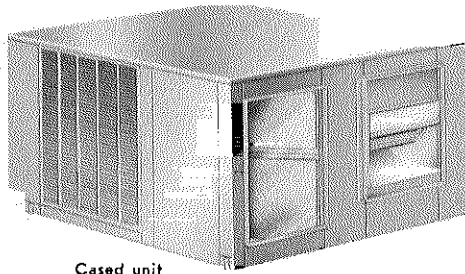


# LENNOX®

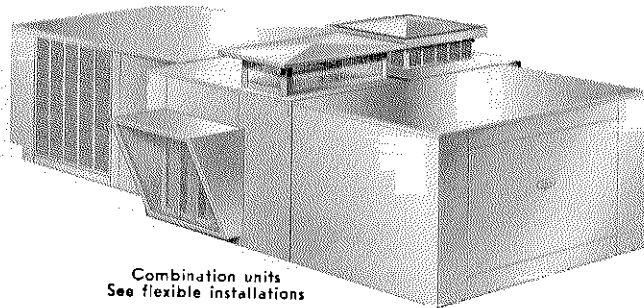
## SINGLE PACKAGE AIR CONDITIONERS CHA6-511, 513 651 AND 653 WITH ROOFTOP ACCESSORIES

ENGINEERING DATA  
COOLING UNITS  
PACKAGED

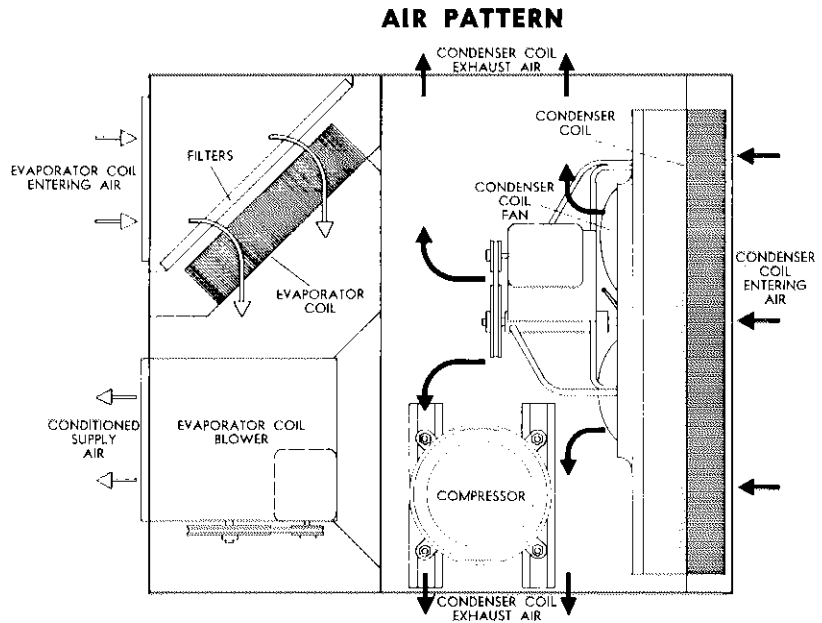
Page 11a  
Oct. 25, 1963



Cased unit



Combination units  
See flexible installations



Section plan view

### EFFICIENT POWER PROP®

Belt driven accurately located fan pulls a large air volume uniformly through the entire outdoor coil. Lennox designed and built. 16 ga. zinc-phosphate treated cold rolled steel.

### HERMETIC COMPRESSOR

Resiliently mounted. Suction cooled. Service valves with gauge parts. Ambient compensated overload protection. Available in 208/240 or 440 volt models. Five year warranty.

### WASHABLE FILTERS

1 inch thick-washable hi-velocity aluminum filters are standard. Have large dirt holding capacity and are easily accessible for servicing.

### ACCESSIBLE CONTROL BOX

Large size and conveniently located for easy service access. All internal wiring from control box to component parts are enclosed in flexible conduit.

