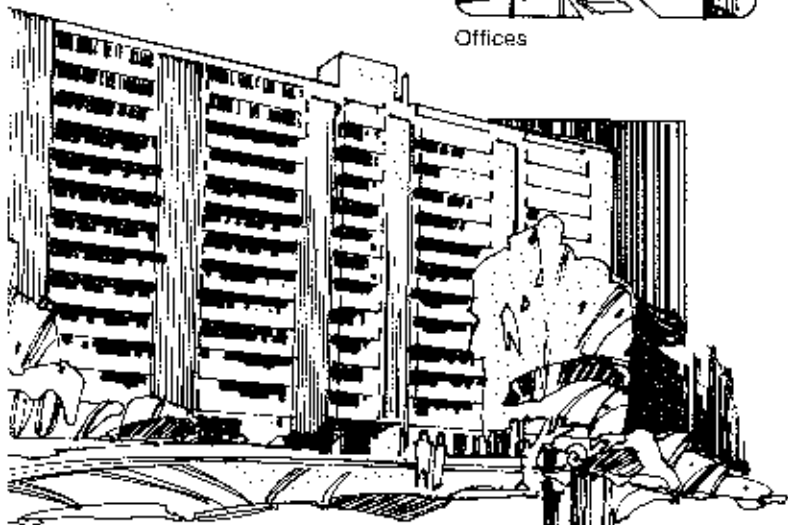
Offices



Apartments



Hospitals



Dormitories



Motels

Incorporation of fundamental innovations . . .

- Complete front access to control section if repair in place is desired.
- Ease of roomside fan motor assembly removal for replacement or service without removing chassis.
- Removable access panels for service of condenser-compressor section.
- High capacity hydronic coils for both steam and hot water allows chassis removal without disturbing piping system.

Control options offer ultimate diversity

Innovative Friedrich 701 Series control systems give these Packaged Terminal Air Conditioners even more meaningful use in specialized applications . . . and add another element to overall energy efficiency.

Various options are offered to provide architects, designers and owners with the maximum flexibility in control selection. Factory wired and tested controls are mounted in each chassis.

Standard controls are unit mounted. Low voltage remote controls are available for use with optional wall thermostat.

At times it is desirable to control more than one unit in a room from a single thermostat. Friedrich Master-Slave system provides this type of control.

Security guard control for office buildings and schools

This control system is designed for office

buildings, schools and other buildings in which occupancy follows a schedule. The system controls air conditioning operation for each day of the week . . . then it is capable of "skipping" operation on certain days such as weekends or holidays. During a "system off" period, any occupant who desires to use an individual office can have normal air conditioning in his individual room or zone.

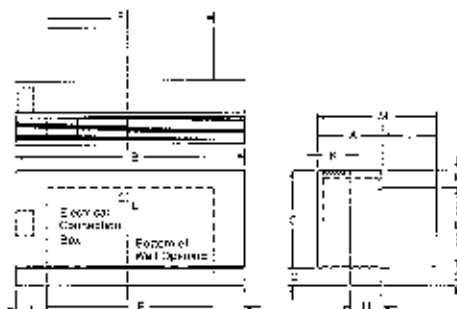
Guest room control for hotels and motels

This control system is designed primarily for hotels and motels. The desk clerk can energize power to an individual unit from the desk just before a particular room is occupied. He can switch off the unit when the room is vacated. When the desk switch is on, the occupant has full individual control of the unit.

Emergency stand-by control for hospitals and nursing homes

This control system is designed primarily for hospitals, nursing homes and medical centers. Heat continuation is assured in case of building or area power failure. Switchgear and emergency stand-by generator provide power only to the heat cycle of the 701 Series unit. Room fans, heating valve and vent motor are transferred to the stand-by power circuit until primary power resumes. Cool cycle is locked out automatically. Condenser fan and compressor are shut-down and/or locked-out automatically until primary power returns.

Stand-by Control system is installed only with hydronic heat source.



