

Economaster® Blow-Thru Reheat Induction Air Terminals

These instructions apply to the installation of 36CS vertical and 36CT horizontal units. These units can be furred-in under-the-window (36CS) or in a ceiling space (36CT) to meet the space requirements or air-flow pattern desired.

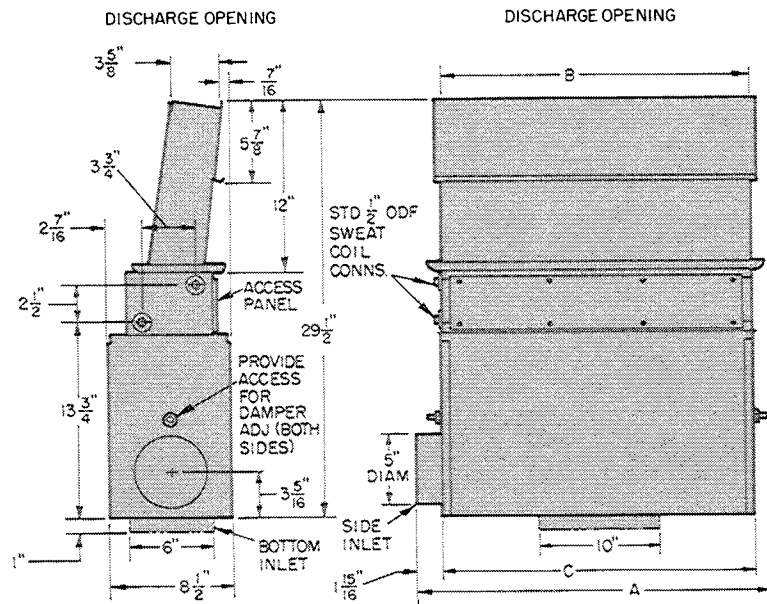
Fig. 1 and Fig. 2 illustrate the dimensions and physical data for the units.

To familiarize all trades with their specific job function, it is suggested that a sample installation be set up at the job site.

IMPORTANT: When removing units from shipping carton, check for damage. File claim with transportation company for any damage in transit.

INSTALLATION PRECAUTIONS

IMPORTANT: When installing units, make sure that construction debris does not get into units. Retain shipping cartons to cover units until after installation is complete.



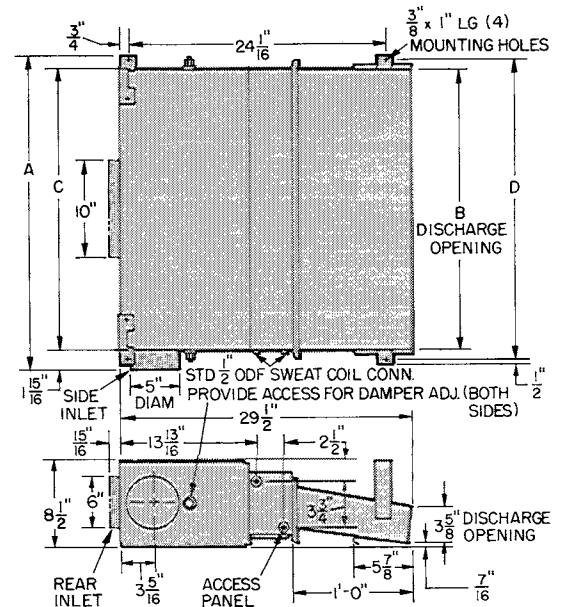
NOTES:

1. Left-hand coil connections and side air inlet shown. Right-hand opposite side.
2. Certified drawings available upon request.

UNIT 36CS		035	050
DIMENSIONS (in.)	A	31 3/16	43 3/16
	B	28	40
	C	28 1/2	40 1/2
REHEAT COIL	2-row coil w/copper tubes and aluminum fins		
COIL CONNECTIONS	1/2-in. ODF sweat std*		
MIN FREE AREAS (sq in.)			
Discharge Grille		52	74
Recirculation Grille		216	274
APPROX WT (lb)		46	66

*Optional connections include: 1/2-in. ODF sweat with manual air vent; 1/2-in. ODM flare; 1/2-in. ODM flare with manual air vent.