### CONDENSATE DRAIN PAN

16 gauge steel corrosion resistant. 1 1/2 inches deep with 3/4 inch female threaded drain connection.

### THERMAL INSULATION

Evaporator section completely lined with 1 inch thick 1 1/2 lb density fiberglass insulation.

### DUAL PRESSURE SWITCH

Shuts off compressor in event of abnormal operating conditions.

### WEATHERPROOF FINISH

All exterior panels are 20 gauge hot dipped galvanized finished with baked acrylic enamel. Five-stage metal preparation assures perfect bonding of the outdoor enamel.

### ACCESSORIES

Complete line of accessories include down stream duct furnace, POWER SAVER™, mixing damper, filler section, insulated duct enclosure and choice of ceiling supply and return grille.

### CONDENSER COIL

Lennox designed and fabricated. Almost two square feet of face area per ton of rated capacity. Circuited to give up to 20F sub-cooling.

### EVAPORATOR COIL BLOWER

Lennox designed and built. All moving parts vibration isolated from blower housing. Belt drive. Low power consumption. Delivers large air volumes, see blower charts.

### HOISTING LUGS

Lugs project from 14 gauge steel base.

### HI CAPACITY DRIER

Furnished as standard. Factory installed.

### REFRIGERANT TEST VALVE

Permits quick and accurate check of liquid refrigerant level.

### CONVENIENT DUCT CONNECTION

Supply and return air openings are located side by side on one end of the cabinet. This arrangement simplifies installation of down stream duct furnaces, mixing dampers and combination supply and return grilles.

### READY TO INSTALL

Equipment is shipped completely assembled, plumbed, pre-wired and precharged, ready to install. In addition each unit is test operated at the factory before shipment.

### THERMOSTAT

Lennox offers a choice of thermostats for various types of installations. Thermostat must be ordered extra. (See ordering data).

### EVAPORATOR COIL

Ripple edged aluminum fins flat bonded to seamless copper tubes. Circuited to give uniform refrigerant distribution for best performance. Pressure leak tested at 400 psi.

### ACCURATE RATINGS

Ratings shown in Specification are from Lennox calorimeter room testing procedures according to ARI standard 210-62.

### CAPILLARY TUBES

Accurately meter refrigerant flow.

### DISTRIBUTOR

Feeds each coil circuit uniformly for maximum performance.

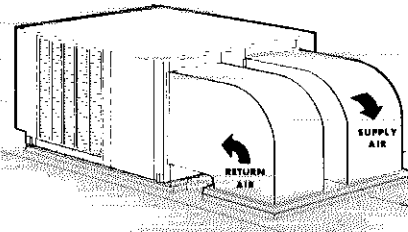
## APPLICATIONS

Model No.		CHA6-511 & 513	CHA6-651 & 653
Total cooling capacity Btuh @ ARI standard conditions		48,000	59,000
Compressor watts @ ARI standard conditions		5350	6950
Dehumidifying capacity % of total cooling capacity		30	30
Refrigerant type		R-22	R-22
Condenser Coil	Net face area (sq ft)	9.28	9.28
	Tube diameter (in.)	1/2	1/2
	Number of rows of tubes	2	3
	Fins per inch	13	13
Condenser Fan	Diameter (in.) and No. of blades	26-5	26.5
	Air volume cfm (factory setting)	3500	4100
	Rpm (factory setting)	790	790
	Motor horsepower	1/2	1/2
Evaporator Coil	Net face area (sq ft)	4.89	4.61
	Tube diameter (in.)	1/2	1/2
	Number rows of tubes	3	4
	Fins per inch	13	10
Evaporator Blower	*No. & size of filters (in.)	(2) 16 x 25 x 1	(2) 16 x 25 x 1
	Wheel nominal diameter x width (in.)	12 x 12	12 x 12
	Nominal air volume (cfm)	1800	2250
	Motor horsepower	1/2	1/2
Condensate drain size fpt (in.)		3/4	3/4
Number of packages		1	1
Approximate Unit Weight (lbs)	Shipping weight	860	890
	Net weight (without crate)	750	780