DIMENSIONS

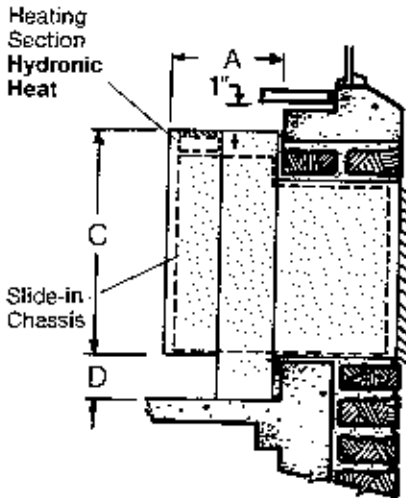
DESCRIPTION	SERIES 701	
	7-9-12	14-17
A Cabinet Depth	11 1/2	16 1/2
B Cabinet Width	Electric 48 Hydronic 52	48 52
C Cabinet Height	Electric 20 1/4 Hydronic 22 1/8	20 1/4 22 1/8
D Base Height (adjustable) Minimum	3 3/8	3 3/8
E Wall Box Height	16	16
F Wall Box Width	40 5/8	40 5/8
G Wall Box Height Above Floor (adjustable) Minimum	2 3/8	2 3/8
H Base Width	5 1/2	10 1/2
J Right & Left Side Compartment	Electric 4 Hydronic 6	4 6
K Discharge Grille Depth	4 3/4	4 3/4
L Wall Box Depth Adjustable to 1/2" Increments For Varying Wall Thickness Less Than 10" and 1" Increments For Wall Thickness Above 10"	10	10
M Total Minimum Unit Depth	21 1/2	26 1/2
N Cabinet Top Height Above Wall Box	Electric 4 1/2 Hydronic 6 3/4	4 1/2 6 3/4

THE ENERGY ECONOMISERS

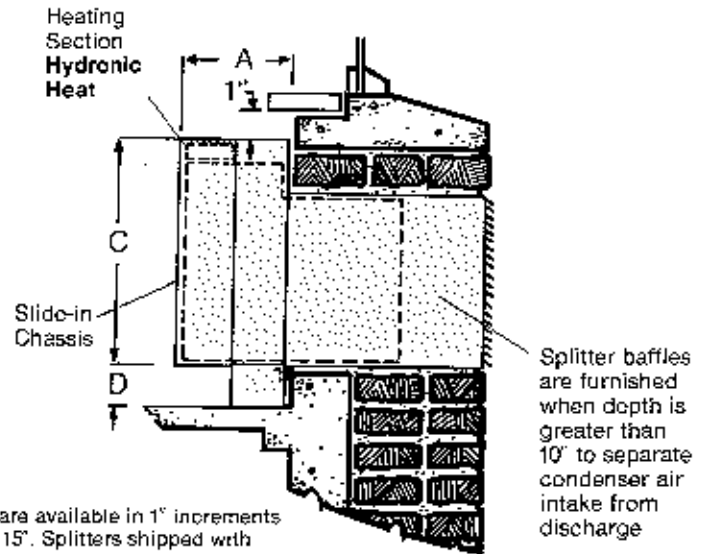
701 Series Packaged Terminal Air Conditioners