Fig. 1 – 36CS Dimensions and Physical Data



NOTES:

1. Left-hand coil connections and side air inlet shown. Right-hand opposite side.
2. Certified drawings available upon request.

UNIT 36CT		035	050
DIMENSIONS (in.)	A	31 1/2	43 1/2
	B	28	40
	C	28 3/8	40 1/8
	D	30	42
REHEAT COIL	2-row coil w/copper tubes and aluminum fins		
COIL CONNECTIONS	1/2-in. ODF sweat std*		
MIN FREE AREAS (sq in.)			
Discharge Grille		52	74
Recirculation Grille		216	274
APPROX WT (lb)		46	66

*Optional connections include: 1/2-in. ODF sweat with manual air vent; 1/2-in. ODM flare; 1/2-in. ODM flare with manual air vent.

Fig. 2 – 36CT Dimensions and Physical Data

INSTALLATION

36CS Units

1. Move units (in cartons) to installation area.
2. Remove units from cartons, retaining cartons for a protective covering until installation is complete.
3. Prepare opening in side wall in accordance with dimensions indicated in Fig. 1 and proper installation practice for a furred-in space. (See also Fig. 3.)
4. Locate units per design layout.
5. Install required unit air connections. If bottom inlet is used, attach straight piece of ductwork at bottom inlet to unit prior to inserting connection thru floor. Remove any dirt and debris accumulated inside unit.
6. Level units as required.
7. Secure ductwork to air inlet connection or fitting using field-supplied sheet metal screws.
8. Make ductwork *air tight*. Apply high quality duct sealant (3M Scotch-Seal Industrial Sealant 800 or equivalent) to all duct joints and wherever sheet metal screws are used.
9. Install piping in accordance with national and local codes.
10. Install hot water piping to unit coil.
 - a. Connect supply water piping to bottom coil connections.
 - b. Install controls and shutoff valves in pipe lines as per job specifications.
11. If unit-mounted thermostat is used, locate thermostat sensing element as instructed by manufacturer.
12. Install accessory discharge and recirculation grilles. If required, install discharge baffle.
13. Balance system. Refer to paragraph entitled System Balancing.

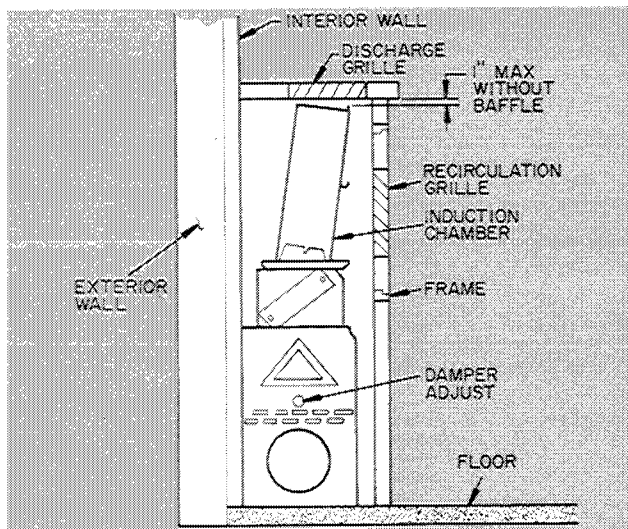


Fig. 3 – Typical Installation of 36CS Unit

36CT Units

1. Move units (in cartons) to installation area.
2. Remove units from cartons.
3. Prepare opening in ceiling in accordance with dimensions indicated in Fig. 2 and proper installation practice for a furred-in space. (See also Fig. 4.)
4. Locate units per design layout.
5. Install units in ceiling using hanger brackets attached to unit.