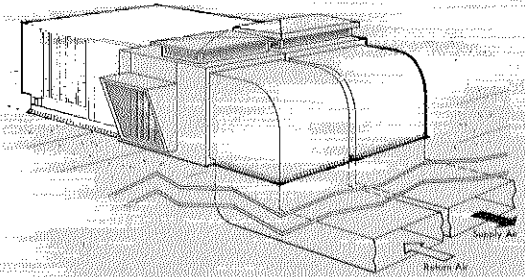
NOTE—Ratings are at 450 cfm evaporator air per ton of cooling capacity.

\*Washable high velocity aluminum type.

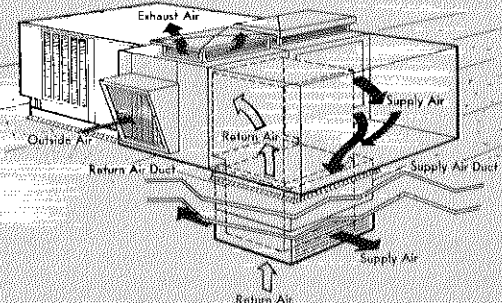
## SPECIFICATIONS



Single package rooftop installation



Combination unit installation with extended duct work distribution system.



Combination unit installation with combination supply and return air grille distribution system. Connecting duct work required.

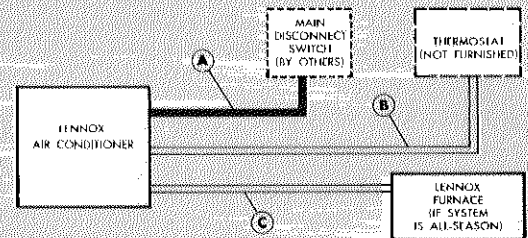
## ELECTRICAL DATA

Model No.		CHA6-511	CHA6-513	CHA6-651	CHA6-653
Line voltage data		230v/60 cy 1ϕ	208/240v 60 cy/3ϕ	230v/60 cy 1ϕ	208/240v 60 cy/3ϕ
Compressor	*Running amps	25.0	17.0	34.0	22.4
	Power factor	.93	.83	.92	.84
	Locked rotor amps	110.0	78.0	135	110
Condenser Coil Fan	Running amps	3.9	3.9	3.9	3.9
	Locked rotor amps	19.9	19.9	19.9	19.9
Evaporator Coil Blower	Running amps	2.6	2.6	3.9	3.9
	Locked rotor amps	16.2	16.2	19.9	19.9
Maximum unit amps		31.5	23.5	39.8	30.2
AWG Wire Size For Various Lengths Of Run	10'	6	8	6	8
	50'	6	8	6	8
	100'	6	8	6	8
	200'	4	6	4	6
Disconnect size		60	60	60	60
Fusetron size		55	40	55	40

\*Running amps are at ARI standard conditions

NOTE—440 volts three phase available on special order.

## FIELD WIRING



A—Two wire power—Single Phase

Three Wire Power—Three Phase

See electrical data table for size of wire.

B—†Three Wire Low Voltage—18 ga. min.—for cooling only installations

†Four Wire Low Voltage—18 ga. min.—for all-season installations

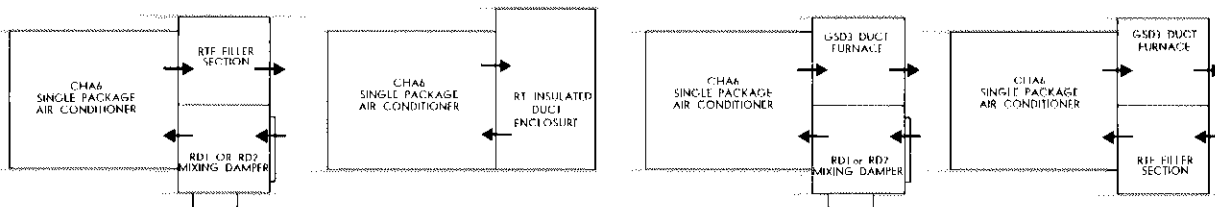
C—†Two Wire Low Voltage—18 ga. min.—for all-season installations

All wiring must conform to NEC.