Installation Applications

Wall Construction standard 10" Depth

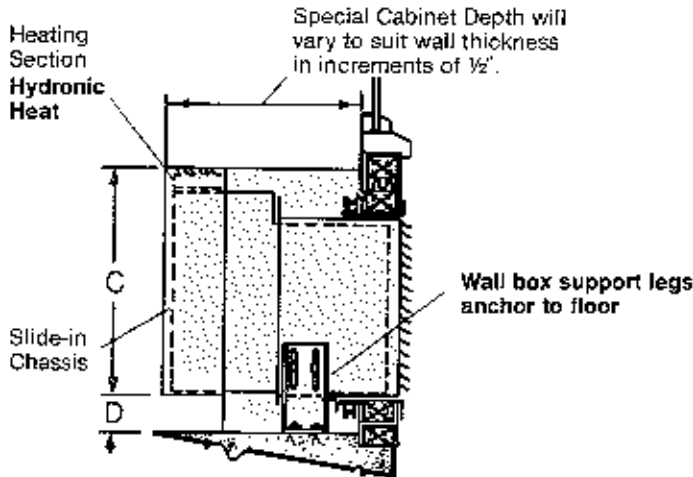


Wall Construction Greater than 10' Depth

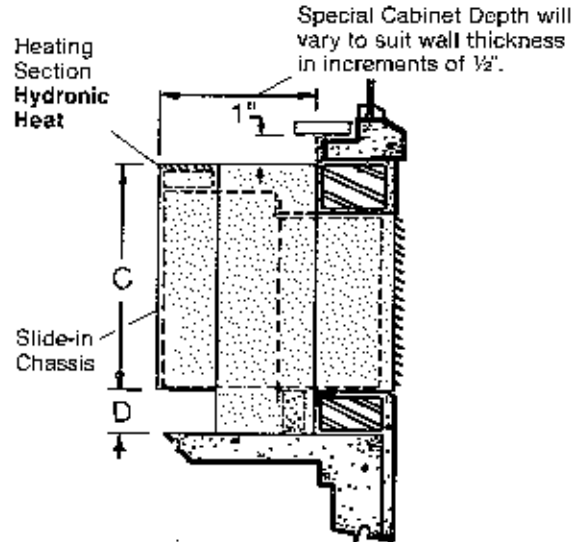


Wall boxes are available in 1" increments from 11" through 15". Splitters shipped with wall sleeve.

Wall Construction with panel walls



Wall Construction 9" to 5" Depth



Wall boxes should be parged to masonry and lapped to prevent movement. If the wall construction is 5" to 9" in depth a blocking beneath the box should be considered.

MODEL	A	C	C	D
		Electric	Hydronic	
701-07	11 1/2"	20 1/4"	22 1/2"	3 3/8"
701-09	11 1/8"	20 1/4"	22 1/2"	3 3/8"
701-12	11 1/2"	20 1/4"	22 1/2"	3 3/8"
701-14	16 1/2"	20 1/4"	22 1/2"	3 3/8"
701-17	16 1/2"	20 1/4"	22 1/2"	3 3/8"



A Division of Wylain, Inc.



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Contract Products • Central Cooling & Heating • Room Air Conditioners • Commercial Refrigeration
 Continuing engineering research results in steady improvement. Therefore, these specifications are subject to change without notice.

701 Series Unit Specifications

Friedrich 701 Series Packaged Terminal Air Conditioners are Thru-the-Wall cooling/heating systems providing decentralized air conditioning. Each system consists of four sections:

1. Wallbox
2. Outdoor louver
3. Cooling/heating chassis
4. Room cabinet

Each section is designed for ease of installation. Standard models are UL listed and tested in accordance with A.R.I. Standard 310-76.

1. Wallbox

The wallbox is constructed of heavy gauge, zinc coated steel. It is painted electrostatically and baked to form a thermo-setting coating for corrosion protection. Dimensions are:

- 16" high by 40 $\frac{1}{2}$ " wide with provisions to match wall thickness in 1" increments

A temporary weather seal is provided to protect interiors until installation is completed. Dieformed glides in base permit easy installation and/or removal of the chassis section. The base includes a built-in pitch of not less than one-quarter inch for rain drainage to the outside.

The wallbox does not form part of the finished roomside enclosure.

2. Outdoor louver

Architectural outdoor louver is constructed of extruded aluminum with a clear anodized finish. Angled horizontal blades are attached to vertical struts to form an attractive design which blends harmoniously with exterior walls. Louver is attached in wallbox from inside building.

3. Cooling/Heating chassis

The chassis includes a self-contained, hermetically sealed, air-cooled refrigeration system with factory-installed electric heating element and unit controls.

All sheet metal parts are zinc coated steel, painted electrostatically and baked to form a thermo-setting coating for corrosion protection.

Welded hermetic design compressor has internal spring mounting and is externally double isolated behind an insulated bulkhead for minimum vibration and maximum sound reduction. Compressor has a built-in overload protection and capacitor.

The fan on roomside has two slow-turning double inlet centrifugal blower wheels connected directly to a two-speed PSC motor with built-in overload protection. A quick disconnect on the motor/blower assembly makes service easy. The outdoor centrifugal blower wheel is painted for corrosion protection, it is connected directly to its own PSC motor that has built-in overload protection. All blower wheels are statically and dynamically balanced to keep vibration to a minimum. Both motors have oilers for life extending lubrication.