IMPORTANT: Because of the unusually high humidity conditions (above 75 F db, 50% rh) that can be experienced by units located over a bathroom or in unventilated furred-in spaces, it is recommended that an emergency condensate pan be integrated into the design of the recirculation grille or duct connection to the unit. Refer to Fig. 5 for a sample emergency condensate pan installation.

6. Level units as required.
7. Secure ductwork to air inlet connection or fitting using field-supplied sheet metal screws.
8. Make ductwork *air tight*. Apply high quality duct sealant (3M Scotch-Seal Industrial Sealant 800 or equivalent) to all duct joints and wherever sheet metal screws are used.
9. Install piping in accordance with national and local codes.
10. Install hot water piping to unit coil.
 - a. Connect supply water piping to bottom coil connections.
 - b. Install controls and shutoff valves in pipe lines as per job specifications.
11. Install accessory discharge and recirculation grilles. If required, install discharge baffle.
12. Balance system. Refer to paragraph entitled System Balancing.

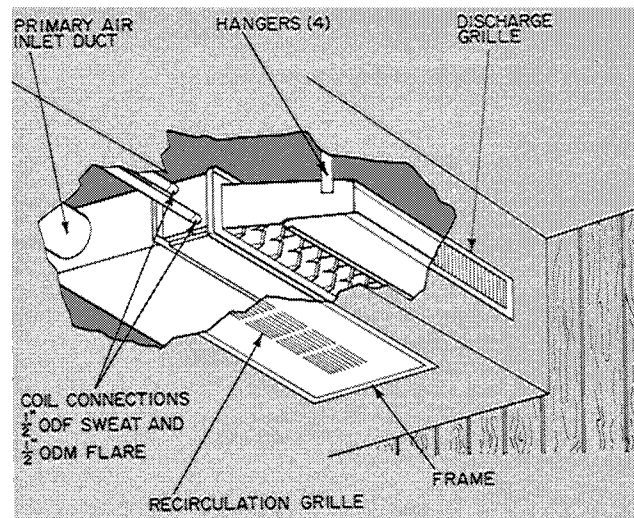


Fig. 4 – Typical Installation of 36CT Unit

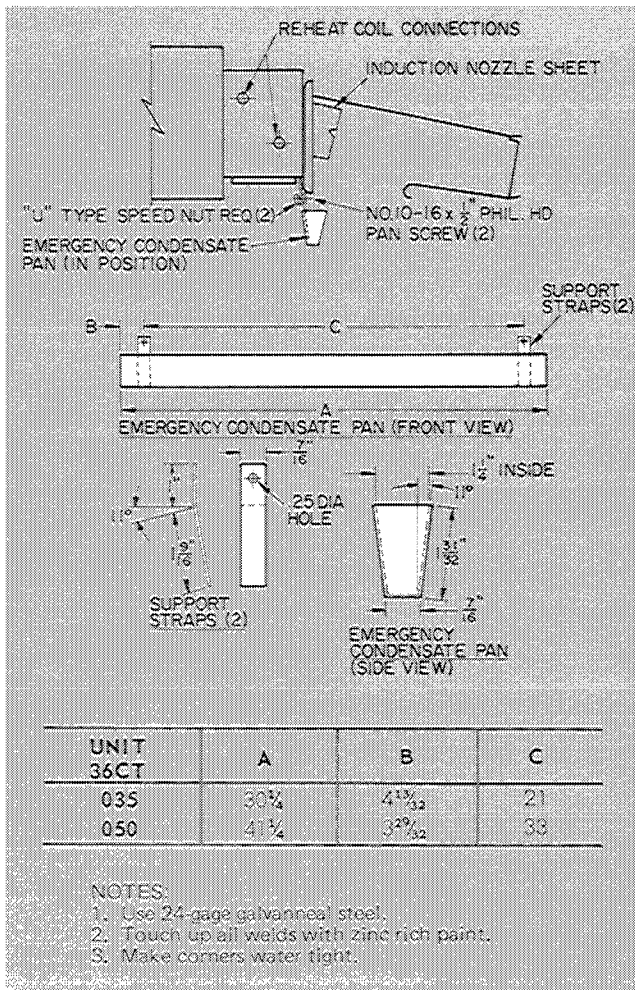


Fig. 5 – Sample Installation of Emergency Drain Pan

SYSTEM BALANCING

Units are shipped from the factory with their balancing dampers in the wide open position. Upon completion of installations, dampers should be adjusted per design requirements.

NOTE: In a well-designed and balanced system, many unit balancing dampers will be left in the wide open position. If all balancing dampers are throttled, fan will be operating at too high a speed causing an increase in fan horsepower. In such cases, reduce fan speed and rebalance units. If all units are short of air, increase fan speed.

1. Make sure all construction debris has been removed from inside of units.