†May be class II wiring if local codes permit.

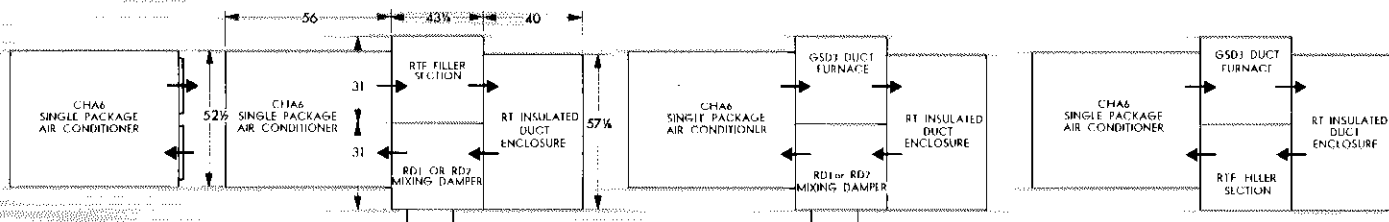
NOTE: Additional wiring required when using Power Saver mixing dampers. See Engineering Data Sheet on Power Saver Control Systems.

# FLEXIBLE INSTALLATIONS

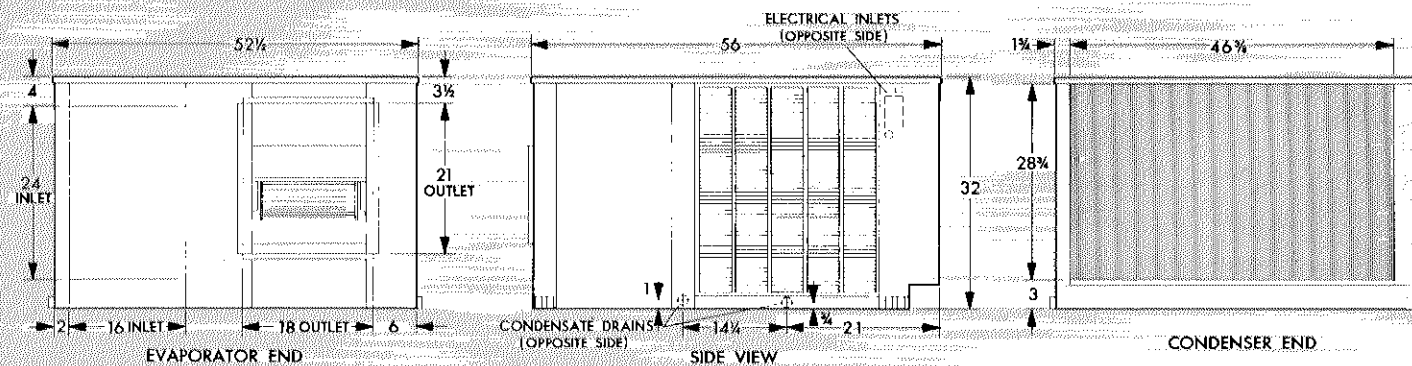


Note—All applications require ducts.

NOTE—Matching mounting holes are provided in each unit for bolting together in 18/16x installations.