Re-evaporation on condenser coil allows positive condensate removal which is discharged as vapor without drip or splash. A clear plastic condensate line from condensate pan to dispersal is easily visible.

A motorized fresh air damper is located between the indoor and outdoor sections to provide up to 25% outside air for ventilation.

Evaporator and condenser coils are made of staggered copper tubes with aluminum fins for efficient heat transfer. Refrigerant lines are copper with circuiting designed for optimum performance.

Refrigerant is controlled by precisely designed and optimized capillary tube to provide efficient performance over a wide range of operating conditions. Complete refrigerant circuit is factory checked for leaks and charged with refrigerant R22.

An automatic Cool-Econo-Cycle is standard with each unit. It locks out compressor when outdoor temperature is below 50°F. On coil for cooling, the fresh air damper opens an outdoor blower energizer to force cool air into room.

Controls are factory installed and wired. Standard controls have an "off-high cool-low cool-heat-vent" selector switch and a self contained adjustable thermostat. Control components are isolated from air stream. Various optional control sequences are available.

Models designed for electric heating are provided with a factory installed and wired heating element with built-in dual protection against over-heating. The electric heat element is located under evaporator coil to eliminate hazard of user contact.

A washable air filter is provided for both fresh air and return air. A positive compression seal between chassis and wall box is provided by a closed-cell material.

4. Room cabinet

There are two sections of the room cabinet for electric heating—front and back. The cabinet is made of heavy gauge furniture steel finished in neutral baked enamel color to blend with interior.

An adjustable kickplate is provided. The cabinet front is removable, providing full access to the chassis.

The extruded aluminum discharge grille and hinged control door have polished tops and shaded interiors. Grille bars have 15° deflection angles to direct discharge air into the room, away from windows and drapes.

Return air enters through bottom of chassis between cabinet kickplate and cabinet front to minimize air recirculation.

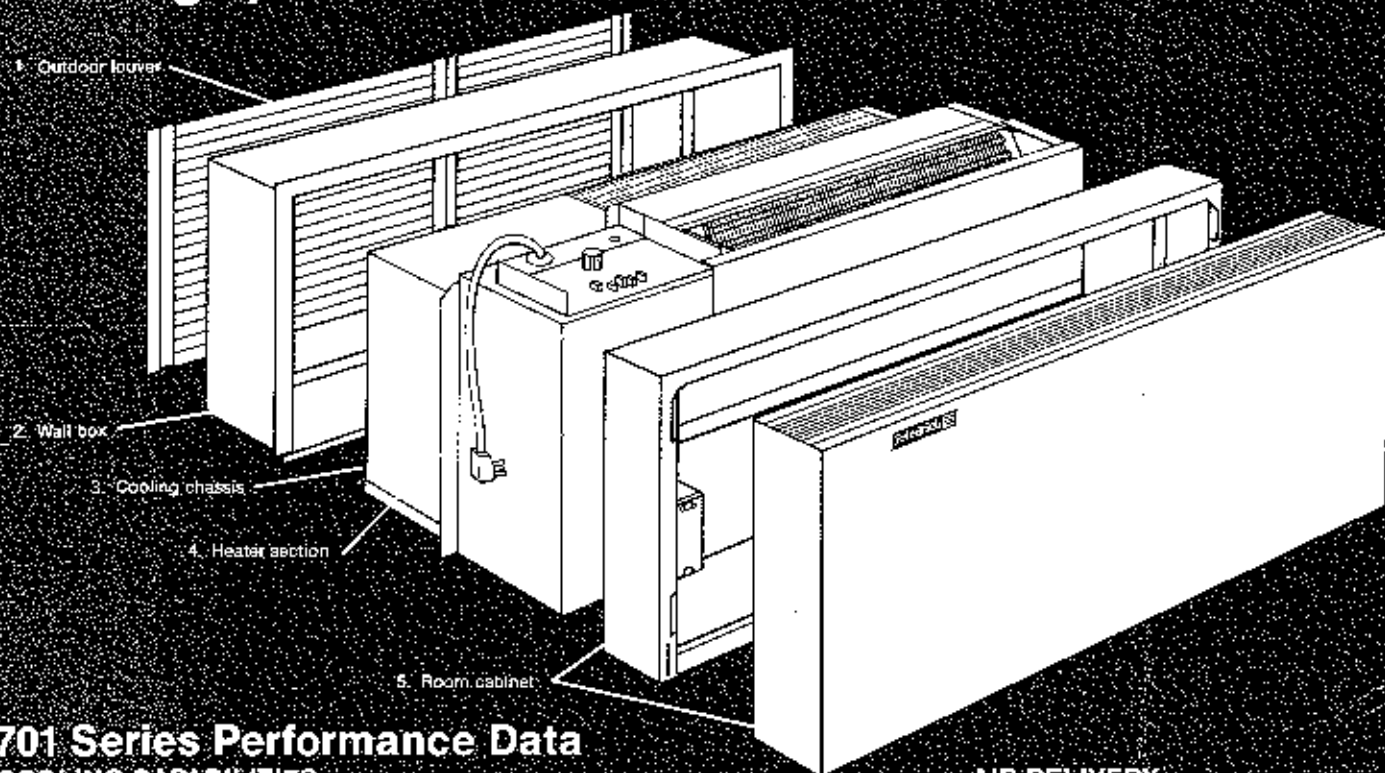
A factory-assembled electrical wiring compartment and receptacle to match chassis cord and plug are provided for field wiring connection to pigtail wire leads.