2. Make sure that *final filters* are in place for the Central Station Air-Handling Apparatus fans and that all required system start-up procedures have been accomplished.
3. With all air systems operating, measure the unit nozzle pressure as shown in Fig. 6. Select a center nozzle in the second row of the nozzle sheet. Place the copper probe directly in contact with the edges of the opening and take reading from the gage.

4. Using a 5/8-in. wrench, adjust nozzle pressure by turning damper adjustment nut on side of unit in direction shown on damper sticker. (“Close” arrow points to air inlet on side inlet units and to left-hand side of unit on bottom inlet units.) Refer to Table 1 for proper air balance. Two or three runs may be necessary before proper balance is obtained.

- a. To *decrease* nozzle pressure, loosen nut on “Open” end by backing off 3/4 inch.
- b. Tighten nut on “Close” end until required pressure is obtained.
- c. *Gently* tighten nut on “Open” end to make seal.
- d. To *increase* nozzle pressure, loosen nut on “Close” end by backing off 3/4 inch.
- e. Tighten nut on “Open” end until required pressure is obtained.
- f. *Gently* tighten nut on “Close” end to make seal.

Table 1 – Primary Air Data

UNIT 36CS,CT	PRIMARY AIR (Cfm)	MIN INLET STATIC PRESSURE (in. wg)*	NOZZLE PRESSURE (in. wg)†
035	100	0.36	0.33
	125	0.56	0.51
	150	0.82	0.72
	175	1.12	1.02
	200	1.47	1.34
050	150	0.35	0.32
	175	0.47	0.43
	200	0.61	0.56
	225	0.77	0.71
	250	0.95	0.87
	275	1.15	1.05
	300	1.38	1.25
	325	1.60	1.47
250	1.85	1.70	

*Minimum static pressure required at unit inlet (side or bottom) to produce rated air flow with damper wide open.

†Total pressure measured in approximate center of rear section of nozzle sheet.

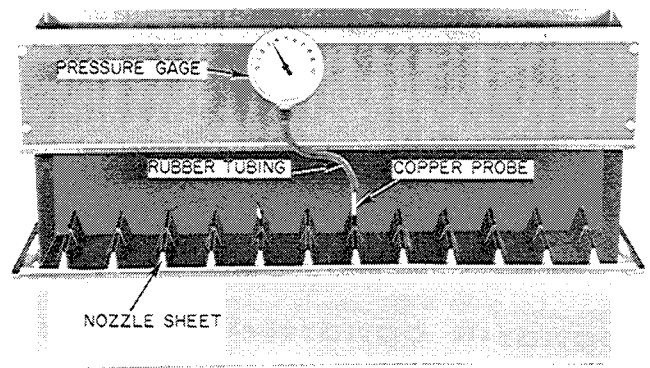


Fig. 6 – Measuring Nozzle Pressure

Manufacturer reserves the right to change any product specifications without notice.

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