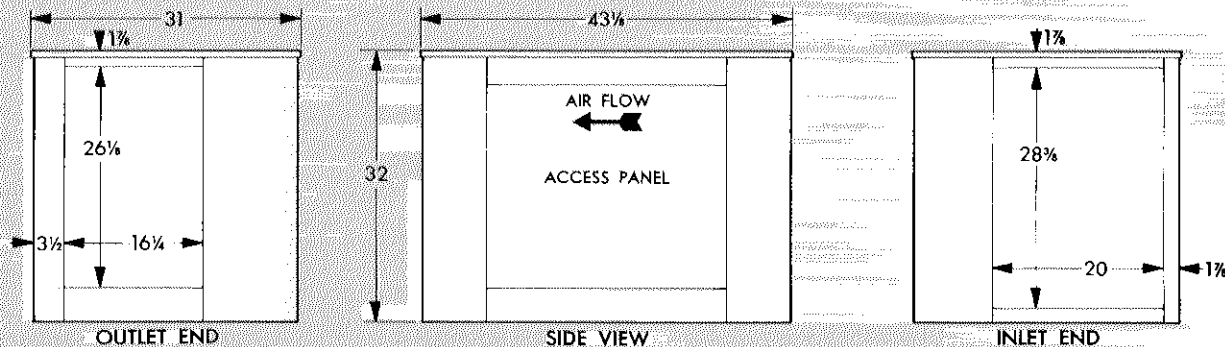
# DIMENSIONS (in.)



# ACCESSORIES

## RTF-65 FILLER SECTION

Filler section is used when duct furnace or mixing damper and insulated duct enclosure are used. See flexible installations.

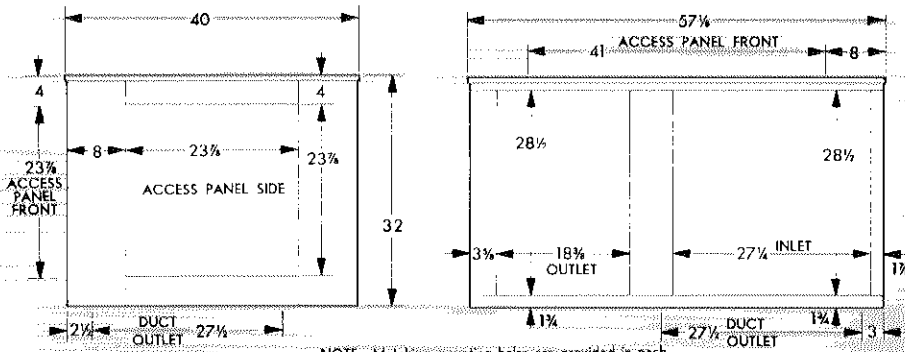


**Approximate Shipping Weight—105 (lbs.)**

## ACCESSORIES

### RT-65 INSULATED DUCT ENCLOSURE

Used when combination ceiling supply and return air grilles are used.



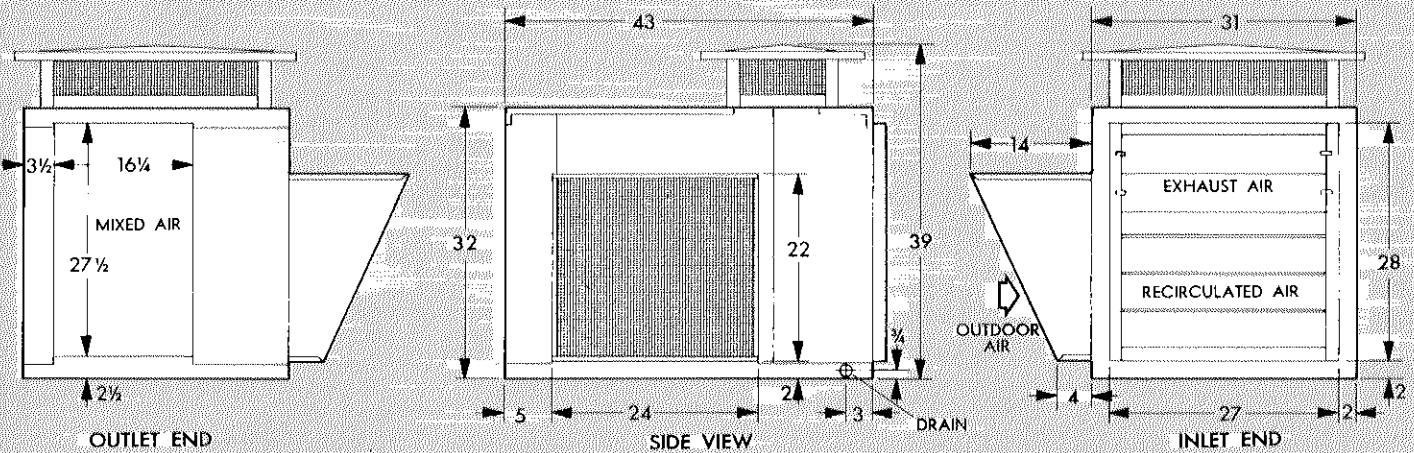
NOTE—Matching mounting holes are provided in each unit for bolting together in various installations.