For hot water and steam heating the room cabinet includes a hydronic heating coil mounted to the cabinet back. A motorized zone valve is factory mounted to the coil with plug-in electrical connection to the chassis section. Supply and return piping terminate in $\frac{3}{8}$ " o.d. copper.

Electric and hydronic heat room cabinets are available to fit various wall depths.

Packaged Terminal Air Conditioners

Friedrich 701 Series Thru-the-Wall Cooling/ Heating Systems (air cooled)



701 Series Performance Data

COOLING CAPABILITIES

AIR DELIVERY

MODEL	VOLTAGE	CAPACITY BTU/HR	TOTAL WATTS	E.E.R.	TOTAL FLA	COMPR. L.R.A.	POWER FACTOR	CFM HIGH	CFM LOW	VENTILATION CFM (up to)
701-07	208	6800	1025	6.6	5.3	16.6	.93	280	260	75
	230	7100	1025	6.9	4.9	16.6	.91			
	265	7100	1100	6.5	4.6	17.1	.90			
701-09	208	8400	1225	6.9	6.3	23.8	.93	280	260	75
	230	8600	1250	6.9	5.9	23.8	.92			
	265	8600	1300	6.6	5.6	22.2	.88			
701-12	208	11,200	1625	6.9	8.4	34.0	.93	325	275	85
	230	11,200	1650	6.8	8.1	34.0	.89			
	265	11,200	1675	6.7	6.8	33.0	.93			
701-14	208	13,700	1850	7.4	9.6	37.5	.93	470	400	95
	230	14,000	1900	7.4	9.1	37.5	.91			
	265	14,000	1950	7.2	8.0	36.0	.92			
701-17	208	16,700	2475	6.7	13.0	55.0	.92	450	380	95
	230	17,000	2500	6.8	11.6	55.0	.94			
	265	17,000	2500	6.6	10.3	52.0	.92			

HEATING CAPACITIES

ELECTRIC*

0

STEAM**

HOT WATER***

MODEL	208V Btu/Hr/Watts/Amps	230V Btu/Hr/Watts/Amps	265V Btu/Hr/Watts/Amps	Standard Btu/Hr	Standard Btu/Hr
701/07-09-12-14-17	7800 2290 11.0	9600 2800 12.2	9600 2800 10.6		
701/07-09-12-14-17	10,000 2995 14.2	12,300 3600 15.7	12,600 3700 14.0		
701/07-09-12-14-17	13,400 3925 18.9	16,400 4800 20.9	16,400 4800 18.1		
701/07-09-12				17,000	14,000
701/14-17				18,500	15,500

* Fan amps and watts not included. ** Based on 70° F entering air; steam at 2 PSIG. *** Based on 70° F entering air; 200° F entering water; 120° leaving