**Approximate Shipping Weight—175 (lbs.)**

### POWER SAVER MIXING DAMPER

The Lennox rooftop POWER SAVER permits outdoor air to handle part of the cooling load when the outdoor air is cooler than the air in the building. Many times outdoor air can handle the entire cooling load alone. In effect this becomes "free cooling." The extremely tight buildings of today often have high internal heat loads caused by

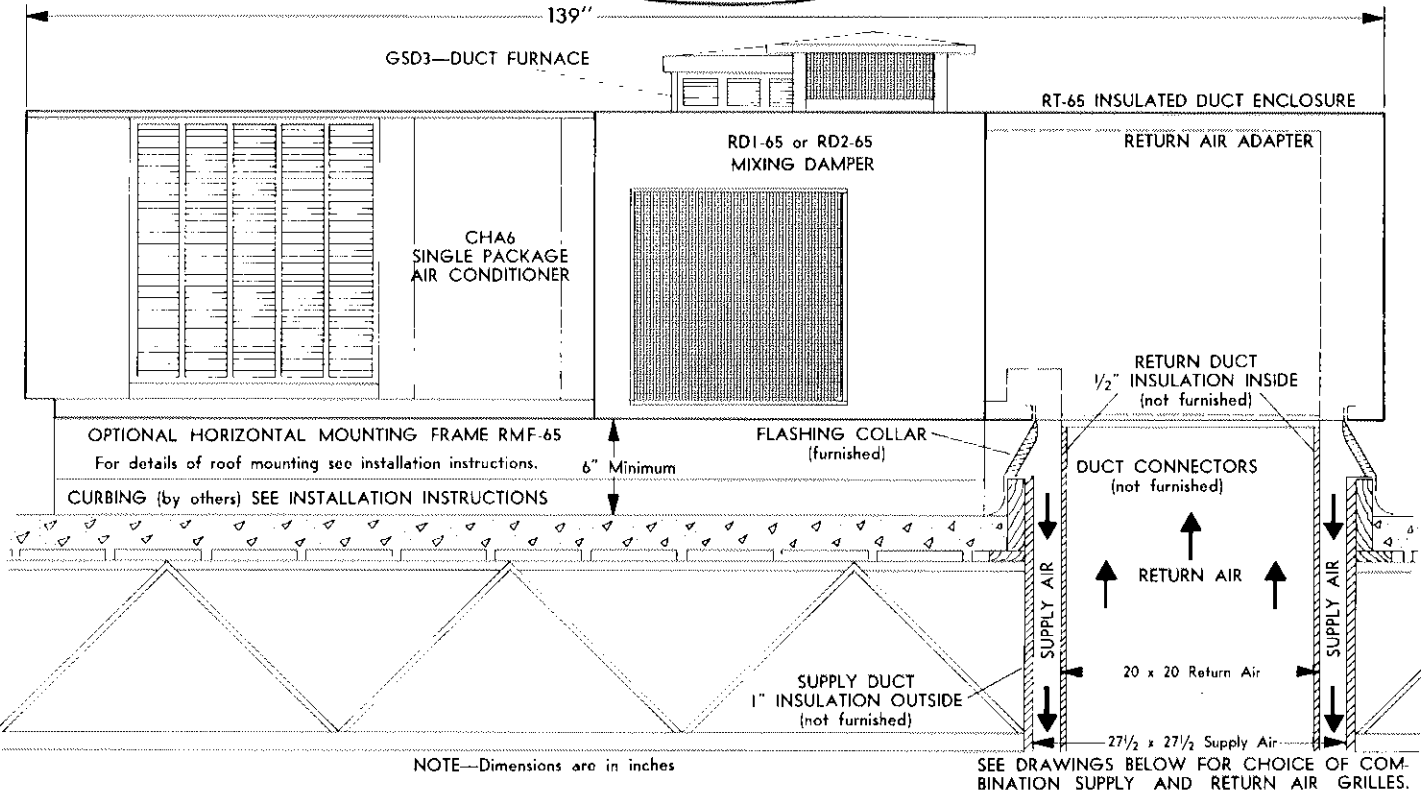
people, machinery, ovens, etc. These loads plus solar heat gains often produce a demand for cooling even though the outdoor temperature is quite cool.



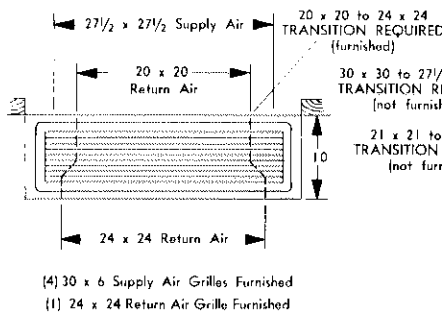
Model No.	RD1-65	RD2-65
Maximum air volume (cfm)	2500	2500
No. of packages in shipment	1	2
Approx. shipping weight (lbs)	170	170
Damper motor used	White JP-23	MH-M905E

\*Mixed air temperature controller is shipped with RD2 series dampers.

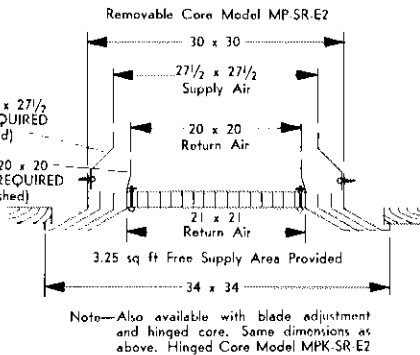
# MOUNTING DETAIL



RTD-65 STEP-DOWN



FLUSH



## ORDERING DATA

(Check All Items Required)

**Single Package Air Conditioner:**

- CHA 6-511
- CHA 6-513
- CHA 6-651
- CHA 6-653

**Electrical Characteristics:**

- 230/1/60
- 208/240/1/60
- 440/3/60

**\*Insulated Duct Enclosure:**

- RT-65

\*Includes flashing collar

**POWER SAVER Damper:**

- RD1-65
- RD2-65

**POWER SAVER Controls:**

- Three way
- Five way

**Filler Section:**

- RTF-65

**Horizontal Mounting Frame:**

- RMF-65

**Duct Furnace:**

- GSD3-100
- GSD3-150

**Ceiling Supply & Return Grilles:**

- RTD Stepdown
- Flush mounted  
(Removable core model MP-SR-E2)
- Flush mounted  
(Hinged core model MPK-SR-E2)

**Mild Weather Control:**

- Ordering No. M-2374

**Outdoor Thermostat:**

- Ordering No. M-1595

**Coil Guard:**

- 8-6-2631B